RECYCLING ROADWAYS FOR CARBON EMISSION REDUCTIONS - MIDSTATE RECLAMATION AND TRUCKING PROJECT

Document Prepared by SCS Global Services

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Summary:

Cold-in-Place Recycling (CIR) using Foam Stabilized Base (FSB) and asphalt emulsion mixture projects reduces Greenhouse gas (GHG) emissions during the asphalt installation process by using FSB and asphalt emulsions in place of Hot Mix Asphalt (HMA). This report describes the joint validation and verification of the Recycling Roadways for Carbon Emission Reductions - Midstate Reclamation and Trucking project ("the project"), a Scope 6: Construction project located in the United States, that was conducted by SCS. This project is developed as a grouped project within the United States of America. The purpose of the joint validation and verification engagement was to conduct, in accordance with the VCS Program rules, an ex-post independent assessment of the GHG emission reductions and removals that have occurred as a result of the project during the monitoring period from 27 April 2021 to 25 September 2021 ("the verification period"). The validation and verification engagement was carried out through a combination of document review, interviews with relevant personnel and remote meetings. As part of the joint validation and verification engagement 24 findings were raised: 12 Non-Conformity Reports, 12 New Information Requests and 0 Observations. These findings are described in Appendix A of this report. The project complies with the validation and verification criteria, and SCS holds no restrictions or uncertainties with respect to the compliance of the project with the validation and verification criteria.

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1 INTRODUCTION

1.1 Objective

A common objective of validation and verification was to assess the non-permanence risk analysis. Other validation and/or verification objectives were established in accordance with Section 4.1 of the VCS Standard (see the below Section 1.2 for full reference) and Sections 2.1.1 and 2.1.2 of the VCS Validation & Verification Manual, V3.2, for validation and verification, respectively, as set out below.

1.1.1 Objective of Validation

In accordance with the VCS Standard, SCS conducted an independent assessment of the project to determine whether the project complies with the VCS Program rules. In accordance with the VCS Validation & Verification Manual, the objectives of the validation engagement were to assess:

- The project's conformance to the VCS rules.
- The project's conformance to the applied methodology, including the procedure for the demonstration of additionality specified in the methodology.
- The likelihood that the methods and procedures set out in the project description will generate verifiable GHG data and information when implemented.

1.1.2 Objective of Verification

In accordance with Section 4.1 of the VCS Standard (see the below Section 1.2 for full reference), SCS carried out an ex-post independent assessment of the GHG emission reductions and removals that have occurred as a result of the project during the verification period, conducted in accordance with the VCS Program rules. In accordance with Section 2.1.2 of the VCS Validation and Verification Manual, V3.2, the objectives of the verification engagement were to evaluate the monitoring report and assess

- The extent to which methods and procedures, including monitoring procedures, have been implemented in accordance with the validated project description (this included assessing 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

1.2.1 Scope

As defined in accordance with Section 4.3.4 of ISO 14064-3:2006, the scope included:

- The project and its activities.

- The baseline scenario(s) applicable to the project.
- The greenhouse gases included in the project boundary.
- The crediting and verification period.

1.2.2 Criteria

In accordance with Section 4.1.8(2) of the VCS Standard (see below for full reference), the criteria for validation and verification were the VCS Version 4, including the following documents:

- VCS Program Guide, V4.3
- VCS Standard, V4.3, and applicable updates provided in VCS Standard, V4.4
- VCS Program Definitions, V4.3
- VM0039, Methodology for Use of Foam Stabilized Base and Emulsion Asphalt Mixtures in Pavement Application, V 1.0

1.3 Reasonableness of Assumptions and Level of Assurance

In accordance with Section 4.1.2 of the VCS Standard, the validation evaluated the reasonableness of assumptions, limitations, and methods that support the statement about the outcome of future activities. In accordance with Section 4.1.8(1) of the VCS Standard, the level of assurance was reasonable.

1.4 Summary Description of the Project

The project is located in the United States and is aimed at replacing Hot Mix Asphalt (HMA) paving processes with Cold-in-Place Recycling (CIR) using Foam Stabilized Base (FSB) and asphalt emulsion mixtures. Current project instances use CIR, however, future project instances may use Cold Central Plant Recycling (CCPR) or Full-Depth Reclamation (FDR).

2 VALIDATION AND VERIFICATION PROCESS

This engagement includes the validation and verification of project activities. Section 2 includes validation and verification activities for this project. Section 3 provides the validation findings for the entire project.

SCS is accredited to ISO 14065 for GHG Validation and Verification by the ANSI National Accreditation Board (ANAB) and through this accreditation offers carbon offset project validation and verification under the Verified Carbon Standard (VCS) and the American Carbon Registry (ACR). SCS staff have the

competencies to complete Scope 6 validation and verifications based upon collective prior experience and education.

2.1 Method and Criteria

The validation and verification engagement was conducted through a combination of document review, interviews with relevant personnel and remote meetings, as discussed in Sections 2.2 through 2.4 of this report. At all times, an assessment was made for conformance to the criteria described in Section 1.2.2 of this report. As discussed in Section 2.5 of this report, findings were issued to ensure conformance to all requirements.

The audit team created a sampling plan following a proprietary sampling plan template developed by SCS. The process identifies areas of high risk within the project activities. The audit team then identified areas of "residual risk"—those areas where there existed risk of a material discrepancy (either in terms of non-conformance to the verification criteria or in terms of errors, omissions, and misrepresentations that, in aggregate, exceeded the materiality threshold established for the project as a percentage of the total reported GHG emission reductions and/or removals) that was not prevented or detected by the controls of the project. Sampling and data testing activities were planned to address areas of residual risk. The audit team then created a validation and verification plan that took the sampling plan into account. This approach is justified as it has been designed in accordance with Section 4.4.3 of ISO 14064-3:2006 and the guidance provided in Annex A.2.4.6 of the same document. Per the sampling plan, data was traced from project documentation and supporting evidence to final emission reductions for approximately 20% of the project instance included in this monitoring period. The sample included project instances located in four states. All project parameter values were cross-referenced from the project evidence prior to recalculation.

2.2 Document Review

The joint project description and monitoring report (version 3.0 dated 24 February 2023; "PD/MR") was carefully reviewed for conformance to the validation and verification criteria. The following additional documentation, provided by project personnel (project proponent and contractor) in support of the aforementioned documents, was also reviewed by the audit team:

Document	Reference #	File Name
Contract	1	• GE & Midstate GHG Ownership Legal Agreement_executed
Calculation Workbook	2	• 2021 Midstate Emission Reductions Summary_SEI 5Jan2023
Project Document	3	• 2023-02-24_Draft Midstate Project Description and Monitoring Report_v3

Project Document	4	• 2023-02-06_Appendix A Combined_v3, including: • Construction Plans • Bill of Ladings • Quantity/Material Load Sheets • Mix Designs • Density Testing/Site Reports • Other supporting project instance records
Calculation Workbooks	5	• 24 individual workbooks formatted with: job number, state, location, SEI.xls • 2021 Midstate Emissions Summary_SEI.xls • 2021 – 2031_Crediting Period Forecasting Estimate_SEI.xls
KML file	6	• Midstate 2021 CIR Project Locations
Supporting Documents	7	• Individual timesheet workbooks and/or PDFs grouped by location • Construction Specifications • Equipment Maintenance/Calibration Records

Following the review of above-listed documentation, the audit team held a walk-through call with the project proponent to receive a comprehensive overview of the PD and Quantification Workbooks.

2.3 Interviews

During interviews with project personnel, the audit team elicited information regarding (1) the work products provided to the audit team in support of the Joint Project Description and Monitoring Report (PD/MR); (2) actions undertaken to ensure conformance with various requirements; and (3) implementation status of the project activities.

The following personnel associated with the project proponent and/or implementing partner were interviewed. For this project only one contractor was participating, and they were interviewed during the validation/verification.

Individual	Affiliation	Role	Date(s) Interviewed
Harold Green	Global Emissionairy, LLC	Project Proponent	21 November 2022, 4 January 2023, 30 January 2023
Tim Kenney	Global Emissionairy, LLC	Project Proponent	30 January 2023

Dan Schellhammer	Mid-State Reclamation and Trucking	Asphalt Contractor	Throughout audit
Diana Guiterrez	Straughan Environmental, Inc.	Project Manager	Throughout audit
Ben Devine	Straughan Environmental, Inc.	Project Manager	Throughout audit
David Choy	King Cow Interactive, LLC	Technical Consultant	21 November 2022, 4 January 2023, 30 January 2023
Chandra Akesitty	Unaffiliated	Technical Consultant	21 November 2022, 4 January 2023, 30 January 2023
Qingbin Cui	University of Maryland	Technical Consultant	21 November 2022, 4 January 2023, 30 January 2023

2.4 Site Inspections

An on-site inspection was not required for this project to uphold a reasonable level of assurance. The audit team notes that the work was completed before validation and verification commenced. The project proponent other supporting evidence of work completed (e.g., construction drawings, time sheets, invoices, delivery tickets, pictures. Etc.) (see references 4 and 7).

