STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

<<Date>>

Mr. Kyle Barnes
North Carolina Department of Transportation
Coordinator - Division One
United States Army Corps of Engineers
2407 West Fifth Street
Washington, NC 27889-1000

Dear Sir:

Subject: **Application for Section 404 and Section 10 Individual Permit and Section 401 Individual Water Quality Certification** for the proposed Mid-Currituck Bridge Project in Currituck and Dare Counties, North Carolina; STIP Project R-2576, Federal Aid Project No. BRSTP-0000S (494), Debit $570 from WBS Element 34470.1.TA1.

The North Carolina Department of Transportation (NCDOT), North Carolina Turnpike Authority (NCTA) hereby applies for a Section 404 and Section 10 Individual Permit and a Section 401 Water Quality Certification for construction of the Mid-Currituck Bridge project in Currituck and Dare Counties. The Mid-Currituck Bridge is a controlled-access toll road on new location that extends from US 158 near Coinjock/Aydlett to NC 12 near Corolla. The total length of the project is approximately 7.0 miles and includes a shorter bridge over Maple Swamp on the Currituck County mainland and the longer, main bridge over Currituck Sound. In addition, the project includes improvements to US 158 (both in Currituck and Dare Counties) and NC 12 (in Currituck County).

1.0 Introduction

The purpose of this project narrative is to provide a general overview of the Mid-Currituck Bridge project with links to critical source documents, such as the 2012 Final Environmental Impact Statement (FEIS), the 2019 Reevaluation of the FEIS, and the 2019 Record of Decision (ROD), as well as short descriptions and references to supporting documents for critical portions of the documents that are relevant to the Sections 404 and 10 Permit decision as well as the Section 401 Water Quality Certification decision.

NCDOT maintains a publicly accessible website for the Mid-Currituck Bridge project, including project documentation (https://www.ncdot.gov/projects/mid-currituck-bridge/Pages/default.aspx). Those documents provide critical background information for this project. Those documents are located at https://www.ncdot.gov/projects/mid-currituck-bridge/Pages/project-documents.aspx. In

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addition to the cover letter, this application includes 19 attachments that are individually listed at the end of the cover letter.

2.0 Purpose and Need for the Project

In 2003, NCDOT, the Federal Highway Administration (FHWA), and various Federal and State agencies reached a tentative agreement on a revised Statement of Purpose and Need for the proposed action which includes three primary goals. These goals, described in further detail in the FEIS (page viii), the Reevaluation of the FEIS (Page 3-1), and the ROD (Page 1), are as follows:

- The need to substantially improve traffic flow on the project area's thoroughfares (US 158 and NC 12); and
- The need to substantially reduce travel time for persons traveling between the Currituck County mainland and the Currituck County Outer Banks; and
- The need to substantially reduce hurricane evacuation times from the Outer Banks for residents and visitors who use US 158 and NC 168 as an evacuation route.

3.0 Project Description and Project History

3.1. Project Description

This project proposes to construct a new roadway and bridges on a new alignment across Maple Swamp and across Currituck Sound from US 158 near Coinjock/Aydlett to NC 12 south of Corolla (Figure 1). Localized improvements to US 158 and NC 12 are also proposed to address the Purpose and Need for the project.

3.2. Project History

The following text was excerpted from the Cumulative Impact Report for Water Quality dated May 2021, Chapter 3. That document (Attachment 1) is available to be consulted for additional details.

> "Proposals for construction of a bridge over the Currituck Sound have been under investigation for more than 45 years. In 1975, Currituck County requested that the NCDOT Board of Transportation consider an east-west bridge crossing of Currituck Sound to the Currituck County Outer Banks. No additional action was taken at that time. A potential terminus for a Mid-Currituck Bridge on the Currituck County Outer Banks was identified in 1991. In 1995, a site was purchased and protected under the North Carolina Roadway Corridor Official Map Act. The FHWA published a Notice of Intent to prepare an Environmental Impact Statement (EIS) for a bridge on July 6, 1995 (Federal Register Vol. 60, No. 129, page 3255). Planning studies were subsequently undertaken by NCDOT on behalf of the FHWA. Subsequent state legislation and highway planning strategies were developed or amended to incorporate the proposed Project, including the North Carolina Intrastate System and the North Carolina Strategic Highway Corridor System. These changes led to a decision to rescind the 1995 Notice of Intent and the 1998 DEIS" [Draft Environmental Impact Statement] (Page 8, Chapter 3 Cumulative Impact Report for Water Quality).

> "The Project was reactivated in 2000, primarily in response to comments received during public hearings conducted in 1998, which resulted in a decision by NCDOT and FHWA to include a wider range of alternatives and to reevaluate the Project's purpose and need" (Page 8, Chapter 3 Cumulative Impact Report for Water Quality).
>
> "In 2002, the North Carolina General Assembly passed legislation that created the NC Turnpike Authority. In 2005, legislation was enacted that directed NCTA to "contract with a single private firm to design, obtain necessary permits for, and construct the toll bridge described in NC Gen. Stat. §136-89.183(a)(2)." (Page 8, Chapter 3 Cumulative Impact Report for Water Quality). "A new Notice of Intent for preparation of an EIS for the Mid-Currituck Bridge was issued on June 16, 2008 (Federal Register Vol. 73, No. 116, page 34065). NCDOT reached an understanding with the agencies regarding the Project's purpose and need and on the alternatives to be studied in the DEIS at a TEAC [Turnpike Environmental Agency Coordination] meeting on July 8, 2008. A DEIS was prepared and signed on March 10, 2010, and the FEIS on January 12, 2012." (Page 9, Chapter 3 Cumulative Impact Report for Water Quality).
>
> "In 2013, the North Carolina General Assembly, as part of the State [Strategic] Transportation Investment (STI) Law (Session Law 2013-183 and House Bill 817), withdrew the annual state appropriations ("gap funding") for the Mid-Currituck Bridge. Once funding for the Project was re-established, the 2012 FEIS was reevaluated to consider changes that may have occurred in the Project setting, travel demand, area plans, laws and regulations, and other information or circumstances since the 2012 FEIS was approved, in keeping with Title 23 CFR 771.129(b). The reevaluation found that the Project's purpose and need as outlined in the 2012 FEIS remained valid. The Reevaluation of the FEIS was published in 2019. The ROD for the Project was signed on March 6, 2019, signifying completion of the environmental study process." (Page 9, Chapter 3 Cumulative Impact Report for Water Quality).

