Newsletter #8
Winter 2022

Replacing the General Sullivan Bridge

The General Sullivan Bridge (GSB) provides a critical connection for pedestrians, cyclists, and other recreational users—it is also one of the most significant historic bridges remaining in the State of New Hampshire. To maintain a safe connection for all travelers, the New Hampshire Department of Transportation (NHDOT) has reviewed options for its rehabilitation or replacement. After completion of the National Environmental Policy Act (NEPA) process, with the submission of the Final Supplemental Environmental Impact Statement and Supplemental Record of Decision in February 2022, the Selected Alternative will involve superstructure replacement of the historic GSB, which spans the navigational channel of Little Bay between Newington and Dover.

The GSB is a 1930s-era, 9-span structure over the Little Bay between the Town of Newington and the City of Dover, New Hampshire. The bridge was identified on the NHDOT's Red List as structurally deficient, and as part of the Department's efforts to improve the adjacent Spaulding Turnpike, rehabilitation or replacement of this historic structure was considered. As part of the larger project to improve the Spaulding Turnpike in Newington and Dover, the NHDOT and its consultant team completed a Final Environmental Impact Statement (FEIS) in 2007. Since 1984, the historic structure has been closed to motor vehicle traffic, but has provided an important connection for pedestrians and bicyclists, prior to its closure in 2018.

Continued deterioration of the GSB superstructure forced the closure of the bridge in September 2018 for the safety of the public. This closure eliminated permanent recreational use of the GSB and eliminated pedestrian and bicycle access across Little Bay. However, in August 2019, NHDOT established a temporary detour borrowing the outermost travel lane of the northbound Little Bay Bridge to keep a multi-use connection between Newington and Dover for non-motorized transportation purposes.

New Hampshire DOT Department of Transportation

U.S. Department of Transportation Federal Highway Administration

As part of the inspection efforts, specialized inspection vessels and aquatic vehicles were used.

Project planning has been on-going for years

After completion of the 2007 NEPA process, the NHDOT's consultant team provided in-depth inspection of the existing conditions of the bridge in September 2018, which included analysis and load rating of the floor system and truss members. As part of the inspection efforts, specialized inspection vessels and aquatic vehicles were used. The inspections brought to the light the level of deterioration of the GSB, which put the original 2007 rehabilitation commitment into question. With additional challenges of rehabilitating the GSB, a Supplemental Environmental Impact Statement (SEIS) needed to be prepared to consider other solutions to meet the project Purpose and Need.

From 2018 to 2022, the NHDOT successfully completed both the NEPA and Section 106 processes. Because of its historic significance, the team was responsible for seeing that environmental and cultural resources were protected—and integrated with social and economic objectives in compliance with NEPA and Section 106 requirements. The NHDOT's consultant team also prepared preliminary engineering plans and cost estimates for each alternative—while taking into consideration the cultural significance of the bridge, as well as its functionality, durability, and maintenance requirements.

Because of the high visibility of the GSB effort, the NHDOT and its consultant team completed a robust public and agency engagement process, notably with numerous Section 106 consultation meetings. The NHDOT also held a virtual public hearing to present the findings of the 2021 Draft SEIS, including the provision of an in-person option for the public.

The NHDOT and its consultants' efforts ultimately resulted in receiving NEPA approval by FHWA in February 2022 on the combined Final SEIS/Supplemental Record of Decision. The Selected Alternative will involve the complete removal and replacement of the GSB superstructure with a new steel bridge following the existing GSB alignment, thereby allowing the reuse of the existing GSB stone masonry piers.

Replacement of the GSB superstructure has been approved through the NEPA process

In April 2021, a Draft Supplemental Environmental Impact Statement (DSEIS) was prepared to consider changes to the rehabilitation of the GSB, including an updated reasonable range of alternatives, as well as consideration of environmental impacts that were not previously evaluated in the original 2007 FEIS. The FHWA has elected to complete the NEPA environmental review process by issuing a single document that consisted of a Final SEIS (FSEIS) and Supplemental ROD (SROD). The combined FSEIS/SROD serves as a supplement to the 2007 FEIS and 2008 ROD and includes responses to public and agency comments received during the comment period on the 2021 DSEIS, as well as additional information on existing conditions and mitigation measures. FHWA, as the lead federal agency, has identified Alternative 9 as the Selected Alternative based on the FSEIS and input from federal and state agencies; state, town, and local officials; and the public. The basis for FHWA's decision is described in the SROD portion of the combined FSEIS/SROD, available here: NH Department of Transportation - (newington-dover.com)

