Stantec

Memo

To:	Geoff Strack, P.E. Waste Connections	From:	Kyle Morberg, P.E. Stantec Consulting Services, Inc.
File:	227704387	Date:	January 7, 2023

Reference: **SKB Environmental Cloquet Landfill, dba Shamrock Landfill, Inc. 2022 Annual CCR Inspection Report**

Purpose

This memorandum fulfills the requirements of 40 CFR § 257.84 Inspection Requirements for coal combustion residue (CCR) Surface Landfills, Part b, regarding an annual inspection by a qualified professional engineer.

Background and Applicability

SKB Environmental Cloquet Landfill Inc., f/n/a Shamrock Landfill, Inc. owns and operates the Shamrock Environmental Landfill which is a secure landfill permitted to accept industrial waste, including CCR waste. The facility is located at Section 25, Township 49 North, Range 17 West, Carlton County with a street address of 761 MN Highway 45 in Cloquet, Minnesota. The Facility is operated under the MPCA Solid Waste Permit SW-399. Currently, 39.2 acres of lined landfill are constructed. Most recently, the western portion of Phase 7 (Phase 7A) was constructed in 2022. All constructed phases, Phase 1 through 7A, are permitted to accept CCR. Filling operations in 2022 were primarily in Phases 5 & 6, although Phases 1 through 4 remained operational and received some waste.

Refer to Figures 1 and 2 for the photo locations and current existing conditions plans, respectively.

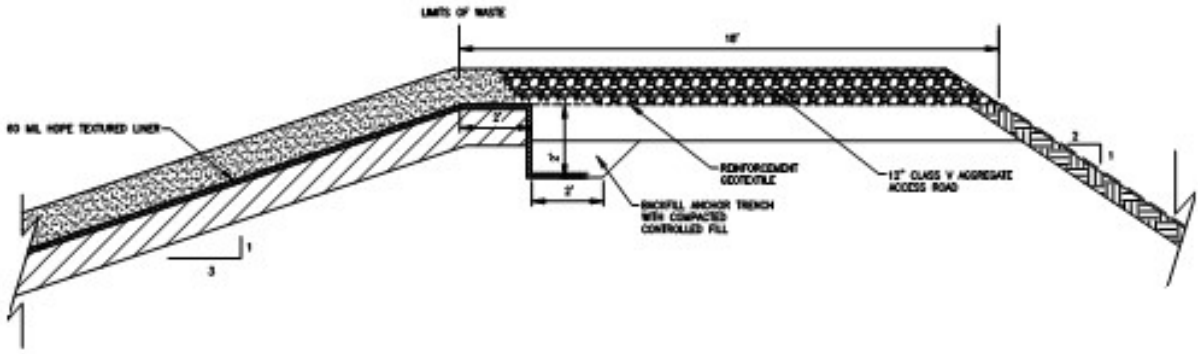
CCR Landfill Inspection (40 CFR § 257.84)

On October 19, 2022, Kyle Morberg, PE of Stantec conducted the on-site inspection of the CCR Landfill. As part of the inspection, the following operating and inspection records were reviewed:

- Review of weekly visual CCR inspections performed by landfill operators;
- Previous annual inspections performed by a licensed professional engineer;
- CCR unit design and construction information required by §257.73(c)(1) and §257.74(c)(1); and
- Previous periodic structural stability assessments required under § 257.73(d).

Landfill Cell Design

Most of the facility's landfill cell embankments were constructed using on-site borrow material, which consisted of silty clay and clayey sand type soils. The fill was placed and compacted to 95% of Standard Proctor Dry Density in lift thicknesses ranging from 8 inches to 12 inches. The final subgrade surface was proof rolled prior to geosynthetics installation. A typical perimeter section taken from the Phase 3 and 4 Construction Documentation Report prepared by Wenck in September 2015 is shown below.



Typical Landfill Berm Detail

During the inspection, no signs of landfill cell embankment distress, no signs of waste slope instability, or other CCR landfill issues were observed. The landfill embankments and interim covered slopes were generally in good condition with a well-established vegetation cover and no signs of significant erosion.

Photos were taken during the inspection. Figure 1 presents the photo locations, and Attachment 1 contains a photo log and the photos taken.

CCR Landfill Inspection Report

40 CFR § 257.84, Subpart b.2 requires the following topics in italics be addressed within this report. The requirements are shown in italics with the response immediately afterwards for each item.