2.5 Resolution of Findings

Any potential or actual discrepancies identified during the audit process were resolved through the issuance of findings. The types of findings typically issued by SCS during this type of verification engagement are characterized as follows:

- Non-Conformity Report (NCR): An NCR signified a discrepancy with respect to a specific requirement. This type of finding could only be closed upon receipt by SCS of evidence indicating that the identified discrepancy had been corrected. Resolution of all open NCRs was a prerequisite for issuance of a validation and verification statement. Note that the Verra equivalent is a Corrective Action Request (CAR).
- New Information Request (NIR): An NIR signified a need for supplementary information in order to determine whether a material discrepancy existed with respect to a specific requirement. Receipt of an NIR did not necessarily indicate that the project was not in compliance with a

specific requirement. However, resolution of all open NIRs was a prerequisite for issuance of a validation and verification statement. Note that the Verra equivalent is a Clarification Request (CR).

- Observation (OBS): An OBS indicates an area where immaterial discrepancies exist between the observations, data testing results or professional judgment of the audit team and the information reported or utilized (or the methods used to acquire such information) within the GHG assertion. A root cause analysis and corrective action plan are not required, but highly recommended. Observations are considered by the audit team to be closed upon issuance, and a response to this type of finding is not necessary.

As part of the audit process, 12 NCRs, 12 NIRs and 0 OBS were issued. All findings issued by the audit team during the audit process have been closed. In accordance with Section 4.1.14 of the VCS Standard, all findings issued during the audit process, and the impetus for the closure of each such finding, are described in Appendix A of this report.

2.5.1 Forward Action Requests

This section is not applicable, as no forward action requests have been issued.

3 VALIDATION FINDINGS

3.1 Project Details

3.1.1 Project Type, Technologies and Measures Implemented, and Eligibility of the Project

The audit team has the following conclusions regarding the project type and technologies and measures that constitute the project activities:

- The project falls under sectoral scope 6 Construction.

Discussion regarding the project's eligibility under the VM0039 Methodology for Use of Foam Stabilized Base and Emulsion Asphalt Mixtures in Pavement Application ("methodology") can be found in Section 3.4.2 below.

- The technologies and measures implemented, as described in Section 3 of the PD/MR, are likewise eligible under the VCS Program.

The audit team finds that the project meets the eligibility requirements of the VCS Program because it meets the additionality test (as discussed in Section 3.4.5 below) and complies with all applicability conditions of the selected methodology (as discussed in Section 3.4.2 below).

3.1.2 Project Design, Including Eligibility Criteria for Grouped Projects

The audit team has the following conclusions regarding the project design and eligibility criteria:

- The audit team agrees with the project design and confirms that all eligibility criteria are met for the initial grouped project instances and are accurately detailed for potential future project instances under this grouped project, as outlined in sections 1.4 and 3.2 of the PD/MR, in accordance with section 3 of the methodology.

The audit team concluded that the initial project instances met applicability conditions of the methodology as detailed in Sections 1.3 and 3.2 of the PD/MR. The initial set of grouped project instances for the first project monitoring period include roadway constructions projects within the United States of America which replace the baseline scenario, base layers using only HMA, with asphalt emulsions or FSB base layers produced and installed using the CIR process. During the first monitoring period there were no instances of CCPR or FDR processes, but these types of projects may be incorporated under future monitoring periods per the detailed eligibility criteria in accordance with the methodology and Section 1.4 of the PD/MR.

Further, the audit team confirmed that Section 1.4 of the PD/MR stipulates that future project instances also meet applicability and eligibility criteria required by the methodology. As described in the relevant sections of the PD/MR, future project instances will include the construction of any type of road and/or parking lot in the United States applying FSB and asphalt emulsions produced using the CCPR, CIR, or FDR processes in accordance with the methodology requirements. Additionally, the production plants where the project activity occurs may serve multiple pavement types, including but not limited to, roadways and parking lots and the project activities must have at least one FSB or asphalt emulsions layer. Additional eligibility criteria are detailed in Section 1.4 of the PD/MR, each of which the audit team confirmed through review and cross-referencing to be in conformance with the methodology or VCS standard requirements.

The eligibility criteria were reviewed and the conclusions are below for initial project instances associated with current verification period as well as potential future project instances. Please also see Section 3.4.2 for additional information.

Conclusions regarding evidence of...	
Project activities include the construction of any type of road and/or parking lot (including parking lot patching projects) in the United States.	The audit team confirmed interviews, and assessment of the PD/MR that the initial set of project instances are paving projects on roadways in eight states and future project instances shall include construction of any type of road and/or parking lot in the United States.
Project activities must apply one or more of the following processes for road construction:	
a) FSB produced using the CCPR process	Not applicable to initial set of project instances, however, the audit team confirmed this is acceptable for future project instances per

	Section 1.4 of the PD/MR in accordance with the methodology.
b) FSB produced using the CIR process	The audit team confirmed via review of construction plans (ref. 4), interviews, and assessment of the PD/MR that the initial set of project instances include layers of FSB in road construction produced using the CIR process. Per Section 1.4 of the PD/MR and in accordance with the methodology, the audit team concluded future project instances may also apply this process.
c) FSB produced using the FDR process	Not applicable to initial set of project instances, however, the audit team confirmed this is acceptable for future project instances per Section 1.4 of the PD/MR in accordance with the methodology.
d) Asphalt emulsions produced using the CCPR process	Not applicable to initial set of project instances, however, the audit team confirmed this is acceptable for future project instances per Section 1.4 of the PD/MR in accordance with the methodology.
e) Asphalt emulsions produced using the CIR process	The audit team confirmed via review of construction plans (ref. 4), interviews, and assessment of the PD/MR that the initial set of project instances include layers of asphalt emulsions in road construction produced using the CIR process. Per Section 1.4 of the PD/MR and in accordance with the methodology, the audit team concluded future project instances may also apply this process.
f) Asphalt emulsions produced using the FDR process	Not applicable to initial set of project instances, however, the audit team confirmed this is acceptable for future project instances per Section 1.4 of the PD/MR in accordance with the methodology.
Production plants where the project activity instance occurs may serve multiple pavement types, including, but not limited to, roadways and parking lots.	The audit team confirmed via interviews and assessment of the PD/MR that the production plants for the initial set of project instances served roadways only. Further, the audit team concluded that production plants associated with future project activity instances may serve

	multiple pavement types per Section 1.4 of the PD/MR in accordance with the methodology.
Project activities may have an HMA or WMA surface layer but must have at least one FSB or asphalt emulsions base layer.	Each project had at least one FSB or asphalt emulsion base layer as documented in the construction plans (ref. 4) and as confirmed in interviews and via the assessment of the PD/MR. Further, the audit team concluded that future project activity instances must have at least one FSB or asphalt emulsions base layer per Section 1.4 of the PD/MR in accordance with the methodology.

3.1.3 Project Proponent and Other Entities Involved in the Project

The audit team has the following conclusions regarding the project proponent and other entities involved in the project:

- The project proponent is the Global Emissionairy. LLC, who has been identified in section 1.5 of the PD/MR.
- Other entities involved in the project are Mid-State Reclamation and Trucking, U. of Maryland, Straughan Environmental, Inc., King Cow Interactive, LLC, and an unaffiliated technical consultant. Please see section 1.6 of the PD/MR for more details.
- The audit team agrees with the identification of Global Emissionairy. LLC, as the project proponent as they are the entity that owns the emissions reductions credits generated by this project.
- The audit team agrees with the identification of Mid-State Reclamation and Trucking, University of Maryland, Straughan Environmental, Inc., King Cow Interactive, LLC, and an unaffiliated technical consultant. Additional entities involved in the execution of the project activities that are not listed include engineering designers, construction observers and workers, and others.
- The audit team confirmed during interviews with the project team the active engagement of both Global Emissionairy, LLC, and Mid-State Reclamation and Trucking, University of Maryland, Straughan Environmental, Inc., King Cow Interactive, LLC, and a technical consultant in the project.

3.1.4 Ownership

The audit team concludes that the PD/MR has been accompanied by one or more of the following types of evidence establishing project ownership accorded to the project proponent(s); the audit team's specific conclusions regarding evidence of project ownership are provided specific to each type of evidence.

