

October 29, 2019

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

RE: Bridgeton Slip Failure and Separation Assessment
3rd Quarter 2019 Inspection

Dear Erin,

On September 30, 2019, 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 2019. The previous inspection was performed on June 18, 2019.

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. In addition, areas that showed indicated localized differential settlement were walked over to determine if any open tension cracking, an indication of separation, was present. The observations were made while walking along the areas within the landfill boundaries.

The inspection did not identify any previously unobserved (and reported) movements or signs of movement within the North or South Quarry that could be potential signs of instability. The landfill surface in the South Quarry shows signs of continued settlement with minor areas of tension in the membrane along the eastern side approximately above the underlying Quarry wall related to differential settlement in the area.

Since the quarterly inspections were begun in 2013, the sloping portions of the landfill are noticeably flatter and therefore, less prone to instability. At this time, there are very few areas within the heat-affected portions of the South Quarry that have slopes exceeding 20%. The general reduction in vertical relief has essentially eliminated any potential for instability of any consequence in the South Quarry. The only slopes that are close to the original ground surface slopes in the South Quarry are those south of the neck area. These areas were examined for any signs of movement and none was observed.

Fill materials continue to be placed in the locally depressed areas to allow for drainage of stormwater in the South Quarry. The areas east of the main fills in South Quarry exhibit signs

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of differential settlement along the vertical projection of the Quarry wall. No open tension cracking was indicated in area of the differential settlement when pressing the membrane down to contact the underlying ground surface in this area. No increase of tension in the membrane was present along the east side of the fill zone than observed during the previous inspection in June 2019. Fill material placement was ongoing in the low areas to the inside the quarry wall limits along the south portion of the South Quarry.

Since the June inspection, earthen fill had been placed along west side of the south quarry south of the neck area. No signs of instability or separation were observed in the areas adjacent to the fills.

The North Quarry cap construction was completed in the 2nd quarter of 2017. No signs of instability or settlement patterns that would indicate separation were observed in the North Quarry during the site inspection. The quarterly survey data from 3rd quarter for the north quarry was performed on 10-18-19 and shows no signs of settlement patterns indicative of instability of any kind.

In addition, a review of the monthly settlement at grid points in the South Quarry for the past quarter. I did not see any indication of instability in the data. No indication of instability was observed in the South Quarry based on settlement patterns. As mentioned in previous reports, the Bridgeton site has not exhibited a coupling of instability and settlement.

This is the twenty-eighth 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,



Peter J. Carey, PE
President