

THE SERVICES OFFERED INCLUDE

Problem Analysis

This includes collection & comparison of data of the waste to be contained, visit to the proposed landfill site to understand the execution difficulties.

Solution Recommendation

We provide the best site specific solution including the product specification, preliminary design suggestions & cost estimates.

Design Service

This consist of providing the detailed design & drawing of the proposed lining system, leachate collection system, layout for laying of liner panels to ensure minimum wastages & full proof leakage system at site.

Installation of Liners

This includes the laying of geosynthetic lining material as per the detailed design & drawing, anchoring of the liners, seaming of the liners using advanced stitching, welding equipments etc.

Onsite Quality Assurance

All the necessary onsite tests like seam peel strength, leak detection of the joints & seams, etc., are carried out with one of the most advanced testing equipments.

For more information on Secured Landfill & other Geosynthetics application visit our site,
www.garwareropes.com



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Landfill Engineering System



Czar Content 25658632



Garware-Wall Ropes Ltd.
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Cyan Magenta Yellow Black



Secure Landfills are considered to be the best available technical option for the safe disposal of enormous quantities of solid wastes including municipal, industrial and hazardous chemical wastes, generated by modern urban industrialized societies.

Modern engineered landfill comprises of

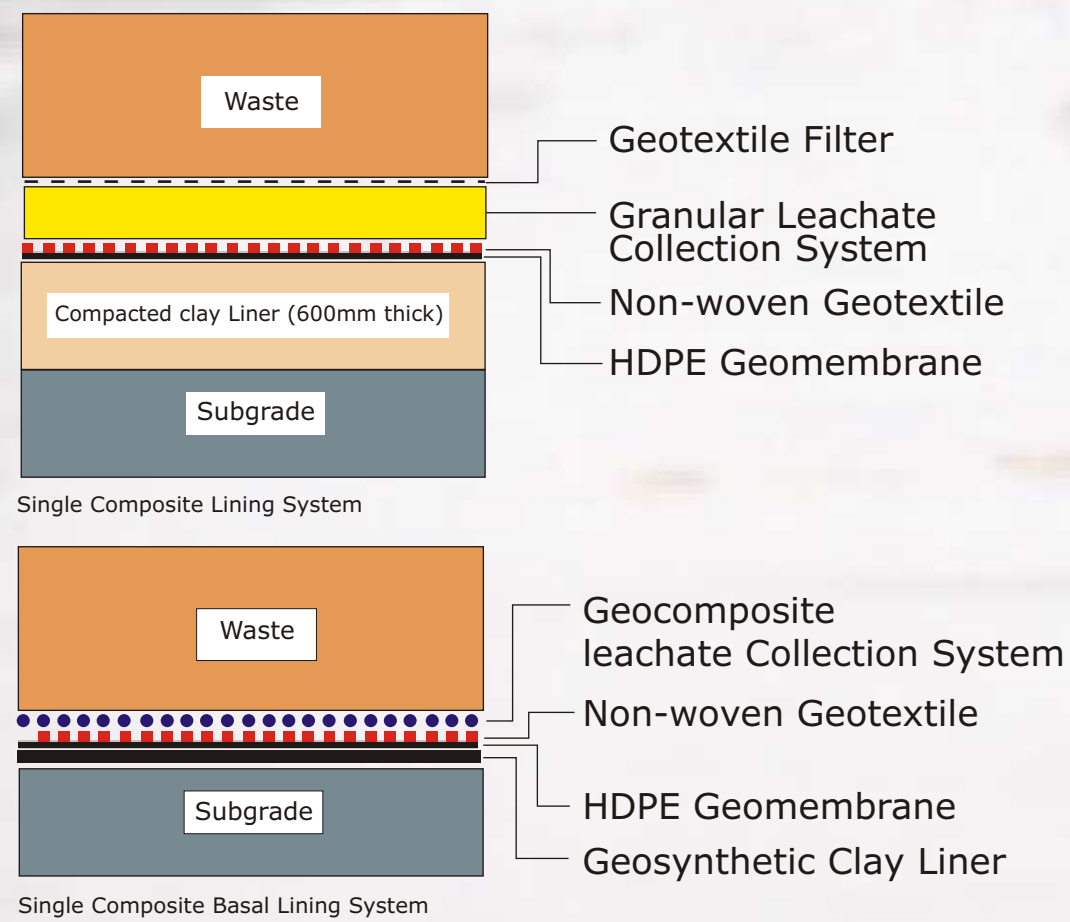
- A basal lining system to prevent the contamination of soil and ground water by pollutants from the wastes.
- A capping system to seal the waste when the capacity of the landfill is exhausted.

The basal lining system consists of

- An impervious sealing layer, which prevents the entry of pollutants into the ground.
- A leachate collection system for the collection and transmission of leachates to a collection pit to ensure low hydraulic heads above the sealing layer.
- A secondary leachate collection / leak detection system in case of a double liner system.



Laying of nonwoven geotextile over slope at HZL Vishakhapatnam site.



Single Composite Lining System

Single Composite Basal Lining System



Nonwoven geotextile as protection layer at HZL, Udaipur



Geomembrane laid on bottom of landfill at Binani Zinc, Cochin.



View of perforated pipes laid for leachate collection



GCL, Geomembrane 1st layer, Geonet 1st layer, Geomembrane 2nd layer, Geonet 2nd layer installed at Binani Zinc, Cochin site



A view of geomembrane installation on slopes at HZL Vizag



Leachate collection trench filled with rounded aggregates

The capping system

also employs sealing and drainage layers to prevent the entry of water into the landfill so as to minimize the generation of leachates.

Heightened public awareness regarding the consequences of environmental pollution and stringent pollution control norms makes it imperative that modern landfills have to be engineered to very demanding performance standards. Utmost care has to be taken in material selection, system design, construction and testing. Today, engineers all over the world use Geosynthetics for engineering safe, reliable and cost effective landfill systems.