

Seasons of Bridge Maintenance Efforts Have Different Focus

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includes a fine of up to \$10,000 and possible jail time.

In April, seasonal crews return and safety training sessions are held.

Crews begin working to remove winter debris from the bridge, including any residual sand that was applied during the

winter. Brooms and shovels are used to collect the debris and a mechanical sweeper and vacuum truck shared with the Michigan Department of Transportation picks up the sand. The removed sand is stockpiled and reused the next year.

"By the end of spring, we'll have from 25% to almost 50% of

the sand we'll need for the following year, recovered from the bridge," said Mr. Sweeney.

The bridge beams are then sprayed with water to remove any remaining sand, as it can chip paint and cause corrosion.

"Getting that sand off the beams is very, very important," he said.

At the same time, debris is cleaned from the pier tops. Cracks and curb areas on the roadway are sealed. Joints are removed, cleaned, and concrete is repaired on either side of the joints.

As work moves into June, heavy maintenance projects are underway, with a series of repairs to the curb rails and bridge railings. Grate replacement is done before summer traffic increases. The job requires lane closures.

With weather improving, spot painting begins by MBA crews, and contractual painters return. This year, bridge crews will inspect and spot paint areas on the south side of the bridge that were painted five years ago by contractors. The spot repairs help lengthen the life of the overall painting projects and protect the bridge by removing any corrosion.

Finger joints are cleaned and any damaged concrete on pier tops is repaired. Welders repair sections of the steel beams and pipe rails that are damaged or corroded.

Electricians check and repair electrical systems. The force of strong winter winds can damage lighting components, said Mr. Sweeney, by causing the light posts to vibrate.

Underneath the bridge deck, a platform called a traveler is inspected and its engine receives a tune-up. The mechanism travels virtually the length of the bridge beneath the road bed and is used to transport crews doing under-bridge inspections, painting, and maintenance.

The main cables and bolts of the suspender cables are inspected. The cables are painted every few years using a basket called a spider climber suspended from the main cable. Painters are secured in the spider climber with a harness, and safety cables are connected to the bridge. Deck crews monitor the safety of painters.

"These are guys working very demanding jobs," Mr. Sweeney

Painting Mighty Mac...Then and Now



An unidentified maintenance worker (above) performs early paint work on the bridge while standing in a barrel. Crews today use a spider climber (below) and are secured with multiple safety lines. The modern painting process remains similar, as a worker runs his paint-soaked gloves down the bridge cables to add a fresh coating of paint. (Photograph courtesy of Mackinac Bridge Authority)



said of the maintenance crew.

They can work in tight locations, he said, especially under the bridge deck, where they may have to lie on the steel on their backs while harnessed to a safety line. They also have to manage a sand blasting hose when removing rust before painting. Painters work completely covered in protective clothing.

Electrical components of the bridge have increased over the years, requiring more time for inspections and maintenance. Those components include the security camera system added in the last five years, which can be damaged by winds.

One of the MBA's two boats is on safety watch in the waters below the bridge anytime crews are on or below the deck, or working close to the railing.

In September, October, November, and December, with winter weather, colder temperatures, and stronger winds not far off, staff focuses on what preventive maintenance needs to be completed before the weather changes.


Crews remain flexible on projects as winter approaches. Snow can come early, putting a halt to a particular job, only to melt as warmer temperatures return and allow maintenance work to continue, Mr. Sweeney said.

Since the bridge opened to traffic November 1, 1957, more than 140 million vehicles have traveled between the Upper and Lower Peninsulas. Their trip across the Straits of Mackinac is made possible by approximately 11,350 men and women who played a role in the construction of the bridge, and by those who have maintained the steel structure for the last 50 years.

Happy 50th Birthday 'Big Mac'



Don McLeod, Bridgeman; He's proud of his big bridge, but prouder still of "Two boys, Don and Bob McLeod, bigger than I am". He locks his fingers in his overall galluses to brag, "I'm a brand new grandpa with grandson, Bill McLeod".

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