

Blackrock Post Office – Architectural Survey

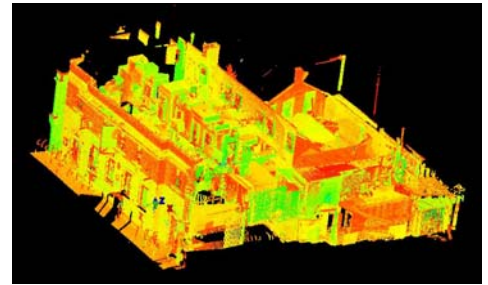
Scope: registered 3d point cloud of Blackrock Post Office, 2d AutoCAD plan, elevation and section drawings

Client: Irish Archaeological Consultants, Dublin

Date: February 2004

Background: The Post Office in Blackrock, South Dublin has long been recognized as a local architectural landmark and as such protected as a listed building. As a prerequisite for redevelopment, a detailed set of CAD drawings in plan, section and elevation needed to be provided to the project architect.

Irish Archaeological Consultants approached Gridpoint Solutions Ltd to supply a complete 3d laser scanning High Definition Survey (HDS) of the entire Post Office (Internal & External). This allowed the project architect quick access to a complete highly accurate and detailed survey of the Post Office coupled with production of scale 2d section, elevation and plan drawings.



Back in the office the fully registered point cloud of the Post Office was opened in AutoCAD™ using the 3d point-cloud analysis plug-in CloudWorx™. CloudWorx™ tools were used to "slice" the Post Office intelligently, anywhere along the X, Y and Z axes and provide detailed 2d views of each slice directly within AutoCAD.

Project Facts

Field: 2 person scanner crew, 3 field days.

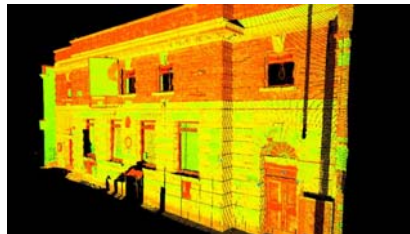
Office: 1 surveyor, 6 days using Cloudworx.

Deliverable: registered 3d point cloud, 2d CAD Section, elevation and plan drawings.

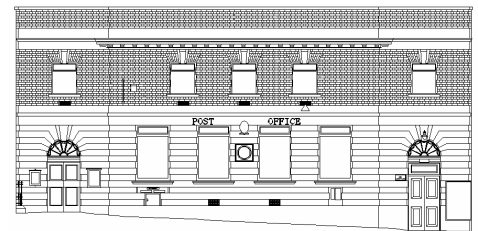


Benefits

- Within budget
- Quick turnaround
- Reduced return visits for missed detail
- Survey quality and accuracy



Workflow: Gridpoint Solutions Ltd used the Leica Geosystems 2500 scanner to capture 58 separate high-detail, high-density internal and external scans. Scan data was viewed in real-time on the scanner laptop allowing areas of architectural significance to be quickly identified and rescanned at a greater resolution. A reflectorless total station was used to capture targets placed in various locations. These targets helped gridpoint to register (fit together) all the separate scans into one comprehensive point cloud (shown top right). This complete 3d point-cloud record of the entire Post Office was made available for future work. If the client required additional site information chances are extremely high that it has already been captured, eliminating return site visits and therefore reducing costs.



Front elevation

AutoCAD's™ standard drafting tools (e.g. polygon tool, arch tool, spline tool, etc.) were used to trace and create sections, elevations and plans from the point cloud slices. Once finished the drawings were emailed to the project architect who added the necessary scales and annotations.



Rear elevation



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