National Historic Preservation Act review has also been completed

The 2008 Memorandum of Agreement (MOA) among FHWA, NHDOT, and NHDHR memorialized the commitment to rehabilitate the GSB. Measures for historic mitigation to compensate for the loss of the GSB have been finalized through a collaborative, public input approach consistent with the Section 106 process. NHDOT and FHWA have met with NHDHR seventeen times since December 2015. Since April 2018, these meetings have included the participation of Consulting Parties. During cultural resource agency coordination meetings with the FHWA, NHDOT, NHDHR, the City of Dover, the Town of Newington, and various Consulting and Interested Parties, it was determined that the adverse effect to the GSB could be mitigated. Mitigation measures for the adverse effect have been finalized and stipulated in a new MOA pursuant to Section 106 of the National Historic Preservation Act, which was executed by FHWA, NHDHR, NHDOT and Concurring Parties on November 10, 2021.

Figure 1. Alternative 9 Conceptual Design

What is the Selected Alternative?

The Selected Alternative (Alternative 9) involves the complete removal and replacement of the GSB superstructure. The GSB superstructure will be replaced with a steel girder system with a structural steel "V-Frame" extending from the bottom of the girders to the top of the existing GSB piers. The Selected Alternative follows the existing GSB alignment, thereby allowing the reuse of the existing GSB stone masonry piers, which would be repointed, without requiring substantial modifications. **The illustration above depicts the conceptual design for Alternative 9.**

The Selected Alternative was determined to have several advantages over other alternatives, which led the NHDOT and FHWA to identify this alternative as the Selected Alternative.

The Selected Alternative bridge deck will range in width from approximately 21 to 22 feet, with an approximately 16-foot-wide multiuse path. The multiuse path will be fully consistent with national engineering standards, will comply with the ADA guidelines for accessibility, and will have a steel pedestrian rail along both sides of the new bridge deck. The new path will be approximately 20 feet from the adjacent Little Bay Bridge, approximately 5 feet further from the Little Bay Bridge than the existing GSB. These characteristics contribute to the high performance of the design with respect to user safety, emergency access, and inspection safety.

The approach span from Dover Point Road, constructed in 2010 at the Dover end of the GSB, will not require substantial modifications. As the alignment of the existing GSB will be maintained, the need to reconstruct the approach span from Dover Point Road will be avoided, which will minimize intertidal habitat impacts. The existing Newington abutment will be removed in its entirety and replaced. The Selected Alternative will require temporary impacts to Hilton Park for construction access.

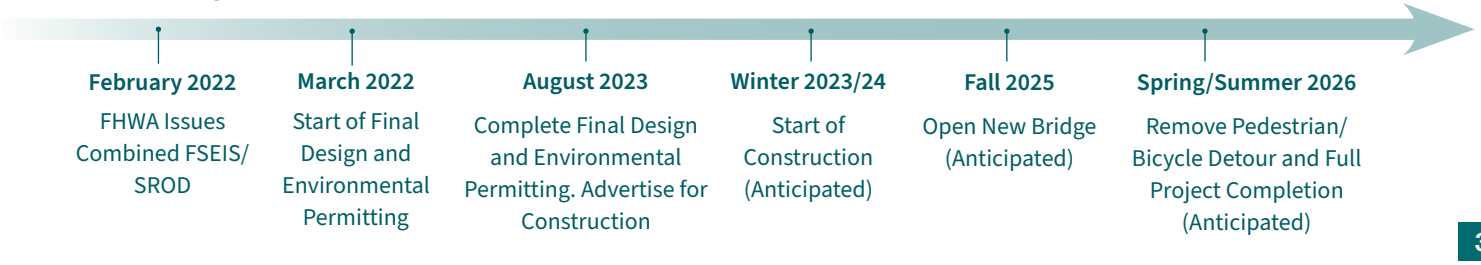
Final Design is in Progress

Currently, the NHDOT and its consultants are progressing final design of the replacement bridge. This includes refining certain structural and aesthetic components of the replacement bridge. Final design involves modeling and fine tuning the superstructure design, as well as evaluating options for deck panels, drainage, surface treatments, coating for steel components, bridge railings, and emergency or inspection vehicle access, among other components.

