

Grosse Ile Parkway Bridge Pier Repairs



A Message from Wayne County

Wayne County maintains a commitment to our residents and visitors to provide safety and transparency to all. It is our goal to ensure that the Grosse Ile Bridge projects are executed as seamlessly as possible and that your residents receive the highest level of customer service. I hope that this presentation heightens your awareness on what's to come in the months ahead as we work together in improving some of our most precious infrastructure.

Sincerely,

Beverly J. Watts, Director

Wayne County Department of Public Services



Purpose

- Background information
- Overview of pier repair project and scope of work
- Discuss pier repair timeline
- Answer FAQs

Background

- Repairs to the Superstructure ceased in November 2020 after a routine underwater inspection.
- During this inspection, engineers noted significant deterioration in the five months since the previous underwater inspection was completed.
- The County immediately contacted officials at Grosse Ile Township to review inspection reports and discuss next steps.
- The County has secured a contract with J.F. Brennan Co., Inc to address pier deterioration.

Who is J.F. Brennan?

J.F. Brennan Co., Inc. is marine construction company headquartered in La Crosse, WI. They specialize in heavy civil marine construction, both above and below water, as well as environmental remediation. They are a 4th generation family owned company currently in their 102nd year.

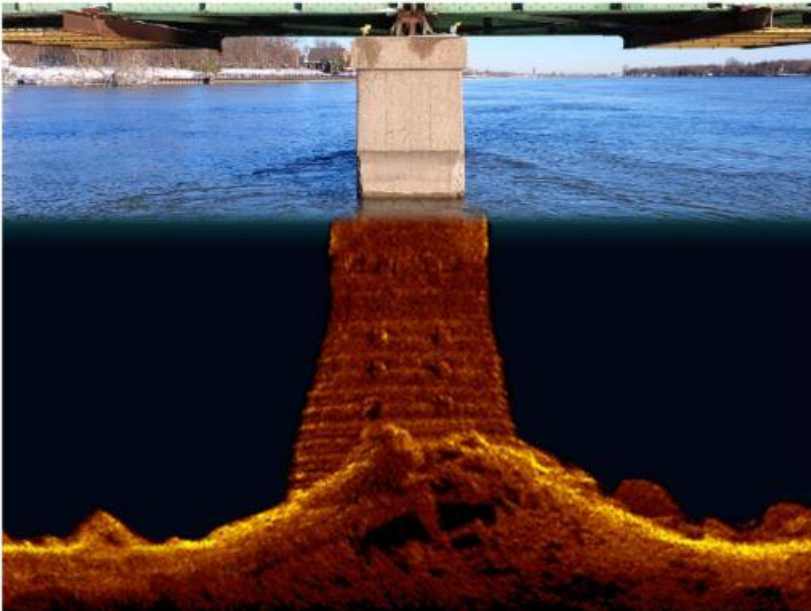
Scope of Work

- Rehabilitation of six (6) rock-filled timber crib structures that serve as the foundations for piers 2, 4, 6, 8, 9 (center of swing span), and 10.
- Repairs to some above water spalled areas of missing concrete on the concrete cap (the part that is visible out of the water).
- Install a flow deflector system just upstream of each pier where we are actively working.
- There will be a heavy marine presence on the upstream and downstream sides of the bridge, as well as the Elizabeth Park Boat Launch.
- There will be a number of navigation notices issued by the Coast Guard along with an abundance of buoys, lights, and signage on the water to alert boaters of hazards.