(i) *Any changes in geometry of the impounding structure since the previous annual inspection;*

Other than the construction of Phase 7A, there were no apparent changes to the embankment geometry of Phases 1 through 7A when compared to the permit drawings or the past inspection reports. The annual aerial photogrammetry survey was performed on October 13, 2022, which the estimated in-place volume of total waste (including all accepted wastes) is based on. A comparison 2022 and 2021 aerial survey confirm that the embankment and slope topography is substantially unchanged with no significant movement. The 2022 aerial survey is included as Figure 2.

(ii) *The approximate volume of CCR contained in the unit at the time of the inspection;*

The approximate volume of CCR material contained in the landfill at the time of the inspection is 67,000 cubic yards.

(iii) *Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit and appurtenant structures; and*

None of the following were observed that could indicate structural weakness;

- Signs of slumping or rotational movement;
- Lateral or vertical distortion of the embankment crest;
- Seepage on the outboard slope; or
- Borrowing or damage due to vectors.

(iv) Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.

There were no changes noted that may could potentially affect the stability or operation of the impoundment. Observations were consistent with those noted in that report.

Notification Requirements

Shamrock Landfill is in compliance with the recordkeeping requirements specified in § 257.105(g), the notification requirements specified in § 257.106(g), and the internet requirements specified in § 257.107(g).

Conclusions and Recommendations

All recommendations presented in the previous inspection report were implemented.

The SKB Environmental Cloquet Landfill facility has been constructed and operated in accordance with the facility permit and the CCR regulations. No embankment or waste slope stability issues were observed during the visual inspection.

40 CFR § 257.83, Subpart b.5 and 40 CFR § 257.84, Subpart b.5 each require that if a deficiency or release is identified during an inspection, the owner or operator must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.

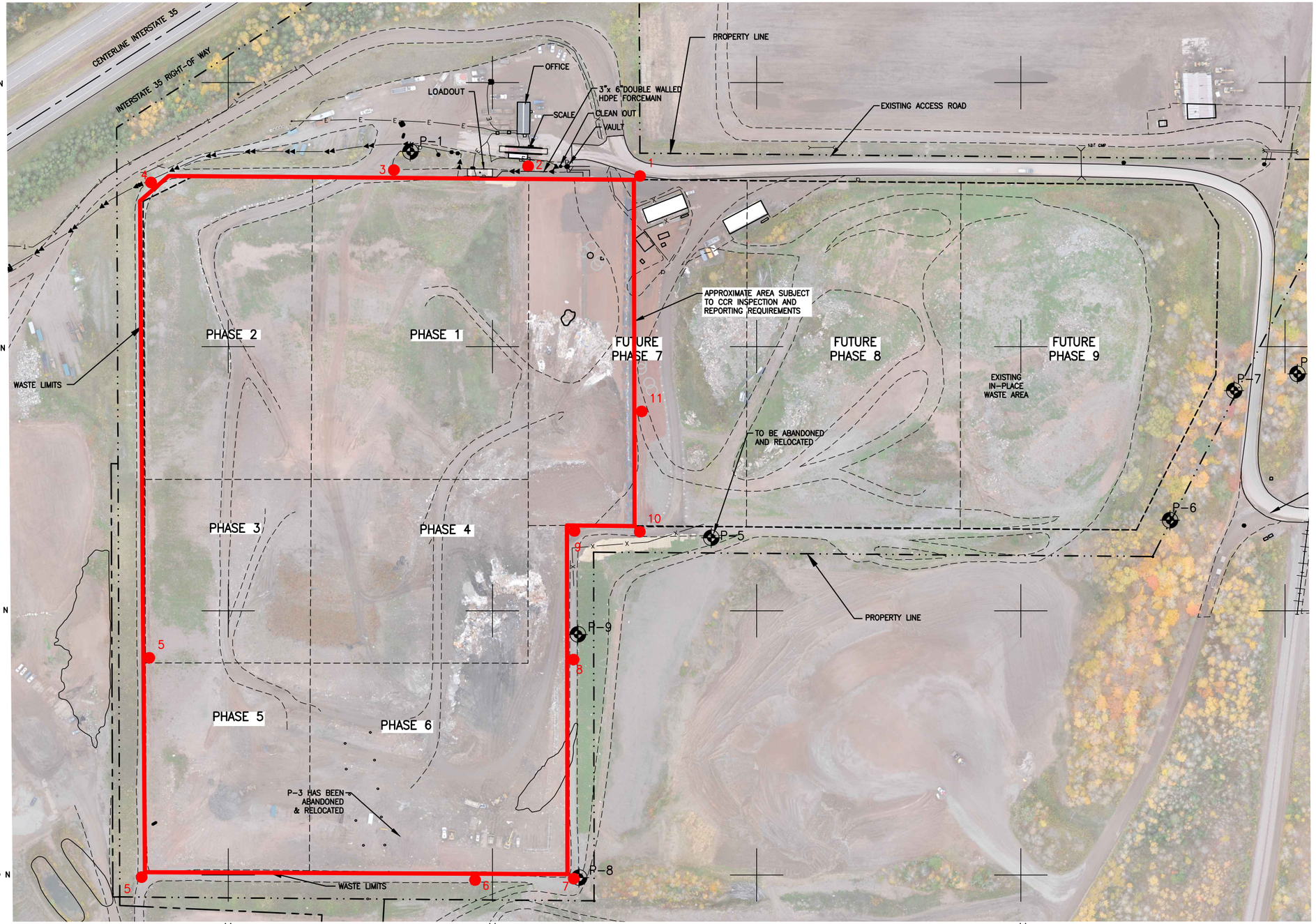
There were no deficiencies or releases identified during the inspection that require remedy as soon as possible.