Final hydraulic design of the project has been completed as well as 75% roadway design plans. The next step in the process is for the NCTA to seek permits for the project from the US Army Corps of Engineers (USACE – Sections 404 and 10 Permit) and the NC Division of Coastal Management (NCDCM - Coastal Area Management Act (CAMA) Permit) as well as the accompanying Section 401 Water Quality Certification from the NC Division of Water Resources (NCDWR). The Design-Build let date is tentatively set for June 2026.

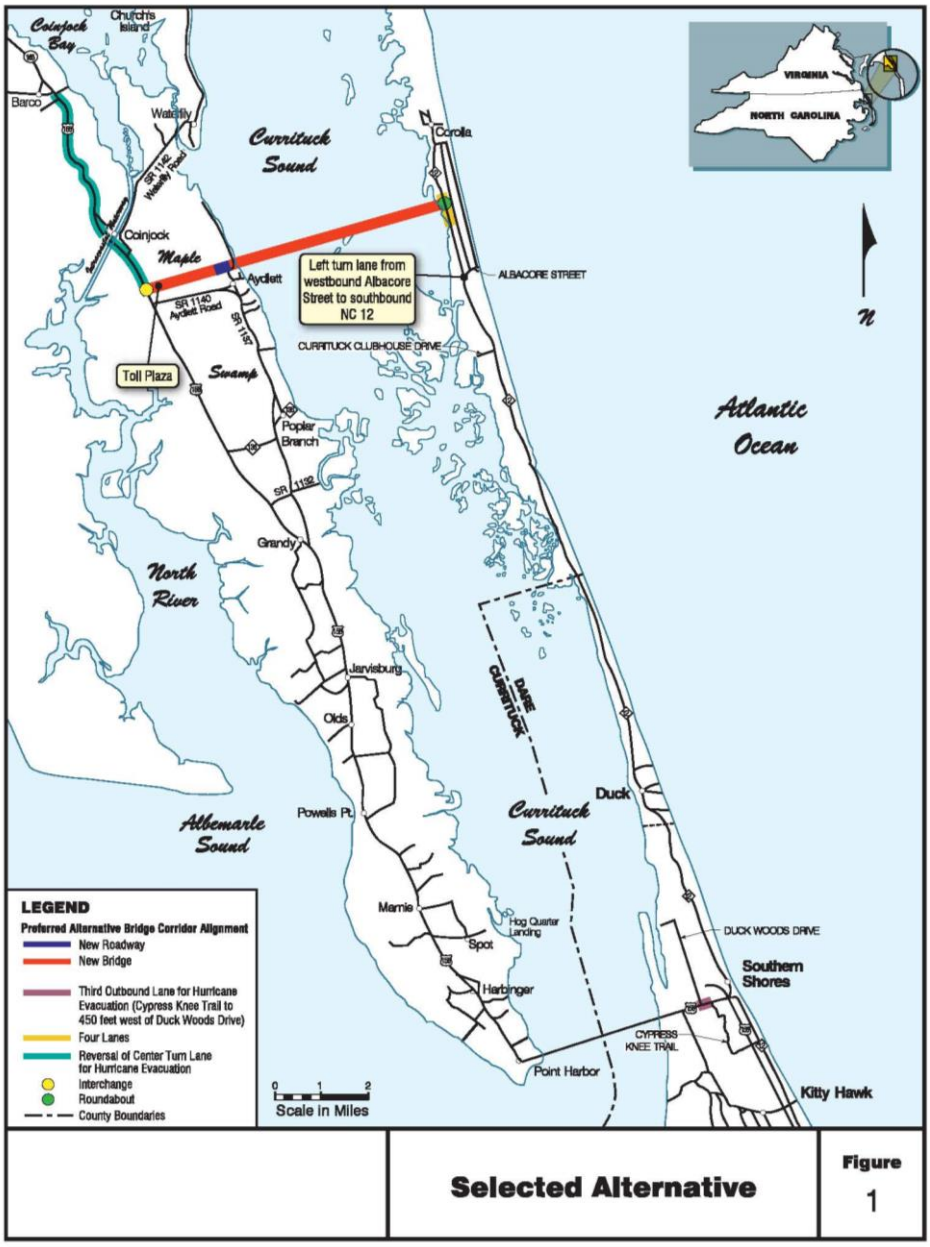

Figure 1. Selected Alternative

4.0 Alternatives

The FEIS and the Reevaluation of the FEIS have an extensive discussion and analysis of various alternatives for the Mid-Currituck Bridge project. An overview of that analysis is also included in a White Paper entitled "Identification of the Least Environmentally Damaging Practical Alternative, July 2020" (LEDPA) which is included as Attachment 2. Based on this analysis, the Selected Alternative is the LEDPA.

