

Harry Tracy Water Treatment Plant – San Bruno, CA



Figure 1 - Laser Scanning

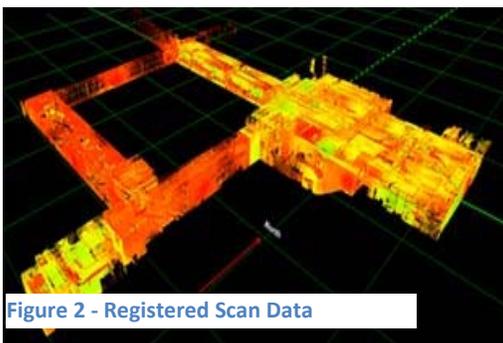


Figure 2 - Registered Scan Data



Figure 3 - TruView Interactive Database

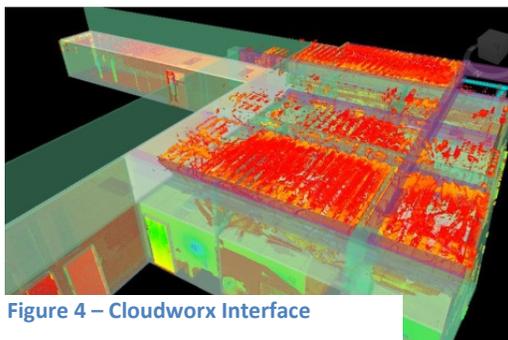


Figure 4 – Cloudworx Interface

As the Peninsula's sole source of emergency water, Harry Tracy, located near San Bruno and Millbrae, treats and delivers water stored in the Crystal Springs and San Andreas reservoirs to residents and businesses in 11 cities of North County. Kiewit Infrastructure West was awarded a \$174 million contract to lead the construction project, which will make the water treatment plant more seismically sound, improve treatment capacity and reliability.

Innovtec was contracted to provide laser scanning survey services for the documentation of existing conditions. Drawings of the aging infrastructure were outdated and unreliable for the structural calculations that were required. Kiewit subcontracted the design of seismic reinforcement of various pipes and ducts to Green Street Engineering, LLC (Lisa Steffens PE). Innovtec was to assist Mrs. Steffens by producing a set of drawings documenting those pipes, ducts and other elements that would require reinforcement or could impede its placement.

The demand for rapid turnover steered efforts away from 3D modeling or BIM analysis, which would have been ideal in this environment, and towards a hybrid approach. InNovTec's multi-disciplinary staff relied on their engineering and construction management backgrounds as they consulted with the design team. The plan developed called for a combination of schematic plan drawings of all pipe larger than 1 inch and smaller than 18 inches. Additionally, select cross-section views were combined with TruView pointcloud images to provide the needed data for the structural calculations. The TruView file was also used as a tool by the structural engineers to inspect connection types and understand systematic relationships. All scans were completed in three days, TruViews were submitted two days later and the final drawings 2 weeks after that.

InNovTec as a team member, developed highly effective and cost conscious solutions to this demanding project by understanding the needs of its customer, employing state-of-the-art technology applying it to solve problems. The design of the seismic retrofit is proceeding confident that the risks inherited from poor as-built data has been minimized.

PROJECT REFERENCE

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