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Introduction

The New Hampshire Department of Transportation (NHDOT) and the Federal Highway Administration (FHWA) have prepared this Draft Supplemental Environmental Impact Statement (DSEIS) pursuant to the National Environmental Policy Act (NEPA)⁴ to evaluate alternatives for the rehabilitation or replacement of the historic General Sullivan Bridge (GSB) (the “Project” or the “11238S Contract”) to provide access across Little Bay for non-motorized users.

This DSEIS supplements a 2007 Final Environmental Impact Statement (Final EIS) addressing a set of improvements to the Spaulding Turnpike (carrying a section of US 4 and NH 16).⁵ While the 2007 FEIS included an analysis of alternatives related to the GSB, its scope encompassed a much larger transportation project involving the GSB, the adjacent Little Bay Bridges (LBBs), and multiple interchanges and local roads over a 3.5-mile portion of the Spaulding Turnpike.

In the 2008 Record of Decision (ROD) following publication of the 2007 FEIS, NHDOT and FHWA committed to maintain pedestrian and bicycle connectivity between Dover and Newington, and to accomplish that by rehabilitating the GSB as part of the Selected Alternative.⁶ An April 2008 Memorandum of Agreement (MOA) among FHWA, NHDOT, and the New Hampshire Division of Historical Resources (NHDHR) pursuant to Section 106 of the National Historic Preservation Act (NHPA) memorialized the commitment to rehabilitate the GSB. The 2008 MOA addressed the removal and replacement of the deck and floor system, replacement of rivets, and the removal of

the north embankment and portions of the north abutment and wing wall, while assuming the GSB piers and truss would be preserved.

Inspections and engineering studies of the current GSB condition were completed from 2009 to 2016 to prepare for the final design of the rehabilitation project. A Type Span and Location (TSL) Study was completed in 2017. These studies indicated that the GSB was more deteriorated than originally understood at the time of the 2007 FEIS. It became clear that the rehabilitation would have very high costs, would carry high risks, and would have a limited life span compared to other options.

As a result of these studies, FHWA concurred with NHDOT’s recommendation that further evaluation of rehabilitation and other alternatives was warranted, but determined that a Supplemental Environmental Impact Statement (SEIS) would be necessary to re-evaluate any changes to the rehabilitation of the GSB, as such changes have the potential to result in significant environmental impacts that were not previously evaluated in the original EIS.

In accordance with FHWA’s regulations pertaining to supplemental environmental impact statements, this DSEIS adheres to the applicable requirements set forth in 23 Code of Federal Regulations (CFR) 771.130. Pursuant to 23 CFR 771.130(a), a draft EIS, final EIS, or supplemental EIS may be supplemented at any time; an EIS shall be supplemented when FHWA determines that changes to the proposed action would result in significant environmental impacts that were not evaluated in the EIS, or when new information or circumstances relevant to environmental concerns and bearing on the proposed action or its impacts would result in significant environmental impacts not evaluated in the EIS.

Per 23 CFR 771.130(d), this DSEIS uses the same process and format (*i.e.*, draft EIS, final EIS, and ROD) as the original EIS; however, scoping is not required. This DSEIS is of limited scope and addresses the evaluation of the location and/or design of alternatives associated with a limited portion of the overall project (*i.e.*, the rehabilitation or replacement of the GSB) and related mitigation [23 CFR 771.130(f)]. The preparation of this DSEIS, in accordance with 23 CFR 771.130(f)(1) through (3), shall not necessarily prevent the granting of new approvals, require the withdrawal of prior approvals, or require the suspension of project activities which are not directly affected by the DSEIS.

NHDOT and FHWA may complete the NEPA process by issuing a combined FSEIS/SROD pursuant to 49 USC 304a(b) [and 23 USC 139(n)(2)], unless FHWA determines that statutory criteria or practicability considerations preclude issuance of a combined FSEIS/SROD. Recent USDOT Office of Transportation Policy guidance has indicated that the requirement to develop a combined FEIS/ROD is applicable to a SEIS.⁷ **Section 1.4, Requirements for Combined FSEIS/SROD**, outlines the factors that FHWA uses in making this determination.

⁴ NEPA applies to federal actions that may affect the human environment, such as traffic or air—or natural environment, such as wetlands or endangered species. The FHWA is the lead federal agency overseeing the NEPA process for the General Sullivan Bridge Project. Documentation of the NEPA process is essential; it helps assess the Project from a wide range of viewpoints, including environmental to economic impacts.

⁵ Federal Highway Administration. 2007. *Spaulding Turnpike Improvements, Final Environmental Impact Statement*. US Department of Transportation. Accessed from <http://www.newington-dover.com/html-studydocs/feis.html>.

