

**CAPE COD CANAL HIGHWAY BRIDGES
BOURNE, MASSACHUSETTS**

MAJOR REHABILITATION EVALUATION REPORT

**APPENDIX E
AGENCY COORDINATION**

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COOPERATING AGENCIES

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DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

November 1, 2018

Programs and Project Management Division
Civil works/IIS Project Management Branch

Mr. Christopher Bisignano
Supervisory Bridge Management Specialist
First Coast Guard District (dpb)
Battery Park Bldg., Room 301
One South Street
New York, New York 10004-1466

Dear Mr. Bisignano:

The U.S. Army Corps of Engineers (USACE), New England District, is undertaking a Major Rehabilitation Evaluation Study for the Bourne and Sagamore bridges, located within the Cape Cod Canal Federal Navigation Project (FNP). The Bourne and Sagamore bridges were constructed from 1933-1935 and require ongoing and increasingly more frequent repairs. The major rehabilitation study will analyze alternatives to either repair or replace the existing deteriorated bridges to restore safe, secure, and cost effective access across the Cape Cod Canal.

As part of the study, we will prepare an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended. As the lead Federal agency under NEPA, we are inviting your participation as a cooperating agency in the development of the EA.

In accordance with the Council on Environmental Quality (CEQ) final regulations for implementing NEPA (40 C.F.R. § 1501.6 and § 1508.5), the USACE requests your assistance and participation in the NEPA process in the following ways:

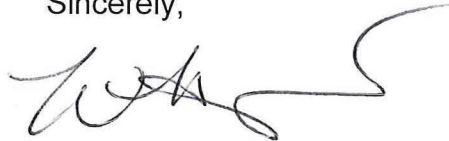
- a. Attendance at and input during agency coordination meetings, including pre-scoping and scoping;
- b. Comment and feedback on the EA schedule, overall scope of the document, issues to be evaluated in the EA, environmental impacts, study and assessment methodologies, range of alternatives and proposed compensatory mitigation, if applicable;
- c. Guidance on relevant technical studies required as part of the EA;
- d. Identification of issues related to your agency's jurisdiction by law and special expertise;

- e. Participation, as appropriate, at public meetings and hearings; and
- f. Timely review of the Draft and Final EAs;

Please provide your written acceptance or declination of this invitation and an agency point of contact on or before November 30, 2018.

We anticipate holding a scoping meeting during December of this year. We look forward to working with your agency on the preparation of the EA. If you have any questions or would like to discuss our respective roles and responsibilities during the NEPA process in more detail, please contact either the Project Manager Craig Martin, at 978-318-8638, craig.a.martin@usace.army.mil or Rosemarie Bradley, the Environ. Compliance Lead at 978-318-8127, rosemarie.a.bradley@usace.army.mil.

Sincerely,



Wendy Gendron
Chief, Civil Works/IIS Branch
New England District

Copies Furnished:

Mr. James Rousseau, senior Bridge Mgmt. Specialist
USCG District One
408 Atlantic Avenue
Boston, MA 02110-3350

Mr. Jeffrey Stieb, Bridge Mgmt. Specialist
First Coast Guard District
Boston, MA 02110-3350



16591
November 15, 2018

U.S. Army Corps of Engineers - New England District
Attn: Ms. Wendy Gendron
Chief Civil Works/IIS Branch
696 Virginia Road
Concord, MA 01742-2751

Dear Ms. Gendron:

This is in reply to your letter dated November 1, 2018, concerning a major rehabilitation evaluation study that incorporates the Bourne and Sagamore Bridges at Mile 2.0 and 5.2 respectively, Cape Cod Canal in Barnstable County, Bourne and Sagamore, Massachusetts.

It is our understanding the United States Army Corps of Engineers (USACE) has assumed the role as lead federal agency for the National Environmental Policy Act and other applicable environmental control laws such as the National Historic Preservation Act, Threatened and Endangered Species Act. We agree to serve as a Cooperating Agency for this project and request that the Coast Guard is given the opportunity to review the environmental document before it is finalized.

The General Bridge Act of 1946 requires that the Commandant, U.S. Coast Guard prior to commencing construction, approve the location and plans for bridges over navigable waters of the United States. The Cape Cod Canal is considered a navigable waterway of the United States for bridge administration purposes at the bridge sites.

Applications for bridge permits should be addressed to Commander (dpb), First Coast Guard District, One South Street, Battery Park Building Attention: Bridge Branch. To assist you in submitting a bridge permit application, the Bridge Permit Application Guide can be found at the following link: <https://www.dco.uscg.mil/Office-of-Bridge-Programs/>.

The application must be supported by sufficient information to permit a thorough assessment of the impact of the bridge and its immediate approaches on the environment. We recommend that the impacts of procedures for constructing cofferdams, sand islands, and falsework bents, etc., that will be employed to build the bridge or modify the existing bridge as well as the removal of the old bridge be discussed.

We request that you complete Appendix A of the Bridge Permit Application Guide that can be found at the above link in order for the U.S. Coast Guard to analyze the navigational impacts of the bridge design alternatives. Submission of this report is highly encouraged for all applicants to avoid delays and head off potential conflicts in the permit application process.

16591

November 13, 2018

We appreciate the opportunity to comment on the project in this early stage. You can contact Mr. James Rousseau at (617) 223-8619 or e-mail James.L.Rousseau2@uscg.mil if you have questions regarding our comments or requirements.

Sincerely,

A handwritten signature in blue ink, appearing to read 'CJ Bisignano', with a long horizontal flourish extending to the right.

C. J. Bisignano
Supervisory Bridge Management Specialist
U.S. Coast Guard
By direction

E-Copy: USCG SECTOR SENE (Waterways)
Craig Martin, USACE
Rosemarie Bradley, USACE



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

November 1, 2018

Programs and Project Management Division
Civil works/IIS Project Management Branch

Mr. Timothy Timmermann, Director
Office of Environmental Review
EPA New England – region 1
Post Office Square, Suite 100
Mail Code OEP 06-3
Boston, MA 02109-3912

Dear Mr. Timmermann:

The U.S. Army Corps of Engineers (USACE), New England District, is undertaking a Major Rehabilitation Evaluation Study for the Bourne and Sagamore bridges, located within the Cape Cod Canal Federal Navigation Project (FNP). The Bourne and Sagamore bridges were constructed from 1933-1935 and require ongoing and increasingly more frequent repairs. The major rehabilitation study will analyze alternatives to either repair or replace the existing deteriorated bridges to restore safe, secure, and cost effective access across the Cape Cod Canal.

As part of the study, we will prepare an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended. As the lead Federal agency under NEPA, we are inviting your participation as a cooperating agency in the development of the EA.

In accordance with the Council on Environmental Quality (CEQ) final regulations for implementing NEPA (40 C.F.R. § 1501.6 and § 1508.5), the USACE requests your assistance and participation in the NEPA process in the following ways:

- a. Attendance at and input during agency coordination meetings, including pre-scoping and scoping;
- b. Comment and feedback on the EA schedule, overall scope of the document, issues to be evaluated in the EA, environmental impacts, study and assessment methodologies, range of alternatives and proposed compensatory mitigation, if applicable;
- c. Guidance on relevant technical studies required as part of the EA;
- d. Identification of issues related to your agency's jurisdiction by law and special expertise;

- e. Participation, as appropriate, at public meetings and hearings; and
- f. Timely review of the Draft and Final EAs;

Please provide your written acceptance or declination of this invitation and an agency point of contact on or before November 30, 2018.

We anticipate holding a scoping meeting during December of this year. We look forward to working with your agency on the preparation of the EA. If you have any questions or would like to discuss our respective roles and responsibilities during the NEPA process in more detail, please contact either the Project Manager Craig Martin, at 978-318-8638, craig.a.martin@usace.army.mil or Rosemarie Bradley, the Environ. Compliance Lead at 978-318-8127, rosemarie.a.bradley@usace.army.mil.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Wendy Gendron', with a long horizontal flourish extending to the right.

Wendy Gendron
Chief, Civil Works/IIS Branch
New England District



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

November 27, 2018

Wendy Gendron
Chief, Civil Works/IIS Branch
New England District
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

RE: Bourne and Sagamore Bridges Major Rehabilitation Study, Cape Cod, Massachusetts

Dear Chief Gendron:

This letter is to accept your invitation to serve as a cooperating agency in support of your work to develop an Environmental Assessment for the Bourne and Sagamore Bridges Major Rehabilitation Study. EPA will serve in that capacity as our schedule and resources allow. Please consider me as the point of contact for coordination purposes.

Thank you for the invitation to be a cooperating agency. Please feel free to contact me at (617) 918-1025 or timmermann.timothy@epa.gov with any questions.

Sincerely,

A handwritten signature in blue ink, which appears to read "Timothy Timmermann", is positioned above the printed name.

Timothy L. Timmermann
Director, Office of Environmental Review



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

November 1, 2018

Programs and Project Management Division
Civil works/IIS Project Management Branch

Mr. Michael Pentony, Regional Administrator
NOAA Atlantic Regional Fisheries
Office National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930

Dear Mr. Pentony:

The U.S. Army Corps of Engineers (USACE), New England District, is undertaking a Major Rehabilitation Evaluation Study for the Bourne and Sagamore bridges, located within the Cape Cod Canal Federal Navigation Project (FNP). The Bourne and Sagamore bridges were constructed from 1933-1935 and require ongoing and increasingly more frequent repairs. The major rehabilitation study will analyze alternatives to either repair or replace the existing deteriorated bridges to restore safe, secure, and cost effective access across the Cape Cod Canal.

As part of the study, we will prepare an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended. As the lead Federal agency under NEPA, we are inviting your participation as a cooperating agency in the development of the EA.

In accordance with the Council on Environmental Quality (CEQ) final regulations for implementing NEPA (40 C.F.R. § 1501.6 and § 1508.5), the USACE requests your assistance and participation in the NEPA process in the following ways:

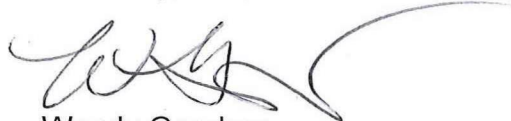
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- d. Identification of issues related to your agency's jurisdiction by law and special expertise;

- e. Participation, as appropriate, at public meetings and hearings; and
- f. Timely review of the Draft and Final EAs;

Please provide your written acceptance or declination of this invitation and an agency point of contact on or before November 30, 2018.

We anticipate holding a scoping meeting during December of this year. We look forward to working with your agency on the preparation of the EA. If you have any questions or would like to discuss our respective roles and responsibilities during the NEPA process in more detail, please contact either the Project Manager Craig Martin, at 978-318-8638, craig.a.martin@usace.army.mil or Rosemarie Bradley, the Environ. Compliance Lead at 978-318-8127, rosemarie.a.bradley@usace.army.mil.

Sincerely,



Wendy Gendron
Chief, Civil Works/IIS Branch
New England District

Copies Furnished:

Ms. Jennifer Anderson
Acting Chief, Protected Resources Division
NOAA Atlantic Regional Fisheries
Office National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930

Mr. Lou Chiarella
Chief, Habitat Conservation Division
NOAA Atlantic Regional Fisheries
Office National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

AUG 22 2019

Wendy Gendron
Chief, Civil Works/IIS Branch
Department of the Army, Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

Re: Major Rehabilitation Evaluation Study for the Bourne and Sagamore Bridges,
Request for Participation as a Cooperating Agency

Dear Ms. Gendron:

Thank you for your letter, dated November 1, 2018, requesting that we participate as a cooperating agency in the preparation of an Environmental Assessment (EA) associated with the Major Rehabilitation Evaluation Study for the Bourne and Sagamore Bridges located within the Cape Cod Canal Federal Navigation Project (FNP). We agree to participate as a cooperating agency to help advance effective interagency coordination on this project.

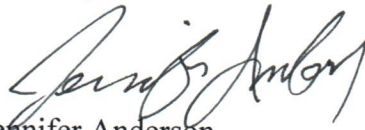
Our role and degree of involvement as a cooperating agency is dependent on existing staff and fiscal resources. Our contributions will be limited to providing written comments in response to your documents prepared as part of the National Environmental Policy Act (NEPA) process. You can expect our comments in response to provide technical information identifying species and habitats of concern, identification of issues and topics that need consideration and evaluation in your NEPA process, and guidance on evaluating, minimizing and avoiding effects to our trust resources. We are not in a position to undertake data collection, conduct analyses, or prepare sections of the NEPA documents as staff and resources are fully tasked in other obligatory National Marine Fisheries Service (NMFS) programs.

Please note that our involvement as a cooperating agency does not constitute an endorsement of this project, nor does it obviate the need for consultations required under the Magnuson-Stevens Fishery Conservation and Management Act, Fish and Wildlife Coordination Act, and the Endangered Species Act (ESA).

Thank you for the opportunity to participate as a cooperating agency on this project. We look forward to working with you. If you have any questions regarding this matter, please contact Alison Verkade at (978) 281-9266 or by email at Alison.Verkade@noaa.gov for information regarding Essential Fish Habitat or other trust resources, or Zach Jylkka at (978) 282-8467 or by email at Zachary.Jylkka@noaa.gov for information regarding threatened and endangered species listed by us under the ESA.



Sincerely,

A handwritten signature in black ink, appearing to read "Jennifer Anderson".

Jennifer Anderson
Acting Assistant Regional Administrator
for Protected Resources

EC: Verkade, NMFS HCD; Bradley, Martin, Randall, USACE
File Code: H:\Section 7 Team\Section 7\Non-Fisheries\ACOE\Informal\2019\New England\Cape Cod Canal Bridge
Replacement\Pre-Consultation



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

November 1, 2018

Programs and Project Management Division
Civil works/IIS Project Management Branch

Ms. Stephanie Pollack
MA Department of Transportation
Ten Park Plaza, Suite 4160
Boston, MA 02116

Dear Ms. Pollack:

The U.S. Army Corps of Engineers (USACE), New England District, is undertaking a Major Rehabilitation Evaluation Study for the Bourne and Sagamore bridges, located within the Cape Cod Canal Federal Navigation Project (FNP). The Bourne and Sagamore bridges were constructed from 1933-1935 and require ongoing and increasingly more frequent repairs. The major rehabilitation study will analyze alternatives to either repair or replace the existing deteriorated bridges to restore safe, secure, and cost effective access across the Cape Cod Canal.