Conclusions regarding evidence of...	

Project ownership arising or granted under statute, regulation, or decree by a competent authority	N/A
Project ownership arising under law	N/A
Project ownership arising by virtue of a statutory, property or contractual right in the plant, equipment or process that generates GHG emission reductions and/or removals (where the project proponent has not been divested of such project ownership)	Global Emissionairy, LLC has a contract with the Mid-State Reclamation for the rights to the emission reductions credits.
Project ownership arising by virtue of a statutory, property or contractual right in the land, vegetation or conservational or management process that generates GHG emission reductions and/or removals (where the project proponent has not been divested of such project ownership)	N/A
An enforceable and irrevocable agreement with the holder of the statutory, property or contractual right in the plant, equipment or process that generates GHG emission reductions and/or removals which vests project ownership in the project proponent	N/A
An enforceable and irrevocable agreement with the holder of the statutory, property or contractual right in the land, vegetation or conservational or management process that generates GHG emission reductions or removals which vests project ownership in the project proponent	N/A
Project ownership arising from the implementation or enforcement of laws, statutes or regulatory frameworks that require activities be undertaken or incentivize activities that generate GHG emission reductions or removals	N/A

3.1.5 Project Start Date

The project start date is 27 April 2021. The audit team has the following conclusions regarding the conformance of the project start date to the validation criteria:

- This is the date that Global Emissionairy, LLC team began repaving operations, which effectively represents the date on which the project begins generating GHG emission reductions or removals.
- The audit team confirmed this date during interviews and a review of labor hour timesheets with the project team, as outlined in section 2.3. As demonstrated by supporting project documents (ref. 4 and 7), repaving operations for the first project instance, 14827 MN Mower (2), began on 27 April 2021.

- Project start date was sourced from the labor hour timesheets and other project documents (ref. 4). Emission reductions are not realized until the product (roadway) is installed.
- The audit team agrees that the project start date complies fully with the VCS rules.

3.1.6 Project Crediting Period

The crediting period for this project dates from 27 April 2021 through 26 April 2031. The audit team has the following conclusions regarding the conformance of the project crediting period to the validation criteria:

- The start date of the crediting period coincides with the project start date, which is the date that spring paving operations began, which effectively represents the date on which the project begins generating GHG emission reductions or removals.
- The audit team confirmed this date during interviews with the project team.
- The audit team agrees that the project crediting period of 10 years complies fully with the VCS rules.

3.1.7 Project Scale and Estimated GHG Emission Reductions or Removals

The estimated average annual GHG emission reductions or removals, during the crediting period from 27 April 2021 through 26 April 2031 have been calculated at 36,912 tonnes of CO_2e per year, as reported in the PD/MR provided by the project proponent. Therefore, the audit team agrees that the project is correctly classed as a project, per Section 3.9.1 of the VCS Standard.

3.1.8 Project Location

The audit team has the following conclusions regarding the project location:

- The current project instances are located in eight states, in the U.S. Additional description of the location is described in sections 1.12 of the PD/MR. This is a grouped project, and the project proponent anticipates adding new instances across the U.S. in the future.
- The project boundary aligns with the coordinates provided.
- A KML file of the project area has been provided and is also available on the Verra registry.
- The project activity instances that are aggregated in this grouped project are limited to the boundaries of eight states in the US.

3.1.9 Conditions Prior to Project Initiation

- Prior to project planning and initiation, the road is identified as needing to be repaired. The project becomes an ideal candidate for repair using recycling techniques when it has major structural distresses,

3.1.10 Project Compliance with Applicable Laws, Statutes, and Other Regulatory Frameworks

The audit team has the following conclusions regarding the compliance of the project with all applicable laws, statutes, and other regulatory frameworks:

- The asphalt construction projects were performed in compliance with local/state department of transportation and United States Federal Highway Administration construction specifications. The audit team checked the absence of local, state and federal highway regulations and requirements for the use of alternative asphalt mix designs or cold recycling installation on the United States Department of Transportation Federal Highway Administration and state-level Department of Transportation websites. Furthermore, the audit team confirmed general conformance with construction specifications (i.e., material, mix design, and installation specifications) for each project instance by reviewing the signature and/or seal of a licensed engineer in the applicable state on the associated construction plan, evidence of materials used, and records of equipment used onsite (ref. 4).

3.1.11 Participation Under Other GHG Programs

The audit team concludes that the project is not currently registered under or seeking registration under another GHG program, as confirmed through the following steps:

- Review of other GHG Programs including ACR and Gold Standard, and interviews with the PP.

The audit team concludes that the project is not currently participating in any emission trading or other binding limit program or mechanism, as confirmed through the following steps:

- Review of other GHG Programs including ACR and Gold Standard, and interviews with the PP.

The audit team interviewed the project proponent to discuss how they ensured no participation in other programs by the entire project team. Conformance is ensured by contractual agreements with the partner contractors. Evidence of the contractual agreements was provided for all current partner contractors.

The audit team concludes that the project has not sought or received another form of GHG-related environmental credit, as confirmed through the following steps:

- Review of other GHG Programs including state programs, ACR and Gold Standard, and interviews with the PP.

3.1.12 Leakage Management for AFOLU Projects

This section is not applicable.

3.1.13 Commercially Sensitive Information

- Commercially sensitive information provided to the VVB were reviewed as appropriate to confirm conformance with the VCS standard and methodology.

3.1.14 Sustainable Development Contributions

The audit team reviewed project documents (ref. 3-4), calculation workbooks (ref. 5), and supporting documents (ref. 7) to confirm that the project has implemented activities including upgrades to infrastructure and industry retrofits, substantial reduction in waste generation, and avoidance or removals of GHG emissions, that result in SD contributions to targets 9.4, 12.5, and 13.0.

3.2 Participation under Other GHG Programs

This section is not applicable as the project is not seeking registration under both the VCS Program and an approved GHG program.

3.3 Safeguards

3.3.1 No Net Harm

An assessment of potential negative environmental and socio-economic impacts has been performed in accordance with Section 3.16.1 of the VCS Standard and no such impacts have identified. The audit team performed the following actions to confirm the absence of potential impacts:

Review of other local, state and federal transportation regulations and environmental regulations.

3.3.2 Local Stakeholder Consultation

In accordance with Section 3.16.2 of the VCS Standard, a local stakeholder consultation was performed prior to validation. The stakeholder input can be summarized, at a high level, as follows:

The paving projects were completed via a competitive bid process from the state or local agency. The proposed project is open for public comment as required under local regulations. Any comments raised during this process are public record. In addition, the projects are posted on the project proponent's website, which provides a platform for anyone to access project details and submit on-going comments. The audit team concluded via interviews with the project proponent and other entities that no comments have been received for any project instance, and any future comments received will be documented by the project proponent in future monitoring report(s).

3.3.3 Environmental Impact

Not applicable; no environmental impact assessments as defined by regulation are required. All state and local required permitting for roadway paving projects were completed as needed. The project proponent has adopted sustainable practices as part of each project. SCS confirmed through interviews that the practices were implemented as practical. These practices were not required by any regulation.

3.3.4 Public Comments

A 30-day public comment period was conducted in accordance with Sections 3.16.5-3.16.8 of the VCS Standard from 21 October 2022 to 20 November 2022. No comments were received.

3.3.5 AFOLU-Specific Safeguards

This section is not applicable.

3.4 Application of Methodology

3.4.1 Title and Reference

The title and reference of the methodology applied by the project (referred to hereafter as "the methodology") and any tools applied by the project are identified in the table below. The audit team affirms that the methodology and any applied tools, and the specific versions of them applied by the project, were valid at the time of issuance of this joint validation and verification report.

Type*	VCS ID**	Title	Version	Notes regarding validity
M	VM0039	Methodology for Use of Foam Stabilized Base and Emulsion Asphalt Mixtures in Pavement Application	1.0	Current version

- *M=methodology; T=tool
- **This is the identifier as assigned under the VCS Program or other GHG program

3.4.2 Applicability

The steps taken to assess compliance of the project with each of the relevant applicability conditions of the methodology are described below. Please also see Section 3.1.2 for additional information.

