

JUSTICE IS SERVED

INSIDE THE NEW INGHAM COUNTY JUSTICE COMPLEX

BY BRAD KADRICH



When a big development project is going up in a community, there's often a "NIMBY" – Not in My Backyard – response from the locals. That didn't happen with the Ingham County Justice Complex project in Mason, where voters not only agreed to allow the project – which replaced an aging existing complex – to move forward, they helped it along by approving a \$68.3 million millage.

And it certainly wasn't the case for Todd Butler, the public sector market segment leader for Ingham County-based Granger Construction, who served as the construction manager for the 159,000-square-foot project. In fact, Butler found that leading a project right in the firm's own town to be one of the best things about it.

The new Ingham County Justice Complex (JCJC) is a state-of-the-art facility housing a new Ingham County Sheriff's Office, correctional facility, and 55th District Court. The new Justice Complex has more modern technology and security procedures and has space for up to 450 prisoners. "The biggest draw for us is it's right in our backyard," said Butler, who served as the project director. "It was almost an element of being able to give back to the community where our business is headquartered and where we live, work, and play. Being able to deliver the expertise we've developed in this market in our own backyard was refreshing."

Having so much of the team being local helped to bring team members together, according to Tom Shanley of Kramer Management Group, which represented Ingham County, the project's owner. "A big part of the reason we were able to navigate the pandemic situation was because we had local teams, local participation ... it was a great team effort," he said. "Everybody being local put a little more skin in the game for them. They wanted to be able to represent their communities as best as possible, and they all put the extra effort in, for sure."

Replacing an Aging Facility

The project was necessary because, like any other old building, the previous justice complex was showing its age. Combining three eras of construction, the complex dated back to the 1960s. Mechanical systems were struggling, the plumbing was leaking, and the complex was suffering other maintenance upkeep issues that made it untenable to continue. "The old jail was very much in disrepair," Shanley said. "(The existing facility) became both an operational and a maintenance burden. It was starting to cost more than it would be to look at a fresh millage and start over."



Situated adjacent to the existing courthouse and jail/sheriff's office facilities in Mason, Michigan, the new Ingham County Justice Complex is a state-of-the-art facility housing a new Ingham County Sheriff's Office, correctional facility, and 55th District Court. Photo courtesy of Granger Construction

Obtaining funding for the new facility was the first thing that needed to be done – because it's a municipal project, Ingham County officials had to seek a millage. According to Shanley, officials opened the facility to the community, providing tours and demonstrating the sheriff's progressive approach to corrections. The focus of the outreach, he said, was to showcase rehabilitative and recidivism reduction efforts by constructing a building designed to support all of that.

"A lot of program space, space for inmates to get to services, educational programming, and those types of things were key points," Shanley said. The fact that the project included a jail and a court component put it right up the alley for Granger Construction, which has built correctional facilities in Michigan, Ohio, and Indiana.



Part of the Ingham County Justice Complex project is new space for the 55th District Court. Photo credit: Dave Trumple, Trumple Photography

Bringing in an Experienced Team

Granger Construction has built/created/produced facilities for more than 25,000 beds, through work on prisons, jails, and juvenile facilities, as well as other justice-related projects. "It's a niche market for us," Butler said.

The idea that it was a three-buildings-in-one concept for a justice system-oriented facility is what appealed to Henry Pittner, too. Pittner, a partner and justice practice leader for BKV Group, the project's designer, explained that those kinds of projects are what BKV "does for a living."