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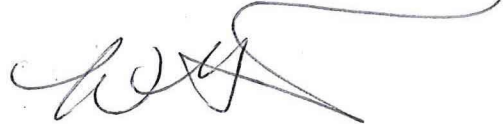
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Sincerely,

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Wendy Gendron
Chief, Civil Works/IIS Branch
New England District



Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Stephanie Pollack, MassDOT Secretary & CEO



August 27, 2019

Ms. Wendy Gendron
Chief, Civil Works/IIS Branch
US Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

Re: Major Rehabilitation Study
NEPA Environmental Assessment
Cooperating Agency

Dear Ms. Gendron:

Thank you for your letter regarding MassDOT participation as a cooperating agency in the development of the National Environmental Policy Act (NEPA) Environmental Assessment (EA) included in the Major Rehabilitation Evaluation Report (MRER) for the Bourne and Sagamore bridges, located within the Cape Cod Canal Federal Navigation Project (FNP).

MassDOT accepts the US Army Corps of Engineers invitation to participate as a cooperating agency in development of the EA in accordance with the Council on Environmental Quality (CEQ) final regulations for implementing NEPA (40 C.F.R. 1501.6 and 1508.5), as outlined in your November 1st, 2018 letter.

Your MassDOT agency point of contact for development of the EA is James Cerbone, at 857-368-8792, or james.cerbone@state.ma.us. We look forward to our future collaboration on this regionally significant project.

If you have any additional questions regarding this matter, please do not hesitate to contact me again.

Sincerely,

Stephanie Pollack
Secretary and CEO

E-14



DEPARTMENT OF THE **ARMY**
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

November 1, 2018

Programs and Project Management Division
Civil works/ILS Project Management Branch

Mr. Jeff McEwen, Regional Administrator
US Department of Transportation
Federal Highway Administration
55 Broadway, 10th Floor
Cambridge, MA 02142

Dear Mr. McEwen:

The U.S. Army Corps of Engineers (USACE), New England District, is undertaking a Major Rehabilitation Evaluation Study for the Bourne and Sagamore bridges, located within the Cape Cod Canal Federal Navigation Project (FNP). The Bourne and Sagamore bridges were constructed from 1933-1935 and require ongoing and increasingly more frequent repairs. The major rehabilitation study will analyze alternatives to either repair or replace the existing deteriorated bridges to restore safe, secure, and cost effective access across the Cape Cod Canal.

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Sincerely,

A handwritten signature in black ink, appearing to read 'Wendy Gendron', with a long horizontal flourish extending to the right.

Wendy Gendron
Chief, Civil Works/IS Branch
New England District



U.S. Department
of Transportation
**Federal Highway
Administration**

Massachusetts Division

November 28, 2018

55 Broadway, 10th Floor
Cambridge, MA 02142
(617) 494-3657 (phone)
(617) 494-3355 (fax)
www.fhwa.dot.gov/madiv

In Reply Refer To:
HDA-MA

Wendy Gendron
Department of the Army
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

***Subject: Cooperating Agency Invitation, NEPA, Bourne and Sagamore Bridges,
Cape Cod Canal***

Dear Ms. Gendron:

Thank you for your letter dated November 1, 2018 inviting the Federal Highway Administration (FHWA) to be a cooperating agency in the preparation of the Environmental Assessment pursuant to National Environmental Policy Act (NEPA) for the U.S. Army Corps of Engineers Major Rehabilitation Study for the Bourne and Sagamore Bridges over the Cape Cod Canal. We understand that the major rehabilitation study will analyze alternatives to either repair or replace the existing bridges to restore safe, secure, and cost effective access over Cape Cod Canal.

We accept the invitation to assistance and participate in the NEPA process consistent with the six ways listed in your letter. The FHWA point of contact for this process is,

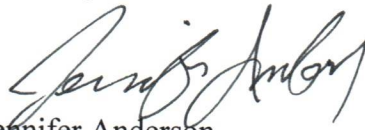
Ms. Cassandra "Cassie" Ostrander
Environmental Protection Specialist
Federal Highway Administration
Massachusetts Division
55 Broadway, 10th Floor
Cambridge, MA 02142
(617) 494-3113
cassandra.ostrander@dot.gov

If you have any questions or comments, please contact me at or Cassie Chase Ostrander at (617) 494-3113.

Sincerely,

Jeffrey H. McEwen, PE
Division Administrator

Sincerely,

A handwritten signature in black ink, appearing to read "Jennifer Anderson". The signature is fluid and cursive, with the first name "Jennifer" and last name "Anderson" clearly distinguishable.

Jennifer Anderson
Acting Assistant Regional Administrator
for Protected Resources

EC: Verkade, NMFS HCD; Bradley, Martin, Randall, USACE
File Code: H:\Section 7 Team\Section 7\Non-Fisheries\ACOE\Informal\2019\New England\Cape Cod Canal Bridge
Replacement\Pre-Consultation



U.S. Department
of Transportation
**Federal Highway
Administration**

Massachusetts Division

November 28, 2018

55 Broadway, 10th Floor
Cambridge, MA 02142
(617) 494-3657 (phone)
(617) 494-3355 (fax)
www.fhwa.dot.gov/madiv

In Reply Refer To:
HDA-MA

Wendy Gendron
Department of the Army
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

***Subject: Cooperating Agency Invitation, NEPA, Bourne and Sagamore Bridges,
Cape Cod Canal***

Dear Ms. Gendron:

Thank you for your letter dated November 1, 2018 inviting the Federal Highway Administration (FHWA) to be a cooperating agency in the preparation of the Environmental Assessment pursuant to National Environmental Policy Act (NEPA) for the U.S. Army Corps of Engineers Major Rehabilitation Study for the Bourne and Sagamore Bridges over the Cape Cod Canal. We understand that the major rehabilitation study will analyze alternatives to either repair or replace the existing bridges to restore safe, secure, and cost effective access over Cape Cod Canal.

We accept the invitation to assistance and participate in the NEPA process consistent with the six ways listed in your letter. The FHWA point of contact for this process is,

Ms. Cassandra "Cassie" Ostrander
Environmental Protection Specialist
Federal Highway Administration
Massachusetts Division
55 Broadway, 10th Floor
Cambridge, MA 02142
(617) 494-3113
cassandra.ostrander@dot.gov

If you have any questions or comments, please contact me at or Cassie Chase Ostrander at (617) 494-3113.

Sincerely,

Jeffrey H. McEwen, PE
Division Administrator

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AGENCY SCOPING AND COORDINATED SITE VISIT

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Agency Scoping and Coordinating Site Visit

Contact	Title	Address
James Rousseau	Senior Bridge Mgt Specialist	USCG District 1 408 Atlantic Ave. Boston, MA 02110-3350
Jeffrey Stieb	Bridge Mgt Specialist	USCG District 1 408 Atlantic Ave. Boston, MA 02110-3350
Timothy L. Timmermann	Director	Office of Environmental Review EPA New England - Region 1 5 Post Office Square Suite 100 Mail Code OEP 06-3 Boston, MA 02109-3912
Ms. Regina Lyons	Ocean & Coastal Protection Unit Manager	Office of Environmental Review EPA New England - Region 1 5 Post Office Square, Suite 100 Mail Code OEP 06-3, Boston, MA 02109-3912
Tom Chapman	Supervisor	U.S. Fish and Wildlife Service New England Field Office 70 Commercial Street, Suite 300 Concord, NH 03301-5087
Susi von Oettingen	Biologist	U.S. Fish and Wildlife Service New England Field Office 70 Commercial Street, Suite 300 Concord, NH 03301-5087
Michael Pentony	Regional Administrator	NOAA Atlantic Regional Fisheries Office National Marine Fisheries Service 55 Great Republic Drive Gloucester, MA 01930
Jennifer Anderson	Acting Chief, Protected Resources Div	NOAA Atlantic Regional Fisheries Office National Marine Fisheries Service 55 Great Republic Drive Gloucester, MA 01930
Lou Chiarella	Chief, Habitat Conservation Div	NOAA Atlantic Regional Fisheries Office National Marine Fisheries Service 55 Great Republic Drive Gloucester, MA 01930

Alizon Verkade	Office Habitat Conservation Div	NOAA Atlantic Regional Fisheries Office National Marine Fisheries Service 55 Great Republic Drive Gloucester, MA 01930
Zach Jylkka	Fisheries Biologist, Protected Resources Division	NOAA Atlantic Regional Fisheries Office National Marine Fisheries Service 55 Great Republic Drive Gloucester, MA 01930
Nelson Hoffman	Transportation Performance Management Program Manager	FHWA 1200 New Jersey Avenue, SE Washington, DC 20590
Christopher Hansen	Env. Prot. Spec	FHWA Eastern Federal Lands Highway Division 21400 Ridgetop Circle Sterling, VA 20166
Cassie Ostrander	Env Prot Spec	FHWA 55 Broadway 10th Floor Cambridge, Massachusetts 02142
Ms. Ramona Peters	Tribal Historic Preservation Officer	Mashpee Wampanoag Tribe 483 Great Neck Road Mashpee, MA 02649-3707
David Weeden	Tribal Historic Preservation Officer	Mashpee Wampanoag Tribe 483 Great Neck Rd. Mashpee, MA 02649
Ms. Bettina M. Washington	Tribal Historic Preservation Officer (THPO)	Wampanoag Tribe of Gay Head (Aquinnah) 20 Black Brook Road Aquinnah, MA 02535-1546
Jim Cerbone	Environmental	Massachusetts Department of Transportation Ten Park Plaza Suite 4160 Boston, MA 02116
James Harwood	Cultural Resources	Massachusetts Department of Transportation Ten Park Plaza Suite 4160 Boston, MA 02116
John Bechard	Dept. Chief Engineer	Massachusetts Department of Transportation Ten Park Plaza Suite 4160 Boston, MA 02116
Ms. Brona Simon	Executive Director	MA Historical Commission 220 Morrissey Boulevard Boston, Massachusetts 02125-3314

Tom French	Assistant Director Regulatory Review Program	MA Div of Fisheries and Wildlife Natural Heritage and Endangered Species Program 1 Rabbit Hill Road Westborough, MA 01581-3336
Ronald Amidon	Commissioner	MA Department of Fish and Game 251 Causeway St, Suite 400 Boston, MA 02114-2152
Kathryn Ford, Ph.D.	Habitat Program Manager	MA Department of Fish and Game 251 Causeway St, Suite 400 Boston, MA 02114-2152
John Logan, Ph.D.	Env. Review – Cohasset and South	MA Division of Marine Fisheries 836 South Rodney French Blvd. New Bedford, MA 02744
Lealdon Langley	Director, Wetlands and Waterways Division	MA DEP Wetlands & Waterways One Winter St. Boston, MA 02108
Ms. Millie Garcia-Serano	SE Regional Director	MA DEP Southeast Regional Office 20 Riverside Dr. Lakeville, MA 02347
Mr. Robert Boeri	Project Review Coordinator	Massachusetts Office of Coastal Zone Management 251 Causeway Street, Suite 800 Boston, MA 02114-2138
Lisa Berry Engler	Acting Director	Massachusetts Office of Coastal Zone Management 251 Causeway Street, Suite 800 Boston, MA 02114-2138
Stephen McKenna	Cape Cod & Islands Regional Coordinator	Massachusetts Office of Coastal Zone Management Cape Cod and Islands Regional Office 3195 Main Street P.O. Box 220 Barnstable, MA 02360
Paul E. Rendon		Building 3468, Beaman St. Buzzards Bay, MA 02542
Michael Ciaranca		MA Air National Guard Building 3468 Camp Edwards, MA 02542
David DeConto		Sandwich Conservation Commission 16 Jan Sebastian Dr.

		Sandwich, MA 02563
Mr. David Schrader		Sandwich Historic Commission 1 6 Jan Sebastian Dr. Sandwich, MA 02563
Robert Gray	Chairman	Bourne Conservation Commission 24 Perry Ave. Bourne, MA 02532
David S. Robinson	Chief Archaeologist, State Underwater Archaeologist	Massachusetts Board of Underwater Archaeological Resources 251 Causeway Street, Suite 800 Boston, MA 02114-2199



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

March 7, 2019

Programs and Project Management Division
Civil Works/IIS Project Management Branch
Navigation Section

Ms. Jennifer Anderson, Acting Chief, Protection Resources Division
NOAA Atlantic Regional Fisheries Office
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, Massachusetts 01930

Dear Ms. Anderson:

The U.S. Army Corps of Engineers (Corps), New England District, is conducting a multi-year Major Rehabilitation Evaluation Study of the Bourne and Sagamore highway bridges spanning the Cape Cod Canal. The study will result in a Major Rehabilitation Evaluation Report (MREER). The MREER will provide the basis of decision making for USACE and Congress to determine the most cost-effective, safe alternative for critical public transportation access across the Cape Cod Canal.

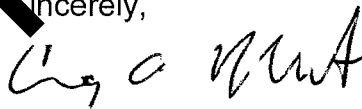
As part of the MREER, the Corps will be preparing an Environmental Assessment (EA) to analyze the potential environmental effects associated with the project. The major rehabilitation study will analyze alternatives to either repair or replace the existing deteriorated Bourne and Sagamore Bridges.

