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State  
(S)

DEAN AND DIRECTOR  
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Durham, NH 03824-3587  
(603) 862-1520  
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UNIVERSITY of NEW HAMPSHIRE  
COOPERATIVE EXTENSION

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September 6, 2006

Mr. James Moore *JMM 9/7/06*  
Director of Project Development  
P.O. Box 483  
Concord, NH 03302

Dear Mr. Moore,

UNH Cooperative Extension is very much in support of the effort to permanently preserve the Tuttle property in Dover. I would like to request that you include this letter as part of the Public Hearing record for the Newington-Dover 11238 project. It's a historical property and the oldest family farm in America. This is an irreplaceable asset, something that New Hampshire cannot afford to lose. Additionally, protecting open space is a high priority in this state. New Hampshire is losing an estimated 12,000 to 20,000 acres of open space each year.

Farms and forests protect our water and air quality and contribute greatly to our quality of life. Open spaces are an economic value for the residents of the community. The low cost of community services produce a comparatively small drain on the tax burden. A farm operation like Tuttle's provides an important component of our tourism industry and yields environmental, economic and historic value for the community.

UNH Cooperative Extension has invested considerably in programming related to the permanent protection of open space and have worked to help communities address their needs in sustaining natural resources and improving the economy. We wish you and the City of Dover well in this endeavor. Please don't hesitate to call upon us to assist with our educational programs in helping the community accomplish its goals.

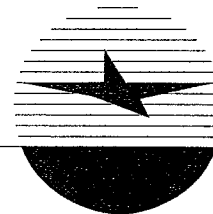
*John E. Pike*

Dean & Director

**Response to Comments Made by  
John E. Pike, Dean and Director  
UNH Cooperative Extension – Taylor Hill  
56 College Road, Durham, NH 03824-3587  
Letter dated September 6, 2006**

1. The Tuttle Farm has been identified as one of four preferred components of the recommended mitigation package for the project. In response to the property owner's request, the NHDOT, in partnership with the City of Dover, have expedited the acquisition of a conservation easement on the Tuttle Farmstead to permanently preserve the 120-acre farm. The preservation was consummated on January 29<sup>th</sup>, 2007 with the conservation easements executed and property rights on 109.1 acres transferred to the City, the NHDOT, and Strafford Rivers Conservancy (SRC). A second conservation easement on 11.0 acres was secured on September 14, 2006 through the Farm and Ranch Land Protection Program with easement rights held by the City, SRC and US Department of Agriculture.

# PEASE DEVELOPMENT AUTHORITY



360 Corporate Drive, Pease International Tradeport, Portsmouth, NH 03801  
 (603) 433-6088 Fax: (603) 427-0433 TDD: Relay NH 1-800-735-2964

September 21, 2006

The Honorable Ruth Griffin  
 Executive Councilor Special Committee Chair  
 The Honorable peter Spaulding Executive Councilor  
 The Honorable Raymond T. Weikzorek, Executive Councilor

Re: Newington-Dover Project 11230

Dear Special Committee Chair Griffin:

This is to memorialize the support of the Directors of the Pease Development Authority for the preferred alternative as described in the Layout Petition and further identified as Alternative 13 of the Little Bay Bridges and approaches improvements project and officially known as the Newington-Dover Project 11238.

During a regular business meeting this morning the Board of Directors of PDA voted in support of the proposal. They concur the preferred alternative will provide congestion relief and enhance the safety for those traveling the Spaulding Turnpike to work and to engage in business at the Tradeport. It is also recognized a new northerly entrance at Interchange 3 will help disperse travel patterns within the Tradeport and make a Pease presence more valued.

The Pease Development Authority is pleased the preferred alternative provides for the possibility of future railroad service to the Tradeport via an elevated crossing of the turnpike. The preservation of the right of way for a future build, while enabling a lower profile of the Turnpike is a demonstration of accommodations made by Town of Newington officials, NHDOT officials, and the PDA.

We wish to thank the NHDOT project staff and also the staff of the consulting engineering firm Vanasse, Hangen, Brustlin for the cooperation in development of the project options and accommodating concerns expressed during the extensive project development process.

We urge the Committee's rapid approval of the proposal and that construction be realized with all deliberate speed.

Sincerely,

Leon S. Kenison, P.E.  
 Facilities Director

cc: Richard Green, Executive Director

N:\ENGINEER\Leon\Letters\Newington Dover.doc

**Response to Comments Made by  
Leon S. Kenison, P.E., Facilities Director  
Pease Development Authority  
360 Corporate Drive, Pease International Tradeport  
Portsmouth, NH 03801  
Letter dated September 21, 2006**

1. The NHDOT and FHWA acknowledge and appreciate the PDA's support and will progress the project, as proposed, as expeditiously as possible.



JOHN H. LYNCH  
GOVERNOR

STATE OF NEW HAMPSHIRE

OFFICE OF ENERGY AND PLANNING

57 Regional Drive, Suite 3  
Concord, NH 03301-8519  
Telephone: (603) 271-2155  
Fax: (603) 271-2615



www.nh.gov/oep

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MEMORANDUM

*Jan 10/3/08*

**TO:** James A. Moore, Director of Project Development  
NH Department of Transportation

**FROM:** Jennifer DeLong, Assistant State Coordinator  
National Flood Insurance Program

**DATE:** September 28, 2006

**SUBJECT:** Newington-Dover  
11238

RECEIVED  
COMMISSIONERS OFFICE

OCT 02 2006

THE STATE OF NEW HAMPSHIRE  
DEPT. OF TRANSPORTATION

I am writing in reference to the U.S. Army Corps of Engineers Joint Public Notice regarding the proposed improvement to the Spaulding Turnpike (NH Route 16) in Newington and Dover. I have detailed my comments on this proposed project below.

I have reviewed the Flood Insurance Rate Maps (FIRMs) for the proposed project area and have enclosed the portion of the FIRMs in the project area that contain special flood hazard areas. The Spaulding Turnpike in the project area appears to be near or crosses through the special flood area (Zone A and AE).

The City of Dover and the Town of Newington are both participating communities of the National Flood Insurance Program (NFIP). Therefore, if any development takes place within the special flood hazard area, the city and town should be contacted to assure that the proposed project meets the NFIP requirements contained in the city's and town's floodplain ordinance. Development is defined under NFIP as "any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials."

1

Another applicable NFIP regulation that is contained in a community's floodplain ordinance is the following:

Until a Regulatory Floodway is designated along watercourses, no new construction, substantial improvements, or other development (including fill) shall be permitted within Zone AE on the FIRM, unless it is demonstrated by the applicant that the cumulative effect of the proposed development, when combined with all existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

TDD Access: Relay NH 1-800-735-2964

1

OEP is not authorized by the Federal Emergency Management Agency (FEMA) to make final determinations on the impacts of floodplain development. The NH Department of Transportation (DOT) should use its best judgment in determining if further study is necessary. If DOT feels that the proposed construction will have a negligible effect on flooding dynamics then additional coordination with FEMA is likely not necessary.

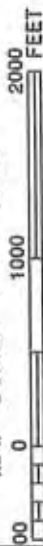
If you need further assistance, please contact me at 271-2155 or [jennifer.delong@nh.gov](mailto:jennifer.delong@nh.gov).

Thank you.

National Flood Insurance Program at 1-800-638-6620.



MAP SCALE 1" = 1000'



**NATIONAL FLOOD INSURANCE PROGRAM**

PANEL 0255E

**FIRM FLOOD INSURANCE RATE MAP**  
**ROCKINGHAM COUNTY,**  
**NEW HAMPSHIRE**  
**(ALL JURISDICTIONS)**

PANEL 255 OF 681

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS	NUMBER	PANEL	SUFFIX
GREENLAND, TOWN OF	330270	255E	F
NEWINGTON, TOWN OF	330220	255E	E
PORTSMOUTH, CITY OF	330230	255E	E

*Notice to User: The Map Number shown below should be used when placing map orders. The Community Identification Number should be used on insurance applications for the affected community.*

