

# **CCR Landfills – Part 2: Using a Graphical Interpretation with Model Simulations to Predict Groundwater Elevations During and After CCR Landfill Construction**

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## **ABSTRACT**

State solid waste regulations require the post-settlement bottom elevation of the base liner system of a CCR landfill to be a minimum of 4 feet above the long-term seasonal high (LTSH) groundwater table prior to operation. During landfill sump construction, standing water was observed outside of and within the sump footprint. Because the landfill base liner had been placed, direct groundwater measurements were not feasible by installing piezometers within the sump. Using groundwater elevation data from piezometers outside of the landfill, historical measurements within the landfill near the sump, data from surveys and photogrammetry, and previous groundwater flow model simulations, a correlation was established to determine the groundwater elevation in real time at the sump as well as predict attainment and maintenance of the required separation between the liner and the LTSH groundwater elevation. This presentation will provide a brief description of the landfill design, the need for achieving adequate liner/groundwater separation, site limitations for direct measurements, and the innovative approach taken to evaluate and predict future groundwater elevations and obtain agency approval to continue with landfill construction using limited data and a previously developed model. The presentation will be supported with visual and graphical representations demonstrating predictions and observations.

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