CASE STUDY

MANAGING IMPORTED MATERIAL IN A DEVELOPMENT SITE

PROJECT: Educational Facility Development – Melbourne, Victoria **CLIENT**: Confidential

PROJECT BACKGROUND

An established school close to the Melbourne metropolitan area was due to commence a major redevelopment on its existing campus.

Early works included services diversion, building demolition, and soil remediation to enable the construction of the new education facility.

A preliminary site investigation identified the presence of contaminated soil to Category D classification. While Category D covers the least hazardous soils, it is a reportable priority waste and must go to a place authorised to accept it.

The client required an estimation of the likely extent of imported fill remaining on site (for budgeting purposes), prior to commencing second stage fill disposal.

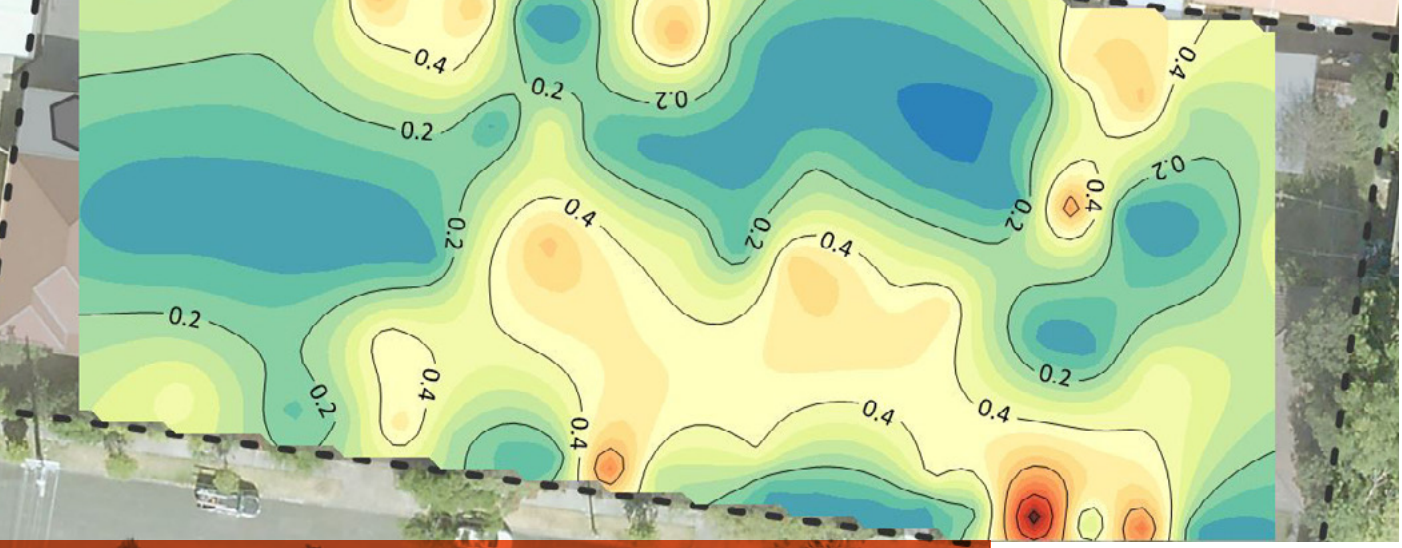
CHALLENGES

A preliminary site investigation identified the presence of contaminated soil to Category D classification.

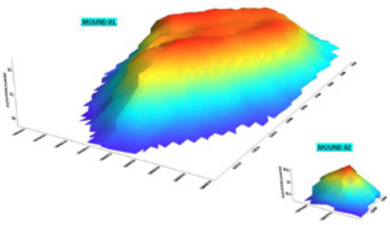
A site scrape was undertaken to remove the top 200mm of contaminated spoil for disposal. The client required an estimation of the likely extent of imported fill remaining on site for budgeting purposes, prior to commencing second stage fill disposal.

SOLUTIONS

Given the variable nature of the Category D material, MNG's SubSpatial team proposed a set of Multi-channel Analysis of Surface Waves (MASW) survey lines be run in parallel transects across the site. This would determine the lateral extent and depth of the uncontrolled fill.



DATA COLLECTED FROM THE MASW SURVEY WAS USED TO CREATE A 3D SUBSURFACE MODEL OF THE AREA, WHICH ILLUSTRATED THE CONTOURED THICKNESS OF THE FILL MATERIAL.



As seismic energy pulse is applied, the geophones record the profile along the transect to approximately 5m below ground level. The MNG team used an array of 4.5Hz geophones to achieve this. MNG's SubSpatial team ensured no large machinery was in operation whilst conducting the geophysical investigation, so there was no interference to the seismic data being measured.

The survey captured data along four parallel geophysical profiles over a 10x4 metre grid, which provided an accurate analysis of soil density properties within the construction area.

The ground level topography was surveyed using GPS.

At the conclusion of both the geophysical and topographical surveys, the data was collated to provide the volume of uncontrolled fill.

Two small mullock heaps that had been stockpiled on the site were also identified as uncontrolled fill and added to the results of the survey.

OUTCOMES

Data collected from the MASW survey was used to create a 3D subsurface model of the area, which illustrated the contoured thickness of the fill material.

Using this information, and in conjunction with the topographic survey, MNG's SubSpatial team were able to accurately calculate the exact volume and location of imported fill throughout the site.

For the client, having an accurate and detailed report illustrating the volume and location of imported fill throughout the site, was invaluable. MNG's support took the guess work out of the problem and meant the client was able to confidently understand the extent of the issue to accurately budget for remediation activities.

TALK TO US

MNG provide innovative and personalised solutions for all projects. Talk with us today to find out more. Email info@mngsurvey.com.au or visit mngsurvey.com.au