PROJECT TIMELINE

December 2020
Start of Demolition

April 2021
Groundbreaking

January 2023
Initial Occupancy

July 2023
Project Completion



Correctional Facility

99,000 square feet

- Rated capacity: estimated 416
- 2 recreational rooms
- 1 GED classroom
- 1 GED testing area
- 5 multi-purpose meeting spaces
- 22 interview spaces
- 2 group observation cells
- 4 padded cells
- 7 high observation cells
- 8 holding cells
- 2 detox cells



Sheriff's Office

40,000 square feet

- 2 training rooms
- 1 defensive tactics room
- Emergency Operations center
- Law enforcement offices
- Evidence storage area
- Honor Guard room
- Volunteer services
- 25-yard gun range
- Sheriff Dive Team garage
- Fleet mechanic



55th District Court

29,000 square feet

- 2 courtrooms
- 1 Magistrate courtroom
- 4 court holding cells
- 8 probation offices
- Jury Assembly area

Source: Granger Construction



Cubic yards of concrete:
6,000 (650 trucks)

Total Cells: 146
Steel Cells: 123
Masonry Cells: 23

Door Frames: 603
Elevators: 5

"That was a big piece, good size, and the cool part about projects like that is having a combination of a jail, a sheriff's office, and a court for efficiencies in the justice system," said Pittner, who said he's done projects in 20 Michigan communities over the last 25 years. "Being a part of a project like that is always fun."

The project ran into perhaps its biggest challenge right out of the gate, and it's the same problem all projects eventually have: the budget. Initial cost estimates placed what was originally supposed to be a 191,000-square-foot facility at \$79.1 million. The amount that millage voters approved was only \$68.3 million.

Rethinking the Plan

The immediate \$11 million shortfall meant some serious reconfiguring. Granger

quickly recommended a redesign and used some smart management techniques, including:

- Shifting the plan from a single-story facility to a multi-story structure, including square-footage reductions.
- The use of value engineering, which saved the project \$5.6 million. That allowed designers to fulfill the "wish list" for the project, including being able to expand the Sheriff's Office shooting range to six lanes.
- The utilization of Virtual Design and Construction (VDC) technologies. The facility was designed to BIM level 400. This means the as-built models include product data on various elements and smart links in the model to help the owner better service

and maintain the facility systems throughout the lifecycle of the facility.

- Granger also recommended using a "design-assist" strategy, something they'd done on other projects with the BKV Team. The idea, according to Butler, is to bring the trade subcontractors together and get them involved during the design. They brought on precast concrete, steel, elevator experts, fire suppression professionals, and others in a design-assist role.

"We did that right up front ... so we could have a better pulse on costs, have the firm that's actually going to be putting pipe together, steel together ... actually having a seat at the table so we could focus on cost reductions," Butler said. "We were able to lock up more

than 60% of the construction costs in a design-assist format, which gave us a better ability to design to the budget."

He said that telling the client about the budget limitations was one of the first orders of business. "One of the first things we had to do when we were first brought on board was deliver the 'bad (budget) news,' which is something we hate to do," Butler said. "There was a big hill to climb. They were envisioning something different than what they ended up getting. Being able to get something done that fit the bill and achieved all of their operational objectives was far and away the biggest challenge."

Pushing Through Delays

The budget and the size of the project were challenges from the beginning. As plans were being put into place, material and labor costs were increasing. The client's wants had to be reconciled with budgetary realities. For instance, according to Pittner:

- Ingham County wanted the project to include a central plaza to allow the public to access the courts, the jail, and the Sheriff's Office all separately, but everyone would come from one public parking area into the plaza.
- The challenge was the "L" shape of the building, with the court in one wing, the four-story Sheriff's Office in the other wing, and the Ingham County Jail sitting behind. But there's a grade differential, Pittner explained, from west-to-east on the site, which allowed the jail to be lower.

"That (actually) gave us a lot of efficiencies," Pittner said. "It was really challenging, but it turned out really well." One challenge averted was finding sufficient space to get the project done in the first place. The complex was being built on the same site, but there was an old animal control building that was relocated.

Building on the Existing Site

The relocation of the old animal control building meant that the new project could be built without having to acquire

any additional property, providing the space to get the work done. "It left an opportunity right on the same site without having to acquire more land," Shanley said. "They built everything right on the same site. That made the move logistics easy, made everything much easier and more cost effective."

