

Eastern State Penitentiary 3D Reality Modeling

Philadelphia, PA



SERVICES

Topographic Survey
Underground Utility Location
Soil Characterization
Creation of 3D Model

PROJECT DETAILS

Client

ESP Historic Site Inc.
Sally Elk - President/CEO
sje@easternstate.org

Address

2027 Fairmount Ave.
Philadelphia, PA 19130
215-236-3300

Date

2017

Contract Cost

\$117,750

Date of Completion

2017

Local Hot Spot Sees the Benefit of 3D Reality Modeling

CEDARVILLE Engineering Group, LLC (CEG) was tasked with creating a 3D Reality Model to be used in the design a green stormwater infrastructure retrofit project for this 11+ acre historical penitentiary. Site design requires topographical features be surveyed with accuracy and precision. This site was more complex than usual due to the variety of surfaces constructed through history, and the unmapped network of underground infrastructure beneath the site.

Survey control was established with a robotic instrument and supplemented with conventional survey. CEG's UAS pilot flew NADIR and two oblique flights. Ground based capture was also completed using a handheld camera with a 10mm lens.

Using 3D Reality Modeling, all data sets were combined to create one overall 3D model. With this model, CEG could extract information to create a "Site Characterization Plan" for the client.

The client now has a long-term view of the property that is being used to design stormwater management and the construction of a new visitor's center to accommodate tourists. The model provides detailed accuracy of the site from both an aerial and surface level perspective. As the historical site undergoes renovation updates can easily be made to the model without the entire survey having to recreate the survey from scratch.

Engineering Services