The purpose of this letter is to begin coordination pursuant to the Fish and Wildlife Coordination Act, as amended and Section 7(c) of the Endangered Species Act of 1973, as amended, and to invite you, or a member of your staff, to attend an agency scoping meeting and coordinated site visit with interested State and Federal agencies, Federally-recognized tribes, and town officials. The objective of this meeting is to explain the proposed project and to elicit agency concerns and suggestions. The meeting and site visit will occur on Tuesday, March 19, 2019. During the meeting, participants will have the opportunity to discuss alternatives, visit the study area, and provide feedback and suggestions to the USACE study team. We will meet at 1 p.m. at the Massachusetts Maritime Academy's Bay State conference room located at 101 Academy Drive, Buzzards Bay, MA 02532. A campus map with meeting room location highlighted is enclosed. After a short presentation and discussion of the project vans will take participants to viewing locations at the base of the Bourne and Sagamore bridges. Participants will be returned to the academy upon completion of the site visit no later than 3pm.

We are requesting written preliminary comments on the proposed project (which will be described in greater detail during the site visit) from your agency within 30 days of the meeting. Comments should include any concerns that need to be addressed during the planning phase of the proposed project. Comments in support of the project as presented are also requested.

We look forward to your participation in this project. If you have any questions or require additional information, please contact Rosemarie Bradley, Environmental Compliance Lead at 978-318-8127 or by e-mail at rosemarie.a.bradley@usace.army.mil. Please RSVP by Friday, March 15 via email to Craig Martin at craig.a.martin@usace.army.mil so we can confirm the appropriate number of vans for the bridge site visit portion of the meeting.

Sincerely,



Craig Martin
Project Manager
New England District

Enclosure

ATTENDANCE SHEETS

U.S. Army Corps of Engineers, New England District
Attendance sheets for the Cape Cod Canal Bridges Agency Meeting
March 19, 2019

Name:

Timothy Timmerman

Address:

EPA Region 1

Telephone:

617-918-1025

Agency, Business or Organization(s) (if any):

EPA

Name:

Samuel Haines

Address:

24 Perry Ave

Telephone:

508 326 2765

shaines@townofbourne.com

Agency, Business or Organization(s) (if any):

Bourne Conservation Dep

Name:

Bethna M Washington - THPO

Address:

20 Black Brook Rd

Aquinnah MA 02535

Telephone:

508-645-9265

Agency, Business or Organization(s) (if any):

WTCM (CA)

U.S. Army Corps of Engineers, New England District
Attendance sheets for the Cape Cod Canal Bridges Agency Meeting
March 19, 2019

Name: James Rousseau

Address: _____

Telephone: 617-223-8619

Agency, Business or Organization(s) (if any): USCG A Bridges

Name: Jameson Harwood

Address: Mass DOT - 10 Park Plaza

Telephone: 857-360-8799

Agency, Business or Organization(s) (if any): MassDOT Cultural Resources

Name: Bob Boori

Address: CZM 251 Causeway St
Boston MA

Telephone: 617-626-1050

Agency, Business or Organization(s) (if any): CZM

U.S. Army Corps of Engineers, New England District
Attendance sheets for the Cape Cod Canal Bridges Agency Meeting
March 19, 2019

Name: Jim Cerbone

Address: 16 Park Plaza Boston
1

Telephone: 857-368-8292

Agency, Business or Organization(s) (if any): _____

Mass DOT

Name: Jeffrey Stieb

Address: US Coast Guard 408 Atlantic Av
Boston, MA 02107

Telephone: 781-901-0348

Agency, Business or Organization(s) (if any): _____

Name: Stephen McKenna

Address: CZM
P.O. Box 220, Barnstable

Telephone: _____

Agency, Business or Organization(s) (if any): _____

U.S. Army Corps of Engineers, New England District
Attendance sheets for the Cape Cod Canal Bridges Agency Meeting
March 19, 2019

Name: Cassie Ostrander

Address: 55 Broadway, 10th Flr.
Cambridge, MA

Telephone: 617-494-3113

Agency, Business or Organization(s) (if any): FHWA- MA Division

Name: PAUL E. RENDON

Address: BUILDING 3468, BEAMAN ST, BUZZARDS BAY 02542

Telephone: 774-327-0643

Agency, Business or Organization(s) (if any): JOINT BASE CAPE COD

Name: _____

Address: _____

Telephone: _____

Agency, Business or Organization(s) (if any): _____

U.S. Army Corps of Engineers, New England District
Attendance sheets for the Cape Cod Canal Bridges Agency Meeting
March 19, 2019

Name: Michael Ciarranca
Address: Bldg 3468, Camp Edwards, MA
02542
Telephone: 508-3968-5154
Agency, Business or Organization(s) (if any): MA ARNG

Name: David Kheeden
Address: 483 Great Neck Rd. South
Mashpee, MA 02649
Telephone: (508) 477-0208x102
Agency, Business or Organization(s) (if any): Mashpee Wampanoag Tribe - THPO

Name: _____
Address: _____
Telephone: _____
Agency, Business or Organization(s) (if any): _____

RESOURCE AGENCY COORDINATION

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From: [Bradley, Rosemarie A CIV USARMY CENAE \(US\)](#)
To: [Decelles, Elizabeth C CIV USARMY CENAE \(US\)](#)
Subject: FW: [Non-DoD Source] Re: Cape Cod Canal Bridges Agency Phone Meeting Record
Date: Wednesday, August 7, 2019 7:49:27 AM

-----Original Message-----

From: Zachary Jylkka - NOAA Federal [<mailto:zachary.jylkka@noaa.gov>]
Sent: Thursday, July 25, 2019 9:42 AM
To: Bradley, Rosemarie A CIV USARMY CENAE (US) <Rosemarie.A.Bradley@usace.army.mil>
Subject: [Non-DoD Source] Re: Cape Cod Canal Bridges Agency Phone Meeting Record

Hi Rosemarie,

This looks good to me. Thank you for giving me an opportunity to review.

Regards,
Zach

On Tue, Jul 16, 2019 at 5:10 PM Bradley, Rosemarie A CIV USARMY CENAE (US) <Rosemarie.A.Bradley@usace.army.mil <<mailto:Rosemarie.A.Bradley@usace.army.mil>> > wrote:

Hi Zach,
We are following up to ensure we have captured our phone meeting details accurately - Please see attached.
Thanks,
Rosemarie

Rosemarie Bradley, Ph.D.
Marine Biologist
US Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742
978-318-8127
rosemarie.a.bradley@usace.army.mil <<mailto:rosemarie.a.bradley@usace.army.mil>>

--

Zach Jylkka
Fisheries Biologist

Protected Resources Division
Greater Atlantic Regional Fisheries Office NOAA Fisheries Gloucester, MA 01930 zachary.jylkka@noaa.gov
<<mailto:zachary.jylkka@noaa.gov>>

office: (978) 282-8467

Pronouns: (he/him/his)

For additional ESA Section 7 information and Critical Habitat guidance, please see:

Blockedwww.greateratlantic.fisheries.noaa.gov/protected/section7

<Blocked<http://www.greateratlantic.fisheries.noaa.gov/protected/section7>>

Meeting Record

Subject: Cape Cod Canal (CCC) Bridges MRER, EA and NOAA ESA and EFH Coordination

Attendees: Zach Jylkka, Fisheries Biologist, Protected Resources Division, GARFO, NOAA; Craig Martin, USACE Project Manager, David Oster, USACE Biologist, Rosemarie Bradley, USACE Marine Biologist

Date: Monday, May 20, 2019

Summary

- Phase I of the CCC Bridges project is the Major Rehabilitation Evaluation Report (MRER) decision document and accompanying EA for this phase of the project
- Phase II of the Bridges project will be the design and construction phase and a supplemental EA will be prepared for this phase as well
- It is too early in the project development stage to enter into consultation. NOAA would like us to wait until we are further along in the process before we initiate consultation. They cannot provide specific comments for this phase of the project
- We can determine “areas of potential impacts” and species to be considered including:
 - Atlantic Sturgeon
 - Short nose Sturgeon
 - 4 species of sea turtles including Kemps Ridley and Loggerhead who are susceptible to “cold-stunning”
 - North Atlantic Right Whale – biggest concern
 - Fin Whale
- Sturgeon have the potential to transit through the canal, but none have been documented in the Canal in the past
- Sea turtles are not expected to be present in the canal. They typically migrate May – end of October
- Corps needs to consider Kemps Ridley and Loggerhead during cold stunning season – Mid/late October – December; sometimes they get caught in Cape Cod Bay
- Right whales on occasion transit through the canal, and are the biggest concern, so we need to address in-water work.
 - How will the bridges be demolished? If blasting will occur to remove old bridge piers, we need to look at potential impacts.
 - Will barges be used to install new bridges? If so, need a plan if right whales enter canal while barges are there
 - Existing plan - shut down the canal and escort the whale through
 - Any interaction with a right whale – need to address how to avoid “harassment” – identify measures
 - Look at the “Test Tidal Turbine” for sample language and mitigation measures
 - Look at time of year restrictions – January-May in Cape Cod Bay
- Identify general types of in-water stressors and plan to consider these – vehicle traffic, noise, turbidity etc.
- NOAA can’t make effects determination at this time
- Zach will look at what we draft for Phase I of the project and accompanying EA and will fill in Alison. We will follow-up with Alison after Zach speaks with her

From: [vonOettingen, Susi](#)
To: [Bradley, Rosemarie A CIV USARMY CENAE \(US\)](#)
Cc: [Eliese Dykstra](#)
Subject: [Non-DoD Source] Re: [EXTERNAL] Cape Cod Canal Highway Bridges Major Rehab Evaluation Report (MRER) Call
Date: Monday, April 1, 2019 7:20:09 AM

Hi Rosemarie,

Thank you for a great summary of our discussion. Yes, I think you covered all of the pertinent points.

Susi

Susi von Oettingen
Endangered Species Biologist
New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301
(W) 603-227-6418
(Fax) 603-223-0104

Blockedwww.fws.gov/newengland <Blockedhttp://www.fws.gov/newengland>

On Tue, Mar 26, 2019 at 4:04 PM Bradley, Rosemarie A CIV USARMY CENAE (US)
<Rosemarie.A.Bradley@usace.army.mil <<mailto:Rosemarie.A.Bradley@usace.army.mil>> > wrote:

Hi Susi,

I wanted to make sure I accurately captured our recent phone conversation.

To summarize:

*This phase of the project ("Phase I") is solely a decision document to determine whether major rehabilitation or replacement of the Bourne and Sagamore bridges is the recommended path forward

*As there is no concrete project yet , there are no impacts to species for this phase (Phase I)

*We will inventory what species are present and those that utilize the canal

*We should include migratory birds and transient birds - Plovers, Red knot and Roseate terns

*Roseate terns are known to use the canal as a flyway

*No need to consider American chaffseed or Northern red-bellied cooter

*Bats are known to roost in bridges. FWS recommends a "bridge survey" when we move on to the design and construction phase

*In future phases we will need to consider staging areas, tree clearing, and potential time of year restrictions

*FWS has numerous radio-tracked bird reports and data if needed

Is there anything I have missed?

Rosemarie

Rosemarie Bradley, Ph.D.

Marine Biologist
US Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742
978-318-8127
rosemarie.a.bradley@usace.army.mil <<mailto:rosemarie.a.bradley@usace.army.mil>>

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**STATE AND TRIBAL HISTORIC PRESERVATION OFFICE
COORDINATION**

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DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

RECEIVED

JUL 24 2019

MASS. HIST. COMM

RC.66038

July 17, 2019

Planning Division
Evaluation Branch

Ms. Brona Simon, State Historic Preservation Officer
Massachusetts Historic Commission
220 Morrissey Boulevard
Boston, MA 02125

CONCURRENCE. *Simon*
8/22/19
BRONA SIMON
STATE HISTORIC
PRESERVATION OFFICER
MASSACHUSETTS
HISTORICAL COMMISSION

Dear Ms. Simon:

The U.S. Army Corps of Engineers (Corps), New England District, is preparing a multi-year Major Rehabilitation Evaluation Study of the Bourne and Sagamore highway bridges spanning the Cape Cod Canal. The study will result in a Major Rehabilitation Evaluation Report (MRER). The MRER will provide the basis of decision making for the Corps and Congress to determine the most cost-effective, safe alternative for critical public transportation access across the Cape Cod Canal.

As part of the MRER, the Corps is preparing an Environmental Assessment (EA) to analyze the potential environmental effects associated with the project. The major rehabilitation study will analyze alternatives to either repair or replace the existing deteriorated Bourne and Sagamore Bridges. The National Environmental Policy Act (NEPA) survey areas are shown in the attached figure.

Currently, the Corps believes that the rehabilitation of the Bourne and Sagamore bridges should have no adverse effect to the bridges and no effect on local historic districts, individual buildings or known and unknown archaeological sites. The major rehabilitation will include replacement of the bridge superstructure, deck replacement, including stringer replacement, abutment span replacement, exterior gusset plate retrofits, interior gusset plate repairs, miscellaneous concrete repairs, suspender cable replacement, paving, and painting. The bridges would continue in their current footprints, and while changes would be made to the bridges, they will look the same after rehabilitation as materials will be replaced in-kind. This effects determination is contingent on the use of previously disturbed laydown and staging areas. If new areas are chosen, an intensive archaeological survey may be required.

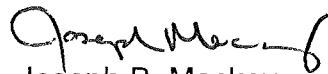
During this phase, based on the research completed to date, the replacement of the Bourne and Sagamore Bridges would have an adverse effect on the bridges and at least two identified archaeological sites, possible unidentified archaeological resources,

and several historic districts. The effects would be indirect (visual and/or viewshed) as well as direct (possible archaeological sites).

The MRER decision document and accompanying NEPA document constitutes the initial phase of the major rehabilitation study. Based on the outcome of this study and once an alternative to either repair or replace the existing bridges has been identified, additional analysis will be completed that will allow for more detailed review of project related impacts. Additional coordination will take place with SHPO at that time.

We are requesting your comments on our preliminary determinations of effect. If you have any questions or comments, please contact Kate Atwood, staff archaeologist at (978)318-8537 or via email at Kathleen.a.atwood@usace.army.mil.

