

## Project team finds a way to build efficiently

By: Josh Kulla in Scrolling Box September 13, 2019 2:31 pm



The first of four modular boxes is flown into place atop a concrete foundation at the LISAH project site. (Josh Kulla/DJC)

**Transition Projects** doesn't develop a lot of buildings, so it's like to make them count. That's why the Portland nonprofit sought the most cost-effective and fastest construction method for its unique **Low-Income Single Adult Housing (LISAH)** project, in the **Kenton** neighborhood.

"When you look at the cost of projects you look at levers you can't affect, like the price of land," said Tony Bernal, Transition Projects' senior director of public policy and funding. "There's a lot that's outside of your control, so it's about those things that are in your control and how you can gain cost efficiencies there."

A preconstruction grant from **Meyer Memorial Trust**, Bernal said, led Transition Projects to choose modular construction for the project at 8550 N. Argyle Way. Thus far, Bernal said, the project's cost has been competitive with stick framing.

"It's fairly amazing as far as the process goes," he said. "The speed of construction is certainly one of the benefits that you see from modular."

LISAH will be four separate structures with a total of 72 units for individuals transitioning out of homelessness. All of the units will be available to people with incomes no greater than 60 percent of the median family income; at least 18 units have **Veterans Affairs Supportive Housing (VASH)** vouchers for veterans with as little as no income and as much as 30 percent of MFI.





Bent Level Construction employees, from left, Brody Humphrey, Cody Humphrey, and Darren Kilbourne prepare a steel rigging frame that will be used to lift a modular box into place. (Josh Kulla/DJC)

**Holst Architecture** designed the project, while **Walsh Construction** is serving as general contractor. The modular units were manufactured in North Portland by **Mods PDX**.

Three of the four buildings will be two stories, with shared rooms. Each of these buildings will have four separate modular units. Sleeping areas and bathrooms will be communal.

The fourth building will be three stories and have 35 studio apartments – 220 square feet each – and a manager’s unit.

Also, all four buildings will have dedicated community space.

On the construction side, the compressed schedule of modular building changes project management significantly.

“A lot of it was early coordination between us and (Mods PDX CEO Nathan Young) on how we were going to get a lot of our mechanical, electrical, plumbing, fire sprinkler routing taken care of in his shop,” Walsh Construction assistant superintendent Nick Cardoza said. “Typically you’re able to figure out some of those routing questions out as it’s being built, but this all had to be figured out a lot earlier.”

Communication is essential, Young said.

“It’s much more of a team-driven experience,” he said. “You really want to bring everybody together in the very beginning to talk about what we call ship loose, or items that are left to be done on the site; so we’re working very closely with Walsh to make sure there is good continuity from both subcontracting and material bases.”



The first of four modular boxes comprising an entire building is flown into place atop a concrete foundation at the LISAH project site. (Josh Kulla/DJC)



The payoff is evident in the timeline. Ground was broken on LISAH in July, and completion is expected by early March 2020.

"I think for us, trying to lop a month or two off the schedule means that we can house people much faster," said Jenn Sharp, senior project manager for development consultant **Housing Development Center**.

During initial site work, including installation of a huge dry well, the modular units were being constructed at the Mods PDX factory. Foundations for the four structures were poured just days before the first modular boxes were set. The three single-room occupancy buildings are now set, while the larger studio apartment building will be complete in October.

The modular units are fairly simple, with wood-framed construction and standard MEP configurations. They are over-engineered, Young said, to withstand transport by truck and then being rigged and set with a crane.

"You've got site-specific constraints that determine the modular," he said. "So it's about where the crane can go, size of the boxes, transportation issues."

On-site, carpenters from Walsh Construction subsidiary **RDF Builders** and Local 1503 constructed the foundation formwork. Meanwhile, a team of riggers from **Bent Level Construction** as well as Young himself and Mods PDX Director of Operations Pete Victoor set the first three modular units on Aug. 26 and 27.



Journeyman carpenters Shane Gill, left, and Dan McHarge, both members of Local 1503 and employees of RDF Builders, construct formwork for the foundation of one of the three modular buildings at the LISAH job site. (Josh Kulla/DJC)

"Bent Level is taking approximately one hour per box, maybe moving a little faster," Cardoza said. "This allows the building to be built as we're doing all the site work; there's a ton of underground piping in this project, so just the site graded out and getting this (retaining) wall in, all the infrastructure had to go in, and Nathan was able to build these buildings as we were doing that."