5.0 Preferred and Selected Alternative

Following the public and agency review of the Draft Environmental Impact Statement, NCTA tentatively selected MCB4 [Mid Currituck Bridge 4], with approach road Option A and bridge corridor C1, as the Preferred Alternative. Based in part on public and agency comment, NCTA then refined the preliminary design of MCB4/A/C1 to further avoid and minimize impacts. These refinements included:

- Various design changes at local road intersections on US 158 to improve safety.
- Reducing the amount of four-lane widening along NC 12 from approximately 4 miles to three shorter sections of NC 12 for a total of approximately 2.1 miles.
- Constructing roundabouts instead of signalized intersections at the NC 12 bridge terminus. (Terminating the bridge in a roundabout at NC 12 also allowed the C1 bridge alignment to be adjusted to remove curves and thereby reduced its length across Currituck Sound by approximately 250 feet).
- Improving hurricane clearance times on the mainland by reversing the center turn lane on US 158 between the US 158/Mid-Currituck Bridge interchange and NC 168.
- Improving hurricane clearance times on the Outer Banks by adding a third outbound lane for a length of about 1,600 feet, west of the NC 12/ US 158 intersection. (Page 18, Attachment 2).

"With these modifications in place, the benefits and impacts of this refined design were identified and compared with the other detailed study alternatives. After consulting with FHWA, regulatory agencies, and the public, NCTA selected the refined MCB4, with approach road option A and bridge corridor C1, as the Preferred Alternative. This alternative would also reverse the center turn lane on US 158 to improve hurricane evacuation clearance times." (Page 22, Attachment 2).

The key considerations that led to this selection are summarized in the LEDPA document (Attachment 2) starting on page 22.

5.1. Re-establishment of the Preferred Alternative in the Reevaluation of the FEIS

"Having compared the relative benefits and impacts between the updated ER2 [Existing Road 2 Alternative] alternative and FEIS alternative, NCTA reaffirmed the selection of MCB4/C1/ Option A as the Preferred Alternative. This comparison included consideration of travel benefits, community and natural resource impacts, other physical characteristic impacts, financing, and design considerations, as described below." (Page 30, Attachment 2).

5.2. The Selected Alternative Qualifies as the LEDPA

Based on the revaluation analysis completed on March 6, 2019, the Final Record of Decision concluded that, "MCB4/C1 with Option A and with refinements presented in the FEIS and in the

reevaluation to help avoid and minimize impacts is now identified as the Selected Alternative" (Record of Decision March 6, 2019, Page 12).

"The conclusion that the Selected Alternative qualifies as the LEDPA is based on the following conclusions:

- "An appropriately broad range of alternative concepts and bridge and roadway options was considered;
- Each alternative concept failed to meet the purposes of the project or would cause other significant environmental impacts;
- The initial bridge and existing roadway alternatives that were not selected for detailed study were dropped because they also failed to meet the purposes of the project or would cause other significant environmental impacts, or because other alternatives would achieve the same purposes more effectively;
- The MCB2 and ER2 alternatives were both found to either not be practicable/practical or to have other significant adverse environmental consequences; and the Selected Alternative was found to be practicable/practical. FHWA and NCTA have concluded that the Selected Alternative (MCB4/C1, Option A) should also be designated as the Least Environmentally Damaging Practicable Alternative." (Page 42, Attachment 2).

Permit drawings for the Selected Alternative including wetland impacts are shown in Attachment 3, utility-related impacts are shown on Attachment 4 (a related narrative is shown on Attachment 5) and submerged aquatic vegetation (SAV) impacts are shown in Attachment 6.

6.0 Impacts

Discharges into various waters of the United States are unavoidable in order to construct this project. These include fill material in and along the west bank of Currituck Sound to stabilize the shoreline in the vicinity of the bridge as well as fill material in a small amount of jurisdictional wetlands that are part of Maple Swamp or the Great Swamp complexes in order to construct the interchange, toll booth, Maple Swamp Bridge, access roads, or associated widening of existing roads. In addition to the permanent fill, temporary wetland impacts are proposed (see following section of this Project Narrative) for utility relocation and construction of the bridge over Maple Swamp.

6.1. Resources

The project is located in the Pasquotank River Basin (Hydrologic Unit 03010205). The project crosses tributaries of Waters of the U.S. (ditches), surface waters, and wetlands. Jurisdictional features in the western part of the project drain to Great Swamp or Maple Swamp while features in the eastern part of the project drain to Currituck Sound. There are no Outstanding Resource Waters (ORW), High Quality Waters (HQW), WS-I waters, or WS-II waters within 1 mile upstream or downstream of the project or within the project area. No stream that flows through the project is designated as National Wild and Scenic River or a State Natural and Scenic River.

Delineations of wetlands and other jurisdictional Waters of the U.S. were performed at various times during the planning of the project. The USACE issued a revised Preliminary Jurisdictional Determination (PJD) to NCDOT on October 17, 2023 with an Action ID of SAW-1995-02242. This PJD does not have an expiration date and superseded a PJD issued to NCDOT on March 12, 2018.

A Natural Resource Technical Report was prepared detailing these jurisdictional areas in December 2011 by CZR, Inc. for NCTA. A Natural Resources Technical Report Update (NRTR Update) was prepared in June 2023 by CZR, Inc (Attachment 7). Stream and wetlands for the Preferred Alternative were field verified in 2018 and 2023. The impact sites depicted in this application reflect the results of delineations for the 2011 Natural Resources Technical Report, the 2023 Natural Resources Technical Report Update, and the 2018 and 2023 PJD's. These jurisdictional areas within the project study area were reviewed in the field by USACE officials and NCDWR officials.

