

# Environmental Permitting at MassDOT



*Alex Lamarche, MEPA/NEPA Analyst*

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# Environmental Services Section





# Learning Objectives

- Identify environmental resources
- Understand basics of commonly encountered regulations
- Understand how environmental permitting fits into project development and timing



*Massachusetts symbol is shown for state regulations*



*Congress symbol is shown for federal regulations*



# Identifying Resources

- Desktop Analysis
  - Geographic Information System (GIS)
    - ESRI ArcGIS/MassMapper
    - MHC MACRIS Maps
- Field Visit
  - Wetland delineations
  - Rare species surveys
  - Stream Assessments



*Mussel survey*



# Environmental Review Checklist



- Replaces the EEC
- Found on the MassDOT Environmental Website

Environmental Permits and Review Summary		
	MassDOT ER Response - Scoping/Pre-25%	Consultant Response/Action – 25% (confirm /identify permit process)
<b>Is the project Bridge Exempt? (Y/N)</b>		
<i>If applicable, this exempts the replacement of bridges and culverts and its approach work with functionally equivalent structures- from review under the Massachusetts Wetlands Protection Act, Chapter 91 of the Massachusetts Public Waterfront Act, and MEPA.</i>		
<b>Wetlands Protection Act</b>		
RDA		
NOI		
Variance		
<i>If yes, scope consultant to prepare draft application using WPA checklist [in development].</i>		
<b>Chapter 91</b>		
Minor Modification		
Permit		
License or Amendment		
<i>If yes, scope consultant to prepare draft application.</i>		
<b>Within 1 mile of EJ (Y/N)</b>		
<i>If yes, inform consultant to consider if subject to MEPA review.</i>		
<b>MEPA</b>		
ENF		
EENF/EIR		
EIR		

<i>If yes, scope consultant to prepare draft filing. Ensure the consultant has considered</i>		
<b>NEPA</b>		
CE		
EA or EIS		
<i>If yes, inform consultant that Environmental Section will prepare NEPA documents</i>		
<b>Section 401</b>		
Individual WQC for fill		
Individual WQC dredge		
WQC Variance		
<i>If yes, scope consultant to prepare draft application using 401/404 checklist [in de]</i>		
<b>Section 404</b>		
SVN		
PCN		
Individual Permit		
<i>If yes, scope consultant to prepare draft application using 401/404 checklist [in de]</i>		

<b>U.S. Coast Guard Permit (Y/N)</b>		
<i>If yes, scope consultant to prepare draft application.</i>		
<b>CZM Federal Consistency Review (Y/N)</b>		
<i>If yes, scope consultant to prepare and submit a federal consistency review determination letter to CZM at 25%.</i>		
<b>Essential Fish Habitat (Y/N)</b>		
<i>If yes, confirm if consultant has fisheries biologist/environmental scientist experienced in EFHA. If yes, scope consultant for EFHA; if no, MassDOT Environmental will hire open services consultant. If Federal Aid (FA), use the FHWA Programmatic Agreement. If no FA, use the EFH and Fish and Wildlife Coordination Act Worksheet.</i>		
<b>NHESP Estimated or Priority Habitat</b>		
<i>If yes, inform consultant that Environmental Section will coordinate directly with NHESP, unless otherwise noted (if CMP is required).</i>		
<b>Adjacent Parkland or Wildlife Refuges for Section 4(f) (Y/N)</b>		
<i>If yes, Environmental Section will handle Section 4(f) documentation and consultation.</i>		
<b>Adjacent Section 6(f) properties (Y/N)</b>		
<i>If yes, Environmental Section will handle Section 6(f) documentation and consultation.</i>		
<b>Article 97 (Y/N)</b>		
<i>If yes, inform consultant that this project will be subject to MEPA review.</i>		



