

Trafton Road Bridge (BR 5812) over Interstate 95 Wetland and Watercourse Delineation and Monarch Butterfly Habitat Assessment Report

Waterville, Maine
WIN 26152.00

Stantec Consulting Services Inc.

Prepared for:
Maine Department of Transportation

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Project/File:
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1 Introduction

The Maine Department of Transportation (MaineDOT) is proposing replacement of the Trafton Road Bridge over Interstate 95 (I-95) in Waterville, Maine (BR 5812; hereafter, Project). Wetland and watercourse delineations as well as a habitat assessment for monarch (*Danaus plexippus*) was conducted by Stantec Consulting Services Inc. on January 10, 2025, in support of design planning as well as state and federal permitting requirements. This report summarizes the methodology and results of the field investigations.

2 Methodology

The delineations and habitat assessments were conducted within approximately 100 feet of the existing bridge locations, including the bridge superstructure and approaches that were safely accessible at the time of the field work (Figure 1).

2.1 Wetland and Watercourse Delineation

Wetland boundaries under potential federal and state jurisdiction were determined using the technical criteria described in the U.S. Army Corps of Engineers (USACE) *Wetlands Delineation Manual*¹ and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Regional Supplement (Version 2.0)*.² Wetland boundaries were flagged with pink “WETLAND DELINEATION” flagging and labeled with a unique alpha-numeric code in accordance with MaineDOT nomenclatural conventions. Wetland flags were located using a Global Positioning System (GPS) receiver capable of achieving submeter horizontal accuracy. The GPS data were attributed in accordance with MaineDOT spatial data requirements. Field data were collected on dominant vegetation, evidence of wetland hydrology, hydric soil criteria (where possible), and wetland functions using MaineDOT’s “Standard MaineDOT Information / F&V Form.” The observed wetland functions and values were based on the USACE *Highway Methodology Workbook Supplement: Wetland Functions and Values - A Descriptive Approach*.³ Wetland classification was assigned based on the *Classification of Wetlands and Deepwater Habitats of the United States*.⁴ Wetlands of Special Significance (WoSS) were identified based on criteria in

¹ Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS.

² U.S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

³ US Army Corps of Engineers. 1999. *Highway Methodology Workbook Supplement: Wetland Functions and Values - A Descriptive Approach*. New England Division. Publication no. NAEEP-360-1-30a. November 1995. 32 pp

⁴ Federal Geographic Data Committee. 2013. *Classification of Wetlands and Deepwater Habitats of the United States*. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.



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Chapter 310 of the Natural Resources Protection Act⁵ and Chapter 335 Significant Wildlife Habitat.⁶ Identification of WoSS was limited to observable conditions within the Project site. Representative photographs were taken as appropriate.

Concurrent with the wetland delineation, streams and other potential Waters of the United States were delineated, if observed. These resources were identified using the regulatory criteria established by the Maine Department of Environmental Protection⁷ and the USACE.⁸ For streams less than approximately 5 feet wide (from the top of the bank) were flagged with blue flagging along their approximate centerline; streams over approximately 5 feet wide were flagged at the observed top of bank or ordinary high water mark, whichever was more conservative. Each flag was labeled with a unique alpha-numeric code in accordance with MaineDOT's nomenclatural convention and located with the GPS receiver. Data were recorded on apparent flow regime, substrate, bankfull widths, ordinary high water mark widths, water depths, and presence of aquatic organisms and vegetation. Delineated streams were assessed using the "MaineDOT Stream Assessment Form." Representative photographs were taken as appropriate.

Stantec identified potential vernal pools (PVP) within the Project area. As the delineation was conducted outside of the appropriate vernal pool survey season, PVPs were identified based on physical characteristics such as the presence of standing water or water marks within a confined basin. If identified, PVPs were located as an approximate center point with the GPS receiver and general data on their approximate size, origin, hydroperiod, and physical characteristics were collected.