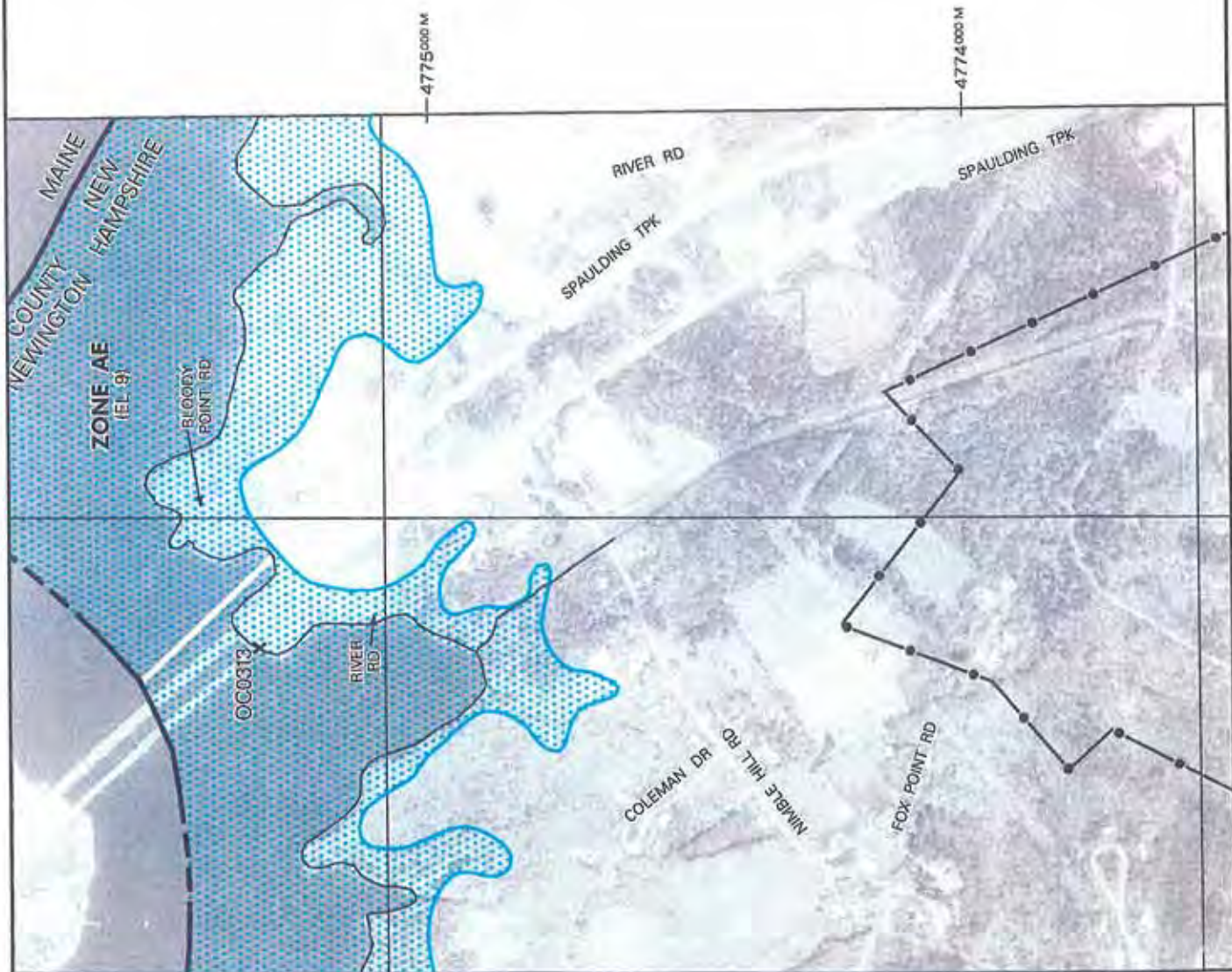


MAP NUMBER  
33015C0255E

EFFECTIVE DATE  
MAY 17, 2005

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)





National Flood Insurance Program at 1-800-638-6620.

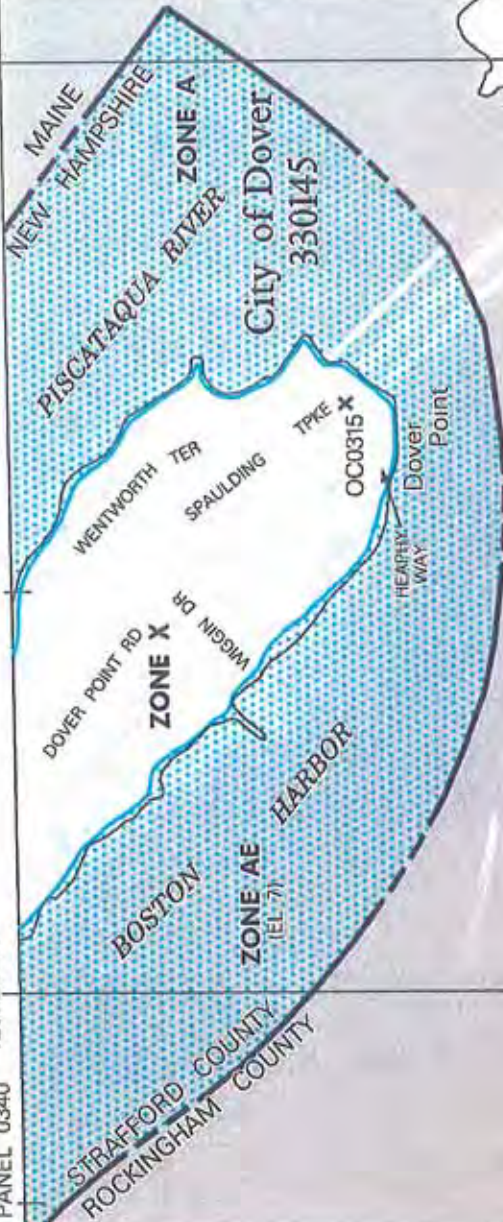


MAP SCALE 1" = 1000'

0 1000 2000 FEET

1210000 FT

PANEL 0340 1205000 FT



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0405D

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
 STRAFFORD COUNTY,  
 NEW HAMPSHIRE  
 (ALL JURISDICTIONS)

PANEL 405 OF 405  
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DOVER CITY OF	330145	0405	D
DOVER TOWN OF	330146	0405	D

Notes to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

SEAL OF THE SECRETARY OF ADMINISTRATION  
 STATE OF NEW HAMPSHIRE

MAP NUMBER  
 33017C0405D  
 EFFECTIVE DATE  
 MAY 17, 2005

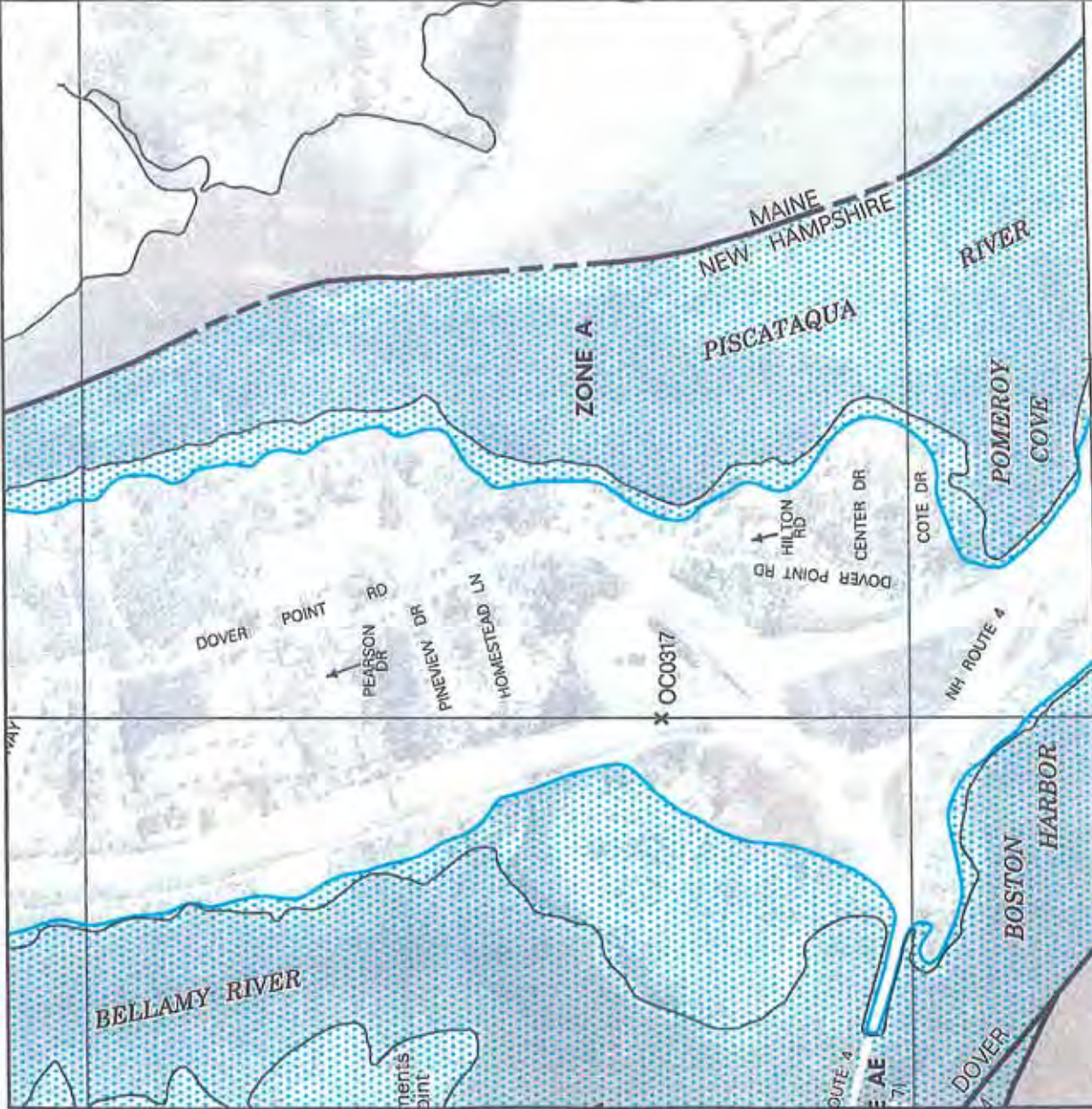
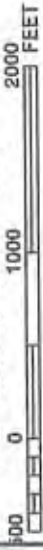
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

National Flood Insurance Program at 1-800-658-6620.