# Aerial Imagery

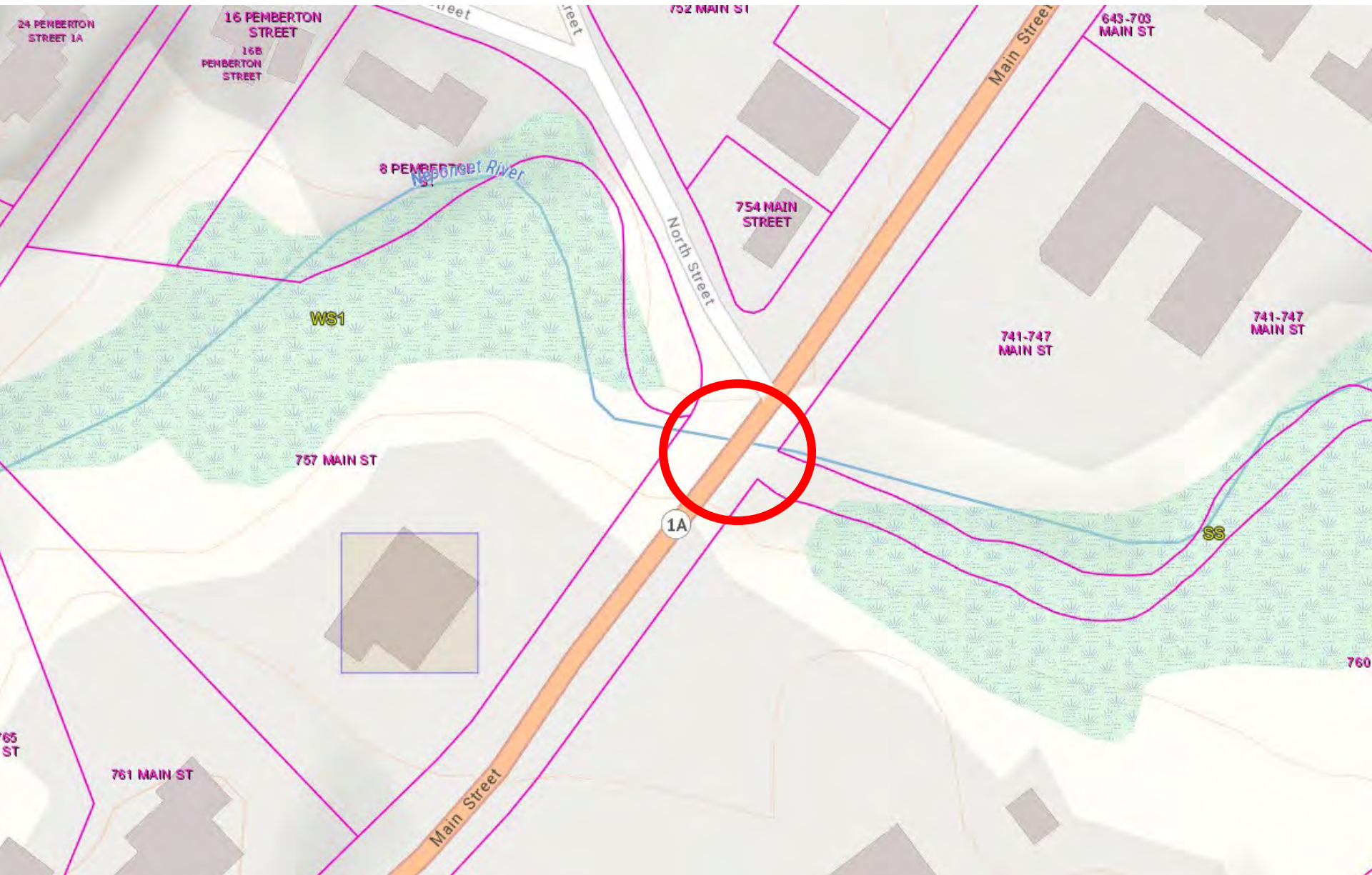
Route 1A over the Neponset River in Walpole, MA





