

Hydrodemolition Season Opens up with a Bang

By: Patrick Martens, PE

Even with the Coronavirus gripping the country, it has not deterred the transportation industry from charging on. Bridge deck restoration is a big part of that, as preservation has been deemed an "essential" task. Workers are on the front lines making that happen for the traveling public.

As projects fire up for the 2020 construction season, Hvdro-Technologies, Inc. is roaring into April with a quartet of some of the biggest hydrodemolition jobs the industry has seen. This includes jobs in Vicksburg, MS; Toledo, OH; Baltimore, MD; and Newport, RI, all in full swing in April 2020.



Fast Track Hydrodemolition surface cutting on the Vicksburg Bridge.

The Vicksburg work includes the deck restoration of the 2-mile long Mississippi River Bridge on 1-20 between Louisiana and Mississippi. The work is being administered by the Louisiana Department of Transportation Development (LaDOTD). It is the largest hydrodemolition job ever administered by the department, with a total of 65,000 square yards of surface restoration. The work actually started up late in January, but is now picking up momentum as

the weather improves. One phase of the four stages of construction has now been completed, and phase two is progressing. This project is employing a combination of milling and a 1/2" Fast Track hydrodemolition cut to selectively remove just the deteriorated concrete in the deck. An inlay of a minimum of 1 1/2" of Latex Modified Concrete is going back down as the finished surface. It

should give a good 25 or more years of extended service life to the bridge deck. The job is scheduled for completion later in 2020.

The work in Toledo includes the largest ever hydrodemolition job administered by the Ohio Department of Transportation This includes a (ODOT). combination of milling and 1/4" Fast Track Hydrodemolition cut to prep the deck surface for a new 1 1/2" thick superdensified concrete topping

with fibers. The total area of removals is 137,000 square vards. One of the unique aspects of this job is the care needed to insure the post-tensioning ducts for the bridge deck are not damaged during the concrete removal and preparation process. That makes the Fast Track method of hydrodemolition very wellsuited for this project. The job started in late March 2020, and is scheduled for completion in 2021.

The Baltimore Harbor Tunnel repair job includes repairs to the driving surface within the Harbor Tunnel of I-895. This is a two-year project that began in 2019 and will conclude in 2020, for the Maryland Transportation Authority (MdTA). The total amount of improvements is just under 50,000 square vards. The removal depth is 2" by a combination of milling and hydrodemolition. The job is being done under very constricted time frames to reduce closure days of each tunnel The northbound lanes were tube. completed in under 60 days in 2019. The 2020 work just started up in early April and the allowable closure time is 60 days to complete the work in the southbound direction. Latex Modified Concrete is being used to resurface the travel lanes.

ISSUE 6

APRIL 2020



Deep cutting hydrodemolition on the Newport/Pell Bridge in Newport, RI.

Work in Rhode Island includes a twoyear project that also started in 2019 and will conclude in 2020. The Newport/ Pell Bridge, in Newport, Rhode Island, is owned by the Rhode Island Turnpike and Bridge Authority, with the project design and administration by WSP. The removal is 4" of the top surface through a combination of milling and deep cutting hydrodemolition, providing a total top mat bar exposure, with the top layer of deck repoured using a structural concrete mix. There are 22,000 square yards total for the project. This work is only addressing the east approach spans of the bridge. Further work to the bridge deck, in the future, will include restoration of the main spans and the west approaches.

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These four projects show that owners removals to only selective prefer hydrodemolition for concrete removal and surface preparation to preserve their high investment structures. It lends itself to speed and efficiency and also provides the highest level of surface preparation, to promote a long lasting restoration. Over 274,000 square vards of hydrodemolition work will be performed by Hydro-Technologies, Inc. on just these four structures.

The preferred strategy is a Fast Track hydrodemolition cut and a Latex Modified Concrete, which can be placed as thin as $1 \frac{1}{2}$ " in thickness, and even inlayed in order to maintain grade and minimize the removal of the weakened or deteriorated concrete. Hydrodemolition gives the best possible surface preparation, and the work will provide a long lasting bond that leads to a long lasting wearing surface and deck protection extending out beyond 25 years in many cases.



LMC overlay on Vicksburg Bridge

FOR MORE INFORMATION ON HOW TO PRESERVE YOUR STRUCTURES WITH THE FAST TRACK METHOD OF HYDRODEMOLITION AND LATEX MODIFIED CONCRETE, CONTACT PAT MARTENS AT 636-441-1376, OR PMARTENS@BRIDGEPRESERVATION.NET. ASK ABOUT A LUNCH AND LEARN!



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