



# VERIFICATION REPORT

## GREATER NEW BEDFORD LFG UTILIZATION PROJECT



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|---------------|---------------------------------------------|
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|                            |                                                                                                                                                 |
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| <b>Report Title</b>        | Greater New Bedford LFG Utilization Project Verification Report                                                                                 |
| <b>Client</b>              | CommonWealth Resource Management Corporation, for its wholly owned subsidiary CommonWealth New Bedford Energy, LLC                              |
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## Summary:

CommonWealth Resource Management Corporation (CRMC), for its wholly owned subsidiary Commonwealth New Bedford Energy (CNBE), LLC engaged GHD Services, Inc. (GHD) to complete the verification of the Greater New Bedford LFG Utilization Project (Project Activity and Verified Carbon Standard (VCS) ID: 138 for the Monitoring Period of January 1, 2023 to September 30, 2023 (2023 Monitoring Period) under the requirements of the VCS. The Project Activity is located at the Crapo Hill Landfill in Dartmouth, Massachusetts, United States. The Project Activity is operated by CRMC (Project Proponent).

The Project Activity involves the voluntary capture and utilization of landfill methane (“landfill gas” or “LFG”) at the Crapo Hill Landfill (the “Site” or the “Landfill”). The Site consists of an expanded active LFG collection system that captures the LFG, and four Caterpillar 3516 engine-generator sets that capture and combust the methane generated in the Landfill. A backup flare is also connected to the Landfill Gas (LFG) collection system to combust the LFG, when the engines are not operational. The Project achieves its emissions reductions through the destruction of LFG that would otherwise have been released into the atmosphere. However, it should be noted that the backup flare had limited operation during the current verification period; therefore, no emissions reductions have been claimed from flaring.

**Summary:**

The Project Proponent utilized the United Nations Framework Convention on Climate Change (UNFCCC) ACM0001, Version 16, “Large-scale Consolidated Methodology – Flaring or use of landfill gas” as per the registered VCS Project Description (VCS PD), dated 12 May 2016.

The scope of this verification was such that GHD, recognized as an independent third-party Validation and Verification Body by the VCS (Registration Number 027), was responsible for verifying the Project Activity’s Monitoring Report, along with accompanying supporting materials and previous VCS Verification and Validation Reports. GHD utilized a risk-based analysis against the relevant requirements of the interpretation from the most recent VCS Program Guide, and VCS Standard and the VCS Validation and Verification Manual, Version 3.2, as applicable.

As part of the verification process, GHD reviewed the completeness, conservativeness, and accuracy of the underlying evidence for the assumptions and claims made, and data sources used. The results of the investigation were then, together with the results of the review of other areas, combined to form the necessary input for the verification report and opinion.

The verification report and associated annexes document a total of five findings, which include:

- One (1) Corrective Action Requests (CARs)
- Four (4) Clarification Requests (CLs)
- Zero (0) Forward Action Requests (FAR)

Upon review of the documentation and explanations provided by the Project Proponent, all findings were closed in a clear and transparent manner. GHD completed the verification in accordance with the VCS Program Guide, VCS Standard, and the VCS Validation and Verification Manual, Version 3.2 in addition to the UNFCCC CDM methodology and associated methodological tools. Based on the results of the verification, GHD is issuing a Positive Verification Opinion regarding this Project Activity and Monitoring Period. GHD, therefore, recommends/certifies that the registered Project Activity has obtained the reported emission reductions of 98,230 tCO<sub>2</sub>e.

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|----------|-----------------------------------------------------------------------------|-----------|
| <b>1</b> | <b>Introduction</b>                                                         | <b>6</b>  |
| 1.1      | Objective .....                                                             | 6         |
| 1.2      | Scope and Criteria .....                                                    | 6         |
| 1.3      | Level of Assurance.....                                                     | 8         |
| 1.4      | Summary Description of the Project .....                                    | 8         |
| <b>2</b> | <b>Verification Process</b>                                                 | <b>9</b>  |
| 2.1      | Method and Criteria.....                                                    | 9         |
| 2.2      | Document Review .....                                                       | 14        |
| 2.3      | Interviews .....                                                            | 14        |
| 2.4      | Site Visits.....                                                            | 15        |
| 2.5      | Resolution of Findings .....                                                | 16        |
| 2.5.1    | Forward Action Requests                                                     | 17        |
| 2.6      | Eligibility for Validation Activities .....                                 | 17        |
| <b>3</b> | <b>Validation Findings</b>                                                  | <b>19</b> |
| 3.1      | Participation under Other GHG Programs .....                                | 19        |
| 3.2      | Methodology Deviations.....                                                 | 19        |
| 3.3      | Project Description Deviations.....                                         | 22        |
| 3.4      | Grouped Project .....                                                       | 22        |
| <b>4</b> | <b>Verification Findings</b>                                                | <b>22</b> |
| 4.1      | Project Implementation Status .....                                         | 22        |
| 4.2      | Safeguards .....                                                            | 23        |
| 4.2.1    | No Net Harm                                                                 | 23        |
| 4.2.2    | Local Stakeholder Consultation                                              | 24        |
| 4.3      | AFOLU-Specific Safeguards .....                                             | 24        |
| 4.4      | Accuracy of GHG Emission Reduction and Removal Calculations .....           | 24        |
| 4.4.1    | Monitoring Parameters                                                       | 24        |
| 4.4.2    | Methods for Recording Monitoring Parameters                                 | 26        |
| 4.4.3    | Calculation of Baseline Emissions                                           | 28        |
| 4.5      | Quality of Evidence to Determine GHG Emission Reductions and Removals ..... | 30        |
| 4.6      | Non-Permanence Risk Analysis.....                                           | 32        |
| <b>5</b> | <b>Verification OPINION</b>                                                 | <b>32</b> |

|                                                        |           |
|--------------------------------------------------------|-----------|
| <b>APPENDIX A: Verification Plan</b>                   | <b>35</b> |
| <b>APPENDIX B: Findings assessment</b>                 | <b>36</b> |
| <b>APPENDIX C: Verification Deed of Representation</b> | <b>37</b> |

# 1 INTRODUCTION

## 1.1 Objective

GHD, as an independent third-party recognized as a VVB by the VCS (Registration Number 027), was responsible for reviewing the Monitoring Report for the period of January 1, 2023, to September 30, 2023 (2023 Monitoring Period) including accompanying materials, and any supporting documentation. As detailed in Section 4.1 of the VCS Standard, “Verification is the periodic ex-post independent assessment by a validation/verification body of the project and its GHG statement of emission reductions and removals that have occurred as a result of the project during the monitoring period, conducted in accordance with the VCS Program rules.”

The objective of the verification was for GHD to provide the Project Proponent and VCS with an opinion regarding whether the 2023 Monitoring Report contained any material discrepancies and whether the Monitoring Report was prepared in accordance with the most recent version of the VCS Program Guide, VCS Standard, and the VCS Validation and Verification Manual as well as the guidance from the UNFCCC CDM.

Per the VCS VVM, during verification, GHD as the VVB must evaluate the Monitoring Report and assess the following:

- The extent to which methods and procedures, including monitoring procedures, have been implemented in accordance with the validated PD. This includes ensuring conformance with the Monitoring Plan.
- The extent to which GHG emission reductions and removals reported in the Monitoring Report are materially accurate.

## 1.2 Scope and Criteria

The scope of services to be completed by GHD was as follows:

- Verification of the New Bedford LFG Utilization Project located in New Bedford, Massachusetts, U.S.A for the monitoring period of January 1, 2023, through September 30, 2023, under the requirements of the VCS (Project Activity)

The Project Activity (VCS ID:138) is located at the Crapo Hill Landfill in New Bedford, Massachusetts (Landfill, Facility, or Site). The Project Activity consists of a landfill gas collection system and four Caterpillar 3516 engine-generators designed to capture and combust methane generated within the Crapo Hill solid waste landfill. A backup flare is also connected to the Landfill Gas (LFG) collection system to combust the LFG, as needed when the engines were not operational. The baseline scenario of the Project Activity consisted of the voluntary installation of twenty-one vertical LFG extraction wells and a flare to combust the collected LFG.

The project scenario consisted of an expanded LFG collection system with additional vertical and horizontal extraction wells and the addition of the four LFG combustion engines. Blowers were used in the baseline and project scenarios to create a vacuum and draw in LFG to the LFG collection system. The Project Activity achieved emissions reductions through the collection and destruction of the methane within the LFG in either the four combustion engines or the flare that converted the methane to carbon dioxide, thereby preventing the release of methane to the atmosphere.

This Project Activity falls under Sectoral Scope 1 – Energy industries (renewable/non-renewable sources) and Sectoral Scope 13 – Waste handling and disposal, for which GHD is accredited. GHD understood for the purposes of this verification, that all correspondence with respect to this Project Activity was with CRMC of which CNBE is a subsidiary unless otherwise noted.

The verification activities were completed pursuant to the most up-to-date related rules, requirements, regulations, modalities, criteria, guidelines, emission reduction yield, and principles in relation to the PD supplied by the Project Proponent. The Project Activity utilized the UNFCCC CDM methodology ACM001: Large scale Consolidated Methodology – Flaring or use of landfill gas”, Version 16.0, dated October 16, 2015. This methodology has been accepted for use by the VCS as part of the validation of the second crediting period for the project that began on March 29, 2016 and ends on March 28, 2026.

The verification of the Monitoring Period was conducted in accordance with the requirements presented in the following documents:

- VCS Program Guide, dated 29 August 2023, Version 4.4 (VCS Program Guide)
- VCS Standard, dated 11 December 2023, Version 4.5 (VCS Standard)
- VCS Validation and Verification Manual, dated 19 October 2016, Version 3.2 (VCS VVM)
- UNFCCC CDM ACM001: Large scale Consolidated Methodology – Flaring or use of landfill gas, dated 16 October 2015, Version 16.0

- UNFCCC CDM Methodology ACM0001 “Large scale Consolidated Methodology – Flaring or use of landfill gas”, Version 16.0, dated October 16, 2015 (Methodology)
- ISO 14064 Greenhouse Gases – Part 2: Specification with guidance at the project level for quantification, monitoring, and reporting of greenhouse gas emission reduction or removal enhancements, ISO, April 2019 (ISO14064-2:2019)
- ISO 14064 Greenhouse Gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions, ISO, 2019 (ISO 14064 3:2019).

### 1.3 Level of Assurance

GHD conducted this verification to a reasonable level of assurance. Per the VCS Standard Section 4.1.10, “The threshold for materiality with respect to the aggregate of errors, omissions and misrepresentations relative to the total reported GHG emission reductions and/or removals shall be five percent for projects and one percent for large projects.”

Based on the reported emission reductions (less than 300,000 tonnes of carbon dioxide equivalent [tCO<sub>2</sub>e]), the Project Activity is classified as a project, therefore the materiality was set at five (5) percent.

