

Patterson's Spade Mill – Industrial Heritage

Scope: Registered 3d point cloud of the historic Patterson's Spade Mill and workers cottages, Co. Antrim. Detailed (stone by stone) 2d AutoCAD elevations & plan. 3D Model.

"First time the National Trust has used this type of survey in the recording of its monuments, buildings and properties in the UK. This technique is time efficient, highly accurate and its data production of the highest quality."

Malachy Conway, Survey Archaeologist, National Trust, Northern Ireland.

Client: National Trust, Northern Ireland

Date: March 2005

Background: As a prerequisite for a detailed architectural survey by the National Trust on Patterson's Spade Mill Co. Antrim, the last working water driven spade mill in daily use in the British Isles, Gridpoint Solutions were approached to carry out a 3D laser scanning High Definition Survey (HDS) of the site.

Accuracy & Detail: By choosing a laser scanning solution to this survey, the National Trust received extremely accurate and detailed CAD drawings, which when combined with the registered point cloud of the site gave them an unparalleled data set to carry out an historical architectural survey.

Project Facts

Field: 2 person scanner crew, 2 field days.

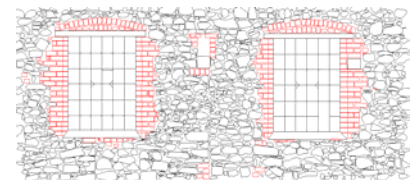
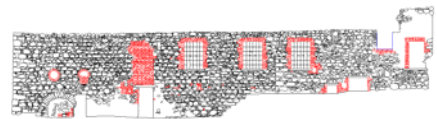
Office: 1 surveyor, 10 days using Cloudworx.

Deliverable: registered 3d point cloud, rendered point cloud images, Detailed (stone by stone) 2d CAD elevations and plan. 3D Model



Point Cloud Image – Wall Detail

The survey focused on a range of now largely derelict buildings (mill and workers cottages) to gain further information about the earlier milling operations and help understand the historical development of the site.



2D CAD Elevation / Stone Detail

Benefits

- Quick turnaround
- Minimum disruption
- Reduced/eliminated return visits for missed detail
- Survey quality and accuracy
- Unique 3d record of historic industrial site.

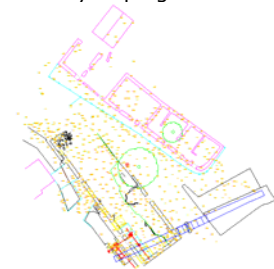


Point cloud image / Photo of the Water Turbine

"The 3D laser scan is a key component in this survey project providing highly accurate survey data onto which an architectural commentary of the development of these remains can be made." NT

Workflow: Gridpoint Solutions Ltd used the Leica Geosystems 2500 scanner to capture 12 separate high-detail, high-density scans of the site. Scan data was viewed in real-time allowing areas of architectural detail/significance to be identified and rescanned at a greater resolution. This complete 3d point-cloud record of the Spade mill was made available for future work and archiving.

The fully registered point cloud of the site was opened in AutoCAD™ using the 3d point-cloud analysis plug-in CloudWorx™.



CAD Site Plan, from registered point cloud

AutoCAD's™ standard drafting tools were then used to create the detailed elevations and plans from the imported point cloud.



CAD Detail, Turbine Plan