

2013 Best Real Estate Projects/Renovation: Dept. of Motor Vehicles

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Dubbed by some as “the ultimate recycling project,” DMV’s rehabbed headquarters building in Sacramento has won kudos from builders, staff and customers alike.

The project involved the Department of Motor Vehicles bringing its 1960 vintage headquarters into the 21st century, filling it with light, making it energy efficient and increasing its ability to ride out an earthquake.

The transformation got plenty of applause from the Best Real Estate judges. But some struggled with the fact that it took nearly 15 years and \$120 million to get the job done.

“However, looking at what they actually spent, we ended up with the feeling that you couldn’t replace it for that,” said judge Robert Boucher. “We liked the idea that it’s a re-use, and they could maintain the facility without having to tear it down.”

Why did the job take so long?

First, the DMV needed to keep its 2,000 employees in place while the work was being done. There just weren’t that many 500,000-square-foot buildings nearby that the DMV could have leased for a couple of years, and the department didn’t want its staff spread piecemeal around the central city while managing registration and licensing for California’s 33 million cars.

“The unsung heroes of the project are the folks who worked at DMV and who were patient and accommodated the work around them,” said Nick Docous, an architect and principal with Lionakis, which did most of the design work. “That took a lot of coordination and cooperation from the contractors, from DMV and everyone involved.”

To keep the building functional meant renovating one floor at a time and playing musical chairs with the staff.

“Everybody had to move at least once, and some had to move multiple times,” said Michael Haviland, who managed the project from start to finish for the California Department of General Services.

Each floor had to be bid as a separate project. And with the state’s fortunes rising and falling a couple of times in those 15 years, the funding wasn’t always available.

“In times of scarcity we just held in place and waited,” Haviland said.

Where to start?

The bones of the building — the structural steel and concrete from the 1960s — remain strong and are perhaps even sturdier than current designs. But the 63-year-old building had plenty of other upgrades it needed. First, it contained asbestos and lead paint. Second, little sunlight made it to the center of the 72,000-square-foot floor plates.

“Because this was a project that not only did floor-by-floor interior reservation, but had a re-skin component, you might think you’d start from the bottom floor and move up,” Docous said. Instead, work started on the second floor, giving Lionakis breathing room to redesign the more complex first floor, which contained the cafeteria and day care center. The first stage also included the foundation work needed for the re-skinning.

The final segment had three elements: the sixth-floor remodel, the re-skinning of the exterior, and construction of a centralized heating and cooling plant.

Better performance

Building materials have come a long way since 1962, when the headquarters opened. Back then, thermal windows couldn’t be made very large, so uninsulated metal panels filled the space under the 3-foot-square panes of glass. The replacement windows measure 9 feet by 6 feet, with glass from floor to ceiling. Lots more light floods in, and the building offers outstanding views stretching from downtown to the Sierra.

Lionakis settled on a carbon fiber wrap to seismically stabilize the building. On parts of the south and west sides, which get a lot of summer sun, Lionakis designed a dual skin. The clear outer layer still lets in the light, but the pocket of air between it and the building acts as a buffer. Vents can open at the top and bottom of the envelope, making the pocket a kind of chimney to send the hot air out the top. By closing the vents in winter, the sunlight helps keep the building warmer.

The entire DMV campus south of Broadway got a new central plant that provides chilled water and steam heat.

The improvements are expected to save \$126,000 a year in energy costs, or about 16 percent. The American Institute of Architects now uses the Sacramento DMV headquarters as a case study for energy retrofits.

The energy improvements were significant enough that the judges considered honoring the project in the sustainable development category, said judge Allison Otto.

The building had a few quirks that weren’t discovered until work began. It turns out that the exterior wall on the south side was a few inches out of plumb, Haviland said. And

repairs on a portion of the building after a 1972 fire didn't quite match the original construction.

While the DMV headquarters now looks sleek and modern, it's not full of elaborate finishes and expensive embellishments.

"It was never an extravagant project. We were always mindful of spending the public's money," Haviland said. "There was never a lot of fluff in the building."

So much time has elapsed that the DMV already has replaced some of the improvements made at the start of the project. Back then, it cost a lot to put variable-speed fans on the heating and cooling equipment. The price has come down considerably, so some fans from the early 2000s are being swapped out for new ones.

Most of the exterior improvements came last, so the DMV was able to take advantage of the latest developments in solar panels and thermal insulation.

Nearly 3,000 solar panels fit within an extension of the roof, delivering 479 kilowatts. The extension has been called a halo, but more closely resembles a graduation mortarboard.

After 15 years of study and work, it does symbolize a graduation of sorts. As judge Amy Lerseth put it, "This renovation turned perhaps the ugliest building in Sacramento into a modern, attractive, and functional facility."

Otto agreed: "I drive by it on the freeway every day. ... It makes a real statement now rather than being an eyesore."

About the project

The headquarters of the Department of Motor Vehicles, once touted as one of the ugliest buildings in Sacramento, was renovated inside and out over a period of 15 years. Improvements included seismic retrofits and energy savings. The renovation was completed in January 2013.

Who

General contractor: S.J. Amoroso Construction Co. Inc.

Design and structural engineering: Lionakis

Mechanical and plumbing engineering: Capital Engineering Consultants Inc.

Electrical engineering: Ken Rubitsky & Associates

Energy modeling: Timmons Design Engineers

Civil engineering: Warren Consulting Engineers Inc.

Location: 2415 First Ave., Sacramento

Size: 520,000 square feet

Cost: \$120 million