Run-on and Run-off Control System Plan
Unit 3 Landfill
Sherburne County Generating Plant

Revision No: 2
Revised: July 7, 2023

Introduction

This plan presents the run-on and run-off control system plan for the Unit 3 Landfill (U3LF) at the Sherburne County Generating Plant (Sherco) in Becker, Minnesota. The initial run-on and run-off control system plan was certified on October 17, 2016 and revised on October 17, 2021. This plan has been revised to include the construction of the Cell 4 lateral expansion of the landfill, which qualifies as a "new coal combustion residual (CCR) landfill" according to 40 CFR Section §257.53, since it is a lateral expansion of an existing CCR landfill. This document addresses the requirements of 40 CFR §257.81.

According to the National Oceanic and Atmospheric Administration, a 25-year, 24-hour storm event yields 5.08 inches of rainfall for the geographic location of Sherco.

§257.81(a)(1) Run-On Control System

The landfill is constructed with perimeter berms along the waste boundary of the landfill. Final cover berms separate closed portions of the landfill from the active disposal area. The surrounding topography is flat and sandy. Closed portions of the landfill utilize stormwater diversion berms, downslope structures, and downslope pipes to capture stormwater and convey it off the final cover to stormwater basins located beyond the waste boundary. The height of the perimeter berms, final cover, and grade of the surrounding area prevents flow onto the active portion of the unit during the peak discharge from a 24-hour, 25-year storm event.

§257.81(a)(2) Run-off Control System

The active portion of the landfill is approximately 36.8 acres. All run-off and direct rainfall from the active portion of the landfill is contained within the active area.

A 25-year, 24-hour storm event of 5.08 inches would result in 15.6 acre-feet of water over the footprint of the open landfill area as detailed in the calculation below:

(5.08 inches)/(12 inches per foot)*(36.8 acres) = 15.6 acre-feet.

As of the most recent landfill topographic surveys (October 28, 2022), there is 110.6 acre-feet of run-off storage volume within the active portion of the landfill. Details of the Run-on and Run-off control system can be found on the attached figure.

§257.81(c)(2) Amendment of Run-off and Run-off Control Plan

If any event or change substantially affects the plan, a modified Run-on Run-off Control Plan will be prepared and included in the facility's operating record and posted to the CCR website.

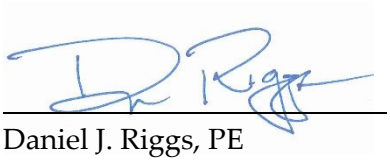
§257.81(c)(4) Frequency for Revising the Plan

At a minimum, the Run-on Run-off Control Plan will be reviewed and updated every five years following this revised plan.

§257.81(c)(5) Certification

I hereby certify under penalty of law that this report was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.



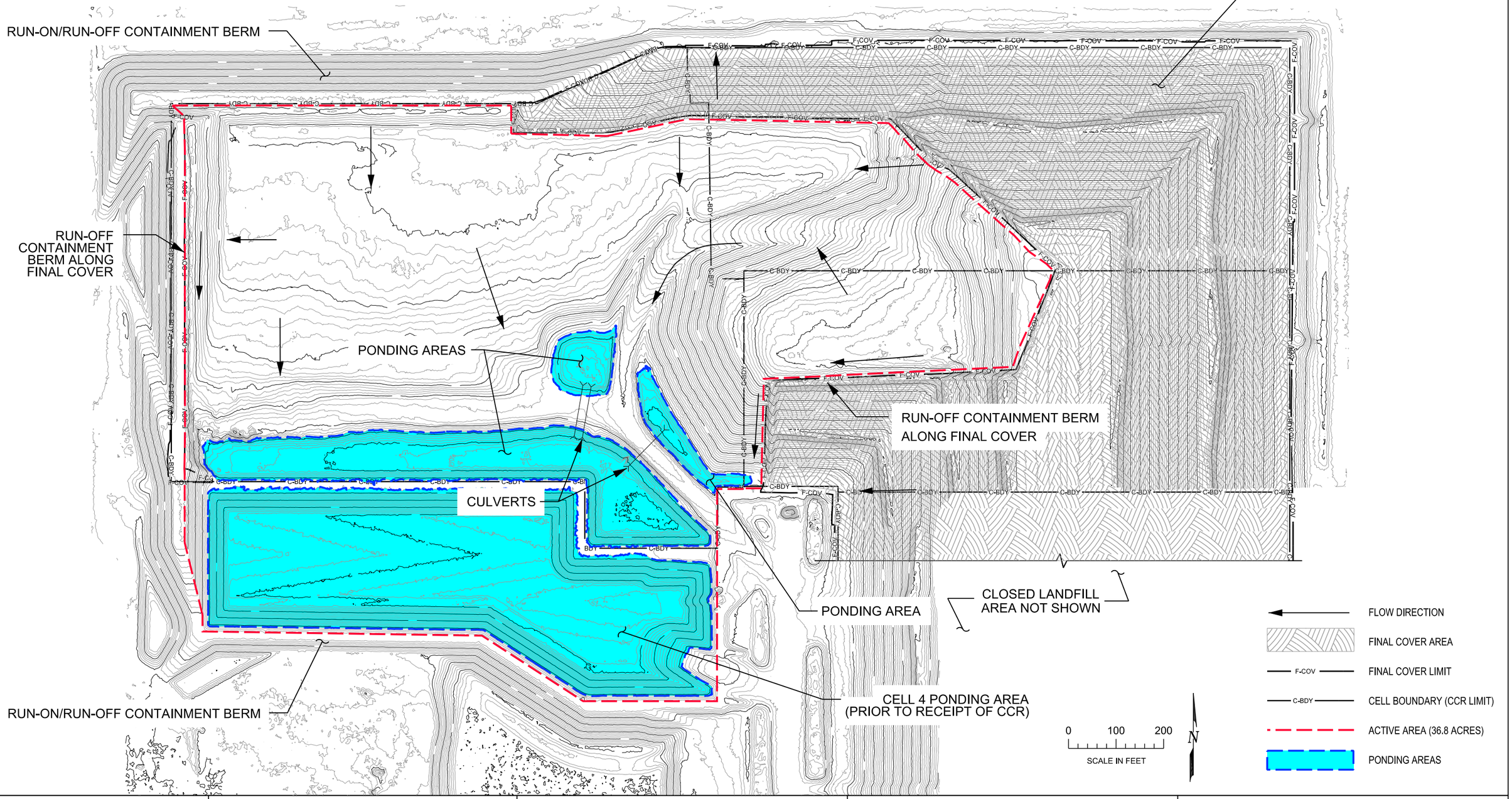
July 7, 2023
Daniel J. Riggs, PE Date
License No. 49559

References

National Oceanic and Atmospheric Administration, Atlas 14, Volume 8, Version 2, "Point Precipitation Frequency Estimates", Becker, Minnesota.

Carlson McCain, Inc. (October 2016). "Initial Run-on and Run-off Control System Plan, Unit 3 Landfill, Sherburne County Generating Plant", CCR Compliance Document, Plymouth, Minnesota.

Carlson McCain, Inc. (October 2021). "Run-on and Run-off Control System Plan, Revision 1, Unit 3 Landfill, Sherburne County Generating Plant", CCR Compliance Document, Plymouth, Minnesota.



CARLSON McCAIN

Notes:

REFLECT CONDITIONS
AS OF OCTOBER 28, 2022

XCEL ENERGY
13999 Industrial Blvd.
Becker, MN 55308

UNIT 3 LANDFILL

FIGURE 1
RUN-ON AND RUN-OFF CONTROL PLAN