



N E U V U E

VUE THE POSSIBILITIES

CREATING AN INNOVATIVE PLACE FOR INNOVATIVE PEOPLE

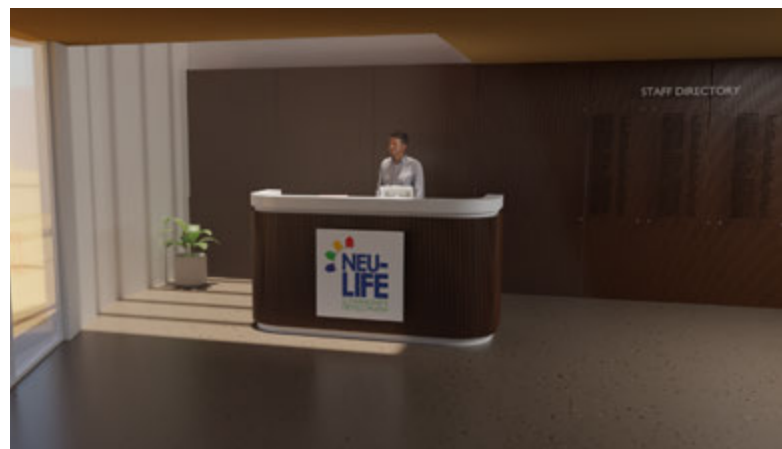




Sited directly West of downtown Milwaukee along the I-43 arterial, the NeuVue development will have long views overlooking the Deer District and Pabst campus.

Further, given the sites prominence, the building will have a significant presence in the skyline from downtown and the I-43 arterial, offering the unique opportunity to self-promote the NeuLife / NeuVue program through the architecture. At grade level and the lower level, the building integrates 75 shared interior resident and patron parking spaces. Grade level also houses separate lobbies for residents and patrons, but also a dedicated restaurant/teaching space for FarmFork.

A full basketball court/multi-use gymnasium with a large window framing views to the Deer District is featured on level two. Office/commercial space, resident units, and the Gymnasium encircle, and have access to, an outdoor courtyard at this level as well. Levels two through five will feature resident units that will be a mix of studios, one bedroom, and two bedroom units.





The building is topped off at the sixth floor with rentable event spaces, a full kitchen, and a bar area that all spill out to an outdoor roof-top terrace that faces South-East and promises long views to the downtown skyline.

All resident and patron circulation has been carefully studied to provide dedicated and secure access. Residents will have their own lobby and circulation. Patrons will have their own lobby and circulation. The building will be structured as a reinforced concrete frame and will utilize insulated precast panels as the enclosure system.



As stated, given the site's prominence and visibility, it was an early Team goal to compose the building to take full advantage of unique views of downtown and the opportunity for NeuVue to really be seen to promote and inspire.

With that, highly visible primary facades, East and South, are composed with a delicate veil of perforated metal panel which will be illuminated to provide a soft evening glow to the building's aesthetic. Mixed in, and featured in the composition, are color accent panels which are colors extracted from the NueLife logo.

The overall personality of the design is simple but unique. It intends to provide an abstraction or artful mosaic that captures the inspirational energy and mission of NeuLife and NeuVue.

SCALE:

6 stories above grade, 1 story below grade.

PROGRAM:

36 residential units

FarmFork / community kitchen +/- 2,600 sf

Full basketball court/gymnasium +/- 4,800 sf

Office/Commercial space +/- 15,000 sf

Event Space, Bar, and rooftop terrace +/- 9,500 sf

12th and Cherry St, Milwaukee, WI
July 19, 2023

NeuVue Building Budget Narrative

This report is to provide a summary of the cost breakdown for the construction of the new 6-story multi-use building. The primary construction of the building is conventionally reinforced cast concrete. The concept for using this method is that although initial costs are higher, the value is far greater due to the significant benefits. By using cast concrete, fire-ratings are already achieved without the need for additional layers of materials allowing the building to achieve the highest classification of construction of Type I. This has code benefits and long-term sustainability for the project while keeping the life-cycle cost of the building extremely low.