# Online Wetlands Mapping (MassMapper)

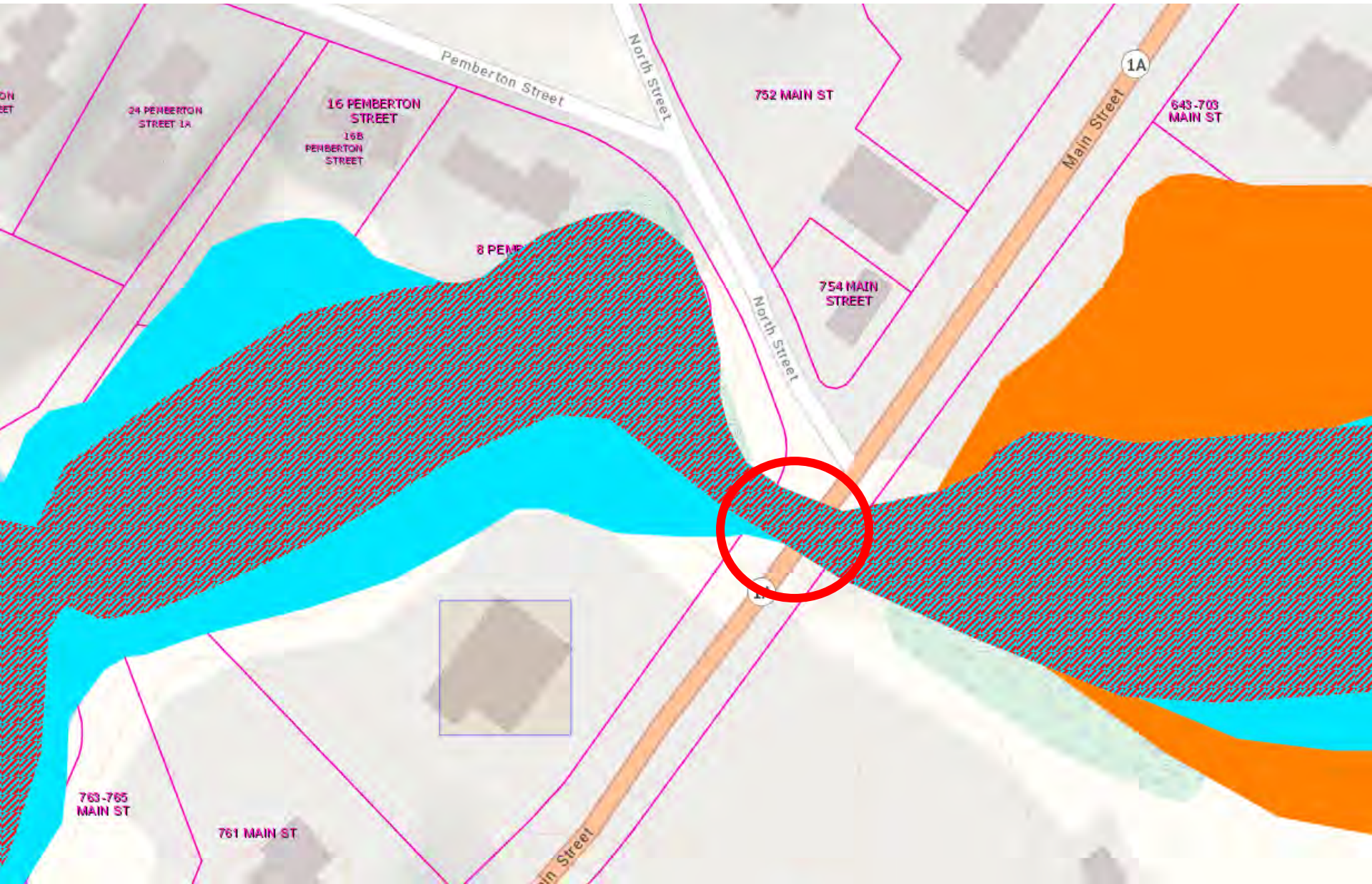
## Route 1A over the Neponset River in Walpole, MA





