

COMMERCIAL Construction & Renovation

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Light and warmth

How Solara Hospitality's award-winning properties are elevating the customer service game

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Making inroads...

Casting a new light on prefab + modular

By Paul Nielsen

SWINERTON

The demand for prefab and modular construction is growing exponentially. Once stigmatized as a low-end and mass-produced mode of construction, the quality and subsequent benefits of this method have improved substantially and are making inroads to changing this perception.

In fact, the use of modular construction is expected to increase by 6% globally by 2022, as an increasing number of companies look to take advantage of its benefits.

Much can be gleaned from a high-end hospitality build in the heart of Midtown Atlanta that is employing prefab and modular construction. This dual-branded Marriott Hotel introduces its Element brand to the Atlanta market with four floors featuring 124 rooms, with an additional four floors and 158 rooms under the Courtyard brand. The building also includes a ground-floor restaurant, along with a lounge and bar with a second-floor terrace overlooking the famous Fox Theatre.

The main structure of the hotel is approximately 200,000-square-foot post-tension concrete building, which includes a 360 degree, three-story, helical ramp, four levels of parking, and the main lobbies for the Courtyard and Element Hotel.

The Element Hotel guest rooms were inspired by the modular design of Westin and are comprised of a four-story, 80,000-square-foot, Cold-Formed Metal Framed (CFMF) load-bearing interior and exterior building that attaches to the enormous transformer slab on the 11th floor.

All precast panels are being cast in Alabama, while the exterior CFMF panels are being made nearby in Suwanee, Georgia, just 35 miles from the project. Prefabricated elements include:

- › Exterior wall panels complete with a factory finished exterior façade
- › CFMF curtain wall style wall panels with a lightweight concrete finish assembly
- › CFMF panels with a factory-installed thin brick, masonry finish
- › CFMF load-bearing exterior panels finished with a lightweight concrete assembly
- › CFMF interior load-bearing metal panels without any finish
- › Precast exterior finished panels with a calcium silicate finish
- › Precast exterior finished panels with a thin brick masonry finish

Marriott's move toward prefabrication has four main components: Safety, Cost, Schedule and Quality:

Safety is the No. 1 priority for Swinerton. Prefabrication is a solution for lowering the fall risk of workers, materials and equipment from the jobsite. This practice helps protect our partners, our community and the overall safety of a construction site.

Costs

Construction costs can be reduced by as much as 20% due to the improved reliability of the construction process as a result of the

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controlled environment, reduced construction timeline, as well as bulk discounts available from material suppliers.

Schedule

Cost does not directly represent a price per square foot comparison between two different styles of construction, but the overall cost of the project based on total duration. By incorporating prefabricated materials into the project in a variety of scopes, it allows for installation durations to be reduced significantly, thus reducing cost. For example, whereas it takes one year to build the concrete structure, it only takes four months to have a completed, dried-in, exterior façade with pre-fab and/or modular components.

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Quality

The finished quality of the product is more reliable. Prefabricated materials are built in a controlled environment, with safer working conditions, without impact by weather, competing trades, debris and material waste from the installation of the product within the community. Machine precision ensures uniformity as well as conformity to specified codes and standards.

Additionally, prefabricated construction helps reduce the time and amount of construction activity on-site, minimizing noise, pollution, waste and construction traffic, creating a more efficient, productive work environment with less disturbance for neighbors and the local area.

Offsite prefabrication of the materials has enabled Swinerton to significantly reduce disruption in the Midtown Atlanta, where the new Marriott is situated at 640 Peachtree Street—across from the beloved Fox Theater and on one of the busiest streets in the city.

As density increases, construction costs remain uncertain, and innovative approaches to building solutions remain top of mind, prefab and modular construction will take a more significant role within the commercial real estate industry. For it to be effective, it will take the ability to look at different 2D and 3D components that make up projects and see how they can be incorporated.

When projects have similar elements such as student housing, apartments and hotels, the ability to fabricate more efficiently and control costs increases significantly. Current craft labor shortages continue to be a direct problem with traditional construction and can be a crucial element when manufactured off-site.

Overall, the future looks bright for both prefab and modular construction, and with advancements in technology, proper planning, creative thinking, the speed at which projects can be assembled will further help to reduce overall costs. **CCR**



Paul Nielsen is Operations Manager at Swinerton, where he manages the project's direction, schedule and personnel. He is also responsible for maintaining the project budget, project cost controls, and weekly reporting. Nielsen has built projects in a variety of market sectors including hospitality, corporate, healthcare, institutional, resort, and housing.