

EMS 3D Scans Ruins of Largest Antebellum Mansion in Mississippi

How do you create a replica of the Windsor House ruins to preserve a piece of Mississippi history?

That was the challenge Mississippi architectural firm, Benchmark Design set out to solve on behalf of the Mississippi Preservation Society.

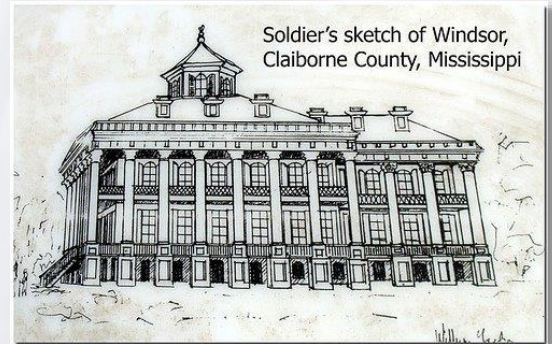
Built in 1861 by a wealthy cotton planter, Windsor House was the largest Antebellum Greek Revival mansion ever built in Mississippi. Lost to a fire in 1890, 23 standing 44-foot Corinthian columns are all that remain of the vast mansion built with slave labor and used by both Confederate and Union troops during the Civil War.

Due to its importance in Mississippi history and the architectural significance of the ornate detail captured in the handcrafted columns, the Preservation Society wished to create replicas of the columns for display at the Mississippi Museum of Art as part of the Welti Biennial.

The Solution

Benchmark Design solicited estimates from a number of reputable firms to 3D scan the entire Windsor Ruins site and three columns in detail. While not the lowest bidder, EMS won the job due to the quality and precision of its technology combined with its 15 years of experience with complex 3D scanning projects.

To capture all the 3D data needed, the EMS engineers used a Surphaser long range scanner combined with a boom arm and EMS' custom mobile scanning unit. EMS chose to use the Surphaser for the Windsor project because compared to other long range scanners, the Surphaser offers unmatched resolution and accuracy to 3D scan large objects such as buildings and aircraft, as well as the ability to scan up to 85 meters in a single scan. Mounted on a lift, the Surphaser provided the high level of resolution needed to capture the intricate design details in of the column capitals.



Soldier's sketch of Windsor, Claiborne County, Mississippi

This 1863 sketch by Union officer Henry Otis Dwight may be the only image of Windsor House.



With the columns exceeding 44 feet, EMS used a lift to 3D scan the intricacy of column capitals.



The highest level of resolution was required to capture the handcrafted detail of each column.

EMS 3D Scans Windsor House Ruins (cont.)

Following the site work in Mississippi, EMS proceeded to compile the 3D scan data to create the high quality digital polygon files needed by the client to create the accurate full scale column replicas.

In addition to creating the digital files, EMS also created a number of digital renderings of the complete Windsor Ruins site, as well as the individual column detail. Finally, EMS 3D printed several scaled replicas of the columns for Benchmark Design and the Mississippi Preservation Society to use as part of the fundraising efforts to protect and preserve the Windsor House Ruins.

Conclusion

When it comes to 3D scanning large and complex models and creating 3D CAD files for complex modeling, reverse engineering and inspection needs, EMS combines 15 years of experience and expertise with advanced 3D technology to get jobs done quickly and accurately.

Founded in 2001, EMS, Inc. is a leading single source provider of 3D Scanning and 3D Printing solutions to customers across a range of industries including aerospace, automotive, military, consumer products, medical and art. With over 15,000 projects completed and hundreds of systems sold, EMS specializes in helping clients streamline product development, inspection and reverse engineering through advanced 3D technology. EMS is headquartered in Tampa with regional offices in Detroit and Atlanta.

Visit www.ems-usa.com for more information.



EMS compiled and integrated the 3D scan data to create renderings of the entire site ...



... including detailed renderings of the capitals