2.2 Monarch Habitat Assessment

During the delineation, Stantec assessed the existing habitats within the Project area relative to their potential to support monarch butterfly. The habitat assessment consisted primarily of a survey for milkweed (*Asclepias* spp.), the host plants for monarch larvae (caterpillars). Because the assessment was conducted outside of the growing season, observations of milkweed was limited to persistent remnants that remained identifiable at the time of the field assessment. Data were collected on approximate abundance and the spatial extent of the observed milkweed specimens was located with the GPS receiver. In addition, habitats within the Project area were characterized relative to their potential to support milkweed during normal growing season conditions based on observable associated vegetation, canopy cover, hydrology, and the type and approximate frequency of habitat disturbances (e.g., mowing). Representative photographs were taken to document existing conditions.

⁵ Maine Department of Environmental Protection. 26 January 2009. Natural Resources Protection Act Chapter 310: Wetlands and Waterbodies Protection Rules. Bureau of Land and Water Quality, DEPLW0297-D2009.

⁶ Maine Department of Environmental Protection. 7 January 2014. Natural Resources Protection Act Chapter 335: Significant Wildlife Habitat.

⁷ Danielson, T. J. 2018. *Natural Resource Protection Act (NRPA) Streams, Rivers, and Brooks*. Maine Department of Environmental Protection, Augusta, ME.

⁸ U.S. Army Corps of Engineers. 2025. National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams: Final Version. ERDC/CRREL TR-25-1, Vicksburg, MS: U.S. Army Corps of Engineers Engineer Research and Development Center.



3 Results

3.1 Wetland and Watercourse Delineation

The wetland and watercourse delineation was conducted on January 10, 2025. The ground was free of snow; however, the soil was frozen throughout most of the Project area. Accordingly, a verification of the wetland boundaries identified during this effort is recommended to be conducted during appropriate seasonal conditions in order to assess hydric soil characteristics in accordance with USACE wetland delineation methodology.

A total of 3 wetlands were delineated within the Project area (Figure 1). No streams, other potential Waters of the United States, or PVPs were observed. Representative photographs are provided in Appendix A and Standard MaineDOT Information / F&V Forms are provided in Appendix B. Table 1 summarizes the delineated wetlands.



Table 1. Summary of Delineated Wetlands

Wetland Identifier	Wetland Classification ¹	Dominant and Characteristic Vegetation Type	Hydric Soil Criteria	WoSS Notes	Evidence of Hydrology	Comments
VE-01A	PEM	Herbs: lamp rush (<i>Juncus effusus</i>), reed canary grass (<i>Phalaris arundinacea</i>), sensitive fern (<i>Onoclea sensibilis</i>)	Frozen – not assessed	No	Surface Water, Geomorphic Position	Mowed drainage swale at base of road embankment and continuing northerly outside of Project area
VE-01B	PEM	Shrubs: nanny-berry (<i>Viburnum lentago</i>) Herbs: sensitive fern, wrinkle-leaf goldenrod (<i>Solidago rugosa</i>), lamp rush, purple loosestrife (<i>Lythrum salicaria</i>), reed canary grass	Frozen – not assessed	No	Surface Water, Geomorphic Position, Drainage Patterns	At toe of road embankment; constructed ditch along road conveys hydrology between VE-01B and VE-01C
VE-01C	PEM	Herbs: reed canary grass, pointed broom sedge (<i>Carex scoparia</i>), broad-leaf cat-tail (<i>Typha latifolia</i>), lamp rush	Depleted Matrix (interior)	No	Surface Water, Water Marks Drainage Patterns, Geomorphic Position	Mowed wet meadow and drainage swale at base of road embankment and continuing off-site; soil frozen along edge

¹ Wetland classification follows Federal Geographic Data Committee (2013): PEM = Palustrine Emergent



3.2 Monarch Habitat Assessment

The Project area includes potentially suitable monarch habitat along the open roadway embankments and I-95 median. Common milkweed (*Asclepias syriaca*) was observed within the open upland habitats of the I-95 median. Approximately 25 remnant plants were observed within the Project to the south of the bridge location in the median with a single plant located at the eastern abutment. The associated habitat consists of maintained early successional meadow and shrubland habitat and includes common associates such as Canadian goldenrod (*Solidago canadensis*), common wormwood (*Artemisia vulgaris*), red fescue (*Festuca rubra*), reed canary grass (*Phalaris arundinacea*), Kentucky blue grass (*Poa pratensis*), wrinkle-leaf goldenrod (*Solidago rugosa*), and king's-cureall (*Oenothera biennis*).