6.2. Types of Material being Discharged and Amount of Fill

6.2.1. Type of Material Being Discharged

The type of fill material will vary depending on the location of the fill. In higher energy environments (such as the shoreline of Currituck Sound) suitably sized riprap stone will be installed while in lower energy environments (such as the small amount of fill along the edge of Maple Swamp), clean dirt fill from upland sources will be utilized.

6.2.2. Wetland and Water Impacts

According to the Record of Decision (page 27) and the FEIS Reevaluation (page 5-28), the wetlands to be impacted have been determined by the regulatory agencies to be non-riparian wetlands. As shown on Table 1 construction will result in permanent fill in a total of 1.07 acres of non-riparian wetlands mostly associated with the interchange at US 158 and some impacts along NC 12. Additionally, in Maple Swamp there will be temporary fill in 4.66 acres of wetlands; 0.09 acres of mechanized land clearing, and 12.07 acres of impact for hand clearing for the Maple Swamp Bridge. In addition, there will be 0.14 acres of permanent impact to surface waters, primarily as a result of shoreline stabilization at the Currituck Sound Bridge location on the western shoreline of Currituck Sound and 0.02 acres of temporary impacts to surface waters. Finally, 471 linear feet of permanent impacts are proposed to tributaries to Waters of the U.S. and 9 linear feet of temporary impact to tributaries to Waters of the U.S. Utility-related impacts total 0.06 acres of temporary impact to wetlands. Collectively, these impacts are described in Tables 1, 2, and 3 below and shown on the project maps in Attachments 3 and 4. It is important to note that no coastal wetlands as defined by CAMA will be impacted by the project.

Table 1. Wetland Impact Summary - Project Construction

Permit Drawing Site Number	NRTR Label	Type	Permanent Wetland Impacts (ac.)	Temporary Wetland Impacts (ac.)	Mechanized Clearing in Wetlands (ac.)	Hand Clearing in Wetlands (ac.)	Mitigation Required[1]
1A	W010	Non-Riparian	0.02			0.05	Yes
1B	W010	Non-Riparian	0.02			0.07	Yes
1C	W010	Non-Riparian	<0.01			0.02	Yes
1D	W010	Non-Riparian	<0.01			0.02	Yes
1E	W010	Non-Riparian	0.14			0.08	Yes
3	W015	Non-Riparian	0.07	4.66	0.09	11.32	Yes
5	W090	Non-Riparian	0.26			0.08	Yes
6	W094	Non-Riparian	<0.01			<0.01	Yes
7	W097	Non-Riparian	<0.01			0.01	Yes

8	W011	Non-Riparian	0.03			<0.01	Yes
9	W009	Non-Riparian	0.19			0.19	Yes
10	W008	Non-Riparian	0.25			0.18	Yes
11	W069	Non-Riparian	0.09			0.04	Yes
		Total*:	**1.07**	**4.66**	**0.09**	**12.07**[2]	

* Rounded totals are sum of actual impacts.

[1] Permanent wetland impacts only.

[2] 0.13 Acre of Temporary Fill will be provided for Hand Clearing areas for Erosion Control Devices.

Site 1A - This site proposes to permanently impact 0.02 acre of wetlands for the localized widening and realignment of US 158 immediately south of the proposed interchange with the proposed bridge. In addition, 0.05 acre of wetlands will be hand cleared.

Site 1B - This site proposes to permanently impact 0.02 acre of wetlands for the localized widening and realignment of US 158 immediately south of the proposed wetland impact for Site 1A. In addition, 0.07 acre of wetland will be hand cleared.

Site 1C - This site proposes to permanently impact less than 0.01 acre of wetlands for the realignment of US 158 north of the proposed interchange with the proposed bridge. In addition, 0.02 acres of wetlands will be hand cleared.

Site 1D - This site proposes to permanently impact less than 0.01 acre of wetlands for the realignment of US 158 north of the proposed interchange with the proposed bridge. In addition, 0.02 acre of wetlands will be hand cleared.

Site 1E - This site proposes to permanently impact 0.14 acre of wetlands for slope stabilization along the realignment of US 158 south of the proposed interchange with the proposed bridge. In addition, 0.08 acre of wetlands will be hand cleared.

Site 3 - This site proposes to permanently impact 0.07 acre of wetland for the bridge bents, with an additional 4.66 acres of temporary impacts and 11.32 acres of hand clearing in wetlands for the Maple Swamp bridge. There will also be 0.09 acre of mechanized clearing without fill at this site.

Site 5 - This site proposes to permanently impact 0.26 acre of wetlands as well as 0.08 acre of temporary impact to wetlands for the interchange and associated widening of NC 12 on the Currituck Outer Banks near the intersection of NC 12 and the proposed bridge.

Site 6 - This site proposes to permanently impact less than 0.01 acre of wetlands as well as 0.01 acre of temporary impact to wetlands for the interchange and associated widening of NC 12 on the Currituck Outer Banks near the intersection of NC 12 and the proposed bridge.

Site 7 - This site proposes to permanently impact less than 0.01 acre of wetlands as well as 0.01 acre of temporary impact to wetlands for the interchange and associated widening of NC 12 on the Currituck Outer Banks near the intersection of NC 12 and the proposed bridge.

Site 8 - This site proposes to permanently impact 0.03 acre of wetlands for the realignment of US 158 north of the proposed interchange with the proposed bridge. In addition, there will be less than 0.01 acre of hand clearing in wetlands.

Site 9 - This site proposes to permanently impact 0.19 acre of wetlands for the realignment of US 158 north of the proposed interchange with the proposed bridge. In addition, there will be 0.19 acre of hand clearing in wetlands.

