

Category 3: Meeting the Challenge of a Difficult Job

Contractor: Saunders Construction, Inc.

Project Name: 9th and Colorado Project Implosion and Demolition

After the morning of Saturday, August 29, 2015, things would never be the same at 9th Avenue and Colorado Boulevard. At 8 a.m., Denver Mayor Michael Hancock pushed a button and the former Biomedical Research Building (BRB) on the defunct University of Colorado Health Sciences Center disappeared in a cloud of dust. Aside from the project team and owners, more than 75 people gathered to watch, including community members, media outlets and the merely curious. The implosion was over quickly, with zero incidents and little commotion, belying the long period of careful analysis, planning, and outreach that led to this successful moment.

Solutions of Special Projects

In 2014, Saunders was selected for the 26-acre 9th & Colorado Mixed-use Redevelopment Project. A joint venture of developers Continuum Partners and CIM Group, this urban infill project will revitalize an abandoned medical campus to create a neighborhood-focused destination. After being vacant for over 10 years, more than 14 buildings could not be salvaged for reasons including safety, structural integrity, or excessive damage from vandalism — including the 8-story BRB. Using traditional demolition methods, its destruction alone would require extensive safety enclosure methods and closure of at least one lane of Colorado Boulevard — which according to DRCOG, sees an average of 52,552 vehicles a day — for five to six months. Other risks aside, a long-term lane closure on such a heavily trafficked road would severely impact commuters, local businesses and residents, and access to two hospitals. A better solution had to be found. After considering multiple options, the Saunders team homed in on implosion.

Excellence in Project Execution and Management

The road to the BRB's implosion was a long one, with speed bumps and dead ends. Before the project team's recommendation could be presented to the owner, Saunders' executive team had

to agree it was the best — and a completely safe — option. Presented with their team’s findings, initial uncertainty became unqualified support, clearing the first hurdle.

The development team also took the decision very seriously, evaluating options based on three factors: safety, minimizing disruption to the surrounding area, and best value. According to Frank Cannon, Continuum’s Development Director, “We had a lot of questions. I was the guy standing in front of the community and if anything goes wrong, it’s on us.” After months of deliberation, they agreed implosion would best serve the project and the community.

The implosion had to be approved and permitted by the City and County of Denver, which was initially reluctant due to public safety. As Saunders Project Manager Brendan Lynch puts it, “Implosion is not a comfortable idea for Colorado, because it’s not common here.” Once convinced of the team’s and subcontractor’s qualifications and the plan’s safety, the City approved the idea.

Saunders then began a scrupulous process of planning, scheduling and preparing. Prep alone took four months. A former laboratory, the BRB contained equipment and materials (some hazardous) that had to be removed before being stripped down to its concrete skeleton. Meanwhile, the Saunders team began developing plans and schedules that covered the entire process “down to the minute before we pushed the button,” as Project Superintendent Bruce Fifer says. An equally detailed documentation set included plans for road closures, blasting, and neighborhood logistics. A master site map showed the blast sequence, road closures, dust control measures, and safety and control measures.

One year after the initial decision was made and eight months after starting what Fifer calls, “pre-planning on top of pre-planning,” the implosion occurred. Thanks to the team’s significant preparation, everything went precisely according to plan. Lynch sums it up. “It was a lot of work and the building was down in 15 seconds.”

Construction Innovations/State-of-the-Art Advancement

The team implemented drone photography to map the building and its structure to ensure all elements were accounted for before the blast plan was finalized. To help demonstrate the

reasoning behind implosion, 4D schedules characterized the disruption to the community with traditional demolition means versus implosion.

Environmental and Safety

As part of Saunders' sustainability initiative, approximately 44% of all demolition materials — total of 174,195 tons — were salvaged or recycled. The concrete, for example, was recycled as a new parking surface.

The importance of minimizing noise, dust, and vibration impacts in the area was further intensified by the presence of three nearby medical facilities — Rose Medical Center, the VA Hospital, and National Jewish Health — including one dedicated to respiratory health and another that treats Post-Traumatic Stress Disorder (PTSD). Saunders coordinated closely with the neighborhood and the campuses to understand their concerns, allay fears, and mitigate impacts as much as feasible. Specific mitigation measures included noise barriers and the use of industrial mist equipment to keep the building damp, “weighing down” the debris and thereby minimizing dust. Additionally, to minimize noise, the team determined the minimum amount of explosives that would still bring the building down in a choreographed and safe manner. Months prior, the team weakened the structure by removing columns and walls that were pre-approved by an engineer. A few days before, with fire and police personnel onsite, test blasts were performed to ensure structural failure without overblast that could cause damage neighboring structures.

On August 29, the intense preparation culminated as traffic control began at 3 a.m. and blast protection started at 4 a.m. Remaining safety measures were implemented two hours later and the team performed a one-hour walk-through. A crew of 60, including 20 Saunders employees, kept people out of the implosion zone. Two EMS crews and four fire trucks were also onsite. After a 7 a.m. “all clear,” events progressed to detonation at precisely 8 a.m. Project Engineer Allison Egan recalls, “I was amazed at how quickly the six hours (of preparation) went. And how the building fell exactly as designed, with only a tiny bit of debris.”

