



# pennsylvania

DEPARTMENT OF TRANSPORTATION

## SR 0033 (05B) / Bridge Replacements Over Bushkill Creek Frequently Asked Questions

### 1. What is the SR 0033 (05B) / Bridge Replacements Project?

This project involves the replacement of two existing, deteriorating bridges that carry SR 0033 Northbound and Southbound over Bushkill Creek in Palmer Township and Stockertown Borough, Northampton County. The existing single-span concrete I-beam bridges were built in 2004 and are experiencing settlement due to the karst topography, necessitating replacement. The current curb-to-curb width of the bridges are 42 ft, each. The bridges are proposed to be replaced with a single span prefabricated concrete arch on a concrete mat foundation and two concrete overflow culverts. The proposed arch and overflow culverts will be continuous beneath northbound, southbound, and the median.

The existing bridges contain two lanes each, with 6 ft inside shoulders and 12 ft outside shoulders. The proposed roadway over an arch and two overflow culverts will carry two 12 ft lanes of vehicular traffic in each direction and include 8 ft (6 ft paved) inside shoulders with 12 ft paved outside shoulders.

Full depth roadway work will extend approximately 200 feet south and 200 feet north of both the Northbound and Southbound Bushkill Creek crossings. This work will include pavement and guide rail replacement. Shoulder reconstruction, milling, overlaying, and temporary median-crossover roadway work will extend approximately 1900 ft at the south and 2300 ft at the north to accommodate temporary traffic control.

### 2. Why is this project being undertaken?

The project is being undertaken to replace the existing SR 0033 bridges, which are experiencing settlement due to karst topography. The existing structures need to be replaced with new structures that can mitigate the karst topography and provide a long term solution for the crossing at Bushkill Creek.

### 3. Why are the bridges being replaced so soon after the last time they were replaced?

The area surrounding the bridges is in a very dynamic geological location. The subsurface has significant sinkhole activity which changes the topography dramatically. The replacement structures, constructed in 2004, made provisions to address this activity by utilizing deep pile foundations that were further away from the creek (the active zone for the area). Unfortunately, this dynamic zone has spread from the creek area and impacted the existing bridge resulting in movement of the piles and has required continuous monitoring. While the movement did not compromise bridge safety, it was decided to replace the bridges to ensure long term safety and stability in case the dynamic zone increases any further. The proposed

new structure will utilize a foundation that will accommodate subsurface movement and provide more stability in the project area.

4. What is the funding?

According to the current version of the Interstate TIP, the construction phase of the project is currently funded 80% Federal and 20% State.

5. When will construction start?

PennDOT is Letting the project in Fall 2022. Construction will likely commence in Fall 2022. Traffic impacts won't likely occur until Summer 2023.

6. How long will construction last?

Construction is scheduled to last two construction seasons, ending in the Fall of 2023. During the vast majority of the construction duration four lanes of traffic (two in each direction) will be maintained. During this time there will be a single two-week period where northbound will be reduced to one lane of traffic, and a separate two-week period where southbound will be reduced to one lane of traffic.

7. How will traffic be maintained during construction?

The traffic control plan utilizes five distinct phases.

- During the initial (first) phase, all four lanes of SR 33 traffic will continue on normal alignment. During this phase, construction of the arch culvert, overflow culverts, and a large portion of the fill will occur while traffic is unaffected above. Temporary median-crossover roadways and some shoulder widening will be constructed in preparation for the second phase of construction. During this phase, short term and long-term traffic control will follow standard PATA figures from PennDOT Publication 213. Any traffic control that requires lane reductions will be limited to off-peak hours.
- The second phase of construction will be limited to two weeks. During this phase, northbound SR 33 traffic will be reduced to one lane and utilize the northbound temporary median-crossover roadways constructed during Phase 1. This will place three lanes of traffic; two southbound and one northbound, on the southbound alignment over the existing southbound Bushkill Creek bridge and the southbound Norfolk Southern Railroad bridge. The northbound on-ramp from the SR 1002 (Main Street) Tatamy Interchange and the northbound off-ramp to SR 0191 will be closed and detoured for the two week construction phase. The detour route will be along SR 1002 (Main Street), SR 2025 (Sullivan Trail/Main Street), and SR 0191. Six traffic signals along the detour route will require retiming to accommodate the additional traffic volumes. Long term traffic control and detour signing will be developed in a traffic control plan. During this phase the existing northbound bridge will be removed, fill to final grade completed, and the new northbound roadway built on final alignment. Two weeks prior to implementing this phase, a media campaign and VMS alerts will be initiated notifying the traveling public that PA 33 northbound will be reduced to one lane for a duration of two weeks.