Site 10 - This site proposes to permanently impact 0.25 acre of wetlands for the realignment of US 158 north of the proposed interchange with the proposed bridge. In addition, there will be 0.18 acre of hand clearing in wetlands.

Site 11- This site proposes to permanently impact 0.09 acre of wetlands as well as 0.04 acre of temporary impact to wetlands for the interchange and associated widening of NC 12 on the Currituck Outer Banks near the intersection of NC 12 and the proposed bridge.

Table 2. Impacts to Surface Waters - Project Construction

Permit Drawing Site Number	NRTR Label	Type	Permanent Surface Water Impacts (ac.)	Temporary Surface Water Impacts (ac.)	Permanent Existing Channel Impacts (ft)	Temporary Existing Channel Impacts (ft)	Mitigation Required
2 (42" RCP-IV)	W010	Tributary	0.04	<0.01	228	9	No
2 (Bank Stabilization)	W010	Tributary	<0.01		10		No
4 (Shoreline Stabilization)	Currituck Sound	Currituck Sound	0.07		233		No
5 (Fill in Pond)			0.04	0.02			
		Total*:	**0.14**	**0.02**	**471**	**9**	

***** Rounded totals are sum of actual impacts.

Site 2 (42" RCP-IV) - This site is a jurisdictional tributary to Waters of the U.S.. The project proposes permanent impact to 228 linear feet of the tributary to Waters of the U.S. during construction of a realignment of US 158.

Site 2 (Bank stabilization) - This site is a jurisdictional tributary to Waters of the U.S.. The project proposes permanent impact to 10 linear feet of the tributary to Waters of the U.S. during construction of a realignment of US 158.

Site 4 (Shoreline stabilization) - This site proposes to add rip rap to stabilize 233 linear feet of the western shore of Currituck Sound at the location of the proposed bridge. This site is already unstable (with other locations of existing rip rap at various locations along the shoreline) and this impact is proposed to provide additional protection for the bridge location.

Site 5 (Fill in Pond) - A small portion (0.04 acre) of an existing pond will need to be filled in for localized road widening.

6.2.3 Utility Relocations

As shown in Table 3, there will be temporary wetland impacts from utility relocations and billboard removal as a result of the project (Attachment 4). A total of approximately 0.06 acre of temporary fill will be needed in wetlands as well as up to 0.02 acre of hand clearing in wetlands as described in Table 3 below and as shown on maps in Attachment 4. Temporary fill will be

removed after construction and impacted areas restored to pre-construction elevations (Attachment 5).

Table 3. Wetland and Surface Water Impact Summary - Utility Relocation

Permit Drawing Site Number	NRTR Label	Type	Permanent Fill in Wetlands (ac.)	Temporary Fill in Wetlands (ac.)	Hand Clearing in Wetlands (ac.)	Mitigation Required
U-1A	W010	Non-Riparian		<0.01		No
U-1B	W010	Non-Riparian		<0.01		No
U-1C	W010	Non-Riparian		<0.01		No
U-1D	W010	Non-Riparian		<0.01		No
U-1E	W010	Non-Riparian		<0.01		No
U-1F	W010	Non-Riparian		<0.01		No
U-1G	W010	Non-Riparian		<0.01		No
U-1H	W010	Non-Riparian		<0.01		No
U-1I	W010	Non-Riparian		<0.01		No
U-1J	W010	Non-Riparian		<0.01		No
U-1K	W008	Non-Riparian		<0.01		No
U-1L	W010	Non-Riparian		0.01		No
U-1M	W010	Non-Riparian		0.01		No
U-1N	W010	Non-Riparian		0.01		No
U-2	W011	Non-Riparian			0.01	No
U-3	W009	Non-Riparian			<0.01	No
		Total*:		**0.06**	**0.02**	

* Rounded totals are sum of actual impacts.

These temporary impacts are associated with the relocation of existing utilities that will be necessary for the localized widening of US 158 and the proposed interchange with the proposed bridge.

6.2.4 Submerged Aquatic Vegetation Impacts

The project is predicted to directly impact 2,631square feet (0.060 acre) of identified SAV habitat and potential habitat through the unavoidable placement of bridge supports; an additional 1,326 square feet (0. acre) of temporary impact from temporary open trestle piles will also occur within SAV habitat. These impacts are shown in Attachment 6. The SAV mitigation plan is discussed in the "Submerged Aquatic Vegetation Mitigation – Overview" part of this narrative below.

7.0 Avoidance and Minimization of Wetland and SAV Impacts

Details on measures to avoid, minimize, and then compensate (mitigate) for unavoidable impacts of the project are described in detail in the Final EIS, the Reevaluation of the Final EIS, in Section 6.0 of the ROD, and in the Project Commitments in Appendix G of the Reevaluation of the Final EIS Study Report. The Stormwater Management Plan also contains additional minimization efforts. Major efforts at minimization include:

- The extensive wetlands in Maple Swamp will be bridged rather than filled. Wetlands in the alignment of the Maple Swamp bridge will be hand-cleared and the final bridge will be about 10 feet above the surface of the wetland which will allow for free wildlife movement and passage of any flood waters under the bridge infrastructure. The inclusion of a bridge rather than a causeway across Maple Swamp reduced the wetland fill acreage by approximately 36 acres as indicated in the FEIS.
- Temporary construction trestles will be used in Currituck Sound for construction of the bridge in order to minimize impacts to SAV beds that exist now or have existed during the past 10 growing seasons in the Sound (Attachment 7).
- Slopes were reduced to the maximum extent practical next to wetlands in order to minimize fill associated with these slopes.
- The US 158 interchange was configured to minimize impacts to wetlands to maximum extent practicable.