### 1.4 Summary Description of the Project

The Project Activity (VCS ID: 138) is located at the Crapo Hill Landfill in Dartmouth, Massachusetts. The Project Activity consisted of an LFG collection system and four (4) combustion engines designed to capture and combust methane generated within the Crapo Hill solid waste landfill. A back up flare was also connected to the LFG collection system to combust the LFG, as needed, when the engines were not operational. Blowers were connected to the network of piping along with vertical and horizontal extraction wells that were used to apply a vacuum to the system and collect the LFG.

The Project Activity achieved emissions reductions through the collection and destruction of the methane within the LFG in either the four combustion engines or the flare that converted the methane to carbon dioxide, thereby preventing the release of methane to the atmosphere. The baseline scenario consisted of twenty-one LFG extraction wells (9 of which remain operational) and the flare, whereas the project scenario included an expanded active LFG collection system containing additional vertical and horizontal extraction wells and four engines that generated electricity. The baseline scenario of the Project Activity consists of an active landfill gas collection and control system consisting of 64 vertical extraction wells, approximately 30,000 ft of horizontal gas collectors, a 2,000 scfm open flare, and an LFG-fueled electric power generating plant. Passive vent flares are also utilized to provide localized LFG control.

The project scenario consists of an expanded LFG collection system with additional vertical and horizontal extraction wells and the addition of the four LFG combustion engines. Blowers were used in the baseline and project scenarios to create a vacuum and draw in LFG to the LFG collection system. The Project Activity achieved emissions reductions through the collection and destruction of the methane within the LFG in either the four combustion engines or the flare that converted the methane to carbon dioxide, thereby preventing the release of methane to the atmosphere.

## 2 VERIFICATION PROCESS

### 2.1 Method and Criteria

The Project Team has assessed and verified that the implementation of the Project Activity and the steps taken to report the emission reductions comply with the VCS criteria and relevant guidance provided by the VCS as well as relevant criteria of the UNFCCC CDM. The criteria used in the verification has been outlined in Section 1.2 above. The verification included a review of relevant documentation and records.

GHD followed a risk-based verification approach. As such, GHD identified the key reporting risks related to the claimed emission reductions and assessed to what extent the Project Activity's control systems are adequate for mitigating any perceived reporting risks.

Key reporting risks that are not sufficiently addressed by the Project Activity's control system represent residual risks. GHD conducted a detailed verification to investigate the residual risks. Key risks assessed during the verification included, but were not limited to, verification of correct use of emission factors, correct use of conversion factors, and consistency in aggregation of emissions data. Wherever practical, direct reading instruments were to be used to ensure any reporting risks were kept within equipment and instrumentation performance limits. GHD developed a Strategic Analysis, Risk Assessment and Evidence Gathering Plan and have these documented within internal project filing. GHD provided a Verification Plan which was updated on an as-needed basis throughout the verification process. The Final Verification Plan is provided as Appendix A to this report.

During the verification process, the GHD Project Team considered both quantitative and qualitative information on emission reductions. Quantitative data was comprised of the 2023 Monitoring Report (Version 1 dated October 31, 2023 and Version 2 dated March 11, 2024) and supporting information submitted to the GHD Project Team by the Project Proponent.

Qualitative data was comprised of information on internal management controls, calculation procedures, and procedures for transfer, frequency of emissions reports, and review and internal audit of calculations/data transfers.

The main components of GHD's verification process were as follows:

- Document Review
- Verification Assessment and Issuance of Corrective Action Requests (CARs)/Clarification Requests (CLs)
- Response to CAR(s)/CL(s)
- Review and/or development of Forward Action Requests (FARs), as applicable
- Independent Review
- Draft Verification Report Issuance
- Final Verification Report Issuance
- Verification Representation

The timelines associated with each of these items are discussed in the sections to follow. The document review established to what degree the presented Monitoring Plan and associated GHG calculation documentation met the verification standards and criteria.

The GHD Project Team's document review during the review process comprised, but was not limited to, an evaluation of whether:

- The documentation was complete and comprehensive and follows the structure and criteria given in the Program Guide (Version 4.4), Program Standard (Version 4.5), Protocol (Version 16.0), and its associated guidance.
- The methodologies were justified and appropriate.
- The assumptions behind the inventory were conservative and appropriate.
- The GHG emission calculations were appropriate and use conservative assumptions for estimating GHG emissions.
- The GHG information system and its controls were sufficiently robust to minimize the potential for errors, omissions, or misrepresentations.

- The Facility GHG calculations were justified and appropriate.

The outcome of the document review process was the creation of a Findings Assessment. GHD issued the Findings Assessment to the Project Proponent for response to any corrective actions or clarification requests. Upon closing all findings identified by GHD, a Draft Verification Report was prepared. The Technical Reviewer completed a peer review of the Draft Verification Report and found no additional findings that required response from the Project Proponent. GHD issued a Draft Verification Report to the Project Proponent for review and comment. GHD then incorporates the Project Proponent's comments, as applicable and issues the Final Verification Report along with a completed Verification Representation.

GHD based the Verification Representation conclusion on the interaction of three key verification principles as follows:

1. Compliance with the Monitoring Plan.
2. Accuracy of reported information.
3. Quality of evidence.

### 2.1.1 Strategic Analysis

To understand the activities and complexity of the Project, and to determine the nature and extent of the verification activities, GHD completed a strategic analysis. The strategic analysis involved consideration of the details of the Project Site and its operations, the Monitoring Report and its preparation, and the verification requirements per the Program. The information considered in the strategic analysis is documented in GHD's working papers and was used to inform the assessment of risks and the development of an evidence gathering plan.

### 2.1.2 Assessment of Risk and Magnitude of Potential Errors, Omissions or Misrepresentations

GHD conducted an assessment of the risk and magnitude of potential errors, omissions or misrepresentations associated with the Monitoring Report statement/assertion. GHD then identified areas where qualitative or quantitative errors could occur and assigned risks to the areas. The inherent and control risks were evaluated, and detection risks were established. The risks were identified as high, medium and low. The risk assessment was a key input to developing an effective evidence gathering plan.

### 2.1.3 Evidence-Gathering Plan

GHD developed an Evidence Gathering Plan (EGP) for internal use based on review of the objectives, criteria, scope, and level of assurance detailed above, along with consideration of the strategic analysis and assessment of risks. The EGP was designed to lower the verification risk to an acceptable level and specified the evidence (data and information) to be reviewed as part of the verification in the evidence gathering activities. The EGP was reviewed and approved by the Lead Verifier prior to issuing the verification plan. The EGP is dynamic and was revised, as required, throughout the course of the verification. Any modifications to the EGP were reviewed and approved by the Lead Verifier, with the final EGP completed prior to issuing the final verification report and opinion.

### 2.1.4 Verification Plan

GHD developed a Verification Plan based on a preliminary review of the data initially provided. GHD's Verification Plan was revised, as required, throughout the course of the verification to address questions or initial concerns with data originally provided.

A copy of the final Verification Plan is included as Appendix A.

### 2.1.5 Quantitative Testing

Quantitative data or raw data was made available to GHD. GHD used the data to recalculate and check the GHG emission calculations and assess the methodologies that were used in the development of the Monitoring Report.

### 2.1.6 Materiality Level

Based on the reported emission reductions (i.e. less than 300,000 tonnes of carbon dioxide equivalent [tCO<sub>2</sub>e]), the Project Activity is classified as a project, therefore the materiality was set at five (5) percent. In addition, a series of discrete errors, omissions, or misrepresentations of individual or a series of qualitative factors, when aggregated, was considered material.

Materiality was also assessed on a qualitative level, including conformance with the applicable Program and Protocol requirements. Non-conformance with Program requirements may have been considered a material error.

### 2.1.7 Verification Procedures

#### 2.1.7.1 Conflict of Interest (COI) and Independence

GHD has undergone a thorough evaluation for conflict of interest (COI) and independence for this verification work. This included a review of other potential work conducted by GHD

for Client and Project listed in the scope of work. We have confirmed that this verification work can be successfully completed without undue risk of impartiality and conflict of interest. We have assessed the following key aspects:

- Verification evaluation
- Team evaluation

GHD has rigorous COI and verifier competency evaluation procedures that are followed for every verification project. Our documented procedures ensure that all COI and independence criteria are properly evaluated. GHD's COI program ensures that both the company and the Project Team have no potential COIs.

GHD has also evaluated and approved our Verification Team's competencies. GHD sets competency requirements in terms of education, verification experience, and experience in the sector. GHD can attest that we have highly qualified staff with the appropriate technical expertise for the verification work.

#### **2.1.7.2 Issues Communications**

During the course of the document review and interviews, questions and clarifications were identified by the Project Team; these were communicated with Client either verbally, by email, or in an Issues Log. Client and/or Project staff had the opportunity to respond to identified issues prior to the completion of GHD's draft and final verification reports. Material issues identified by GHD were requested to be corrected by Client.

#### **2.1.7.3 Independent Review**

GHD conducted an independent review of the verification, which included a review of findings, emission calculations and opinion developed by the verification team.

## 2.2 Document Review

The VCS verification process relies heavily upon document review. The primary document for review was the Monitoring Report. The Project Proponent provided GHD with the Monitoring Report as detailed below:

| Document Date    | Date Issued to GHD | Version Number | Methodology   |
|------------------|--------------------|----------------|---------------|
| 31 October, 2023 | 31 October, 2023   | 1              | ACM0001 V16.0 |
| 11 March, 2024   | 11 March, 2024     | 2              | ACM0001 V16.0 |

GHD reviewed the above submission and did not identify any issues in the Monitoring Report that required a resubmission. GHD issued a single corrective action request which CRMC chose not to correct as it was immaterial.

During the document review, GHD became familiar with the Project Activity to ensure the Project Proponent accurately described the on-Site conditions within the Monitoring Report. During the document review, GHD completed the following:

- Review of the data and information presented to assess completeness.
- Review of the VCS PD and Monitoring Report, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures.
- Evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.
- Review of the last revision of the previous verification and validation reports.
- Review of operation licenses from local authorities.
- Cross check of available documentation with the registered VCS PD and Monitoring Report.
- GHD followed the audit trails and data sets for specific indicators and cross checked the applicable records.

As part of the verification process GHD requested and reviewed, additional documentation supplemental to the Monitoring Report, as required.

## 2.3 Interviews

GHD completed interviews via email as required throughout the verification. Ben Gerber corresponded via email with Mr. Thomas Yeransian regarding various aspects of the Project Activity. The following Project Stakeholders were interviewed via email by GHD for this Monitoring Period.

| Interviewee      | Position and Company | Details of Discussions                         |
|------------------|----------------------|------------------------------------------------|
| Thomas Yeransian | Principal, CRMC      | Discussed findings and associated resolutions. |

## 2.4 Site Visits

The verification process consisted of a thorough document review. GHD elected not to complete an in-person Site Inspection during the verification as GHD completed a Site Inspection on February 19, 2019, during the verification of the 2018 Monitoring Period and none of the core Project Activity components (e.g., data collection, data management, metering, etc.) changed from the previous verification and associated Site inspection.

According to Section 4.1.12 of the VCS Standard, a Site visit is required in one of the following scenarios:

- The first verification of the project after validation;
- Verifications that include project baseline reassessments; and
- Verifications that assess a project description deviation where the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario.

