

Site/Project:

Windsor Park, Belfast

Industry:

Residential Development

Client:

McGinnis Group

Location:

Belfast

Site Type:

Defense Heritage

Deliverables:

3D Laser Scan survey

2-D output drawings

Benefits:

Rapid Survey

Un paralleled accuracy and detail

Allowed for demolition of recorded building

Meets planning requirements imposed upon development under PPS6 BH4

**This issue**

Measured Survey of Listed Building

Introduction

The proposed development at 44 Windsor Park was situated within the southern suburbs of Belfast occupying a corner plot at the junction of the east end of Windsor Park and the Malone road. The site consisted of an upstanding modern office building, associated garage outbuildings and a disused Observation Sanger to the south of the site. The Sanger was listed in the Sites and Monuments Record for Northern Ireland and therefore afforded protection under Planning Policy Guideline PPS6 while the site was located within the greater Belfast area, an area of Archaeological Potential.

As part of the redevelopment, all buildings currently upstanding at the site, including the Observation Sanger, were to be demolished. A programme of archaeological mitigation was drawn up and agreed with NIEA; HMU, which required a building and descriptive survey of the Observation Sanger to be carried out prior to demolition as a means of preserving the structure for future record.



Windsor Sanger prior to demolition

3D Laser Scanning

The building survey consisted of a 3D laser scan survey of the Observation Sanger using a Leica HDS 3000 laser scanner to collect a sub centimetre accurate 3-dimensional measured survey of the building in order to produce detailed 2D CAD elevation and plan drawings, and a 3D visual representation of the upstanding building.

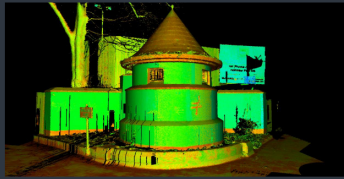


Scanning of front elevation

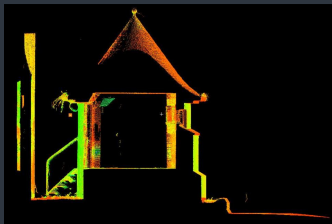
CAD Analysis and Output

The completely registered 3D point cloud scans were imported into CAD software for interrogation and visualisation analysis.

The full 3D point cloud can be rotated to any plane allowing multiple viewing and measurement and xyz section slices. CAD standard measuring tools can be used to make multiple point to point measurements analysis and interpretation.



3D Point Cloud data

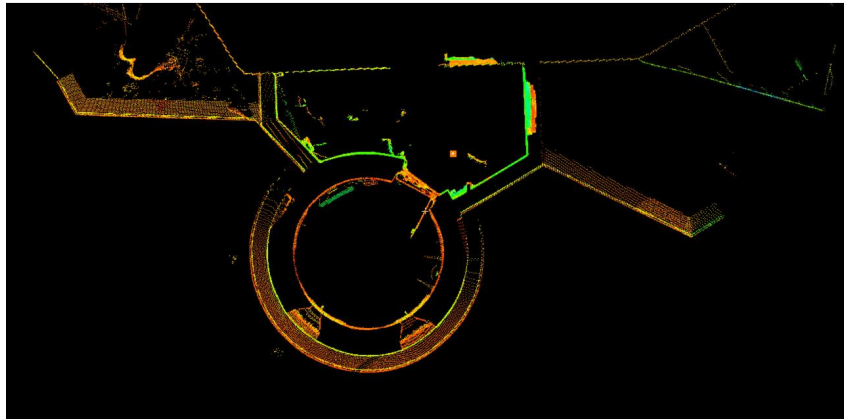


Elevation section through
sanger

Applications:

Invaluable aid
assisting in the rapid
recording of
archaeological and
heritage sites prior to
demolition.

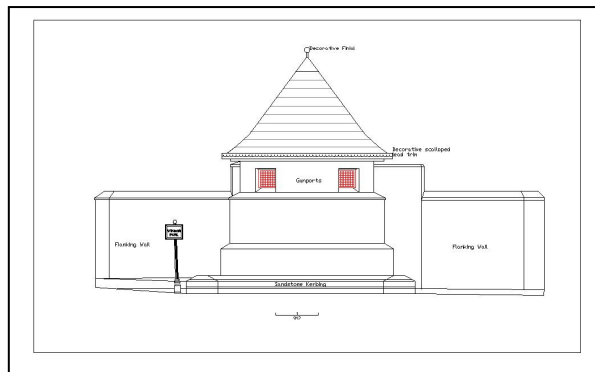
Complete and
unique archive.



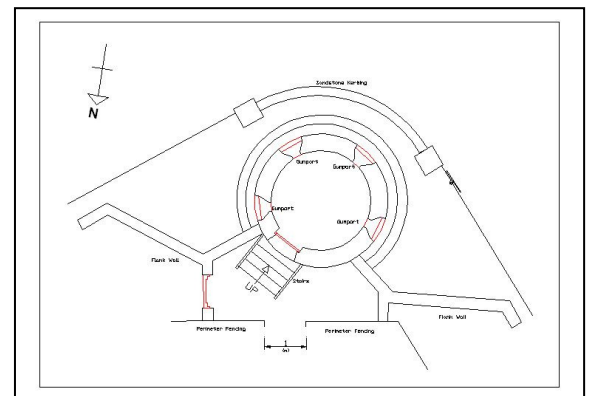
The Point Cloud can be sectioned in any plane to aid CAD analysis and output

The resulting scaled 2D plans, sections and elevation drawings provide very accurate information on the geometry of the overall building, but it also allows for reanalysis at any stage in the future via digital archiving.

Not only does the scan and associated output drawings represent a unique historical archive, these were lodged as part of an archaeological evaluation report with NIEA:HMU representing **full compliance** with imposed planning conditions.



2D CAD front elevation drawing



2D CAD floor plan drawing