8.0 Threatened and Endangered Species

The FEIS (January 12, 2012) contained an in-depth analysis and review of Threatened and Endangered Species and their potential habitats (Section 3.3; pages 37-71). In this FEIS, it was stated that the US Fish and Wildlife Service (USFWS) concurred with the biological conclusions for threatened and endangered species in a letter dated July 8, 2011, and that formal consultation was not needed. Additionally, the National Marine Fisheries Service (NMFS) concurred with the biological conclusions in a letter dated October 18, 2011, and that formal consultation was not needed. The Reevaluation of the FEIS, completed on March 6, 2019, contained a summary of Threatened and Endangered Species (pages 4.17 through 4.36).

The June 2023 NRTR Update (Attachment 7) reexamined impacts to Threatened and Endangered Species and their potential habitats (Section 3.1, pages 1-7). The NRTR Update determined that 17 federally protected species can be found in Dare and Currituck Counties. Habitat was determined to be present for 11 of those species in the project study area. The biological conclusion for the Preferred Alternative was that it “May Effect, Likely to Adversely Affect” the northern long-eared bat and the tricolored bat, and “May Affect, Not Likely to Adversely Affect” the west Indian manatee and the Atlantic Sturgeon. No Effect was determined for the other 14 species that required a biological conclusion. See Table 4 below for further details obtained from the June 2023 NRTR Update.

Table 4. Federally listed threatened and endangered species for Dare and Currituck County, NC as reported from the NRTR Update for STIP R-2576.

Scientific Name	Common Name	Federal Status[1]	Habitat Present	Biological Conclusion[2]	
				USFWS Jurisdictional Species	NMFS Jurisdictional Species
				MCB2, MCB4, and Preferred Alternative	MCB2, MCB4, and Preferred Alternative
Myotis sepentrionalis	northern long-eared bat	T	Yes	MA-LAA	NA
Canis rufus	red wolf	E-EXPN	Yes	No Effect	NA
Perimyotis subflavus	tricolored bat	PE	Yes	MA-LAA	NA
Trichechus manatus	west Indian manatee	T	Yes	MA-NLAA	NA
Laterallus jamaicensis ssp. jamaicensis	eastern black rail	T	No	No Effect	NA
Charadrius melodus	piping plover	T	No	No Effect	NA
Calidris canutus rufa	red knot	T	No	No Effect	NA
Picoides borealis	red-cockaded woodpecker	E	Yes	No Effect	NA
Alligator mississippiensis	American alligator	T(S/A)	Yes	Not Required	NA
Chelonia mydas	green sea turtle	T	Yes	No Effect	No Effect
Eretmochelys imbricata	hawksbill sea turtle	E	No	No Effect	No Effect
Lepidochelys kempii	Kemp's ridley sea turtle	E	Yes	No Effect	No Effect
Dermochelys coriacea	leatherback sea turtle	E	No	No Effect	No Effect
Caretta caretta	loggerhead sea turtle	T	Yes	No Effect	No Effect
Acipenser brevirostrum	shortnose sturgeon	E	Yes	NA	No Effect
Acipenser oxyrhynchus oxyrhynchus	Atlantic sturgeon	E	Yes	NA	MA-NLAA
Amaranthus pumilus	seabeach amaranth	T	No	No Effect	NA

Source: USFWS, IPaC date checked on March 10, 2023

[1] T – Threatened
PE – Proposed Endangered
T(S/A) – Threatened because of similarity of appearance ~~to American crocodile~~
E – Endangered
E-EXPN – Experimental population, Non-essential

[2] MA-NLAA – May Affect, Not Likely to Adversely Affect
NA-Not applicable; no biological conclusion required

The USFWS has issued a programmatic biological opinion (PBO) in conjunction with the FHWA, the USACE, and NCDOT for the northern long-eared bat (NLEB) (*Myotis septentrionalis*) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. Although this PBO covers Divisions 1-8, The USFWS only considers NLEBs to be known or potentially found in 30 counties within Divisions 1-8. NCDOT, FHWA, and USACE have agreed to two conservation measures which will avoid/minimize mortality of NLEBs. These conservation measures only apply to the 30 current known/potential counties shown on Figure 2 of the PBO at this time. The programmatic determination for NLEB for the NCDOT program is May Affect, Likely to Adversely Affect. The PBO will ensure compliance with Section 7 of the Endangered Species Act for ten years (effective through December 31, 2030) for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Currituck County, where this project is located.

The USFWS has issued a programmatic conference opinion (PCO) in conjunction with the FHWA, the USACE, and NCDOT for the tricolored bat (TCB) (*Perimyotis subflavus*) in eastern North Carolina. The PCO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. NCDOT, FHWA, and USACE have agreed to three conservation measures (listed in the PCO) which will avoid/minimize take to TCBs. These conservation measures apply to all counties in Divisions 1-8. The programmatic determination for TCB for the NCDOT program is May Affect, Likely to Adversely Affect. Once the TCB is officially listed, the PCO will become the PBO by formal request from FHWA and USACE. The PBO will ensure compliance with Section 7 of the Endangered Species Act for approximately five years (effective through December 31, 2028) for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Currituck County, where this project is located.

The Bald Eagle was evaluated for habitat and occurrence within the study area. A bald eagle nest survey was conducted for the Preferred Alternative in 2012. Suitable nest trees exist throughout the area and because this species is rebounding, and new nesting sites are expanding, the potential of new nests in the project area remains a possibility. The project area was surveyed for eagles and eagle nests near the project area during a February 2015 field reconnaissance, and again during a November 2022 field reconnaissance. No potential eagle nests were detected during either of these surveys; however, two sub-adult bald eagles were seen in 2015. If any eagles were to nest within 660 feet of the project construction area, this activity could affect the timing of construction activities; this distance would be 0.5 mile in the case of loud, intermittent noises. Surveys would be appropriate once the 404 Permit has been issued and before to project construction to avoid and minimize potential disturbance and impacts to construction timing.