Although it may have presented the most difficult challenge, the budget was hardly the only hurdle to getting the project done. The site itself presented some logistical challenges, as well. For instance, the new facility was built adjacent to the existing site, which meant that the construction team had to



The Ingham County Jail incorporated prefabricated cells that could house one, two, or four people and was a cost-saving measure that had the added benefit of adding durability and longevity to the facility. Photo credit: Dave Trumple, Trumple Photography

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coordinate the building with the existing facilities in order for the County to maintain operational control. Relocating on-site utilities proved to be an issue, as did finding space for additional parking, according to Butler.

The second biggest challenge was that the new complex had to fit onto the existing site. It's built directly adjacent to the existing building and it's actually a down-size, a reduction of beds from the

Justice Complex's previous facility.

Seismic constraints also had to be taken into account. Because the ICJC includes a sheriff's office, and because the new facility is over two stories, code requirements necessitate that the building design include seismic restraints. This required a redesign process to eliminate seismic restraints from the sheriff's side of the facility. The team was able to do this by employing hollowcore roof planks, which

in the end resulted in cost and schedule reductions for the project while enabling the building to meet code requirements.

Maintaining the Operation During Construction

"The whole time we were under construction, they were operating a jail and a court directly adjacent to us, with all the heartache and challenges that go along with that," Butler said. "It was a tight site. You obviously can't shut down a 24/7 facility, so maintaining operations of their existing facility makes it a challenge."

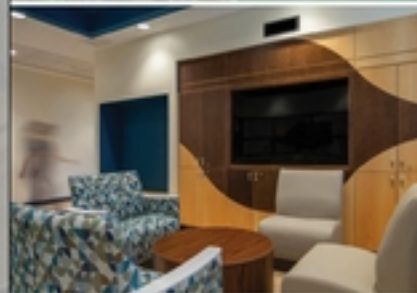
While the budget presented obvious challenges, some of the solutions used by Granger and BKV brought their own hurdles. Several design elements were used to shorten the timeline for the project. "You save money if you can build it faster," BKV's Pittner said. "The key to saving money is to build it faster ... this was a fast-track design. Having (Granger) on board as the construction manager allowed us to bid things earlier in the sequence."

Part of that fast-track was using prefabricated cells in the new jail, a cost-saving measure that had the added benefit, Pittner said, of adding durability and longevity to the facility.

Streamlining the Installation Time

More than 120 prefabricated cells, built by SteelCell of North America in Baldwin, Georgia, were installed in less than two weeks – it can take up to six months to finish blockwork for that many traditional cells. The prefabricated cells have their advantages:

- Each contains one, two, or four bunks along with a toilet, sink, light, and a small seat and table.
- The cells also contain their own showers, which are usually easier to maintain than community showers, according to designers.
- The new cells allow maintenance workers to access each individual cell's utilities from a hallway located behind the cells, eliminating the need for maintenance staff to enter an area containing inmates.



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An "astounding" amount of technology was incorporated into the new Ingham County Justice Complex. Photo credit: Dave Trumple, Trumple Photography

Certain locations in the jail feature two-story stacks of the prefabricated cells where a mezzanine provides access to the upper cells. The jail also includes 23 larger masonry cells for the intake holding, detox, and high-observation cells in the booking area and Special Housing Unit (SHU).

"Building the jail as a pre-cast cell is another way (to save)," Pittner said. "You quickly build the shell, you do the underground plumbing, and then the cells come in and you're just finishing the interior walls. "Uniquely, this facility has a lot of cells that hold four people at a time," he added. "A lot of smaller jails hold two people in a cell. That made the arrangement tighter. The client liked that."

Another prefabrication element included in the design for this project was use of tilt-up precast exterior wall panels. This was the Granger team's first experience using these materials on a corrections project.

