

Hydrogeological Modelling and Leachate Management, Trackstar Alliance Varsity Lakes



Client: Thiess Services Pty Ltd

E3 Consult was responsible for the supervision and remediation monitoring of the Robina Landfill as part of the Robina to Varsity Lakes Railway Extension Project. Through this role E3 was responsible for the investigation and management of the impacted groundwater and leachate within the landfill unit.

E3 investigated the hydrological characteristics of the groundwater regime and leachate volume through the installation of groundwater wells and pump tests to determine the properties of the aquifer system. A hydrogeological model was developed in MODFlow to determine the dewatering program and pump requirements to remove the leachate to maximise drainage during remediation. The model was used to determine the effective pump rate to allow free drainage of the waste and limit ingress of clean groundwater.

Achieving the most effective outcome for the client

E3 managed the treatment of leachate prior to release under a trade waste agreement with the Gold Coast City Council, Water Directorate. The involvement of E3 staff in this project demonstrates our skills in the following areas:

- Experience in managing leachate and groundwater in contaminated sites;
- On-site application of comprehensive technical skills;
- Managing a team of sub-contractors on-site to achieve our targets on time; and
- Achieving the most effective outcome without affecting the client's remediation program.

PH11 – Robina Groundwater Modelling