As none of the above criteria are applicable to the verification of the current monitoring period, GHD determined that a Site visit was not required during the verification. Additionally, GHD conducted a strategic risk assessment as part of the verification planning activities and determined that a reasonable level of assurance could be achieved without conducting a Site visit. GHD's risk assessment determined that there was a low risk of not identifying a material error while conducting the verification without a Site visit. This was due to the lack of change in project activities since the previous Site visit.

GHD determined that an in-person Site Inspection for the Monitoring Period was not required to achieve a reasonable level of assurance.

## 2.5 Resolution of Findings

The Verification findings are categorized either as a Corrective Action Request (CAR), Forward Action Request (FAR), or as a Clarification Request (CL).

The GHD Project Team raised CARs in this Assessment if:

- The Project Proponent had made mistakes in assumptions or in the Project documentation that directly influenced the Project results.
- The VCS requirements deemed relevant for verification of the Project Activity were not met.
- There was a risk that the Project would not be registered by the VCS or that emission reductions cannot be monitored, calculated, verified, and/or certified.
- The Project Proponent made mistakes that would influence the ability of the Project Activity to achieve relevant, complete, consistent, accurate, transparent, and conservative emission reductions.
- The VCS requirements have not been met.

When issued, FAR's highlight issues related to Project implementation that require review during the subsequent verification of the Project Activity. FAR's do not relate to the VCS requirements for registration and thus do not require any formal response from the Project Proponent.

CL's were issued to CRMC if the GHD Project Team determined that the information provided by CRMC was insufficient, unclear or not transparent enough to establish whether the applicable requirements are met.

Each CAR and CL raised by GHD was presented in individual rows of a table that comprised the Findings Assessment. CRMC was required to complete the appropriate responses and to provide, where necessary, documentation as evidence of their assumptions and/or responses. The final version of the Findings Assessment is provided in Appendix A.

A summary of the final results of the Findings Assessment is presented as follows:

| Finding Category          | Number of Findings |
|---------------------------|--------------------|
| Clarification Request     | 4                  |
| Forward Action Request    | 0                  |
| Corrective Action Request | 1                  |
| <b>Total:</b>             | <b>5</b>           |

### 2.5.1 Forward Action Requests

No forward action requests were identified for the Monitoring Period.

## 2.6 Eligibility for Validation Activities

Validation activities were not conducted as part of the verification of this Monitoring Period.

## 2.7 Verification Team and Independent Reviewer

### 2.7.1 Roles and Responsibilities

**Lead Verifier/Technical Expert – Ben Gerber** – Mr. Gerber led the verification and was responsible for development of the verification plan. Mr. Gerber reviewed the risk assessment and evidence gathering plan, recalculation of raw data, data management and draft findings. Mr. Gerber reviewed and signed the verification opinion and verification report.

**Verifier – Angela Kuttemperoor** – Ms. Kuttemperoor developed and revised the verification plan and evidence gathering plan, developed a risk assessment, recalculated raw data, reviewed management of data, and prepared draft findings and the draft verification report.

**Independent Reviewer/Technical Expert – Gordon Reusing** – Mr. Reusing conducted an independent review of the risk assessment, evidence gathering plan, working papers, verification plan, verification report, and findings. Mr. Reusing approved the issuance of the opinion.

### 2.7.2 Qualifications

The team member qualifications are detailed below.

| Ben Gerber, MCC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Role: Lead Verifier |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| <p><b>Professional Summary  </b> Ben holds a Master of Climate Change degree from the University of Waterloo. Ben has been a verifier since 2018, completing various GHG assurance work in numerous jurisdictions throughout North America including Ontario, Alberta, California and other voluntary markets. Ben has experience conducting GHG assurance work for a variety of industrial sectors including iron and steel production, electricity generation, manufacturing, petroleum importation, ethanol production and food production. Ben has also conducted offset verifications and validations under the Climate Action Reserve, Verra (VCS), and the American Carbon Registry.</p> <p>In addition to GHG assurance services, Ben has been a technical expert on project teams providing advisory services to Canadian provinces preparing to develop provincial offset programs. This work involved analysis of the various carbon offset programs and regulations in place throughout North America and the provision of recommendations related primarily to offset protocol applicability and program feature design.</p> |                     |

| Angela Kuttemperoor, E.I.T.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Role: Verifier |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <p><b>Professional Summary</b>   Ms. Kuttemperoor is an Air Engineer-In-Training with GHD's Greenhouse Gas Assurances Services Team and has 2 years of experience in greenhouse gas verification work. Ms. Kuttemperoor has a Bachelor's of Environmental Engineering (co-op) from the University of Guelph. Ms. Kuttemperoor has experience as a verifier under the Ontario Emissions Performance Standards program and federal Output-based Performance Standards program. Ms. Kuttemperoor has expertise in voluntary offset project validations and verifications conducted under the Climate Action Reserve, American Carbon Registry and Verified Carbon Standard for landfill gas destruction and ozone-depleting substances destruction projects. Ms. Kuttemperoor has experience with compliance offset verifications for ozone-depleting substances conducted under the California Air Resources Board. Ms. Kuttemperoor has experience in verifications conducted under the Carbon Offsetting and Reduction Scheme for International Aviation.</p> |                |

| Gordon Reusing, P. Eng., M.Sc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Role: Independent Reviewer |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <p><b>Professional Summary</b>   Mr. Reusing is a greenhouse gas (GHG) Lead Verifier, Lead Validator, and Independent Reviewer with extensive experience including GHG programmes in Alberta, British Columbia, Ontario, Quebec, Nova Scotia, California, and programs operated by the United Nations Framework Convention on Climate Change (UNFCCC) Clean Development Mechanism (CDM), The Gold Standard, The Climate Registry (TCR), the Carbon Disclosure Project (CDP), and Verra: Verified Carbon Standard (VCS). He has completed numerous GHG quantification studies for the oil and gas sector, including upstream, midstream and downstream facilities. Mr. Reusing has conducted GHG verifications as a Lead Verifier, Technical Expert and Independent Reviewer in many jurisdictions, including, but not limited to, the Alberta Carbon Competitiveness Incentive Regulation (CCIR), Ontario Regulations, British Columbia Greenhouse Gas Reduction (Cap and Trade) Act, (B.C. Reg. 272/2009), and Quebec Regulation R.Q.c.Q 2, r.15 (Quebec Regulation).</p> |                            |

## 3 VALIDATION FINDINGS

### 3.1 Participation under Other GHG Programs

Validation activities were not conducted as part of the verification of this Monitoring Period. However, GHD confirmed that the Project did not claim emission reductions under any other programme for this Monitoring Period. Although the Project is registered with the American Carbon Registry (ACR 113), GHD confirmed that the Project has not claimed credits under that programme since 2008. GHD reviewed the ACR registry listing to confirm this.

### 3.2 Methodology Deviations

The following table outlines the methodology deviations previously validated and approved for the Project Activity:

| Number | Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Approval Timeline                                               |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| 1      | The SCADA system was programmed to calculate the methane gas flow in units of million British thermal units (MMBtu) using standardized gas flow (at 68°F and one atmosphere of pressure), methane concentration, the gross heat content (higher heating value) of methane, and the actual temperature and pressure. CNBE determines the volume of methane destroyed by converting the MMBtu values to total methane gas flow in standard cubic feet. This deviation from the monitoring methodology was previously approved by independent verifiers. | Approved during the validation of the initial crediting period. |
| 2      | The Project reference conditions are 20 degrees Centigrade and 1 atmosphere rather than ACM0001 reference conditions of 0 degrees Centigrade and 1 atmosphere.                                                                                                                                                                                                                                                                                                                                                                                        | Approved during the validation of the initial crediting period. |
| 3      | A separate LFG meter is not present on each of the four combustion engines. A single meter is used immediately before the piping splits to each engine. This meter is continuously recording data. Operating data is tracked for each engine so it is possible to calculate the flow destroyed by each engine and to ensure that LFG is destroyed. Flow controls are in place to ensure no LFG is sent to an engine that is not operating. This does not affect the conservativeness of the emissions reductions claimed.                             | Approved during the re-validation assessment in 2016.           |
| 4      | Ex-ante emissions reductions calculations use historic Project specific data as the basis for projecting future emissions rather than the required CDM estimation tools. Using real data allows the estimations to be more accurate and reflect actual Project operating conditions. This does not affect the conservativeness of the emissions reductions claimed but increases the accuracy of the ex-ante projections ensuring the project is forecasting obtainable, appropriate emissions reductions.                                            | Approved during the re-validation assessment in 2016.           |

| Number | Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Approval Timeline                                            |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| 5      | <p>The Greater New Bedford Regional Refuse Management District (District) owns and operates the District Initial System. No flow meter is installed on the collection pipe from the District Initial System to separately monitor the contribution of the original baseline system. Given the collection system design and meter requirements, installing a meter at this location would not produce reliable, meaningful results. Instead, well-head flow measurements are collected manually two times each month. These results are used to calculate the relative contribution of the District Initial System to the overall flow of LFG destroyed by the engines. This portion of the total flow represents FCH<sub>4</sub>,BL,y and will be calculated on a monthly basis and subtracted from the total flow to account for the amount of methane destroyed in the baseline scenario. This approach represents an accurate measurement of the flow because (a) the portion of the landfill that includes the District Initial System (Phase 1) is capped so no landfill gas can be passively emitted to the atmosphere, and (b) the remaining active wells from the District Initial System are located in such a way as to enable capture of LFG generated within the sphere of influence of the District Initial System. This deviation decreases the conservativeness of the emissions reductions claimed but significantly increases the accuracy of the calculations as is allowable under VCS Standard v4.2, Section 3.18.1 and 2.</p> | <p>Approved during the re-validation assessment in 2016</p>  |
| 6      | <p>The Project uses the eGrid electricity emissions factor rather than the default emissions factor provided in the CDM tool as explained in the project emissions section. This deviation decreases the conservativeness of the emissions reductions claimed but significantly increases the accuracy of the calculations as is allowable under VCS Standard v4.2, Section 3.18.1 and 2.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>Approved during the re-validation assessment in 2016.</p> |

Based on the information provided to GHD from the Project Proponent, GHD concludes that the Project Activity continues to operate as described in the VCS PD and the deviations applied are appropriate and representative.

### 3.3 Project Description Deviations

No project description deviations applied during this monitoring period.

### 3.4 Grouped Project

The Project is not a grouped project.

## 4 VERIFICATION FINDINGS

### 4.1 Project Implementation Status

The Project Activity received its Re-Validation Representation with the VCS dated 16 May 2016 as a Renewable Energy Industries type project under Sectoral Scope 1 defined by the UNFCCC and adopted by the VCS. The Project Activity was registered utilizing the approved consolidated large-scale methodology ACM0001 titled “Flaring or use of landfill gas”, dated 16 October 2015, Version 16.0 with a second crediting period of ten (10) years commencing on the 29 March 2016 immediately following the end of the Project Activity’s first crediting period and ending 28 March 2026.