The open habitat areas beyond the edge of pavement are maintained periodically through mowing by MaineDOT as well as the abutting landowners. Frequent mowing largely limits the potential for common milkweed establishment and for monarch larvae to complete their life cycle. Steeper road embankments and the median appear to receive less mowing frequency than other areas within the Project area and may provide more viable habitat for monarch larvae development.

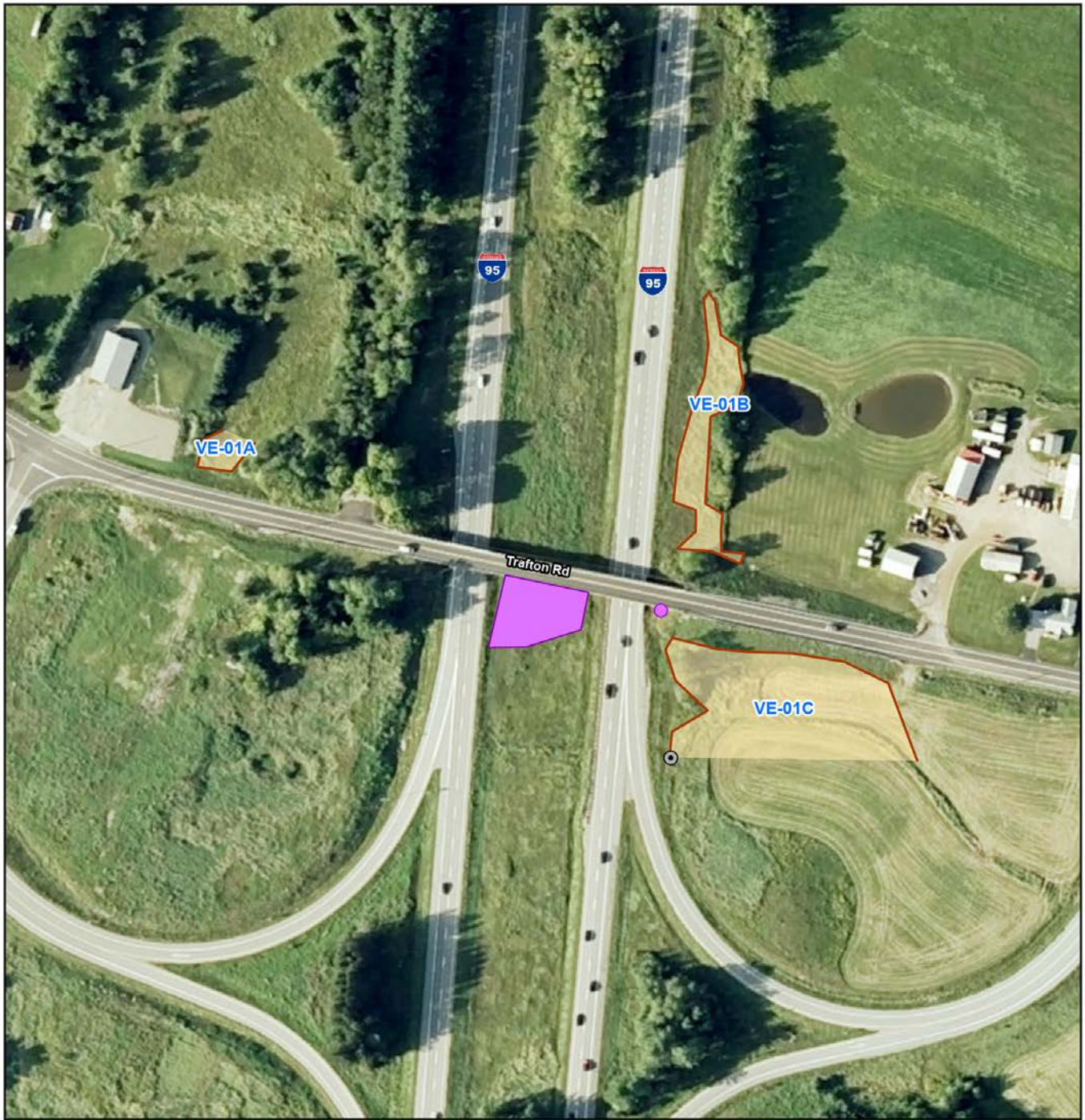
Small forest fragments are located primarily in the western portion of the Project area. These areas have overstory vegetation including sugar maple (*Acer saccharum*) and eastern white pine (*Pinus strobus*) with a shrub-dominated understory containing choke cherry (*Prunus virginiana*), European buckthorn (*Rhamnus cathartica*), and staghorn sumac (*Rhus hirta*) and do not provide potential habitat for milkweed due to the increased understory shading of these areas and no remnant milkweed specimens were observed.