⁶ Federal Highway Administration. 2008. *Spaulding Turnpike Improvements, Record of Decision*. US Department of Transportation. Accessed from http://www.newington-dover.com/documents/studydocs/Record_of_Decision_11238_signed.pdf.

⁷ At the time of the publication of the Notice of Intent to Prepare an EIS in the Federal Register (January 18, 2018), it was unclear whether a combined FSEIS/SROD would apply to this SEIS.

1.1 Study Area

The GSB spans a tidal estuary system known as Little Bay near its confluence with the Piscataqua River in southeast New Hampshire. The bridge connects the Town of Newington and the City of Dover. The Study Area for the DSEIS includes both the GSB and the LBBs, as well as an area approximately 800 feet north and 800 feet south of the bridge abutments in Newington and Dover. Certain elements of the analysis provided in this DSEIS consider resources located outside of this immediate Study Area. Any modifications are clearly defined in the specific resource sections of the DSEIS. **Figures 1.1-1** and **1.1-2** depict the project Study Area.

1.2 Description of the General Sullivan Bridge

The GSB, built in 1934, is 1,528 feet long with the primary superstructure consisting of a combination deck truss and partial through arch truss. The GSB is supported by two reinforced concrete abutments and eight concrete piers with granite block facing and caps. The main span traverses a navigable channel and is 275 feet long. The existing GSB deck is approximately 32 feet wide and is oriented southeast to northwest. The nine spans of the GSB are numbered from north to south to maintain consistency with the original span numbering. The Dover abutment is located in Hilton Park. The approach to the GSB from Hilton Park is a pedestrian bridge constructed in 2010, and the south approach to the bridge in Newington is an on-grade pedestrian path. NHDOT's Bureau of Bridge Design-Existing Bridge Section designates the bridge as Dover 200/023.

Although originally designed to support two lanes of highway traffic over the mouth of the Little Bay, the bridge was closed to vehicular traffic in 1984, when the original LBB, located to the east of the GSB, was completed.⁸ The north abutment was reconstructed in 2010, along with a new north approach bridge. Additional work in 2011 replaced the former paved emergency response and maintenance vehicle access from the south approach from Shattuck Way with a curved pedestrian path.

The general condition of the GSB has declined since the 2008 ROD was issued. Detailed inspections of the bridge determined it was in critical condition, and the exterior portions of the deck exhibit advanced deterioration. In 2015, chain link fencing was added to the center of the bridge along the entire length, as a safety measure to keep pedestrians away from the outside deck limits. Truss members exhibit section loss, pack rust, and corrosion holes, and the underwater piers have damage from sulfates and need repointing. A more recent inspection completed in September 2018 found significant additional deterioration of a critical floor beam under the bridge deck. Due to the unsafe condition of the GSB, it is currently closed to all traffic, including pedestrian/bicycle activities and fishing. Fencing and bridge closure signs were installed in late September 2018 to prevent access to the bridge due to its unsafe condition.

The GSB functioned as a pedestrian/bicycle/recreational facility from 1984 until its closure in September 2018. The GSB served as an important bicycle/pedestrian connection across Little Bay and was used for fishing and other recreational activity. As stated above in the introduction, this

DSEIS is being prepared to re-evaluate options to maintain pedestrian/ bicycle access and connectivity between Newington and Dover, across Little Bay.

A photograph of the GSB is provided in **Figure 1.2-1**, and an engineering drawing of the existing bridge (and the adjacent LBB) is provided in **Figure 1.2-2**. Additional photographs of the immediate area are provided in **Appendix A**.

1.3 Purpose and Need

The Purpose and Need statement is fundamental to the analysis of a project under NEPA, the Clean Water Act (Section 404), and other environmental regulations. Sections 1.4.1 and 1.4.2 of the Newington-Dover 11238 FEIS published in December 2007 present the Purpose and Need that was developed in conjunction with an Advisory Task Force (ATF), reviewed by the cooperating agencies with no objections, and unanimously adopted by the ATF on October 29, 2003.

Much of the larger Newington-Dover 11238 Project has been constructed since FHWA issued its ROD on October 24, 2008, including most of the Newington segment and expansion of the LBBs. Construction of the Dover segment is underway, including reconstruction of Exit 6. However, new information relating to the condition of the GSB was developed during inspections conducted in 2010, 2014, 2016 and 2018. This new information has prompted a review of the Selected Alternative, which proposed the re-use of the GSB for non-motorized and emergency uses. Therefore, the Purpose and Need statement presented in the 2007 FEIS was reviewed and updated to ensure that it adequately addresses the provision of non-motorized transportation across the Little Bay. Revisions to the Purpose and Need are provided below.