# FEMA National Flood Hazard Layer Polygons (MassMapper)

## Route 1A over the Neponset River in Walpole, MA





# USGS Topographic Maps (MassMapper)

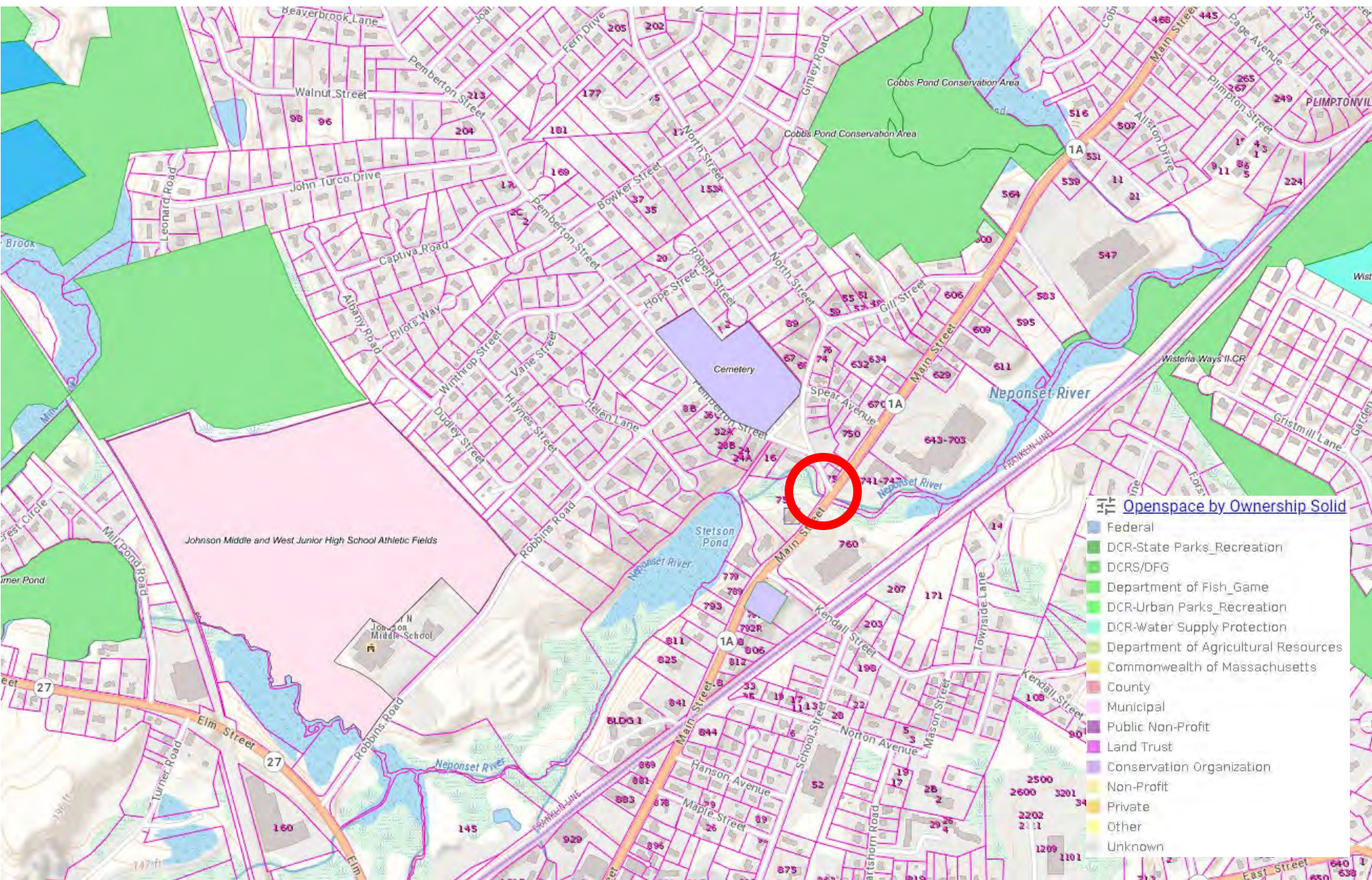
Route 1A over the Neponset River in Walpole, MA





