

# Technical Memo



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**To:** Geoff Strack, SKB Environmental, Cloquet Landfill Inc., f/n/a Shamrock Landfill, Inc.

**From:** Dave Parenteau, PE (MN), Wenck Associates, Inc.

**Date:** January 9, 2018

**Subject:** Annual Inspection SKB Environmental, Cloquet Landfill Inc., f/n/a Shamrock Landfill, Inc.- Report of CCR Landfill Inspection  
Wenck Project # B3053-98

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.

David M. Parenteau  
PE # 41243

A handwritten signature in blue ink, appearing to read 'David M. Parenteau', is written over a horizontal line.

Jan 9, 2018

## Purpose

This memorandum fulfills the requirements of 40 CFR § 257.84 Inspection Requirements for CCR Surface Landfills, Part b, regarding 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. The site is an industrial waste landfill located on an approximately 59 acre parcel of land located at Section 25, Township 49 North, Range 17 West, Carlton County with a street address of 761 MN Highway 45 in Cloquet, Minnesota. Approximately 9.5 acres of a total permitted 41.5 acres of the site are currently being utilized for landfill activities, with 5.4 acres of new disposal area recently constructed (Phases 3 and 4).

The facility is operated under the MPCA Solid Waste Permit SW-399, issued on December 21, 2010.

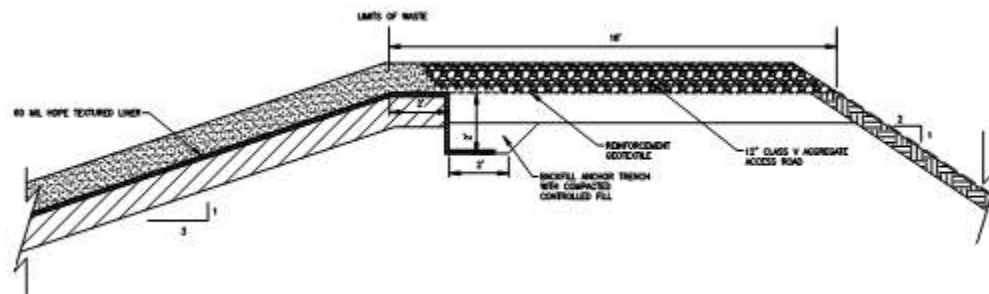
The attached Figure 1 presents a site layout.

## CCR Landfill Inspection (40 CFR § 257.84)

On December 1, 2017, Dave Parenteau conducted the on-site inspection of the CCR Landfill. During the inspection the following activities were performed.

- ▲ Available information regarding status and condition of the CCR unit, including, but not limited to, files available in the operating record were reviewed. Past inspection reports were reviewed on site. There has been no new construction since the 2017 Inspection.
- ▲ The documentation reviewed covered the following topics
  - CCR unit design and construction information required by § 257.73(c)(1);
  - Previous periodic structural stability assessments required under § 257.73(d); It should be noted that §257.74 does not apply as the site is not new, nor is it a lateral expansion of an existing impoundment/landfill, therefore this is not addressed.
  - The results of inspections by a qualified person (contained below);
  - Results of previous annual inspections);

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



- ▲ A visual inspection of the CCR units to identify signs of distress or malfunction of the CCR unit and appurtenant structures; and

There were no observed signs of distress or malfunction on the CCR Landfill and their corresponding appurtenant structures.

Photos were taken during the inspection. Figure 2 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;*

There were no apparent changes from the geometry of the impoundment when compared to the permit drawings or the past construction documentation reports. Also, the recent aerial survey done in November, 2017 shows that the topography of the embankments has stayed straight and true. This is shown on Figure 3.

- (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 44,000 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;

- (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 will comply 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 2017 inspection report were implemented and incorporated into this 2018 inspection report.

The soils used for embankment construction have been placed as engineered fill and the cells are lined with a geomembrane ensuring that there is no leachate seeping through the

**Geoff Strack**  
SKB Environmental, Cloquet Landfill Inc.,  
f/n/a Shamrock Landfill, Inc.  
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embankment from the waste material. The landfill embankment crests are wide in width, have slopes no steeper than 2H:1V, and are relatively short in height, ranging from zero to approximately 15 feet in height. The slopes appear to be vegetated and the site is well run and maintained.

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.