Representative habitat photographs are provided in Appendix A and the locations of observed milkweed are indicated on Figure 1.



Figures





Notes

1. Wetland boundaries delineated (Date) in accordance with the USACE Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Regional Supplement (Version 2.0).
2. Wetland boundaries and streams were located utilizing an EOS Arrow GNSS/GPS Receiver. Expected accuracy of GPS data is within 1-2 meters of actual position.
3. Wetland delineation conducted during frozen ground conditions and verification of hydric soil criteria during growing appropriate seasonal conditions is recommended.
4. Milkweed survey conducted during non-growing season conditions and was limited to observations of persistent remnant specimens.
5. Coordinate System: NAD 1983 UTM Zone 19N
6. Data Sources: MEGIS, Stantec
7. Background: Aerial imagery provided by National Agriculture Imagery Program (NAIP), Maine, 2022.

Legend

- Culvert
- Wetland Boundary Line
- Palustrine Emergent Wetland
- Approximate Delineation Limit

- Common milkweed (*Asclepias syriaca*) Observation

0 2,000 4,000 Feet
(At original document size of 8.5x11)
1:2,400



Project Location
Waterville, Maine

Prepared by PWB on 2025-01-23
TR Review by KWH on 2025-01-23
IR Review by MPA on 2025-01-23

Client/Project
MEDOT
Trafton Road Bridge (BR 5812) over I-95
(WIN 26152.00)

Figure No.
1

Title
**Wetland and Watercourse Delineation
and Milkweed Survey Map**

Appendices



Appendix A Representative Photographs



**Trafton Road Bridge (BR 5812) over Interstate 95 Wetland and Watercourse Delineation and
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Appendix A Representative Photographs



Photo 1. Wetland VE-01A. Stantec. January 10, 2025.



Photo 2. Wetland VE-01B. Stantec. January 10, 2025.



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Photo 3. Wetland VE-01C. Stantec. January 10, 2025.



Photo 4. Common milkweed habitat in median south of Trafton Road. Stantec. January 10, 2025.



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Appendix A Representative Photographs



Photo 5. Common milkweed remnant at eastern bridge abutments. Stantec. January 10, 2025.



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Appendix A Representative Photographs



Photo 6. Representative Trafton Road shoulder habitat along eastern bridge approach. Stantec.
January 10, 2025.



Photo 7. Representative Trafton Road shoulder habitat along western bridge approach. Stantec.
January 10, 2025.



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Appendix A Representative Photographs



Photo 8. Early successional meadow and shrubland habitat along Trafton Road to west of bridge.
Stantec. January 10, 2025.



Photo 9. Trafton Road, view to the east towards bridge. Stantec. January 10, 2025.



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Appendix A Representative Photographs



Photo 10. Trafton Road bridge, view to the northeast. Stantec. January 10, 2025.