Section 3.7 of the Standard states that “The project start date a non AFOLU project is the date on which the project began generating GHG emission reductions or removals”. The earliest credit start date established under the initial validation is March 28, 2006. The initial 10-year crediting period therefore began on March 28, 2006, and concluded on March 28, 2016. The Project Activity was then re-validated in 2016 and the second crediting period began on March 29, 2016, and will conclude on March 28, 2026. The stated crediting period is in accordance with the project crediting period Standard requirements. Monitoring data was provided for the Monitoring Period related to the destruction of LFG from the Crapo Hill Landfill in four (4) engines. The monitoring data indicates the Project was in consistent operation through the Monitoring Period. GHD verified that the data collected for the Monitoring Period was in accordance with the monitoring requirements of the registered VCS PD.

The four (4) engines actively destroyed LFG during this Monitoring Period. The back up flare had limited use during the Monitoring Period and as a result, no emission reductions are claimed from flaring.

Based on a review of project information, GHD determined that there are no material discrepancies between project implementation and the VCS PD.

GHD's review of the monitoring plan and monitoring systems confirmed that the Project Activity is operating according to the monitoring plan, and the data collection methods and monitoring systems implemented at the Project Activity are robust.

The Project is currently registered with the American Carbon Registry (ACR) with the Project ID; ACR 113. However, emission reductions for this Monitoring Period have not been claimed under ACR. GHD verified that the Project Proponent has not claimed GHG emission reductions in emissions trading programs or any other mechanism that includes GHG allowance trading. GHD notes that emission reductions were only claimed under ACR for the following Monitoring Periods:

- January 1, 2007, to June 30, 2007
- July 1, 2007, to December 31, 2007
- January 1, 2008, to June 30, 2008
- July 1, 2008, to December 31, 2008

The Project is also qualified under the Massachusetts, Connecticut, Maine and New Hampshire Renewable Energy Portfolio Programs to produce Class I Renewable Energy Credits in Massachusetts, Connecticut and Maine; and Class III Renewable Energy Credits in New Hampshire. The Renewable Energy Credits from these Programs do not result in any GHG emission reduction attributes associated with the destruction of methane.

The Project Activity supports sustainable development as it involves renewable energy generation.

## 4.2 Safeguards

### 4.2.1 No Net Harm

The Project is an environmental control project that is designed and operated to:

1. Collect and control landfill gas emissions from a landfill that may otherwise be uncollected and uncontrolled.
2. Utilize an energy resource that may be otherwise wasted.

The Project Proponent did not identify any negative environmental and socio-economic impacts. GHD performed an independent review of the permits associated with the Project Activity and the EPA's ECHO database and identified two instances of violation and one non-compliance. GHD requested further clarification regarding the nature of the violations and non-compliances and was notified that the instances were related to high pH levels of the on-Site stormwater pond. As the violations are not directly related to, or resulting from the Project activity, the presence of the violations and non-conformance do not present a risk of the Project causing harm.

#### 4.2.2 Local Stakeholder Consultation

The Project Proponent regularly engages with local stakeholders to gather input. Tours are provided of the Project Activity to interested parties such as school groups, college students, environmental advocacy groups, and political leaders. The Project is often used as an example by the State of Massachusetts Clean Energy Council and Department of Environmental Protection as an important environmental project which helps Massachusetts achieve their environmental, renewable energy, greenhouse gas reduction, and sustainability goals. In addition, the Project was awarded the Silver Medal for Excellence in 2010 for LFG and biogas projects by the Solid Waste Association of North America (SWANA).

Section 2.2 of the Monitoring Report outlines mechanisms in place to ensure ongoing communication with stakeholders. GHD's review has determined that the methods which are in place effectively meet the requirements of Section 3.18.4 of the VCS Standard.

#### 4.3 AFOLU-Specific Safeguards

The Project Activity is not an Agriculture, Forestry and Other Land Use (AFOLU) project; therefore, there are no AFOLU-Specific safeguards.

#### 4.4 Accuracy of GHG Emission Reduction and Removal Calculations

##### 4.4.1 Monitoring Parameters

The following is a list of the monitoring parameters that the Project Proponent monitored and recorded throughout the crediting period to calculate the claimed emissions reductions for the specific Monitoring Period:

| Symbol                                                                      | Description                                                                                                                                          | Frequency                                               |
|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| $EG_{\text{facility},y}$                                                    | Percent Methane content of landfill gas and biogas entering the engines (% v/v)                                                                      | Continuous/real time measurement, hourly, daily (SCADA) |
| $F_{\text{CH}_4,\text{EL},y}$ (symbol only represents landfill gas portion) | Volume of landfill gas and biogas entering the engines (acfm)                                                                                        | Continuous/real time measurement, hourly, daily (SCADA) |
| -                                                                           | Temperature of landfill gas and biogas entering the engines (°F)                                                                                     | Continuous (SCADA)                                      |
| -                                                                           | Pressure of landfill gas and biogas entering the engines (PSIG)                                                                                      | Continuous (SCADA)                                      |
| -                                                                           | Percent methane content of biogas from the anaerobic digester (% v/v)                                                                                | Continuous and at totalization of biogas volume         |
| -                                                                           | Volume of biogas from the anaerobic digester (scfm)                                                                                                  | Continuous and at totalization of biogas volume         |
| -                                                                           | Temperature of the biogas from the anaerobic digester (°F)                                                                                           | Continuous (SCADA)                                      |
| -                                                                           | Pressure of biogas from the anaerobic digester (PSIG)                                                                                                | Continuous (SCADA)                                      |
| $F_{\text{CH}_4,\text{flared},y}$                                           | Volume of landfill gas to the flare (scfm)                                                                                                           | Continuous, hourly, daily                               |
| $F_{\text{DistrictInitialSystem}}$                                          | Fraction of total LFG collected attributable to District Initial System represents the amount of landfill gas destroyed in the baseline scenario (%) | Twice per month (approximately every two weeks)         |
| $EF_{\text{EL},\text{Grid},y}$                                              | Emission factor for electricity generation in year y (tonnes CO <sub>2</sub> /MWh)                                                                   | Annual                                                  |
| $TDL_{\text{Grid},y}$                                                       | Average technical transmission and distribution losses for grid in year y (no units)                                                                 | Annual                                                  |

| Symbol                 | Description                                                         | Frequency         |
|------------------------|---------------------------------------------------------------------|-------------------|
| EC <sub>Grid,y</sub>   | Amount of grid electricity consumed by the project (MWh)            | Annual            |
| FC <sub>Diesel,y</sub> | Amount of diesel fuel consumed by the emergency generator (gallons) | Compiled annually |

The GHD Project Team reviewed the monitored parameters and their frequency, equipment used, and description. The GHD Project Team also verified that the monitoring of the above parameters coincides with the CDM Methodology and VCS guidance for the projected emission reductions.

The parameters listed above are consistent with the registered VCS PD.

The GHD Project Team also notes that the parameters available at validation detailed in the registered VCS PD have been applied appropriately.

#### 4.4.2 Methods for Recording Monitoring Parameters

##### SCADA System Monitoring

The Project Activity uses their internal SCADA system to record the monitoring parameters listed in Section 4.4.1 where the frequency of collection is continuous. The SCADA system measures and records methane content and gas (LFG and biogas) volume to the engines and flare once per minute, and then calculates methane quantities each minute. The results are then accumulated to provide hourly and daily totals in units of million British thermal units on a higher heating value basis [MMBtu (HHV)] and thousand standard cubic feet (KSCF) of LFG. This data is automatically saved from the SCADA system via a Microsoft Excel file that contains a summary of the hourly and daily total gas flows (LFG and biogas), methane content, heating value and additional information pertaining to the operation and output of each of the four engines. This data is saved at the Project Activity but is also backed up and can be accessed remotely.

The total gas flow provides data regarding the mixed LFG from the landfill and biogas from the anaerobic digester system. The same conversion of gas flow to heating value is made using data from the biogas feed pipe. The difference between the total BTUs entering the engines and the total BTUs received from the biogas facility is the quantity attributed to the LFG collected and is used in the calculations described previously in the VCS PD. The data collection method is consistent with the Project Activity deviation number 5 noted in Section 4.1 above and results in an accurate separation of the methane associated with the LFG and the methane associated with the biogas.

GHD reviewed the SCADA system during the Site Inspection on February 19, 2019, during the 2018 Monitoring Period. GHD confirmed that the SCADA system is backed up on-Site and externally. GHD verified that the above noted parameters are recorded via the SCADA system along with a significant number of other parameters related to the operation of the Project Activity but not specifically associated with the emission reductions (e.g., blower bearing temperature, engine temperature, and other maintenance related parameters). GHD confirmed that there have been no changes to the SCADA system during the 2023 Monitoring Period. GHD determined that using the SCADA system to record the above noted parameters is appropriate and consistent with the VCS requirements.

Section 4.3 of the Monitoring Report provides further details associated with how and where flow measurement and methane content data is collected. GHD verified that the data associated with these parameters is accurate and consistent with the Monitoring Report and registered VCS PD. Through the review of the Project Proponent's GHG calculation spreadsheet and daily reported data, GHD verified that the data from these parameters is consistent with the data within the Monitoring Report and VCS PD.

#### **Volume of LFG to the Flare**

In the Monitoring Report, the Project Proponent has not attributed any LFG flow to the flare (refer to Exhibit 3 of the Monitoring Report). GHD reviewed the provided meter data and determined that LFG was combusted by the flare for twelve independent days during the 2023 Monitoring Period. As the flare did not operate for a significant time during the reporting period, emissions reductions have not been claimed from flaring. This was raised as finding 1 within GHD's Findings Assessment. GHD has determined that the quantification of the methane combusted by the flare during the Monitoring Period is appropriate and is conservative.

#### **Methane Content of the Gas and Biogas**

The methane content of the gas to the engines (LFG and biogas mixed) is measured continuously using a California Analytical nondispersive infrared (NDIR) meter on a continuous basis. The metered results from this monitoring equipment are then aggregated by the SCADA system on an hourly and daily basis. Refer to Exhibit 5 of the Monitoring Report for the associated data. The Project Proponent provided the calibration results to GHD for review during the Monitoring Period. GHD reviewed the calibration results for the NDIR meter and determined they complied during the 2023 Monitoring Period.

The methane content of the biogas from the anaerobic digestion system is measured continuously using a Hitech Model NDIR meter on a continuous basis. The metered results from this monitoring equipment are then aggregated by the SCADA system on an hourly and daily basis. This information aids in subtracting the ineligible biogas fraction, from the biogas/LFG mixture that is fed into the engines.

### **District Initial System**

The District Initial System (DIS) consisted of the voluntary installation of 21 LFG extraction wells (9 of which remain operational) and a flare to combust the collected LFG and represents the operations of the Project Activity in the baseline scenario. Typically, on a bi-weekly basis (or twice per month), the Project Proponent uses a portable gas analyzer to measure the LFG flow rate from each of the 9 remaining LFG extraction wells associated with the District Initial System. This flow information is used to establish the fraction of flow (%) of LFG to the engines that is attributed to the District Initial System during each monitoring event. The Project Proponent calculated the weighted average fraction of flow that the District Initial System through the Monitoring Report based on the total LFG flow per month. The average fraction of LFG flow (4.3%) was used to calculate the baseline emissions associated with the District Initial System in 2023. GHD notes that during monitoring of the LFG flow at each of the 9 remaining extraction wells, the Project Proponent also monitors the methane, carbon dioxide, oxygen, and balance gas concentrations to normalize the flow of methane to the total flow of LFG to the engines.

