

Kanimbla Development

Soil Testing

To supplement the Stormwater & Waste Management Report by external consultants, CESsoils was asked to investigate the soils at a site to support the proposed design. We established the soils, determined the distances to a dam and eventually moved the design to accommodate WaterNSW standards. A soil report was completed, and a calculated design was also added to ensure that all components met the ANZ1547:2012 and WaterNSW NorBE (neutral and beneficial) calculations and distances to waterbodies. Our design was approved by the Local Government.

Integrated water cycle management report

TA request from Council stipulated a stormwater model to be done. Our investigation determined the size of the development was more considerable than was allowed for the S3QM modelling. As such, the Model for Urban Stormwater Improvement Conceptualisation (MUSIC) was run. "MUSIC estimates stormwater pollutant generation and simulates the performance of stormwater treatment devices individually and as part of a treatment train (individual devices connected in series to improve overall treatment performance). By simulating the performance of stormwater treatment systems (stormwater quality improvement devices), MUSIC provides information on whether a proposed stormwater management system conceptually would achieve water quality targets, and in the Sydney drinking water catchment, whether the NorBE (Neutral or Beneficial Effects) requirement is satisfied" (WaterNSW).

CESsoils ran the model, calculated the stormwater details, and ensured the accuracy from an environmental and health point of view. A report was completed and submitted to Council as part of the development application for approvals.



Preliminary Site Investigation

Lithgow City Council requested a contamination assessment to be completed on a site as they found unsuitable items that left them unable to proceed without the appropriate documentation. CESSoils did multiple site visits, ensuring that the materials onsite, the distances of the materials to the watercourse and the type of materials currently present did not pose any risk to the environmental or human health.

The development site had previously been a quarry. Quarry closure and site remediation left an area of high disturbance. The quarrying activity determined by the aerial imagery covered almost 40% of the total Lot site.

The aerial record showed earthworks in 2014-2015 using imported soils to fill the low-lying area covering a small dam and to redirect the inundation and ponding.

We completed the investigation by reporting it as a preliminary site investigation with a detailed site investigation background. The investigation included:

- aerial imagery,
- soil-landscape information
- landform by digital elevation model (DEM)
- site history
- surface condition and onsite materials
- test pit investigation confirming the filling profile: depth, layering natural soil horizons.
 - * soil texture
- analytical testing for the geochemical attributes of the fill
 - * water quality of the surface seepage
 - * water quality of the dam/s

The report was completed and submitted to Lithgow City Council for approval.

The clients were so happy with the standard of work, they have kept us busy with further works on other projects.