Sincerely,



Joseph B. Mackay
Acting Chief, Evaluation Branch

Enclosure

Similar letters sent to:

Ms. Bettina Washington, Tribal Historic Preservation Officer
Wampanoag Tribe of Gay Head (Aquinnah)
20 Black Brook Road
Aquinnah, MA 02535

Mr. David Weeden, Tribal Historic Preservation Officer
Mashpee Wampanoag Tribe
483 Great Neck Road South
Mashpee, MA 02649



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

July 17, 2019

Planning Division
Evaluation Branch

Ms. Brona Simon, State Historic Preservation Officer
Massachusetts Historic Commission
220 Morrissey Boulevard
Boston, MA 02125

Dear Ms. Simon:

The U.S. Army Corps of Engineers (Corps), New England District, is preparing a multi-year Major Rehabilitation Evaluation Study of the Bourne and Sagamore highway bridges spanning the Cape Cod Canal. The study will result in a Major Rehabilitation Evaluation Report (MRER). The MRER will provide the basis of decision making for the Corps and Congress to determine the most cost-effective, safe alternative for critical public transportation access across the Cape Cod Canal.

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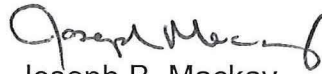
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Sincerely,



Joseph B. Mackay
Acting Chief, Evaluation Branch

Enclosure

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Wampanoag Tribe of Gay Head (Aquinnah)
20 Black Brook Road
Aquinnah, MA 02535

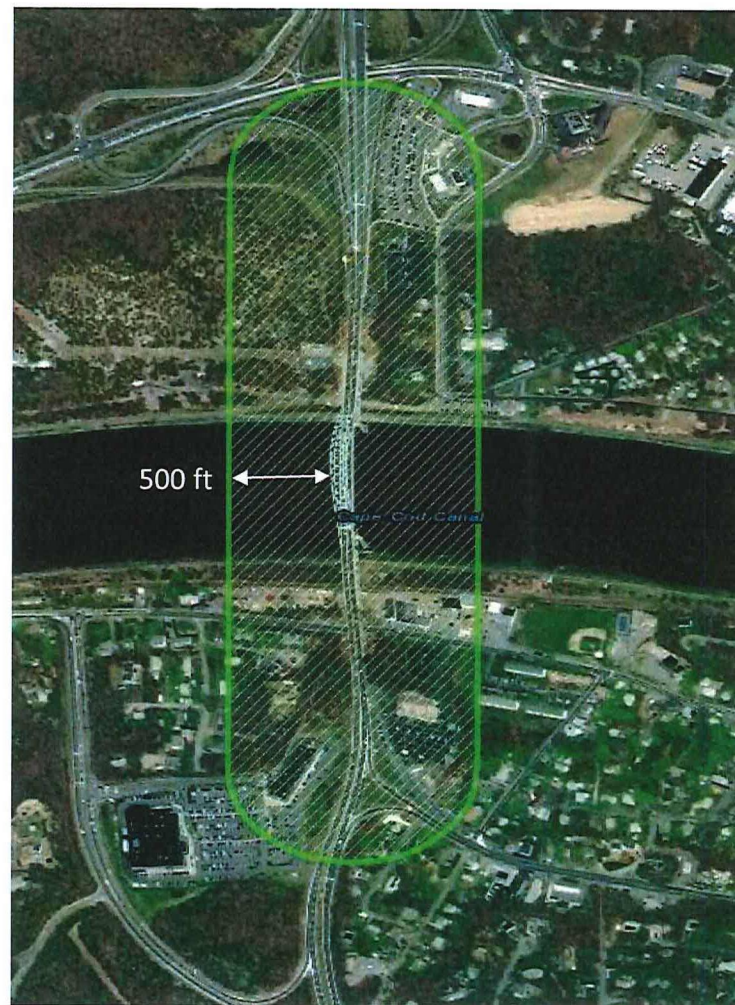
Mr. David Weeden, Tribal Historic Preservation Officer
Mashpee Wampanoag Tribe
483 Great Neck Road South
Mashpee, MA 02649

Map of Existing Bridges and NEPA Survey Areas

BOURNE BRIDGE



SAGAMORE BRIDGE



MAJOR REHABILITATION EVALUATION STUDY Cape Cod Canal Bridges





DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

July 17, 2019

Planning Division
Evaluation Branch

Ms. Bettina Washington, Tribal Historic Preservation Officer
Wampanoag Tribe of Gay Head (Aquinnah)
20 Black Brook Road
Aquinnah, MA 02535

Dear Ms. Washington:

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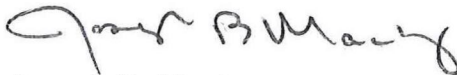
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We are requesting your comments on our preliminary determinations of effect. If you have any questions or comments, please contact Kate Atwood, staff archaeologist at (978)318-8537 or via email at Kathleen.a.atwood@usace.army.mil.

Sincerely,

A handwritten signature in dark ink, appearing to read "Joe B. Mackay".

Joseph B. Mackay
Acting Chief, Evaluation Branch

Enclosure

Similar letters sent to:

Mr. David Weeden, Tribal Historic Preservation Officer
Mashpee Wampanoag Tribe
483 Great Neck Road South
Mashpee, MA 02649

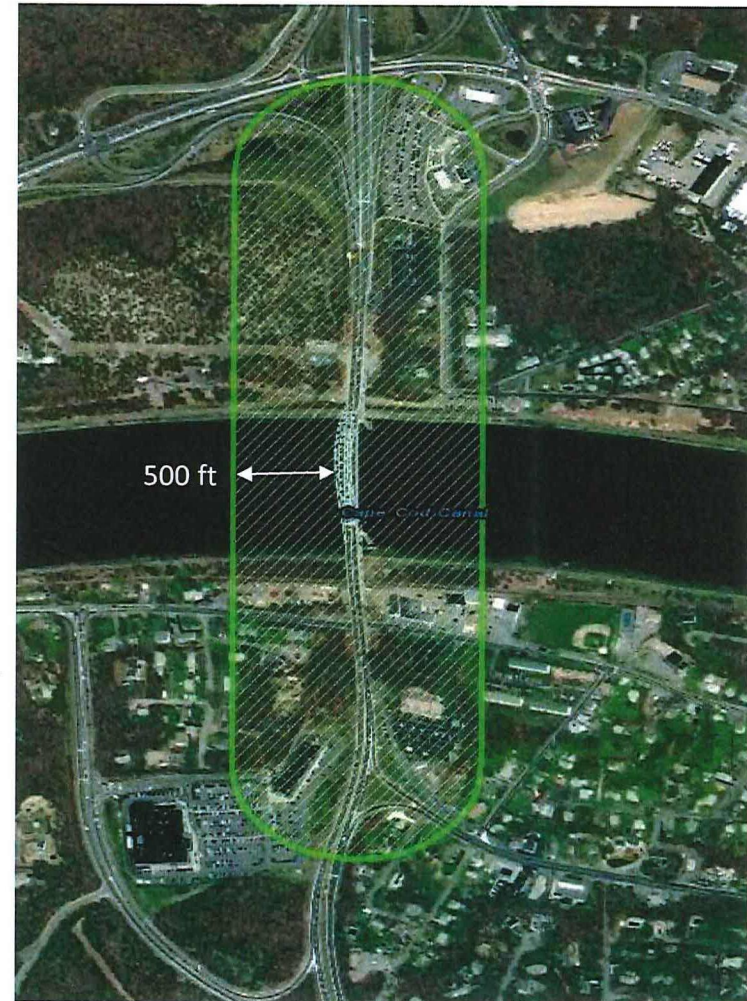
Ms. Brona Simon, State Historic Preservation Officer
Massachusetts Historic Commission
220 Morrissey Boulevard
Boston, MA 02125

Map of Existing Bridges and NEPA Survey Areas

BOURNE BRIDGE



SAGAMORE BRIDGE



MAJOR REHABILITATION EVALUATION STUDY Cape Cod Canal Bridges





DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

September 24, 2019

Planning Division
Evaluation Branch

David S. Robinson, Chief Archaeologist, State Underwater Archaeologist
Massachusetts Board of Underwater Archaeological Resources
251 Causeway Street, Suite 800
Boston, MA 02114-2199

Dear Mr. Robinson:

The U.S. Army Corps of Engineers (Corps), New England District, is preparing a multi-year Major Rehabilitation Evaluation Study of the Bourne and Sagamore highway bridges spanning the Cape Cod Canal. The study will result in a Major Rehabilitation Evaluation Report (MRER). The MRER will provide the basis of decision making for the Corps and Congress to determine the most cost-effective, safe alternative for critical public transportation access across the Cape Cod Canal.

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Sincerely,



Joseph B. Mackay
Acting Chief, Evaluation Branch

Enclosure

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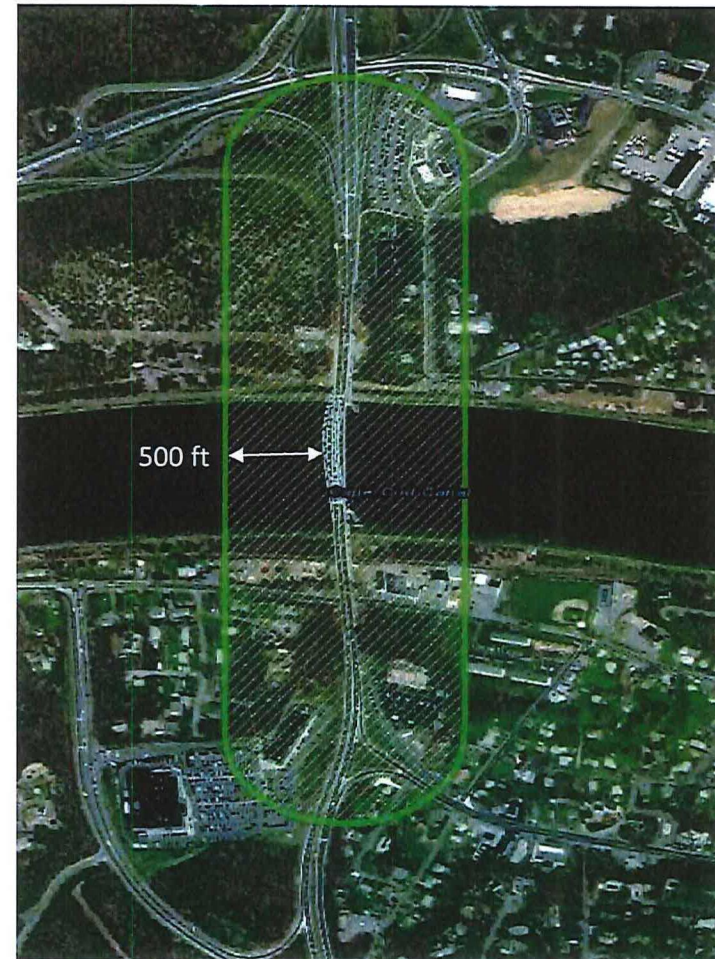
Ms. Brona Simon, State Historic Preservation Officer
Massachusetts Historic Commission
220 Morrissey Boulevard
Boston, MA 02125

Map of Existing Bridges and NEPA Survey Areas

BOURNE BRIDGE



SAGAMORE BRIDGE



MAJOR REHABILITATION EVALUATION STUDY Cape Cod Canal Bridges



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LOCAL AGENCY COORDINATION

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From: [Moore, Coreen](#)
To: [Decelles, Elizabeth C CIV USARMY CENAE \(US\)](#)
Subject: FW: [Non-DoD Source] Re: [Bourne MA] Cape Cod Canal Bridges Study (Sent by Elizabeth DeCelles, elizabeth.decelles@usace.army.mil)
Date: Friday, August 9, 2019 3:22:24 PM
Attachments: [Development Projects in Bourne re Canal Bridges Planning 8.9.19.doc](#)

Sorry forgot these two
Bourne Police Station and new Wastewater Facility - 35 Armory Road - Buzzards Bay Map 19.4 Parcel 00 and 248

-----Original Message-----

From: Moore, Coreen
Sent: Friday, August 9, 2019 3:08 PM
To: 'Decelles, Elizabeth C CIV USARMY CENAE (US)' <Elizabeth.C.Decelles@usace.army.mil>
Subject: RE: [Non-DoD Source] Re: [Bourne MA] Cape Cod Canal Bridges Study (Sent by Elizabeth DeCelles, elizabeth.decelles@usace.army.mil)

Good Afternoon Elizabeth

Attached are the larger projects in Bourne, either proposed or under construction. Sorry it took so long to get back to you. Hopefully this is helpful for your study

Coreen V. Moore
Bourne Town Planner
Bourne Town Hall
24 Perry Ave.
Buzzards Bay, MA 02532

508.759.0600 ext.#1346

Please remember when writing or responding that the Secretary of State's Office has determined that email is a public record and all e-mail communications sent or received by persons using the Town of Bourne network may be subject to disclosure under the Massachusetts Public Records Law (M.G.L. Chapter 66, Section 10) and the Federal Freedom of Information Act.

-----Original Message-----

From: Decelles, Elizabeth C CIV USARMY CENAE (US) [<mailto:Elizabeth.C.Decelles@usace.army.mil>]
Sent: Friday, August 9, 2019 10:46 AM
To: Moore, Coreen <CMoore@townofbourne.com>; Bob Gray <sabatia@comcast.net>
Cc: Haines, Samuel <shaines@townofbourne.com>; Bradley, Rosemarie A CIV USARMY CENAE (US) <Rosemarie.A.Bradley@usace.army.mil>; Guerino, Thomas <TGuerino@townofbourne.com>
Subject: RE: [Non-DoD Source] Re: [Bourne MA] Cape Cod Canal Bridges Study (Sent by Elizabeth DeCelles, elizabeth.decelles@usace.army.mil)

Hi Coreen,

Just touching base with you about the major projects in Bourne. We are finishing up our draft next week and need the appropriate information by then to include it. We only need major projects. For example, there were only two in Sandwich. Please don't hesitate to call me if you have questions and thank you so very much for your assistance with this task.