Applicability condition	Steps taken by the audit team to assess compliance	Conclusion regarding applicability condition
Project activities include the construction of any type of road and/or parking lot (including parking lot patching projects) in the United States.	Reviewed project documents, including PD/MR, and KML files	• All projects are located in the US, and therefore, applicable
Project activities must apply one or more of the following processes for road construction: a) FSB produced using the CCPR process	The project currently uses b) the CIR process as documented in the PD/MR, through interviews, and review of supporting documentation (ref. 4 and 7). Future project	• The project is a CIR project, and therefore, applicable

b) FSB produced using the CIR process c) FSB produced using the FDR process d) Asphalt emulsions produced using the CCPR process e) Asphalt emulsions produced using the CIR process f) Asphalt emulsions produced using the FDR process	instances may include other listed processes.	
Production plants where the project activity occurs may serve multiple pavement types, including, but not limited to, roadways and parking lots	The project activity currently only includes CIR processes and serves roadways as assessed through interviews, review of the PD/MR, and supporting documentation (ref. 4 and 7).	• The project activity is applicable.
Project activities may have an HMA or WMA surface layer, but must have at least one FSB or asphalt emulsions base layer	Each paving project has at least one FSB or asphalt emulsion layer as assessed through interviews and review of the PD/MR and supporting documents (ref. 4 and 7).	• The project activity is applicable.

In conclusion, the project complies with all applicability conditions of the methodology.

3.4.3 Project Boundary

The geographic project boundary is the United States and encompasses the roadway construction process from raw material acquisition to product installation and complies with the cradle-to-gate assessment principle. The GHG impact from producing asphalt mixtures is calculated by summing the following emission sources:

1) GHGs associated with manufacturing each of the constituent and ancillary materials;

2) GHGs from transporting materials from factory to mixing plant;

3) GHGs from all forms of energy involved in producing the asphalt at the mixing plant; and

4) GHGs from all forms of energy involved in milling the existing pavement and placing new pavement, including relevant transport activities.

The GHG sources, sinks and reservoirs, are described in Table 3, Section 3.3, of the PD/MR. The audit team assessed whether each carbon pool has been selected (or not selected) correctly in accordance

with the methodology as described in Table 1, Section 4.4, of the Methodology. The audit team notes that maintenance and excavation sources were not included in either the baseline or project scenario boundary. Furthermore, the project instances for the first monitoring period utilize the CIR process only.

The audit team concludes, overall, that the project boundary is appropriately specified, and the selected sources, sinks and reservoirs are appropriately justified for the project.

3.4.4 Baseline Scenario

The baseline scenario for projects applying this methodology is the application of HMA, or the subcategory WMA, to surface and base layers of roads or parking lots during asphalt pavement construction. The emissions associated with the quarry, transportation, and production of HMA, or WMA serve as performance benchmarks.

Overall, the identified baseline scenario is justified. The audit team's high-level assessment of the baseline scenario is included in the table below.

Item assessed	Step(s) taken to assess item
Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable	• References provided (NAPA, 2017) and analysis were reviewed and discussed with the project team
Documentary evidence used in determining the baseline scenario is relevant, and correctly quoted and interpreted in the project description	• N/A
Relevant national and/or sectoral policies and circumstances have been considered and are listed in the project description	• N/A
The procedures for identifying the baseline scenario have been correctly followed and the identified scenario reasonably represents what would have occurred in the absence of the project	• N/A, the baseline is a performance benchmark

3.4.5 Additionality

Overall, additionality is justified for the project. A high-level summary of steps taken to assess additionality is provided below.

Steps taken to assess...	
Adherence to regulatory surplus requirements.	• The regulatory requirements were reviewed with the project team for DOT and EPA (federal, state, local). The project meets the regulatory surplus requirements.
For performance methods, the appropriateness of the performance benchmark selected and the ability of the project to achieve the level of the benchmark.	• The references provided were reviewed along with the calculations. The approach was discussed with the project team.
Adherence to all other criteria and procedures set out in the standardized method.	• The project is in conformance with the standardized method criteria.

3.4.6 Quantification of GHG Emission Reductions and Removals

The audit team notes that the quantification methods used for GHG emission reductions and removals generated by the project during the project crediting period are in compliance with the methodology. The audit team cross-checked and recalculated a sample of the project calculations, and it is noted that five findings (NIR 19-23) were issued as a result of the audit team's review of the quantification methods, including data and parameters used in the equations. The project proponent sufficiently addressed the findings.

Quantification of Baseline Emissions A description of steps taken to assess the baseline data and parameters used in the PD/MR follows. The audit team confirmed via recalculation that the appropriate baseline emission equations were applied. Please reference equations 8 and 9 in section 7.2 of the PD/MR.

Parameter	Step(s) taken to validate the value
CB	• Confirmed the crediting baseline (CB) is derived from the performance benchmark data for roadway projects (Table 4, VM0039) for each applicable year
Θ_{AE}/Θ_{FSB}	• Confirmed the correction factors for asphalt emulsion (AE) and foam stabilized base (FSB) is sourced from Section 7.4 of VM0039

Quantification of Project Emissions

A description of steps taken to assess the project data and parameters used in the PD/MR follows. The audit team confirmed via recalculation that the appropriate project emission equations were applied. Please reference equations 1 through 26 of the methodology. The audit team notes that only equations applicable to CIR processes are applicable to the current monitoring period calculations.

Parameter	Step(s) taken to validate the value
EF_T, EF_M, EF_{EQ}	• Emissions factors from TCR, Portland Cement Association, CMUGDI, or EPA. Web resources were accessed and checked with the calculations.
CF	• Conversion factor to account for equipment usage was cross-checked with the references provided.
DF	• Discount factor to account for mileage inaccuracies per section 8.1.1 of the methodology.
W_M	• The weight of each raw material used to produce FSB or asphalt emulsions was cross-referenced with the supporting documentation (reference 4).
Project Amount	• Output quantity of FSB and asphalt emulsions was cross-referenced with the supporting documentation (reference 4).
HR_{EQ}	• Operating hours of on-site installation equipment was cross-referenced with supporting documentation (reference 7).
L	• N/A, this variable was not used in the current monitoring period as all project labor hours were recorded.
$Distance_S$	• Miles trucks travelled to job site was cross-referenced with project logs and other supporting documentation in reference 4.
S	• N/A, this variable was not used in the current monitoring period as all project labor hours were recorded.
DE	• Density of the FSB or AE mix was cross-referenced with onsite density test results and other supporting documentation in reference 4.
LC	• Confirmed layer coefficient with footnote 6, p. 25, of the methodology.
HR_{LA}	• The total labor hours of on-site installation equipment used was, confirmed through review of time logs.
EF_{EL}, $Distance_P$, C_{EL}	• These parameters were not applicable in the current monitoring period.

Quantification of Leakage

Leakage is set to zero. The rationale for concluding leakage is zero is provided in the PD and the audit team concluded this is reasonable per Section 7.3 of the methodology.

Summary of Net GHG Emission Reductions or Removals

The quantification methods were assessed during a sample recalculation of the project calculations based on provided workbooks.

Uncertainties Associated with the Calculation of Emissions

Uncertainty calculations are not applicable to project's applying this methodology.

Documentation Used as the Basis for Assumptions and Sources of Data

None of the shared data and information supporting the ex-ante estimation of GHG emission reductions and/or removals for the crediting period were hypothetical, projected and/or historical in nature. Because the nature of the project type does not allow for accurate estimates until projects are fully implemented, the audit team confirmed the calculation of ex-ante estimation based upon annual percent increases was reasonable.

The audit team concludes the following with respect to the PD:

Assessment of whether...	
All relevant assumptions and data are listed in the PD, including their references and sources.	• All required assumptions and data references are provided and referenced in the PD and considered complete.
All data and parameter values used in the PD are considered reasonable in the context of the project.	• Parameters and factors used in the PD are reasonable. References are provided and a rationale for the choice of parameter or factor is provided.
All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PD.	• References and sufficient information are provided to ensure that estimates of the baseline emissions can be replicated.

Overall Conclusion

In conclusion, the methodology and any referenced tools have been applied correctly to calculate baseline emissions, project emissions, leakage, net GHG emission reductions and removals, uncertainties associated with the calculation of emissions during the project crediting period. Documentation used as the basis for assumptions and sources of data were applied appropriately.

3.4.7 Methodology Deviations

This section is not applicable as no methodology deviations were applied to the project or were validated as part of the validation engagement described in this report.

3.4.8 Monitoring Plan

The parameters to be monitored are as follows:

- W_M (weight of raw materials)
- Project amount (output quantity of FSB and AE)
- HR_{EQ} (total operating hours of onsite installation equipment)
- Distance (total truck travel miles to supply raw materials)
- DE (density of FSB or AE CIR mix)
- LC (layer coefficient of FSB or AE)

A monitoring plan, consistent with the requirements of the methodology, is provided in Section 5.3 of the PD/MR. The audit team took the following steps to validate the suitability of the implemented monitoring system:

- Review of the PD/MR.
- Interviews with the project team and review of the process documentation conducted remotely.

In conclusion, the monitoring plan adheres to the requirements of the applied methodology and any referenced tools.