# Open Space Layers (MassMapper)

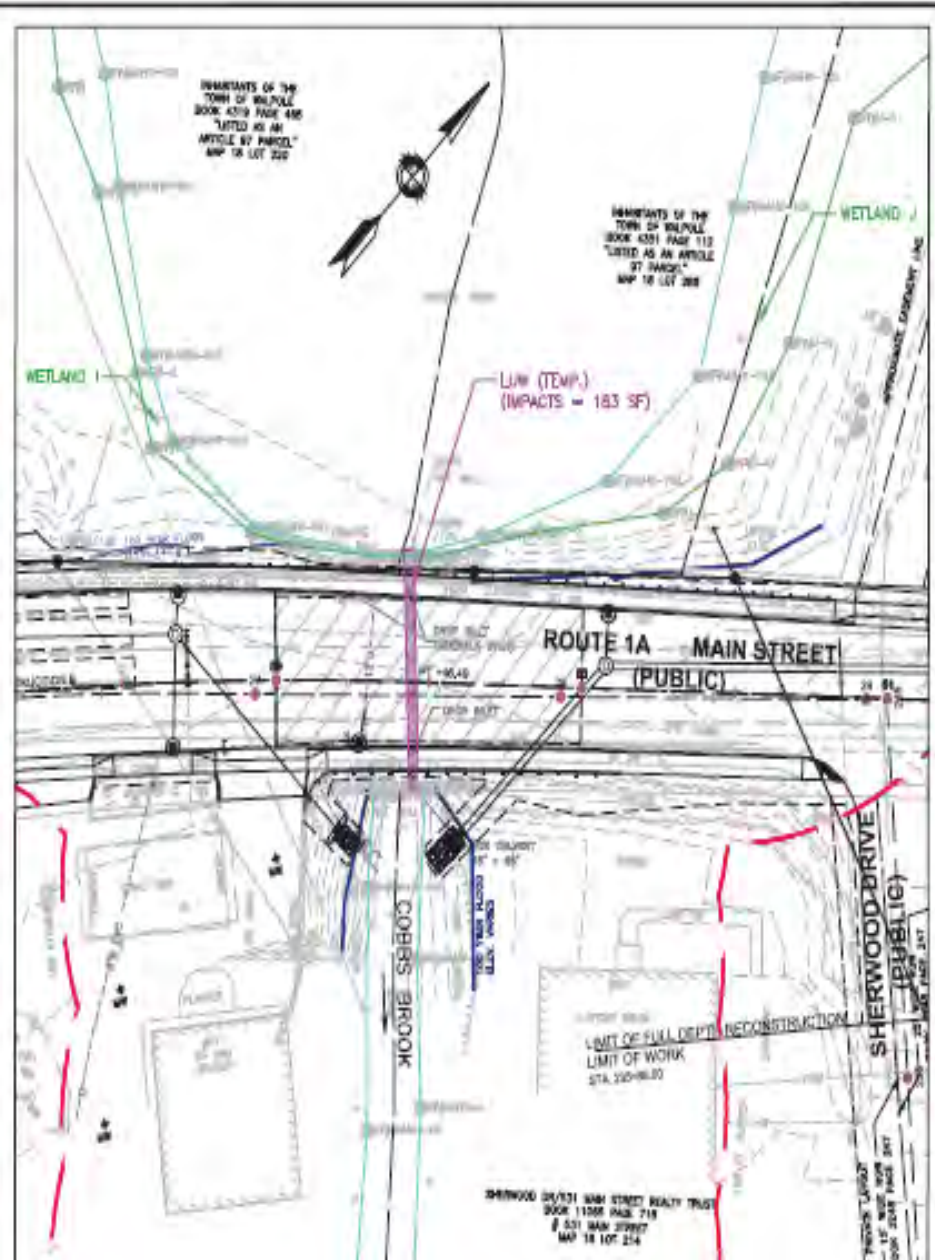
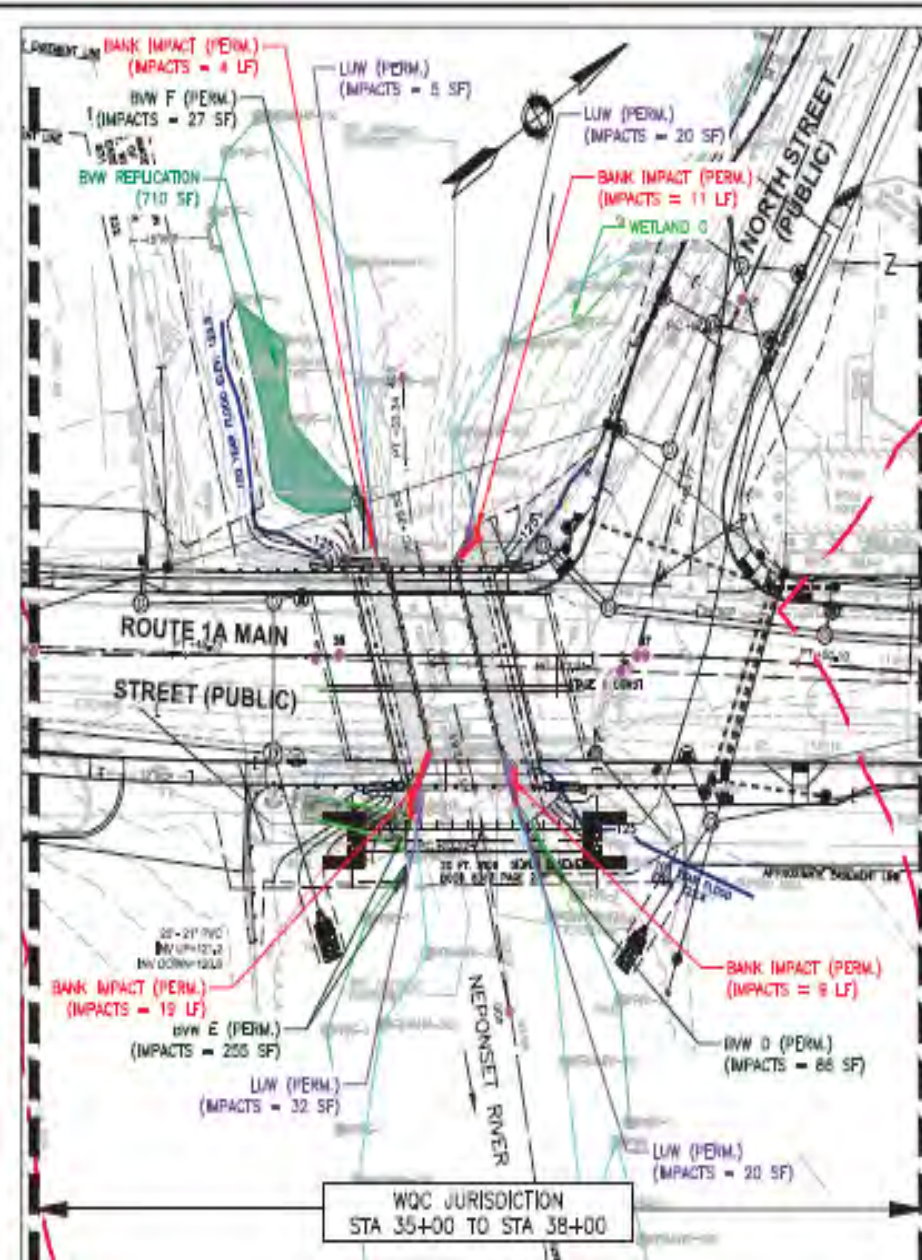
## Route 1A over the Neponset River in Walpole, MA





