



BIVENS CCR LANDFILL CLOSURE

Project Scope Highlights

- Compliance grading of the subgrade to the design specification
- Installation of HDPE surface drainage structure
- Installation of 64 acres of geosynthetic clay liner
- Installation of 64 acres of 40 mil HDPE flexible membrane liner
- Installation of 64 acres of geo composite drainage membrane
- Load, haul and placement of 30" of soil cover for liner system
- Placement of 6" of vegetative cover
- Installed 1,000 linear feet of grouted, rip-rap lined storm water collection ditch
- Hydro-seed the 64 acre landfill area and all areas disturbed by construction activities

Project Overview

The Bivens Landfill was constructed to serve the needs of a large scale CCR basin excavation that occurred over a 5 year time period. The pond excavation exceeded 5M tons of CCR material, requiring multiple phases of landfill construction and closure. As a result of the plant decreasing production and the impending plant closure, the closure process was initiated prior to the last cell reaching final grade. A final closure design was initiated with consultation from engineering firms, Tennessee Department of Environment and Conservation, and utility representatives.

Project Challenges and Solutions

Several items were encountered throughout the life cycle of this project and created the following challenges and solutions:

- During the closure process, leachate storage became increasingly challenging due to a shrinking footprint. Trans Ash utilized tankers and trucking crews to haul leachate water back to the utility facility for treatment and settling. This ensured that there was no unpermitted discharge at the landfill.
- Limited access for construction equipment coupled with ground pressure restrictions on the liner system made placement of soil cover challenging. A series of "fingers" and roads were constructed to efficiently haul material to the final cover area. Trans Ash utilized low pressure placement equipment to ensure the liner system was not damaged and in compliance with the specifications.
- Trans Ash has extensive experience in landfill construction. This experience along with the capabilities of our in-house engineering department allowed us to address various challenges until a final solution was implemented.

- CCR regulations changed and became more stringent after a CCR spill in the state. Trans Ash was able to work through these challenges to obtain an expansion and closure permit that provided the customer with the storage they needed.

“Trans Ash developed Bivens as an alternative to onsite storage for our byproducts. They were able to permit multiple phases through a changing landscape of regulations providing a constant solution for our CCR storage needs.”



Final CCR Placement



Liner Installation and Cover Soil



Cover Soil Excavation



Geosynthetic Liner System Install



Liner Installation



Cover Soil Placement



Final Grade