



# Landfill Design & Analysis



*WML provides end to end landfill services from initial site selection through to capping and rehabilitation. We also provide services to other professional engineers and operators within the waste industry and ancillary services.*

## Design and Verification

WML provides composite lining system design and verification for landfill cells, tailings dams and capping/closure projects.

We undertake:

- Limit equilibrium stability analysis for side slopes, waste slopes and outer embankments.
- Transient groundwater modelling and analysis for design and verification of cap drainage.
- Finite difference analysis for the determination of geosynthetic tension within basal liner systems.
- Veneer stability assessments using closed form and limit equilibrium analysis for capping systems.

## Environmental Risk Assessment

We undertake quantitative environmental risk assessments and provide supporting documentation to show that your geo-composite liner or cap design performs in accordance with current guidelines and approval criteria.

## Construction Quality Assurance (CQA)

WML offers full time and part time CQA services depending on the project requirements. We can be there on-site or over the phone during all phases of construction, from the initial cutting and earthworks to the final leak detection testing of the liner.

## Superintendence

If required, WML can act as your projects superintendent. We have experience with superintending capping, lining and earthwork constructions.

## Investigation

WML conducts geotechnical and hydrogeological investigations to prove separation to ground water, material characteristics, general geo-conceptual ground models and determine materials suitability for earthworks.

### Superintendent Services

Our previous superintendent works include; Cleanaway Banksia Road landfill facility in Dardanup and Davis Road waste management facility in Margaret River. We also provided superintendent services for flood restoration works for the Shire of Lake Grace and the Shire of Augusta-Margaret River.

### Henderson Road Capping System

WML assisted in the design and verification for the capping system for a new landfill cell at the Henderson Waste Recovery Park. The verification required limit equilibrium slope stability analysis, veneer stability assessments, transient water analysis and cap specification refinement.

### Millar Road Landfill Cell 16, 17 & Capping Cells 12-15

WML was engaged to act as the independent CQA Engineer for the construction of Cells 16 and 17 and the capping of Cells 12-15. The cells required full time CQA services for the earthworks, lining of a composite lining system and the final leak detection.