

////// GPRS LASER SCANNING SERVICES

CASE STUDY

CASE STUDY: PRECISE AS-BUILT CONDITIONS OF CHURCH & SCHOOL

LOCATION

Denver, Colorado

TASK:

A Denver Catholic church and school constructed in the 1950's requested 3D laser scanning of their 56,000 sq ft three-building campus to plan for renovations. Our client was an architecture, planning and interior design firm specializing in commercial, institutional and academic design.



PROBLEM

- Construction documents existed from the original build, but the client was unsure if they were up to date.
- Each building required a different scanning scope. The church and parish hall required complete exterior and interior documentation, while the school required only exterior documentation.
- The church requested new design drawings and cost estimates from the firm before proceeding with renovations.



SOLUTION

- In one day on-site, a GPRS/ TruePoint Project Manager completed 359 scans with the Leica P50 ScanStation and the RTC360 laser scanner.
- The client required point cloud files, 2D CAD drawings, a 3D Revit model, and TruViews to understand the existing conditions of the buildings on campus.
- 2D CAD exterior elevations and floor plans of the church; and exterior elevations of the school were created for this project.
- An LOD 200 Revit 2021 3D model of the church was delivered with architectural/ structural details, including columns, beams, walls, floors, ceilings, doors, windows, stairs, roof, pews, lectern, and altar.
- An LOD 200 Revit model was delivered of the school exterior.



BENEFITS

- Renovations are not new to this campus; they recently added an outdoor learning lab and eucharistic adoration chapel. They understand the value of accurate as-built data.
- The firm wanted to keep the historic craftsmanship of the church but provide modern updates.
- A quality point cloud created a reliable as-built BIM model of existing conditions with 1/4 inch accuracy tolerance.

IF THIS CHURCH AND SCHOOL TAKES THE RIGHT STEPS (IN THE RIGHT ORDER, WITH THE RIGHT PARTNERS) A RENOVATION PROJECT CAN FLOW SMOOTHLY AND STAY ON BUDGET.