Appendix B MaineDOT Wetland Data Forms



Standard MaineDOT Information/F&V Form

MaineDOT Functional Assessment:													
1. Town: Waterville			2. Trafton Road BR 5812			3. WIN: 26152.00							
4. Wetland ID/ Line ID: VE-01A			5. Cowardin Class: PEM			6. Stationing/Location							
7. Dominant Vegetation: <i>Phalaris arundinacea, Onoclea sensibilis, Juncus effusus</i>						8. Wetland Morphology HGM Type: Sloped swale, no stream association							
9. Wetland description including a soil description: Mowed wetland swale at toe of road embankment and continuing northerly off-site. Surface water present Soil: Frozen – not assessed at time of delineation. USDA NRCS soil mapped as Scio very fine sandy loam													
10. FVA Table:													
Whole Wetland:													
F/V	GRD	FFA	FSH	STR	NRRT	PE	SSS	WH	REC	ESV	U/H	VQA	ES
Occurs				X									
Principal					X								
Impacted area: TBD													
11. Is this wetland part of larger complex? No.													
12. Impact Notes/Photos: Impacts TBD, see report photos													
Attach applicable ACOE Form													

Directions and Guidance

1. Town where project is located.
2. Route.
3. Work Identification Number (WIN).
4. Unique Identifier code for each wetland area.
5. Cowardin Classification Codes.
6. Approximated stationing location.
7. List the typical vegetation found within this wetland type. List any vegetation that may support a function of that wetland.
8. This should describe the morphology of the wetland. Need to describe if the wetland is in a basin or on a sloped area, whether it has a definite inlet or outlet and whether a stream is present in the wetland.
9. Notes any soils information, stream descriptions, habitat descriptions such as vernal pools or open aquatic areas.
10. This is the wetland function discussion block.
11. Is this wetland in a complex associated with other streams or wetlands?
12. Also any include more detailed description of area to be affected by the project as opposed to notes of the entire wetland, if known. Photos if applicable.

Standard MaineDOT Information/F&V Form

MaineDOT Functional Assessment:													
1. Town: Waterville			2. Trafton Road BR 5812			3. WIN: 26152.00							
4. Wetland ID/ Line ID: VE-01B			5. Cowardin Class: PEM			6. Stationing/Location							
7. Dominant Vegetation: <i>Viburnum lentago</i> , <i>Onoclea sensibilis</i> , <i>Solidago rugosa</i> , <i>Juncus effusus</i> , <i>Lythrum salicaria</i> , <i>Phalaris arundinacea</i>						8. Wetland Morphology HGM Type: Sloped swale							
9. Wetland description including a soil description: Roadside wetland swale flowing into off-site farm pond Soil: Frozen along– not assessed at time of delineation. USDA NRCS soil mapped as Scantic silt loam													
10. FVA Table:													
Whole Wetland:													
F/V	GRD	FFA	FSH	STR	NRRT	PE	SSS	WH	REC	ESV	U/H	VQA	ES
Occurs		X		X									
Principal					X								
Impacted area: TBD													
11. Is this wetland part of larger complex? No.													
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Standard MaineDOT Information/F&V Form

MaineDOT Functional Assessment:													
1. Town: Waterville			2. Trafton Road BR 5812			3. WIN: 26152.00							
4. Wetland ID/ Line ID: VE-01C			5. Cowardin Class: PEM			6. Stationing/Location							
7. Dominant Vegetation: <i>Phalaris arundinacea</i> , <i>Carex scopiaria</i> , <i>Juncus effusus</i> , <i>Typha latifolia</i>						8. Wetland Morphology HGM Type: Flat to sloped swale, no stream association							
9. Wetland description including a soil description: Mowed wetland field at toe of road embankment and continuing southerly off-site via vegetated swale. Surface water present in flowing swale Soil: Frozen along edges – not assessed at time of delineation; interior depleted silty clay. USDA NRCS soil mapped as Scantic silt loam													
10. FVA Table:													
Whole Wetland:													
F/V	GRD	FFA	FSH	STR	NRRT	PE	SSS	WH	REC	ESV	U/H	VQA	ES
Occurs		X		X									
Principal					X								
Impacted area: TBD													
11. Is this wetland part of larger complex? No.													
12. Impact Notes/Photos: Impacts TBD, see report photos													
Attach applicable ACOE Form													

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