MAP SCALE 1" = 1000'



**NFIP** PANEL 0340D

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
 STRAFFORD COUNTY,  
 NEW HAMPSHIRE  
 (ALL JURISDICTIONS)

**PANEL 340 OF 405**

USE MAP INDEX FOR FIRM PANEL LAYOUT

CONTAINS	NUMBER	PANEL	SUFFIX
DOVER CITY OF	33045	0340	D
DUNHAM TOWN OF	33046	0340	D
MADRIBT TOWN OF	33029	0340	D

Notice to User: This map number, shown below, should be used above flood insurance applications for the subject community. The Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER**  
33077C0340D

**EFFECTIVE DATE**  
MAY 17, 2005

**FEDERAL EMERGENCY MANAGEMENT AGENCY**

**NATIONAL FLOOD INSURANCE PROGRAM**

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)



**SPECIAL FLOOD HAZARD AREAS (SFHAS) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.



**FLOODWAY AREAS IN ZONE AE**

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.



**OTHER FLOOD AREAS**

- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.



**OTHER AREAS**

- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.



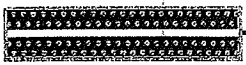
**COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**



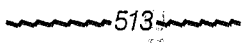
**OTHERWISE PROTECTED AREAS (OPAs)**

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

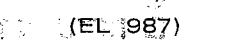
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary



Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.



Base Flood Elevation line and value; elevation in feet\*



Base Flood Elevation value where uniform within zone; elevation in feet\*

\*Referenced to the National Geodetic Vertical Datum of 1929



Cross section line



Transect line

**Response to Comments Made by  
Jennifer DeLong, Assistant State Coordinator  
National Flood Insurance Program  
Office of Energy and Planning  
57 Regional Drive, Suite 3, Concord, NH 03301  
Letter dated September 28, 2006**

1. Floodplain impacts were evaluated during development of the project and are fully documented in the EIS. The Selected Alternative would affect a total of 3.9 acre-feet of 100-year floodplain volume. The majority of this impact (2.7 acre-feet) is associated with the expansion of the bridge piers.

The floodplain impacts are considered negligible in the context of the tremendous volume of Little Bay and will have a negligible effect on the base flood elevations in the area. Likewise, changes to the hydraulic characteristics in the channel would have negligible effects on tidal flooding.

A hydrodynamic model was built to analyze the potential effects of the project on the estuary and provided information on tidal heights throughout the estuary. The model compared the existing condition with the Selected Alternative and predicted that the pier extensions may change tidal maxima on the order of 0.1 to 0.2 inches, depending on the tidal condition and the location in the estuary. Similarly, current velocities and directions are expected to change only minimally. Thus, effects on local and regional flooding resulting from the additional fill in the Little Bay are considered to be negligible.

Direct impacts to the 100-year floodplain have been minimized in the preliminary design, and they will continue to be considered during the final design by steepening highway embankments and using retaining walls, where appropriate. Additionally, as part of the mitigation package, several tracts of land within the watershed of the project corridor will be permanently preserved to offer floodplain protection.

The NHDOT and FHWA have and will continue to coordinate the project with both Dover and Newington and will seek to further minimize floodplain impacts during the project's final design, to the extent practicable. A formal E.O. 11988 Floodplain Finding that applies specifically to the Selected Alternative is presented in Section 4.11.6 of the Final EIS. That finding concludes that there is no practicable alternative to the proposed construction in floodplains and that the Selected Alternative includes all practicable measures to minimize harm to floodplains.



New Hampshire Estuaries Project  
University of New Hampshire  
Hewitt Annex, 54 College Road  
Durham, NH 03824-2601

October 5, 2006

Christopher Waszczuk, P.E.  
Project Manager  
New Hampshire Department of Transportation  
P.O. Box 483  
Concord, NH 03302-0483

**Re: Spaulding Turnpike Improvements  
NHS-027-1(37), 11238  
Draft Environmental Impact Statement (July 2006)**

Dear Mr. Waszczuk:

The New Hampshire Estuaries Project (NHEP) is part of the U.S. Environmental Protection Agency's (EPA's) National Estuary Program which is a joint local/state/federal program established under Section 320 of the Clean Water Act with the goal of protecting and enhancing nationally significant estuaries. The NHEP's Comprehensive Conservation and Management Plan for New Hampshire's estuaries was completed in 2000 and implementation is ongoing. The Management Plan outlines key issues related to management of New Hampshire's estuaries and proposes strategies that are expected to collectively preserve and protect the state's estuarine resources.

1

The NHEP's priorities were established by local stakeholders and include water quality improvements, shellfish resource enhancements, habitat protection, improved land development patterns, habitat restoration, and outreach activities to develop broad-based support and encourage involvement of the public, local governments, and other interested groups. The NHEP and its many partners undertake projects and activities to address these priorities in the New Hampshire coastal watershed. The coastal watershed that drains water into the state's major estuary systems -- the Great Bay Estuary and Hampton-Seabrook Harbor -- and other coastal waters via rivers and streams spans three states with approximately 80 percent of the area located in New Hampshire. The NHEP works with 42 New Hampshire communities that are entirely or partially located within the area.

2

The NHEP, in collaboration with the University of New Hampshire and the NH Department of Environmental Services, monitors water quality in the Great Bay estuary and Piscataqua River to document the status and trends of bacteria, nitrogen, dissolved oxygen, toxic contaminants and many other parameters. Nonpoint source pollution from stormwater runoff has been a major focus of the indicator monitoring. Therefore, the NHEP is concerned about increased stormwater runoff from the new impervious surfaces that will be created by the Spaulding Turnpike improvements. We feel that NHDOT should provide support for water quality monitoring to verify that the improvements do not significantly affect water quality. Our two major comments are listed in the following sections.

3

1. Section 4.9.7: The preferred alternative for the Spaulding Turnpike improvements will increase impervious surfaces in the watersheds of three major tidal waters: Little Bay, Bellamy River, and Upper Piscataqua River. The analysis of impervious surface creation in the EIS predicts a minimal impact on water quality due to this increase. However, the analysis in the EIS relied on predicted removal efficiencies of the proposed BMPs. The UNH Stormwater Center has documented that some BMPs do not perform as well as

3

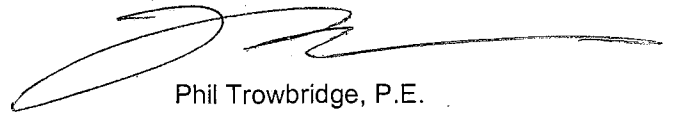
expected (UNH, 2006, [www.unh.edu/erg/cstev/](http://www.unh.edu/erg/cstev/)) and all systems perform poorly if they are not maintained. It is possible that pollutant loadings to the estuary from stormwater may be higher than predicted by the analysis in the EIS and some water quality monitoring is needed to confirm the initial predications. Therefore, the NHEP recommends that NHDOT add long-term support for water quality trend monitoring in Little Bay, Bellamy River and the Upper Piscataqua River to the mitigation package described in section 4.9.7 of the EIS. The annual costs for this water quality trend monitoring would be approximately \$25,000.

4

2. Section 4.9.7: The preferred alternative will impact 1,190 square feet of mussel bed beneath the expanded footprint of Pier 8. The NHEP and the Gulf of Maine Council have used this mussel bed since 1994 to monitor toxic contaminants in mussel tissue. The coordinates for the sampling station are 43.1197 N latitude and 70.8273 W longitude. The station is located between Pier 8 and the Dover shoreline. It would be impossible to replace this long-term monitoring station and the proposed work should avoid this area during construction. If this station is not disturbed, the mussel sampling station would be ideally located to monitor the cumulative effects of increased stormwater runoff from the new roadway. Funding from both the Gulf of Maine Council and the NHEP to monitor this station is tenuous. NHDOT should agree to provide long-term funding to maintain this sampling station to confirm the predictions in the EIS that pollutant loads of PAHs and toxic metals from the roadway surface have not been significantly increased. The annual cost for mussel tissue monitoring at this station is approximately \$5,000.

Thank you for the opportunity to comment on the Draft EIS. The NHEP is willing to work with NHDOT on technical details for the proposed monitoring programs before the EIS is finalized. If you have any questions, please contact me at (603) 271-8872.

