Wilson Dam Lock, TN

US Army Corps of Engineers

Client:	U.S. Army Corps of Engineers
Demo-Project:	Wilson Dam Lock, Nashville Tennessee
Dates:	May 2010
Size:	Exterior Dam Locks and Walls
Type:	Engineering Analysis

PROJECT HIGHLIGHTS

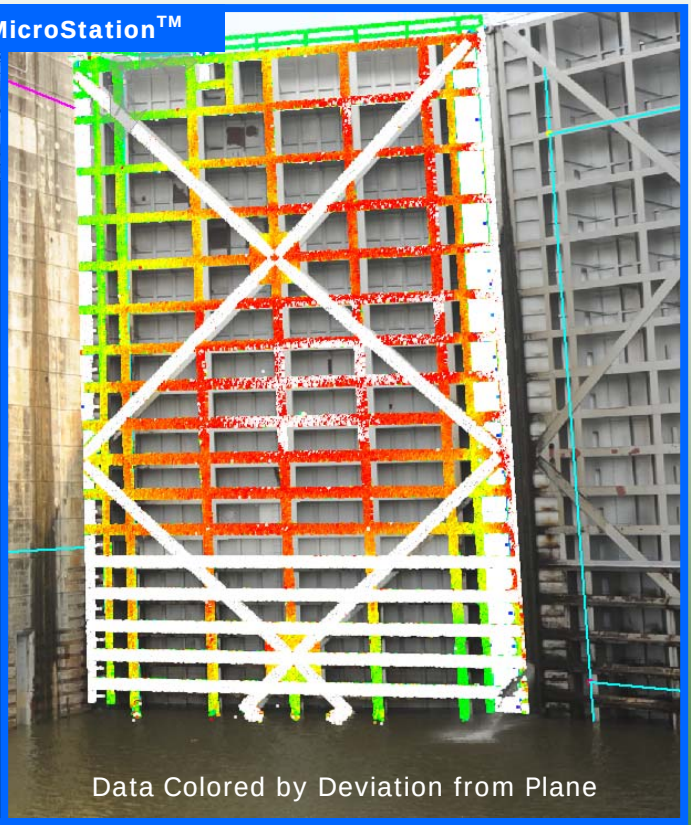
- Data collection from a Riegl VZ-400 LiDAR Scanner
- The scanner's speed (one minute) allowed it to keep an accurate log of the fill/drain process
- Field time and analysis reduced
- TopoDOT® allowed an in-depth analysis

Demo-Project Summary:

Certainty3D, LLC applied 3D imaging technology to produce an engineering analysis on the Wilson Dam locks and walls in Nashville, Tennessee. 3D Image data was acquired efficiently using the RIEGL VZ400 LiDAR scanner. The project was conducted on the exterior portion of the locks in order to determine the amount of deflection occurring on the structure. The retained water within the lock system filled and drained at a rate of 7-8 ft/min. A scan (a minute long) was taken every 3 minutes to log the fill and drain process, which was possible due to the scanners speed. Total project time was within a day and the analysis was within an hour. In reference to the photo below/right, deflection is maximum (red colored data) towards the middle of the lock gate. Both the lock gates and retaining wall were done in this fashion. Total project time and cost were less than conventional surveying and yielded a superior method.

TopoDOT™ in MicroStation™

Colored Point Cloud



Data Colored by Deviation from Plane

Deliverable Summary

- **Data processed using Certainty 3D's TopoDOT™ application in MicroStation™**
- **All 3D Image Data is traceable back to control network survey reference**
- **TopoDOT™ provided the tools necessary for an in-depth engineering analysis**

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