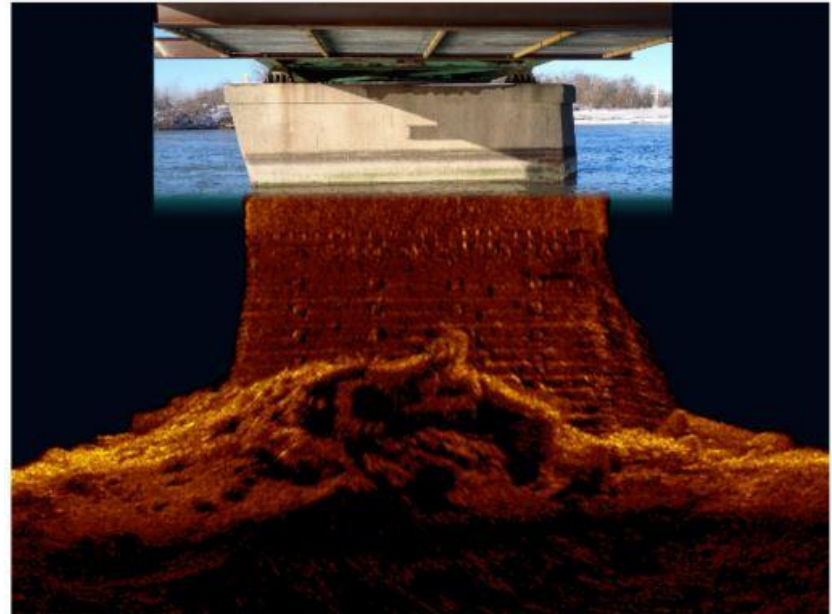
Scope of Work

- Commercial divers will be in the water on each pier where active work is being performed and submerged cables will be present to anchor barges and flow deflectors in place; please do not approach the work areas.
- No boat traffic will be allowed to navigate under the bridge on the east side at all when we are working on piers 8, 9, and 10, and will have to stay on the west side. Conversely, when we are working on the west side on piers 2, 4, and 6 boat traffic will only be permitted to navigate under the bridge on the east side.
- When work is being performed on the west side of the bridge, the southern-most exit from the Elizabeth Park Boat Launch will be inaccessible. It is best to avoid this area of the river this season if possible.

Planned Construction



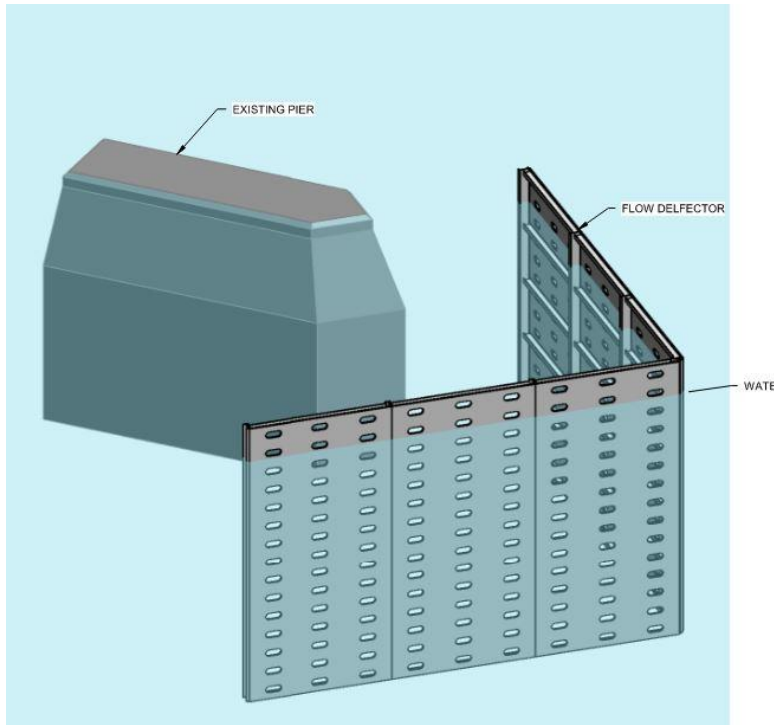
Photograph 8: Pier 4 Downstream Face, Looking North.



Photograph 5: Pier 4 East Face, Looking West.

