

# Detention center is defined by limestone

More than a decade in the making, the Van Cise-Simonet Detention Center fits into the architecture of downtown Denver, CO, with an exterior of Indiana limestone supplied by Bybee Stone Company of Ellettsville, IN

BY JENNIFER ADAMS

Building a monumental structure such as the Van Cise-Simonet Detention Center in the heart of downtown Denver, CO, was a daunting task for the City, architects and all others involved with its construction. It was imperative that the structure, which spans almost a half million square feet and built of more than 40,000 cubic feet of Indiana limestone, not only function safely and preserve the integrity of the justice system, but also complement surrounding architecture. While the entire process — from its first proposal to developing community support to construction — took more than a decade to complete, the new detention center was deemed a success at a ribbon-cutting ceremony on April 14, 2010, where Colorado Governor Bill Ritter and other dignitaries were in attendance. Additionally, it is seeking LEED certification from the U.S. Green Building Council.

The approximate 10-acre site is located where the old Denver Newspaper Agency had been formerly located. The detention center, which was named for former District

Attorney Phillip Van Cise and former Director of Corrections John Simonet, forms a new Judicial Plaza in Denver's Civic Center.

"It is an interesting building," said T. Lee Becker, FAIA of Hartman-Cox Architects in Washington, DC, the lead design firm for the project. "It was a scary project because it is a jail on a major public space. There were many things to consider. We wanted to create the most humane detention facility that met security and operational needs, but it also had to be a good neighbor. It is in a prime neighborhood — just north is the central business district."

To accomplish the goal, the design team of Hartman-Cox Architects worked closely with OZ Architecture of Denver, CO, the Architect of Record for the project, and Ricci Greene Associates of New York, NY, the Detention Architect for the project. "Ricci Greene knows how to make these types of facilities function really well," said Becker.

## SPECIFYING LIMESTONE

"The real goal was to improve the justice system process, and do it the best way we

can," Becker went on to say. "It was to preserve the dignity of detainees."

The architect explained that the detention center is where people who are arrested are brought in for booking and can be held anywhere from 24 hours up to two years — depending on their crime. The facility is also used to hold people who are brought into the City for a trial.

"Voorhees Robinson Associates worked with the Denver Sheriff Department to develop a detainee classification process," said Becker, adding that the facility is primarily for the male population. "There are a lot of cases dealing with drugs and alcohol. If someone is arrested, they are brought in for booking. Then it is determined if they are ill, dangerous or are okay and just got into a dilemma. Sometimes they may be processed and walk out the front door."

While the cost of the \$160 million project was always kept in mind, it was important that the appropriate materials were used to blend the expansive building with its surrounding environment. "It is massive, so we tried to make it look more like a museum





The exterior features 'shot sawed' Indiana variegated limestone with strips of Rustic Buff limestone. Photos on this spread and page 23 by Frank Ooms Photography, [www.frankooms.com](http://www.frankooms.com)

than a jail," said Becker. "That's why it is [comprised of] big shapes and covered in stone. We tried to design it as much as we could as a sculptural building. Every Day Room opens out into an outdoor recreational space. We kept detention windows on the public side to a minimum.

"We designed the building and organized the detention spaces around internal courts," the architect continued. "There was a desire to have light fall on the Day Room floors once a day. There is a lot of natural light in the building, which we worked as a series of layered volumes."

Becker went on to explain that Denver receives sunshine approximately 363 days a year. "It's very intense because the air is dry," he said. "We thought we would use 'shot sawed' Indiana variegated limestone with strips of Rustic Buff limestone for the building. The texture provided by the shot sawed process provides texture to the building that changes throughout the day as the 'Denver light' does. As the light changes, you will see the difference between the Buff and variegated limestone. You also get some lippage and shadows between the coursing — it is really amazing."



While the cost of the \$160 million project was always kept in mind, it was important that the appropriate materials were used to blend the expensive building with its surrounding environment. "It is massive, so we tried to make it look more like a museum than a jail," said T. Lee Becker, FAIA of Herman-Cox Architects in Washington, DC, the lead design firm for the project. "That's why it is [comprised of] big shapes and covered in stone. We tried to design it as much as we could as a sculptural building." Photo by Frank Ooms Photography, www.frenkooms.com

Bybee Stone Company, Inc. of Ellettsville, IN, supplied the two varieties of Indiana limestone. A total of 40,242 cubic feet of the material — 121 truckloads — was utilized in the design, and the majority of the material had a shot-sawed finish — meaning steel shot was used in the gang-sawing process to produce random markings for a rough surface texture.

"The limestone has a warm gray feel that relates well to the existing Civic Center buildings" explained Becker. "While most of the Civic Center buildings are of Cotopaxi granite, there is a 'chat sawed'

variegated Indiana limestone library in the Civic Center, and the color range of the new Detention Center worked with both.

"There was a lot of discussion about to build with brick or stone," the architect went on to say. "Everyone was worried about cost. We did a number of studies, and then the people in charge of the City all agreed that it needs to be done with stone. Everyone in their hearts know that's where it needed to be."

#### THE PRODUCTION PROCESS

The design team worked closely with

Bybee Stone Company to determine the most economical approach. "We thought the fewer pieces we had to set would be more economical," said Becker. "We asked them what were the largest-sized pieces they could do."

According to William Bybee, President of Bybee Stone Company, the limestone was quarried within 15 miles of the company's stone-processing plant in Indiana. On average, the variegated shot-sawed panels measure 8 feet, 5 inches x 4 feet, 5 inches.

