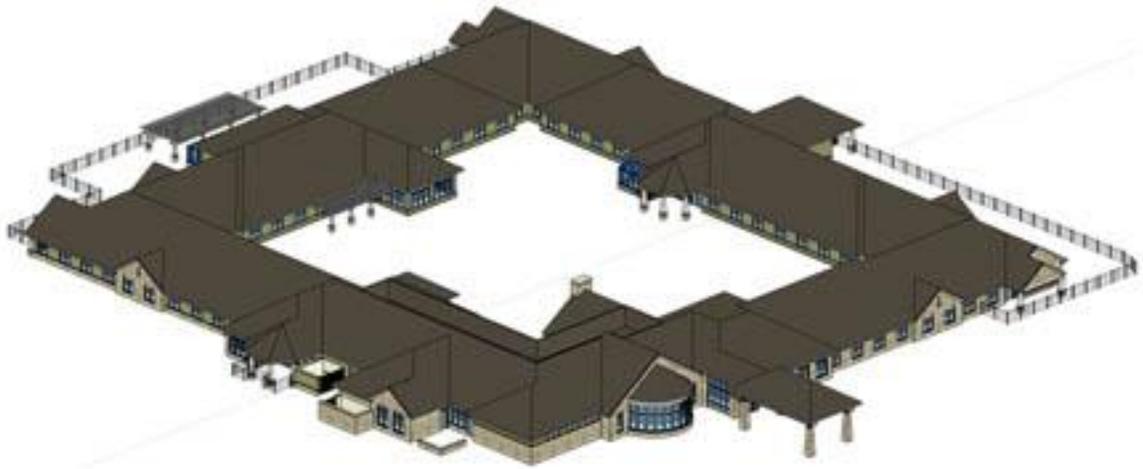


Building Statistics

Part 2

Cameron Mikkelson



Silverado Senior Living

1105 Davidson Road
Brookfield, WI 53095

Project Team

General Contractor:	Hunzinger Construction Company
Architect:	Eppstein Uhen Architects, Inc.
MEP and Fire Protection Engineer:	Matrix Group Engineering Consultants
Structural Engineer:	Pierce Engineers, Inc.
Civil Engineer:	JSD Professional Services, Inc.
Landscape Architect:	R.A. Smith National, Inc.

Construction

Silverado Senior Living was a design-bid-build in which Hunzinger Construction Co. was the general contractor for the project. The basis of payment for this facility was Cost of the Work plus a Fee with a Guaranteed Maximum Price. The architect, civil engineer, landscape architect, and were hired directly by Silverado, and Hunzinger maintained lump sum contracts with all other subcontractors. BIM was utilized early on in this project to develop weekly estimates during the design development and construction document phases. These estimates provided Silverado with current cost information so they could evaluate which type of MEP systems, among other potential amenities, were feasible. Clash detection and 3D coordination was also utilized on this project to eliminate field conflicts.

Early on, the focus of the project team was to complete all civil work as soon as possible, so they would satisfy the City of Brookfield's storm water run-off requirements. An early work permit for the civil portion was obtained before the construction documents were finalized. Sitework was broken into three phases, which included all earthwork, installation of two storm sewers, detention pond, and the parking lot. No fill dirt or topsoil was hauled off-site, so the objective was to use all fill material, but still finish the grade so it drained from the north to the southwest section of the lot, which is where the detention and retention ponds were located.

Once complete, the next major step was erecting the foundation walls, pouring the slab on grade, and beginning the rough carpentry during the winter. \$175,000 was allotted to combat the cold winter conditions so construction could proceed as scheduled. Hunzinger self-performed all concrete work for the project, which involved using temporary enclosures, vapor retarders, glycol hoses, and accelerating admixtures to pour the slab on grade during below freezing temperatures.

Because the building was designed around an interior courtyard, the next sequencing challenge involved leaving a portion of quadrant A open. This allowed the necessary machinery to install the major mechanical equipment in their final rooftop locations. Once in their proper positions, the opening was closed so they could complete the remainder of the building envelope.

Electrical

Silverado Senior Living runs on a 208Y/120V electrical system which was provided WE Energies. Service is run underground on the south side of the building and passes through a utility transformer, utility meter, and ultimately into the main switchboard (MSB). The MSB is 1600A and is located in quadrant B in electrical room B165. From there, power is distributed to the eleven 120/208 Wye branch panelboards that range from 100A to 400A. The

main switchboard also serves the five RTUs located around the facility. Sleeping units and corridors are typically lit using compact fluorescent light bulbs. Areas usually used by employees normally utilize two-lamp 2'x4' fluorescent lensed troffers due to less stringent lighting specifications than the areas residents occupy. Alerted by one of the two automatic transfer switches when an outage is detected, an 80KW standby power generator is used to back up the following loads:

- Emergency Egress Lighting
- Fire Alarm System
- Telecommunications Equipment Racks or Cabinets
- Help Assist System
- Lower Level Sump Pumps

Mechanical

The HVAC for Silverado is provided via a split system with packaged RTU's with variable air volume and electric reheat that serve the exterior spaces of the building. In-wall gas PTAC's serve all sleeping units on the interior portion of the complex. Due to requirement made by the City of Brookfield, PTAC's were not allowed on the exterior façade of the building. The facility implements multi-zone controls based on the type of occupancy. All major mechanical equipment is located in one of the rooftop mechanical areas in each of the four quadrants.

Structural

The foundation of Silverado is composed of reinforced concrete footings that support the perimeter CMU wall, siding, and masonry veneers. A 5" thick concrete slab on grade with welded-wire fabric reinforcing supports the floor system, and concrete piers are located by the main entrances to support overhead canopies. Wooden shear wall panels support the overhead roof truss system. Trusses are typically spaced at 24" O.C., and all top chords are continuously braced with by the roof or floor decking. Bottom chords are braced at 6'-0" O.C. or by continuous sheathing applied to the bottom chord. There is one rooftop mechanical area in each quadrant that is supported by a 12" deep precast plank with a 3" bonded concrete topping. The precast planks rest on top of flat roof trusses spaced at 24" O.C.

Fire Protection

Common use areas in Silverado are deemed as light hazard per NFPA 13. One-hour firewalls separate each quadrant with two-hour firewalls separating quadrant C from D and quadrant B from A. A wet-pipe sprinkler system is utilized throughout the facility except in the attic which uses a dry-pipe

sprinkler system. All sprinklers are to be automatic and quick-response sprinkler heads. Fifteen fire extinguishers are located throughout the complex.

Transportation

Because Silverado consists of one main floor and an attic with a catwalk, no elevators were installed. If needed, the rooftop mechanical areas can be reached by ladder.

Telecommunications, Data, and Security

Specifics of these systems have been withheld by request of the owner.