Current Pier Conditions

Planned Construction



Flow Deflector Concept

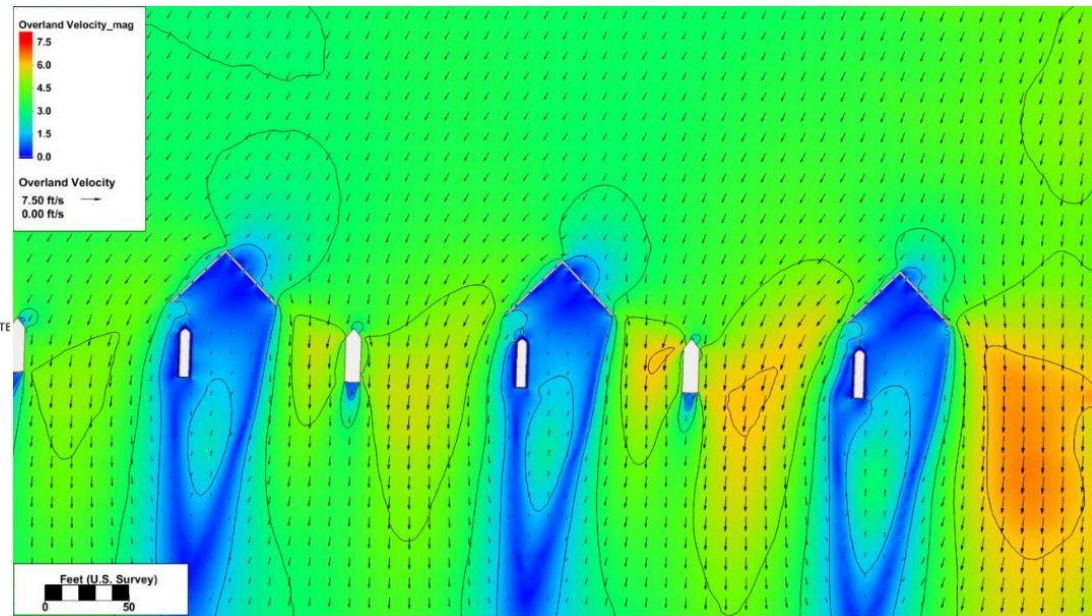
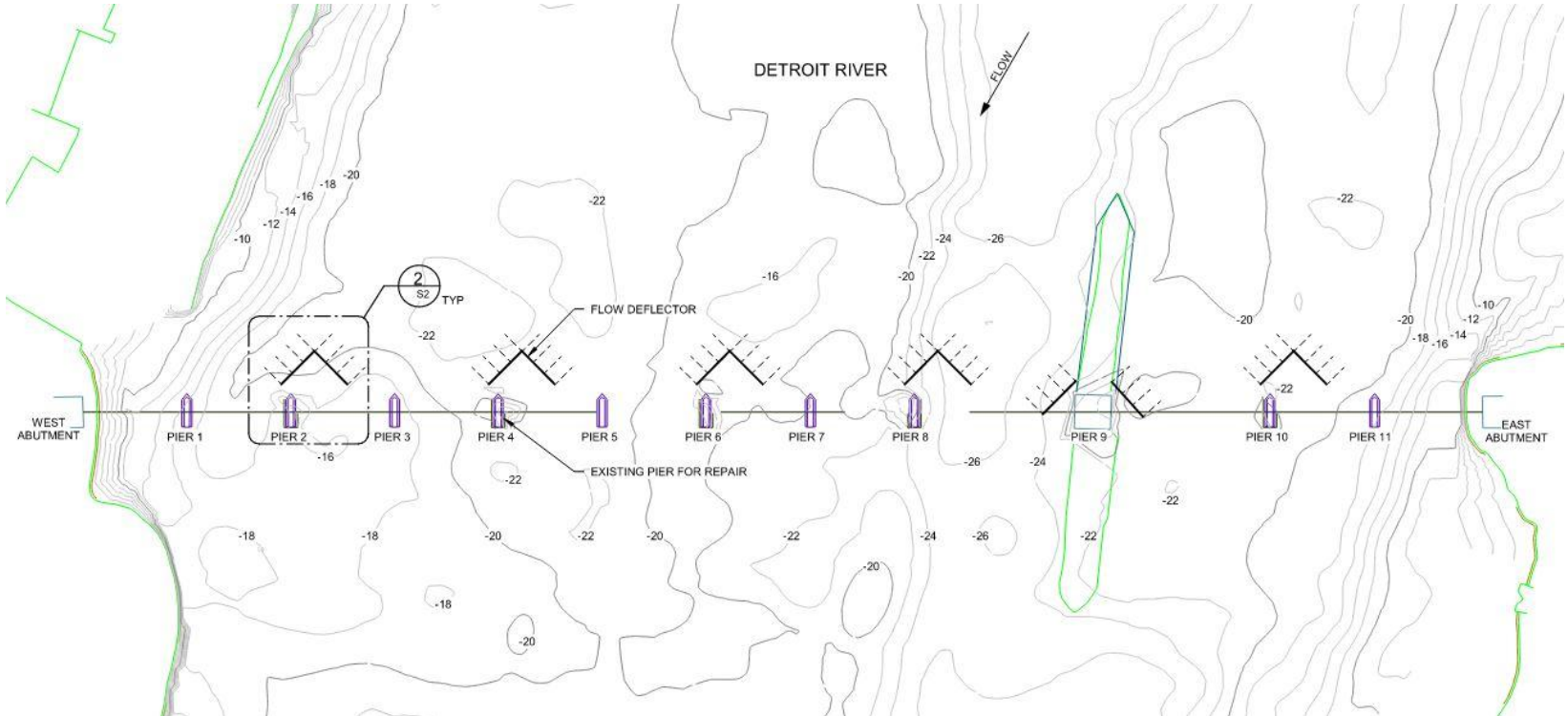


Figure 8 AdH model results (velocity magnitude) for 86,000 cfs in the Trenton Channel with the flow deflector in front of piers 4, 6, and 8