#### **4.4.3 Calculation of Baseline Emissions**

##### **Baseline Emissions**

To quantify Baseline Emissions for the Project, the following methodology was used:

- UNFCCC CDM “Large scale Consolidated Methodology – Flaring or use of landfill gas”, ACM0001, Version 16.0 dated 16 October 2015.

The calculation methodology was applied to the calculation of emissions from methane contained within LFG which is generated from the decomposition of solid waste from within the landfill and combusted during electricity generation or in a flare.

For this Project Activity the baseline emissions consist of those associated with the volume of LFG that is destroyed in the flare and the engines to generate electricity. Further, the emissions associated with the fraction of LFG related to the District Initial System, need to be subtracted as this system was installed voluntarily as part of the baseline of the Project Activity. This subtraction of emissions is understood to occur in the baseline of the Project Activity.

The Baseline Emissions also include quantification of the fraction of methane in the LFG that would be oxidized in the top layer of the landfill in the baseline. This is a dimensionless value (0.1) that was available at validation and is therefore defined in the VCS PD. GHD verified that the Project Proponent has applied the Baseline Emissions calculations appropriately and they are consistent with the VCS PD.

## Project Emissions

The following methodology and tool were used to quantify Project Emissions:

- UNFCCC CDM “Large scale Consolidated Methodology – Flaring or use of landfill gas”, ACM0001, Version 16.0 dated 16 October 2015.
- UNFCCC CDM “Tool to calculate baseline, project and/or leakage emissions from electricity consumption” (Version 01) 16 March 2008.

The calculation methodology for the project emissions was applied to the calculation of emissions from the following sources:

- Fossil Fuel Emissions – CO<sub>2</sub> – Generated from the combustion of fossil fuels (diesel) in an emergency generator.
- Electricity Consumption Emissions – CO<sub>2</sub> – Generated from the grid consumption of electricity within the Project Boundary.

GHD verified that the Project Proponent has applied the Project Emissions calculations appropriately and consistently with the VCS PD. GHD identified a minor immaterial discrepancy associated with the consumption of diesel within the emergency generator. GHD raised this as issue number 3 within the findings assessment. As the issue was not material, CRMC chose to not correct their calculations and resubmit the Monitoring Report.

## Leakage

As per the applied methodology (ACM0001): “No leakage effects are accounted for under this methodology.”

## Net GHG Emission Reductions or Removals

The net GHG emission reductions are calculated by subtracting the project emissions from the baseline emissions. GHD verified that this calculation has been performed appropriately by the Project Proponent for the Monitoring Period.

## Uncertainty Associated with the Calculation of Emissions

GHD identified the following minor uncertainties associated with the calculation of the Baseline and Project emissions which were addressed through the issuance of the following CAR's:

- Baseline Emissions – CL#1 – The Project Proponent did not include reductions from flaring as the flare had very limited operation during the monitoring period (twelve days). GHD determined this was a conservative approach and no changes were made to the GHG assertion. This finding was raised during the previous verification period and re-addressed during the current verification.
- Project Emissions – CAR#1 – There was an error in a calculation that supported the project emissions. Specifically, the error related to the quantification of

emissions from diesel combustion within the emergency generator. The error was immaterial and resulted in a 0.15 tCO<sub>2</sub>e overall discrepancy. GHD identified the error within the Findings Assessment and the project proponent chose to not correct the error or resubmit the affected project documentation.

### **Documentation**

The Project Proponent provided a calculation spreadsheet to support the applicable calculations. Additional documentation, data and information was provided by the Project Proponent to support the values used in the calculation spreadsheet.

### **Default Values**

GHD reviewed the appropriateness of the default values applied by the Project Proponent which were mainly attributed to conversion from imperial to metric units along with default conversion factors for converting BTUs of methane to standard cubic feet. GHD determined that the default values applied were appropriate.

### **Conclusion**

The referenced methodology has been applied correctly to calculate baseline emissions, project emissions and net GHG emission reductions.

Relevant assumptions and data have been listed in the VCS PD and have been followed.

Data and parameter values used in the VCS PD are reasonable in the context of the Project and have consistently been applied during the Monitoring Period, unless otherwise noted.

Estimates of the baseline and project emissions can be replicated using the provided data and parameters values listed in the VCS PD and Monitoring Report.

### **Materiality**

GHD's review and recalculation did not identify a material discrepancy in the reported emissions reductions.

## **4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals**

GHD reviewed the quality of the evidence provided during the verification and requested additional evidence as required to further support the determination of emission reductions. Provided below is a summary of the CL's that were used through the verification process to address specific evidence requirements and clarify the quality of evidence:

CL#1 – GHD identified that the flare was used on numerous occasions throughout the Monitoring Period, yet reductions from the flare were not included within the baseline emissions calculations. CRMC clarified that as the operation of the flare was relatively limited, reductions from its operation were not claimed. GHD determined that this approach is conservative and does not present a risk to materiality.

CL#2 – GHD identified that the records from the Site's third-party electricity provider indicate that electricity was only consumed during February 2023. CRMC indicated that this was due to the Site operators choosing to source power from the third-party supplier during an unplanned outage rather than using the emergency generator which is typically what occurs.

CL#3 – GHD requested clarification regarding whether there had been any changes to the Site's operations since the previous Monitoring Period. CRMC confirmed that there had been no changes to the project since the previous Monitoring Period.

CL#4 – GHD identified that there had been downtime for individual engines between May and September and requested clarification regarding the destruction approach during those periods. CRMC clarified that the downtime was the result of Eversource performing significant work in the nearby business park which impacted the lines that the Project uses to export their electricity. During this time, the Project either operated the flare or the engines at a reduced capacity.

Additionally, it was identified that while total LFG flow remained relative consistent during the Monitoring Period, engine runtime declined consistently from February to September. GHD discussed this finding with the Project Proponent and determined that the Site operated all four engines at a reduced capacity in January. From February to September, the Facility instead operated three of their engines at near full capacity. GHD reviewed the monthly supporting data associated with gas flow to the engines, total engine capacity and total engine output and determined that the data sufficiently supported the explanation of the finding.

CAR#1 – GHD identified an immaterial error associated with the quantification of diesel combusted within the emergency generators. CRMC chose to not correct and resubmit project files as the error was minor (0.15 tCO<sub>2</sub>e) and was immaterial.

Through a review of each of the different sources of evidence provided by the Project Proponent, GHD was able to verify that the evidence clearly and transparently conveys the data generation, aggregation, recording, calculation, and final transposition into the Monitoring Report. The information is clearly conveyed by the Project Proponent from the metering through to the SCADA system, the accompanying excel spreadsheets, and the calculation spreadsheet. The instrument calibration documentation, Monitoring Report, raw data, and permitting documentation support the transparency and quality of the information provided by the Project Proponent.

Additionally, GHD has reviewed the issues from the previous Monitoring Report and Verification Report and determined that none of the previous issues required follow-up during the current verification.

Each of the above noted CLs and CAR were closed out by the Project Proponent and GHD. A complete summary of the findings assessment is provided in Appendix B.

The Project Proponent did not make any corrections to the Monitoring Report and did not submit a revised version of the Monitoring Report during the Verification.

## 4.6 Non-Permanence Risk Analysis

The Project is not an Agriculture, Forestry, and Other Land Use (AFOLU) project; therefore, a non-permanence risk analysis is not required.

# 5 VERIFICATION OPINION

## 5.1 Verification Summary

CRMC reported 98,261 tonnes CO<sub>2</sub>e as the total emission reductions for the Monitoring Period. This includes the GHG emissions reductions resulting from the Project from January 1, 2023 – September 30, 2023. GHD's verification did not identify any material qualitative or quantitative misstatements within the Monitoring Report.

The verification of the Project Activity was performed in accordance with the following documents:

- VCS Program Guide, dated 17 January 2023, Version 4.3 (VCS Program Guide)
- VCS Standard, dated 4 October 2023, Version 4.5 (VCS Standard)
- VCS Validation and Verification Manual, dated 19 October 2016, Version 3.2 (VCS VVM)
- UNFCCC CDM ACM001: Large scale Consolidated Methodology – Flaring or use of landfill gas, dated 16 October 2015, Version 16.0
- UNFCCC CDM Methodology ACM0001 “Large scale Consolidated Methodology – Flaring or use of landfill gas”, Version 16.0, dated October 16, 2015 (Methodology)
- ISO 14064 Greenhouse Gases – Part 2: Specification with guidance at the project level for quantification, monitoring, and reporting of greenhouse gas emission reduction or removal enhancements, ISO, April 2019 (ISO14064-2:2019)

- ISO 14064 Greenhouse Gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions, ISO, 2019 (ISO 14064 3:2019).

## 5.2 Limitation of Liability

Because of the inherent limitations in any internal control structure, it is possible that fraud, error, or non-compliance with laws and regulations may occur and not be detected.

Further, the verification was not designed to detect all weakness or errors in internal controls so far as they relate to the requirements set out above as the verification has not been performed continuously throughout the period and the procedures performed on the relevant internal controls were on a test basis. Any projection of the evaluation of control procedures to future periods is subject to the risk that the procedures may become inadequate because of changes in conditions, or that the degree of compliance with them may deteriorate.

This verification was based on a risk-based approach that follows rigorous methodology with the expectation that it will capture the majority of errors with the potential for a material misstatement. However, GHD does not warrant or guarantee that all errors or omissions, including material issues, made by Client in its Report and/or assertion were identified by GHD.

The verification opinion expressed in this report has been formed on the above basis.

GHD's review of the Monitoring Report included only the information discussed above. While the review included observation of the systems used for determination of the Monitoring Report, GHD did not conduct any direct field measurements and has relied on the primary measurement data and records provided by Client as being reliable and accurate. No other information was provided to GHD or incorporated into this review. GHD assumes no responsibility or liability for the information with which it has been provided by others.

The information and opinions rendered in this report are exclusively for use by Client. GHD will not distribute or publish this report without Client's consent except as required by law or court order. The information and opinions expressed in this report are given in response to a limited assignment and should only be evaluated and implemented in connection with that assignment. GHD accepts responsibility for the competent performance of its duties in executing the assignment and preparing this report in accordance with the normal standards of the profession but disclaims any responsibility for consequential damages.

## 5.3 Verification Conclusion

Through the collection of LFG from the LFG collection system in the Crapo Hill Landfill, including blowers, and subsequent destruction of the LFG in four electricity generation engines and/or a back up flare, the Project Activity resulted in a reduction of GHG emissions that are relevant, complete, consistent, accurate, transparent, and conservative.