## Attachment 1

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Photos

**Waste Connections**  
**Cloquet Landfill Inc., f/n/a Shamrock Landfill, Inc.**  
**2018 Site Inspection Report Photo List**

Photo Location	Photo #	Phase	Side of Cell	Slope	View Orientation
1	1	1/2	Active Disposal Area		East
2	2	3/4	Active Disposal Area		Southwest
3	3	1/2	North	Exterior	East
3	4	1/2	North	Exterior	West
4	5	1	East	Exterior	South
5	6	1	East	Exterior	North
5	7	1	East	Exterior	North
6	8	4	East	Waste Face	Southwest
6	9	4	East	Exterior	South
7	10	4	East	Exterior	North
7	11	3/4	South	Exterior	West
7	12	3/4	South	Waste Face	West
8	13	2/3	West	Waste Face	North
8	14	2/3	West	Road/Toe LF Slope	North
8	15	2/3	West	Exterior	North
8	16	4	South	Waste Face	E
8	17	4	South	Exterior	E
8	18	4	South	Toe LF Berm	E
9	19	2	West	Waste Face	North
9	20	2	West	Road/Toe LF Slope	Nor
9	21	2	West	Exterior	North
9	22	3	West	Exterior	South
9	23	3	West	Road/Toe LF Slope	South
9	24	3	West	Waste Face	South
10	25	2	West	Waste Face	South
10	26	2	West	Road/Toe LF Slope	South
10	27	2	West	Exterior	South
10	28	2	North	Exterior	East
10	29	2	North	Road/Toe LF Slope	East
10	30	2	North	Waste Face	East



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**2018 Dike Integrity Inspection  
Report Photos  
Cloquet Landfill Inc., f/n/a  
Shamrock Landfill, Inc.**

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**Photo 1 - Phase 1 and 2 Upper Active Area**



