

Category 3: Meeting the Challenge of a Difficult Job - General Contractor

Contractor: Gilmore Construction Corporation

Project Name: Design-Build Building 67 Consolidation - Denver Federal Center –

Overview Statement

Building 67, constructed in 1967, is a 14-story high rise building on the 623-acre Federal Center Campus. It is a prominent feature of the Campus. The project is a showcase for the GSA national Design Excellence program. The Bureau of Reclamation is the primary tenant of the building and this renovation provided the opportunity for Reclamation to consolidate staff and reduce space usage by 36%.

Key Project Challenge: Create an engaging, flexible interior environment to accommodate increased occupancy and meets GSA's "Design Excellence" requirements and complete construction while maintaining occupancy and ongoing operations.

Specific goals for the project included:

- Ensuring best value to the Government, its clients and US citizens.
- Meet the stringent guidelines of GSA's Design and Construction Excellence Program.
- Consider current consolidation demands while maintaining flexibility and adaptability for the future.
- Increase occupancy from the current 800 to 1030 workers.
- Provide timeless aesthetics and a collaborative, engaging environment for staff that supports their health and wellbeing.
- Reduce energy consumption and increase energy efficiency
- Conform to ISC and all security criteria.

Major complex challenges were presented to the design build team to design and renovate a 1967-cast-in-place structure within a short timeframe while maintaining tenant occupancy. However, another challenge quickly arose when the owner accepted several 'betterments' and bid options. The project doubled in size from \$13 million to \$26 million without an extension to the schedule.

These and many other challenges were successfully overcome by the design-build team, with the project being completed two weeks early and achieving high marks from the GSA, not an easy task.

Solutions of Special Projects

Design Intent

One of the most significant challenges was the goal of creating an environment to meet the operational needs for staff, provide security, privacy and well-being and create increased opportunities for collaboration. To accomplish these design goals, 360-degree views from each floor were restored by moving offices to the interior and making greater use of glass walls to enhance daylighting. Existing architectural features were honored including the

1960's-era waffle slab ceiling. Opportunities for collaboration were increased by extending WIFI throughout and creating multiple kinds of shared spaces, including informal teaming spaces, huddle rooms, smaller conference rooms and larger conference/training areas.

An open floor plan now provides greater flexibility for staff. Raised floors house electrical and heavy data and security features and allow for future flexibility in space planning. The raised flooring also eliminates the need for drop-down power poles. The team solved the additional challenge of properly sloping the new raised floor to meet the original floor levels in the core lobby areas.

To further enhance the office environment, the design team showcased a timeless masterpiece of major agency projects. These images are prominently displayed and also reflected in building graphics and wayfinding techniques. Recessed art niches enhance hallways while lower building levels reflect the nature of land and water and the upper floors reflect the skyline to represent the mission of the Bureau of Reclamation.

GSA is very impressed by the design, so much so that they want to bring the same state-of-the-art business environment to other government facilities across the US. With this project, Gilmore built its reputation as a "Outstanding Contractor" with GSA. In addition, GSA wishes to submit the project as "Best GSA" project in the nation.

Project Schedule

The project schedule was demanding. Even though most of the betterment and enhancement options were accepted a 14 story high rise building nearly doubling the contract amount, the schedule remained the same. The team had to abide by a strict set of approvals that took two to four weeks at the end of each design phase. This formal approval process was driven by the "Design Excellence" strict requirements and meant that the design phase couldn't be fast-tracked and construction could not begin until the full design passed multiple approvals.

Challenge of Asbestos Abatement

The 50-year-old building was full of asbestos and every floor required abatement. The complicated phasing and the need to maintain building operations during construction dictated that this scope be maintained in control of the construction management team. Hazardous materials were thoroughly abated in each space to assure that future modifications did not encounter this issue and expense.,.

To ensure environmental safety, a full-time industrial hygienist was on-site to monitor air quality and ensure contaminated materials were properly removed. Each floor began under full containment and with no access for four weeks prior to construction start. For increased safety, the air quality of the floors directly above and below was also monitored during abatement.