3.5 Non-Permanence Risk Analysis

This section is not applicable.

4 VERIFICATION FINDINGS

4.1 Accuracy of GHG Emission Reduction and Removal Calculations

The GHG emission reductions and/or removals for the verification period have been quantified correctly in accordance with the project description and with the applied methodology.

For all instances in which values were transcribed between datasets (e.g., transcription from the project description to reporting workbooks, or between reporting workbooks), the audit team carefully traced values for a sample of project instances to ensure the absence of manual transposition errors.

An identification of the data and parameters used to calculate the GHG emission reductions and/or removals, and a description of the steps taken to assess each of them, follows.

4.1.1 Data and Parameters Available at Validation

Data/Parameter	Accuracy of GHG Emission Reductions and/or Removals	Whether Methods/Formulae set out in Project Description have been followed	Appropriateness of default values
CB	The crediting baseline (CB) is derived from the performance benchmark data established in the methodology.	The parameter is properly applied in accordance with the methodology.	The default values from Table 4 of VM0039 are appropriate.
EF_T, EF_M, EF_{EQ}	Emissions factors were accurately obtained from appropriate sources.	Emissions factors from TCR, Portland Cement Association EPD, CMUGDI, or EPA were applied properly in accordance with the methodology.	The values are not default.
CF	Conversion factor to account for equipment operating time in total labor time was calculated from a subset of projects and is accurately applied.	The factor is conservative and applied properly.	The default values from Section 8.1.1 of VM0039 are appropriate.
DF	Discount factor to map distances was calculated from a subset of projects and is accurately applied.	The factor is conservative and applied properly.	The default values from Section 8.1.1 of VM0039 are appropriate.

4.1.2 Data and Parameters Monitored

Data/Parameter	Accuracy of GHG Emission Reductions and/or Removals	Whether Methods/Formulae set out in Project Description have been followed	Appropriateness of default values

W_M	The weight of each raw material used was sourced from project-specific documentation and is accurate.	The parameter was applied properly.	The values are not default.
Project Amount	Output quantity of FSB and asphalt emulsions was sourced from project-specific documentation and is accurate.	Quantity measured using calibrated scales and industry quality standards and was properly applied.	The values are not default.
HR_{EQ}	Equipment total operating hours was sourced from project-specific documentation and is accurate.	Equipment operating hours monitored and recorded by onsite equipment operators and managers in daily time logs was properly applied.	The values are not default.
Distance	Miles travelled by trucks was sourced from project-specific documentation and is accurate.	Miles traveled are calculated via online mapping and recorded. Values were properly applied.	The values are not default.
DE	Density of FSB or AE mix is sourced from project-specific documentation and is accurate.	Density was documented with mix design or daily density testing performed by external third parties who maintain calibration records. Dates were provided on every project mix design and in some instances, daily density testing reports. Values from resulting reports were properly applied. A sampling of documents was reviewed. All documentation is provided in the accompanying Appendix A.	The values are not default.

LC	Layer coefficient is derived from the value established in the methodology.	The coefficient is properly applied in accordance with the methodology.	The default values from VM0039 are appropriate.

The audit team concludes that the GHG emission reductions and/or removals for the verification period have been quantified correctly in accordance with the project description, monitoring plan, and with the applied methodology.

4.2 Quality of Evidence to Determine GHG Emission Reductions and Removals

4.2.1 Nature of Data and Information Supporting GHG Quantification

The approved VCS Methodology employs a series of parameters to calculate the project emissions reductions in conjunction with project-specific data. The parameters are calculated using primary activity data from the roadway construction projects and are used in multiple equations throughout the methodology for emissions reductions calculations. SCS reviewed primary data sources and selected samples of data for comparison in order to confirm the accuracy of the emissions reduction's calculations.

None of the data supporting the quantification of GHG emission reductions and/or removals were hypothetical, projected and/or historical in nature.

4.2.2 Quality and Quantity of Evidence Used to Determine GHG Quantification

The evidence used to determine the GHG reductions and removals for the verification period was of sufficient quantity and appropriate quality. An identification of the categories of evidence used to determine the GHG emission reductions and removals, and a description of the steps taken to assess the sufficiency of quantity, and appropriateness of quality, of each category of evidence, follows.

Category	Audit Team Assessment of GHG Reductions...		
	Evidence - Source and Nature of Evidence	Data and Information Generation, Aggregation, Calculation and Record Keeping	Monitoring equipment Appropriateness, QA/QC
Monitored Parameters: W_M (weight of raw materials)	Project proponent provided sufficient evidence through documentation and	The audit team confirmed that the data and supporting information are processed and checked	Via project documentation review (ref. 3, 4, and 7) and interviews, the audit team concluded that

Project amount (output quantity of FSB and AE) HR_{EQ} (total operating hours of onsite installation equipment) Distance (total truck travel miles to supply raw materials) DE (density of FSB or AE CIR mix) LC (layer coefficient of FSB or AE)	interviews to assess the emissions reductions and removals (ref. 2-7).	electronically and reviewed internally. The project proponent provided an overview of this process during interviews and supplied all calculation spreadsheets and supporting references. The audit team cross-referenced information for a sample of project instances (~20%) by tracing the data from the source (ref. 4 and 7) and recalculating the emissions reductions. No material errors resulted when compared to the project calculations (ref. 2),	the calibration frequency of the monitoring equipment is implemented appropriately and in accordance with the methodology and industry standards. Because the asphalt contractor is liable for applying the correct mix design and specifications (i.e., financially incentivized), calibrations are performed prior to project start-up and intermittently during a shift. Please see below and Section 6.3 of the PD/MR for additional information regarding calibration.

Data/Parameter	Assessment of Calibration Requirements and Frequency
W_M	Certification of material compliance to relevant agency standards is located on the bill of lading tickets for each project. The audit team notes that the calibration of the equipment for the weight of materials relies on external third-party material suppliers which are required to comply with relevant industry standards including state and federal agency requirements. The audit team concluded via review of a sample of the bill of lading that compliance certification is documented in Appendix A of the PD/MR in accordance with industry standards and is an appropriate demonstration of calibration frequency implementation.
Project Amount	Calibration is not applicable to the Project Amount as this is an indirect measurement calculated using the project area and layer thickness as specified in the third-party engineering design (ref. 4) as well as mix density testing (conducted by a third-party).
HR_{EQ}	Calibration is not applicable as values are sourced directly from daily time logs.

Distance	Calibration is not applicable as distances are sourced from online route mapping services (e.g., Google Maps) and have a conservative additional 10% factor to account for uncertainty in exact trucking routes.
DE	Calibration of equipment used in mix design and daily density testing is performed by an external third party. The audit team notes that the calibration of the equipment used for mix design and density testing relies on the applicable accredited independent testing laboratory which is required to comply with industry requirements per state, federal, and/or accreditation agencies. As such, the audit team concluded via review of a sample of mix design and daily density testing report suppliers company names and websites, as documented in Appendix A of the PD/MR, that third-party suppliers must calibrate equipment in accordance with industry standards and is an appropriate demonstration of calibration frequency implementation.
LC	Calibration is not applicable as layer coefficient values are sourced from the methodology.
Other	Please see Section 6.3 of the PD/MR for additional information regarding calibration frequency of the following construction equipment: Weigh bridge, pumps and injectors, and the totalizer. The audit team confirmed project conformance to the described frequencies via interview with project personnel and contractor. The calibration of the weigh bridge and totalizer is conducted for each project activity instance start of and hourly throughout the construction process, respectively, to ensure conformance with project specifications and design.

Overall, the evidence used to determine the GHG reductions and removals for the verification period is of sufficient quantity (i.e., all necessary information has been provided to allow the audit team to trace and, as necessary, recalculate the quantification of GHG reductions and removals), and of appropriate quality (i.e., information presented is free of misstatements, whether material or immaterial) to allow the audit team to render a validation and verification opinion.

5 VALIDATION AND VERIFICATION CONCLUSION

Based on the review of the PD/MR and supporting documentation, interviews and a remotely conducted site visit, SCS concludes, with no qualifications or limitations, that the Recycling Roadways for Carbon Emission Reductions - Midstate Reclamation and Trucking project complies with the VCS validation and verification criteria for projects and their GHG emission reductions or removals set out in VCS Version 4 and the selected methodology VM0039, V1.0. The validation and verification of the GHG statement was conducted in accordance with ISO 14064-3:2006.

