

Hess Mill Rd Bridge

Replacement Planned for 2020

Executive Summary by John Auerbach

The COVID-19 pandemic could easily derail this project at some point. The strategy is to be proactive and pursue project activities within the activity limits permitted by all governmental entities. Hopefully we will be able to replace this critical infrastructure element in a timely manner.

As part of the Township's infrastructure improvement program, the Hess Mill Road Bridge is scheduled for replacement in the later part of this year. The replacement bridge not only provides an improvement to the Township's infrastructure but it also provides a significant environmental benefit by eliminating the current stream flow restriction with its wider span.

The estimated cost of the project is \$371K. In early 2019, the Township engaged the Chester County Conservation District (CCCD) to help evaluate the environmental impact of the project. After a through upstream and downstream inspection, the CCCD determined that the existing 25ft span of the bridge was restrictive to the flow of the stream. As result, the CCCD offered a significant grant if the Township would increase the span to 32ft with new construction.

Funding by the CCCD	\$296K
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<u>Funding by the Township</u>	<u>\$75K</u>
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Total project cost	\$371K
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The original intent was to replace the bridge in 2019 with Township funds. However, when the CCCD offered a grant which would be available in 2020, the project was delayed one year to take advantage of the grant. The Township expects approval of the grant sometime in June 2020. This grant will allow the Township to avoid an infrastructure capital loan.

Because of the need to wait for the grant to be awarded before spending any grant money, the project will have a start date which is later in the year than is optimal. Thus, meeting key milestones in the schedule is critical to delivering the project before the end of 2020.

Tentative schedule milestones:

Request a quote (RFQ) for the prefabricated bridge	4/27/2020
Board to Pre-approval the bridge purchase order	5/20/2020
Receive CCCD grant approval	6/23/2020
Close Hess Mill Rd & start dismantling the bridge	10/8/2020
Install prefabricated bridge	11/9/2020
Finish roadway & bridge accessories; Open Hess Mill Rd	12/1/2020

Board pre-approval of the bridge purchase order (\$216K estimated) is necessary to meet the project's key milestones. If the Board waits for the CCCD grant approval before approving the bridge purchase order, the next available Board action would not occur before July 15 thus extending the bridge finish date beyond early December.

Impact of Bridge Construction on Residents

Through-traffic on Hess Mill Road will be detoured. All local residents on Hess Mill Road will have full access to their properties for the entire duration of construction. Electric power outages which are local to the bridge area, will be required for short periods during heavy lift operations. All local residents on Hess Mill Rd will have full electric service for the duration of the project.

Background on the Hess Mill Road Bridge

The existing Hess Mill Road bridge is a wooden structure, constructed in 1974, and is located approximately 600 ft west of South Guernsey Road. Most motorists are unaware of the bridge as the bridge surface is asphalt over wood which matches the roadway. Bridge profiles on either side are not visible from the road. The wooden guard rail is the only bridge feature visible to passing motorists.

The bridge has been inspected annually by consulting engineers commissioned and paid for by PennDOT. Since 2011, the bridge has been rated in poor condition (rating 4) and the bridge is classified as structurally deficient. The primary supporting structure is wood consisting of a series of 3x12 beams fastened together to form a mat that covers the 25 ft span x 18 ft. These wooden members are in poor condition. Approximately 8-10 of the primary structural members have completely failed with splits and breaks. Some of the wooden components have soft pithy spots. In preparation for the project, the Township conducted several traffic count studies using video equipment. In addition to the traffic data collected, the videos indicated that many overweight trucks are using the bridge. The bridge has reached the end of its service life. The Township is pursuing a timely, proactive approach to replacement.

[*Link to engineering inspection report by Pickering Corts & Summerson, inspected January 3, 2018.*](#)

Description of the Replacement Bridge

The replacement bridge will be a prefabricated re-enforced concrete arch bridge. It will be delivered to the site in several large pieces and erected by a heavy lift crane. This construction technique significantly shortens the service outage for Hess Mill Road. The replacement bridge will not have a posted weight limit as it is capable of carrying all registered vehicles. In 2012, New London Township replaced the West Avondale Road bridge with a structure that is very similar in configuration to the proposed Hess Mill Road bridge. This bridge is located on West Avondale Road approximately 200 ft west of Pennock Bridge Road. Profiles of both sides of this bridge can be easily viewed from Pennock Bridge Road. Photos of the existing Hess Mill Rd bridge and the West Avondale Road bridge are attached.

This posting (snapshot in time) will be updated with current information as the project develops and enters the purchasing and construction phases.

West Avondale Road Bridge



Hess Mill Bridge

