

***Bridgeton Landfill* LLC**

October 27, 2017

Mr. Chris Nagel
Director, Solid Waste Management Program
Missouri Department of Natural Resources
1738 East Elm Street
Jefferson City, MO 65102

Dear Mr. Nagel:

Please find enclosed the Slope Stability Assessment summarizing the slope stability analysis for third quarter 2017, conducted pursuant to Paragraph 10 of the Second Amendment of the First Agreed Order.

Best regards,

A handwritten signature in blue ink that reads "Erin Fanning". The signature is written in a cursive style with a large, looping "E" and "F".

Erin Fanning
Division Manager
Bridgeton Landfill, LLC

October 11, 2017

Ms. Erin Fanning
Environmental Manager
Bridgeton Landfill, LLC.
13570 Saint Charles Rock Road
Bridgeton, MO 63044

RE: Bridgeton Stability
3rd Quarter 2017 Inspection

Dear Erin,

On September 21, 2017, I performed an inspection of the Bridgeton Landfill for the purpose of identifying any visual evidence of instability or incipient failure. The inspection included the north and south quarry fill areas. This inspection was for the 3rd quarter of 2017. The previous inspection was performed on 5/16/2017.

The observation of the slopes for both the north and south quarry areas was performed to look for telltale signs of movements related to instability, including areas of suspension of the membrane on the upslope areas that would result if scarping, not visible due to the temporary membrane cap, existed.

The inspection revealed the presence of surficial slumps in the south east edge of the landfill, between the perimeter ditch and perimeter liquid collection trench installed at the time of capping. These slumps were observed during the previous 10 inspections. The slump shapes indicate that they have not progressed uphill into the general slope but have softened about the edges. The softening of the edges of the shapes has resulted in the migration of some material to the toe of slope below the shape. No indications of instability were noted uphill of this location. The slump shapes continue to suggest they are the result of daylighting of seepage under the cap membrane and subsequent erosion/or slippage of the surficial soils downslope being transported and deposited at the perimeter under cap swale below. These localized slumps had not changed significantly in appearance since the last inspection. Given that these slump shapes have not progressed up slope it is not necessary to repair them at this time.

Since the inspections were begun in 2013, the sloping portions of the landfill are noticeably flatter and therefore, less prone to instability. As mentioned in the past few inspection reports, there are very few areas within the heat affected portions of the south quarry that have slopes exceeding 20 to 25%. This general reduction in vertical relief has essentially eliminated any potential for instability of any consequence in the south quarry. Fill materials continue to be placed in the locally depressed areas to allow for drainage of stormwater in the south quarry.

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The north quarry cap construction has been completed since the second quarter inspection. No signs of instability were observed in the north quarry.

In addition, a review of the monthly settlement at grid points for the past quarter was performed. I did not see any indication of instability in the data. It should be noted that extensive settlement of the south quarry has occurred during this time without any instability of consequence. As mentioned in previous reports, this demonstrates the lack of coupling of instability and settlement at this site.

This is the twentieth review I have performed of this type at the Bridgeton since the fall of 2012. To date, no signs of impending instability of any consequence has been identified or occurred.

I hope this information is helpful to you. Please call if there are any questions.

Sincerely,

A handwritten signature in blue ink that reads "Peter J. Carey". The signature is written in a cursive style with a large initial "P" and a long, sweeping underline.

Peter J. Carey, PE
President