Validated estimated GHG emission reductions and removals:

Year	Estimated GHG emission reductions or removals (tCO_2e)
2021 (27-April-2021 to 25-September-2021)	28,915
2022 (26-September-2021 to 31-December-2022)	35,250
2023 (01-January-2023 to 31-December-2023)	42,250
2024 (01-January-2024 to 31-December-2024)	50,750
2025 (01-January-2025 to 31-December-2025)	60,750
2026 (01-January-2026 to 31-December-2026)	72,750
2027 (01-January-2027 to 31-December-2027)	87,250
2028 (01-January-2028 to 31-December-2028)	104,500
2029 (01-January-2029 to 31-December-2029)	125,250
2030 (01-January-2030 to 31-December-2030)	150,000
2031 (01-January-2031 to 26-April-2031)	0
Total estimated ERs	757,665
Total number of crediting years	10
Average annual ERs	757,665

Verification period: From 27 April 2021 to 25 September 2021

GHG emission reductions and removals in the above verification are as follows:

Year	Baseline emissions (tCO2e)	Project emissions (tCO2e)	Leakage emissions (tCO2e)	Net GHG emission reductions (tCO2e)
2021 (27 April 2021 – 25 Sept 2021	38,808	9,893	0	28,915

Total	38,808	9,893	0	28,915

The estimated ex-ante GHG emission reductions and the achieved emission reductions for this monitoring period are below.

Year	Ex-ante emissions reductions	Achieved emissions reductions	Percent difference	Justification for the difference
2021 (27 April 2021 – 25 September 2021)	28,915	28,915	0.00	No difference.
Total	28,915	28,915	0.00	No difference.

APPENDIX A: LIST OF FINDINGS

Please see the above Section 2.5 for a description of the findings issuance process and the types of findings issued. It should be noted that all language under "Project Personnel Response" is a verbatim transcription of responses provided to the findings by project personnel.

The audit team closed all findings with respect to rules and requirements in VCS Standard 4.3, which was in effect at the end of the audit, supplemented with rules and requirements associated with VCS Standard 4.4 updates effective at the conclusion of the audit.

NCR 1 Dated 11 Jan 2023

Standard Reference: ISO 14064-3:2006 A.2.6.1 a.

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: (1) Section 1.1 of the Joint PD/MR Template, Version 4.1, requires that the project proponent include "an estimate of annual average and total GHG emission reductions and removals."

(2) Section 1.10 of the Joint PD/MR Template, Version 4.1, requires that the project proponent include "Average annual ERs".

The estimated annual average in Section 1.1 of the PD/MR (37,923 tonnes) does not match VCS registry listing (36,973) or Section 1.10 of the PD/MR. Likewise, the total estimated ERs during the crediting period differ in Sections 1.1 and 1.10 of the PD/MR.

Please revise the PD/MR as necessary.

Project Personnel Response: Accepted

(1) Section 1.1 has been revised accordingly such that the project proponent includes an estimate of annual average and total GHG emission reductions and removals.

(2) Section 1.1 and Section 1.10 have been revised to match the estimate of "Average annual ERs" of 36,912 tCO2e. This has been updated from 37,923 tCO2e to relect our final check/revision.

The estimated annual average in Section 1.1 is now aligned with the same value in Section 1.10 (36,912 tCO2e)

Note: The VCS Registry Listing of Annual Volume of VCUs of 36,973 was based off an estimate at the initial draft listing of the project description. This value has since changed but we do not have the ability to revise this number. SCS Global understands this per our meeting 1/30/23.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NCR 2 Dated 11 Jan 2023

Standard Reference: VCS-Joint-Project-Description-Monitoring-Report-Template-v4.1.docx

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: The Joint PD/MR Template, Version 1.0, includes the following instructions: "Title Page: Complete all items in the box on the title page using Arial or Century Gothic 10.5 point, black, regular (non-italic) font. This box must appear on the title page of the final document. This document may also feature the project title and preparers' name, logo and contact information more prominently on the title page, using the format below (Arial or Century Gothic 24 point and Arial or Century Gothic 12 point, black, regular font). Template Body: [...] Unless applying a merited deviation from the structure of this template, please complete all sections using Arial or Franklin Gothic Book 10.5 point, black, regular (non-italic) font."

The audit team notes the following inconsistencies in the joint PD/MR provided by the project proponent:

- The font color on the title page does not adhere to the template instructions (e.g., table of contents, section headers throughout document, tables in section 3.2 and 3.3).
- Checkbox format in Sections 1.4 and 1.10 does not match the template.

Provide a revised PD/MR that adheres to the template instructions throughout the entire document.

Project Personnel Response: Accepted

Title Page - The box on the title page has been revised using Century Gothic, 10.5 black regular font. The project title and other items are formatted as Century Gothic 12 or 24 pt black regular font as stated.

Template Body - all fonts throughout the document have been changed to black and all sections have been checked to ensure they are in Franklin Gothic Book 10.5 pt black regular font.

Add'l Comment response - inconsistencies in font color have been addressed. T/C, Section Headers, tables in section 3.3 have been updated to adhere to template. It should be noted there is not a table in section 3.2. Checkbox format in Sections 1.4 and 1.10 has been reformatted and the italics removed to match the template.

The entire document has been updated to the v4.2 template issued on 12/22/22 by Verra.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NCR 3 Dated 11 Jan 2023

Standard Reference: VCS-Joint-Project-Description-Monitoring-Report-Template-v4.1.docx, Section 1.1

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: Section 1.11 does not abide by template requirements to: "Include a list and the arrangement of the main manufacturing/production technologies, systems and equipment involved. Include in the description information about the age and average lifetime of the equipment based on manufacturer's specifications and industry standards, and existing and forecast installed capacities, load factors and efficiencies."

Revise the PD/MR to include an example process flow diagram for the project.

Project Personnel Response: Accepted

- A diagram has been included to show the main manufacturing/production techologies, systems and equipment.

- A description of average lifetime of equiment has been included. No informaiton on the age of the actual equiment is known.

-Existing forecast installed capaciites and load factors and efficiences were discussed with SCS Global at our 1/30/23 meeting. It was agreed that these are not applicable to this type of project.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NCR 4 Dated 11 Jan 2023

Standard Reference: VCS-Joint-Project-Description-Monitoring-Report-Template-v4.1.docx, Section 1.13

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: Section 1.13 does not abide by template requirements to:

"Describe the conditions existing prior to project initiation and demonstrate that the project has not been implemented to generate GHG emissions for the purpose of their subsequent reduction, removal or destruction.

Where the baseline scenario is the same as the conditions existing prior to the project initiation, there is no need to repeat the description of the scenarios (rather, just state that this is the case and refer the reader to Section 3.4 (Baseline Scenario)."

Provide a revised PD/MR with the additional required information.

Project Personnel Response: Accepted

The conditions existing prior to project implementation have been explained in further detail to demonstrate that a project is not implemented to generate GHG emission for the purpose of their susequent reduction, removal, or destruction. A sentence has been added to clarify the baseline scenario has the same existing conditions.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NCR 5 Dated 11 Jan 2023

Standard Reference: VCS-Joint-Project-Description-Monitoring-Report-Template-v4.1.docx, Section 1.14

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: Section 1.14 does not abide by template requirements to explain how compliance with laws, statutes or other regulatory frameworks was achieved and maintained for these 24 projects in 8 states.

Provide a revised PD/MR with the additional required information.

Project Personnel Response: Accepted

Section 1.14 has been updated to explain what compliance means for a road construction project per our conversation with SCS Global on 1/30/22. High level statements have been included for the benefit of those unfamiliar with road construction processes and regulations.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NCR 6 Dated 11 Jan 2023

Standard Reference: VCS-Joint-Project-Description-Monitoring-Report-Template-v4.1.docx, Section 1.17

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: The table in Section 1.17 does not have separate quantifiable contributions for each SDG Indicator. Verra requires separate rows which tie the SDG Indicator to the Contribution. Current Project Contributions should match the Contributions over the project lifetime as the project has only completed this monitoring period thus far. Verra has provided guidance on this in a webinar. https://verra.org/webinars-sustainable-development-contributions-reporting/.

Provide a revised PD/MR per the template requirements.

Project Personnel Response: Accepted

The table in Section 1.17 has been revised to provide separate quantifiable contributions for each SDG indicator. The columns for Current Project Contributions and Contributions Over Project Lieftime have been revised to cover the current monitoring period rather than estimated projections.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NCR 7 Dated 11 Jan 2023

Standard Reference: VCS-Joint-Project-Description-Monitoring-Report-Template-v4.1.docx, Section 2.4

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: Section 2.4 contains placeholders for public comment period. Please revise the PD/MR, as needed.

