



McGill Restoration Tackles Major DOT Bridge Repair

The I-680 & Dodge street project consisted of 12 bridges requiring deck repair. McGill Restoration served as the primary contractor, utilizing several subcontractors to fulfill tasks outside of the company's specialties. The project presented unique challenges but through dedication and organization, a safe jobsite was created and each bridge was restored to return quality surfaces to drivers.

THE CHALLENGE

Take the Lead on a Complex DOT Project

Operating as the primary contractor, McGill Restoration was tasked with managing every aspect of repairs. Selecting and coordinating with subcontractors while completing work with internal crews was complex on a project of this size. Further, overcoming weather delays and working through lane closures and detours would be required as well.

PLANNING WORK WITH NEW PRECAST PANEL ROAD SYSTEM

The biggest challenge on this project was the implementation of a new precast concrete panel style of construction. Panels up to 100 square feet in size were cast off-site, shipped to the jobsite and would require a crane for maneuvering and placement.

The process is relatively new and hadn't been used by Nebraska DOT until this project. A specialty subcontractor was needed to install the panels with assistance from the McGill Restoration team. A learning curve was present for everyone involved as this building style is outside of the normal specializations.

SPECIFIC CHALLENGES WITH THE PANELS INCLUDED:

- ✓ Installing each panel with only 1/2-inch gap on each edge
- ✓ Shaving panels to adjust sizing for a perfect fit
- ✓ Leveling panels on the ground



SUBCONTRACTOR MANAGEMENT AND COMMUNICATION

The precast panel installation subcontractor worked graveyard shifts but they weren't the only subs required for this job. Asphalt and striping subcontractors were also engaged, creating a need for scheduling to coordinate workflow. The asphalt team would be needed after McGill Restoration crews applied liquid membranes and the striping crews were last in line for the finishing touches of paint.

WORKING AROUND WEATHER AND TEMPERATURE THRESHOLDS

Weather is outside the control of any contractor and always factors into potential delays on projects of this nature. Liquid membranes and asphalt both have application temperature thresholds. When temperatures reach near freezing levels, work using these applications is halted.

The dew point and humidity also factor into delays, especially for liquid membrane applications. If the moisture content is high, the membrane will not form a bond. Taking environmental readings before applying the membrane is necessary to ensure the conditions are optimal.

THE SOLUTION

Execute with Precision and Oversee Every Detail

McGill Restoration brought together a dream team of estimators, project managers, foremen and crew members to take on the big project. To take on this challenging project, the bid was secured in 2021, leaving less than a year to plan every detail for a March 2022 launch.

SCOPE OF WORK

Twelve bridges on the I-680 expressway required concrete deck repairs with a deadline of roughly 272 calendar days. To successfully complete the work, McGill Restoration needed to complete:

- ✓ Concrete repair on bridge decks
- ✓ Engage a subcontractor to lay asphalt
- ✓ Precast panel installation
- ✓ Cut and install joints after asphalt
- ✓ Polyurea liquid membrane application
- ✓ Enlist a subcontractor to apply striping

Several change orders were implemented as damage was revealed. On a particularly challenging section labeled *Bridge 6K*, around 1,000 square yards of extra damage required repairs. Subcontractors were organized, instructed and scheduled to work in unison with McGill Restoration throughout the project.

BOOTS ON THE GROUND

Given the complexity of managing various subcontractors and lane closures across multiple bridges, McGill Restoration put together a great team with a lead foreman on the ground throughout the entire project. With high-level leadership coordinating and running the job on the ground, everything flowed smoothly and work was completed as planned.