Sincerely,



Phil Trowbridge, P.E.  
NHEP Coastal Scientist

Cc: Doug DePorter, NHDOT  
Cynthia Copeland, SRPC  
Jennifer Hunter, NHEP  
Ted Diers, NHCP

**Response to Comments Made by  
Phil Trowbridge, P.E., NHEP Coastal Scientist  
University of New Hampshire  
Hewitt Annex, 54 College Road  
Letter dated October 5, 2006**

1. & 2. The NHDOT and FHWA concur that the Great Bay Estuary is a valuable resource, and that water quality protection is of the highest importance. The NHDOT and FHWA will provide adequate stormwater treatment using various BMPs in coordination with the UNH Stormwater Center and NHDES to avoid and/or minimize any adverse water quality effects associated with the project. Since NHDES is responsible for monitoring pollutants in the Great Bay, the NHDOT and FHWA will coordinate with NHDES and as practicable will assist and facilitate with their monitoring effort.
3. The NHDOT has worked with NHDES to develop the stormwater treatment needs and the available methods to assess the potential water quality impacts associated with roadway runoff. The NHDOT has also collaborated with the University of New Hampshire (UNH) Stormwater Center to explore the latest in innovative treatment measures, such as gravel wetlands and infiltration measures that can provide a high level of treatment for the various pollutants associated with highway runoff. As a result of this effort with the University and coordination with NHDES, the most current best management practices (BMPs) and design guidance will be incorporated into the water quality treatment measures. A predictive modeling procedure provided by NHDES will determine appropriate stormwater treatment measures, and will also be used to show that to the extent practicable, the estimated future pollutant loads resulting from the expanded roadway area will not increase over the existing conditions.
4. The NHDOT and FHWA will coordinate with the NH Estuaries Program to avoid any impacts to the sampling station located between Pier 8 and the Dover shoreline during construction. There will be no direct impacts to the station associated with the project and therefore mitigation is not warranted. The NHDOT and FHWA will work with NHDES to facilitate their monitoring efforts at the sampling station.

CHH -

MBL  
cc: C. Waszczuk  
B.O. Donnell



# New Hampshire Fish and Game Department

Region 3

225 Main Street, Durham, NH 03824-4732  
(603) 868-1095  
Headquarters: 11 Hazen Drive, Concord, NH 03301  
(603) 271-3421

FAX (603) 868-3305  
TDD Access: Relay NH 1-800-735-2964  
Web site: www.wildlife.state.nh.us

Lee E. Perry  
Executive Director

October 3, 2006

49

Mr. Marc G. Laurin  
N. H. Department of Transportation  
7 Hazen Drive  
Concord, N.H. 03302

Subject: Newington-Dover, 11238 NHS - 027 - 1 (037)

Dear Mr. Laurin,

New Hampshire Fish and Game Department, Marine Fisheries Division, has reviewed the Draft Environmental Impact Statement (EIS) Vols 1, 2 & 3 and Executive Summary for the Spaulding Turnpike improvements - Newington to Dover. Our main focus has been directed to those project features that may impact marine and estuarine resources. Certainly, the expansion of the eight bridge piers received our close attention. While the preferred alternative is generally one that we favor over other options, there are still some aspects of this plan that concern us.

1

The westerly expansion of the existing bridge piers will completely eliminate approximately one half acre of benthic habitat. New Hampshire Fish and Game Department believes the section of the Draft EIS that touches on the existing conditions in the bridge pier area (i.e., 3.10.3 and Fig. 3-10-1) provides insufficient information for the characterization of this habitat. The total loss of this habitat should not occur without a more complete characterization of the community that occupies the area and that will be completely lost. This comment applies only to the sketchy treatment given fish and invertebrates where the areas' inhabitants are incompletely listed or simply implied based on the physical habitat and algal community. Apparently, there has been no sampling (other than for algae) in the area that will be lost. There is still time to undertake some actual collection of bottom fish and invertebrates here and this should be done before the construction goes ahead. We recognize the area is a difficult one to work in, but we are confident an improved sampling program can be planned that will yield a better understanding of the significance of the benthic community loss required for this project.

2

A better understanding of the near half-acre of bottom habitat required for the bridge pier extensions may serve as a basis for some suitable mitigation strategy. Depending on the areas' use by species of economic or ecosystem value further consideration as to the need for this can be made.



3

The methods and schedule for bridge pier work are not fully explained in the EIS. These project elements will be of keen interest to NHF&G and should be made available for our review as soon as possible.

In addition to the above substantive comment, a reading of the EIS shows many other less important errors. Some of the more notable ones are listed below:

4

- ES-22 NPDES stands for National Pollutant Discharge Elimination System.

Vol 1

5

- 3-107 Several taxonomic binomials listed in this section are in error and this was brought to the attention of NHDOT in our letter of comment on the Scoping Report (J. I. Nelson to C. M. Waszczuk, 4/2/04). They remain incorrect.

6

- 3-130 NHF&G has previously offered corrections of some of this information in 3.9.3.6 by letter, J. I. Nelson to C. M. Waszczuk, 4/2/04. The same errors are once again noted.

7

- 3-132 Section 3.10.1 Arthur Mathieson is a phycologist (not a psychologist).

8

- 4-125 et seq. Here the EIS discusses the construction impact of the bridge pier extensions. What is missing is some consideration for the possibility that the operation may affect the movement of anadromous fish through the very narrow Dover Point tidal race that joins the Gulf of Maine and Great Bay (including its estuarial rivers). Clearly this water course passage is a key point for anadromous fish stocks seeking the spawning areas provided by the Oyster, Lamprey and Squamscott Rivers. Fish species of concern include rainbow smelt, alewife, blueback herring and shad. It will be extremely important that bridge construction be done in a way that does not cause migrating fish to avoid passage through the Dover Point area and thereby forego a seasonal spawning run. What is at risk is a total year class failure, something these fish stocks may suffer from over subsequent years.

9

- 6-8 A misspelling of Dr. Barbaroe Cellikol.

10

- 7-4 Mr. John Nelson's address is incorrect. He is at 225 Main Street, Durham, NH 03824.

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- Appendix A. The NHF&G letter of comment on the project's Scoping Report (J. I. Nelson to C. M. Waszczuk, 4/2/04) is seen as one of many agency correspondences received. What is distressing is that the same errors brought to the attention of NHDOT at that time are not corrected in the EIS.

This concludes our specific comment.

NHF&G appreciates the opportunity to participate with NHDOT in the planning of this very important project. We have no doubt as to the need for some future improvement in traffic movement at this location. However, we are very concerned as to the critical importance of this area as a conduit of coastal living resources to the Great Bay system and want to do our part to ensure the project goes forward with suitable environmental safeguards.

If there are questions on this matter, please feel free to contact me.

Sincerely,



John I. Nelson  
Chief Marine Fisheries

JIN/BWS/rmj

**Response to Comments Made by  
John Nelson, Chief Marine Fisheries  
NH Fish and Game Department, Region 3  
255 Main Street, Durham, NH 03824-4732  
Letter dated October 3, 2006**

1. So noted.
2. The most extensive information on the general ecology of the area under and near the bridges is provided from a series of field studies conducted during the 1970s by Arthur Mathieson, a psychologist at UNH and senior scientist at Jackson Estuarine Laboratory, and colleagues. These studies represent most of the published research in the immediate area of the bridges.

Bottom types and habitat types were characterized based on several methods. Intertidal bottom types and habitat types were preliminarily mapped directly from the 2002 aerial imagery and color IR imagery taken at low tide. Preliminary maps were ground-truthed by field inspection on three different days with differential GPS. Subtidal maps were constructed based on a composite, geo-referenced bathymetric map consisting of 1953 data from the entire study area under and near the bridges combined with high resolution multibeam sonar data collected in 2001 from the 18-foot contour line and deeper. Subtidal bottom types and habitat types were based on underwater videography along pre-determined transect lines using a towed video system with recording differential GPS. Intertidal bottom types and habitat types were based on geo-referenced aerial imagery with sub-meter resolution. The boundaries between most bottom types and habitat types were readily discernable from the imagery and were inspected with nearly 100% coverage on three separate field visits. Subtidal bottom and habitat types were derived from underwater videography that was collected along ship navigational tracks. Identification of the major bottom and habitat types was made directly from the video imagery. The areas between ship tracks were assigned bottom and habitat types based on standard interpolation techniques where the unsampled areas were assigned bottom and/or habitat type based on the known (video-imaged) identification of surrounding points. In some cases, the bathymetric data were used to estimate boundaries between bottom and/or habitat types.

In combination, Mathieson's ecological descriptions along with discussion of bottom types and habitat types, as provided in the EIS, should be considered adequate and meaningful in assessing existing conditions. Further field studies designed to sample fish and the benthic community would require substantial additional effort and would not yield any substantial new information.

For additional discussion of the potential impact of the project on fisheries, we refer the NHF&GD to the formal Essential Fish Habitat Assessment (EFHA) submitted to the National Marine Fisheries Service in August, 2006. NMFS has commented on the DEIS and EFHA and has found that the EFHA "*was very thorough and comprehensive regarding*

*effects to EFH,” and “concur with the assessment in the DEIS and the EFH Assessment that...there should be minimal adverse effects to benthic flora and fauna and EFH.”*

3. The construction of the expanded bridge piers is currently only at a conceptual level of design. Methods and schedule are determined during final design, which will occur after the Final EIS and the FHWA’s issuance of the Record of Decision for the project. The NHDOT and FHWA will coordinate the design, methods, and anticipated schedule of the pier construction during the project’s final design with NHF&GD’s Durham office.
- 4.-7. Taxonomic binomials and other typographical errors have been corrected in the FEIS.
8. Bridge construction should have no substantial impacts to fish passage, since the piers will maintain existing alignments. The proposed widening of the Little Bay Bridges will extend the existing pier footings and sub-footings toward the General Sullivan Bridge. It is anticipated that the footings will be joined below the water level with the General Sullivan Bridge and the granite-faced pier walls will either be joined together or a very small separation will occur between the two sets of walls. Although the resulting piers will be longer than the existing structures, they will not decrease the width of the channel.

