

The Old Bailey

Project: The Old Bailey, City of London.
Client: Cathedral Works Organisation Ltd. (CWO Ltd.)
Survey Date: September 2009



Background

The Old Bailey to the general public is a well known and distinguished building which houses the Central Criminal Courts in the City of London. This neo-Baroque style building, dating from the turn of the last century, has been extended considerably in recent times to include further courts and offices.

Survey Brief

As an existing service provider for The City of London Corporation, CWO Ltd. were instructed to provide a detailed

maintenance programme for stone cleaning of the building, for which accurate elevation drawings were not available. J C White Geomatics Ltd. won the tender to supply this documentation which was to include all external and internal courtyard facades. CWO Ltd. were impressed with the proposal of laser scanning the elevations and the added advantage of intensity orthographic imagery which would be a bi-product of the deliverable.

Survey Methodology

To benefit from gaining the maximum quality and range from the laser scanner, and to also reduce interference data from traffic and the general public, it was decided to capture the street elevations at night. Additionally access was gained to the roofs of adjacent buildings as well as the Old Bailey itself to enhance the high level data.

Based on a street level closed loop traverse, additional traverse links were established across the roofs and through the internal courtyards to create a tight control network. GPS SmartNet was used to establish Ordnance Survey National Grid and level datum.

A method of force centred scan locations based on traversed stations was used, with a number of coordinated reference targets placed to correct the orientation of the scanner. In total 110 scan locations were used, with a variety of scan resolutions to determine a final optimum coverage interval of 10-20mm.



All scan data was checked for target fitting tolerances as well as a comprehensive visual check of the combined data. This includes edge/feature matching and realtime sectional slicing to determine any fitting errors.

Digitising of the scan data was carried out in Rhino with Pointools plug-in and by using orthographic intensity scan images. All drawings were prepared in 2D for final digital production drawings at 1/50 scale. 1/100 scale drawings were supplied in paper format.

All drawing prior to issue were independently viewed using the scan data as a visual check for completeness by a Senior Surveyor. Due to the comprehensive level of data gathered a re-visit to site was not required for completion work.