

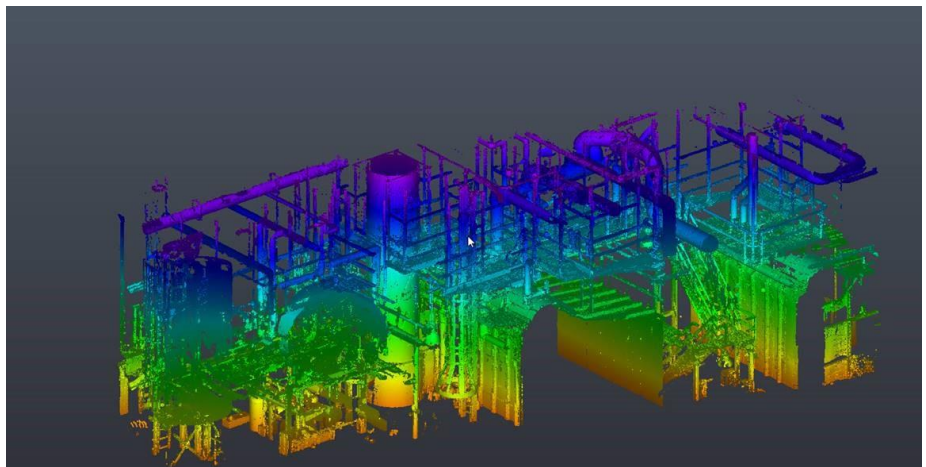
# East Campus Steam Plant

The Pennsylvania State University, University Park, PA



- **Owner:**  
The Pennsylvania State University
- **Services:**
  - Structural Engineering
- **Year Completed:**  
Multi-phase project started in 2018. Ongoing.

Stahl Sheaffer performed 3D scanning and modeling on Penn State's East Campus Steam Plant (ECSP), including the interior, exterior, and roof of the facility, utilizing a FARO Focus 330X HDR phase-based laser scanner. The resulting 3D point clouds and 360° imagery were compiled into one dataset. Following unified point cloud compilation, the data was used to create a highly accurate 3D Building Information Model using Autodesk Revit of existing systems within the plant. The precision and accuracy of the scan and developed model were used simultaneously by our structural design staff to direct the placement of new support framing which was woven through the known obstructions to fit within open spaces where final construction tolerances were less than one inch in places. Using the accurate scan and model, a construction conflict was determined to be a result of a change made in the plant after design was complete, allowing a quick resolution to the conflict to be implemented keeping construction on schedule for a project which had a very short shut-down window to accommodate installation.



# Examples



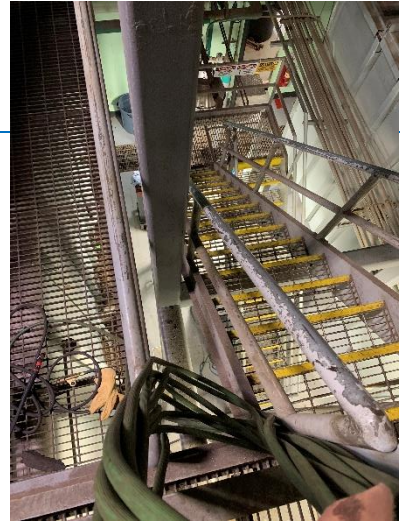
**Ex. 2 ECSP As-Built  
Photo of Designed  
Condition**



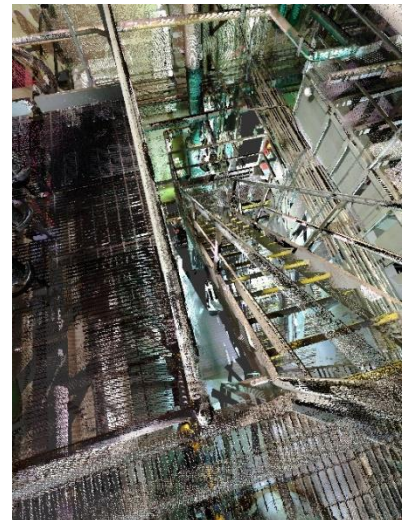
**Ex. 2 ECSP  
Interior Scan**



**Ex. 2 ECSP Model**



**Ex. 1 ECSP As-Built Photo of  
Designed Condition**



**Ex. 1 ECSP Scan**



**Ex. 1 ECSP Model**