# Permitting Plans

## Route 1A over the Neponset River in Walpole, MA





# Environmental Permitting

- Depends on the resources present and impacts to those resources
- Permitting typically occurs between 75-100% design stage
  - Draft permit applications required in 75% submission
- Types of permits and timelines for those permits depend on the regulations that governs the resources





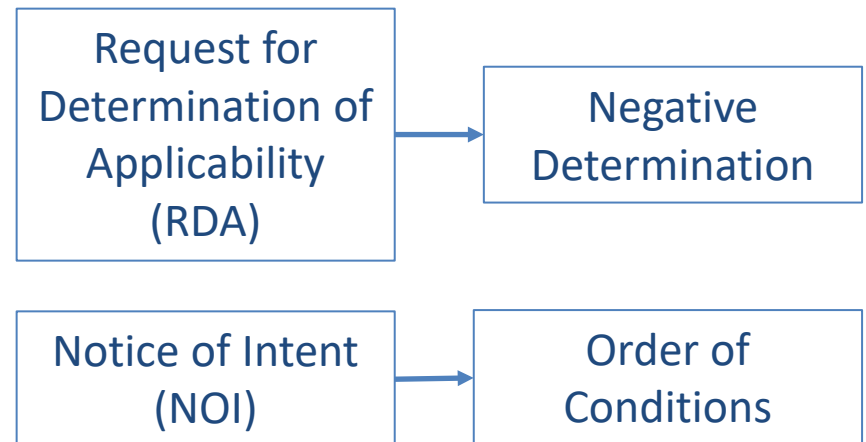
# Wetlands Protection Act

**What is a Wetland?** “Wetlands are areas where water covers the soil, or is present either at or near the surface of the soil all year or for varying periods of time during the year, including during the growing season.” (EPA)

## What Does it Protect?

- 310 CMR 10.02(1)
  - 100' Buffer Zone
  - 200' Riverfront Area
  - 100 Year Floodplain
  - Bank
  - Bordering Vegetated Wetland
  - Land Under Water
  - And Coastal Resources

## Conservation Commission Process





# Massachusetts Stream Crossing Standards



McInerney Road over Shaker Mill Brook in Egremont, MA

Standards include:

- Openness ratio
- 1.2 x Bankfull width
- Embedment
- Natural stream bottom



Route 2/7 in Williamstown, MA





# Clean Water Act



## Section 401 (MassDEP)

- Required for waters of the United States
- Water Quality Certification (WQC) permit type depends on impact amount

### <5,000 square feet impacts

OOC may serve as WQC (unless in ORW)

### >5,000 square feet impacts

Separate WQC required

### Dredging > 100 CY

Separate WQC required



## Section 404 (USACE)

- Required for waters of the United States

### Permit Type Determination:

#### Self Verification (SV)

Minor impacts

#### Pre-Construction Notification (PCN)

Screening and authorization based on General Permit conditions

#### Individual Permit (IP)

Major impacts



# MA General Law Chapter 91

## MA Public Waterfront Act

### What Does it Protect?

*Any work in, over, or under:*

- Filled tidelands
- Flowed tidelands
- Great ponds
- Non-tidal rivers and streams