Project Personnel Response: Accepted

Section 2.4 has been revised to include public comment period information.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NIR 8 Dated 11 Jan 2023

Standard Reference: VM0039, v1.0, Section 4.4

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: In Section 3.3 of the PD/MR, raw material transport description varies from the methodology by saying "...to central plant" rather than "...to the job site". Please align the PD/MR with the methodology, or justify this difference.

Project Personnel Response: Accepted

The flagged sentence within Section 3.3 has been revised to align with the methodology.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NCR 9 Dated 11 Jan 2023

Standard Reference: VM0039, v1.0, Section 6.0; VCS Standard v 4.4, VCS-Methodology-Requirements_v4.2

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: The performance benchmark should be clearly stated in the monitoring report in the sections discussing the crediting baseline, and project emissions reductions.

Please revise the PD/MR, as needed.

Project Personnel Response: Accepted

The performance benchmark values are defined in Sections 4.1, 5.1, 6.2, and 6.5 as requested.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NIR 10 Dated 11 Jan 2023

Standard Reference: VM0039, v1.0, Section 7.2.2

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: Section 7.2.2 of the methodology notes that, "CIR and FDR projects may include more than one installation project because FSB and asphalt emulsion produced from CIR or FDR could be placed in a number of road sections. Where there are i = 1,..., N road sections using FSB and asphalt emulsion from the same CIR or FDR machinery, the emission intensity of multiple CIR or FDR projects (MCIR EI or MFDR EI) must be calculated." The MCIR EI (Equation 13 in the methodology) is not included in the PD/MR or supporting calculations.

Please revise or justify this exclusion in the PD/MR, if appropriate.

Project Personnel Response: Accepted

The following justification for exclusion of Equation 13 is provided:

Section 7.2.2. of the methodology refers to "more than one installation project" as multiple "road sections" or areas of road at a single project site. Within this grouped project description, the 24 projects were all independent projects at various unrelated project sites. Each project uses the same general installation equipment but there are variations in the type and quantity of installation equipment based on project size and specifications. For example, a cement spreader truck is only used on projects that included cement in the mix design and therefore the condition of Section 7.2.2 that states "...FSB and asphalt emulsion from the same CIR or FDR machinery" is not being met to utilize Equation 13 and has been excluded from the project description/monitoring report.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NCR 11 Dated 11 Jan 2023

Standard Reference: VM0039, v1.0, Section 8.1.2

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: The EPA links for EF,EQ are non-functional.

The Purpose of Data for each Parameter does not match the options presented in the template (e.g., calculation of baseline emissions, calculation of project emissions, calculation of leakage).

Please revise the PD/MR, as needed.

Project Personnel Response: Accepted

EFEQ values are all defined in the methodology within Appendix B. These are values available at validation and do not require monitoring. The "Purpose of Data" row for each parameter in Section 5 and 6 of the PD/MR has been revised accordingly.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NIR 12 Dated 11 Jan 2023

Standard Reference: VM0039, v1.0, Section 8.2.2

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: Please clarify the "Value Applied" for each Data/Parameter in Section 5.2. Is that an example project representing all projects or something else?

Project Personnel Response: Accepted

Section 5.2 has been revised to state that the "Value Applied" for each data/parameter is for the representive example project, Hettinger County, ND, that was chosen to demostrate the calculations in Section 4.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NCR 13 Dated 11 Jan 2023

Standard Reference: VCS-Joint-Project-Description-Monitoring-Report-Template-v4.1.docx, Section 6.3

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: Section 5.3 does not include all requirements per the template:

"Describe the process and schedule for obtaining, recording, compiling and analyzing the monitored data and parameters set out in Section 5.2 (Data and Parameters Monitored) above. Include details on the following:

- The methods used for generating/measuring, recording, storing, aggregating, collating and reporting data and parameters. Where relevant, include the procedures for calibrating monitoring equipment.
- The organizational structure, responsibilities and competencies of the personnel that carried out monitoring activities.
- The policies used for oversight and accountability of monitoring activities.
- The procedures used for internal auditing and QA/QC.
- The procedures used for handling any internal auditing performed and any non-conformances identified.
- The implementation of sampling approaches, including target precision levels, sample sizes, sample site locations, stratification, frequency of measurement and QA/QC procedures. Where applicable, demonstrate whether the required confidence level or precision has been met."

Please include all necessary information per the methodology in the PD/MR.

Project Personnel Response: Accepted

Section 5.3 has been revised to include details (on the bulleted list in the response) on the process and schedule for monitored data and parameters defined in Section 52. .

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NIR 14 Dated 11 Jan 2023

Standard Reference: VM0039, v1.0, Section 8.3

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: The PD/MR does not clearly state which processes are applied to the current monitoring period's project instances. Section 3.2 of the PD/MR states "Project instances will use FSB and asphalt emulsions in CCPR, CIR, or FDR processes", however, only CIR specific processes are detailed through portions of Section 3 and throughout Section 4 - 6. Please explain the exclusion of CCPR and FDR-specific information in the appropriate sections of the PD/MR.

Project Personnel Response: Accepted

Section 3.2, 4.2, 6.1, and 6.3 have been revised to clarify that only CIR projects are included within this first project monitoring period. Midstate did not perform any CCPR or FDR projects in 2021 but could potentially expand their work in future years. FDR and CIR use the same cacluation procedures, there just were not any example in the first monitoring period.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NCR 15 Dated 11 Jan 2023

Standard Reference: VM0039, v1.0, Section 8.3

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: Section 8.3 of the methodology states: "All data collected as a part of monitoring process must be archived electronically and be kept at least for two years after the end of the last project crediting period. All direct measurements must be conducted with calibrated measurement equipment according to relevant industry standards. Where direct measurements are not applied, project proponents must demonstrate that the values used for the project are reasonably conservative, considering the uncertainty associated with these values."

Furthermore, per the methodology, "Quality assurance/quality control procedures must also be applied to add confidence that all measurements and calculations have been made correctly. These may include, but are not limited to:

- Protecting records of monitored data (hard copy and electronic storage)
- Checking data integrity on a regular and periodic basis (manual assessment, comparing redundant metered data, and detection of outstanding data/records)
- Comparing current estimates with previous estimates to identify any abnormal readings
- Providing sufficient training to project participants to install and maintain project devices
- Establishing minimum experience and requirements for operators in charge of project and monitoring
- Performing recalculations to make sure no mathematical errors have been made."

Explain the processes used by the project proponent for all project instance in this project that are required in this section, including how the data is gathered in the field, how it is transmitted to the project data staff, and how it is archived. In addition, the calibration procedures for any equipment that is used should be described. As written, the PD/MR contains some information for the "first project instance", but not all project instances. Please revise, as necessary.

Project Personnel Response: Accepted

Section 5.3 has been updated to inculde quality assurance/control procedures, to further explain processes used not just for the first project instance, but for all project instances.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NCR 16 Dated 11 Jan 2023

Standard Reference: VCS Standard v4.3, Section 3.10.1

Document Reference: N/A

Finding: Provide the KML files. Are the KML files in the Verra/VCS database current?

Project Personnel Response: Accepted

The KML in the Verra Registry is current. The KML has been included in data resubmission to SCS Global.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NIR 17 Dated 11 Jan 2023

Standard Reference: ISO 14064-3:2006 A.2.6.1 a.

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: Start date in Section 1.8 is stated to be April 27, 2021, but Section 1.1 states "The initial instance of the project activity … start date was July 19, 2021". Please clarify and elaborate in the PD/MR, as necessary.

Project Personnel Response: Accepted

Section 1.1 has been revised to remove, "The initial instance of the project activity … start date was July 19, 2021", to prevent confusion. The July 19, 2021 date was referring to the Hettinger, ND project which is used in the project description as an example calculation project. It was not the first project to occur meaning that it is not eligible to be the overall project start date. Section 1.8 is correct as presented and does not require updates.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NIR 18 Dated 11 Jan 2023

Standard Reference: VCS Joint Project Description & Monitoring Report Template, Section 1.18

Document Reference: 2022-10-19_Draft Midstate Project Description and Monitoring Report_v2.pdf

Finding: Confirm the intended inclusion or exclusion of business sensitive information. Revise the PD/MR, as necessary.

Project Personnel Response: Accepted

The PD/MR has been updated to reflect project numbers not locations in Section 1.1 and Section 1.12. The Global Emissionairy team is leaning towards not included any appendices with identifying information.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NIR 19 Dated 11 Jan 2023

Standard Reference: ISO 14064-3:2006 A.2.6.1 a., VM0039, v1.0, Section 8.3

Document Reference: 14839 ND Hettinger Emission Calculations_SEI.xls, 2022-10-19_Draft Midstate Project Description and Monitoring Report_Appendix A_v2.pdf

Finding: Within the ND Hettinger calculations: The construction drawing sheet, Sheet 1, Section No. 30 (p. 16 of the Appendix), shows the last station of the fourth road section to be 198+58.48. However, the project length, L, calculation on the "Project Length, L" tab of the excel file specifies a value of 120095.04 (equivalent to the starting station of the fifth station, 1200+95.04). Futhermore, the bridge exception section is reported at Station 1198+56.48 to Station 1200+95.04 on Sheet 1, Section No. 1 (p. 15 of the Appendix).