SHIELDING THE CREW FROM TRAFFIC

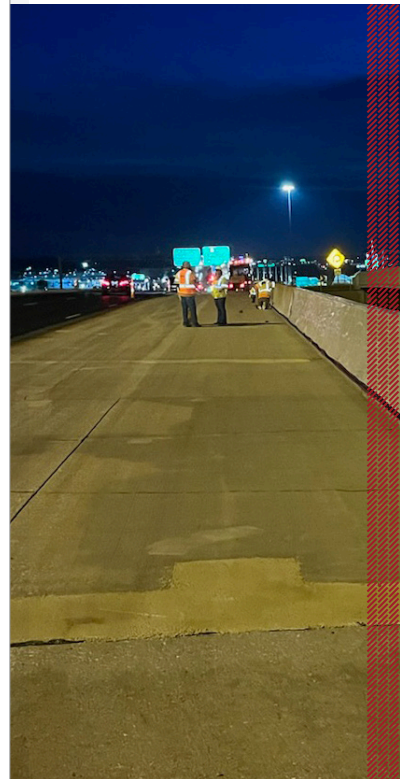
Safety is always a priority, especially when live traffic is present. McGill Restoration strategically placed attenuator trucks to shield crews from traffic. Even with clear signage, cones and lane closures, a few vehicles will become confused and drive toward the work zone. With trucks positioned, vehicles were blocked and crews remained safe from contact with outside traffic.

MANAGING LANE CLOSURES

Lane closures and detours were a critical component of the project. In a few instances, detours were required to move traffic around on-ramps and to different entry points for the expressway. For the most part however, partial closures allowed traffic to flow past the work zones without shutting down sections of the expressway.

Closures were coordinated with precast panel installation and done during graveyard hours. The lanes were closed from 9 pm to 5 am, in adherence with DOT rules. During this time period, precast panel crews hustled to position cranes and complete installations.

At one particularly busy point in the project, five bridges had simultaneous lane closures while McGill Restoration crews and multiple subcontractors completed work. The lead foreman played a crucial role in coordinating and overseeing every detail of the lane closures and construction during this period.



INSTALLING PRECAST PANELS

In theory, precast panels should have an exact fit and drop right into place. In reality, the tiny gap allowance meant they required extra work to shave down edges and get the leveling perfect before being released by the crane. Keep in mind, the edges are filled with rebar, requiring cutting tools to remove sections and grinders to smooth out surfaces.

While installing the panels came with unforeseen challenges, McGill Restoration worked with the subcontractor to ensure every panel had a perfect fit and level placement.

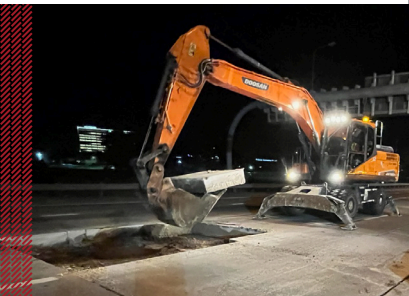
RESULTS:

I-680 Dodge Expressway Is Restored for Drivers

Working as the primary contractor, McGill Restoration proved their capabilities on large DOT projects. Every aspect of the project was managed with careful planning and precise execution. The entire team came together to make this job a success, with an estimated completion in May 2023. One more reasonable weather window is required to put a wrap on the entire project.

TAKING ON NEW CONSTRUCTION METHODS

On most projects, contractors are engaged for their specific expertise. Installing the precast concrete panels was a bit of an experiment for everyone and McGill Restoration was willing to learn and adapt in real time. The installations were a success because the crews were willing to go the extra mile and work through each night to set every panel.



COORDINATING AND TIMING THE WORK

Work of this nature must be sequenced to schedule every phase appropriately. The moving parts and subcontractors make it tricky yet the McGill Restoration planners and foreman implemented processes that kept things moving forward. The general sequence looked like this:

1. Complete bridge deck repairs and/or install precast concrete panels
2. Apply liquid membranes
3. Lay asphalt
4. Cut and grind out asphalt joints
5. Install joints
6. Paint striping

With lane closures, coordinating outside crews and completing internal crew tasks, McGill Restoration was busy and remained hands-on throughout the project duration.

RESTORED BRIDGES SERVING THE PUBLIC

At the end of the day, I-680 & Dodge Road were in need of serious concrete repair and resurfacing to better serve drivers. McGill Restoration worked hard to deliver and the result is a sound and smooth section of highway with quality bridges. Omaha residents and visitors will enjoy driving on the new surface for years to come.

Want to Work with McGill Restoration?

Do you have DOT projects requiring concrete restoration and industrial coating specialists? McGill Restoration repairs and restores everything from rail bridges to highways. **Get in touch with our experts today.**

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