



CASE STUDY

PURR-FECT PANELS

Catbird Hotel • Denver, Colorado



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OVERVIEW

PROJECT

Use

Extended-Stay, Independently Branded, Boutique Hotel

Size

110,549 sq. ft.,
7 stories, 165 units

Completion Date

Summer 2021

PEOPLE

Developers

Walnut Development Partners, Denver, CO

Sage Hospitality Group, Denver, CO

EXDO Development, Denver, CO

Project Architect

Shears Adkins Rockmore Architects, Denver, CO

Structural Engineer

Jirsa Hedrick, Eagle, CO

Construction Manager/ General Contractor

Farrington Construction Management, Denver, CO

Katterra Construction, Centennial, CO

Cold-Formed Steel Contractor

Life Drywall Systems, Ltd., Oakville, ON

Cold-Formed Steel Panel Fabricator and Erector

South Valley Prefab, Inc., Littleton, CO

Cold-Formed Steel Structural Load Bearing Framing Contractor

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STEEL

100,000 lbs. of cold-formed steel framing in the finish panels

Prefabricated Finish Panels Cut Labor by 90 Percent at Denver's New RiNo District Hotel

South Valley Prefab, Inc., regularly asks their clients to “Re-imagine the way you build” when showing clients the value of exchanging traditional field work for factory produced panels in the controlled environment of its Littleton, Colorado operations. Prefabrication helps the firm put money back in the pockets of their clients and lets their clients decide where to spend their money.

An example of this is South Valley Prefab's work at Catbird, a seven-story, 165-unit, extended-stay hotel at 3770 Walnut Street in the RiNo District of Denver.

“I remember the day Chad Ellington [of Walnut Development Partners] called me — December 23, 2018, my daughter's birthday,” says Brian Rohnke, president of South Valley Prefab. “He said, ‘Hey, Why aren't you looking at my building?’ When an owner calls and wants your product on their building, it gets your attention.”

That prompted South Valley Prefab to bid and eventually land the Catbird job, which

involved 277 exterior finish panels.

V-SHAPED BUILDING

Catbird is a project led by Walnut Development Partners, Shears Adkins Rockmore Architects, Katterra Construction, and Farrington Construction Management. South Valley Prefab fabricated and delivered non-load-bearing finish panels, which integrate with load-bearing CFS framing system and long-span composite metal decking erected by Infinity Structures.

Most of these players toured South Valley Prefab in 2019 to see its panel prefabrication processes. Team collaboration and production efficiency were important at Catbird, especially due to two site limitations:


1. Catbird is situated on a triangular lot formed by two streets crossing at acute angles.

2. The hotel is V-shaped. This is in part due to the triangular lot, but also to an existing home built on site originally in 1890. The developers wanted to preserve this historical






South Valley Prefab's Brian Rohnke says his firm is turning construction into an assembly line, like something at Chevy or GMC.



Doing this scope of work with 6 crew members, instead of 60 or 70 working off scaffolding, increased safety on the job site.



South Valley Prefab installed Catbird's exterior rapidly. One floor of exterior finished panels was set every 2 to 3 1/2 weeks.



Catbird's exterior skin features 100,000 lbs. of CFS studs — a total of 277 individual exterior finished panels, 200 being unique.

structure and designed Catbird to angle around it.

"There are multiple different inside and outside angles to the footprint of the Catbird," Rohnke says. "It's an extremely tight site and there was little to no room for scaffolding and only one tight location on site for a tower crane base."

MOTTLED CONCRETE LOOK

To accommodate Catbird's angles, Rohnke says South Valley Prefab custom fabricated CFS framing to create outside and inside corners at 135 degrees and 62 degrees.

"All of our finish panels are built on a chassis of cold-formed steel stud framing," says Rohnke. "We have an inverted 'L' angle attached to the bottom of the panels so they fit around the edge of the concrete floor. It cantilevers down 6" over the edge of the slab and provides support for our sheathing, weather barrier, continuous insulation and finishes. This design allows us to provide a finished panel that covers the entire floor height, plus the edge of the slab."

For this project, South Valley Prefab designed a chamfered edge to the panels, which helped "soften" the look of the ex-

terior, Rohnke says. The developers wanted panels with less of a "stucco" look and more of a hand applied concrete finish or pre-cast look to them.

To create this look, South Valley Prefab used an acrylic plaster called Alto, a product of Parex USA's Variance Specialty Finishes.

To create the mottled, hand-finished, concrete look, South Valley Prefab applied a cementitious basecoat. Next, the prefab shop spray-applied a coat of Alto, and then a second hand-troweled Alto coat. Finally, crews sprayed the finish with water and troweled the acrylic plaster by hand again to burnish the finish.

South Valley Prefab designed and fabricated 277 individual exterior finish panels, completing the panel fabrication for the entire project in 46 days. More than 200 panels were unique, and all were completed, stored and protected for a month prior to installation.

Exterior panel installation and interior load bearing CFS panels by Infinity Structures were installed concurrently. Installation of panels began in April 2020 and was "98 percent complete," Rohnke says, by the second week of August. That

equates to one floor of exterior finished panels and building structure set every 2 1/2 to 3 weeks.

SIX DO THE WORK OF 60

Catbird's structure and skin went up concurrently, and the exterior skin was actually topped out prior to the structure topping out, which is very unique to construction.

"We're turning construction into an assembly line," Rohnke says. "It's really not much different than a Chevy or a GMC automotive line."

Quality was also a factor. By designing the panels with CFS, it provides a strong and consistently flat substrate that is the chassis of the panel. All of the other layers of the panel are directly adhered to each other, so if there is inconsistency in the framing, it could transfer through to the finishes.

Finally, the panel erection reduced the amount of on site labor. Rohnke says South Valley Prefab needed only six installers on site. "To do the same scope in the field off of scaffolding, in the same timeframe, would normally take 60 to 70 people," he says. "Right away, you're eliminating 90 percent of your onsite labor."



South Valley Prefab's crew installed exterior finish panels just a few feet away from a 130-year-old structure preserved on site.

Catbird Hotel

RiNo District,
Denver, Colorado

DESIGN

- 7-story hotel
- 165 studio and 1BR units
- Full kitchens, high-end housewares, multi-functional furniture

SPECIAL FEATURES

- Building frame: Hybrid of structural steel and CFS framing
- 3,300 sq. ft. rooftop deck
- Existing historic home on the site preserved as an amenity to guests

EXTERIOR FINISH PANELS

- 100,000 lbs. of CFS studs
- 277 individual exterior finished panels, 200 unique
- Chamfered edges
- Additional track and bracing
- Mottled concrete finish features Alto acrylic plaster from Parex USA



South Valley Prefab is an SFIA Certified CFS Contractor.



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Submit a case study to submissions@BuildSteel.org.

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