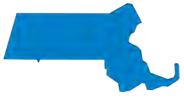
### DEP Authorization Types

- Waterways Permit
- Waterways License
- Minor Modification



*When is a waterway considered navigable?*





# MA Endangered Species Act

## What Does it Protect?

- Rare species and their habitats
- Prohibits a “Take” of any plant or animal species listed as Endangered, Threatened, or Special Concern



## NHESP Consultation Process

- MESA Checklist
- Joint review of NOI with conservation commission if within habitat
- Conservation Management Permit (CMP) for the “take” of state listed rare species
- CMP must result in Conservation Net Benefit as a result of the “take”

Wood turtle (*Glyptemys insculpta*)

State Status: Special Concern



# Section 7 of the Endangered Species Act

## What Does it Protect?

- Endangered and Threatened species
- Ex: Northern Long-Eared Bat



## USFWS Consultation

- Consultation through IPaC and early coordination with U.S. Fish & Wildlife Service.
- Listed bats: may result in Avoidance and Minimization Measures (e.g. tree cutting Time of Year Restrictions; full cut off lens lighting; protection plans, etc.)

Northern Long Eared Bat (*Myotis septentrionalis*)  
Federal Status: Endangered







# Protection of Public Land

- **Article 97**
  - Any transfer or conveyance of ownership or other interests; any change in physical or legal control; and any change in use, in and to Article 97 land or interests in Article 97 land owned or held by the Commonwealth.
- **Section 4(f)** of the US DOT Act
  - Publicly-owned land of public park, recreation area, wildlife or waterfowl refuge, or land of a historic site of National, State, or local significance
- **Section 6(f)** of the Land and Water Conservation Fund Act
  - Preserves outdoor recreation resources
  - Applies when a project proposes to convert property that was purchased or improved through Land and Water Conservation Act funding





# Cultural and Historic Resources

	 State	 Federal
<b>Regulation</b>	Chapter 254	Section 106, Section 4(f)
<b>Agency</b>	MA Historical Commission	State Historic Preservation Officer
<b>Resources</b>	State register-listed properties	NR-eligible/listed properties/districts
<b>Outcome</b>	Project Notification Form (PNF)	<ul style="list-style-type: none"> <li>• In-house Clearance</li> <li>• No Adverse Effect</li> <li>• Adverse Effect</li> <li>• Temporary Occupancy</li> <li>• <i>De minimis</i></li> </ul>





# National Environmental Policy Act & Massachusetts Environmental Policy Act



## NEPA

- Required if there is a federal action
- Documents project purpose and need; evaluates alternatives; and discloses impacts
- Differing “classes of action” based on relative significance of environmental impacts
  - Categorical Exclusion (no significant impact)
  - Environmental Assessment
  - Environmental Impact Statement (significant impact)