1.3.1 Purpose

The project purpose presented in the 2007 FEIS was: *"The purpose of this project is to improve transportation efficiency and reduce safety problems, while minimizing social, economic, and environmental impacts, for an approximate 3.5-mile section of the Spaulding Turnpike extending north from the Gosling Road/Pease Boulevard Interchange (Exit 1) in the Town of Newington, across the Little Bay Bridges, to a point just south of the existing Toll Plaza in the City of Dover. Options that include implementing Transportation System Management (TSM) improvements, reusing the General Sullivan Bridge for local motorized and non-motorized traffic, enhancing rail service, improving bus transit service and instituting other travel demand management strategies that may reduce vehicle trips along the Spaulding Turnpike have been considered, in addition to widening the mainline, widening and/or replacing the Little Bay Bridges, and reconstructing the interchanges."*

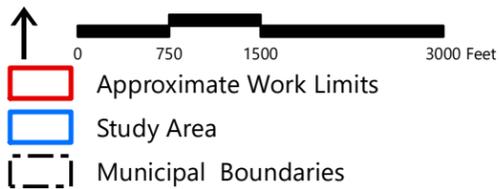
The revised purpose of the project element (GSB) that is the subject of this DSEIS is to provide recreational access and connectivity between Newington and Dover, across Little Bay, for pedestrians and non-motorized vehicles. This would entail reusing the GSB substructure and superstructure, as much as practicable, given the condition of the bridge, while accommodating infrequent uses such as maintenance equipment or emergency response vehicles.

⁸ The Little Bay Bridge was rehabilitated and expanded as part of the Selected Alternative discussed in the 2007 FEIS. There are now two Little Bay Bridges adjacent to the GSB. The original bridge was rehabilitated and now carries northbound traffic, while a new bridge carries southbound traffic.

Figure 1.1-1



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Newington-Dover 112385

Newington and Dover, NH

General Sullivan Bridge
Supplemental EIS

USGS Site Location and Study Area



Source: VHB, NH GRANIT, USGS 7.5-minute Topographic Quadrangles Dover East and Portsmouth, dated 1983

Note: USGS topographic source map is from 1983 and therefore does not reflect all current conditions.

Figure 1.1-2



\\vhb\gis\proj\Bedford\52381.01\GIS\Project\SEIS\Figure 1.1-2_Study Area.mxd



- Legend**
- Study Area
 - Town Boundaries

Newington-Dover 112385

Newington and Dover, NH

**General Sullivan Bridge
Supplemental EIS**

Study Area



Source: NHGRANIT, VHB



*A view of the General Sullivan Bridge in 2013, looking northeast from the Newington side of Little Bay.
Note on-going work on the expanded Little Bay Bridge in the background.*

