



KEOSAUQUA BUILDING REHABILITATION

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Project Location and Scope

The site is located in Keosauqua Iowa at the corner of 1st Street and Van Buren Street. Shown in the Figures 1 and 2 are the street view and a reference map with the location of the site and the location of University of Iowa's campus.



Figure 1 site location in Iowa



Figure 2 Existing 1st Floor

Architectural Design

The Architectural design of the project was a complete redesign of the three interior levels as well as a redesign of the building façade. The first floor incorporates a new restaurant with an industrial kitchen and a capacity of 53 patrons. The second floor includes three varying apartments from three bed down to a one bed. Shown in the figure below is a rendering of the final design of the exterior of the building.

Civil Design

The Civil design for the site includes a new ADA parking stall near the south corner of the building. This ADA parking stall is grading up to a 5x5 landing at the base of a ramp that allows for wheelchair access to the ground floor. It also includes a graded driveway to a garage that houses dumpsters for the restaurant and apartment tenants to use.



Figure 5 Structural Framing Plan

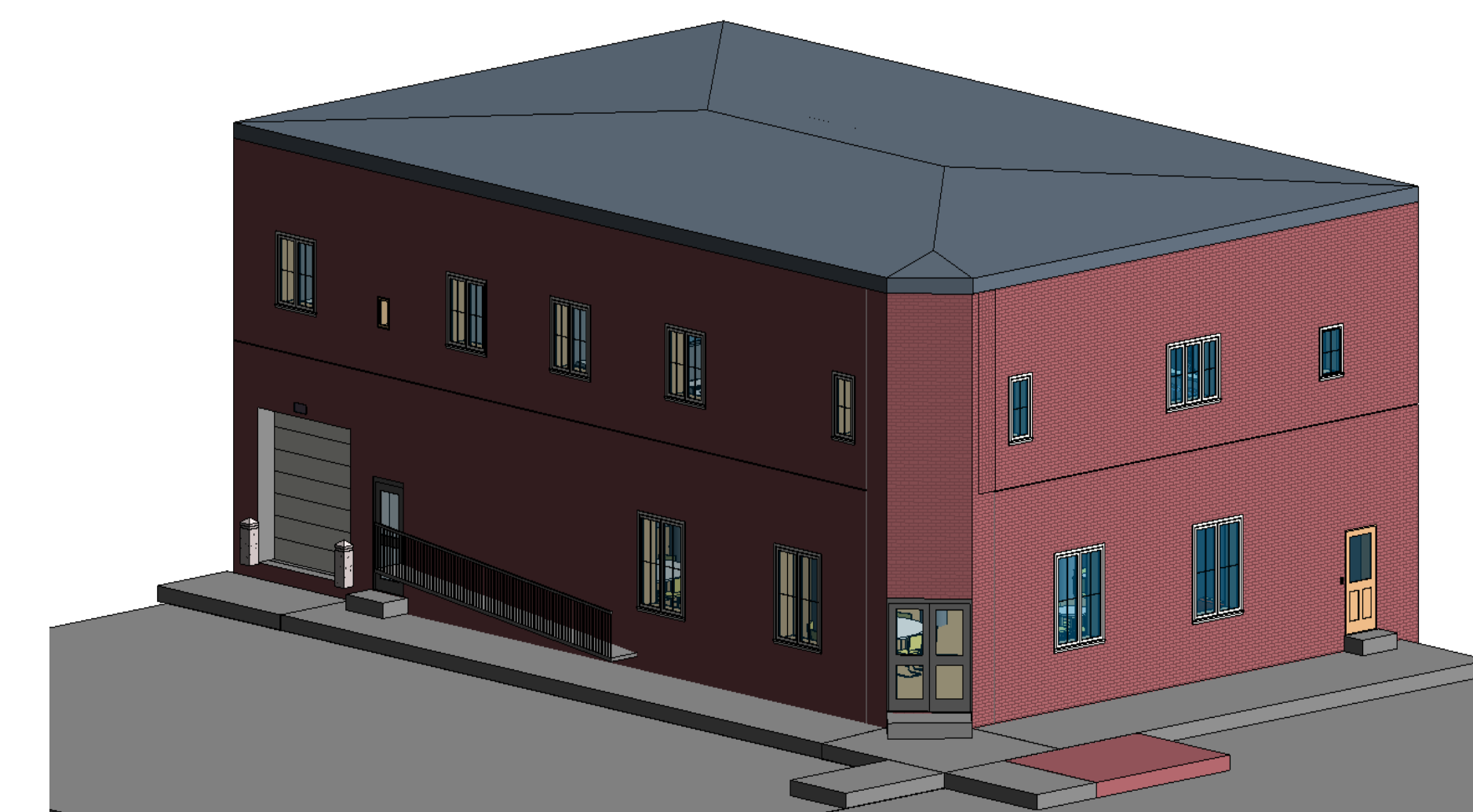


Figure 6 Final Design Rendering

Structural Design

The Structural Design was a composed a two-story steel floor framing plan. Both floor plans consisted of beams and girders, with columns going from the second floor down to the first floor. In addition, all three structural components are connected to one another via shear connections. This framing plan is a reconstructed plan from the original wooden floor plan. This change is necessary as both floors will have to take on substantially larger loads from our implementations. A figure of our two-story structural framing plan is shown below.

