

/// GPRS LASER SCANNING SERVICES



HISTORICAL LASER SCANNING

Restoring historical properties is a complicated process. It involves more complex techniques and entails collaborative work from various teams. 3D laser scanning provides a single source of accurate data to work from and intelligent BIM models to improve collaboration and expedite project planning.

CASE STUDY: HISTORICAL LASER SCANNING

TASK:

3D laser scanning a historic Massachusetts library to create a 3D BIM model.

PROJECT APPLICATION:

An architect was planning renovations and required full structural and architectural building details accurately captured and documented digitally.



PROBLEM

- The architect did not want to send out their own employees to field measure the building.
- The library was built in 1919, as-built details were unknown and the building could have a lot of unsquared features throughout its architecture.
- The renovations must keep the library's historic features intact.
- The library is open to the public and the architect did not want to disrupt the library or its occupants.
- The library contained an art gallery that holds paintings of Emily Dickinson and Robert Frost, plus local historical exhibits. It was important that these remain untouched.



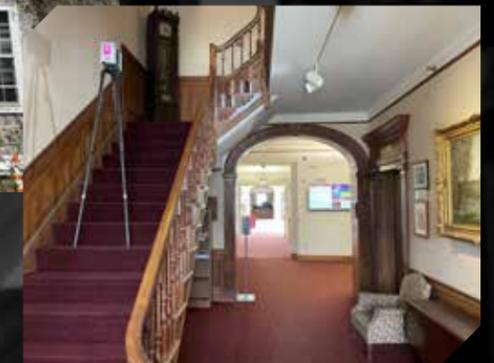
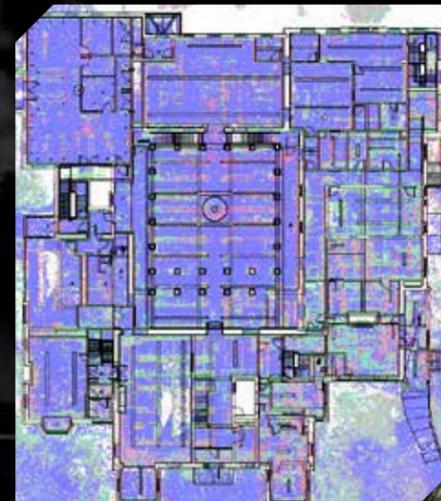
SOLUTION

- 292 laser scans were completed of the interior and exterior of the library; an estimated 47,000 sq. ft. of space with 4 levels.
- An intensity map point cloud and 3D BIM model was delivered to the client, giving them accurate data of the current as-built conditions.
- Laser scanning was executed on Patriot's Day, a Massachusetts state holiday. The library was closed for this occasion and all scans were able to be completed in one day on-site.



BENEFITS

- 3D scanning provided updated floor plans and a 3D model to begin redesigning the library.
- Obtaining precise building information enables construction personnel and project stakeholders to develop an efficient and cost-effective restoration plan.
- Individuals can access and utilize accurate data at any stage of the restoration process.
- 3D laser scanning is non-contact; scanning from a distance minimized the risk of damaging historical artwork and exhibits.



3D LASER SCANNING PRODUCES 3D BIM MODELS TO AID IN THE RESTORATIONS OF HISTORIC BUILDINGS.