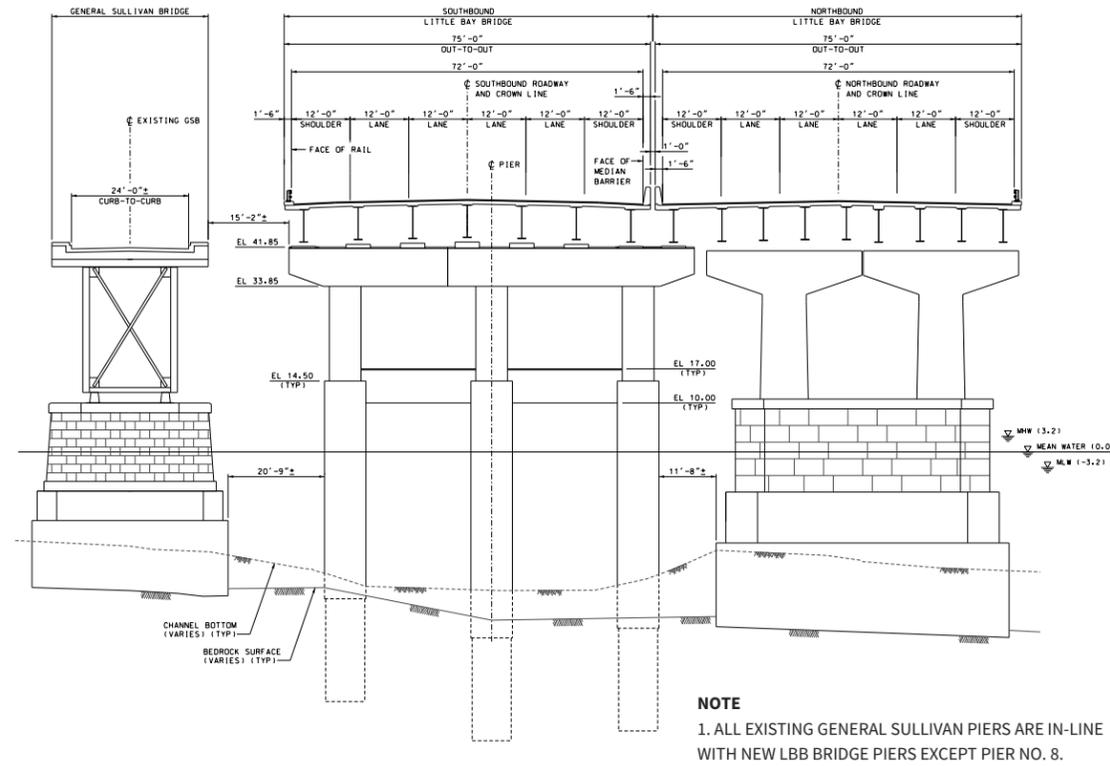
Newington-Dover 11238S

Newington and Dover, NH

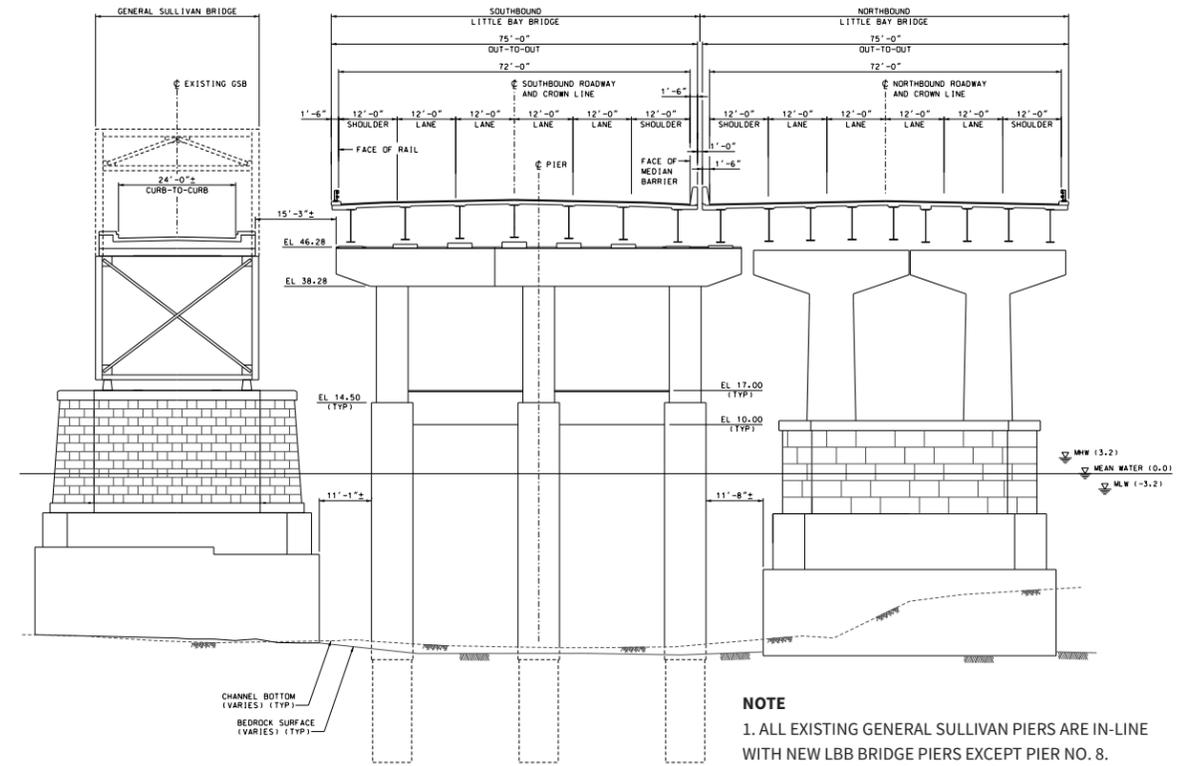
General Sullivan Bridge
Supplemental EIS

