Reaching for the Sky

This month we continue our focus on certain projects—in this case, religious buildings, some of which may be modest in scope, and others, truly monumental. The remarkable scope of a Kentucky project was understandably the key challenge, but he had more than one to deal with, so read on.

“We built the second largest worship facility in the country around 1980—a million square feet over four buildings. The logistics of scheduling all the crews to hit all the jobs at the right time and with the proper amount of manpower on each building was a challenge, especially as we were dealing with two or three different electrical contractors, two or three different HVAC contractors, and so on, in the different buildings. The job was just monstrous in terms of

By Steven Ferry
quantities of materials, too: 2 million square feet of drywall, something like 50 miles of stud framing. Our suppliers were not used to such quantities and the logistics of bringing it all in and storing it was a problem in itself. There were so many materials that we ended up buying heavy equipment just to move it around on site. In all, we were on site about 20 months on a contract that was worth a little over $6 million at the time.

“Acoustics was a big issue, too. The sanctuary was like a basketball arena, seating 10,000 people. It was highly sensitive to sound reverberation, so the architect, a Californian, brought in his own acoustical engineer who stayed on site six months. He made sure everything was designed and built so as to create the best angles and surfaces for sound absorbing—from the way the steel was laid on up. In some spots we had to use four layers of drywall. Everything had to be sound caulked, and we had to use heavy, dense, soundproof materials. I’ve never seen a sound engineer live on site for half a year, but sound transmission is probably more important in sanctuaries than any other job.”

In California, it was not dollar signs that made a contractor want to work on the Cathedral of Our Lady of Angels in Los Angeles. “The key was using high-quality products, because the building has to last centuries rather than decades. We worked on the project, which involved several buildings, for four years, com-
pleting it in 2001. One of the structures was a bell tower that was higher than the cathedral itself. The city of Los Angeles required fireproofing on all structural steel on the project, so the difficulty in fireproofing that bell tower was that it had a skeleton frame all the way up the inside, an area of 30-by-30, with no decking. So we went to the highest level and came down a level, set a platform, a scaffold, on the structure inside, fireproofed that area and then continued down six levels total, one at a time. You certainly needed a head for heights on that job.

“Naturally, access with the materials and coordination were a big challenge for the entire project as we were dealing with downtown Los Angeles and the property abutted a freeway.

“The old cathedrals in Europe were built by artisans who often gave their work for free, for the honor of being involved in such a project.
knowledge and expertise to draw upon. But it helped being a Catholic and having a goal to contribute to building this very important cathedral. I learned so much and while we may not have seen much profit, I was happy to be involved in it. The payback also came from the business that came our way as a result of our involvement in such a high-profile project.”

A Louisianan experienced similar access issues: “With bigger buildings, you typically have large sanctuaries that present an installation problem because of their height, often 60 to 80 feet. The sanctuary is the focal point of a church, so that is where the intricate work is, and where the most time-consuming work is found. So we end up with all the trades trying to coordinate with each other to complete the work with tight time and space constraints. Trinity Baptist Church in Russell is an example. We handled that by the general contractor and subs joint-venturing the scaffolding so all the subs in the ceiling and the walls had a working platform.

“It not only worked much better than everyone trying to crowd into the area and work on their own with booms and lifts, but also saved on costs. It takes a good GC and team to coordinate and figure out how to complete these projects on time and make them look good.”

A Tennessee contractor agrees on the access issue: “We’ve done remodels on some churches. The auditorium or sanctuary are usually the biggest challenge because they tend to have high ceilings. These used to be large and flat but now that churches are into large, high-tech productions with dramatic lighting and sounds, it’s a question of scaffolding for access and coordination between the different trades, such as electricians and sound system people. Once scaffolding is up in that high ceiling, it eliminates work around it, so we’re pushing to complete and allow the normal work around the walls to proceed.”

In Florida, a large religious building with an unusual issue to overcome is currently under construction. “We have been working on a project in which we had to match a 350,000 square foot new building with the facade of a historic, 10-story stucco hotel dating back to the
1920s that it was joined to by a flying bridge.

“A traditional stucco building today requires expansion joints off the corner of every window and at the joint for every slab. Both the hotel and the new building had plenty of windows, but because they didn’t have expansion joints in the 1920s, the hotel had a smooth-looking facade that the new building, with its mandatory expansions joints, would not be able to emulate. We tried straight stucco over 5-inch block and it did not give us the smooth finish we were looking for, so we looked for a system that would reduce the amount of expansion joints needed and found the answer in EIFS over block.”

A Missourian had to meet a similar challenge in matching old construction: “We remodeled a cathedral that had been built 120 years ago and in which there wasn’t a square, level dimension to be found anywhere. So I combined my mathematical skills with those of a 68-year old master carpenter who had the arts and crafts mentality of the original builders, and essentially we winged it. A particular challenge was accommodating the architect’s archway leading to a row of original columns on either side of the sanctuary, when the columns were off by half a foot. It was so badly offset that when we went in to frame it initially, everybody thought we had made a mistake. So we took the greatest measurement we had and designed all of our new columns to the greatest measurement, leaving an error gap to deal with the smaller ones.”