Furthermore, the emission reductions generated by the Project Activity serve to contribute to sustainable development and will result in long term benefits to the mitigation of climate change.

Verification period: From 01-January-2023 to 30-September-2023

Verified GHG emission reductions and removals in the above verification period, broken down by calendar year are presented in the below table:

| Year   | Baseline emissions or removals (tCO <sub>2</sub> e) | Project emissions or removals (tCO <sub>2</sub> e) | Leakage emissions (tCO <sub>2</sub> e) | Net GHG emission reductions or removals (tCO <sub>2</sub> e) |
|--------|-----------------------------------------------------|----------------------------------------------------|----------------------------------------|--------------------------------------------------------------|
| 2023   | 98,241                                              | 11                                                 | 0                                      | 98,230                                                       |
| Total: | 98,241                                              | 11                                                 | 0                                      | 98,230                                                       |

## APPENDIX A: VERIFICATION PLAN

Our ref: 11203966-LTR-6

08 December 2023

Thomas Yeransian  
Common Wealth Resource Management  
1 Bornheimer Place  
Scarborough, Maine  
04074

#### Verification Plan

**2023 Monitoring Report for Greater New Bedford LFG Utilization Project (VCS ID: 138), Commonwealth Resource Management, Maine, United States of America under the Verra: VCS.**

Dear Thomas Yeransian,

## 1. Introduction

Commonwealth Resource Management Corporation (Client) retained GHD Services Inc (GHD) to undertake a verification of the Greater New Bedford Landfill Gas (LFG) Utilization Project (Project) for the January 1, 2023 – September 30, 2023 monitoring period. The Project is located in New Bedford, Massachusetts and follows the requirements of the Verified Carbon Standard (Program). The Project is listed under the VCS ID: 138.

The Program requires the verification of the Monitoring Report for each reporting period by an independent third-party accredited under *ISO 14065 Greenhouse Gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition* (ISO 14065). GHD Limited is accredited by ANAB under ISO 14065 as a greenhouse gas validation and verification body.

GHD has prepared this Verification Plan in accordance with ISO Standard *ISO 14064 Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions* (ISO 14064-3:2019) and with the Program requirements.

## 2. Verification Objective

The objective of the verification is to provide Client and the Program with an opinion on whether the Project Monitoring Report (Report) for the reporting period is free of material misstatements and that the information reported is accurate and consistent with the requirements of the Program.

### 3. Level of Assurance

The verification will be conducted at a reasonable level of assurance.

Reasonable assurance is a high but not absolute level of assurance. Reasonable assurance provides a high level of confidence to intended users of verification opinions that the stated information is accurate and complete. If a verification opinion can be provided, it will be worded in a manner similar to “Based on our verification, the GHG emissions assertion is, in all material aspects, in accordance with the approved quantification methodologies.”

### 4. Verification Standards

For the verification, GHD will apply ISO 14064-3:2019 and the Program verification standards.

### 5. Verification Criteria

GHD will apply the following verification criteria:

- ISO 14064 Greenhouse gases Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements, ISO, April 2019 (ISO 14064-2)
- ISO 14064 Greenhouse Gases - Part 3: Specification with guidance for the verification and validation of greenhouse gas statements, ISO, April 2019 (ISO 14064-3)
- International Accreditation Forum Mandatory Document for the Use of Information and Communication Technology for Auditing/Assessment Purposes: Issue 2, July 2018 (IAF MD 4: 2018)
- VCS Program Guide, Version 4.3, dated 17 January 2023 (VCS Program Guide)
- VCS Standard, Version 4.5, dated 4 October 2023 (VCS Standard)
- VCS Validation and Verification Manual, Version 3.2, dated 19 October 2016 (VCS VVM)
- UNFCCC CDM Methodology ACM0001 “Large-scale Consolidated Methodology – Flaring or use of landfill gas”, Version 16.0, dated October 16, 2015 (Methodology)

### 6. Verification Team and Independent Reviewer

#### 6.1 Roles and Responsibilities

**Lead Verifier/Technical Expert – Ben Gerber, MCC** – Ben will lead the verification and is responsible for development of the verification plan. Ben will review the risk assessment and evidence gathering plan, recalculation of raw data, data management and draft findings. Ben will prepare and sign the verification statement and verification report.

**Verifier – Angela Kuttemperoor, B.Eng.** – Angela will develop and revise the verification plan and evidence gathering plan, develop a risk assessment, recalculate raw data, review management of data, and prepare draft findings and the draft verification report.

**Independent Reviewer/Technical Expert — Gordon Reusing, M.Sc., P.Eng.** – Gordon will conduct an independent review of the risk assessment, evidence gathering plan, working papers, verification plan, verification report, and findings. Gordon will approve the issuance of the opinion.

## 6.2 Qualifications

| Ben Gerber, MCC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Role: Lead Verifier |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| <p><b>Professional Summary   Ben Gerber</b> holds a Master of Climate Change degree from the University of Waterloo. Ben has been a verifier since 2018, completing various GHG assurance work in numerous jurisdictions throughout North America including Ontario, Alberta, California and other voluntary markets. Ben has experience conducting GHG assurance work for a variety of industrial sectors including iron and steel production, electricity generation, manufacturing, petroleum importation, ethanol production and food production. Ben has also conducted offset verifications and validations under the Climate Action Reserve, Verra (VCS), and the American Carbon Registry. In addition to GHG assurance services, Ben has been a technical expert on project teams providing advisory services to Canadian provinces preparing to develop provincial offset programs. This work involved analysis of the various carbon offset programs and regulations in place throughout North America and the provision of recommendations related primarily to offset protocol applicability and program feature design.</p> |                     |

| Angela Kuttemperoor, B. Eng.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Role: Verifier |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <p><b>Professional Summary   Angela</b> is an Air Engineer-In-Training with GHD's Greenhouse Gas Assurances Services Team and has retained 1.5 years of experience in greenhouse gas verification work. Angela is a Bachelor of Environmental Engineering graduate (co-op) from the University of Guelph, located in Guelph, Ontario. Angela has involved in numerous verifications for the Ontario greenhouse gas reporting program under Ontario regulation 390/18, and the Federal OBPS program, for a wide variety of sectors. Angela has involved in carbon offset project verifications for sites located within the United States and regulated under various voluntary offset credit programs including the Climate Action Reserve (CAR), Verra: Verified Carbon Standard (VCS) and The Climate Registry (TCR). Angela has experience with verifications for ODS offset projects regulated by the California Air Resources Board (ARB).</p> |                |

| Gordon Reusing, M.Sc., P.Eng.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Role: Independent Reviewer |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <p><b>Professional Summary   Gordon</b> is a greenhouse gas (GHG) Lead Verifier, Lead Validator, and Peer Reviewer with extensive experience including GHG programmes in Alberta, British Columbia, Ontario, Quebec, Nova Scotia, California, and programmes operated by the United Nations Framework Convention on Climate Change (UNFCCC) Clean Development Mechanism (CDM), The Gold Standard, The Climate Registry (TCR), the Carbon Disclosure Project (CDP), and Verra: Verified Carbon Standard (VCS). Gordon has completed numerous GHG quantification studies for the oil and gas sector, including upstream, midstream, and downstream facilities. Gordon has conducted GHG verifications as a Lead Verifier, Technical Expert and Peer Reviewer in many jurisdictions, including, but not limited to, the Alberta Carbon Competitiveness Incentive Regulation (CCIR), Ontario Regulations, British Columbia Greenhouse Gas Reduction (Cap and Trade) Act, (B.C. Reg. 272/2009), and Quebec Regulation R.Q.c.Q 2, r.15 (Quebec Regulation).</p> |                            |

## 7. Project Description

The Project Activity (VCS ID:138) is located at the Crapo Hill Landfill in New Bedford, Massachusetts (Landfill, Facility, or Site). The Project Activity consists of the landfill gas (LFG) collection system and four (4) combustion engines, designed to capture, and combust methane generated within the Landfill. A back-up landfill flare is also connected to the LFG collection system to combust LFG, as needed, when the engines are not operational. The original baseline scenario of the Project Activity consists of the voluntary installation of twenty-one (21) vertical LFG extraction wells and a flare to combust the collected LFG.

This Project Activity falls under Sectoral Scope 1 – Energy industries (renewable/non-renewable sources) and Sectoral Scope 13 – Waste handling and disposal, for which GHD is accredited. GHD understands for the purposes of this verification, that all correspondence with respect to this Project Activity is with CRMC of which CNBE is a subsidiary, unless otherwise noted.

The verification activities will be completed pursuant to the most up-to-date related rules, requirements, regulations, modalities, criteria, guidelines, emission reductions yield, and principles in relation to the PD supplied by the Project Proponent. The Project Activity utilized the UNFCCC CDM methodology ACM0001: Large-scale Consolidated Methodology – Flaring or use of landfill gas”, Version 16.0, dated October 16, 2015. This methodology has been accepted for use by the VCS as part of the validation of the second crediting period for the project that began on March 29, 2016 and ends on March 28, 2026.

## **7.1 Client Contact**

Thomas Yeransian is GHD's Client contact for this verification.

## **8. Verification Scope**

The following sections describe the scope of the verification.

### **8.1 Project Boundary**

The Project is broken down into the following greenhouse gas Sources, Sinks and Reservoirs (SSRs) to be included or excluded, as defined in the Program's Protocol:

- Baseline Emissions
  - Methane from the SWDS
  - Fraction of methane that would be oxidized in the top layer of the SWDS in the baseline.
  - Amount of methane in the LFG destroyed within the project.
- Project Emissions
  - Emissions from the combustion of electricity
  - Emissions from the combustion of fossil fuels

### **8.2 Geographical and Operational Boundaries**

The verification will include the SSRs from the Project located at the following address:

Crapo Hill Landfill  
300 Samuel Barnet Boulevard  
Dartmouth, Massachusetts

Grid coordinates:

Latitude: 41°43' 28.12" N  
Longitude: 70° 59' 04.82".

### **8.3 Reporting and Crediting Period**

The start date for the Project is January 01, 2022. The crediting period is from March 29, 2016 to March 28, 2026.

The reporting period for this verification for the Project is from January 1, 2023 to September 30, 2023.

## 8.4 Use of this Report

The verification report will be prepared for the use of Client and the Program.

References from GHD's Verification Report must use the language in which the opinion was issued and reference the date of issuance of GHD's Verification Report, the applicable verification period and the associated program for which the verification was conducted. The GHG assertion provided by GHD can be freely used by Client for marketing or other purposes other than in a manner misleading to the reader. The GHD mark shall not be used by Client in any way that might mislead the reader about the verification status of the organization. The GHD mark can only be used with the expressed consent of GHD and then, only in relation to the specific time period verified by GHD.

## 8.5 Use of Information and Communication Technology

As part of the verification process, GHD may utilize information and communication technology (ICT) in accordance with IAF Mandatory Document for the use of Information and Communication Technology for Auditing/Assessment Purposes (IAF MD 4:2018) for various aspects of the verification, including conducting video/tele-conferencing with various personnel up to full virtual site visits.