SITE WORK and PRE-CONSTRUCTION

The cost is estimated to be just under one million dollars. The pre-construction includes the Architects fee's, municipality permits, survey to combining the lots and soil testing. The site work will include the demolition, excavation of the site, bringing new utilities, providing for restoration of public ways and final landscaping.



PRIMARY STRUCTURE

The primary structure of the building is estimated to be three and one half million dollars. The soils testing will reveal the foundation style chosen, but a mat-slab foundation was budgeted for the entire 22,000 sq ft footprint. The below grade walls will be cast in place concrete walls with concrete columns. The ground level and second floor will be a waffle-slab design to allow for greater spans between supporting columns. Waffle-slab was selected since it does an excellent job of putting the right materials in the right locations. Most of the reinforcement resisting the tension forces are located near the bottom, while placing majority of the concrete near the top to resist the compressive forces. The portion of the third floor where the offices will be located will also be Waffle-Slab allowing for large spans, while the remaining of the third floor and all floors above will be done as flat plate slab. The residential units will be separated by supporting concrete walls that will support the slab. This will reduce the columns in the building and the concrete separation walls will automatically provide the code required fire-resistive rating between units. The roof structure over the gymnasium will be a steel structure to manage the required spans but being greater than twenty feet above the floor will not require fireproofing to meet the Type 1 construction. The other roof areas may be steel, but with encasement in gypsum board to provide the required fire rating. The total volume of concrete is estimated to be at 6500 yards with 524 tons of reinforcing steel.

EXTERIORS

The roofing and exterior cladding was estimated at \$577,000. This is in part due to the idea of using a low sloped roof style instead of the flat roof style. This allows for better drainage of the roof and increases the life expectancy of the roofing system. The exterior cladding of the walls is budgeted to be a perforated steel panel system to accent the architectural feature of the building. Allowing this to be hung like a curtain wall from the cast concrete building will have significant life-cycle cost savings. Windows for the commercial spaces will be of store-front design, while the residential units will have operable windows. The cost estimate for the windows is budgeted at \$120,000.



MECHANICALS

The mechanicals for the building include the Plumbing, HVAC, Fire Protection, and Electrical. The plumbing is straight forward with several sets of patron bathrooms located in various locations. The higher occupant loads of the gymnasium and rooftop event space will require additional facilities. The building design will be that the hot water is provided from a central location instead of individual water heaters for each residential and commercial space. The plumbing was estimated at \$475,000. The HVAC may be a costlier option, but throughout the life cycle of the building will prove to not only provide for the best comfort, but the lowest cost. The primary heating for the building will be in-floor hydronic heat. The hydronic tubing will be placed prior to casting the concrete floors. The low hot water temperature of the circulating water will allow for the boilers to reach 95% or greater efficiencies, all of which add to the extremely low operational cost. Extending beyond that each of the residential units will be individually zoned so that the occupants may control their desired temperature. Each individual residential zone will have an "on-time" monitor to ensure that occupants are not just wasting energy. The cooling for the residential units will be provided by individual mini-split systems which achieve some of the highest energy efficiencies. While the ventilation for the residential units is budgeted as being natural with windows. As for the commercial spaces, the in-floor hydronic heating will be a primary source of heat while roof-top and air-handlers will be used to