Thanks again,

Elizabeth DeCelles
Ecologist

New England District
U.S. Army Corps of Engineers
(978) 318-8943

-----Original Message-----

From: Moore, Coreen [<mailto:CMoore@townofbourne.com>]
Sent: Tuesday, July 30, 2019 9:20 AM
To: Decelles, Elizabeth C CIV USARMY CENAE (US) <Elizabeth.C.Decelles@usace.army.mil>; Bob Gray <sabatia@comcast.net>
Cc: Haines, Samuel <shaines@townofbourne.com>; Bradley, Rosemarie A CIV USARMY CENAE (US) <Rosemarie.A.Bradley@usace.army.mil>; Guerino, Thomas <TGuerino@townofbourne.com>
Subject: RE: [Non-DoD Source] Re: [Bourne MA] Cape Cod Canal Bridges Study (Sent by Elizabeth DeCelles, elizabeth.decelles@usace.army.mil)

I am working on your request, it is quite expansive I will send the information as soon as I can

Coreen V. Moore
Bourne Town Planner
Bourne Town Hall
24 Perry Ave.
Buzzards Bay, MA 02532

508.759.0600 ext.#1346

Please remember when writing or responding that the Secretary of State's Office has determined that email is a public record and all e-mail communications sent or received by persons using the Town of Bourne network may be subject to disclosure under the Massachusetts Public Records Law (M.G.L. Chapter 66, Section 10) and the Federal Freedom of Information Act.

-----Original Message-----

From: Decelles, Elizabeth C CIV USARMY CENAE (US) [<mailto:Elizabeth.C.Decelles@usace.army.mil>]
Sent: Tuesday, July 30, 2019 9:10 AM
To: Bob Gray <sabatia@comcast.net>
Cc: Haines, Samuel <shaines@townofbourne.com>; Moore, Coreen <CMoore@townofbourne.com>; Bradley, Rosemarie A CIV USARMY CENAE (US) <Rosemarie.A.Bradley@usace.army.mil>
Subject: RE: [Non-DoD Source] Re: [Bourne MA] Cape Cod Canal Bridges Study (Sent by Elizabeth DeCelles, elizabeth.decelles@usace.army.mil)

Hi Bob,

Just checking up on the progress of my request for future development plans in the Town of Bourne. We are developing the Environmental Assessment now and it would be great to have your contribution.

Thank you very much,

Elizabeth DeCelles
Ecologist
New England District
U.S. Army Corps of Engineers
(978) 318-8943

-----Original Message-----

From: Bob Gray [<mailto:sabatia@comcast.net>]

Sent: Tuesday, July 23, 2019 10:14 AM

To: Decelles, Elizabeth C CIV USARMY CENAE (US) <Elizabeth.C.Decelles@usace.army.mil>

Subject: [Non-DoD Source] Re: [Bourne MA] Cape Cod Canal Bridges Study (Sent by Elizabeth DeCelles, elizabeth.decelles@usace.army.mil)

Hi Elizabeth:

Thank you for your inquiry.

The Conservation Commission Agent, Sam Haines and Town Planner, Corrine Moore will contact you soon.

Regards

Sent from my iPhone

> On Jul 23, 2019, at 6:13 AM, Contact form at Bourne MA <cmsmailer@civicplus.com> wrote:

>

> Hello rgray,

>

> Elizabeth DeCelles (elizabeth.decelles@usace.army.mil) has sent you a

> message via your contact form

> (BlockedBlockedBlocked<https://www.townofbourne.com/users/rgray/contact>) at Bourne MA.

>

> If you don't want to receive such e-mails, you can change your

> settings at BlockedBlockedBlocked<https://www.townofbourne.com/user/686/edit>.

>

> Message:

>

> Mr Gray,

>

> We are currently working on the Cape Cod Canal Bridges Major

> Rehabilitation/Replacement Study and accompanying Environmental Assessment.

> We are reaching out to you to ask if th Conservation Commissio is

> aware of any future development plans or projects (commercial,

> residential development, solar/wind power, marinas, etc.) in your

> community, and if so, could you provide us with any general project

> information you might have (project type, size, timing, location, etc.)?

>

> Thank you for any information you can provide.

>

> If it's easier to talk by phone my number is (978) 318-8943.

>

> Elizabeth DeCelles

>

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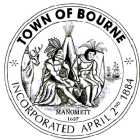
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COREEN V. MOORE
TOWN PLANNER

TOWN OF BOURNE
Office of the Town Planner

TOWN HALL
24 PERRY AVE.

BUZZARDS BAY, MA 02532

PHONE: 508-759-0600 x1346 • FAX: 508-759-0611

Email: cmoore@townofbourne.com



Town of Bourne Development Projects

1. 0 Bourne Rotary - Map 25 Parcel 44 - currently vacant - 85,000 sf commercial and 300 residential units permitted
2. 4 & 6 MacArthur Blvd - Map 24 Parcel 19 - redevelopment Cumberland Farms with 8140 square feet of retail and ten gas pumps permitted currently under appeal
3. 220 Sandwich Road – Map 25 Parcel 1 - Upper Cape Technical School proposed addition to Nursing Building and a new veterinary building
4. 370 Scenic Highway Bourne Scenic Park - proposed new wastewater system
5. 230 Sandwich Road – Map 25 Parcel 9 - Proposed affordable housing development permitted 16 unit current request for modification for 20 units
6. 340 Scenic Highway – Map 20.4 Parcel 6 - development proposal gas station phase two extended stay hotel – not yet permitted
7. Off Perry Ave – Downtown – Map 24.1 Parcel 6 - 100 room Hampton Inn – under construction
8. Off Perry Ave – Downtown – Map 24.1 Parcel 5 – 120 senior living apartments under construction
9. Cape View Way – Sagamore – Map 7 Parcel 85-90 – Proposed 55 affordable family apartments – planning stages
10. Off Scenic Highway - Map 10 Parcel 10 - Cape Cod Aggregate gravel operation currently carrying out closure

Sincerely,

Coreen V. Moore

Town Planner

From: [Drake, Leanne](#)
To: [Decelles, Elizabeth C CIV USARMY CENAE \(US\)](#)
Subject: [Non-DoD Source] RE: New Projects in Sandwich
Date: Wednesday, July 24, 2019 8:36:27 AM

They have a new unit up and operating but I'm not sure if they are planning anymore expansions at this time. I will check in with the Building Department and follow up with you if I hear otherwise.

Thanks,
Leanne

Leanne Drake
Assistant Town Planner
Planning & Economic Development
Town of Sandwich
16 Jan Sebastian Drive
Sandwich, MA 02563
(508) 833-8001

-----Original Message-----

From: Decelles, Elizabeth C CIV USARMY CENAE (US) [<mailto:Elizabeth.C.Decelles@usace.army.mil>]
Sent: Wednesday, July 24, 2019 6:28 AM
To: Drake, Leanne
Subject: RE: New Projects in Sandwich

Hi again Leanne,
Do you happen to know of any plans going on at the Canal Generating Plant located along the Canal?

Elizabeth DeCelles
Ecologist
New England District
U.S. Army Corps of Engineers
(978) 318-8943

-----Original Message-----

From: Drake, Leanne [<mailto:ldrake@townofsandwich.net>]
Sent: Tuesday, July 23, 2019 3:07 PM
To: Decelles, Elizabeth C CIV USARMY CENAE (US) <Elizabeth.C.Decelles@usace.army.mil>
Subject: [Non-DoD Source] New Projects in Sandwich

Hi Elizabeth,

Sorry I am only getting back to you know. I'm looking through our applications and there are only 2 large scale projects in the works:

- * Wing School - we have sent out an RFP for the school in the hopes it will be redeveloped
- * 180 Cotuit Road - Large scale solar photovoltaic project currently with the Cape Cod Commission

Other than those two most of our development residential single family or extensions to existing homes.

Hope this helps.

Thanks,

Leanne

Leanne Drake

Assistant Town Planner

Planning & Economic Development

Town of Sandwich

16 Jan Sebastian Drive

Sandwich, MA 02563

(508) 833-8001

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RESPONSES TO DRAFT

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**DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751**

October 7, 2019

Programs and Project Management Division
Civil Works/ IIS Branch

To Whom It May Concern:

The U.S. Army Corps of Engineers (USACE), New England District, has conducted a multi-year Major Rehabilitation Evaluation Study of the Bourne and Sagamore highway bridges spanning the Cape Cod Canal. The USACE has released a draft Major Rehabilitation Evaluation Report (MRER) and Environmental Assessment (EA) for public review and comment. The MRER provides the basis of decision making for USACE to determine the most cost-effective, safe alternative for critical public transportation access across the Cape Cod Canal. The EA was prepared to analyze the potential environmental effects associated with the project.

The major rehabilitation study analyzed alternatives to either rehabilitate or replace the existing Bourne and Sagamore highway bridges. This letter notifies you of our request for your comments on the draft MRER and EA for the project. The draft documents and appendices include maps of the proposed project area, a project description, resource characterizations of the project area, and resource agency coordination. We would appreciate receipt of your comments within 30 days of receipt of this letter.

The preferred alternative for this project proposes the replacement of both highway bridges with new bridges (consisting of 4 through traffic lanes and 2 auxiliary lanes) to be constructed adjacent to the existing bridges. Design of the new highway bridges will incorporate modern federal highway safety standards such as increased travel lane widths, pedestrian and bicycle lanes with vehicle lanes separation barrier, medians between the two directions of vehicular travel, and shoulders to accommodate vehicle breakdowns. To minimize impacts to connecting roads, other non-Federal highways, and local roadways, each new bridge would be placed along approximately the same alignment as the existing bridges. The current bridges would remain open and continue to be inspected and maintained in a safe and reliable state while construction of the new bridges is underway. The current bridges would be dismantled and removed once the new bridges have been opened to traffic. The actual type, design, and location of any proposed new bridges will be determined, and any related potential impacts further evaluated, in the next phase of the Cape Cod Canal Highway Bridges Project.

The recommendations contained in the Draft MRER/EA reflect the information available at this time and current policies governing formulation of individual projects. They do not reflect program and budgeting priorities inherent in the development of a National Civil Works construction program nor the perspective of higher review levels within the Executive Branch. Consequently, the recommendations may be modified before they are transmitted to Congress as proposals for authorization and implementation funding. However, prior to transmittal to

Congress, all a parties will be advised of any modifications and would be afforded an opportunity for further comment.

A copy of the Public Notice of Availability for the project is enclosed, along with a CD containing the draft MRER / EA. We look forward to your participation in this project and if you or your staff have any questions or require additional information regarding the EA, please contact Rosemarie Bradley, Environmental Compliance Lead at 978-318-8127 or by e-mail at rosemarie.a.bradley@usace.army.mil or Craig Martin, Project Manager at 978-318-8638 or by email at craig.a.martin@usace.army.mil.

Sincerely,

Wendy Gendron
Chief, Civil / IIS Branch

Enclosures
CD with Draft MRER/EA
Public Notice

Copy Furnished



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

OFFICE OF THE
REGIONAL ADMINISTRATOR

November 14, 2019

Craig Martin
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

RE: Cape Cod Canal Highway Bridges Draft Major Rehabilitation Evaluation Report and Draft Environmental Assessment, Bourne, Massachusetts

Dear Mr. Martin:

We are writing in response to your October 9, 2019 30-day Public Notice requesting comments on the Draft Environmental Assessment (EA) for the Cape Cod Canal Highway Bridges in Bourne, Massachusetts. We submit the following response to the EA in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

The EA was prepared to support decision-making by the U.S. Army Corps of Engineers regarding the identification of a long-term maintenance and operation strategy for the Bourne and Sagamore bridges which were originally constructed in the 1930s. Specifically, the EA evaluates "...whether continued repair and maintenance, major rehabilitation, or replacement of the bridges with new structures will provide safe, efficient transit for vehicular traffic across the Cape Cod Canal." Alternatives considered in the EA include continued bridge repair and maintenance, major rehabilitation, or replacement of the bridges. The EA identifies replacement of both the Bourne and Sagamore Bridges (with four primary and two auxiliary lanes) as the preferred alternative. We have no objections to the selection of the bridge replacement alternative. While the general information provided in the EA is suitable to support decision-making regarding the future plans for both bridges it does not detail the specific impacts of the replacement work. Based on our review of the EA it is our understanding that this information will be provided as part of future NEPA analysis and documentation for the project. As such we recommend that the next phase of the NEPA analysis for the project provide:

- A specific description of staging/laydown areas and alternatives considered for this component of the project construction and demolition work.
- A specific description of construction sequencing for the bridge replacement projects with a focus on the potential for environmental and host community effects including affects on local and regional traffic.

- A comprehensive description of impacts to the Cape Cod Canal and wetland areas affected by the proposed work including a discussion of measures taken to avoid or minimize impacts through project design or best management practices. This discussion should also expand on the discussion in the current EA regarding potential impacts to Nightingale Pond.
- A specific description of how stormwater will be managed during construction and operation of the proposed replacement bridges. The analysis should address both quantitative and qualitative aspects of stormwater management over the life of the proposed project and demonstrate how new bridges will meet water quality/stormwater management regulations. A comparison of existing stormwater management techniques at each bridge location to the proposed condition will serve to highlight additional benefits of the bridge replacement work.

We are willing to work with the Corps as appropriate to help determine appropriate ways to address the issues identified in this letter during the next phase of the project. Please let us know how we can be of assistance. We would also appreciate the opportunity to review and comment on the NEPA scope of analysis for the next phase of the project when appropriate. Thank you for the opportunity to comment on this EA. Please contact me at 617-918-1025 with any comments or questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Timothy L. Timmermann', is written over a light blue horizontal line.

