

THE GRASS IS GREENER IN GHANA

Decommissioning & Reengineering Kpone Landfill

For over a decade, the Kpone Landfill located in the Greater Accra Region of Ghana has been a significant concern for the government, businesses and residents surrounding it. Today, the 38-acre landfill is in the process of receiving a complete makeover, turning what was once an eyesore into a place of beauty and enjoyment for years to come.

As an experienced geosynthetics installer, Hallaton Environmental Linings was selected to help train the Ghana-based crew on the proper installation of ClosureTurf, a landfill capping system manufactured by Watershed Geo. Hallaton President Todd Harman recently returned from his second trip to Ghana since the project began in August 2020, expressing excitement in seeing the progress made since his last trip and the thrill of witnessing the first panels of ClosureTurf being placed on the landfill by the crew Hallaton helped train over the last year.

Hallaton has appreciated working with such terrific companies and great people on this project. It's been a tremendous honor to share our industry knowledge with others while helping protect the environment on a more global scale.





HISTORY

Commissioned in 2013, Kpone Landfill was planned as a 2-phase development project with 13 cells and an operational life of 8-10 years. With an inadequate number of alternative waste disposal sites, Kpone served as the primary site for the Greater Accra Metropolitan Area and quickly began to receive more than twice its anticipated refuse.

The stench in the air and the leachate leaking into the ground and water supply were of grave concern. Businesses complained that the odor and flies were causing them to lose money. The waste haulers with their tricycle caravans expressed great difficulty getting their loads to the top of the trash mounds. The residents simply wanted it gone.

After only four years in operation with four overcrowded cells, a devastating fire quickly sealed Kpones's fate.



Kpone was receiving 1000 tons of trash vs. the 500 tons that was estimated

DECOMMISSIONING & REENGINEERING KPONE

After the 2019 fire, the Ministry of Sanitation and Water Resources was sent by the Ghanaian government to hear from the community and assess the situation.

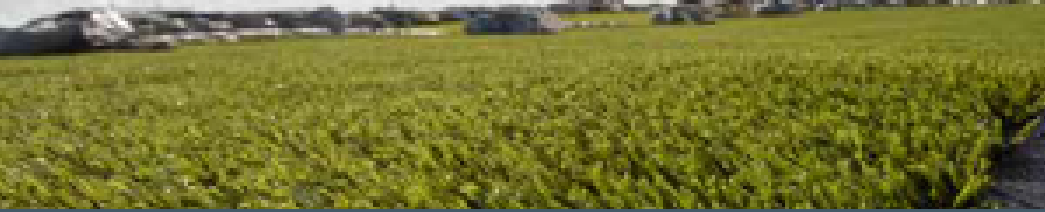


Based on their findings, it was quickly recommended that Kpone Landfill be closed and Zoomlion Ghana Limited was contracted to decommission and re-engineer the site for future recreational use. In 2020, both local and foreign partners were selected to assist with the massive reconstruction project.



PROJECT SCOPE

- Reshape and cover waste
- Install gas management system
- Create anti-erosion and stormwater diversion
- Install leachate collection and treatment system
- Build landfill roads and ramps
- Install geosynthetics and capping system (ClosureTurf)
- Install lighting for better visibility
- Create landscaping for future recreational use



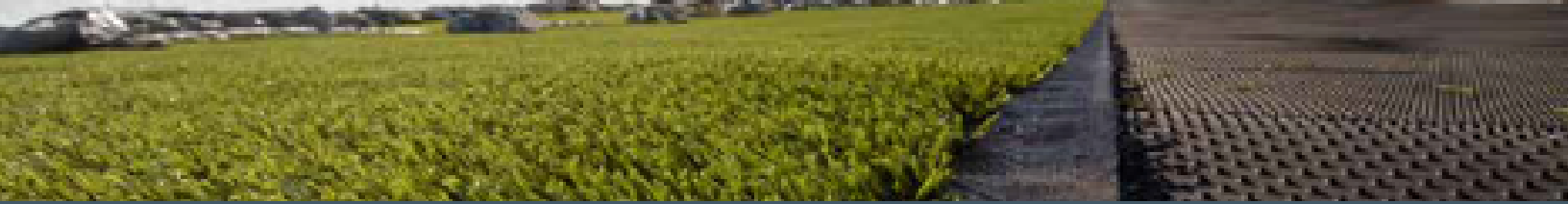
PROJECT TEAM VISITS SITE

Zoomlion Ghana Limited, acting as the primary general contractor, assembled a team of consultants, engineers, manufacturers and installers as partners for the project. A working site visit took place in August of 2020. After assessing the current situation and the work to be done, the project quickly moved into the encapsulation phase.



Watershed Geo's ClosureTurf system was the material chosen to cap the Kpone Landfill, providing both a safe and effective closure system and a lush, green foundation suitable for the recreational facility they plan to build on top of the closed landfill.





HALLATON TRAINS GHANA LINER CREW

Hallaton's job was to train the Landfill Technologies Ghana crew on the mechanics of installing landfill closure systems, specifically ClosureTurf

In February of 2021, Hallaton hosted a series of Zoom calls introducing the various equipment, tools and material used to install geosynthetic closure systems on a landfill. With PowerPoint presentations, video and live feeds with hand-on demonstration, Hallaton trained the Ghana-based crew to wedge successfully, extrude properly and install geocomposite, geomembrane and ClosureTurf.

The cheers seen and heard as the Landfill Technologies team in Ghana successfully wedged their first seam over video conferencing with Hallaton anxiously watching from the U.S. was priceless. Over the next several weeks, the Ghanaian team practiced their newly learned skills while assisting with the necessary prep work to get things ready for the installation to come.



In April of 2021, Hallaton sent seasoned supervisor, Russell Sanborn, to Ghana to continue on-site training with the local installation crew. While they waited for the earthwork to be complete, the crew worked alongside Russell installing a leachate lagoon and stormwater pond, further honing their new liner installation skills.





CLOSURE TURF INSTALLATION UNDERWAY

After several months of careful reengineering and preparation, the final capping stage of the project began in October 2021. Under the watchful eye of project partners, Ghanaian government officials and news media, the first panels of ClosureTurf were deployed and secured into place.

The Kpone Landfill Closure Project has been an exciting and rewarding year-and-a-half of collaborative engineering, careful planning, site preparation, training and installation. The closure project is on target to complete this year with future plans to build a state-of-the-art center for recreation and tourism on top of the decommissioned landfill.