provide the cooling and ventilation requirements. The roof-top and air-handlers will also be provided with heating capabilities to provide tempered outside air for ventilation in the wintertime. It should be noted that on the ground level of parking will be considered an open parking which allows for natural ventilation. The lower level will have enclosed parking and will be heated but will use intermittent ventilation with CO monitors to provide the greatest energy savings and thus cost savings. The HVAC cost were estimated at \$425,000. Fire-Protection for the building was estimated at \$575,000. A few key points about the Fire-Protection is that since the main level is an open parking garage and the class of construction is of Type IA, this area does not require a sprinkler system, which not only saves at the initial installation cost by not requiring a dry system, but over the life cycle cost of the building. The entire system will be a wet system which is notably less to maintain. The Electrical for the building will be individually metered for each commercial space and residential unit. This will allow for the monitoring of each of the commercial spaces as the cooling and ventilation loads will be dependent on the amount of usage. The residential units having the cooking and mini-splits as the largest energy draws are metered individually to allow the occupants direct fee-back on their own usage. The emergency lighting for the entire building will be by a central battery un-interrupted power supply (UPS) while the back-up generator will be needed for the elevator and other loads. One key point to this style of back-up power is the generator will have 90 seconds before it needs to pick up any loads which allows for a lower maintenance and less costly generator. The electrical is estimated at \$325,000.



OTHER MECHANICAL BUILDING ELEMENTS

Two individual traction type elevators were estimated at a cost of \$125,000 each with the associated shafts figured separately. Low-voltage type wiring within the building which includes the Fire-Alarm system, and the communications was estimated at \$120,000. The trash chute, trash room and a kitchen hood shaft to serve the first-floor farm-fork area were constructed as part of the primary structure. Cast-concrete easily achieves the required 2-hour fire ratings. The metal ducts for these are estimated at a cost of \$35,000.

INTERIORS

The interior of the building consists of wall finishes and flooring along with all the millwork doors and cabinets. The roof framing over the offices and roof-top event space does require gypsum board to achieve a fire rating while the rest of the structure will have the gypsum board for architectural or cosmetic reasons. The building is estimated to require 256,000 sq ft of gypsum board installed and finished. The cost of this is estimated at \$640,000 which includes the cost of painting. Doors and hardware for the building were estimated at \$125,000 which all the commercial and residential entry doors will be hollow metal frame design. The millwork, which will include the residential cabinets along with casework for some of the commercial spaces, was estimated at \$450,000. Flooring for the building will be polished concrete in many of the areas. The primary reason is that adding flooring over the concrete affects the in-floor hydronic heat. The polished concrete also has an exceptionally minimal maintenance cost over the life cycle of the building.

CONCLUSION

The primary focus of this building was to achieve a low construction and operating cost and being long term sustainable. To achieve this the life cycle cost of the building was looked at carefully along with materials, design, and construction techniques. The cast in place concrete with conventional reinforcement is a very well proven design for extremely low life-cycle cost. Looking at history in the City of Milwaukee, we find many buildings standing after one hundred years that are in great shape using the cast in place concrete. The techniques used to construct these buildings is amazing when we consider the time period that this construction happened. Using this quite simple, efficient approach to the construction of NeuVue is the way to significant cost savings for the construction while also giving the lowest operational cost. Using modern formwork that can be handset is the key. Eliminating the need for a tower crane for construction. A simple telescopic forklift will reach almost everywhere while carts can move material around on the floors. At less than 75' in height a concrete pump truck will be able to place the majority of the concrete which will be delivered to the site in Ready-Mix Trucks, two things that were not available 100 years ago.



Then the real beauty of the concrete shows achieving great fire rating resistance allowing for elimination of costly fire-stopping and layers of fire proofing to achieve a rating. The high maintenance of the dry sprinkler system eliminated all while still having an extremely safe building. Even if the building was experiencing a fire, the compartmental design by having cast concrete, means that the adjacent spaces are return to service in a very short time possibly even same day. Another area that should provide significant cost savings is the logistics of the project. Unlike many projects that are happening today, the timeline of this project is lengthened. This allows for significant pre-planning that will reduce the errors of rework, allowance for efficient construction techniques all of which reduces the project cost significantly. Having a small team of workers that have a larger picture of the complete project aids in cost savings opposed to lots of workers scrambling to work over each other.