Timothy L. Timmermann
Director, Office of Environmental Review



THE COMMONWEALTH OF MASSACHUSETTS

EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS

OFFICE OF COASTAL ZONE MANAGEMENT

251 Causeway Street, Suite 800, Boston, MA 02114-2136

(617) 626-1200 FAX: (617) 626-1240

November 26, 2019

Mr. Craig Martin
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

Re: CZM Federal Consistency Review of Major Rehabilitation Evaluation Report and accompanying Draft Environmental Assessment for the Cape Cod Canal Bridges, Cape Cod Canal Federal Navigation Project; Bourne.

Dear Mr. Martin:

The Massachusetts Office of Coastal Zone Management (CZM) has completed its review of the Major Rehabilitation Evaluation Report and accompanying Draft Environmental Assessment to ensure consistency with CZM enforceable program policies.

Based upon our review of applicable information, we concur with your certification and find that the activity as proposed is consistent with the CZM enforceable program policies.

If the above-referenced project is modified in any manner, including any changes resulting from permit, license or certification revisions, including those ensuing from an appeal, or the project is noted to be having effects on coastal resources or uses that are different than originally proposed, it is incumbent upon the proponent to notify CZM, submit an explanation of the nature of the change pursuant to 15 CFR 930, and submit any modified state permits, licenses, or certifications. CZM will use this information to determine if further federal consistency review is required.

Thank you for your cooperation with CZM.

Sincerely,

Lisa Berry Engler
Director

RLB/pb
CZM# 18834





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

OFFICE OF THE
REGIONAL ADMINISTRATOR

November 14, 2019

Craig Martin
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

RE: Cape Cod Canal Highway Bridges Draft Major Rehabilitation Evaluation Report and Draft Environmental Assessment, Bourne, Massachusetts

Dear Mr. Martin:

We are writing in response to your October 9, 2019 30-day Public Notice requesting comments on the Draft Environmental Assessment (EA) for the Cape Cod Canal Highway Bridges in Bourne, Massachusetts. We submit the following response to the EA in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

The EA was prepared to support decision-making by the U.S. Army Corps of Engineers regarding the identification of a long-term maintenance and operation strategy for the Bourne and Sagamore bridges which were originally constructed in the 1930s. Specifically, the EA evaluates "...whether continued repair and maintenance, major rehabilitation, or replacement of the bridges with new structures will provide safe, efficient transit for vehicular traffic across the Cape Cod Canal." Alternatives considered in the EA include continued bridge repair and maintenance, major rehabilitation, or replacement of the bridges. The EA identifies replacement of both the Bourne and Sagamore Bridges (with four primary and two auxiliary lanes) as the preferred alternative. We have no objections to the selection of the bridge replacement alternative. While the general information provided in the EA is suitable to support decision-making regarding the future plans for both bridges it does not detail the specific impacts of the replacement work. Based on our review of the EA it is our understanding that this information will be provided as part of future NEPA analysis and documentation for the project. As such we recommend that the next phase of the NEPA analysis for the project provide:

- A specific description of staging/laydown areas and alternatives considered for this component of the project construction and demolition work.
- A specific description of construction sequencing for the bridge replacement projects with a focus on the potential for environmental and host community effects including affects on local and regional traffic.

- A comprehensive description of impacts to the Cape Cod Canal and wetland areas affected by the proposed work including a discussion of measures taken to avoid or minimize impacts through project design or best management practices. This discussion should also expand on the discussion in the current EA regarding potential impacts to Nightingale Pond.
- A specific description of how stormwater will be managed during construction and operation of the proposed replacement bridges. The analysis should address both quantitative and qualitative aspects of stormwater management over the life of the proposed project and demonstrate how new bridges will meet water quality/stormwater management regulations. A comparison of existing stormwater management techniques at each bridge location to the proposed condition will serve to highlight additional benefits of the bridge replacement work.

We are willing to work with the Corps as appropriate to help determine appropriate ways to address the issues identified in this letter during the next phase of the project. Please let us know how we can be of assistance. We would also appreciate the opportunity to review and comment on the NEPA scope of analysis for the next phase of the project when appropriate. Thank you for the opportunity to comment on this EA. Please contact me at 617-918-1025 with any comments or questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Timothy L. Timmermann', is written over a light blue horizontal line.

Timothy L. Timmermann
Director, Office of Environmental Review



December 19, 2019

In Reply Refer To:
HDA-MA

William M. Conde
Colonel, Corps of Engineers
District Engineer
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

Subject: Comments on Major Rehabilitation Evaluation Report (MRER) and Environmental Assessment for the Cape Cod Canal Bridges Study

Dear Colonel Conde:

On November 1, 2018, the Federal Highway Administration's Massachusetts Division Office (FHWA) received an invitation from your agency to become a Cooperating Agency on the subject project. On November 28, 2018, we responded and accepted your invitation. As a Cooperating Agency we offer the following comments.

Regarding the National Environmental Policy Act (NEPA) Environmental Assessment (EA), please be aware that if federal-aid highway funding is anticipated to be used in future stages of the project then some supplemental NEPA analysis will need to be conducted.

Regarding the MRER, we offer the following observations:

- In order to maintain federal-aid highway funding eligibility, the design for this project shall be in accordance with Title 23 Code of Federal Regulations (CFR) Part 625 – Design Standards for Highways; and Title 23 CFR Part 650 Bridges, Structures, and Hydraulics. This includes the American Association of State Highway and Transportation Officials (AASHTO) Policy on Geometric Design of Highway and Streets (also known as “the Green Book”) and the relevant AASHTO bridge design criteria. The Transportation Research Board of the National Academies of Science Highway Capacity Manual should also be used for operational analysis.
- Major bridges of this height and span have a minimum design life of 75 years often with 100 years preferred. The MRER only used a 50-year timeframe for analysis. The design should be based on the longer timeframe.
- Based on the close proximity of the interchanges and intersections at the end of each bridge, current standards for this type of facility include acceleration and deceleration lanes (also known as auxiliary lanes) going onto the bridges in most, if not all, four ends

of the bridges. In final design, analysis will need to be done to determine if the auxiliary lanes should be continuous across each bridge for operational weaving and structural efficiency needs. Depending on the structure type, long span bridges such as these may gain cost efficiency with a uniform width.

Based on the scope of the project, design life expectancy, traffic volumes and operations, and modern design standards, a four-lane bridge alternative does not appear to be practicable without high costs and impacts to significantly reconfigure the approach roadway system. The six-lane alternative will provide the necessary flexibility for a final design to meet modern design standards with a 75- to 100-year design life while minimizing the property, environmental and cost impacts.

If you have any questions or comments, please contact me at (617) 494-1788 or Cassandra Ostrander at (617) 494-3113. We look forward to continuing to participate as a Cooperating Agency on this project.

Sincerely,

Jeffrey H. McEwen, P.E.
Division Administrator

cc: Craig Martin
Rosemarie Bradley



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

DEC 20 2019

Wendy Gendron
Chief, Civil Works/IIS Branch
Department of the Army, Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

Re: Draft Major Rehabilitation Evaluation Report and Environmental Assessment for the
Bourne and Sagamore Bridges

Dear Ms. Gendron:

Thank you for your letter, dated November 6, 2019, requesting our review of the Draft Major Rehabilitation Evaluation Report (MRER) and Environmental Assessment (EA) for the Bourne and Sagamore Bridges spanning the Cape Cod Canal.

As we noted in an email to Rosemarie Bradley on November 19, 2019, the sections of the EA addressing Endangered Species Act (ESA) resources accurately catalog the listed species and critical habitat under our jurisdiction that are present in your project action area. You also correctly included that our chief concern, regardless of the selected alternative, is the safe passage of the endangered North Atlantic right whale, which occasionally migrate through the Canal. It is our understanding that you will work with us to develop protection measures for ESA-listed species during the design phase of the project. We would like to clarify that while you include humpback whales among the listed species that may be present in your action area, the distinct population segment (DPS) of humpback whales expected to be present in the action area (West Indies DPS) is no longer listed as threatened or endangered under the ESA (though it is still protected under the Marine Mammal Protection Act).

Your Draft MRER EA also accurately identifies the project elements that will be of highest concern for potential impacts to essential fish habitat (EFH). We look forward to working with you to ensure impacts to EFH are minimized as the project is fully developed. We do note that there appear to be some issues with the included list of managed fish species with designated EFH in the project area (EA Table 2). The list of species embedded in EA Figure 9, more accurately identifies the species with designated EFH. However, it is missing spiny dogfish and northern shortfin squid. The figure list also states that all life history stages of the species listed occur, but there are multiple species that do not have all life history stages designated in the project area. We would be happy to work with you to develop the full list of species with designated EFH in the project area.

Thank you for the opportunity to review and comment on the Draft MRER EA. We look forward to our continued work with you. If you have any questions regarding this matter, please contact



Alison Verkade at (978) 281-9266 or by email at Alison.Verkade@noaa.gov for information regarding Essential Fish Habitat or other trust resources, or Zach Jylkka at (978) 282-8467 or by email at Zachary.Jylkka@noaa.gov for information regarding threatened and endangered species listed by us under the ESA.

Sincerely,

A handwritten signature in black ink, appearing to read "Jennifer Anderson". The signature is fluid and cursive, with the first name "Jennifer" written in a larger, more prominent script than the last name "Anderson".

Jennifer Anderson
Assistant Regional Administrator
for Protected Resources

EC: Verkade, NMFS HCD; Bradley, Martin, Randall, USACE
File Code: H:\Section 7 Team\Section 7\Non-Fisheries\ACOE\Informal\2019\New England\Cape Cod Canal Bridge Replacement\Pre-Consultation



Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Stephanie Pollack, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



January 22, 2020

William M. Conde
Colonel, Corps of Engineers
District Engineer
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

**Subject: Comments on Major Rehabilitation Evaluation Report (MRER) and
Environmental Assessment for the Cape Cod Canal Bridges Study**

Dear Colonel Conde:

On November 1, 2018, The Massachusetts Department of Transportation (MassDOT) received an invitation from your agency to become a Cooperating Agency on the subject project. On August 29, 2019, MassDOT responded and accepted your invitation. As a Cooperating Agency we offer the following comments on the MRER:

- (1) We concur with the MRER's conclusions and the recommendation in FHWA's, letter dated December 19, 2019, that the preferred alternative is Plan D – Replacement of bridges with 6 lanes (4 lanes plus 2 auxiliary lanes).

Comment 3 of FHWA's letter states:

Based on the close proximity of the interchanges and intersections at the end of each bridge, current standards for this type of facility include acceleration and deceleration lanes (also known as auxiliary lanes) going onto the bridges in most, if not all, four ends of the bridges. In final design, analysis will need to be done to determine if the auxiliary lanes should be continuous across each bridge for operational weaving and structural efficiency needs pending on the structure type, long span bridges such as these may gain cost efficiency with a uniform width.

The design requirements used for the roadways, intersections, and interchanges shall be in accordance with and the 2006 MassDOT Project Development and Design Guide as well as 2018 American Association of State Highway and Transportation Officials (AASHTO) Policy on Geometric Design of Highway and Streets ("the Green Book"). See Chapter 10 of The Green Book which includes Tables 10-4 *Minimum Acceleration Lane Lengths for Entrance Terminals...*, Table 10-5 *Speed Change Lane adjustment factors as a function of grade...*, and Table 10-6 *Minimum deceleration lane lengths for*

Ten Park Plaza, Suite 4160, Boston, MA 02116
Tel: 857-368-4636, TTY: 857-368-0655
www.mass.gov/massdot

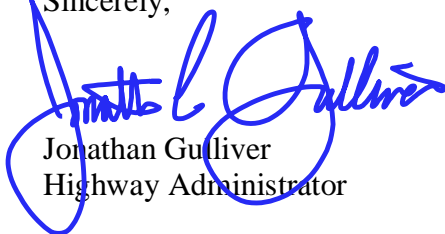
exit terminals...; these dictate the required lengths for this type of facility include acceleration and deceleration lanes (also known as auxiliary lanes).

- (2) Anticipating that MassDOT will be the owner of the future bridges after replacement, the Highway Division will be fully engaged throughout the design and construction process on this critical piece of infrastructure. The desire would be to meet or exceed all of the bridge design standards, including the MassDOT Bridge Manual, LRFD, PDDG and all governing design guidelines.
- (3) There are many participating agencies, and the level of commitment to the project by these agencies are yet to be determined.
- (4) The necessary permitting will adhere to both NEPA and MEPA requirements for both the replacement bridges as well as the approach roadways and ancillary transportation improvements.

MassDOT looks forward to close communication with the U.S. Army Corps of Engineers during the Phase 2 process to help facilitate the Federal and State environmental regulatory and permitting processes. MassDOT is currently working with multiple design consultants for both preliminary design, environmental delineation and survey/base mapping in the Cape Cod Canal Area. That information and data collection will be shared with USACE in the coming months to facilitate the design development process.

If you have any questions or would like additional information, please do not hesitate to contact Andrew Paul in MassDOT's Highway Design office at 857-368-9450 or andrew.paul@state.ma.us

Sincerely,



Jonathan Gulliver
Highway Administrator

Cc: John Bechard, Deputy Chief Engineer of Project Development
Andrew Paul, Highway Design Engineer



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
<http://www.fws.gov/newengland>



December 23, 2019

Wendy Gendron
Programs and Project Management Division
Civil Works/IIS Project Management Branch
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

Ref: Major Rehabilitation Evaluation Report and Environmental Assessment
for the Bourne and Sagamore Highway Bridges (Bourne, MA)
TAILS: 2020-I-0427

Dear Ms. Gendron:

This responds to your correspondence, dated November 5, 2019, and received in our office on November 12, 2019, requesting our review of the above referenced documents. Your request and our response are made pursuant to section 7 of the Endangered Species Act of 1973, as amended (87 Stat. 884, as amended; 16 U.S.C. 1531, *et seq.*; ESA), and section 2(b) of the Fish and Wildlife Coordination Act of 1934, as amended (16 U.S.C. 661-667e).