**Photo 2 - Phase 3 and 4 Lower Active Area**





**Photo 3 - Phase 1 and 2 North Slope**



**Photo 4 - Phase 1 and 2 North Slope**



**Photo 5 - Phase 1 East Slope**



**Photo 6 - Phase 1 East Waste Slope**



**Photo 7 - Phase 1 East Waste Slope**



**Photo 8 - Phase 4 Active Area**



**Photo 9 - Phase 4 East Exterior Slope**



**Photo 10 - Phase 4 East Working Face**



**Photo 11 - Phase 3/4 South Exterior Slope**



**Photo 12 - Phase 3/4 South Working Face**



**Photo 13 - Phase 2/3 West Waste Slope**



**Photo 14 - Phase 2/3 Road/Toe Waste Slope**



**Photo 15 - Phase 2/3 Exterior Slope**



**Photo 16 - Phase 4 South Waste Face**



**Photo 17 - Phase 4 South Toe/Waste Slope**



**Photo 18 - Phase 4 South Exterior Slope**





**Photo 19 - Phase 2 West Waste Face**



**Photo 20 - Phase 2 West Road/Toe Waste Slope**



**Photo 21 - Phase 2 Exterior Slope**



**Photo 22 - Phase 3 Exterior Slope**



**Photo 23 - Phase 3 Road/Toe Waste Slope**



**Photo 24 - Phase 3 Waste Slope**



**Photo 25 - Phase 2 Waste Slope**



**Photo 26 - Phase 2 Road/Toe/Waste Slope**



**Photo 27 - Phase 2 Exterior**



**Photo 28 - Phase 2 Exterior Slope**

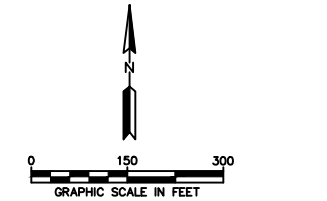
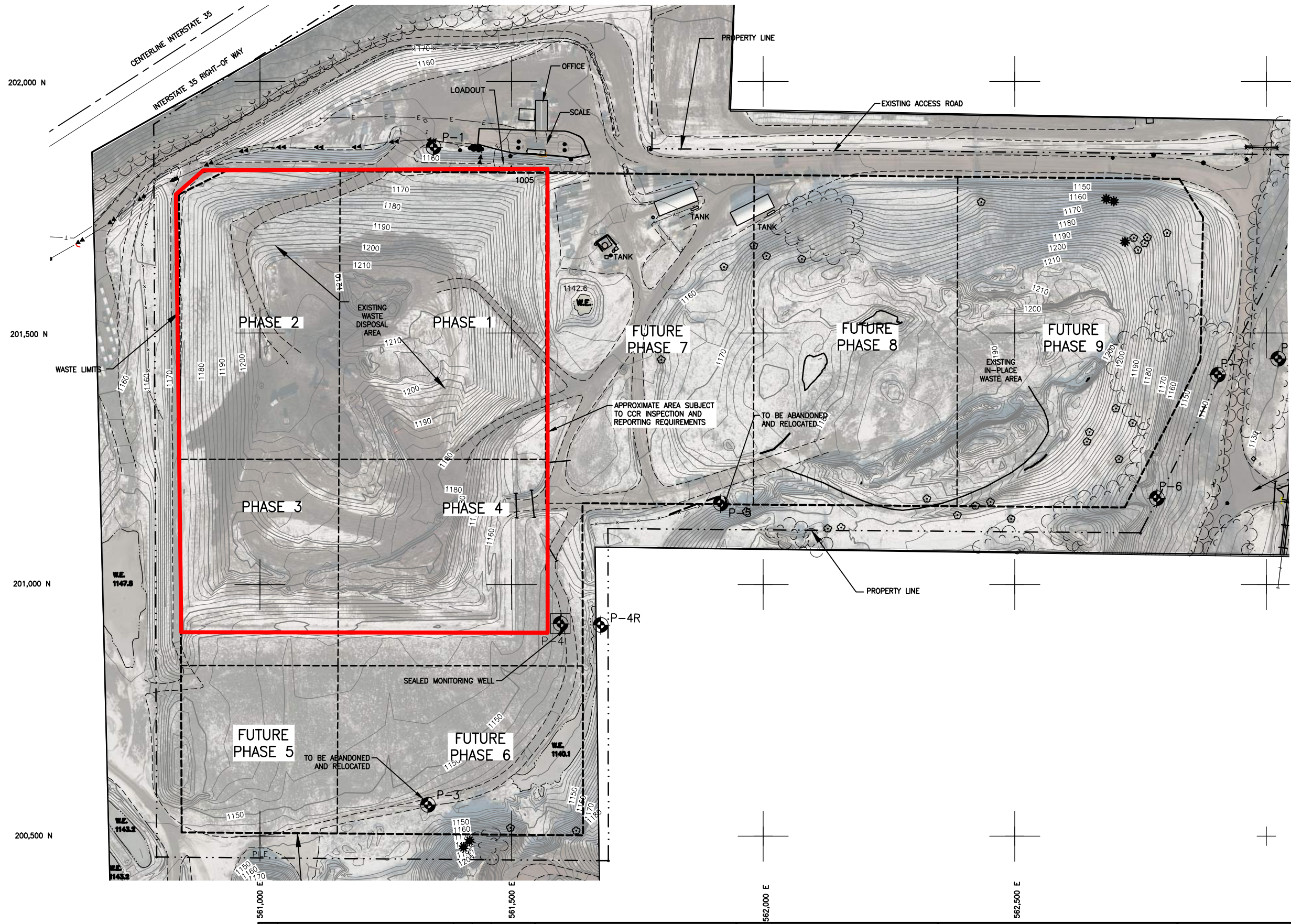


**Photo 29 - Phase 2 Road/Toe/Waste Slope**



**Photo 30 - Phase 2 Waste Slope**





**LEGEND**

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

- NOTES:**
- COORDINATES ARE BASED ON CARLTON COUNTY COORDINATE SYSTEM.
  - BASE MAPPING HAS BEEN UPDATED BY AERIAL SURVEY PROVIDED BY CONTINENTAL MAPPING COMPLETED ON NOVEMBER 7, 2017

0	ISSUED FOR FINAL	JVB	DMP	12/29/17	
REV	REVISION DESCRIPTION	DWN	APP	REV DATE	

SEAL

SUB CONSULTANT

PRIME CONSULTANT

**WENCK ASSOCIATES**

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1800 PIONEER CREEK CENTER P 763-479-4294  
 MAPLE PLAIN, MINNESOTA F 763-479-4242