9.0 Cultural and Historic Resources

The FEIS (January 12, 2012) contained an in-depth analysis of cultural and historic resources for this project (Section 3.2; pages 3-24 to 3-30). The Reevaluation of the FEIS (March 6, 2019) contained a summary of the cultural resource issues (pages 2-2 and 4-16). This reevaluation concluded that there would be No Effect or No Adverse Effect on properties listed on or eligible for inclusion on the National Register of Historic Places. The reevaluation notes that the State Historic Preservation Office concurred with this conclusion in a July 20, 2015 letter with a confirmatory letter dated April 7, 2017.

10.0 Essential Fish Habitat

The FEIS (January 12, 2012) contained an in-depth analysis of essential fish habitat for this project (Section 3.3.7.2; pages 3-63 to 3-68) and concluded that the detailed study alternatives would not have a substantial long-term adverse impact on essential fish habitat (page 3-66). The Reevaluation of the FEIS (March 6, 2019) contained a summary of the essential fish habitat issue after review by the agencies (Section 4.3.7, pages 4-30 and 4-32). This reevaluation reached the same conclusions as the FEIS with respect to Essential Fish Habitat.

11.0 Stormwater Management Plan

A stormwater plan was developed by NCDOT after input from the regulatory agencies (primarily NC Division of Water Resources) and is dated July 24, 2023. Details of the stormwater plan are in Attachment 9.

12.0 FEMA-related issues

Moffatt & Nichol conducted a HEC_RAS Model Update for the Maple Swamp Bridge on October 22, 2020, to determine if the Maple Swamp Bridge had any flooding-related issues with respect to FEMA regulations (Attachment 10). In summary, the 2010 HEC-RAS model for the Maple Swamp Bridge was updated in 2019 with a 79-span bridge structure and more recent estimates of storm surge and Base Flood Elevations from FEMA FIRM panels and FIS. The 2019 HEC-RAS model has now been updated to the 2020 HEC-RAS model with an 80- span bridge structure. The model results indicate that for a 100-yr storm surge, the addition of the proposed bridge has a negligible impact on flood elevations on both the upstream and downstream sides of the proposed bridge. The maximum expected scour at the proposed bridge is 0.25 ft for the 100-yr storm surge condition and 0.97 ft for the 500-yr storm surge condition. Table 3 of Attachment 10 shows the 100-yr existing and proposed water surface elevation based on the inputs described above.

13.0 Sea Level Rise

The Mid-Currituck Bridge accounts for predicted sea level rise in Currituck Sound. The Cumulative Impact Report for Water Quality conducted for this project examined the effect of predicted sea level rise in the Outer Banks of Currituck County (Attachment 1, Section 12). Based on the analysis, minimal to no observable effects of sea level rise were predicted for the three Probable Development Areas in the 20-year time frame of this study.

In the context of the planned stormwater management, NCDOT has developed an adaptive management approach (Attachment 11). This approach involves making changes to stormwater strategies and facilities as needed as sea level rise gradually occurs over the project area over the next 20 years.

14.0 Wetland Mitigation

14.1. Compensatory Wetland Mitigation.

NCDOT has decided to obtain compensatory mitigation credits for the permanent wetland impacts from the NC Division of Mitigation Services (see Attachment 12).

14.2. Remnant Parcels - Wetlands

In addition, NCDOT will be contacting landowners whose property, or a portion of their property, will be landlocked as a result of the project. This contact will be at the time of the right of way acquisition process for the project. Site visits were made in early August 2019 to the seven landlocked parcels with respect to wetland presence and quality (Attachment 13). If NCDOT acquires any of those landlocked parcels (assuming they are willing sellers) and if they contain wetlands, NCDOT will preserve those wetlands as an additional measure that is not considered compensatory wetland mitigation.

15.0 Submerged Aquatic Vegetation Mitigation

The SAV Mitigation Plan (Attachment 14) summarized the historical and current extent of SAV in the area of the bridge. This report also presented a mitigation plan which was reviewed with the permitting agencies in interagency meetings on August 22, 2019, December 19, 2019, February 20, 2020, and August 19, 2020. This plan consists of continued monitoring of SAV presence and any effect of shading from the bridge, along with five specific options for any future compensatory mitigation as required by the permitting agencies. Attachment 15 is the United States Geological Survey (USGS) report on baseline water quality data in Currituck Sound which provides valuable information for SAV habitat. The final amount of seagrass coverage that will require mitigation will be determined by the results of the approved monitoring plan.

16.0 Cumulative Impact Analysis for Water Quality

At the request mainly of the NC Division of Water Resources, a comprehensive analysis for the cumulative impact of the project with respect to water quality over the next 20 years was completed in May 2021 (see Attachment 1). “Overall, the findings of this indirect and cumulative impacts report indicate that construction of the Mid-Currituck Bridge project is expected to result in minimal indirect or cumulative impacts to downstream water quality. Estimated impacts attributable to the Mid-Currituck Bridge are not expected to be of sufficient magnitude to cause a violation of state water quality standards or a loss of existing or anticipated uses in Currituck Sound or the Atlantic Ocean. The amount of induced development that can be attributed to the bridge (i.e., the difference between the Build and No Build Alternatives) is modest. However, over the course of preparing these studies, NCDOT identified several opportunities for improved water quality management. These options could be implemented by NCDWR or the Currituck County if it is determined that they are warranted, or to address issues arising from past land use management practices which currently affect water quality in Currituck County.” (page xiv, Cumulative Impact Report for Water Quality).

