Old Central Viaduct Piers are Part of the Landscape for New Bridge

Looking at the work going on in the west slope (the area from Abbey Avenue to the Cuyahoga River) it is clear there are two very old structures which were built, or rebuilt, as part of this very new George V. Voinovich Bridge. Two sandstone piers, which were once part of the old Central Viaduct, have been reconstructed along what will be the extension of the Towpath Trail leading up to Abbey Ave.

The Central Viaduct stood in place from 1888 to 1941. While it had a storied and not always pleasant history — including the cable car loaded with 17 passengers which plummeted into the river from the bridge — by 1941 the bridge was obsolete. Steel from the viaduct went into the World War II war efforts but other remnants of the bridge, like the sandstone piers and other sandstone structures, were left largely untouched and ignored while the Innerbelt Bridge was constructed in the early 1950’s.

Those elements have now been repurposed. The Ohio Department of Transportation worked with the Ohio Historic Preservation Office in order to ensure the most inconspicuous detail was not overlooked. The piers which once supported the Central Viaduct were taken apart piece by piece, tagged and stored until they could be reassembled at the bridge’s landing points, on the downtown side and on the Tremont side. The piers can be seen from Canal Road and what will become the Towpath Trail extension leading from Scranton Avenue, up the west slope to Abbey Avenue. The trail will be lined with informational plaques of historical points of interest, including information on the three generations of bridges crossing the Cuyahoga in this area.

Crews working with the sandstone had to be inventive in determining how to work with it. There are dimples evident in some of the pieces which show how the blocks were handled in the 1800’s with an ice pick like device. Since today’s tools and machinery are quite different, crews used canvas straps to gently handle the blocks. In some cases where there was a missing piece, another sandstone block had to be cut to size in order to fit. The rebuilding of the piers is complete and creates a wonderful juxtaposition of old and new.

Crews Busy Finishing Bridge Deck

The driving surface of a bridge is called a deck but it is only one of the many elements which make up the entire deck. Although each element is an important part of the deck, it is the driving surface which gets the most scrutiny from the motoring public. In the case of the George V Voinovich Bridge — there are actually 26 individual deck pours which will eventually make the entire surface of the bridge ready for traffic.

It takes a fully integrated team in order to perform a deck pour, so much so that before any concrete hits the roadway, a dry run of the pour is gone through to make sure all will go smoothly — literally.

Concrete is poured from the conveyor or placer and then vibrated to fill in the rebar webbing of the deck. Pan decking is then put in place to hold the concrete and stringers or smaller girder pieces which make up part of the placement of large flat or deck girders and adding the cross bracing and decorative pieces.

Long before a deck pour can occur crews have spent many hours building the less visible elements of the decks. Initially there is the placement of large flat or deck girders and adding the cross bracing and stringers or smaller girder pieces which make up part of the structural steel. Pan decking is then put in place to hold the concrete and finally a webbing of rebar is tied together in place — which adds strength to the deck area.

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With those elements all in place the concrete can be poured. For the GVV Bridge each of the 26 pours will use a range of 300 to 800 cubic yards of concrete to cover an area 90 to 120 feet wide by 80 to 90 feet long. The concrete is brought in with concrete trucks and dumped into a pumper truck which has a long arm with a hose in order to get the concrete into place on the deck.

It is fed into a conveyor or placer which crew members operate to spread the concrete out across the width of the deck. Another crew member uses a machine to vibrate the concrete, to ensure it completely fills in around the rebar webbing. The machine with the finishing head running back and forth is a Bidwell which finishes the concrete. The operator runs the machine across the width of the deck, moves four inches and drives it back the other way. Crew members working on either side of the Bidwell finish the areas closest to the sides.

Behind the Bidwell are more crew members who cover the newly poured concrete with wet burlap and plastic to keep the moisture in the concrete from evaporating too quickly. After seven days of wet curing, the burlap and plastic is removed. Then a diamond grooving machine travels the length of the entire bridge deck cutting longitudinal grooves, creating the final driving surface.

There are still others involved to test the concrete, supervise the work and even inspect the work. The entire crew must work together quickly to make sure the wet concrete does not sit too long before it is pumped in, finished and covered up.

The GVV Bridge Will Open to Traffic Soon

More Work Needed Before Complete Opening

It has been nearly six years in the making but it is about to happen, the opening of the eastbound George V. Voinovich Bridge. A great deal of work both on the bridge and on the surrounding roadways must still be completed before the bridge can partially open to traffic. Once partially open, even more work must be finished to open all five lanes of the bridge.

At the time of publication, the goal is to open two lanes on the eastbound bridge in mid-September. The remainder of the lanes will open at the end of October.

Much of the work that needs to be complete before the full bridge can open involves removing the crossovers which currently direct eastbound traffic onto the westbound bridge and then back. These crossovers are located in the Tremont area and near East 9th St. on the downtown side. The project was designed to use the westbound bridge to carry traffic in both directions while the eastbound bridge was constructed. In addition, paving and stripping on I-90 mainline from East 14th St. to about East 14th St. will be completed while the area is closed to traffic.

In September, I-90 east and west will close for the weekend between I-77 and I-490 - all traffic can opt for the alternate and use I-77 & I-490. During the weekend closure, crews will work to bring one eastbound lane from I-90 and one northbound lane from I-71 onto the new eastbound bridge. Also during that weekend final work on the Ontario Street exit ramp from I-90 east will be completed. On Monday, after the weekend closure, the bridge will open to two lanes of traffic (one lane from I-90 and one lane from I-71) as well as the Ontario St. exit ramp. The East 9th St. ramp, which has been open throughout the project, will be slightly reconfigured.

Following this work, a tremendous amount of repaving and striping must occur before all five lanes can open and the closed access points to both I-90 and I-77 can reopen. These access points include SR 176 north to I-90 east, I-490 west to I-77 north, East 30th St. to I-77 north, East 21st St. to I-77 south and West 14th St. to I-90 east.

Repaving will be done in the westbound lanes of I-90 mainline from East 14th St. to the Tremont area, I-77 north from I-490 to I-90, a portion of I-90 east to Cedar Ave. and on I-77 south from I-90 to just south of I-490. This work includes the ramps leading to and from the various interstates which were used as part of the alternate route.

Off the interstates there will be repaving work on Canal Road, under I-90, West 3rd St., under I-90, on the Tremont parking lots added as part of the bridge project and the shared use path which will run along East 9th St. and Ontario St. on the downtown side. Crews will be working through year’s end to complete this work and anything remaining will be completed next spring.
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Moving the sandstone blocks from the 1888 Central Viaduct Crossing had to be done very carefully to rebuild piers from that bridge, which was the old Innerbelt Bridge’s predecessor.

Sandstone blocks from the 1888 Central Viaduct are carefully pieced together to rebuild one of the original piers of that bridge. The “old” piers will serve as a historical marker along what will be the Towpath Trail in the Tremont area.

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How To Stay In Touch

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