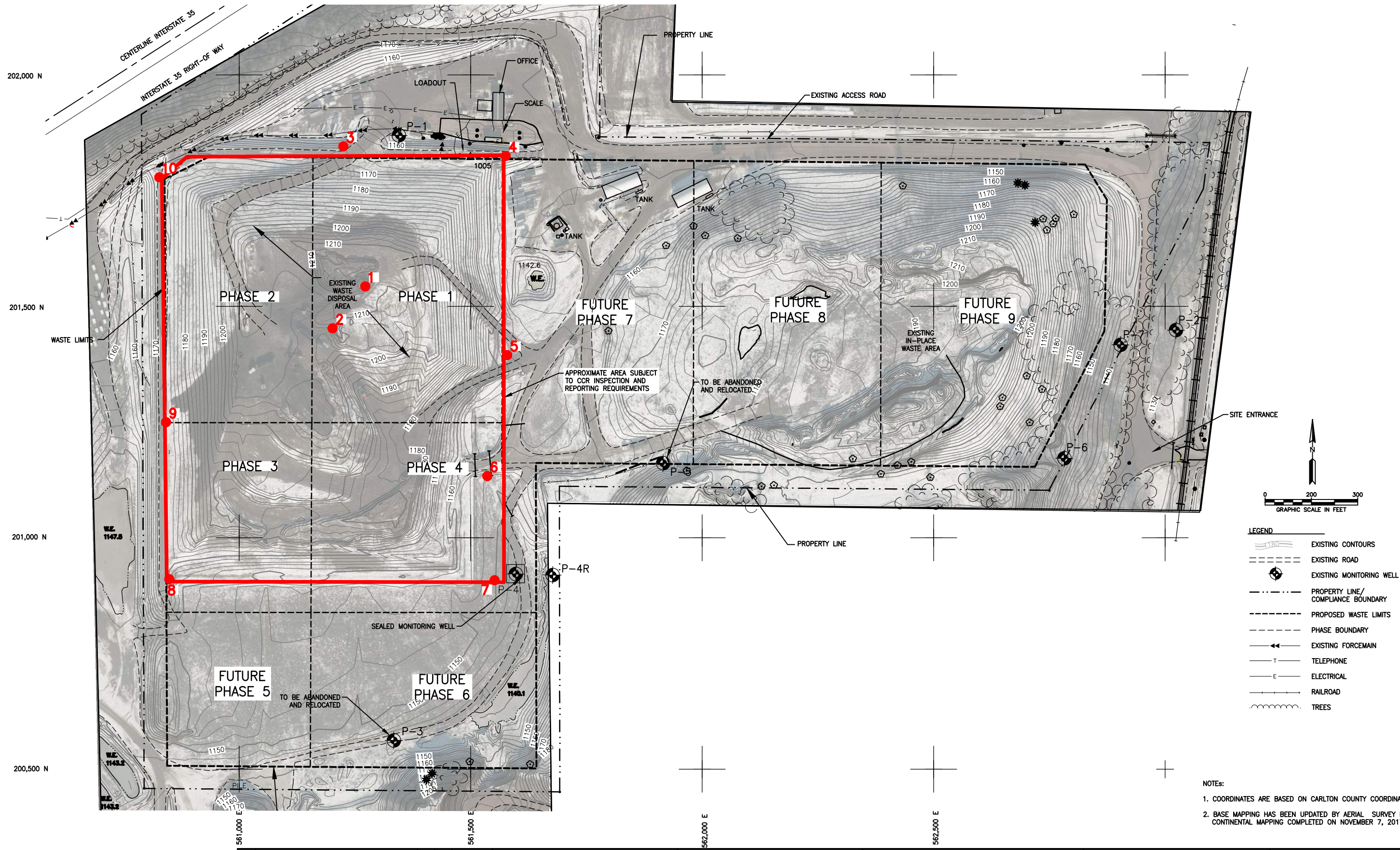
PROJECT TITLE  
**JAN. 2018 INSPECTION REPORT**

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

CLOQUET, MINNESOTA

SHEET TITLE <b>SITE MAP</b>			
DWN BY JVB	CHK'D SH	APP'D TJS	DWG DATE DEC. 2017
PROJECT NO. 3053-0098	SHEET NO. FIGURE 1	SCALE AS NOTED	REV NO. 0