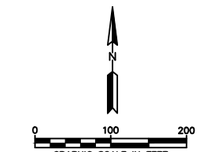
Stantec Consulting Services Inc.

Kyle Morberg, PE
Environmental Engineer
Cell: (218) 591-0790
Kyle.morberg@stantec.com

I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly registered Professional Engineer under the laws of the State of Minnesota.

Kyle Morberg, P.E .# 60444
January 6, 2023





LEGEND

- EXISTING CONTOURS
- EXISTING ROAD
- EXISTING MONITORING WELL
- PROPERTY LINE/ COMPLIANCE BOUNDARY
- PROPOSED WASTE LIMITS
- PHASE BOUNDARY
- EXISTING FORCEMAIN
- T — TELEPHONE
- E — ELECTRICAL
- RAILROAD
- TREES

NOTES:

1. COORDINATES ARE BASED ON CARLTON COUNTY COORDINATE SYSTEM.
2. BASE MAPPING HAS BEEN UPDATED BY AERIAL SURVEY PROVIDED BY FIRMATEK MAPPING COMPLETED ON OCTOBER 13, 2022.

REV	REVISION DESCRIPTION	DWN	APP	REV DATE

SEAL

SUB CONSULTANT

PRIME CONSULTANT

Stantec

PROJECT TITLE
2022 CCR INSPECTION REPORT

SKB ENVIRONMENTAL CLOQUET LANDFILL, INC.
f/n/a SHAMROCK LANDFILL, INC.

