

Wavertree Curve

- using 3D Laser Scanning

Mott Macdonald commissioned ScanTech to survey a 1500m stretch of track that runs through Wavertree Business Park.

3D Laser Scanning was used to capture the dimensional data and surface details of the track and physical structures in the form of a point cloud.

Each captured point on the structure's surface represents a 3D point in space and this data was converted into 2D sectional drawings and a 3D model

ScanTech International utilised the 3D-laser scanner to capture the track, overbridge and the OLE structures without any train disruption.

All the data was captured to an accuracy of +/- 5mm

This survey was undertaken in three days with very heavy traffic and this has been removed from the final scan images using a feature in the software.

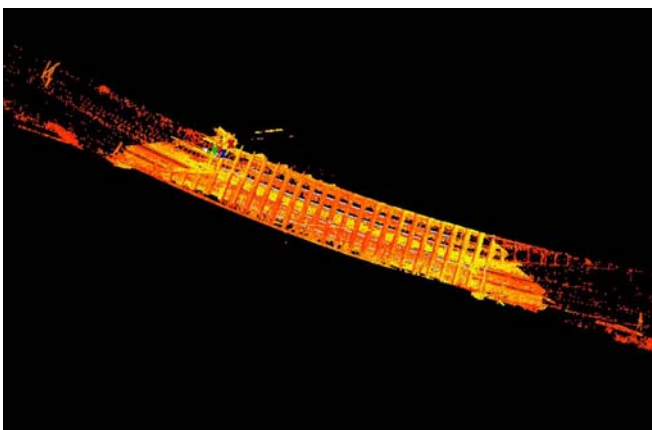
The 2D drawings took a further 10 days to produce and the 3D model a further 5 days.

The main benefits of this method compared to traditional surveying were :

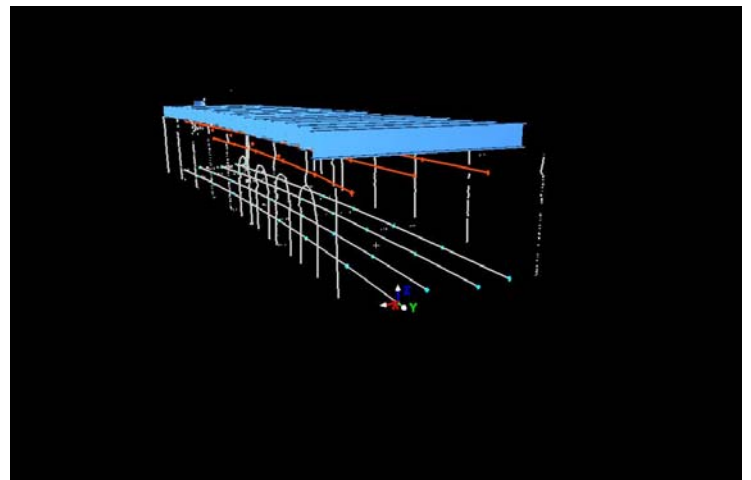
- the scanner was set up in a position of safety and no one needed to stand near the track
- the scanner picked up all of the required features in the 3 days
- The whole model was referenced to local coordinates
- The project was won competitively against traditional surveying companies
- There was no train disruption.
- Possession access would have been nearly impossible



Picture of the Overbridge



3D point cloud



AutoCAD deliverable

May 2004