Another Missourian had his work cut out achieving the standards set by the owner. “We provided the fireproofing, drywall, acoustical, floor covering and ceramic tile—the complete interiors—at the Mormon Tabernacle, about a $4 million job. That was challenging because the Mormons are really, really particular. We had to put a Level Five finish on all the drywall. They did not want any exposed fasteners or nail holes
showing, so the crown mold, the chair rail, the base—any wood—had to be applied mastically to the wall and then braced until the mastic dried.

“It was a good, high visibility project for us, and we enjoyed doing it. They are very honest people to deal with, but they want what they want and they’ll pay for what they want. For example, on any long drywall partition, they would actually shine a spotlight down the wall with a high-gloss paint, and if there was any irregularity, they wouldn’t accept it.”

Committee as Owner

A Colorado man voiced what turned out to be a common theme (64 percent) among the handful (11) of contractors surveyed: “The challenge is more for the general contractor because the church relies so much on its congregation for its funding. I’m sure the GC would have to be a little more cautious to make sure the funding is in place. And again, when it comes to dealing with the church’s building committee, the GC has to do that and we are buffered from any difficulties from that quarter.”

This concern about building committees was echoed by an Illinois contractor: “Committees generally oversee these projects and they don’t always have construction knowledge. It makes answering questions and working the project more difficult. Sometimes the difficulty doesn’t reach our level directly as subcontractor, yet it affects us in the way of delays or changes that we have no control over.”

Things seem to be no different in Louisiana: “On smaller projects, you have to deal with the building committee, or the building committee becomes involved in the building process, which they have no expertise in.”

Expanding on this concern, the Kentucky contractor adds: “Generally, however, when dealing with religious building projects, the owner is a building committee with a limited amount of money. You therefore have to make sure you treat them fairly all the time, offer backup on all expenses and do not take advantage of them, as they scrutinize everything.

“Another peculiarity is the owner will often do actions you expect of a GC in an effort to save pennies. ‘We’ll ask the members to come out this weekend and clean this up or get that done,’ is what you’ll hear. The reality is that their work force is not always reliable, and what generally results is confusion. Either the work never happens or it is not carried out in the way it was supposed to be done. So you have to go to the GC and ask him how he wants to handle the work that still needs to be done properly.”

A Missourian feels the same way: “Generally, however, the main challenge with working religious buildings is pleasing all the building committee.”

Another Missourian had an interesting tale to tell along this line: “In one old country church, they wanted to relocate the whole sanctuary as the entry to the grand, new church building. The architect went through the design of the whole thing, bids were submitted and the congregation looked at the plans. An old lady in the back row happened to stand up and say how she and her husband had been married in that old church and she couldn’t stand it being moved. We thought she was just an old lady and thought little of it, but it turned out she was the biggest donor to the new building. So, we ended up leaving the old church where it was and replicating it for placement on the front of the new church. So, you never know what’s going to happen!”

And last but not least, a Texan adds his voice to the chorus: “The congregation
is the most challenging element in a religious building. The church is not run by one person but by the congregation, and it’s pretty difficult to satisfy 500 or 1,000 members. They all have their input, and they should have their input because they are paying for it, but they should have some general consensus before they start work. The building committee goes back to the congregation most of the time, and it’s a very slow process. Where the building committee and the pastor are very strong, it’s a lot easier to build.

“We like to build churches, however, because nobody else bids them. The competition is not as tough. We did a church where the pastor was thrown out and we were never paid for it. Nobody sues a church, it’s a dead-end issue! But overall it is a good market as long as we have faith in a general contractor’s ability to handle the job.”

No Real Challenge

For some contractors, the style of religious building in their area does not present any particular challenge. Says a Colorado man: “I can’t think of any particular challenges in working on a church, other than the height of some, but this applies just as much to working on high office or residential blocks.”

An Alabaman agrees that religious buildings are not generally a challenge these days: “One church we worked on was just a square metal building that we stucco’d some soffits onto. Without a sign, you would have no idea it was a religious building whatsoever. So there was no challenge to that.”

But at a time when skilled plasterers are sometimes hard to find, demand is beginning to increase, according to the Alabaman: “We are bidding a Greek Orthodox Church, and the challenge will be all the ornamental stucco you see typically on these churches. We would not put our normal people onto this if the bid goes our way. There were three skilled plasterers in our area: one is dead, one has the shakes and the other is my father-in-law, who is retired. But he came out of retirement for a job involving ornamental plaster on a hotel in Mobile. He just had a wonderful time. A lot of people think stucco and just want to stucco a wall. All that plaster craftsmanship has gone at a time when people are beginning to appreciate it again.”

And to round out the picture, here are a couple of other ideas about the challenges inherent in religious building projects: From Illinois we hear that “Bidding on a competitive basis is a challenge because the owners have high standards but expect us to come in at a low price.”
Whichever sub wins is the luck of the draw. Other difficulties are the different angles, arches and radiuses that are sometimes spec’d.”

And from Tennessee: “These days, they closed our schedules in so tight that the problem is just that; but this applies to all types of buildings.”

While relatively few contractors have listed religious buildings as one of their key projects in the AWCI membership directory, those who did were proud of the work they had done on a building that, to the owners and perhaps also the builders (like the cathedral artisans of old), is more than a mere building.

About the Author
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