- During the third phase of construction, all four lanes of SR 33 will be returned to their respective roadway alignments. Original lane configurations, pavement marking schemes, and roadway signing will be in effect. All entrance and exit ramps will be open to traffic. During this phase portions of the previously constructed northbound temporary median-crossover roadways will be removed, and construction of the southbound temporary median-crossover roadways will be completed. Like Phase 1, short term and long-term traffic control will follow standard PATA figures from PennDOT Publication 213. Any traffic control that requires lane reductions will be limited to off-peak hours.
- The fourth phase of construction will be limited to two weeks. During this phase, southbound SR 33 traffic will be reduced to one lane and utilize the southbound temporary median-crossover roadways constructed during Phase 3. This will place three lanes of traffic; two northbound and one southbound, on the newly constructed (during Phase 2) northbound alignment over the Bushkill Creek arch and overflow culverts and on the northbound Norfolk Southern Railroad bridge. The southbound on-ramp from the SR 0191 Interchange and the southbound off-ramp to the SR 1002 (Main Street) Tatamy Interchange will be closed and detoured for the two week construction phase. The detour route will be along SR 1002 (Main Street), SR 2025 (Sullivan Trail/Main Street), and SR 0191. Six traffic signals along the detour route will require retiming to accommodate the additional traffic volumes. Long term traffic control and detour signing will be developed in a traffic control plan. During this phase the existing southbound bridge will be removed, fill to final grade completed and the new southbound roadway built on final alignment. Two weeks prior to implementing this phase, a media campaign and VMS alerts will be initiated notifying the traveling public that PA 33 southbound will be reduced to one lane for a duration of two weeks.
- During the fifth phase of construction, all four lanes of SR 33 will be returned to their respective roadway alignments. Original lane configurations, pavement marking schemes, and roadway signing will be in effect. All entrance and exit ramps will be open to traffic. During this phase portions of the previously constructed temporary median-crossover roadways will be removed, final roadside grading will be performed, and final milling and overlay of the roadway will be completed. Final pavement markings and signing will be installed. Short term and long-term traffic control will follow standard PATA figures from PennDOT Publication 213. Any traffic control that requires lane reductions will be limited to off-peak hours.
- Throughout construction, advanced warning signs will be installed according to Publication 213 at the work zone and along the detour routes. Short-term restrictions are anticipated for disturbances to traffic flow on SR 33 during the construction of the arch and overflow culverts. Access to businesses and residences along the detour routes will be maintained at all times. Coordination with local emergency agencies will help to ensure timely emergency responses.
- As per the proposed construction plans, signing and pavement markings will be updated throughout the project area at the completion of the project.

8. What properties will be needed for the project?

The proposed work is located within the existing SR 33 alignment; therefore no permanent right-of-way impacts are anticipated. However, temporary construction easements are anticipated to provide construction access to the site from Babbling Brook Road (T-954) and Bushkill Street. Any right-of-way impacts and temporary construction easement will be verified and discussed with the District Right-of-Way Unit as Final Design progresses.

9. How will bicycle and pedestrian facilities be affected by the project?

SR 0033 does not contain any bicycle or pedestrian facilities and therefore does not allow bicycle or pedestrian traffic. For this reason, no bicycle or pedestrian facilities are anticipated to be affected by the project.