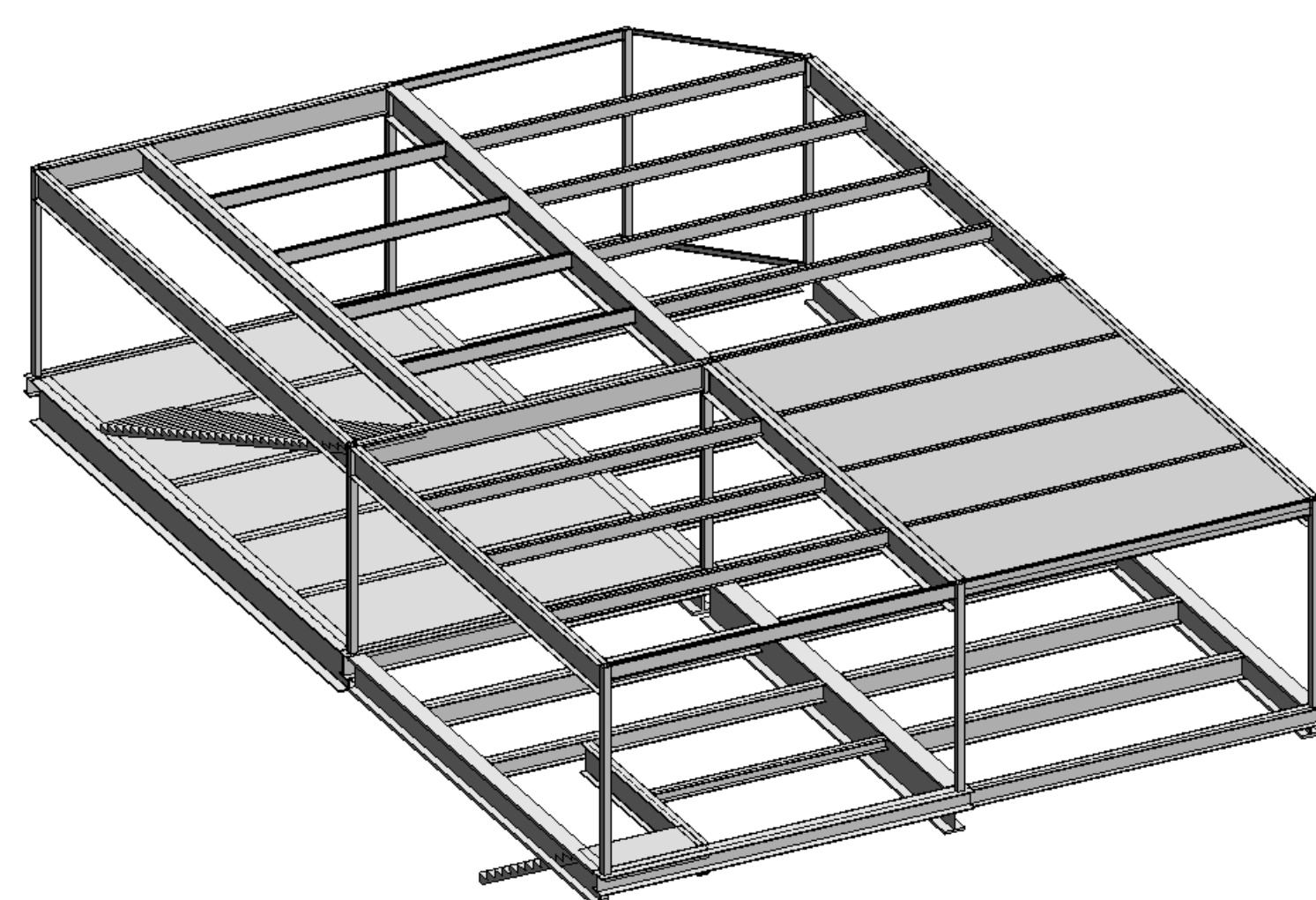


Figure 3 Structural Framing Plan

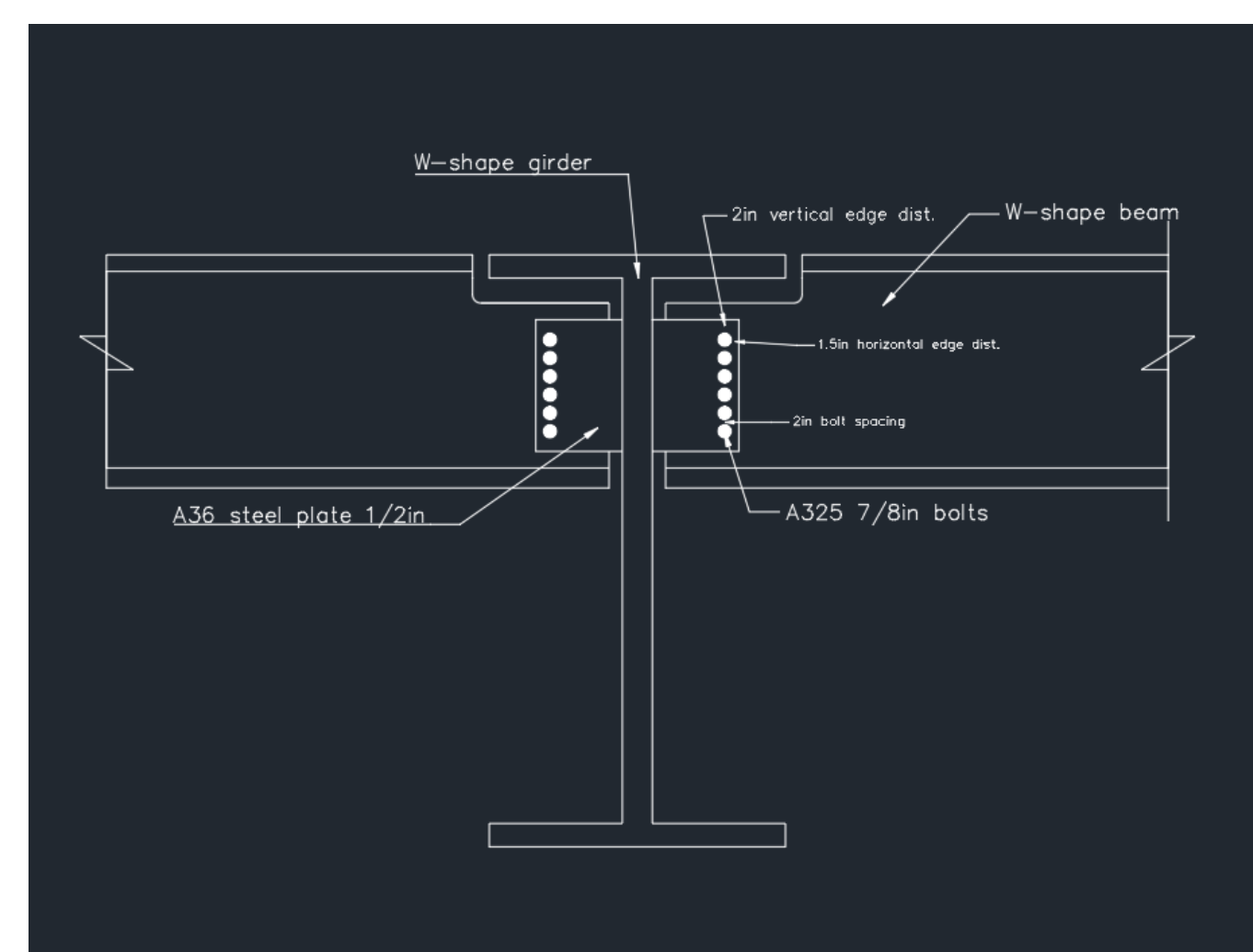


Figure 4 Structural shear connection

Cost Estimate and Recommendations

The total construction cost estimate includes the cost of demolition of both interior elements as well as some of the exterior elements on the site, renovation of the interior floors, and new construction of structural elements. A 20% construction and administration fee was added in addition to a 15% general contingency fee. These were all factors to the final cost estimate presented to the client.

Discipline	Cost (USD)
Demolition	\$85,000.00
Site	\$36,500.00
Structural	\$805,000.00
Architectural	\$345,000.00
MEP	\$233,500.00
Materials and Labor Subtotal	\$1,505,000.00
Construction and Administration (20%)	\$301,000.00
Contingency (15%)	\$226,000.00
Total Construction	\$2,032,000.00

Figure 6 Cost Estimate

References

International Code Council. *International Building Code*. Falls Church, Va. :International Code Council, 2000
 Iowa Statewide Urban Design and Specifications. Ames, IA. :SUDAS Board or Directors, 2023
 Keosauqua Iowa City Documents & Codes, Keosauqua, IA. :Keosauqua Chamber, 2023