The decision to use ICT is permissible if GHD and Client agree on using ICT. The agreed ICT method will be MS Teams, Skype, Zoom, Google Meet, or Webex. By accepting GHD's proposal, Client agreed to the use of the afore mentioned ICT methods and their associated information security, data protection and confidentiality measures. Any other ICT method(s) will be agreed to in writing (email) between GHD and Client prior to use. The parties will not agree to the use of an ICT method which either party does not have the necessary infrastructure to support. Throughout the entire verification process, including use of ICT, GHD will abide by the confidentiality procedures.

## 9. Site Visits

### 9.1 Site Visit Requirements

As per the Program requirements, an in-person site visit is required during the initial verification and then as required during subsequent verifications. During the verification of the 2017 crediting period, GHD conducted a physical site visit at the Project site. Based on current knowledge of Project operations, GHD is of the opinion that an in-person site visit will not be required for the verification of the 2023 crediting period as there have not been material changes to the project operation. If GHD determines that an in-person site visit is required during the verification, GHD will notify Client and provide a revised scope of work.

## 10. Verification Schedule

The following presents a draft verification schedule: The overall verification process is expected to take approximately six weeks.

- Submit Verification Plan to Client – December 8, 2023
- Telephone Conference Interview – TBD as required
- Data checks and recalculations of Emission Report – Weeks of December 11 and 18, 2023
- Review of data management, document retention and record keeping program – Weeks of December 11 and 18, 2023

- Submit issues log to Client and opportunity for Client to address issues and, if required, resubmit Emission Report – Weeks of December 11 and 18, 2023, and January 8, 2024
- Independent review by Independent Reviewer – Week of January 15, 2024
- Issue Draft Verification Report and Statement – Week of January 22, 2024
- Issue Final Verification Report and Statement – Week of January 22, 2024

## **11. Strategic Analysis**

To understand the activities and complexity of the Project, and to determine the nature and extent of the verification activities, GHD has completed a strategic analysis. The strategic analysis involves consideration of the details of the Project Site and its operations, the Monitoring Report and its preparation, and the verification requirements per the Program. The information considered in the strategic analysis is documented in GHD's working papers and was used to inform the assessment of risks and the development of an evidence gathering plan.

## **12. Assessment of Risk and Magnitude of Potential Errors, Omissions or Misrepresentations**

GHD conducted an assessment of the risk and magnitude of potential errors, omissions or misrepresentations associated with the Monitoring Report statement/assertion. GHD then identified areas where qualitative or quantitative errors could occur and assigned risks to the areas. The inherent and control risks were evaluated, and detection risks were established. The risks were identified as high, medium and low. The risk assessment was a key input to developing an effective evidence gathering plan.

The final risk assessment will be included in the final verification report.

## **13. Evidence-Gathering Plan**

GHD has developed an Evidence Gathering Plan (EGP) for internal use based on review of the objectives, criteria, scope, and level of assurance detailed above, along with consideration of the strategic analysis and assessment of risks. The EGP is designed to lower the verification risk to an acceptable level and specifies the evidence (data and information) that will be reviewed as part of the verification in the evidence gathering activities. The EGP was reviewed and approved by the Lead Verifier prior to issuing this verification plan. The EGP is dynamic and will be revised, as required, throughout the course of the verification. Any modifications to the EGP will be reviewed and approved by the Lead Verifier, with the final EGP to be completed prior to issuing the final verification report and opinion.

The final EGP will be included in the final verification report.

## **14. Quantitative Testing**

Quantitative data or raw data will be made available to GHD. GHD will use the data to recalculate and check the GHG emissions reductions calculations and assess the methodologies that were used in the development of the Monitoring Report.

## 15. Materiality Level

The quantitative materiality for this verification is set at 5 percent of the reported emissions reductions, as per the requirements of the Program. In addition, a series of discrete errors, omissions, or misrepresentations of individual or a series of qualitative factors, when aggregated, may be considered material.

Materiality will also be assessed on a qualitative level, including conformance with the applicable Program and Protocol requirements. Non-conformance with Program requirements may be considered a material error unless the Program provides a variance.

## 16. Verification Methodology

The following provides a general overview of the verification methodology that will be conducted.

### Conflict of Interest (COI) and Independence

GHD has undergone a thorough evaluation for conflict of interest (COI) and independence for this verification work. This included a review of other potential work conducted by GHD for Client and Project listed in the scope of work. We have confirmed that this verification work can be successfully completed without undue risk of impartiality and conflict of interest. We have assessed the following key aspects:

- Verification evaluation
- Team evaluation

GHD has rigorous COI and verifier competency evaluation procedures that are followed for every verification project. Our documented procedures ensure that all COI and independence criteria are properly evaluated. GHD's COI program ensures that both the company and the Project Team have no potential COIs.

GHD has also evaluated and approved our Verification Team's competencies. GHD sets competency requirements in terms of education, verification experience, and experience in the sector. GHD can attest that we have highly qualified staff with the appropriate technical expertise for the verification work.

### Kick-Off Call

Upon award of the contract, GHD will conduct a kick-off call between Client and the GHD project team to review the verification process and objectives, Project operations, project schedule, site visit schedule and information requests.

### Risk-Based Approach

The GHD Project Team will use a risk-based assurance approach to focus and to determine the detailed scope of the verification.

The key risks associated with the GHG emission estimates are the elements that are critical for ensuring that an inventory is free of material misstatements:

- Based on the information provided in the Monitoring Report, the GHD Project Team will identify the key risks associated with the assumptions and claims made, and the data sources used.
- The completeness, conservativeness, and accuracy of the underlying evidence for the assumptions/claims made, and data sources used, will be reviewed. Assumptions/claims and data sources that are well identified and discussed in the report, that are substantiated with information from reliable references, and which are sufficiently controlled through the QA/QC plan should thus be given less emphasis because of a lower level of risk.

- The results of this investigation shall then, together with the results of the review of other areas, give the necessary input for the verification opinion.

Risks can be classified in risk categories (e.g., High, Moderate, and Low). A risk may be high, moderate or low depending on the issue's potential to cause a misstatement of the emissions. In addition, a non-compliance with Regulation can form a high-risk situation.

GHD has extensive experience in risk assessments. The classification of risk as high, moderate or low is largely subjective and will require the GHD Project Team's expert judgement. The designated GHD Lead Verifier has a thorough understanding of the risks and uncertainties applicable to the assignment.

If an issue is classified as high risk, appropriate Project staff shall clarify the situation, explain how the risk is reduced, and provide more information.

### **Documentation Review and Emissions Reductions Recalculations**

GHD will review the information provided for the Project and will conduct recalculations of the baseline, project emissions and emissions reductions. GHD will assess the quantitative discrepancy based on the recalculations and determine whether there are any material issues.

The components of the document review and follow-up interviews are detailed below.

- Document Reviews:
  - Review of data and information to confirm the correctness and completeness of presented information
  - Cross-checks between information provided in the Monitoring Report and information from independent background investigations
  - Determine sensitivity and magnitude analysis for parameters that may be the largest sources of error
  - Comparison of reported emissions and emissions reductions with previous reporting period(s)
- Follow-up Interviews:
  - On-Site/Virtual visit
  - Head office visit
  - Via telephone
  - Via email

The document review shall establish to what degree the presented Monitoring Report documentation meets the verification standards and criteria.

The GHD Project Team will interview Project staff in order to:

- Crosscheck information provided.
- Review data management and recording procedures
- Test the correctness of critical formulae and calculations

GHD will complete data checks from the data source(s) (meter, scale, etc.) through the plant data management system to the Monitoring Report. A sample of raw data will be collected for recalculation. Should errors or anomalies be identified that could lead to a material misstatement, GHD will request further raw data samples to assess the pervasiveness of the errors or anomalies. GHD will identify the source and magnitude of data or methodology errors or anomalies but, as a verification body, GHD cannot provide solutions to issues identified.

### **Issues Communications**

During the course of the document review and interviews, questions and clarifications may be identified by the Project Team; these will be communicated with Client either verbally, by email, or in an Issues Log. Client and/or Project staff will have an opportunity to respond to identified issues prior to the completion of GHD's

draft and final verification reports. Material issues identified by GHD must be corrected by Client. It is expected that Client and/or Project Owner will respond promptly to issues raised by GHD. Extensive correspondence to address issues that require additional effort from GHD may result in extra costs to the verification and will be discussed with Client.

### **Independent Review**

GHD will conduct an independent review of the verification, which will include a review of findings, emission calculations and opinion developed by the verification team.

### **Documentation and Deliverables**

GHD will prepare the following deliverables to document the verification services provided:

- COI document, if required by the Program
- Statement of Qualification (included in this proposal)
- Verification Plan (prior to site visit and after receiving relevant information)
- Draft Verification Report
- Final Verification Report
- Verification Opinion (included in Verification Report and/or using Program template)

### **Support of Verification Report Findings**

GHD will support and uphold the findings of the verification if the report is subject to an audit by the Program. If the Program requires follow-up information that is determined to be significant in nature or outside of the original scope of work, GHD may require additional budget to cover the response(s).

## **16.1 Verification Activities**

The following sections outline the activities that may be included in GHD's verification process.

### ***Information/Records to be Reviewed***

Information/records to be reviewed by GHD include the following:

- Monitoring Report
- GHG Assertion
- Operational and control procedures and records for ensuring GHG data quality
- Documentation of GHG Sources, Sinks and Reservoirs
- Documentation of quantification methodology
- Documentation of monitoring and measurement systems

### ***Data Assessment and Management Systems***

GHD will review data assessment and management system documentation that describes the process of data collection, entry, calculation and management. GHD will review the following:

- Selection and management of GHG data and information
- Processes for collecting, processing, aggregating, and reporting
- Systems and processes to ensure accuracy
- Design and maintenance of the GHG data management system, including systems and processes that support it

GHD will assess the effectiveness of the data assessment and management system and determine areas of risk.

### ***Collection of Evidence***

GHD will collect physical, documentary, and testimonial evidence to verify the Project.

### ***Error Checking/Testing***

GHD will independently calculate the final emission reductions using Client's raw data to ensure that the correct methodology and raw data was used.

During the verification process, GHD will consider both quantitative and qualitative information on emission reductions. Quantitative data is comprised of the Monitoring Report and supporting data. Qualitative data is comprised of information on internal management controls, calculation and transfer procedures, frequency of emissions reports, and review and internal audit of calculations/data transfers.

## **17. Closure**

The Verification Plan is considered to be a dynamic document that may require modification and adaptation to project conditions as encountered during the completion of the verification process.

All of Which is Respectfully Submitted,

GHD

A handwritten signature in black ink, appearing to read 'Ben Gerber'.