After the implosion area was deemed safe, clean-up started, entailing street sweeping plus debris removal from sidewalks and right-of-ways. The entire Saunders team, including management, pitched in and before 11 a.m., more than an hour ahead of schedule, all roads

were in full service. Cannon says, “The community was very impressed with the communication, the event, and the clean-up. Some said they were taken by surprise by the loudness and the size of the dust cloud, but they were very supportive, very happy with the efforts and the outcome.” Lynch adds, “I was surprised at how well-received it all was. People saw it as an event instead of a disturbance.”

Excellence in Client Service and/or Contribution to Community

Now welcome as an urban infill project replacing a long-vacant campus that attracted crime, vagrants, and vandalism, the 9th and Colorado Project has had several chapters. Though initially tainted by false starts under previous developers, the redevelopment team’s diligent efforts at outreach, plus their strong track record, had earned the community’s trust. Saunders knew the implosion could create an enormous setback in community relations. Community outreach surrounding the implosion would be critical to the success of the overall project.

Once permitting and planning were underway, Saunders worked with the developers on a robust outreach program that began with a series of 10 public meetings and presentations to seek feedback, answer questions, and learn about misconceptions or concerns. Two weeks before the implosion, a comprehensive PR campaign focused on the area within a 1-mile radius of the project, which includes 500+ single-family homes, 10+ multi-unit complexes, and 20+ adjacent businesses. In addition to media outreach, the team hung information on doors and handed out flyers, posted on social media and the project website, even implemented a hotline. Information shared included the schedule of events, an FAQ on implosion and why it was chosen, details on the actual and potential effects of implosion, road and business closures, safety and security measures, noise and vibration disturbances, dust control and clean up, and property risks. Additional community relations measures included building personal relationships with adjacent businesses and regularly purchasing their goods and services.

These outreach efforts resulted in overwhelming local support and great interest in the event itself, giving added value to the client in terms of PR and community relations. Media coverage by more than 40 local, regional, national, and international broadcast, print, and online publications reached a total audience of 93.4 million viewers (not including social media). Cannon says this resulted in a higher project profile and increased pre-leasing. “For 10

years, the project was not moving. Finally, things were starting to move – but they'd heard that before. But when you implode a building, the progress becomes very real to people. This was of enormous benefit to us.”

Despite several potential roadblocks, the 9th and Colorado Implosion was successful on all counts, with no safety or health incidents and direct benefits to the owner, the community and to the travelling public. Completed in September 2016, the demolition contract achieved 56% disadvantaged business participation, 23% above the goal. This unique undertaking offers proof that it's often as challenging — and as crucial and rewarding — to properly bring something down as to build it up.



Photo Caption: BRB Before Implosion

Credit: Paul Wedlake



Photo Caption: BRB After Implosion

Credit: Paul Wedlake



Photo Caption: Pre-planning Meeting at the BRB

Credit: Saunders Construction, Inc.



Photo Caption: Saunders President & CEO Greg Schmidt in Media Interview

Credit: Paul Wedlake

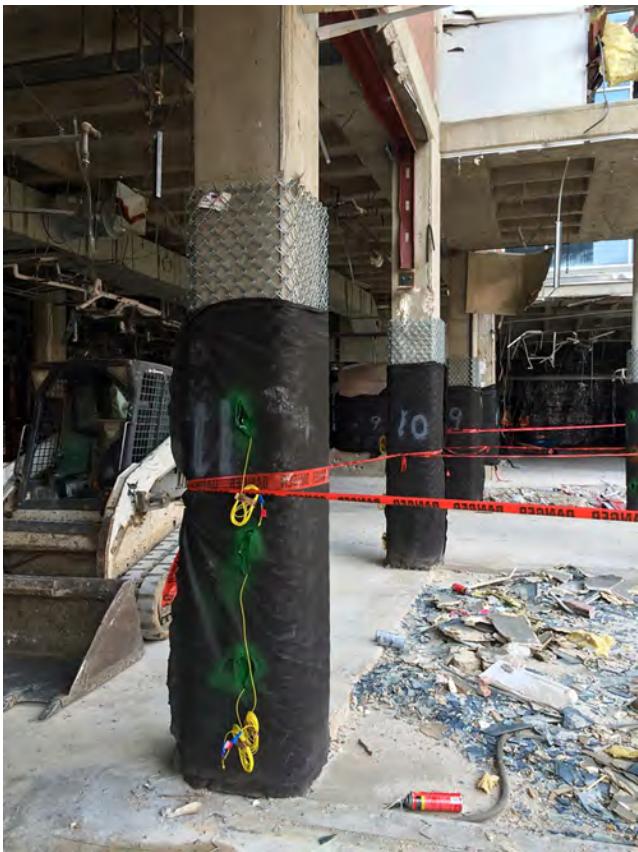


Photo Caption: Building Columns Prepped with Explosives
Credit: Saunders Construction, Inc.



Photo Caption: Test Blast to Column
Credit: Saunders Construction, Inc.



Photo Caption: BRB Implosion

Credit: Paul Wedlake



Photo Caption: BRB Implosion

Credit: Paul Wedlake



Photo Caption: Demolition Contract Complete – Start of Vertical Construction

Credit: Rocky Mountain Aerial



Photo Caption: Future Redevelopment of 9th & Colorado

Credit: Shears Adkins Rockmore Architects