



## Sustainable Style: Precast Podiums



Rendering courtesy of JLA Architects.

By Robert Whitmore, courtesy of [PCI-IW](#)

*Efficient and flexible, podium style design works for developers and contractors*

The challenge for developers in today's building environment is to make the best use of limited space while providing amenities that will attract tenants and buyers. The solution is often a tried-and-true design mode that marries a sturdy concrete base with a light wood-framed tower. Podium-style construction, in vogue since the 1960s, remains popular because of its inherent advantages in maximum use of space, structural efficiency and design

flexibility.

A common podium configuration consists of one or more levels of a plank-beam-column parking structure below ground with upper deck, often hollowcore, providing both fire separation and structural transfer. In addition to the parking structure below, podium configurations often include an additional story of precast at the ground level for mixed use space, with four or five stories of wood-framed construction above.

The International Building Code considers podium-style construction as two separate structures - one on top of the other. The horizontal separation between the lower concrete podium and the wood structure above enables podiums to meet IBC fire-resistance ratings ([IBC Section 510.2](#)) more easily.

For the contractor, podium building design solves a host of issues, according to Aaron Gundlach, senior project manager for Krupp General Contractors, based in Madison, WI.

"It gives us a solid surface to start our wall construction," Gundlach said. "It cleans up a lot of load transfer details for the walls. And it gives us a nice clean separation for a UL fire-rated assembly. With metal decks and wood trusses, we get into way more complex systems to meet the necessary UL assemblies that separate the garage from the floors above."

Krupp General Contractors frequently works with Mid-States Concrete on podium projects in Wisconsin. Mid-States also erects most of the beam-column-hollowcore structures it produces.

Brian Blum, Mid-States Concrete senior project manager, spent 15 years installing podiums before moving into project management 10 years ago, "So I've been doing podiums every week for 25 years," he said. While the podium style has been common during that time, developers are looking at real estate costs, the availability of land in densely populated areas and weather factors in making podiums even more common now.

"In Chicago, real estate is expensive, and you don't want to pay for a parking lot when you can put it under the building," Blum said. "We see a lot of this in Wisconsin as well. With those Wisconsin winters, underground parking is definitely an amenity."

### **Courtyard Included**

BridgeWalk Apartments in downtown Waukesha, WI, meets many of those considerations. A \$30 million complex along the Fox River, BridgeWalk includes 116 units with heated underground parking along with a host of other features. Mid-States provided more than

43,000 square feet of hollowcore, beams, columns, precast wall panels and solid slabs for the podium under the apartment units. The U-shaped layout provides space for a courtyard green space atop the podium with dog walks and a grilling area. BridgeWalk does not include any retail, so the wood construction starts at ground level.

Tara Loomis, P.E., Mid-States Concrete senior structural engineer, said that BridgeWalk illustrates the versatility of podium construction and shows how engineers, architects and precast producers work together to solve issues.

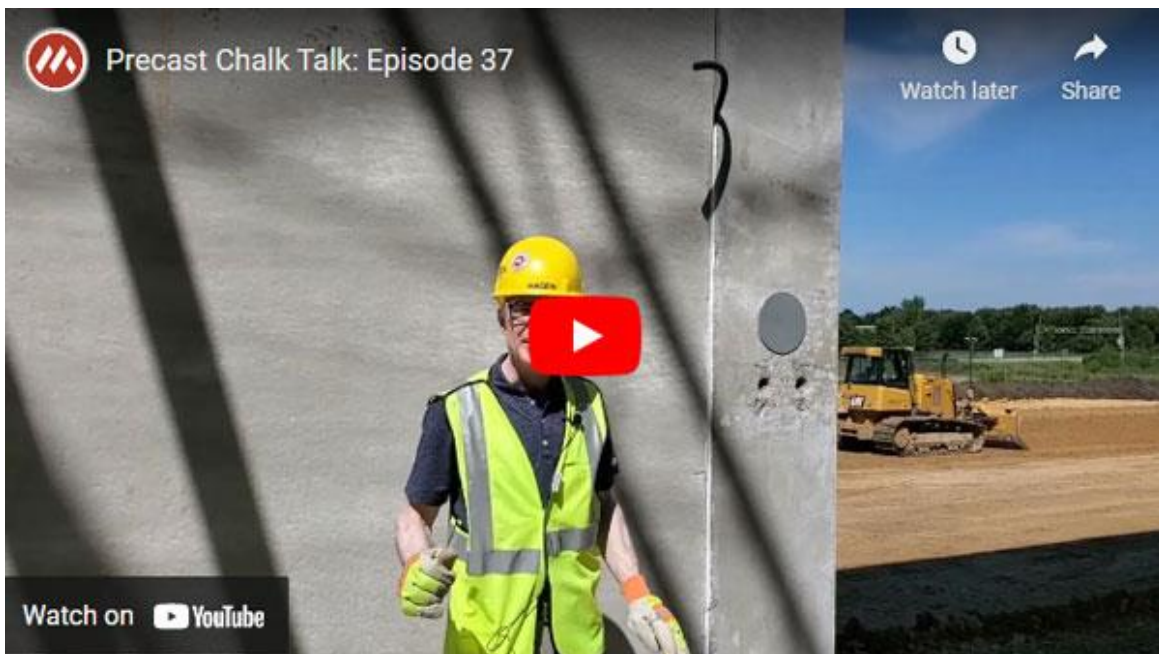
"This is a large project that included podium elevation changes that needed to be customized in the plant during fabrication," Loomis said. "We had to step our beams and step our planks down for the green space so they could get it built back up in those areas.

"The site also had a lot of water table issues, and they couldn't drop the footings any farther, so the head height was really tight," Loomis added. "We were able to adjust our beams and step our beams so that it all went correctly during the construction phase. It shows you the things we can do at the plant to get these elevation changes to work. All these things can be coordinated in the Revit (BIM) models, and the files are shared between the architect and the structural engineer to make sure all the steps are occurring at the right location."

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