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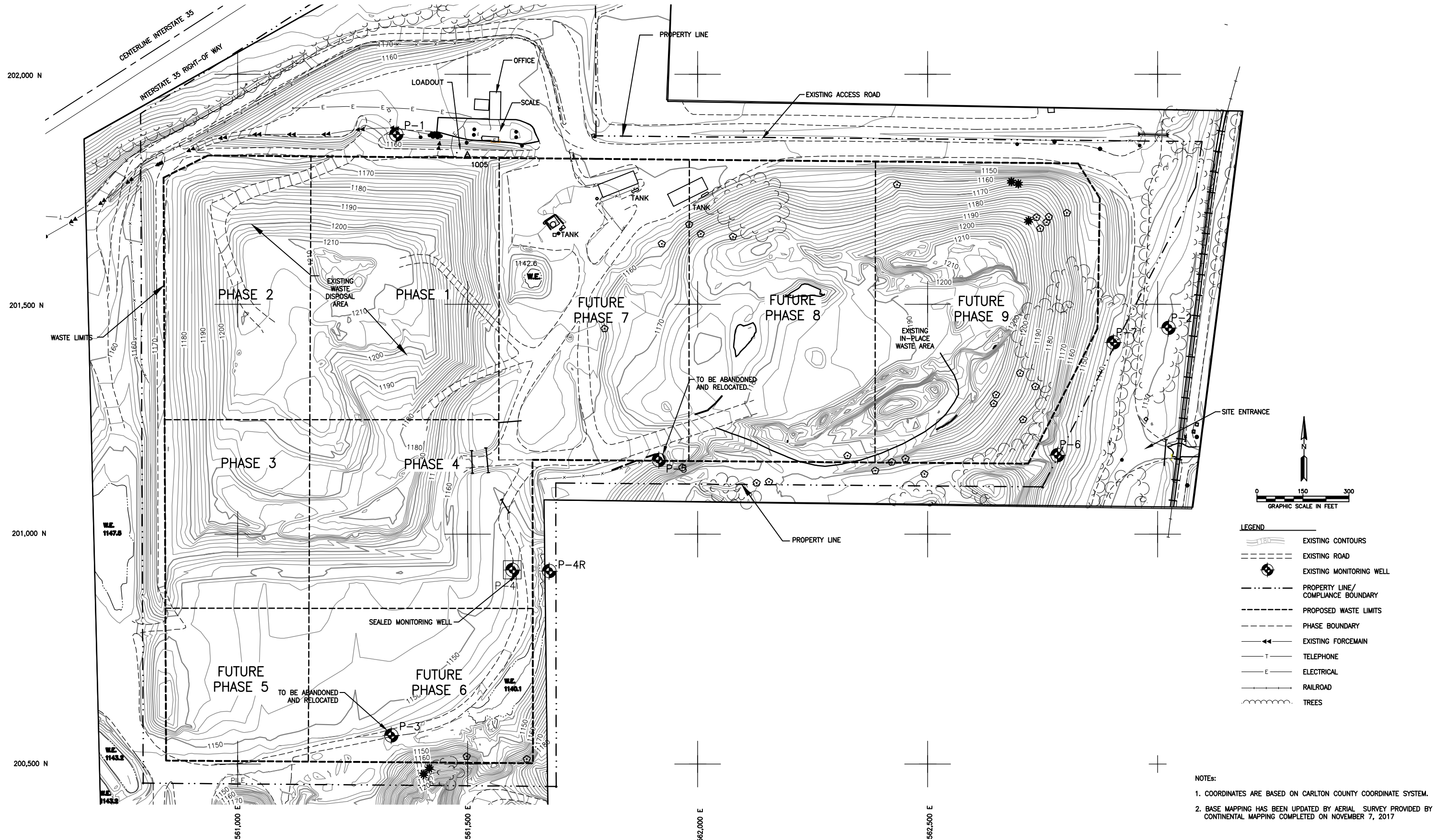
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CLOQUET, MINNESOTA

SHEET TITLE <b>PHOTO LOCATIONS</b>			
DWN BY JVB	CHK'D SH	APP'D TJS	DWG DATE DEC. 2017
PROJECT NO. 3053-0098	SHEET NO. FIGURE 2	SCALE AS NOTED	REV NO. 0



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CLOQUET, MINNESOTA

SHEET TITLE <b>NOVEMBER 2017 TOPOGRAPHY</b>			
DWN BY JVB	CHK'D SH	APP'D TJS	DWG DATE DEC. 2017
PROJECT NO. 3053-0098	SHEET NO. FIGURE 3	SCALE AS NOTED	REV NO. 0