



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

July 10, 2019

REPLY TO THE ATTENTION OF:  
SR-6J

Mr. Eric Ealy  
Environmental Analyst  
Xcel Energy  
414 Nicollet Mall, 2nd Floor  
Minneapolis, Minnesota 55401

RE: EPA approval of Final Design for Kreher Park Capping and Restoration  
Ashland/NSP Lakefront Superfund Site

Dear Mr. Ealy:

The United States Environmental Protection Agency (EPA), in consultation with the Wisconsin Department of Natural Resources (WDNR), has reviewed the responses to the Agencies comments regarding the Pre-final Design for Kreher Park Capping and Restoration (KPPD) sent by Braun Intertec Corporation (BIC), on June 17, 2019, on behalf of Northern States Power Company (NSPW). A majority of the comments were adequately addressed; therefore, EPA grants approval of the Final Design for KPPD. However, the Agencies have additional language that needs to be added in the text (see below).

**Pre-final Design:**

No exceptions noted.

**Erosion Control and Storm Water Management Plan:**

Comment 7: Add the response to the comment at an appropriate location in the text of the plan.

Comment 8: Revise Appendix I to include the modified seed mix.

**Field Sampling Plan:**

Comment 1: Add the response to the comment at an appropriate location in the text of the plan.

**Construction Quality Assurance Plan:**

No exceptions noted.

### **Technical Specifications:**

Comment 18: Add the response to the text in the specifications.

Comment 23: I didn't see the Note on the Storm Manhole Detail referenced in the response.

### **Appendix A-Storm Water Calculations:**

1. Acknowledged
  - a. Note: We need to keep in mind the entire site is technically impervious because it now has a clay cap, albeit allowing a certain percentage of infiltration prior to runoff. The stormwater modeling takes this in to account using SCS numbers derived by HELP analysis that shows anywhere from 20% to 40% of precipitation will exit the site by runoff.
2.
  - a. The term is referring to stormwater conveyances that have inflow greater than their discharge or outflow resulting in storage. Confirm the available storage associated with each device planned does not result in any overtopping or flooding for the 100-year storm event in addition to the statement about the design intent. Provide narrative or analysis describing this.
  - b. Confirm the existing ditch and riprap to be designed will be designed to accommodate the 100-year storm flows. Provide analysis or substantiation of claim.
  - c. Engineer's note acknowledged.

### **Appendix F-Geotechnical Report:**

1. Note: We need to pay attention to this response as it relates to future development and settlement values reported.
2. Acknowledged
3. Acknowledged
4. The source material is acknowledged however it is important to document how parameters were derived for the consideration of future users and evaluation of long-term performance. For instance, if the effective friction angle of new fill is lower than 29 degrees, the FS of 1.7 for section A-A' may no longer be adequate. Please provide source or derivation of strength parameters.
5. Acknowledged
6. Taking the 8' fill as an example, 1.29 (reported as 1.28) of the total 5.62 inches occurs in the existing granular fill whereas 3.93 inches will occur in the fill-wood/debris. Are both of these layers considered granular in terms of time rate of settlement? It appears the e-log-p method of analysis was used for both layers which is described in C.8 as being for cohesive soils.
7. Acknowledged
8. This response may answer the question posed in 6 above. Confirm the e log p curve method of analysis was used. If so, how was the quick settlement justified? The layer

appears to be a mixture of silts, clays, debris, and sand with layers described as silts and clays resulting in lower permeability values and longer settlement/consolidation durations. Suggest providing settlement plates in thick fill placement areas to demonstrate % settlement to future development.

9. Acknowledged.
10. Acknowledged.
11. Acknowledged.
12. Acknowledged.
13. Acknowledged, one inch of rutting or results of DCP testing. While DCP testing isn't discussed in specifics related to real readings, it's assumed that conventional relationships to bearing capacity and density will be used if the device is employed.
14. Acknowledged.
15. Acknowledged.
16. Acknowledged.
17. The NAVFAC frost penetration is based on extreme weather prediction and ideal soil conditions. This is an engineered cap with assumed differential thermal conductivity values, and presumably a lower frost penetration than reported. If not, the frost will penetrate through the drainage, clay, and geosynthetic layers. How has this frost penetration and effects on soil-geosynthetic interaction and freezing of water in the drainage layer been accounted for in the design?
18. Acknowledged.
19. Analysis A-A' appears to be the most critical. The search range appears to be constrained presumably to prevent returning very shallow failures that are not likely due to a pure effective stress condition not likely to develop. Please confirm. Also, please confirm that veneer stability analysis returns acceptable factors of safety.
20. Acknowledged.
21. If the first two equations on page 62 of the PDF are used, the log term will be reduced as the effective pressure increases. This intuitively makes sense since the driver of settlement (increase in overburden pressure) has less impact on deeper layers. This doesn't hold true for the third equation for over-consolidated soils with a combined effective vertical pressure plus overburden increase greater than the pre-consolidation pressure. Since this is not the case according to the graph on the same page and previous responses, why is the settlement increasing in subsequent layers of increasing effective stress, but equivalent parameters?
22. Acknowledged. Note the 20' buffer they are recommending around the slurry wall.

**Drawings:**

No exceptions noted.

**QAPP:**

Comment 2: I did not see the revised footnote.

**Additional Comments:**

Comment A: Provide an Anchor Trench detail on the appropriate drawing for the south anchor trench. Drew has provided sketches of these two details.

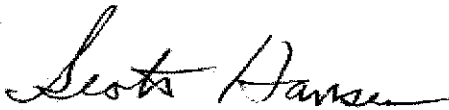
Comment B: Geotechnical Evaluation Report—Section D.2.a.—1; Add the definition of deflection/pumping as 1 inch. This is the definition that is currently being used.

Comment C: On Drawing C1-3 add the Final Grade to the Bubble Notes that refer to the Soil-Bentonite Slurry Wall.

Comment D: Add a note at an appropriate location in the Field Sampling Plan that states, "The On-Site Agency Representative will be provided 30-minute notification prior to any on-site testing. On-site testing will not proceed until the On-Site Agency Representative is present". Of course the notification and presence requirement can be adaptively managed on a case by case basis as agreed upon by the On-site Agency Representative and Braun's On-site Representative(s).

Please add the additional language and submit the final design to the Agencies. If you have any questions or would like to discuss things further, please contact me at 312-886-1999.

Sincerely,



Scott K. Hansen  
Remedial Project Manager

cc: John Sager, WDNR  
Adam Brown, Weston Solutions  
Michael Beck, Braun  
Jim Burton, Weston Solutions