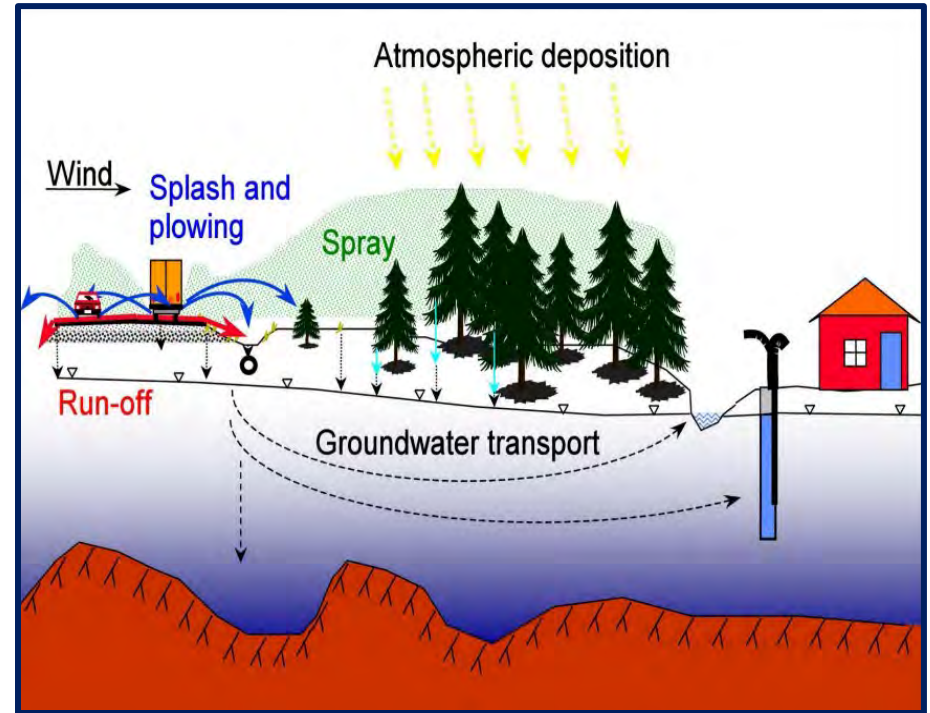
## MEPA

- Categorized impacts based on thresholds:
  - Land alteration/ impervious surface creation
  - Rare species - “take” of habitat
  - Wetlands/Waterways
  - New Roadway/Major Widening
  - Areas of Critical Environmental Concern/Article 97 Land
- Most bridge projects are exempt
- Submittal depends on impacts:
  - Environmental Notification Form (ENF)
  - Environmental Impact Report (EIR)
    - Required if project is within proximity to Environmental Justice population



# Salt Remediation Program

- Addresses complaints of salt impacts to water supplies caused by MassDOT's winter maintenance operations
- Private & Public Water Supplies
- Complaint areas getting more complex
- Best Management Practices & Operational Improvements
- Environmental Status and Planning Report
- Annual Reports







# Bridge Exemption

Applies for projects proposing repair, reconstruction, replacement, or demolition of existing state highway and municipally-owned bridges and their immediate approaches

- Article 97 compliance still applies
- Charles River for the Central Artery/Tunnel Project not applicable



MassDOT is exempt from **MEPA**, **Chapter 91**, and **WPA** if the proposed bridge design is substantially the functional equivalent of, and in similar alignment to, the existing structure

# Other Environmental Review Processes/Permits

- National Pollutant Discharge Elimination System (NPDES), MassDOT's Impaired Waters Program, and the POMP
- Watershed Protection Act
- Coastal Zone Consistency
- Essential Fish Habitat
- US Coast Guard
- Hazardous Waste
- Stormwater



Checking peregrine falcon nesting boxes





# Fluvial Geomorphology Assessments



## Design Elements

- Floodplain restoration
- Peak flow velocity reduction
- Habitat restoration

Post Construction  
Conway, MA  
MMI, 2016





# Habitat Management for Orange Sallow Moth







# Kestrel Nesting Boxes on I-91





**Left: Turtle Barrier  
Fencing and Signage**

**Right: Turtle Sweeps**







# Wildlife Passage Tunnels



# Timelines

- Coordinate wetland delineation with survey (if season allows)
  - Wetland flagging good for three years
- Don't let design get too far ahead of permitting, or allow permitting to get too far ahead of design
  - Identify permits at 25%
  - Review draft permits 75%
  - Submit after 75% design review complete
- Incorporate permit review timelines into schedule







# Environmental Clearance and Final Approval

- For MassDOT projects, Environmental Services ensures all regulatory requirements are met
  - Some clearances must precede others
- Differing requirements for federal vs. non-federal aid projects
- Final Design package (PS&E) incorporates all permitted impacts and associated mitigation (wetland replication, wildlife enhancements, historic documentation)

## Knowledge Check 1

- Bridge exempt projects are exempt from which of the following regulations?
  - a) MA Wetlands Protection Act (WPA)
  - b) Massachusetts Environmental Policy Act (MEPA)
  - c) Chapter 91 Public Waterfront Act
  - d) All of the above



## Knowledge Check 2

- You are scoping the environmental permitting for a roadway widening project. The project is expected to fill Bordering Vegetated Wetland. What type of Wetlands Protection Act permit do you think the project will need?
  - a) Request for Determination of Applicability (RDA)
  - b) Notice of Intent (NOI)

## Knowledge Check 3

- You are scoping a project with no significant environmental impacts. When is a Categorical Exclusion (CE) project checklist needed for a project under the National Environmental Policy Act (NEPA)?
  - a) Always needed
  - b) Needed if federal action



# Questions?

Melissa Lenker:

[melissa.lenker@dot.state.ma.us](mailto:melissa.lenker@dot.state.ma.us)

Alex Lamarche:

[alex.g.lamarche@dot.state.ma.us](mailto:alex.g.lamarche@dot.state.ma.us)