Since fish species may be affected by tidal currents, results of a hydrodynamic model were reviewed to help determine if indirect impacts could result from changes to tidal currents. To accomplish this, the model was used to predict tidal current speeds and directions at 45 points in the immediate vicinity of the bridge (approximately 300 feet inland and seaward of the bridges).

The data indicate that current velocity maxima will increase by no more than 0.5 feet per second, with changes typically only 0.3 feet per second. These potential changes represent only a slight change from the estimated 10 feet per second maximum tidal current under existing conditions. The model predicts that current speeds will increase in some areas near the piers, while the speeds will decrease in other areas. Additionally, the model predicts that current directions will not change substantially, at least at the scale that can be resolved by the model. The results of the hydrodynamic model suggest that changes in tidal currents at the bridges will have no measurable permanent effects on fish passage, especially since these anadromous fish likely move into and out of the Great Bay during the corresponding incoming or out-going tides.

However, it is possible that construction activities could have some effect on behavior of anadromous fish due to issues such as turbidity or acoustical impacts. The NHDOT and FHWA will coordinate the design, methods and anticipated schedule of the pier construction during the project’s final design with NHF&GD’s Durham office to lessen to the extent practicable the potential temporary effects that construction activities may have on anadromous fish.

- 9-11. The NHDOT and FHWA apologize for the failure to correct typographical errors in the Draft EIS after the NHF&GD took the time to issue previous comments. These errors have been corrected in the FEIS.

*AW*  
 Christopher Waszczuk

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From: Marc Laurin  
 Sent: Wednesday, October 04, 2006 7:36 AM  
 To: Christopher Waszczuk  
 Cc: Bill O'Donnell (E-mail)  
 Subject: FW: Draft Environmental Impact Statement for the Spaulding Turnpike Improvements

Here are comments on the Newington-Dover DEIS from Scott Hilton of the NHDES - Pease office.

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

From: Drew, Tim [mailto:tdrew@des.state.nh.us]  
 Sent: Monday, October 02, 2006 12:41 PM  
 To: Marc Laurin  
 Cc: Hilton, Scott; Infascelli, Gino; Williams, Chris  
 Subject: FW: Draft Environmental Impact Statement for the Spaulding Turnpike Improvements

Good afternoon, Marc,

Please find below comments from Scott Hilton of our Pease Tradeport office. I intended to forward all DES comments under one cover letter, but that doesn't appear to be feasible. You will receive comments from individual programs instead.

Tim

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

From: Hilton, Scott  
 Sent: Friday, September 29, 2006 3:03 PM  
 To: Drew, Tim  
 Subject: RE: Draft Environmental Impact Statement for the Spaulding Turnpike Improvements

Tim

I have a memo from Marc Laurin that says comments should be addressed to his attention and recieved by October 6, 2006.

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

From: Drew, Tim  
 Sent: Friday, September 29, 2006 2:47 PM  
 To: Hilton, Scott  
 Subject: RE: Draft Environmental Impact Statement for the Spaulding Turnpike Improvements

Thank you, Scott. When are the comments due?

Tim

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

From: Hilton, Scott  
 Sent: Friday, September 29, 2006 12:00 PM  
 To: Drew, Tim  
 Cc: Pease, Richard; dave.strainge@afropa.pentagon.af.mil; 'Daly.Mike@epamail.epa.gov'; 'Maria Stowell'  
 Subject: RE: Draft Environmental Impact Statement for the Spaulding Turnpike Improvements

Tim

A Draft Environmental Impact Statement (EIS) for the Spaulding Turnpike Improvements (# NHS-027-1(37),11238), dated July 2006, was sent to Richard Pease, Supervisor of the Superfund Section of the Waste Management Division. Richard asked that I review the Draft EIS and provide to you any comments I had on the proposed project with respect to its impact on the Air Force's environmental clean-up activities at the former Pease Air Base (now known as the Pease Tradeport). My review focuses solely on impacts from the proposed Spaulding Turnpike project on the Air Force's environmental remediation activities at the former Pease AFB.

As described in the EIS, the Spaulding Turnpike Improvement project involves a combination of highway and related infrastructure improvements along a three and a-half mile corridor beginning just north of Exit 1 in Newington and extending to the Dover Toll Plaza. The main element of the project is widening the Turnpike from 4 lanes to 8 lanes. The proposed project includes construction of a second exit into the Pease Tradeport, connecting into Arboretum Drive in the Northeast section of the Tradeport. This exit is identified as Exit 3 on the plans and includes a large interchange structure located on the former Air Base property. It appears the Exit 3 interchange is the only aspect of the project that involves actual road construction on the former Pease Air Force Base property. The other construction activity occurring on the property is a wetlands mitigation project proposed for Flagstone Brook. I have several comments on the proposed Exit 3 project and the recommended wetlands mitigation actions for Flagstone Brook;

#### Comments

1) Exit 3 is proposed to be located in a wooded area of the Tradeport just north of Landfill 5. There are no known Air Force related contaminated sites or use restriction zones (URZ's) in the proposed Exit 3 area. The northern boundary of the Landfill 5 Groundwater Management Zone (GMZ) however appears to abut (or slightly overlap) the southern edge of the Exit 3 interchange area and GMZ wells are located in this area that will need to be protected during construction activities. Also, in accordance with the Pease Deed (Section VI.B.), any groundwater extraction, injection or application of surface water that could cause the migration of any contaminated groundwater in excess of ambient groundwater quality standards to a point beyond a GMZ is prohibited. Therefore any significant groundwater extraction/dewatering or water injection or application activities that are conducted on the Tradeport should be coordinated with the Air Force, PDA and DES before they are undertaken to insure these activities will not affect the integrity of the GMZ.

2) There is an abandoned Air Force underground petroleum pipeline that runs through the Exit 3 area. The pipeline runs from the Defense Fuel Supply Point Terminal on the Piscataqua River to the Air Force's former Bulk Fuel Storage area on the Tradeport. The pipe line consists of an 8 inch and 10 inch pipe that crosses both the highway widening zone and the Exit 3 interchange. Available information indicates the line was taken out of service and capped. Previous investigations along the pipeline did not find any soil contamination in the area of Exit 3 or the highway widening zone. The pipeline is owned by the Air Force and managed by the Defense Logistics Agency, Defense Fuel Supply Center, Alexandria, Virginia 22303-6160, the contact person is Stephen Deatherage (telephone # 703-767-8315). (There is also a underground gas line that runs through this area, however this is not an Air Force related structure, the PDA would have contact information regarding this structure).

3) The other activity that is being proposed on the former Pease Air Force Base is a wetlands mitigation action along what the Air Force calls "Flagstone Brook" but is identified as the Railway Brook in the EIS. This proposed action involves 2 alternatives identified as

Alternative A and Alternative B in the EIS.

Alternative A calls for creating a new meandering channel and flood prone area for Flagstone Brook through the portion of the Tradeport property north of Landfill 5. This area is outside the Landfill 5 GMZ and URZ. The alternative calls for raising the stream bed above its existing elevation to allow flooding into the wetlands that exist to the west of the present stream. The EIS calls for hydrologic/hydraulic modeling of the watershed and stream valley to aid the actual design. Raising the streambed will likely cause changes in groundwater conditions downgradient of the Landfill and while it appears unlikely these changes will effect groundwater flow or elevations in the Landfill 5 area, if this alternative is chosen, the design model should verify the final design would not raise groundwater elevations under the landfill or change flow conditions that would result in a GMZ violation.

3

Alternative B calls for moving the Flagstone Brook channel section that is currently located on the west side of Landfill 5 to a new position, approximately several hundred feet further west. It also calls for creating a new channel just north of the Landfill 5 detention basin that will connect, what the Air Force calls the Railway ditch, (the stream channel located on the east side of Landfill 5) to Flagstone Brook. This alternative has the potential to affect groundwater flow in the Landfill 5 area and it appears a small portion of Alternative B construction may be within the Landfill 5 URZ. In accordance with the Pease Deed (Section VI.B.), any digging, excavation or construction in a URZ is prohibited unless approval from the Air Force is obtained. If Alternative B is chosen to be implemented, to insure all aspects of the proposal are reviewed by the Air Force, an Area of Special Notice request will need to be submitted to the Air Force prior to construction.

4

4) Figure 3.18-1; This figure does not accurately identify Landfill 5 or other Pease AFB sites. It appears all Pease AFB sites are listed under one location (location 32).

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

From: Pease, Richard  
Sent: Thursday, September 21, 2006 11:02 AM  
To: Hilton, Scott  
Cc: Drew, Tim; Baxter, Carl  
Subject: FW: Newington-Dover, 11238 - DEIS Distribution

Scott,

I think the Department typically coordinates its review of environmental impact statements to provide a single comment letter. Please send your comments on the Newington-Dover, 11238 - Draft Environmental Impact Statement to Tim Drew, unless directed otherwise.

Richard Pease  
Tel.: 603-271-3649  
Fax: 603-271-2181  
email: rpease@des.state.nh.us

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

From: Marc Laurin [mailto:MLaurin@dot.state.nh.us]  
Sent: Tuesday, August 22, 2006 9:44 AM  
To: Drew, Tim  
Cc: Pease, Richard  
Subject: Newington-Dover, 11238 - DEIS Distribution

The attached memo is to inform you of the Department of Transportation's recent transmittal of a copy of the Draft Environmental Impact Statement

for the above referenced project to several Divisions in the Department of Environmental Services.