"With variegated, you get a lot more color," explained Bybee. "The smooth bands



True craftsmanship is evident in the carving of the governmental seal of the City of Denver, which was placed over the entrance to the Van Cise-Simonet Detention Center. Bybee explained that this element consists of four panels that form an 8-foot-diameter circle. One carver completed the custom stone piece in five to six weeks. Photo by Henk Diepenbroek

of Rustic Buff, which goes around the building, give contrast. Lee did a really nice job of emphasizing and bringing out the color."

In addition to the massive limestone panels, Bybee Stone Company also fabricated six columns that were 27 feet tall and 5 feet in diameter and 18 columns that were 14 feet tall and 4 feet in diameter. The columns were made of variegated Indiana limestone with a smooth finish.

The stone company also proved its true craftsmanship by carving the governmental seal of the City of Denver, which was placed over the entrance to the Van

Cise-Simonet Detention Center. Bybee explained that this element consists of four panels that form an 8-foot-diameter circle. One carver completed the custom stone piece in five to six weeks.

In total, the entire process — from quarrying to fabrication — took nearly two years. "You have to take into consideration the time it took to make the drawings, quarry the stone, get approval and process the material," said Bybee. "When we were actually in fabrication, it took around one year.

"The time was normal of a project of this size," Bybee went on to explain. "Every job is

unique. They are all custom jobs. It took a little longer for the shot-sawed panels. We had to get a lot of slabs ahead of production."

Bybee also explained that several mock-ups were created at the processing plant and shipped to the jobsite. "They wanted to get an idea of how it might look," he said. "The architects, the general contractor and the mason were very good to work with."

#### THE INSTALLATION

The gigantic size of the limestone panels made the installation process somewhat challenging for the crew from AP Eberlein



Portable jobsite cranes were used to set the variegated shot-sawed panels, which on average measured 8 feet, 5 inches x 4 feet, 5 inches. Photo by Hank Diepenbroek

Co. Inc. of Denver, CO. "From a material standpoint, we had over 4,000 pieces that weighed 1,500 pounds a piece," said Pam Eberlein, company owner. "Of course, they couldn't be hand set. It was a real safety problem."

"There was concern about handling, so we decided to set the pieces mechanically with portable jobsite cranes," Eberlein went on to say. "It gave us a lot of predictability. There was a good sense of safety."

In addition to the large limestone pieces for the facade, there were also the massive columns to consider. "They were 5 feet in diameter and weighed 16,000 pounds each," said Eberlein. "That in itself was a real challenge."

And while the safety of the 30 workers from the install crew was a priority, pedestrian safety also had to be taken into consideration. "It was an extremely tight jobsite," said Eberlein. "It required close collaboration with the general contractor, Bybee Stone and ourselves. They were tremendous to work with. It definitely makes it easier for a great start and finish to a project."

Prior to installation, Eberlein explained that a mock-up spanning 40 feet in length and 20 feet high was set up. "They were interested in the color range of the quarry stone and the texture," he said. "The shot-sawed finish is beautiful." In total, it took a year and a half to complete the stone installation.

#### REALIZING THE DESIGN

With such a large project that had so many components, management was a key factor in bringing the design of the Van Cise-Simonet Detention Center to fruition. OZ Architecture, the Architect of Record, was instrumental in the entire process.

"Our responsibility was taking over for Hartman-Cox in the detailing and how the exterior skin would be installed," said Kelly Yamasaki, Project Manager. "We worked very closely with the general contractor and Bybee, and we also got input from the Indiana Limestone Institute. We talked with Bybee and the contractor to really strategize how to tie together the whole system."

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Among the factors that had to be considered were the security windows. "The security window manufacturers were not sure how to tie in with the stone," said Project Manager Kelly Yamasaki of OZ Architecture. "We talked with Bybee to really work out the details. Bybee was really helpful to us. Even before we started construction, they helped to assess potential problems and work them out ahead of time." Photo by Hank Diepenbroek

Yamasaki explained that they needed to determine how to work the waterproofing and flashing with the stone. "We had to consider how we could achieve the look Hartman-Cox wanted and make it a reality," she said.

Another factor that had to be considered was the security windows. "The security window manufacturers were not sure how to tie in with the stone," said the Project Manager. "We talked with Bybee to really work out the details. Bybee was really helpful to us. Even before we started construction, they helped to assess potential problems and work them out ahead of time. Some things did change once we started construction.

"That's an approach we share with Hartman-Cox — in terms that we are all open to listen to people that work with

stone every single day," Yamasaki went on to say. "It is important to see what is feasible. Listening to Bybee, Eberlein and Hensel Phelps telling us what was practical, and everyone working together, really helped figure things out."

In addition to appreciating Bybee's education on stone, Yamasaki also respected the work the company produced. "They did an amazing job on the City seal," she said. "It was great being able to see that craftsmanship is still here in the U.S." ■

#### Van Cise-Simonet Detention Center Denver, CO

**Architect of Record:** OZ Architecture, Denver, CO

**Design Architect:** Hartman-Cox Architects, Washington, DC

**Detention Architect:** Ricci Greene Associates, New York, NY

**General Contractor:** Hensel Phelps Construction Co., Greeley, CO

**Stone Quarrier/Fabricator:** Bybee Stone Company, Inc., Ellettsville, IN (Indiana limestone)

**Stone Installer:** AP Eberlein Co. Inc., Denver, CO

ABOUT THE AUTHOR: Jennifer Adams has been covering the trade for 15 years as Managing Editor of *Stone World Magazine* and Editor of *Contemporary Stone & Tile Design*. Much of her work focuses on design, and she has also written for a range of consumer and shelter publications. Adams has been awarded internationally for outstanding journalism.

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