Flow Velocity Model

Planned Construction



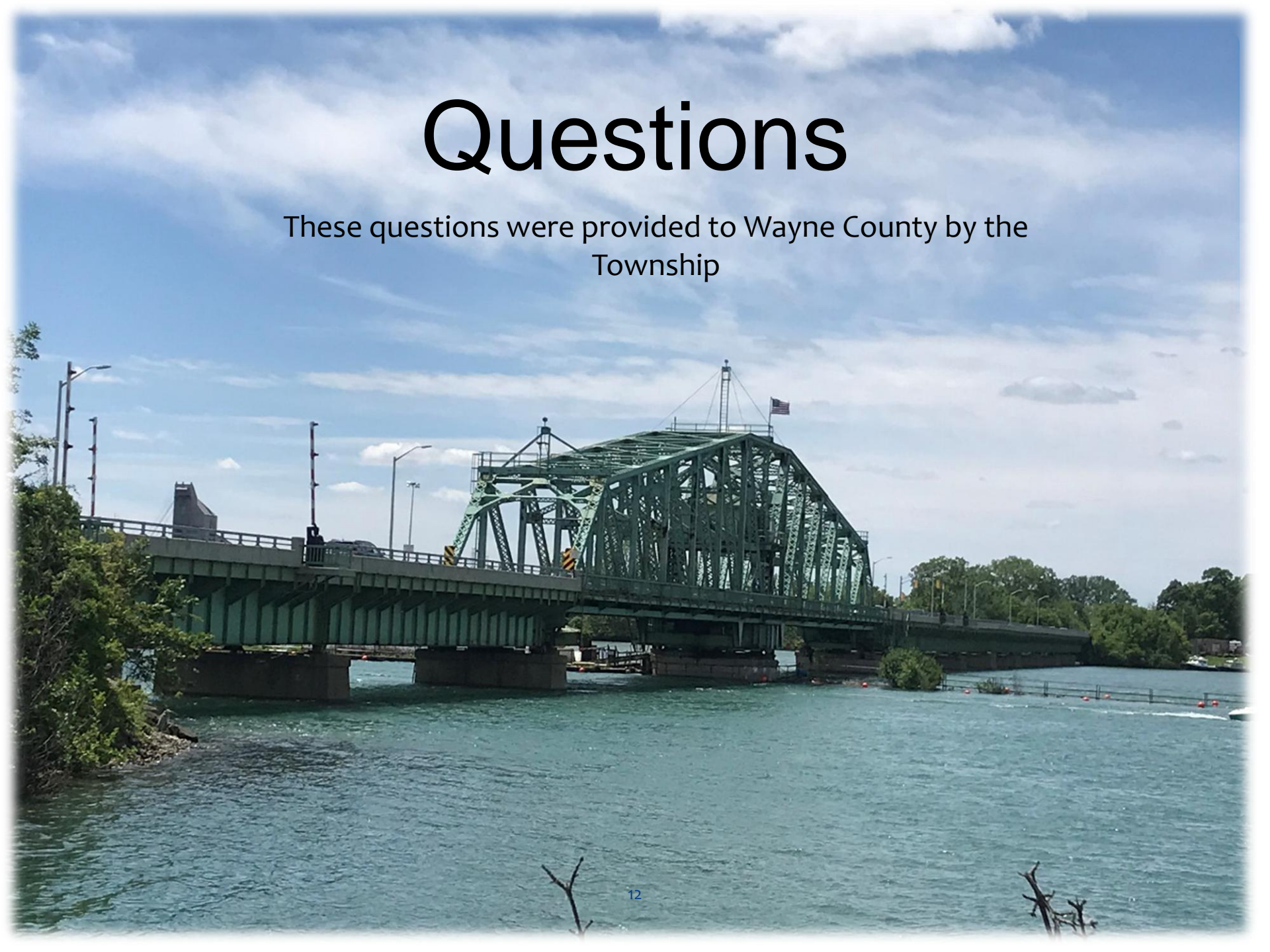
Flow Deflector Locations

Tentative Timeline

Barring any unforeseen circumstances, mobilization is scheduled to begin in late April 2021 with work completing in the fall of 2021.

Questions

These questions were provided to Wayne County by the
Township



Questions

Q. Will marine traffic be restricted while this work is being done?

A. Yes. We will certainly attempt to maintain marine traffic with the least disruption as possible; however, with divers in the water on two piers, there will be some change to marine traffic (e.g., reduced speeds and transiting through the area on the opposite side of the bridge when we are working on the other side). All marine traffic should be reduced to No-Wake speeds with the proper authorities enforcing these rules to maintain both public and contractor safety throughout the construction phase.