Site Photograph

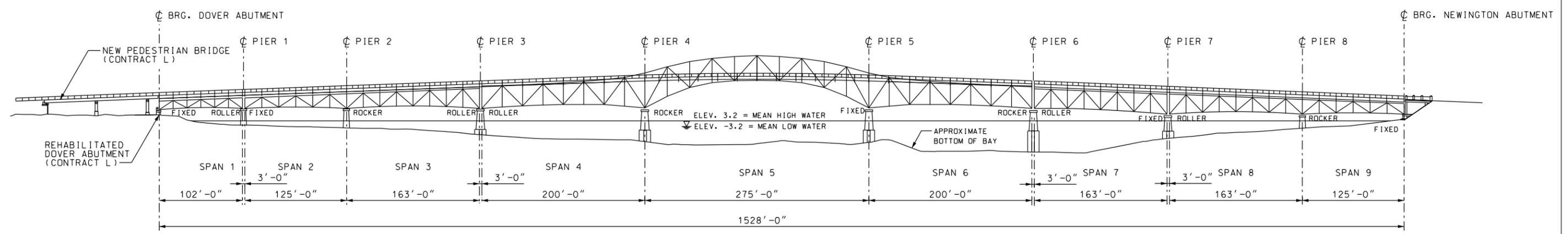




EXISTING CONDITION
TYPICAL BRIDGE SECTION (PIERS 1, 2, 7, & 8)—EXISTING
NOT TO SCALE



EXISTING CONDITION
TYPICAL BRIDGE SECTION (PIERS 3, 4, 5, & 6)—EXISTING
NOT TO SCALE



EXISTING GENERAL SULLIVAN BRIDGE ELEVATION
NOT TO SCALE

Newington-Dover 11238S

Newington and Dover, NH

General Sullivan Bridge
Supplemental EIS

Existing Conditions



1.3.2 Need

The Spaulding Turnpike is eastern New Hampshire's major limited access north-south highway, serving as a gateway linking the Seacoast Region with Concord, the eastern portion of the Lakes Region, and the White Mountains. The Turnpike is also part of the National Highway System reflecting its significance as an important transportation link in the state and regional system. Functionally classified as a principal arterial, it is a major commuter route which ties the growing residential areas of Dover-Somersworth-Rochester with the industrial and regional commercial centers in Newington, Portsmouth, and northern Massachusetts. It serves as the major artery for freight into and out of the areas north of the LBBs and is the economic lifeline of the region. It also serves as a major tourist route, providing access to the northern reaches of the state from the seacoast and points south of New Hampshire.

The FEIS established the need to continue providing access across Little Bay for pedestrians and non-motorized vehicles; the Selected Alternative included rehabilitating the historic GSB for this purpose.

However, the GSB design and configuration is vulnerable to corrosion and deterioration based on the harsh environmental setting of the bridge, especially since the bridge is constructed of thin steel sections and plates. Several truss members and connections require replacement and strengthening to support the weight of the structure, pedestrian and non-motorized vehicle loads, as well as periodic loads from maintenance equipment or emergency response vehicles when necessary. Deformations and section losses limit the remaining service-life of the bridge, and continued deterioration forced the closure of the bridge in September 2018. 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 along northbound LBB to maintain a temporary multi-use connection between Newington and Dover for non-motorized transportation purposes.

1.4 Requirements for Combined FSEIS/SROD

Following the public comment period for the DSEIS, FHWA will make a determination as to whether issuance of a combined FSEIS/SROD is practicable or not. In accordance with FHWA's NEPA regulations, a combined FEIS/ROD format must be used, to the maximum extent practicable, unless the FEIS makes substantial changes to the proposed action that are relevant to environmental or safety concerns, or there are significant new circumstances or information relevant to environmental concerns that bear on the proposed action or the impacts of the proposed action [23 CFR 771.124(a)(1)].

The USDOT Office of Transportation Policy's *"Guidance on the Use of Combined Final Environmental Impact Statements/Records of Decision and Errata Sheets in National Environmental Policy Act Reviews,"* dated April 25, 2019, includes factors used to evaluate and determine the practicality of issuing a combined FSEIS/SROD format.⁹ Each of the following

factors will be evaluated by FHWA in making a decision as to whether to issue a combined document, or to issue the FSEIS and SROD separately:

1. Are there any coordination activities that are more effectively completed after the FEIS is available?
2. Are there any unresolved interagency disagreements over issues that need identification in the FEIS?
3. Is there a substantial degree of controversy?
4. Does the DEIS identify a preferred alternative from among the comparatively evaluated reasonable alternatives?
5. Are there compliance issues with substantive requirements that must be resolved before issuance of the ROD, or that the Operating Administration wants to resolve before signing the ROD, but that do not merit deferring issuance of the FEIS?

⁹ The 2019 *"Guidance on the Use of Combined Final Environmental Impact Statements/Records of Decision and Errata Sheets in National Environmental Policy Act Reviews"* includes a factor pertaining to Executive Order 13807: Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure

Projects. As of January 20, 2021, Executive Order 13807 has been revoked and is therefore not included in this discussion.