Please contact me if you need more information.



**Response to Comments Made by  
Scott Hilton, Hazardous Waste Remediation Bureau  
NH Department of Environmental Services  
Portsmouth, NH 03801  
Letter dated September 29, 2006**

1. The NHDOT and FHWA appreciate the information provided by NHDES, and, while we do not anticipate undertaking any action that would affect the Landfill 5 Groundwater Management Zone (GMZ), the presence of the GMZ is more specifically identified in the Final EIS and will be noted on project plans during development of the final design. The NHDOT will coordinate the details of the Railway Brook restoration mitigation effort with the US Air Force, PDA (Pease Development Authority), ACOE and NHDES during the project's final design stage.
2. The NHDOT and FHWA appreciate the information regarding the abandoned Air Force petroleum pipeline as well as the active natural gas pipeline in the vicinity of the proposed Exit 3 interchange. The NHDOT and FHWA will coordinate with Mr. Stephen Deatherage, the contact person at Defense Logistics Agency, Defense Fuel Supply Center in Alexandria, Virginia, which manages the pipeline for the Air Force and Granite State Gas (the owner of the active gas pipeline) during the project's final design.
3. While the Draft EIS identified two alternatives for restoration of the brook, recent coordination with the PDA, the NHDES - Waste Management Division and the US Air Force has highlighted the environmental risk associated with "Alternative B" which lies in close proximity to Landfill 5 of the former airbase. Groundwater in this area is being monitored in association with the remediation of hazardous waste contamination at Landfill 5. The NHDOT and FHWA therefore propose to pursue Alternative A, since it lies mostly outside of the groundwater management zone and therefore has relatively minimal environmental risk. As discussed with the NHDES, the final design of the Restoration Alternative will examine in more detail the potential effects on groundwater conditions upgradient of Restoration Alternative A, which are currently thought to be negligible based on a qualitative assessment.
4. Figure 3.18-1 has been updated in the Final EIS to reflect information provided by the NHDES and the PDA regarding hazardous waste sites.



The State of New Hampshire  
*Department of Environmental Services*



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Michael P. Nolin  
Commissioner

October 6, 2006

Christopher Waszczuk, P.E.  
Chief Project Manager  
New Hampshire Department of Transportation  
P.O. Box 483  
Concord, NH 03302-0483

RE: Spaulding Turnpike Improvements Draft Environmental Impact Statement

Dear Mr. Waszczuk:

The New Hampshire Coastal Program (NHCP) appreciates the opportunity to review the above-referenced Draft Environmental Impact Statement (DEIS) for the proposed improvements to the Spaulding Turnpike. Based on our review of the DEIS, we wish to provide the following comments:

1. Should the Department of Transportation choose to pursue restoration of Railway Brook as a component of its compensatory mitigation package for proposed project-related wetlands impacts in the Town of Newington, the NHCP recommends restoration alternative B. This alternative, unlike alternative A, would reconnect the brook with its historic channel and floodplain. In addition, it would move a significant portion of the channel away from its current location immediately adjacent to the existing closed landfill. Moreover, as stated in the DEIS, alternative B "...would have a high probability of achieving a stable and ecologically healthy stream corridor since it would reestablish natural conditions for the stream valley."
2. Section 4.10.7 of the DEIS discusses potential water quality impacts that may occur as the result of the construction of temporary cofferdams and excavation associated with the proposed expansion of the bridge piers. As this work will disturb bottom sediments that may contain toxic pollutants, such as heavy metals, the NHCP recommends that a comprehensive sediment sampling and analysis program be conducted prior to construction to ensure that potential water quality impacts are avoided or minimized to the greatest extent practicable.

Again, thank you for the opportunity to review and comment on the DEIS. Should you have any questions, please contact me at (603) 559-0025.

Sincerely,

Christian Williams  
Federal Consistency Coordinator  
NH Coastal Program

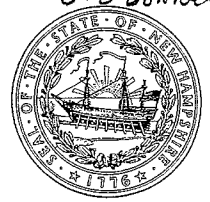
**Response to Comments Made by  
Christian Williams, Federal Consistency Coordinator  
NH Department of Environmental Services  
29 Hazen Drive, Concord, NH 03302-0095  
Letter dated October 6, 2006**

1. The NHDOT and FHWA acknowledge the Coastal Program's recommendation to pursue Restoration Alternative B, since this alternative has features that would increase the likelihood of the ecological success of the restoration efforts. However, recent coordination with the PDA, the NHDES - Waste Management Division and the US Air Force has highlighted the substantial environmental risk associated with "Alternative B" which lies in close proximity to Landfill 5 of the former airbase. Groundwater in this area is being monitored in association with the remediation of hazardous waste contamination at Landfill 5. We therefore propose to pursue Alternative A as discussed in the Draft EIS, since it lies mostly outside of the groundwater management zone and therefore has relatively minimal environmental risk. This decision does not preclude the restoration of the brook adjacent to Landfill 5 at some point in the future when the environmental risk has attenuated.
  
2. The NHDOT and FHWA recognize the risk posed by the suspension of potentially contaminated marine sediments and the NHDOT will develop a sediment sampling and characterization program in consultation with the NHDES, the USACOE and other agencies. This sampling would typically occur in conjunction with the geotechnical investigations during the final design phase. Even if the sediments are determined to not pose a contamination risk, stringent requirements will be incorporated into the final design plans to require the selected contractor to minimize any movement of sediment beyond the work area. It is anticipated that all work on the bridge piers will be conducted behind sealed cofferdams, which will substantially limit the movement of suspended sediments. The NHDOT will conduct regular inspections of the measures designed to minimize this risk. Additional measures will be developed if contaminants in the marine sediments exceed NOAA thresholds for ecological or human health risk. These requirements are typically a condition of the USACOE and NHDES Wetlands Bureau permits, as well as a USEPA Remedial General Permit (RGP) which may be required for the project.



The State of New Hampshire  
**Department of Environmental Services**

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Michael P. Nolin  
 Commissioner

October 9, 2006

Marc Laurin  
 Project Manager  
 NH Department of Transportation  
 7 Hazen Drive  
 Concord, NH 03302-0483

Re: Comments from DES Air Resources Division on the Spaulding Turnpike Improvements  
 Newington to Dover DEIS

Dear Mr. Laurin:

This letter provides comments from the Department of Environmental Services (DES) Air Resources Division and Carolyn Russell, DES's Environmental Quality Impact Planner, on the *Spaulding Turnpike Newington to Dover* Draft Environmental Impact Statement (DEIS) prepared by Vanasse Hangen Brustlin, Inc, and dated July 2006. We appreciate you allowing us an additional day to submit these comments which were delayed due to staff issues in the Air Resources Division.

Emissions from motor vehicles and other mobile sources contribute 1/3 to 1/2 of smog-forming pollutants in New Hampshire. Additionally, over half of all air toxics nationwide come from mobile sources, and over 44% of human health risk from air toxics in NH comes from mobile sources. To reduce the impact of this project, DES encourages that DOT place significant emphasis on mitigation efforts discussed in this proposal, and work to ensure these efforts are adequately funded to remain in place and viable for the life of this project.

DES appreciates DOT's consideration of a wide range of mitigation strategies to reduce the number of vehicles on the roadway, including rail, bus, high occupancy vehicle lanes, and employer/employee transportation demand management (TDM) programs. We do, however, have some concerns with the analysis of the potential benefits of each of these strategies and feel that in some instances the potential benefits of the alternative travel modes may be underestimated. Because these estimates are used to support the conclusion in Chapter 2 that a 6 lane upgrade does not meet the purpose and need of the project, and the subsequent exclusion of that option from further discussion in the analysis, this should be carefully evaluated. DES has reviewed the comments provided by the Seacoast Metropolitan Planning Organization relating to the analysis of the transit and TDM components in the analysis and found that they address the key shortcomings of this analysis. Rather than reiterate their comments regarding the methodology and assumptions used in this analysis we feel it is sufficient to simply state that DES supports their comments.

1

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In Section 2.4.4.3, relative to bus options, the reports states that some level of operating subsidy would be necessary in order for operators to provide the proposed service, yet operating costs are only reviewed for 5 years, not the life of the project. The report does not include a discussion of the source of future operating subsidies.

3

Section 3.13.2 of the DEIS states that in order to satisfy conformity requirements of the Clean Air Act Amendments of 1990 (CAA) this project was included, in the preferred alternative format, in a regional analysis referred to, in short, as the FY 2005-2007 Conformity Determination (May 2005). Sections 3.13.2 and 4.13.5 go on to state that because of the existence of this conformity demonstration, no mesoscale analysis of this project for ground level ozone impacts was conducted. However, even without this mesoscale analysis Section 4.13.5 states that in the FY 2005-2007 Conformity Determination “the proposed project’s air quality emissions were evaluated as an improvement.” DES does not find supporting documentation for this statement in either this report or in the FY 2005-2007 Conformity Determination documents and feels that the utility of a conformity demonstration is somewhat misunderstood.

