

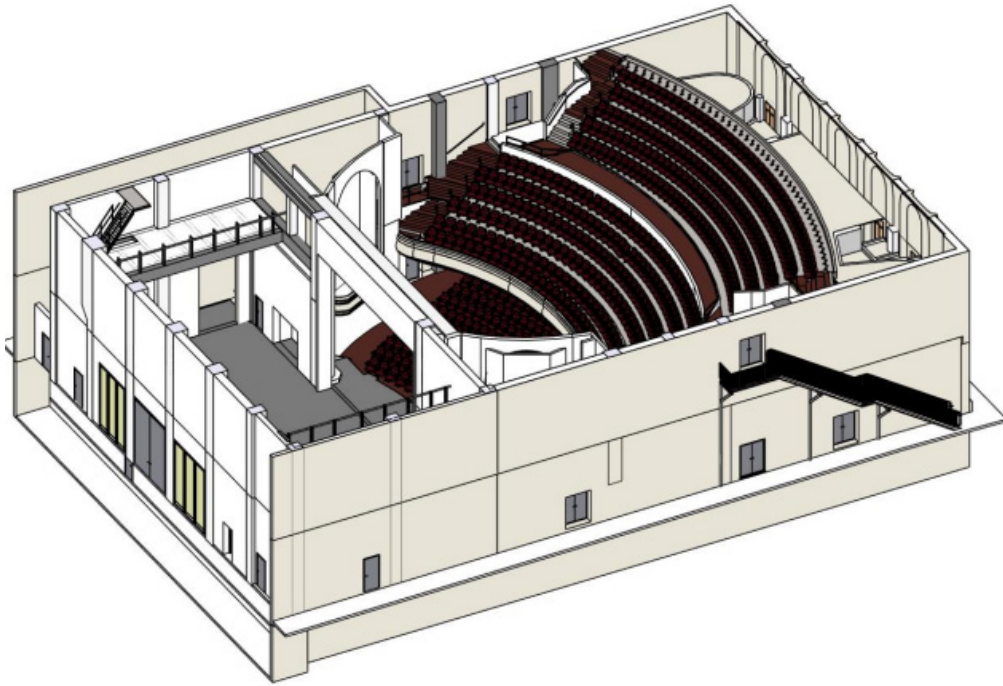
Scan to BIM Services for a Theatre Building

(Scan to BIM Modelling, BIM & VDC Coordination Services)

CASE STUDY



TECHTURE



Client : Consultant

Team Size : 4 Nos. (BIM Architects & BIM Coordinator)