Developing a High-Tech Facility

In addition to what's required for the facility's new shooting range, the project as a whole used what officials called "an astounding" amount of technology. Balancing the various needs of the different user

groups required some finesse. Some examples of the various high-tech systems built into the plan beyond the normal access control, intercoms,

card access system, closed circuit TV systems, and security cameras included:



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The Ingham County Justice Complex's new shooting range for the Sheriff's Office has a six-lane, 25-yard "dynamic" setup that allows for scenario and interagency training. Photo courtesy of Granger Construction

- Guardian Radio Frequency Identification (RFID) for cell checks
- Cloud-based AXON video recording for interview rooms
- Fleet and body cam systems
- Robust PolyCom units for remote court attendance
- SmartCom for inmate communications
- GlobalCom for DIS audio repeaters
- A Ham radio tower with repeater stations for the Emergency Operations Center
- Tomado siren integration with the county-wide tomado management system

Nothing Like It in the Tri-County Area

All of the unique challenges helped to make the project appealing to Pittner. Jail facilities aren't the most popular things to work on, he said, but not so for the BKV designer. "Everyone likes doing a courthouse, but nobody likes doing a jail," Pittner said. "And the jail is the most interesting part, because it's a living micro-city. You have to house (prisoners), you have to feed them, you have to take care of them medically ... there are a lot of interesting dynamics. That's why I like doing them."

The original design for the Ingham County Justice Complex project's new shooting range for the Sheriff's Office called for a four-lane, 15-yard facility, but putting together the various cost savings allowed expansion to a six-lane, 25-yard setup. That allows for officers involved in training to pull vehicles directly onto the range to participate in tactical firing

practice. The expansion also turned the range into a "dynamic" range, rather than the typical "static" firing range, allowing users to shoot from a variety of directions and positions down the range. This affords the Sheriff's Office the ability to do a lot of scenario and interagency training, something the department revels in, according to Shanley.

"There isn't anything like that in the tri-county area, so it opened a lot of opportunities for them," Shanley said. "Ingham County had a pretty robust training program before, and now (with the additional space) it's even better, it's more enhanced, it's got a lot of technology," he said. "They have other agencies from all over the state and federal agencies coming in there to train," he added. "So getting them the facilities to do that was a good enhancement to the program."

A range of this size, however, required certain HVAC specifications related to exchange and the lead particulate filtration system for all muzzle discharge. It demands a significant amount of air, thus calling for extensive ductwork.

A water management system was also developed for certain portions of the jail. This made it possible for Ingham County officials to remotely regulate water use, taking into account things such as frequency of toilet and shower usage.

Of course, all of this had to be managed through a once-in-a-lifetime health crisis. The COVID-19 pandemic, which hit the United States in March 2020, cast a shadow over the entire project, with state officials shutting down much of the state's economy just as the Ingham County project was coming out of design. "The world wasn't sure exactly how to react at the beginning of the pandemic," Shanley said. "We weren't sure about



Certain locations in the jail feature two-story stacks of prefabricated cells where a mezzanine provides access to the upper cells. Photo credit: Dave Trumple, Trumple Photography

labor resources, if we'd have to have special protocols to keep everyone safe and productive, and supply chains were shutting down."

It wasn't all bad news. Shanley said that the bond market became more favorable, which provided access to some additional funding that was able to be used to enhance the value of the project.

Creating "Our Pride and Joy"

The construction phase of the new Ingham County Justice Complex ran from April 2021 to December 2022, and the move-in started during January 2023. The occupants moved into their new digs over the course of the year, and feedback has been overwhelmingly positive. "There are always little tiny things you wish you could have done differently or had a little more budget for," Shanley said, "but from a design and functionality perspective, it's probably one of the more forward-thinking in terms of bringing services to the inmates instead of inmates to the services. They've had a lot of tours from other agencies interested in doing their jails to use this as a model for how they operate."

One indication of how well it went came from the Department of Corrections inspector. "When the DOC inspector came in - and I've never heard one say this before - he said it was one of the best jails he'd been in," BKV's Pittner said. "We're very satisfied. It's been well-received, and everything we're hearing from the other partners has been very good. It was a really cool project overall."

Todd Butler from Granger Construction called the Ingham County Justice Complex "our pride and joy." Ingham County is Granger's home county, which Butler said gave the team a "sense of giving back" to their community by helping support the criminal justice mission.

"The men and women who uphold justice in the community where we work and live and play ... we got to connect with them on an individual basis," Butler said. "It gave just a big sense of pride to finish this job. We're friends now with many of the Sheriff's Office staff that we've been working with for two-plus years. It's impactful." 🙏

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