Yet Young thinks there is a lot of room for improvement.

"There is a need to figure out how to standardize the building process a lot more," he said. "Eighty percent of every building can be the same every single time instead of these uniquely designed buildings, which would allow us to standardize our process and increase our production flow and spit these out a lot faster so we can start to affect some of the housing crisis."

Modular construction on the scale of a modest project like LISAH isn't necessarily cheaper than traditional stick framing, Bernal said, but it's not more expensive either. And when the time savings is considered, it can be a sound choice.

"We knew what we were getting into and that we were going to explore modular," Bernal said. "I think it was worth it, but it took a while."





Cody Humphrey, foreman of a crew of laborers with Bent Level Construction, signals to a crane operator while rigging a modular box. (Josh Kulla/DJC)



Cody Humphrey helps guide a modular unit into place. (Josh Kulla/DJC)



Crews set a modular unit in place atop a foundation. (Josh Kulla/DJC)





Carpenter Ben Jenkinson of Rockwood Cabinetry prepares strips of interior trim at the Mods PDX warehouse in North Portland. (Josh Kulla/DJC)



Installer Luis Rodriguez of MidValley Construction installs sheets of drywall inside a modular unit being manufactured for the LISAH project at the Mods PDX warehouse in North Portland. (Josh Kulla/DJC)



Apprentice carpenter Daniel Perez, a member of Local 1503 and an employee of RDF Builders, constructs formwork at the LISAH site. (Josh Kulla/DJC)

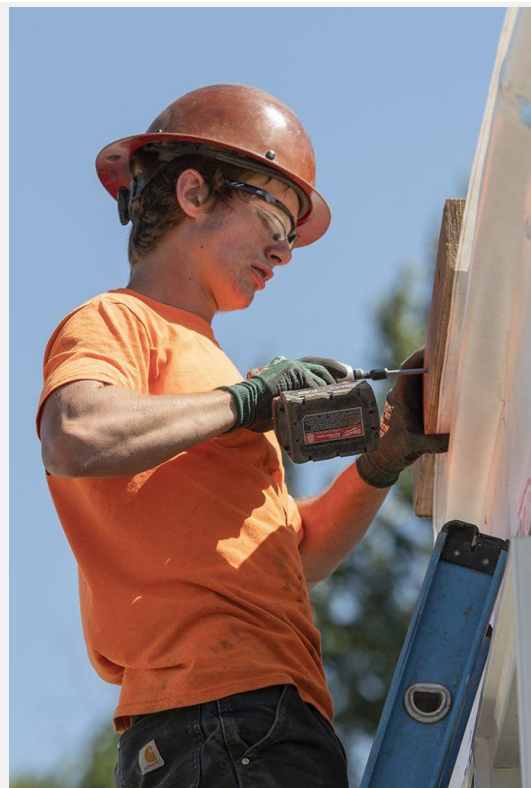


Darren Kilbourne, a laborer with Bent Level Construction, muscled a modular box into position. (Josh Kulla/DJC)



Bent Level Construction employee Brody Humphrey helps guide a modular box into place at the LISAH affordable housing development in North Portland. (Josh Kulla/DJC)





Brody Humphrey, a laborer with Bent Level Construction, helps prepare the rigging for a modular box. (Josh Kulla/DJC)



Cody Humphrey, foreground, and Pete Victoor, director of operations for Mods PDX, help guide a modular unit into place atop a foundation. (Josh Kulla/DJC)





Jambavan Zakheim, a journeyman carpenter with Local 1503 and RDF Builders, constructs foundation formwork. (Josh Kulla/DJC)



A modular unit is flown into place at the LISAH project site in North Portland. (Josh Kulla/DJC)



Cody Humphrey talks to a crane operator as he helps guide a modular unit into place. (Josh Kulla/DJC)







Cody Humphrey helps guide a modular unit into place atop a foundation. (Josh Kulla/DJC)



The first four modular boxes comprise one of the three buildings in the Low Income Single Adult Housing project in North Portland. (Josh Kulla/DJC)

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