Disciplines : Architecture, Structure & MEPF

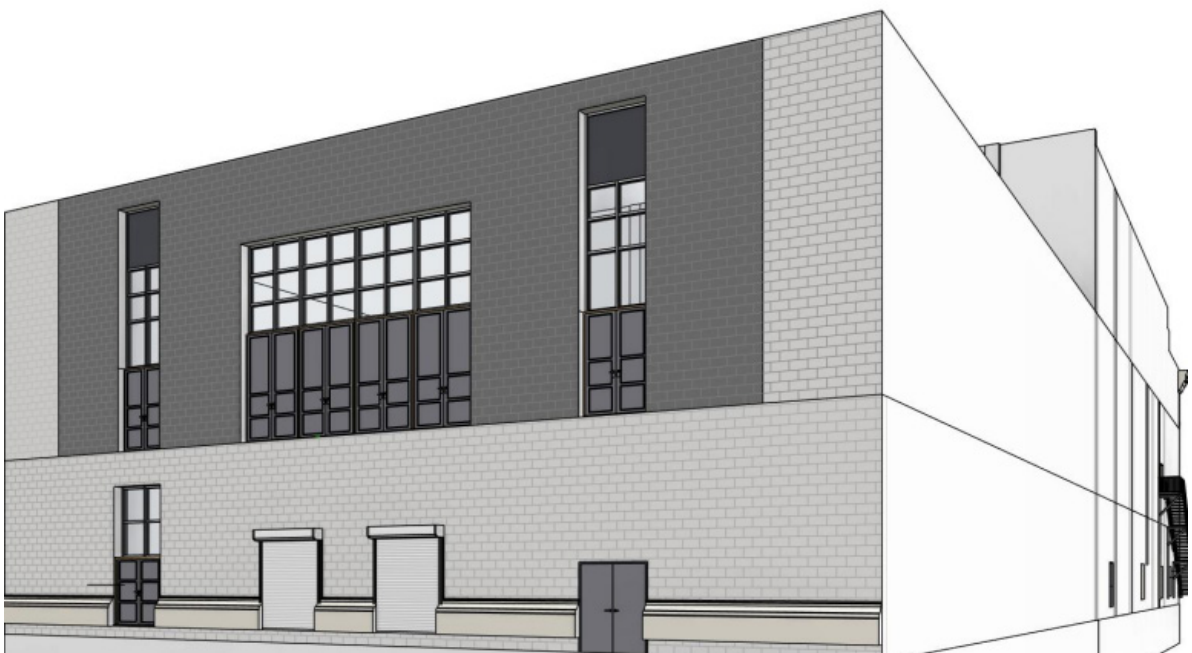
Duration : 1 Month

Scale : 50,000 Sq. Ft.

Software : Autodesk Revit & Autodesk Recap

Type : Commercial

Location : Texas, USA



Project Overview

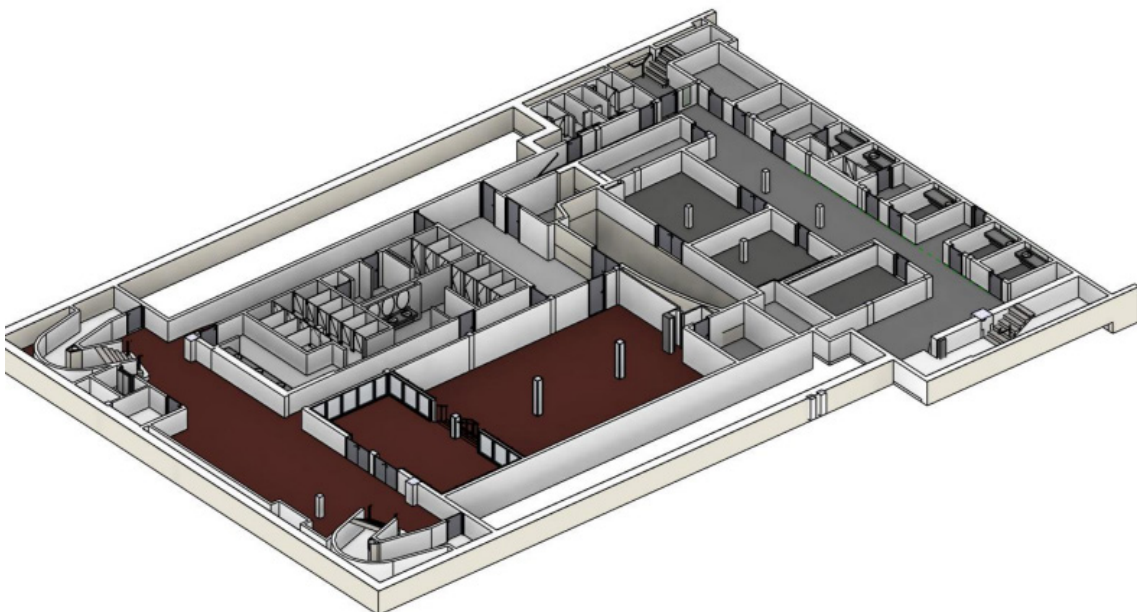
This project involved Scan to BIM services for an existing theatre building, transforming point cloud data into an accurate digital as-built BIM model. The engagement covered architectural, structural, and MEP disciplines, developed up to LOD 200–300 based solely on scan visibility. The model was created to support existing condition documentation and future planning needs. A floor flatness analysis was also delivered to assess surface deviations against the scanned data.

Scope & Deliverables

- Conversion of point cloud data into a coordinated LOD 200–300 BIM model
- Architectural modeling of walls, floors, ceilings, doors, and windows
- Structural modeling of columns, beams, slabs, staircases, and exterior walls
- MEP modeling of visible HVAC, electrical, conduits, cable trays, and piping systems
- Preparation of a floor flatness report with colorized deviation heatmaps

Challenges

- Complex theatre geometry with varied floor levels and ceiling conditions
- Dependence on scan quality and visibility for accurate element identification
- Limited access to concealed systems not captured in point cloud data



Techture Approach

- Used high-precision point cloud processing workflows to ensure model accuracy
- Developed discipline-specific BIM models strictly based on scan visibility
- Maintained clear validation checks to identify missing or unclear scan data early

Benefits

- Accurate digital representation of existing building conditions
- Reliable as-built BIM model to support renovation and retrofit planning
- Improved clarity through multi-discipline modeling
- Actionable insights into floor surface deviations through flatness analysis

