

write a short note on foundation on sanitary landfill sites.

Sanitary landfills are sites that are designed to dispose of municipal solid waste in a safe and environmentally sound manner. The foundation of such sites plays a critical role in ensuring that the waste is contained and does not pose a threat to human health or the environment. The following are some of the key considerations for designing and constructing foundations on sanitary landfill sites:

1. *Site Selection:* The site for the landfill should be carefully selected based on various factors such as geology, hydrogeology, topography, and proximity to sensitive receptors such as water bodies and human settlements.

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2. *Subgrade Preparation:* The subgrade of the landfill should be properly prepared to provide a stable foundation for the waste. This can involve the removal of unsuitable soil, compaction of the subgrade, and installation of a geomembrane liner to prevent contamination of the underlying soil and groundwater.

3. *Load-Bearing Capacity:* The foundation of the landfill should be designed to withstand the weight of the waste and any equipment used during construction and operation. This can involve the use of geotechnical analyses such as bearing capacity and settlement calculations.

4. *Gas and Leachate Management:* The foundation of the landfill should be designed to facilitate the collection and management of landfill gas and leachate. This can involve the installation of gas and leachate collection systems beneath the waste and within the foundation.

5. *Monitoring:* It is important to monitor the performance of the foundation during and after construction to ensure that it is functioning as intended. This can involve the use of instruments such as settlement plates, inclinometers, and piezometers to measure soil movement, slope stability, and groundwater levels.

The foundation of a sanitary landfill site is a critical component of the overall design and construction. Proper site selection, subgrade preparation, load-bearing capacity, gas and leachate management, and monitoring can help to ensure that the landfill operates safely and does not pose a threat to human health or the environment.