4

The DEIS correctly states that the preferred alternative was included in the most recent air quality conformity demonstration and that the region was able to demonstrate that the mix of transportation projects for the region do indeed meet the conformity requirements. However, a conformity demonstration only serves to show that implementation of *all* projects in a transportation improvement program (TIP) will conform to air quality goals. It does not evaluate the impact of a project individually, with the exception of some small projects that are analyzed using “off model” evaluation techniques. The Spaulding Turnpike project was not analyzed “off model” and the impact of implementing just this project cannot be determined from the existing conformity document. In addition, only the preferred alternative was evaluated in the conformity process.

5

NEPA requires that the DEIS show, in a comparative format, the relative environmental impact, including air quality impacts, of all options<sup>1</sup>. This DEIS does not provide the analyses necessary to make such a comparison. The area in which this project is located has been categorized as non-attainment with national ambient air quality standards for ground level ozone. Through the consultative process a methodology for evaluating the impacts of this proposal and proposed mitigation strategies, separate from other transportation projects in the region, should be developed. A comprehensive impact analysis of this project should include a discussion of the impacts of each of the alternatives as well as the proposed mitigation strategies.

The DEIS contains very complete data on the carbon monoxide (CO) analysis done for this project which are summarized in tables in Chapter 4. The MOBILE model input file used to derive the CO emission factors used in this analysis are contained in Appendix H. A review of the input files reveals numerous errors in the criteria used in the input files, including the fuel Reid vapor pressure (should be 12.9 for winter fuel), the VMT Fractions assumptions that underestimate the percentage of light duty trucks and sport utility vehicles in all model years, and that

<sup>1</sup> Council on Environmental Quality Regulations for Implementing NEPA (40 CFR Parts 1500-1508)

5 do not adjust the vehicle mix for the various analysis years, and finally, the input files do not utilize the appropriate National Low Emission Vehicle North East external file. The input files also identifies the file as an input file for the MOBILE6 model, not the MOBILE6.2 model, making it unclear which version of the model was used for this analysis. Development of these MOBILE input files should be done in consultation with DES, recognizing that inputs to the MOBILE model are constantly updated by DES to reflect current assumptions and data as required by the Clean Air Act. That said, it does appear that the errors to the MOBILE model inputs have resulted in emission factors that overestimate CO emissions, therefore the conclusion that CO impacts will be well under the national ambient air quality standard (NAAQS) of 35 ppm for 1 hour and 9 ppm for 8 hour is likely correct. However, the final EIS should use the correct MOBILE model inputs, the most recent MOBILE model, and correct the CAL3QHC input files that used the MOBILE model outputs.

6 The discussion in Section 4.13.6 appears to confuse the utility of the MOBILE model with that of Transportation Demand models used by the regional planning commissions as it refers to the MOBILE model as “a trip based model” that can “approximate operating speeds and levels of congestion.” This is an incorrect description of the MOBILE model and this section of the report should be corrected.

7 Section 4.13.6 also states that since the VMT of all the alternatives is roughly the same there is no way to judge the difference in the impact of the various options. Where are the VMT impacts of all the options documented so that this statement can be verified? Such documentation should include link and speed information as emissions do, as noted in the report, vary according to speed.

The assessment of indirect and secondary impacts in Section 4.3.3, Indirect/Secondary Impacts, should be focused on the 33-communities that are defined as the study area for the project. Thus, total current population, employment, and housing figures should be adjusted to reflect just the study area (i.e., presenting values for only those towns in the affected portion of Rockingham County, not the County as a whole). The predicted changes with the project should then be compared to these adjusted numbers.

8 In addition, given that the 33-community study area was selected to represent the area that would be affected by the project, the *total* estimated changes predicted by the REMI model for Rockingham County should be assumed to occur in the portion of Rockingham County that is within the study area. It is inappropriate to discount the results from the REMI model for Rockingham County by 60%, as is suggested on page 4-33 discussing the estimated change in the number of households and presented again on page 4-37. Later analyses and description of results, including the estimated change in the amount of developed land, should be confirmed to reflect the total estimated change as well (while it appears that they do, the discussions on pages 4-33 and 4-37 are confusing). Additionally, the results should be compared to the baseline for just the portion of Rockingham County falling within the study area (e.g., the increased number of households under the 8-lane scenario represents an increase of about 3.7 percent in the study area).

9

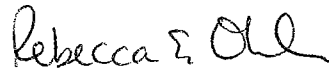
While there are some Federal, State and local laws to protect certain types of resources, it is important to also note that much of the new development occurring in this region is happening on marginal land (e.g., land with a higher percentage of wetlands) and in more rural communities with less rigorous standards and often lacking professional planning staff, potentially resulting in increased impacts of future development on natural resources of concern. As a result, because the types of land that will be developed in the future will be different from that developed previously, the approach to estimate potential impacts might underestimate of the potential nature of the impacts on various natural resources with the additional development. The EIS ought to recognize this possibility as well.

10

Finally, while there are efforts underway to improve local planning and management for future development to minimize impacts, there is a need to bolster these efforts. Although the effect of continuing growth in this region is substantial, the effect of this project is not insignificant, representing about a 2 percent increase in the amount of developed land from the No Build scenario in the study area (as currently represented in the DEIS). Opportunities to direct additional support to local communities for planning for and better managing future growth should be explored as part of this significant project. One idea is that NHDOT and FHWA explore approaches to bolster the level of funding to existing programs designed to assist local communities in such efforts, including, for example, the New Hampshire Estuary Project's Local Community Assistance Program, which provides grant funds to support local planning initiatives aimed at reducing the environmental impacts of future development, and the Natural Resource Outreach Coalition (NROC) program, which provides education and technical assistance directly to local municipalities to develop a local action plan for improving planning, land conservation programs, and local education efforts to better manage future growth.

Thank you for your consideration of our comments. The Department of Environmental Services looks forward to continued work with you as this project comes to fruition.

Very truly yours,



Rebecca E. Ohler  
Mobile Source Planning Unit  
Air Resources Division

**Response to Comments Made by  
Rebecca Ohler, Air Resources Division  
NH Department of Environmental Services  
29 Hazen Drive, Concord, NH 03302-0095  
Letter dated October 9, 2006**

1. With respect to transit service, the methodology and assumptions which form the basis of estimating future transit ridership have been updated for presentation in the FEIS and include recent ridership data, recent model (NCHRP Report 365, 1998) and updated costs for parking, fuel and travel time. For example, analyses were re-run where original fuel prices of \$2.00 per gallon were increased to \$3.00. A sensitivity run assuming \$4.00 per gallon was also conducted. Average parking costs were increased from \$14.00/day to \$17.05 for Boston, and from \$2.00 to \$3.63 for Portsmouth. The value of travel time was reduced from 100 percent to 50 percent of the average hourly wage; and avoided automobile ownership costs were revised to reflect full cost for 10 percent of the population, and marginal cost for 90 percent of the population. Based on the updated model and model assumptions, future transit ridership for each alternative was re-estimated and combined with other TSM, TDM and infrastructure alternatives (e.g., No Build, 6-lane, 8-lane) to estimate peak hour SOV diversions. In addition, the USEPA COMMUTER Model was rerun with the localized and updated cost data to estimate employer-based programs which reduced the number of SOVs on the Turnpike. In general, SOV diversions due to re-estimated transit ridership have increased ranging between 20 and 100 vehicles in comparison to previous estimates documented in the DEIS. When combined with the aggressive employer-based TDM program under the previously considered and discounted 6-lane alternative, SOV diversions increase by approximately 7.5% in comparison to the DEIS estimate. However, these increases are not substantial enough to change the conclusions, findings and recommendations with respect to the Selected Alternative. Safety and traffic operations between Exits 3 and 6 on the Turnpike require an auxiliary traffic management lane, in addition to three travel lanes in each direction.

A revised sensitivity analysis was also conducted using the updated model (NCHRP 365) and revised variables including updated parking costs and the value of travel time. The sensitivity analysis tested the effect of an increase in gasoline cost to \$4.00 per gallon from the base cost of \$3.00 per gallon. Rail Alternative 2B was used for the revised sensitivity analysis because it was used in the original (DEIS) analysis. An increase in gas cost from \$3.00 to \$4.00 per gallon yields an increase of seven diverted vehicles from 152 to 159 and reflects a revision to the manner in which vehicle operating cost savings are calculated and distributed to transit users. With the original model (DEIS), the diversion increased by 43 vehicles from 160 to 203. None of these diversions are sufficient to reduce the need for roadway improvements.

The USEPA model does not use input related to the cost of fuel, travel time and automobile ownership. However, it does include the use of coefficients for parking costs and transit fare costs. The coefficients for these costs used in the mode choice model were input to the



COMMUTER model and used to recalculate the diversion of vehicles from the highway. The result was a reduction of about 17 percent in the diversions projected for the Aggressive TDM program. The original COMMUTER calculations used default coefficients in that model.

Both NCHRP Report 187 and NCHRP Report 365 contain mode choice models based on the relative impedances of using transit or driving. The initial model (NCHRP187) used for the Newington-Dover analysis was originally developed for the study of the rail extension to Nashua. Because it had been calibrated to New Hampshire conditions, it appeared to be appropriate to use for the Spaulding Turnpike. Further investigation indicated that the Nashua model was effective with projections of long distance transit travel (such as to Boston) but may have underestimated shorter travel such as from Dover or Rochester to Pease and Portsmouth. The ridership analysis was rerun using the equations specified in NCHRP Report 365 along with all the updated input variables.