17.0 Cumulative Impact Analysis for Coastal Resources

In accordance with § 113A-120(a)(10), cumulative effects of a proposed project may be considered by NCDCM prior to making a final permit decision. While CAMA allows for a consideration of cumulative effects in CAMA Major Permit decisions, under the regulatory processes of the NCDCM, specific cumulative effects analyses have rarely, if ever, been prepared in support of individual CAMA Permit applications. However, the unique situation involving the construction of the Mid-Currituck Bridge warranted a separate cumulative effects analysis to supplement the CAMA Major Permit application package. The Mid-Currituck Bridge is not a bridge replacement project. Rather, it is the construction of a new bridge that will serve a broad area not directly served by a bridge from the mainland of Currituck County. Additionally, portions of the Currituck County Outer Banks area are not heavily developed, especially the location generally north of Corolla which are not accessible by paved roads. It is for these unique reasons that the NCTA and the NCDOT decided that for this project, a specific cumulative effects analysis of coastal resources should be prepared (see Attachment 16). Considering the unique circumstances leading to this decision, this analysis should not be considered to set a precedent for future transportation projects within North Carolina's coastal zone.

18.0 Invasive Species Control Plan

Preparation of an invasive species control plan during construction planning was added as Commitment 11 to the Project Commitments in Appendix G of the reevaluation study of the FEIS. The invasive species control plan (see Attachment 17) was developed in accordance with FHWA's August 10, 1999, guidance on invasive species. In accordance with FHWA's guidance, the invasive species control plan includes a discussion of preventative measures or eradication measures for invasive species that will be taken on the project. Such measures may include the inspection and cleaning of construction equipment, commitments to ensure the use of invasive-free mulches, topsoils, and seed mixes, and eradication strategies to be deployed should an invasion occur. The invasive plants that must be addressed and the measures to be implemented to minimize their harm are based on the NC Department of Agriculture and Consumer Services' list of noxious weeds (i.e., plants whose presence is detrimental to crops or other desirable plants, livestock, land, or other property, or is injurious to the public health).

19.0 Standard Permit Application Form

Engineering Form 4345 for the Corps of Engineers Standard (Individual) Permit is attached as Attachment 18. This form refers back to this Project Narrative and its attachments for the detailed information that the Corps will need to prepare the Public Notice for this project.

Application is hereby made for a USACE Individual Section 404 Permit as required for the above-described activities. Application is hereby made for a USACE Section 10 Permit as required for the above-described activities.

Application is also hereby made for a Section 401 Water Quality Certification from the NCDWR

Authorization to debit the $570 Permit Application Fee from 34470.1.TA is hereby given.

NCTA will be providing a separate request to the NCDCM for approval under CAMA for this project.

NCTA will be providing under separate cover to the United States Coast Guard (USCG) a request for a bridge permit application for the Currituck Sound Bridge under the Coast Guard Navigation Act of 1982 (33 CFR 115.50(J)). NCTA has already received a Preliminary Navigation Clearance Determination letter dated February 9, 2021 from the USCG for the Currituck Sound Bridge. Additionally, NCTA has received from USCG an advanced approval determination letter of exemption dated April 5, 2021 for the Maple Swamp Bridge.

A copy of this permit application and its distribution list will be posted on the NCDOT website at: https://xfer.services.ncdot.gov/pdea!PermApps/. If you have any questions or need additional information, please contact Jennifer Harris at
(919) 707-2704 or jhharris1@ncdot.gov.

Sincerely,

Patrick A. Norman, PE
Chief Engineer
North Carolina Turnpike Authority

Attachments:

1. Mid-Currituck Bridge Cumulative Impact Report for Water Quality, May 2021
2. Identification of the Least Environmentally Damaging Practicable Alternative for the Mid-Currituck Bridge Project, June 2020
3. Wetland and Surface Waters Impacts Permit Drawings
4. Utility Wetland Impacts Permit Drawings
5. Utility Relocation Environmental Narrative, April 26, 2021
6. Submerged Aquatic Vegetation (SAV) Impact Drawings
7. Natural Resource Technical Report, June 2023
8. Temporary Barge Mooring, June 2, 2021
9. Highway Stormwater Program, Stormwater Management Plan, July 24, 2023
10. HEC-RAS Model Update for the Maple Swamp Bridge (memo dated October 28, 2019 from Moffatt & Nichol to Roy Bruce, P.E.)
11. Sea level rise and groundwater impact on hydraulic design of stormwater management measures for the Mid-Currituck Bridge (memo dated February 4, 2020 from John Dorney to Meeting Attendees)
12. NC Division of Mitigation Services Mitigation Letter
13. Landlocked Parcels Wetland Field Investigation, November 6, 2019
14. Mid-Currituck Bridge Submerged Aquatic Vegetation Mitigation Plan, May 6, 2020 (Revised Final)
15. Characterization of Water-Quality and Bed-Sediment Conditions in Currituck Sound, North Carolina, Prior to the Mid-Currituck Bridge Construction, 2011-18, (USGS Water Quality Report), April 17, 2020
16. Mid-Currituck Bridge Cumulative Effects Report for Coastal Resources, June 2021
17. Invasive Species Control Plan
18. ENG Form 4345
19. A. Landowners in Bridge Footprint – 404 Permit; Table and Map
    B. List of Adjacent Riparian Property Owners – CAMA Permit; Table and Map