Complicated Logistics & Solution

The increased scope demands and timing for approvals, requirements for asbestos abatement, maintaining building occupancy, minimizing disruption and ensuring occupant safety presented many complications. However, the team excelled in meeting these complex challenges.

Gilmore devised a rolling schedule starting a new floor every three weeks and subsequently turning over a floor every three weeks. At the peak, all 9 floors had construction activity. The schedule was built on a top-down approach by starting on the 14th floor and working down. After an initial 2-week delay, where construction could not start due to the lack of available swing space, select staff began to telecommute to move the project forward. Gilmore quickly reworked their phasing plan and began on the 9th floor. This schedule included clearing the space, performing abatement, completing demolition, re-building the new interior spaces, re-furnishing those spaces, and moving staff back in. It was especially critical to keep subcontractors moving forward on the project and not create downtime that would tempt the subcontractors to move on to other projects. Many stakeholders were amazed at how a logistically complicated project kept on schedule, especially given that this was the largest project Gilmore had ever constructed. However, Gilmore's successful schedule management achieved 100% on-time turnover of all nine floors. Not a single date was missed. This is just one of the many reasons Gilmore received "exceptional" ratings from GSA- not an easy achievement.

Energy Efficiency

To meet the goals of increasing energy efficiency and reducing operating costs the following were implemented:

- Energy efficient LED lighting.
- Updated lighting controls with enhanced security features.
- Pressure was stabilized and airflow distribution was equalized throughout.
- Systems were modified to greatly reduce energy consumption and increase comfort to occupants, regardless of their location.

Excellence in Project Execution and Management/Team Approach

Gilmore's Sr. Project Manager, Mike Crase, was involved in every design meeting over the entire 12-month process. His continual physical presence, combined with a strong start to construction and ongoing communications, provided the environment where solid relationships and trust were quickly built. The client was informed, weekly, of project status, challenges and potential issues, and surprises on the project were not permitted. The open, transparent communication philosophy gave the owner such confidence that they were able to make decisions easily and shorten their approval process to keep the project moving forward efficiently. Without the trusting relationships, the project would not have finished on time.

Environmental/Safety

In addition, Gilmore made use of many of their project-proven protocols, including Methods of Procedure to minimize tenant disruptions, a site-specific safety training program for staff and client safety, and a Code of Conduct to ensure proper conduct of staff while on-site.

Due to construction in the occupied building, it was crucial to maintain safety and proper conduct. Construction access had minimal interface with ongoing operations and there were no lost-time accidents, no incidents and no schedule delays.

Excellence in Client Service and/or Contribution to Community

Although not required by contract, 13 of the 28 trade partners were small business representing more than 28% of the contracted value. In addition, four of these businesses are or were SBA 8(a) participants including Gilmore and Abo from the core DB team, and key trade contractors included JKS Industries (abatement) and Trujillo Special Coatings (painting).

Construction Innovations/State-of-the-Art Advancement

Perhaps, the greatest “tools” utilized on the project were the use of Lean Construction and Pull Planning. Gilmore set a new standard in Lean Construction. GSA was so pleased that they want to duplicate Gilmore’s Lean Construction approach as a requirement for other government projects.

With Pull Planning, the entire design/construction/client team attended boot camps and training workshops to ensure everyone understood the process and anticipated outcomes and were fully committed. During Pulling Planning, the entire team worked the project backwards from the end goal to gain different perspectives of the project and how each trade’s work impacted others. Pull Planning also provided a framework for decision making and buy-in. For example, during the planning, occupants more easily accepted the reduction of individual offices and the tradeoff for better collaborative space and comfort. The subs were acutely aware of the sequence of work and how every item directly affected another.

“These conversations generated by the planning process resulted in team work and a commitment to other trades that I’ve never witnessed on a project. It was a huge factor in our success” stated Sr. Project Manager Mike Crase.