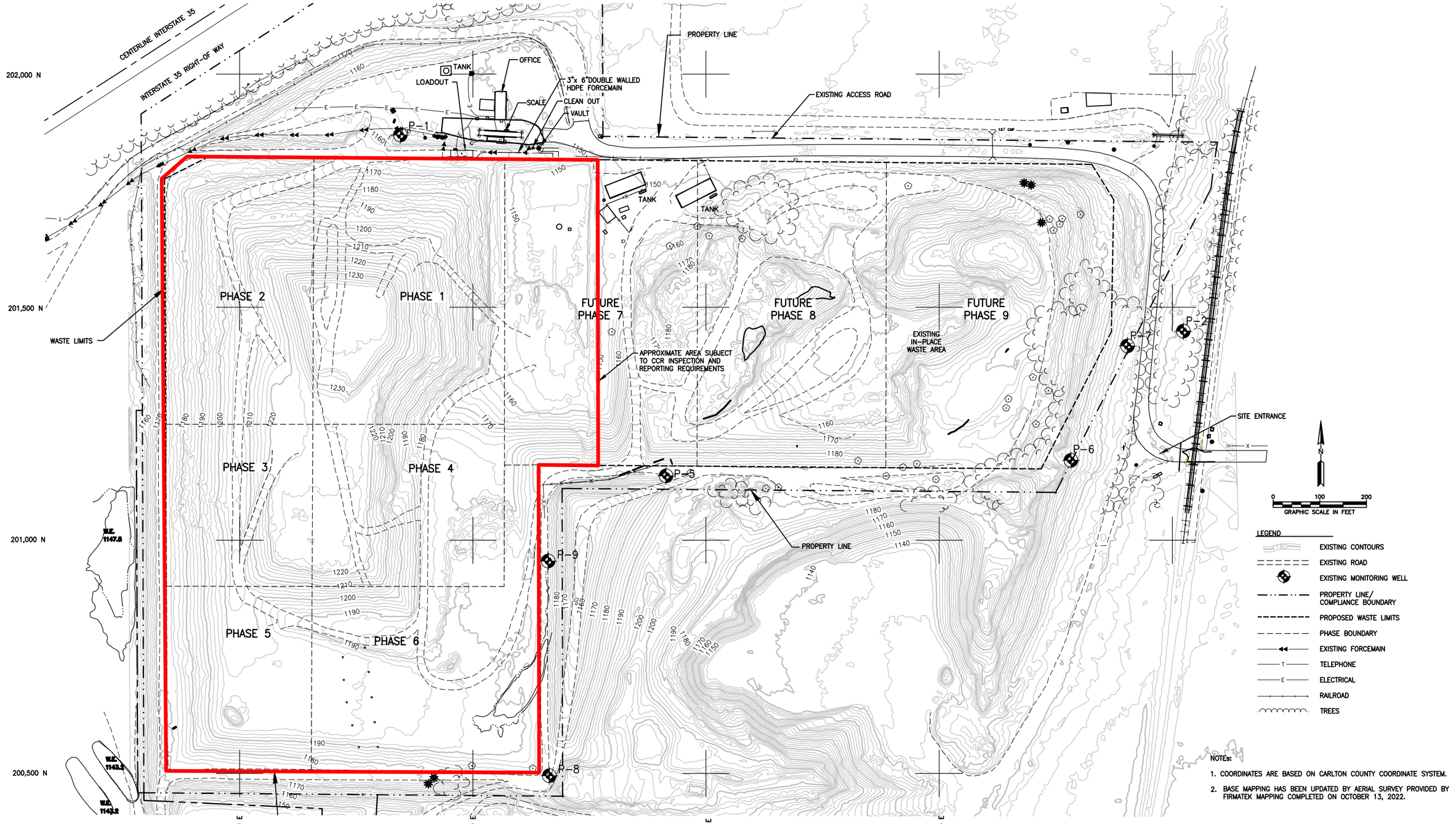
CLOQUET, MINNESOTA

SHEET TITLE
PHOTO LOCATIONS

DWN BY	CHK'D	APP'D	DWG DATE
JVB	SH	TJS	JAN. 2023

SCALE AS NOTED

PROJECT NO.	SHEET NO.	REV NO.
227704387	FIGURE 1	0



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2022 CCR INSPECTION REPORT

SKB ENVIRONMENTAL CLOQUET LANDFILL, INC.
f/n/a SHAMROCK LANDFILL, INC.

CLOQUET, MINNESOTA

SHEET TITLE
SITE MAP

DWN BY	CHK'D	APP'D	DWG DATE
JJT	SH	TJS	JAN. 2023

SCALE AS NOTED

PROJECT NO.	SHEET NO.	REV NO.
227704387	FIGURE 2	0

Location 1 – Looking South, Phase 7A Eastern Berm

Location 1 – Looking West, Phase 7A Northern Berm

Location 2 – Looking South, Phase 1 Eastern Berm

Location 3 – Looking East, Phase 1 Northern Berm

Location 3 – Looking North Phase 1

Location 3 – Looking West, Phase 2 Northern Waste Slope & Berm

Location 4 – Looking South, Phase 2 Perimeter Road

Location 4 – Looking South, Phase 2 Western Berm

Location 5 – Looking North, Phase 2, 3, 5 Road & Berm

Location 5 – Looking North, Phase 2, 3, 5 Western Berm

Location 5 – Looking East, Phase 5 Southern Road

Location 5 – Looking East, Phase 5 Southern Berm

Location 6 – Looking East, Phase 6 Southern Road

Location 6 – Looking West, Phase 6 Southern Road

Location 6 – Looking West, Phase 6 South LF Berm

Location 7 – Looking West, Phase 6

Location 7 – Looking North, Phase 6 Eastern Road

Location 7 – Looking North, Phase 6 Eastern Berm

Location 8 – Looking North Phase 4 Berm

Location 9 – Looking South, Phase 4 East Road

Location 9 – Looking East, Cell 7 Southern Anchor Trench

Location 9 – Looking East, Cell 7 Berm

Location 10 – Looking West, Cell 7 Southern Berm

Location 10 – Looking North, Cell 7 Eastern Berm

Location 11 – Looking North, Cell 7 Eastern Berm

Location 11 – Looking South, Cell 7 Eastern Berm