Questions

Q. What is the scope of the repair work being done? What is the repair method?

A. A stay-in-place form system will be installed along the outside perimeter of the existing timber cribbing pier foundation. By anchoring to the existing cribbing, the stay-in-place form system will be supported by steel channels. After fully encapsulating the submerged structure, divers will pump cementitious grout into the formwork while backfilling major voids and recovering the structural capacity of the pier foundations.

Questions

Q. Are only selected piers receiving repairs or are all piers receiving repairs?

A. Piers 2, 4, 6, 8, 9, and 10 will receive this repair. These piers are concrete from the bottom of the bridge to just below the water surface where they sit on aggregate -filled wooden timber cribbing foundations, which sit on the river bottom. Piers 1, 3, 5, 7, and 11 are solid concrete from the bottom of the bridge to the river bottom.

Questions

Q. If certain piers are not being repaired, are there future plans to address those piers?

A. The piers not being repaired are solid concrete from the bottom of the bridge to the river bottom. They will be inspected on a regular basis as required by the Federal Highway Administration by prequalified dive inspectors. Repairs will occur on an as-needed basis

Questions

Q. Why was the above water work conducted prior to the underwater work being done?

A. The work below the water was scheduled to be performed first but due to unexpected cost problems, a new approach to the repairs had to be investigated.

Questions

Q. When will the work start? When will the work conclude? When will the bridge reopen?

A. The contractor is working to develop final plans and purchase materials to perform the underwater work. Mobilization is expected to start in April 2021 and to be completed in fall 2021. The bridge is expected to be open to traffic in October 2021. These dates are tentative.

Questions

Q. How long will the repairs extend the usable life of the bridge by?

A. Both repair projects (pier and superstructure) are expected to extend the service life of the bridge by 30 years.

Questions

Q. The original bridge opening date was the end of calendar year 2020. What happened that caused the bridge opening date to be pushed back until Fall 2021?

A. During Project 1, Steel Replacement, a new detailed underwater inspection was conducted, in accordance with FHWA guidelines. The poor condition of the existing foundations required the county to close the bridge to the steel repair project for the safety of the contractor and the crew members.

Questions

Q. What is the permanent solution to island access if these repairs and this bridge only provides short-term functional longevity?

A. A study will need to be performed to determine all possible solutions for access to the island, and a funding source for construction. Possible solutions may include a new movable span bridge at its current location or different location, a new bridge built high enough to allow all marine traffic to pass underneath or a tunnel underneath the river bottom. The study may include the possibility of a solid bridge with limited access underneath the bridge for marine traffic.

Questions

Q. What restrictions (weight or otherwise) will exist when the bridge reopens?

A. When the bridge reopens, it will be able to carry Class A Truck traffic which is the highest load allowable in Michigan. No posting with weight restrictions.

Questions

Q. How do we know the bridge will be safe once opened and will remain safe and what is the inspection frequency moving forward?

A. The Federal Highway Administration through the Michigan Department of Transportation will be overseeing the safety of this bridge, as they do for all bridges in the State of Michigan. The FHWA has a nationwide program and Guidelines for bridge safety. Inspections will continue to occur every six months.

Questions

Q. Who will be performing the scheduled inspections moving forward? Will the inspections be done internally or with an external contractor?

A. The Federal Highway Administration through the Michigan Department of Transportation have standards, training classes and certifications for all bridge inspectors in the State of Michigan.

Questions

Q. Will the County be reimbursing Grosse Ile residents for their tolls?

A. No. The State of Michigan adopted Public Act 51 which controls the use of funds collected for roads.

Questions

Q. What is the experience level of the contractor performing this work?

A. Both contractors, steel repair and underwater repair, are prequalified by the Michigan Department of Transportation, and have years of experience performing the work within the scope.

Questions

Q. What is the plan to communicate to the Township work progress, scheduling, etc.?

A. We plan to continue to communicate via County and Township website updates as well as press releases.

Questions

Q. How are the repairs being funded? What is the source?

A. Steel repairs are funded partially by the Federal Highway Administration, through the federal portion of fuel taxes, and supplemented by Wayne County, through the state portion of fuel taxes and fees. Underwater repairs are funded by Wayne County. Grosse Ile Township is not providing any funding. No property taxes are spent on road/bridge improvements.

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(<https://www.waynecounty.com/departments/publicservices/roads/road-construction-updates.aspx>)



Thanks for watching!