The U.S. Army Corps of Engineers (Corps) developed an Environmental Assessment (EA) that accompanies the Major Rehabilitation Evaluation Report as the first phase in determining the future of the Cape Cod Canal Highway Bridges. This phase examines potential alternatives at a conceptual level; the Corps will develop a more definitive design in the next phase of analysis. The footprint of the proposed project will include the Bourne and Sagamore bridges plus a 500-foot buffer zone around each, totaling 305 acres.

The proposed project, regardless of the final alternative selection and subsequent design, will largely occur within the footprint of existing developed land (i.e., the bridges and their supporting structures), and therefore, is unlikely to have substantial impacts on wildlife or their habitat. However, we encourage the Corps to consider listed and other high priority species during the planning and implementation of this project, and to pursue any design elements that would minimize impacts and/or provide beneficial impacts to these species or their habitats.

"At-Risk" Species

The following species are not currently listed under the ESA, but they are considered to be at-risk of needing that protection, and they could occur in the vicinity of the proposed project: New England cottontail (*Sylvilagus transitionalis*), frosted elfin butterfly (*Callophrys irus*), wood turtle (*Glyptemys insculpta*), and spotted turtle (*Clemmys guttata*). More information and recommendations for specific conservation measures that may be taken to support these species is available from the Massachusetts Division of Fisheries and Wildlife (<https://www.mass.gov/info-details/list-of-endangered-threatened-and-special-concern-species>).

Federally Listed Species

The proposed project falls within the range of the federally threatened northern long-eared bat (NLEB; *Myotis septentrionalis*), piping plover (*Charadrius melodus*), and red knot (*Calidris canutus*); and the federally endangered northern (Plymouth) red-bellied cooter (*Pseudemys rubriventris*), American chaffseed (*Schwalbea americana*), and roseate tern (*Sterna dougallii dougallii*). With the exception of the NLEB, the Corps determined the proposed project, regardless of the final alternative selection and subsequent design, will have no effect on these species, because habitat for these species is not present in the project area.

In regard to the NLEB, we recommend the Corps consult with the Service, pursuant to section 7 of the ESA, during the design phase of the project to determine if NLEB are present and identify measures to minimize potential impact, as documented on page 39 of the EA.

Thank you for your coordination. We look forward to continuing to work with you as this project develops. Please contact Ms. Cindy Corsair of this office at 401-213-4416 if we can be of further assistance.

Sincerely yours,



acting for
Thomas R. Chapman
Supervisor
New England Field Office

cc: Reading file
ES: CCorsair:jd:12-23-19:401-213-4416

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**MassDOT CAPE COD CANAL TRANSPORTATION STUDY
PRELIMINARY AIR QUALITY EVALUATION**

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HMMH

77 South Bedford Street
Burlington, Massachusetts 01803
781.229.0707
www.hmmh.com

MEMORANDUM

To: Michael Paiewonsky
Stantec
226 Causeway Street, 6th Floor, Boston, MA 02114

From: Philip DeVita, Principal Consultant

Date: February 20, 2018

Subject: Cape Cod Canal Transportation Improvements Study
Preliminary Air Quality Evaluation

Reference: HMMH Project Number 308230

This memorandum summarizes the methods and findings of the preliminary air quality evaluation conducted for the Cape Cod Canal Transportation Improvements Study. The evaluation was conducted based on the conceptual design of potential transportation improvements and future year (2040) traffic forecasts. As such, the study did not include roadway prediction modeling of air quality levels with the U.S. Environmental Protection Agency (EPA) and Federal Highway Administration (FHWA) approved air quality models. Instead, a more qualitative evaluation was conducted to assess the potential for increased or decreased air quality impacts within the study areas utilizing EPA and FHWA guideline criteria.



A detailed air quality study would be conducted during the preparation of an environmental document for future projects once the number of alternatives has been narrowed, and the alternatives selected for study have been refined. These future detailed air quality analysis' would evaluate existing and future air quality impacts associated with project roadways. Impacts will be assessed with respect to the methodologies and assumptions for each pollutant consistent with FHWA and EPA guidance as well as that of the Massachusetts Department of Transportation (MassDOT) and Massachusetts Department of Environmental Protection (MassDEP).

Preliminary Air Quality Evaluation Methodology

HMMH reviewed proposed roadway improvements in connection with four future Build scenarios under study, designated Cases 1, 2, 3 and 3A. Case 3A is considered to be the most complete improvement scenario, and includes the replacement of both the Bourne and Sagamore Bridges. Case 2 represents the complete mid-term improvements, including most of the improvements in Case 3A but without the replacement of the Canal bridges, the relocation of Route 6 Exit 1C, or the addition of an additional westbound travel lane on Route 6.

Consistent with the noise approach, Case 2 and Case 3A were chosen for the air quality assessment. Modeled traffic impacts were also reviewed for the summer and non-summer conditions for each Build Scenario. It was determined the worst-case conditions (i.e. higher traffic volumes) occur during the summer peak period which would correlate to higher (i.e. worst case) air quality impacts. Therefore, HMMH assumed worst-case summer peak period traffic conditions when evaluating Case 2 and Case 3A Alternatives.

Accordingly, a qualitative carbon monoxide (CO), Mobile Source Air Toxics (MSATs), greenhouse gas (GHG), and ozone precursor's volatile organic compounds (VOCs) and nitrogen oxides (NOx) analysis have been prepared. The EPA has designated the Project Area as being in attainment for all the National Ambient Air Quality Standards (NAAQS); therefore, transportation conformity requirements do not apply for this project.

Carbon Monoxide: Analysis for potential impacts for CO was conducted for the roadway and associated intersections that might be impacted by the project for the Existing, future No Build, Build Case 2, and Build Case 3A conditions. Typically, CO is used in microscale studies to indicate roadway pollutant levels since it is the most abundant pollutant emitted by motor vehicles and can result in so-called "hot spot" (high concentration) locations around congested intersections.

Comparison of average daily peak hour (AM and PM) volumes and Level of Service (LOS) along with expected delay and vehicle hours traveled (VHT) at each intersection were conducted for each Alternative and are included in Table 1. A total of twelve intersections were included in the analysis, which were comprised of both existing and future intersections.

Analysis of Table 1 shows that, in general, the LOS for the Peak AM and PM conditions either stay the same or is worse for Case 2 and Case 3A when compared to the future No Build conditions. Similarly, the intersection Peak AM and PM delay, peak volumes and VHT also generally increased for the two Build Alternatives compared to the No Build conditions. There were only a few intersections where the LOS, peak hourly volumes and delay were expected to improve with the Build Conditions compared to the No build. Those intersections were:

1. Forestdale Rd & Route 6 EB Ramps Exit 2
2. Forestdale Rd & Route 6 WB Ramps Exit 2
3. Mid-Cape Connector & Sandwich Rd

The Market Basket Drive & Mid-Cape Connector intersection is also expected to show a slight VHT improvement for the AM condition only under Case 3A as well as the Canal Road & Scenic Hwy/Meetinghouse Lane intersection where a reduction in VHT is expected in the PM only under Case 2. All the remaining intersections are expected to either remain the same or result in a higher LOS, delay and VHT compared to the No Build Alternative. It should also be noted that the total VHT for all the intersections for each Build Alternative are expected to increase compared to the Existing and Future No Build Alternative, with the highest increases expected during the peak PM hours and lower increases in the AM peak hours. Figure 1 shows a comparison of the total peak AM and PM VHT for each Alternative.

Intersection selection criteria for a microscale analysis is typically based on a Level of Service ("LOS") D where the project increases traffic volumes by ten percent or greater, or if the intersection operates at LOS E or F and the project degrades conditions at the location. As is shown in Table 1, there are numerous intersections where the LOS is E or F and the project either increases the traffic volumes by ten percent or greater or the project degrades the conditions at the intersection via increase vehicles and delay.

In summary, it can therefore reasonably be concluded the Project Alternatives could increase traffic volumes and delay at most of the 12 intersections evaluated compared to the No Build Alternative, which could result in an increase of CO emissions compared to the No Build Alternative. A quantitative microscale analysis for the worst-case intersections would be conducted during the preparation of the final environmental document to determine if the project would significantly impact air quality and demonstrate compliance with the CO air quality standards.

Table 1 Summer Peak Hour Traffic for Each Alternative

Summer AM Peak Period					Existing				Future No Build				Case 2					Case 3a				
Signalized Intersections	Control Delay	Volume	VHT	LOS	Control Delay	Volume	VHT	LOS	Control Delay	Volume	Percent Change	VHT	Build - No Build VHT	LOS	Control Delay	Volume	Percent Change	VHT	Build - No Build VHT	LOS		
Forestdale Rd & Rte 6EB Ramps Exit 2	13.7	1790	6.8	A	32.9	2215	20.2	C	41.1	2210	-0.2	25.2	5.0	C	39.6	2205	-0.5	24.3	4.0	C		
Forestdale Rd & Rte 6WB Ramps Exit 2	18.2	1435	7.3	A	17.1	1650	7.8	A	20	1615	-2.1	9.0	1.1	A	19.9	1615	-2.1	8.9	1.1	A		
Tupper Rd & Rte 6A	17.7	980	4.8	A	18.8	1140	6.0	A	19.8	1235	8.3	6.8	0.8	A	19.9	1210	6.1	6.7	0.7	A		
Andy Olivia/Nightingale Pond Rd & Scenic Hwy	8.1	2655	6.0	A	12.8	3115	11.1	B	63	3625	16.4	63.4	52.4	E	62.4	3615	16.1	62.7	51.6	E		
Canal Rd & Scenic Hwy/Meetinghouse Ln	31.6	1615	14.2	B	54.3	1960	29.6	C	94.1	2275	16.1	59.5	29.9	E	101.3	2315	18.1	65.1	36.6	E		
Trowbridge Rd & Veteran's Way	--	--	--	--	--	--	--	--	14.5	1155	1155.0	4.7	4.7	A	7.3	800	800.0	1.6	1.6	A		
Mid-Cape Connector & Sandwich Rd	20.5	2135	12.2	B	23	2565	16.4	B	19.4	2245	-12.5	12.1	-4.3	B	19.8	2280	-11.1	12.5	-3.8	B		
Market Basket Dr & Mid-Cape Connector	10.6	1290	3.8	A	19.5	1545	8.4	A	18.9	1585	2.6	8.3	0.0	A	15.4	1640	6.1	7.0	-1.4	A		
Scenic Highway & Connector Road to Belmont Roundabout	--	--	--	--	--	--	--	--	191.9	3715	3715.0	198.0	198.0	F	195.8	3705	3705.0	201.5	201.5	F		
Bourne Rotary Connector & Sandwich Rd	--	--	--	--	--	--	--	--	0.5	2185	2185.0	0.3	0.3	A	10.4	2525	2525.0	7.3	7.3	A		
Route 3EB on-ramp/Church Ln & Scenic Hwy	19.5	2000	10.8	B	21.1	2360	13.8	B	22.2	2970	25.8	18.3	4.5	B	22	3010	27.5	18.4	4.6	B		
Old Sandwich Rd & Veteran's Way	--	--	--	--	--	--	--	--	16.1	1090	1090.0	4.9	4.9	A	19.2	1540	1540.0	8.2	8.2	A		
Total VHT			65.8				113.3					410.5						424.3				

Summer PM Peak Period					Existing				Future No Build				Case 2					Case 3a				
Signalized Intersections	Control Delay	Volume	VHT	LOS	Control Delay	Volume	VHT	LOS	Control Delay	Volume	Percent Change	VHT	No Build VHT	LOS	Control Delay	Volume	Percent Change	VHT	Build - No Build VHT	LOS		
Forestdale Rd & Rte 6EB Ramps Exit 2	19.8	2090	11.3	B	260.8	2675	199.8	F	311.6	2700	0.9	233.7	39.9	F	327.7	2710	1.3	246.7	52.9	F		
Forestdale Rd & Rte 6WB Ramps Exit 2	25.4	1625	11.5	B	25.4	1885	13.3	B	56.8	1905	1.1	30.1	16.8	C	52.6	1895	0.5	27.7	14.4	C		
Tupper Rd & Rte 6A	24.1	1715	11.5	B	55	2125	32.5	C	63.8	2170	2.1	38.5	6.0	D	66.4	2160	1.6	39.8	7.4	D		
Andy Olivia/Nightingale Pond Rd & Scenic Hwy	9.7	3060	8.2	A	127.2	4095	144.7	F	229.3	4445	8.5	285.1	138.4	F	219.1	4395	7.3	267.5	122.8	F		
Canal Rd & Scenic Hwy/Meetinghouse Ln	102.8	1830	52.3	D	227.2	2670	168.5	F	186.7	2765	3.6	143.4	-25.1	F	249.4	2920	9.4	202.3	33.8	F		
Trowbridge Rd & Veteran's Way	--	--	--	--	--	--	--	--	14.6	1170	1170.0	4.7	4.7	A	9.7	695	695.0	1.9	1.9	A		
Mid-Cape Connector & Sandwich Rd	26.2	2720	19.8	B	61.4	3360	57.3	E	27.7	3015	-10.3	23.2	-34.1	C	60.3	3145	-6.4	52.7	-4.6	D		
Market Basket Dr & Mid-Cape Connector	14.8	1325	5.4	A	39.8	1955	21.6	C	48.9	2085	6.6	28.3	6.7	C	50.7	2250	15.1	31.7	10.1	C		
Scenic Highway & Connector Road to Belmont Roundabout	--	--	--	--	--	--	--	--	199.9	4075	4075.0	226.3	226.3	F	184.4	4030	4030.0	206.4	206.4	F		
Bourne Rotary Connector & Sandwich Rd	--	--	--	--	--	--	--	--	1.5	2920	2920.0	1.2	1.2	A	27.1	3520	3520.0	26.5	26.5	C		
Route 3EB on-ramp/Church Ln & Scenic Hwy	19.1	2420	12.8	B	33.4	3265	30.3	C	52.5	3720	13.9	54.3	24.0	D	51.3	3880	18.8	55.3	25.0	E		
Old Sandwich Rd & Veteran's Way	--	--	--	--	--	--	--	--	15.9	1490	1490.0	6.3	6.3	A	10.8	2105	2105.0	6.3	6.3	A		
Total VHT			132.8				662.0					1073.1						1164.8				

