

YMCA Building Renovation and New Construction

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Project Overview and Objectives

The YMCA building renovation and new construction is located at 274 5th Avenue S. The project will provide a new restaurant and luxury housing to the downtown district of Clinton, creating a new, vibrant asset for younger members within the community. The design was broken into architectural, civil and structural design components. A portion of the existing building was demolished to provide space for a restaurant and parking lot.



Figure 1. Renderings of proposed site plan (top) and building facades (bottom)

Restaurant and Patio Space

The restaurant includes a bar, a dining area, an outdoor patio and a basement storage area. Based on standard table sizes, the restaurant can accommodate approximately 240 seats. The restaurant features large open spaces to maximize usable building area along with expansive windows to provide ample natural light. Structural analysis was performed to design a system capable of accommodating the required loading.

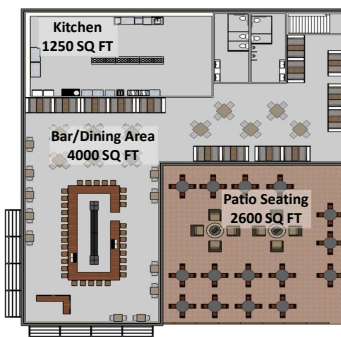


Figure 2. Restaurant seating layout (left) and interior rendering (right)

Luxury Apartment Building

The facility includes sixteen luxury apartment units, a fitness room, a lounge area, a recreation room, and a rooftop patio with greenspace. The site includes 57 parking spaces to be shared between customers and tenants. Structural analysis was performed on the building to ensure it could withstand the new loading on the floors and roof while maintaining stability during the construction of the new elevator shaft and stairwell.

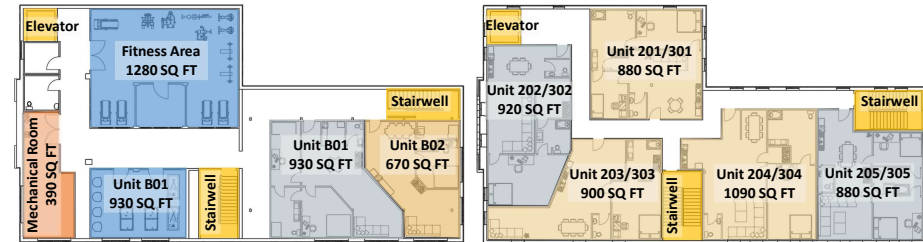


Figure 3. Layout of basement space (left) and second/third floors (right)



Figure 4. Interior rendering of unit 202

Construction Cost Estimate

The total construction cost estimate includes the cost of demolition, site construction, building renovation and new construction. Structural elements like columns and girders along with mechanical elements like HVAC and plumbing were determined to be some of the most expensive items. An additional 20% construction and administration fee and 15% general contingency fee were factored into the final estimate. The total construction cost was estimated to be \$13.4 million.

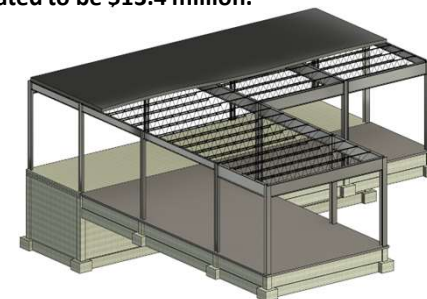


Figure 5. Restaurant structural model

References

ADA Accessible Details Builder's Book, ASCE 7-16, AISC Steel Construction Manual 15th Ed., Clinton Code of Ordinances, International Building Code (IBC), Iowa Statewide Urban Design Manual (SUDAS).