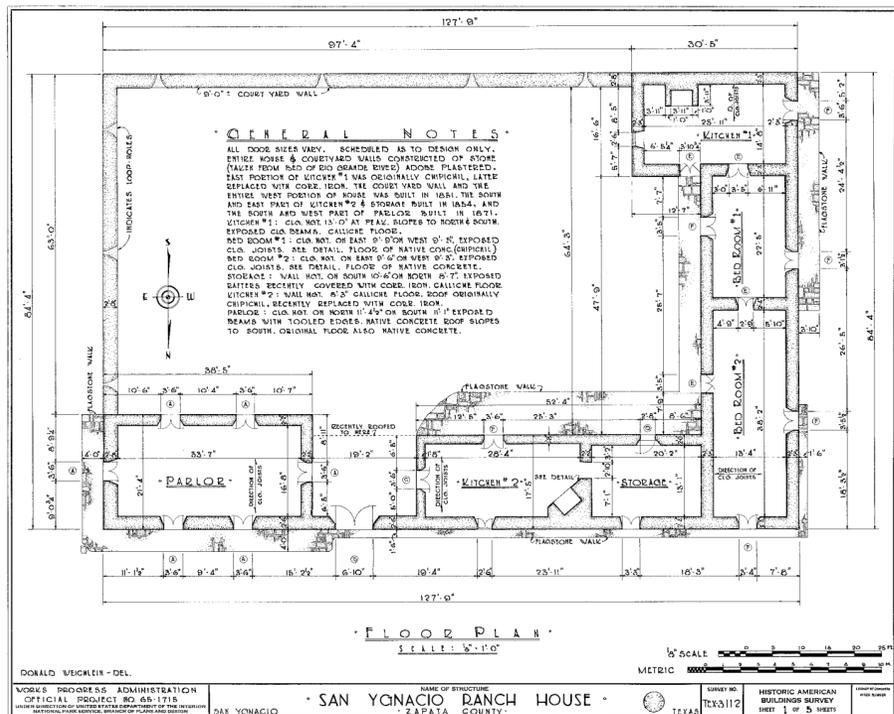
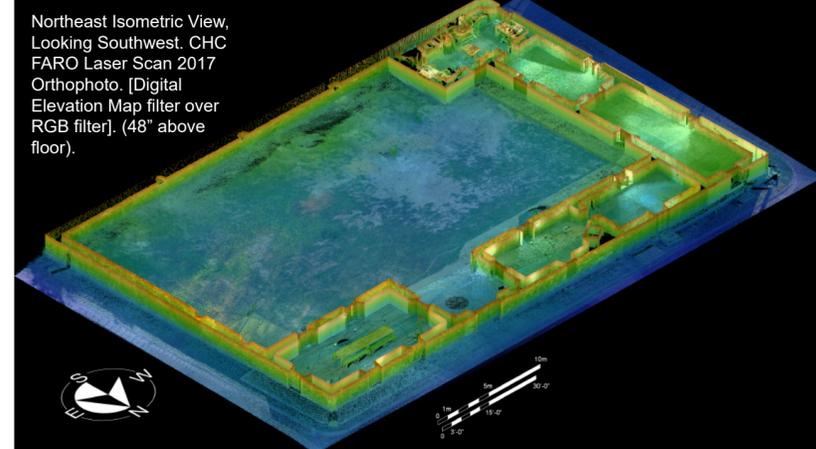


The Jesus Treviño-Blas Maria Uribe Rancho (or Fort Treviño) in San Ygnacio, Texas, is an important surviving example of a fortified home from the Spanish Colonial and Mexican periods of settlement on the northern bank of the Rio Grande River during the 19th century. Originally constructed in 1830 as a one-room, sandstone masonry structure with a flat chipichil roof and flanked by two defensive towers (*torreones*) with gun ports (*troneas*), the building was later transformed (1851–1871) into a multi-roomed, L-shaped complex framing a rectangular courtyard, that served both as a family home and as a place of refuge for the surrounding community. Employing largely local material in its construction, the complex attests to vernacular architectural techniques of the region as well as many cultural, economic, and political developments of the 19th and early 20th centuries. The building was documented by the Historic American Building Survey (HABS) in 1936 and was designated a Texas Historic Landmark in 1964 and a National Historic Landmark in 1998. Since 2009, the complex has undergone extensive stabilization and conservation by the current owner of the property, the River Pierce Foundation. A detailed historic structures report was completed in 2012 and has been used to guide current restoration efforts. In 2017, an architectural survey of the Fort Treviño complex utilizing terrestrial laser scanning was conducted by the Center for Heritage Conservation at Texas A&M University. While the primary goal of the project was to record the existing condition of the building and the integrity of its masonry fabric for use in architectural conservation, the data collected also allow for instructive comparisons with the hand-measured drawings from the HABS documentation of the 1930s, especially in terms of accuracy, precision, graphic standards, and interpretive purposes of both 2D and 3D architectural representations.

Traditional hand measuring and laser scanning are important tools in the documentation of historic structures today. Both techniques provide complementary data that can be used to produce high quality drawings and illustrations necessary to communicate meaningful information about architecture and design. For older, archival projects, such as the 1936 HABS documentation of the Treviño-Urbe Rancho in San Ygnacio, present-day terrestrial laser scanning can offer supplementary documentation on several levels. As an example, a comparison of the 1936 site plan with an orthographically corrected top view and plan generated by the point-cloud brings to light a measurable discrepancy. While the 1936 HABS plan depicts the complex with a perfectly rectangular outline, the 2017 laser scanning reveals a less regularized layout, with the east and west walls clearly tilted toward the southeast.



The laser scanning also discloses apparent conflicts between the HABS plan as drawn and the recorded measurements. Using the scale provided on the drawing sheet, the HABS floor plan is a bit larger than suggested by the detailed dimensions provided on the same page. A newly generated plan (CAD) based on the HABS measurements, however, closely aligns with the physical remains as recorded by the laser scanning, apart from deviations at the southeast and southwest noted previously. Another significant discrepancy pertains to the sizes of the 1830 *Cuarto Viejo* (“Storage” on the HABS plan) and the adjacent Kitchen #2 (probably built in 1851). In this case, the wall between the two rooms has been drawn too far to the west. Finally, the laser scan data have revealed subtle differences in the widths and orientations of walls that corroborate observations about the sequence of construction proposed in the 2012 historic structures report. For example, the western wall of *Cuarto Viejo*, the oldest part of the complex, is not precisely in line with the west wall of Bedroom #2, which was added in 1854.



East-West Section Through Northern Wing of Complex - View from North Looking South



North-South Section Through Western Wing (Casa Larga) - View from East Looking West



West Facade Elevation of Western Wing (Casa Larga) - View from West Looking East