hmmh

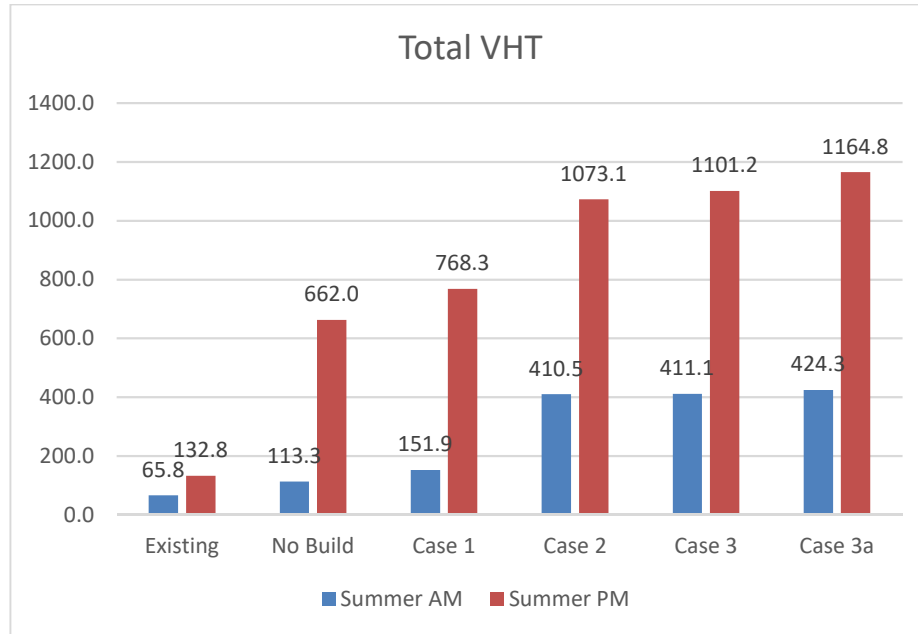


Figure 1 Total Peak Hour VHT for Each Alternative

Mobile Source Air Toxics: The analysis qualitatively evaluated potential impacts from Mobile Source Air Toxics (MSATs) in the Study Area. As the Build Alternatives are not anticipated to add significant capacity to the existing and/or proposed new roadway networks, where design year traffic is projected to be 140,000 to 150,000 annual average traffic (AADT) or greater, the Build Alternatives are best characterized as ones with “Low Potential MSAT Effects” under the 2016 FHWA interim guidance update document¹.

For each alternative, the amount of MSATs emitted would be proportional to the vehicle miles traveled (VMT) which is a function of distance and average daily traffic (ADT), assuming that other variables such as fleet mix are the same for each Alternative. As shown in Table 2, the ADT estimated for each of the Build Alternatives is slightly higher than that for the No Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. The increase in ADT, which will result in an increase in VMT, would lead to overall higher MSAT emissions in the study area for the Build Alternatives, however as shown in the Table 2, there may be localized areas where VMT would increase and other areas where VMT would decrease. Therefore, it is possible that localized increases and decreases in MSAT emissions may occur for both Build Alternatives. For example, the localized increases in MSAT emissions would likely be most pronounced along the Bourne Bridge, sections of Route 3, sections of Route 6, Route 25, Route 28, and Route 130, the Bourne Bridge Off-ramp to Belmont Circle, and the mid Cape Connector on ramp to Route 6 EB.

MSAT decreases could be expected but not limited to areas along the Sagamore Bridge, portions of Route 3 southbound, portions of Sandwich Road and Adams Street, Belmont Circle, portions of Route 25 and Route 6, portions of Main Street, Herring Pond Onramp, Cranberry Highway On-Ramp, Maple Springs Road Onramp, Route 25 EB Off Ramp, and Scenic Highway Westbound Onramp. The emissions increase may be offset somewhat by lower MSAT emission rates due to increased speeds according to the EPA MOVES2014 model where emissions of all the priority MSATs decrease as speed increases.

¹ https://www.fhwa.dot.gov/environMent/air_quality/air_toxics/policy_and_guidance/msat/

Table 2 Summer Adjusted ADT for Each Alternative

ATR Counting Stations	Summer 2014 Summer Adjusted ADT ¹	Future No Build Summer Summer Adjusted ADT	2040 Build - Case 2: ADT Volumes Summer Adjusted ADT	Delta Change - Case 2 vs Future No Build	2040 Build - Case 3A: ADT Volumes Summer Adjusted ADT	Delta Change - Case 3A vs Future No Build
Bourne Bridge	56,500	61,600	69,600	8,000	72,900	11,300
Sagamore Bridge	65,900	93,300	88,700	-4,600	85,300	-8,000
Route 3 SB Off Ramp To Herring Pond Road	4,600	7,900	6,200	-1,700	6,300	-1,600
Route 3 SB Off Ramp To Scenic Highway	3,400	5,000	7,700	2,700	7,700	2,700
Route 3 between Exits 1A and 2	46,500	72,400	79,000	6,600	77,500	5,100
Route 6 Between Exits 1 & 2	72,300	90,600	91,700	1,100	92,400	1,800
Route 25 west of Exit 2	62,900	78,900	84,800	5,900	85,000	6,100
Route 25 east of Exit 2	24,500	26,200	32,800	6,600	33,000	6,800
Route 6A East of Tupper Road	12,400	15,100	14,700	-400	14,400	-700
Route 6 (Scenic Hwy) east of Nightingale Rd	33,600	36,200	47,900	11,700	47,500	11,300
Sandwich Rd East of Bourne Rotary Connector	30,800	33,400	31,100	-2,300	32,200	-1,200
Sandwich Road west of Jillian Drive	31,200	34,600	33,200	-1,400	34,300	-300
Sandwich Road East of Adams Street	11,700	14,900	15,700	800	15,100	200
Adams Street South of Sandwich Road	7,600	11,800	1,100	-10,700	1,000	-10,800
Belmont Circle On Ramp to Bourne Bridge	8,600	11,800	10,300	-1,500	10,200	-1,600
Belmont Circle On Ramp to Route 25 WB	12,100	12,200	3,400	-8,800	3,400	-8,800
Bourne Bridge Off Ramp to Belmont Circle	7,200	7,100	11,700	4,600	12,600	5,500
Buzzards Bay Bypass	7,900	8,800	8,500	-300	8,600	-200
Cranberry Highway On Ramp to Route 6 WB	6,500	11,100	7,000	-4,100	6,100	-5,000
Gen Charlie Road On Ramp to Route 25 EB	2,200	2,000	2,400	400	2,500	500
Main Street West of Perry Avenue	25,600	28,500	26,800	-1,700	26,800	-1,700
Mid-Cape Connector South of Sandwich Rd	19,100	28,500	30,100	1,600	32,600	4,100
Route 151 On Ramp to Route 28 NB		5500	6800	1,300	6800	1,300
Route 151 On Ramp to Route 28 SB		1,600	2,400	800	2,300	700
Route 28 NB Off Ramp to Route 151		600	1500	900	1500	900
Route 28 SB Off Ramp to Route 151		5500	7300	1,800	7300	1,800
Route 25 EB Off Ramp to Belmont Circle	9,000	11,200	13,500	2,300	11,900	700
Route 25 EB Off Ramp to Maple Springs Rd	7,300	14,800	11,300	-3,500	11,000	-3,800
Route 3 NB Off Ramp to Herring Pond Road	1,800	3,100	3,700	600	3,700	600
Route 6 EB Off Ramp to Mid-Cape Connector	5,900	8,600	8,600	0	8,100	-500
Route 6 EB Off Ramp to Quaker Meeting House Rd	1,300	1,700	1,700	0	1,800	100
Route 6 EB Off Ramp to Route 130	7,000	15,700	19,600	3,900	20,000	4,300
Route 6 WB Off Ramp to Cranberry Hwy	5,500	3,800	4,400	600	4,500	700
Route 6 WB Off Ramp to Meetinghouse Lane EB	4,700	4,500	4,600	100	4,600	100
Route 6 WB Off Ramp to Quaker Meetinghouse Rd	1,000	2,300	1,600	-700	1,600	-700
Route 6 WB Off Ramp to Route 130	2,200	2,000	2,000	0	1,900	-100
Route 6 WB Off Ramp to Scenic Hwy WB	11,800	13,400	13,800	400	13,800	400
Herring Pond Road On Ramp to Route 3 NB	4,400	5,500	5,700	200	5,600	100
Herring Pond Road On Ramp to Route 3 SB	2,500	7,800	6,700	-1,100	6,700	-1,100
Maple Springs Rd On Ramp to Route 25 WB	6,900	11,000	8,900	-2,100	9,000	-2,000
Mid Cape Connector On Ramp to Route 6 EB	12,500	12,500	13,500	1,000	16,000	3,500
Quaker Meeting House Rd On Ramp to 6 EB	2,700	4,400	3,900	-500	3,800	-600
Quaker Meeting House Rd On Ramp to Route 6 WB	1,000	1,100	1,600	500	1,600	500
Route 130 North of Route 6	12,200	12,500	11,300	-1,200	11,400	-1,100
Route 130 On Ramp to Route 6 EB	2300	1800	1400	-400	1400	-400
Route 130 South of Route 6	24,500	28,600	32,300	3,700	32,200	3,600
Route 130 On Ramp to Route 6 WB	9,400	12,300	15,300	3,000	15,100	2,800
Scenic Hwy EB On Ramp to Sagamore Bridge	9400	11100	9900	-1,200	8100	-3,000
Scenic Hwy WB On Ramp to Sagamore Bridge	3600	6700	4000	-2,700	3800	-2,900
State Road North of Ramp to Route 3 NB	5700	8200	8300	100	8400	200
Trowbridge Road West of Veterans Way	7300	12000	10100	-1,900	4400	-7,600
NEW Belmont Circle On Ramp to Route 25 WB				0		0
Totals		921,700	940,100	18,400	935,700	14,000
Change			1.99		1.52	

Regardless of the option chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 90 percent 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

Mesoscale Analysis: A mesoscale analysis is typically performed to calculate the potential regional air quality impact of the project using as a measure the total daily emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NOx) within the project area. Calculations are typically performed to compare area-wide emissions for future Build scenarios with the Existing and future No-Build conditions. Typically, emission factors for each pollutant are generated for each roadway link using the EPA emission models based on vehicle miles traveled, vehicle speeds and other roadway data relative to the Project. Table 2 shows the summer adjusted ADT for the Existing, future No Build and Build Alternatives affected links. As discussed above in the MSAT section, Summer ADT is expected to slightly increase with the Build Alternatives compared to the future No-Build Alternative. As a result, overall emissions of VOCs and NOx could also slightly increase with the Build Alternatives. Similar to the MSAT analysis, there are localized areas where increases and decreases could occur and some increases may be mitigated due to increased vehicle speeds. Given the relatively small expected ADT increase associated with the Build Alternatives of approximately 2.0 percent and 1.5 percent relative to the total VMT's in the region, it is unlikely that this portion of the project would result in a substantial change in emissions or any subsequent direct or indirect impacts to the mesoscale analysis. A quantitative mesoscale analysis will be conducted during the preparation of the final environmental document, once the number of alternatives has been narrowed, and the alternatives selected for study have been refined.

Greenhouse Gases: The transportation system is a critical component of the Commonwealth of Massachusetts' infrastructure and contributes over one third of the Bay State's greenhouse gas (GHG) emissions. The Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA), in consultation with other state agencies and the public, released the Massachusetts Clean Energy and Climate Plan for 2020. This implementation plan establishes targets for overall, statewide GHG emissions:

- By 2020, 20 percent reduction below statewide 1990 GHG emission levels;
- By 2050, 80 percent reduction below statewide 1990 GHG emission levels

In 2010, the Massachusetts Department of Transportation (MassDOT) responded to these challenges by launching the GreenDOT Policy. GreenDOT was developed to reduce GHG emissions, improving public health, and leading on environmental stewardship. In addition, Executive Orders 484 *Leading by Example* and 515 *Environmental Purchasing Policy*, require state agencies to invest public resources in ways that support environmental sustainability by conserving energy and water, implementing efficiency measures, and producing or purchasing renewable energy. Taken together, these acts and policies form the foundation for the GreenDOT Policy. The GreenDOT Policy Directive, released in June 2010, set forth the primary goals of reducing GHG emissions; promoting the healthy transportation modes of walking, bicycling, and public transit; and supporting smart growth development. The Cape Cod Regional Transportation Plan (RTP) reflects the vision of the GreenDOT Policy with the Multimodal Options/Healthy Transportation Goal, including a *Performance Measure* reflecting the state Mode Shift Goal. The Cape Cod Commission conducted a GHG analysis as part of the 2016 Regional Transportation Plan². Anticipated GHG impacts from nine specific regional target projects were conducted. Two of those projects, 1) Belmont Circle/Route 25 Ramp Improvements and 2) Route 6 Exit 1C reconfiguration were included in the GHG analysis. The results of the anticipated GHG impacts from these two projects were documented as "quantified decrease in emissions from traffic operation improvement-to be verified by statewide modeling". Similarly, any increase or decreases in GHG emissions for the Build

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[http://www.capecodcommission.org/resources/transportation/rtp/2016/FinalReport/Appendices/RTP%20Appendix%20N%20-%20Greenhouse%20Gas%20Analysis%20\(Endorsed%207-20-15\).pdf](http://www.capecodcommission.org/resources/transportation/rtp/2016/FinalReport/Appendices/RTP%20Appendix%20N%20-%20Greenhouse%20Gas%20Analysis%20(Endorsed%207-20-15).pdf)

Alternatives would need to be quantified in the final environmental document to account for VMT and vehicle speeds for the Build Alternatives compared to the No Build.



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