Ben Gerber  
Lead Verifier

519 340 4354  
Ben.Gerber@ghd.com

Copy to: Gordon Reusing, GHD

## APPENDIX B: FINDINGS ASSESSMENT

## Issues Log

Revision 0  
Date December 14, 2023

Project Number  
Program-Specific Project ID  
Client

11203966  
138  
CommonWealth  
New Bedford  
Energy, LLC  
(CNBE)  
CommonW-New  
Verra: VCS  
2023-01-01 to

Facility Name  
Regulation / Program  
Reporting Year

Verra: VCS

| Issue No. | Issues / Questions                                                                                                                                                                                                                                                                                                                                                                                     | Explanation/Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Status |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 1         | <p><b>Clarification Request:</b> GHD notes that the flare was used on the following dates:</p> <ul style="list-style-type: none"> <li>- January 10</li> <li>- February 3, 4, 7, 8</li> <li>- May 9, 10, 11, 16, 17</li> <li>- August 6, 7.</li> </ul> <p>Please confirm how flared gas was incorporated into the baseline and/or project emissions.</p>                                                | The back-up flare had limited operation during the current verification period and no emission reductions are claimed from flaring.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Closed |
| 2         | <p><b>Clarification Request:</b> The Eversource electricity usage history only shows electricity usage for February 2023 and notes that 0 kWh were used in the other months of the Monitoring Period. Please describe why electricity was not used or tracked in January and March-September 2023 and provide updated consumption files if necessary.</p>                                              | During normal facility outages, CNBE operates a back-up generator to provide plant electricity load. During February, CNBE operators chose to use power from Eversource rather than the back-up generator. Electricity usage and back-up generator electricity usages are tracked and the tracking was included in the Monitoring report. Tracking of Eversource electricity usage from January through September 2023 was provided on Page 89 of the Monitoring Report, and on Page 87 for the back-up generator.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Closed |
| 3         | <p><b>Corrective Action Request:</b> The provided Emergency Generator Log Sheet indicates that the emergency generator operated for 123.1 hours during the monitoring period. GHD notes that the calculations used 121 hours to estimate diesel consumption by the emergency generator. As this results in a minor immaterial discrepancy, CRMC may choose whether they update their calculations.</p> | GHD is correct. A transpositional error was made. CRMC recalculated using 123.1 hours and found that no impact on the reported Deductions and Total Emissions Reductions resulted. Therefore CRMC did not update the calculations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Closed |
| 4         | <p><b>Clarification Request:</b> Have there been any changes to the site since the previous Monitoring Period that impact the operations of the project?</p>                                                                                                                                                                                                                                           | No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Closed |
| 5         | <p><b>Clarification Request:</b> Please clarify the reason for the significant periods of downtime for individual engines throughout May through September. Was the approach to LFG destruction altered to compensate for this significant downtime? If so, how?</p>                                                                                                                                   | <p>Eversource performed significant work in the New Bedford Business Park that directly impacted the electric lines that CNBE uses to export electricity. As noted in the monthly reports for each of the outages, the outages were Eversource planned outages to perform their work. During these outages, LFG destruction occurred in the back-up flare as planned. Although the quantity of LFG destroyed by the flare is reported in the Monthly Reports, CRMC did not claim emissions reductions for the flare.</p> <p>From February through September 2023, CNBE operated 3 of the 4 engines installed simply because insufficient LFG was available for collection to operate 4 engines.</p> <p><b>Update:</b> GHD reviewed the supporting calculations and determined that the operation of three engines provided enough capacity to destroy the amount of LFG that was being generated. In January, the Site operated 4 engines at ~71% capacity each for a total capacity of 71%. In February, the Site operated 3 engines at ~96% capacity each for a total capacity of 73%. The site was operated at a similar capacity for the remaining months of the monitoring period.</p> | Closed |

## APPENDIX C: VERIFICATION DEED OF REPRESENTATION

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VCS VERIFICATION DEED OF REPRESENTATION

BY

GHD SERVICES INC

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GREATER NEW BEDFORD LFG UTILIZATION PROJECT

VCS ID 138

**THIS DEED OF REPRESENTATION** is made on March 14, 2024<sup>1</sup>

**BY**

GHD Services, Inc., 455 Phillip Street, Waterloo, Ontario N2L 3X2, Canada (as **VVB**)

**THIS DEED WITNESSES** as follows:

1. **INTERPRETATION**

1.1 In this Deed:

**"Accountholder"** means the holder of an account in the Verra Registry;

**"AFOLU"** means agriculture, forestry and other land use;

**"GHG"** means greenhouse gas;

**"GHG Program"** means a formal or organized program, scheme or arrangement for the recognition of activities leading to Reductions or Removals, or the crediting or issuance of instruments representing, or acknowledging, Reductions or Removals;

**"Project"** means Greater New Bedford LFG Utilization Project;

**"Project Crediting Period"** means the time period for which GHG emission reductions or removals generated by the Project are eligible for issuance as VCUs (the rules with respect to the length of such time period and the renewal of the project crediting period are set out in the *VCS Standard*);

**"Project Ownership"** means the legal right to control and operate the project activities. Distinct from proof of right;

**"Project Proponent"** means the individual or organization that has overall control and responsibility for the Project, or an individual or organization that together with others, each of which is also a Project Proponent, has overall control or responsibility for the Project. The entity(s) that can demonstrate Project Ownership in respect of the Project. For the avoidance of doubt where an individual executes this Representation in their capacity as an authorized office holder of the company who is the Project Proponent, this Representation is made by the company, not the authorized office holder;

**"Reduction or Removal"** means a reduction or removal of one tonne of CO<sub>2</sub>e caused by the activities of a Project during the Project Crediting Period. Refer to the VCS Program Definitions for the full definitions for "GHG Emissions Reduction (Reduction)" or "Carbon Dioxide Removal (Removal)";

**"Validation/Verification Body"** or **"VVB"** means an organization approved by Verra to act as a validation/verification body in respect of providing validation and/or verification services in accordance with the VCS Program Rules;

**"VCS Program"** means the GHG Program operated by Verra which establishes the rules and requirements that operationalize the VCS to enable the validation of GHG projects and the verification of GHG emission reductions and removals;

---

<sup>1</sup> **Drafting note:** Fill in yellow highlighted text. Remove all highlight formatting before submission.

**"VCS Program Rules"** means the rules and requirements set out in the *VCS Program Guide*, the *VCS Standard* and the other VCS Program documents, as such rules and requirements may be updated from time to time;

**"Verification Report"** means the written report of verification covering the Reductions or Removals generated by the Project from January 1, 2023 to September 30, 2023 and prepared by the VVB in accordance with the VCS Program Rules; and

**"Verified Carbon Unit" (VCU)** means a unit issued by, and held in the Verra Registry representing the right of an Accountholder in whose account the unit is recorded, to claim the achievement of a Reduction or Removal that has been verified by a validation/verification body in accordance with the VCS Program Rules. Recordation of a VCU in the account of the Accountholder at the Verra Registry is *prima facie* evidence of that Accountholder's entitlement to that VCU.

**"Verra Project Database"** means the database that provides public access to all project and VCU information, including retirement and tracking of the AFOLU pooled buffer account (and serves similar functions for other Verra programs);

- 1.2 **"Verra Registry"** means the registry used by Verra that ensures all required Project and program documents have been submitted, maintains accounts of VCUs, issues and ensures the seamless flow of VCUs between registry accounts, and maintains custody and records of VCU legal ownership; Documents referred to in this Deed but not defined shall be the VCS Program documents, as updated from time to time, to which the relevant term relates.

## 2. REPRESENTATIONS

- 2.1 I am the Validation/Verification Body in relation to the verification of the Project.

- 2.2 I hereby represent and warrant that:

2.2.1 I have independently verified the Reductions **or Removals** generated by the Project in accordance with the VCS Program Rules;

2.2.2 In relation to any validation findings and conclusions provided in the Verification Report, I have independently validated the Project's compliance with the VCS Program requirements as set out in the VCS Program Rules; and

2.2.3 All factual information that I provide in relation to this Deed or have provided in the Verification Report is to the best of my knowledge following due inquiry true, accurate and complete in all material respects and I have not made or provided, and will not make or provide, false, fraudulent or misleading statements or information in relation to this Deed or the Verification Report.

- 2.3 I hereby acknowledge and agree that:

2.3.1 The following persons may rely on and enforce the terms of this Deed:

- (a) Verra;
- (b) each person who is an Accountholder holding VCUs relating to the Project at any given time;
- (c) each person on whose behalf VCUs relating to the Project were retired by an Accountholder; and

- (d) each of the successors and assigns of those persons listed in clauses 2.3.1(a), 2.3.1(b) or 2.3.1(c);
- 2.3.2 Neither Verra, nor any of its respective affiliates, directors, employees, agents, licensors and/or contractors, shall be liable with respect to any claims whatsoever arising out of this Deed or erroneous information within the Verification Report submitted to the Verra Registry for indirect, consequential, special, punitive or exemplary damages, including, without limitation, claims brought against Verra by Accountholders, Project Proponents, other Validation/Verification Bodies or any other third party. This paragraph shall apply regardless of any actual knowledge or foreseeability of such damages;
- 2.3.3 I have read, understood and will abide by the VCS Program Rules; and
- 2.3.4 Verra has an absolute right to amend any of the VCS Program Rules at any time and shall not bear any liability for loss or damage or liability of any kind sustained by the Validation/Verification Body or any other party involved in the Project in any way under the VCS Program as a consequence of such amendment.

### **3. GOVERNING LAW AND JURISDICTION**

This Deed is governed by and interpreted in accordance with English law, and the English courts shall have exclusive jurisdiction to settle any dispute arising from or connected with this Deed including a dispute regarding the existence, validity or termination of this Deed or the consequences of its nullity.

### **4. SOVEREIGN IMMUNITY**

To the extent that the Validation/Verification Body enjoys any right of immunity from set-off, suit, execution, attachment or other legal process with respect to its assets or its obligations under this Deed, the Validation/Verification Body waives all such rights to the fullest extent permitted by law.

### **5. COUNTERPARTS**

This Deed may be executed in any number of counterparts, each of which when executed and delivered is an original and all of which together evidence the same deed.

### **6. DELIVERY**

This Deed is delivered on the date written at the start of the Deed.

## EXECUTION PAGE<sup>2</sup>

**This Deed has been executed as a deed and is delivered and takes effect on the date stated at the beginning of it.**

*[NOTE: This deed may be signed by either a) a director and a company secretary, b) two directors, or c) one director/duly authorised signatory. Where c) is selected, the signature must be witnessed in person. Indicate which option was selected by deleting the options and blocks that do not apply below.]*

**Executed as a deed by GHD Services Inc. by a director/duly authorized signatory in the presence of a witness:**



Signature of director/duly authorised signatory

GORDON REUSING

Name of director (in BLOCK CAPITALS)

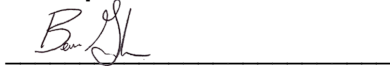
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Signature of director/secretary

\_\_\_\_\_

Name of director/secretary (in BLOCK CAPITALS)

**In the presence of:**



Signature of witness

BENJAMIN GERBER

Name of witness (in BLOCK CAPITALS)

455 PHILLIP ST, WATERLOO, ON

Address of witness

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<sup>2</sup> **Drafting Note:** Execution blocks may be adjusted to reflect local law requirements, e.g., if a company seal is required in relation to the execution of a deed by a company pursuant to the laws in its jurisdiction of incorporation.