Final design is expected to be complete in the summer of 2023, with construction anticipated to begin in the spring of 2024.

The NHDOT and its consultants are also working towards fulfilling the mitigation measures and environmental commitments, including those associated with offsetting the loss of the historic bridge. Work on obtaining various federal and state permits, approvals, or certifications is on-going.

Figure 2. SEIS, Design, and Construction Schedule



Temporary Bicycle and Pedestrian Detour

A temporary bicycle and pedestrian detour was constructed on the northbound Little Bay Bridge to provide non-motorized connectivity across Little Bay due to the closure of the GSB. The detour opened for public use in August 2019, and will remain in place throughout construction, until the superstructure replacement bridge is open for public use.

The detour path is 10 feet wide, with a concrete barrier and chain link fencing installed to separate path users and vehicular traffic on the existing northbound Little Bay Bridge. The temporary bicycle and pedestrian detour approach from Shattuck Way on the Newington side connects to and utilizes the access road constructed for the water quality treatment basin located adjacent to the Exit 4 northbound on-ramp from Shattuck Way. The temporary detour approach on the Dover side connects to Wentworth Terrace, adjacent to the eastern side of Hilton Park. Once the new pedestrian bridge is open in the early summer of 2026, the temporary detour will be decommissioned a few months later, in the fall of 2026, to allow the expanded Little Bay Bridge to accommodate vehicular traffic volumes as intended and designed.

Construction Access and Staging in Hilton Park

During construction, the Contractor will need approximately 2 acres (0.5 acre in Newington and 1.5 acres in Dover) for access, laydown, and staging. Of the area proposed to be used in Dover, approximately 1 acre of Hilton Park on the west side of the Spaulding Turnpike will be fenced off. Most of Hilton Park—including the entire portion on the east side of the Spaulding Turnpike and the public boat launch—will be kept open to the public during construction. The Contractor will restore the disturbed portions of Hilton Park once construction is complete.

Use of Hilton Park for construction staging will require either the relocation or replacement of the existing picnic shelter (also known as the Hilton Park Pavilion) located on the west portion of Hilton Park. This shelter may be placed back in its existing location or may be moved to a new location within Hilton Park. The replacement or relocation will be evaluated in coordination with the NHDOT Bureau of Turnpikes.

Where can I learn more?

Catch up on progress made to date by reviewing past public meeting presentations, notes, and documents, and sign up for email notices at:
http://newington-dover.com/

For more information about the Newington-Dover project, contact:

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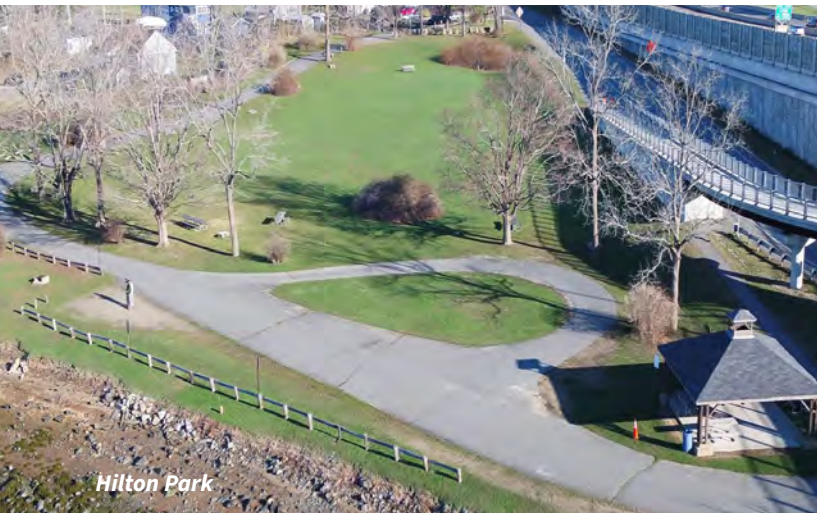
Hilton Park


Hilton Park Pavillion