None of the changes in projected vehicle diversions from the Spaulding Turnpike resulting from the revised transit ridership analysis in and of themselves, or in combination with the HOV and the aggressive TDM Alternatives, are sufficient to have an impact on the needed roadway improvements identified in the DEIS. The mode choice model was revised to reflect the equations recommended in NCHRP 365 and several input variables were updated. Under the best case scenario for Bus Alternative 1 (with busway), the revised analysis results in an increased diversion of 25 vehicles. The best case for Bus Alternative 3 (also with busway) is an increased diversion of 97 vehicles. The aggressive TDM program was also re-analyzed using cost coefficients from NCHRP 365 (the only common variables) and resulted in a decrease in peak hour vehicle diversions.

2. Developing and maintaining a sustainable funding source for preservation and improvement of the area's transportation system, transit included, is a challenge that transcends the Newington-Dover, Spaulding Turnpike improvement project. The need for sustainable funding has been recognized as an issue by both the NHDOT during development of the New Hampshire Transportation Business Plan and by the State Legislature. The NHDOT has proposed up to a maximum five-year commitment to fund the transit-related elements of the Selected Alternative as mitigating elements to the potential for increased levels of congestion during construction and overall dependence on SOV travel in the region.
3. So noted. Section 4.13-5 of the FEIS has been modified to reflect that the proposed project was included in the NHDOT's State Transportation Improvement Program (STIP) for the Fiscal Year 2005-2007 and its effect on air quality was evaluated in the regional conformity analysis. The conformity analysis was reviewed by USEPA and was found to be in conformance by the USDOT. As such, this project conforms with the State Implementation Plan, no additional analysis of emissions is required and none have been instituted.

The statement in the DEIS that refers to "improvement" is meant to mean "project." The proposed project was evaluated as part of the Statewide Transportation Improvement Program (STIP) that was determined to meet the transportation conformity requirements. We recognize that this project was evaluated as part of the STIP, which is based on regional

emissions from all projects, and that it is difficult to determine an individual air quality impact from an individual project.

4. The air quality evaluation for the EIS does not include a mesoscale analysis of the project alternatives. Ozone, hydrocarbons, and nitrogen oxide concerns are regional in nature and as such their evaluation on a project-by-project basis does not contain meaningful results and could be misleading.

Furthermore, at 40 CFR 93.115(b)(1) a project is considered to be from a conforming transportation plan if the project is specifically included in the conforming transportation plan and the project's design concept and scope have not changed significantly from those which were described in the transportation plan, or in a manner which would significantly impact the use of the facility. As the Selected Alternative's design and scope has not changed substantially from that described in the STIP, a comprehensive analysis of the alternatives, as well as the proposed mitigation strategies, are not required.

The proposed project was evaluated as part of the Statewide Transportation Improvement Program (STIP) that was determined to meet the transportation conformity requirements. The difference in VMT for each alternative is small and the comparative evaluation of the air quality from each alternative would not demonstrate a significant change in emissions. Therefore, a comparative evaluation of emissions from the alternatives is not needed.

5. The comment outlined errors in the MOBILE file.

The RVP value, VMT mix, and the related MOBILE input file were obtained by the NHDOT/NHDES at the start of the project (2004). Subsequent to the DEIS being completed, the NHDOT/NHDES updated these files. We agree that updating the air quality analysis with the revised MOBILE 6.2 files will not change the conclusions in the EIS. At this time, we do not expect to revise the air quality analysis. The air quality analysis utilized the correct version of MOBILE, MOBILE 6.2. While the input files states "MOBILE6 INPUT FILE:," this is the command that is used regardless of what version is run. The emission factors were generated using the MOBILE 6.2 version that has been officially approved by USEPA.

6. Typically, the term "trip based model" applies to a travel demand model. However, in this case, the term "trip based model" is intended to apply to the federal test procedure that is used in MOBILE to calculate emission rates. The air toxics section is a qualitative discussion that demonstrates that a proposed project that has an AADT of 150,000 vehicles or less does not have the potential to result in an adverse impact on air toxics. As such, specific VMT and speeds were not discussed in this section.
7. The traffic analysis evaluated the changes in traffic volumes by each alternative. These values are presented in Table 1. As shown in Table 1, these traffic volumes are approximately the same for each alternative. Link and speed data for selected scenarios used in the air quality modeling are contained in Appendix H, Volume 3. The complete air quality modeling input and output data are available upon request.

**Table 1**  
**Traffic Volumes (vph)**

Segment	Direction	Alternative 2		Alternative 3		Alternative 10A		Alternative 12A		Alternative 13	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Exit 1 - Exit 3	NB	-	-	-	-	1,755	4,015	1,755	4,015	1,755	4,015
	SB	-	-	-	-	<u>3,900</u>	<u>1,755</u>	<u>3,900</u>	<u>1,755</u>	<u>3,900</u>	<u>1,755</u>
	Total	-	-	-	-	5,655	5,770	5,655	5,770	5,655	5,770
Exit 3 - Exit 4	NB	-	-	-	-	2,225	5,500	2,225	5,500	2,240	5,580
	SB	-	-	-	-	<u>4,960</u>	<u>2,560</u>	<u>4,960</u>	<u>2,560</u>	<u>5,245</u>	<u>2,780</u>
	Total	-	-	-	-	7,185	8,060	7,185	8,060	7,485	8,360
Exit 4 - Exit 6	NB	2,150	5,850	2,150	5,850	2,150	5,850	2,150	5,850	2,150	5,850
	SB	<u>5,505</u>	<u>2,925</u>	<u>5,505</u>	<u>2,925</u>	<u>5,505</u>	<u>2,925</u>	<u>5,505</u>	<u>2,925</u>	<u>5,505</u>	<u>2,925</u>
	Total	7,655	8,775	7,655	8,775	7,655	8,775	7,655	8,775	7,655	8,775
Toll Plaza - Exit 6	NB	1,200	3,330	1,200	3,330	-	-	-	-	-	-
	SB	<u>3,120</u>	<u>1,650</u>	<u>3,120</u>	<u>1,650</u>	-	-	-	-	-	-
	Total	4,320	4,980	4,320	4,980	-	-	-	-	-	-

8. As discussed in Section 4.3.3.2, the method selected for evaluating indirect economic and social impacts involved the use of projections prepared with Regional Economic Model, Inc. (REMI). Specifically the Policy Insight component of REMI was selected for this evaluation. As noted in Section 4.3.3.2 of the DEIS “The model is multi-regional to the *County level* (emphasis added), and is based on a comprehensive model of the national economy, developed and maintained by Regional Economics Model, Inc. of Amherst, Massachusetts”.

Due to how model input data is collected by various Federal and State agencies, the county level is the smallest unit for measuring possible social and economic impacts. The model does not allow for analysis of population, employment and housing below the county level. A simple proportional approach was therefore used to compare and analyze potential economic impacts for the Rockingham County portion of the Socio-economic Study Area – which is a standard and accepted statistical practice for this type of analysis. Thus, as noted in the EIS, the projected number of households due to the Build Alternatives was reduced because only 40 percent of the households in Rockingham County are located in the Socio-economic Study Area. This represents a difference of 178 households for the 8-lane alternative over a 20-year (2005 to 2025) period, or less than one half household per year per municipality in the Rockingham County portion of the study area.

However, given the concerns expressed by the NHDES and Seacoast MPO, the sections of the Final EIS that discuss secondary growth issues have been updated to consider the effects of allocating 100% of the secondary growth to the Rockingham County communities within the Socio-economic Study Area. This represents an absolute “worst case scenario”. It is important to note that this will not change the estimates of indirect land use impacts discussed in Section 4.3.5 of the EIS, as the analysis already assumed that 100% of the

population growth predicted by the REMI model would occur within the Socio-economic Study Area.

9. The NHDOT and FHWA believe that the approach taken to estimating secondary impacts on natural resources is very conservative and therefore likely overestimates the true impacts. As discussed in the Draft EIS (Section 4.3.5.3), this is supported by independent data from the NH Wetlands Bureau that indicates that the analysis may overstate the estimated per capita wetland impacts by as much three times the actual rate currently occurring in the state.

However, given the concerns expressed by the NHDES and others, the sections of the Final EIS that discuss secondary growth issues have been updated to allocate this future growth to undeveloped land to account for the potential that future development in this region will occur on marginal land. Consistent with this approach, the proportion of wetlands and other natural resources within the study area have been re-assessed and data updated to reflect the amount of natural resources in the undeveloped portions of the Socio-economic Study Area. The resulting analysis is highly conservative.

10. Due to the very minor level of secondary growth related to the project, the NHDOT and FHWA do not propose additional mitigation of the sort suggested in this comment. The NHDOT and FHWA have funded a Community Technical Assistance Program (CTAP) program for the I-93 corridor that has developed several practical resource booklets to help other communities statewide proactively plan and manage growth in their communities. These booklets, as well as, other pertinent material are available on the NHDOT's website at <http://www.rebuildingi93.com/content/ctap>.