Please elaborate on this discrepancy or revise the calculation as appropriate.

Project Personnel Response: Accepted

The calculation has been revised accordingly. The referenced bridge exception is now included in the calculation.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NIR 20 Dated 11 Jan 2023

Standard Reference: ISO 14064-3:2006 A.2.6.1 a., VM0039, v1.0, Section 8.3

Document Reference: 14807 IA Story Emission Calculations_SEI.xls, 2022-10-19_Draft Midstate Project Description and Monitoring Report_Appendix A_v2.pdf

Finding: The "Variables" tab of the IA Story calculations lists the road width as 24 feet. However, the "Project Length, L" tab and associated construction drawing sheet shows this as "varies" for two road sections. The sheets reference B.10, but the referenced sheet is not provided.

Please explain and/or revise the calculations, as necessary.

Project Personnel Response: Accepted

Plan sheet B.10 (PDF Page 161) has been added for informational purposes. Within 14807 IA Story Emission Calculations_SEI.xls, the variables tab (Road Area, SY) has been revised to utilize the reported C.I.P.R. Area (Sq. Yds.) column on plan sheets B.1 and B.5 (PDF Page 156 - 160). This column accounts for the varable lane widths as shown on plan sheet B.10 plan view. This results in the Volume of CIR Installed (cubic feet) to be calculated as CIR Layer Thickness (feet) * Road Area (square feet).

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NIR 21 Dated 11 Jan 2023

Standard Reference: ISO 14064-3:2006 A.2.6.1 a., VM0039, v1.0, Section 8.3

Document Reference: 14826 MN Mower (1) Emission Calculations_SEI.xls, 2022-10-19_Draft Midstate Project Description and Monitoring Report_Appendix A_v2.pdf

Finding: The weight of butimen is listed in MN Mower (1) Emission Calculations_SEI.xls "% Composition" tab as 684.10 tons. This matches the "Inputs" sheet (p. 258 of the Appendix), however, the summation of the weights recorded in the Bill of Lading documents do not equate to this value. Furthermore, the weights recorded in the Final Quantification and Oil Load Sheets do not sum to this value.

On the "Variables" tab, the correction factor assigned to AE is listed in read, however, the FSB correction factor is used. Foamed asphalt is stated in the project's document in the Appendix (p. 259-260).

Although listed values on the "Density" tab correspond to select values in the Appendix Compaction Reports beginning on p. 262, it is unclear how the calculated Average Lab Dry Density is a conservative average.

Please explain these items and/or revise the calculations, as necessary.

Project Personnel Response: Accepted

Spreadsheets noted have been revised and included.

The weight of bitumen in MN Mower (1) Emission Calculations_SEI.xls "% Composition" tab has been revised from 684.1 tons to 694.9 tons to match the Bill of Lading delivery reports. The Final Quantity and Oil Load Sheets include some notes about unused oil being sent back, but since there is no provided documenation of any return loads the conservative assumption that all oil delivered to the site was used on the project has been applied to the emission calculations. This resulted in a 0.23% decrease in emission reductions for this project.

On the "Variables" tab, the correction factor formatting has been revised to remove the red text. The calculation is using the correct Foam Stabilized Base (FSB) correction factor of 1.02 per the methodology and the referenced project specifications. The errant asphalt emulsion value has been removed to prevent confusion.

The density tab is averaging "Compaction Target from Control Strip" values which is the target density that must be achieved to within 98% per the project specifications. The specifications related to compaction and testing procedures on the control strip has been added (Appendix A PDF Page 264). The cell labeled "Average Lab Dry Density" was incorrectly labeled in the "Density" tab and has been revised accordingly.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NIR 22 Dated 11 Jan 2023

Standard Reference: ISO 14064-3:2006 A.2.6.1 a., VM0039, v1.0, Section 8.3

Document Reference: 14849 IN Porter Emission Calculations_SE.xls, 2022-10-19_Draft Midstate Project Description and Monitoring Report_Appendix A_v2.pdf

Finding: The excel calculation for 14849 IN Porter states the weight of bitumen as 678.32 tons. This equates to the summation of the weights listed on the Bill of Lading and Oil Load handwritten documents. However, this does not match the weight listed on the "Inputs" document (p. 410 of the Appendix).

Please explain this discrepancy and/or revise the calculations, as necessary.

Project Personnel Response: Accepted

Spreadsheets noted have been revised and included.

The discrepancy between the "Inputs" (Appendix A PDF Page 413) document and the excel calculation sheet has been revised accordingly. The total bitumen weight of 678.32 tons is the correct value as documented by the total of the bill of lading receipts.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NIR 23 Dated 11 Jan 2023

Standard Reference: ISO 14064-3:2006 A.2.6.1 a., VM0039, v1.0, Section 8.3

Document Reference: XXXXX ... Emission Calculations_SEI.xls, 2022-10-19_Draft Midstate Project Description and Monitoring Report_Appendix A_v2.pdf

Finding: The information listed on the "Timesheet Summary" tab of each project instance's workbook appears to match the corresponding sheet in the Appendix. However, it is unclear where the "Labor Hours (Cutting Hours)" originates. The term "cutting hours" is not defined. Likewise, the Trips and Distance values listed on the "Variables" tab appear to correspond to the appropriate "Inputs" page of the Appendix, but it is not clear where these values are sourced.

All "Data Source[s]" listed throughout the excel calculations for each project instance do not directly correspond to the titles of sheets/pages or page numbers in the Appendix and rather, are listed by the individual document name. It is unclear to which page or document each listed source refers.

The units for EIM displayed on the "1. EI Materials" tab [kg CO2e/ton CIR installed] do not match the units of the individual EI Materials units [kg CO2e/tonne CIR installed].

Please provide clarification and/or revise the calculations, as necessary. Please also clarify whether as-built certifications were completed for each project instance to confirm completion of construction of each proposed section of road.

Project Personnel Response: Accepted

Spreadsheets noted have been revised and included.

The term cutting hours comes directly from Midstate's timesheets which were not submitted to SCS in the initial data submission. The timesheets contain commercially sensitive information, including but not limited to specific employee names. The Midstate timsheet documents have been submitted separately with this resubmission package in the sub-folder (Timesheets (new information)).

The number of trips and distance values are derived from the material bill of lading reciepts. Each bill of lading represents one truck trip and contains the material supplier company address. The mileage is the google maps distance between the supplier and the jobsite. The methodology has a conservative 10% dilution factor applied to the google maps distance to account for variations in actual vs mapped routes.

It is not feasible to provide specific page numbers within the excel sheet since page numbering will change when new requested data is added to the appendix. In general:

-Engineering plans provide project physical dimensions for volume calculations

-Mix design or density testing reports provide density for overa project amount weight

-Bill of lading receipts provide the weight of individual raw materials, the number of truck deliveries (trips), and the supplier and jobsite address for trip distance.

-Timesheets provide project start date labor hours and equipment models.

The data unit discrepancy (text) did not have an effect on the calculations but has been revised for consistency.

Clarifications have been provided to address all findings. On roadway projects it is not typical for as-built drawings to be completed as it is simply a couple inch layer of pavement so we are unable to provide. The methodology does not require as-built plans as documentation, but rather material delivery reports as we have provided.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A

NIR 24 Dated 11 Jan 2023

Standard Reference: VCS-Standard_v4.3, section 3.6, VCS-Program-Definitions-v4.2; VM0039-Methodology-for-Use-of-FSB-in-Pavement-Application-v1.0

Document Reference: GE & Midstate GHG Ownership Legal Agreement_executed

Finding: The GE & Midstate GHG Ownership Legal Agreement_executed' indicates that Global Emissionariy LLC is the provider and has developed VM0038. While VM0038 lists Emissionary, Inc among others as the methodology developer. Please clarify the difference in companies.

Project Personnel Response: Accepted

Provided explanation as follows:

Since the point in time that the methodology VM0039 was developed, Emissionairy, Inc. has undergone rebranding and is now Global Emissionairy, LLC. The other parties involved in the VM0039 development, University of Maryland, Chamberlain Contractors, Inc., and Straughan Environmental, Inc. were all contributors hired under the umbrella of Global Emissionairy, LLC.

Auditor Response: Thank you for your response. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): N/A