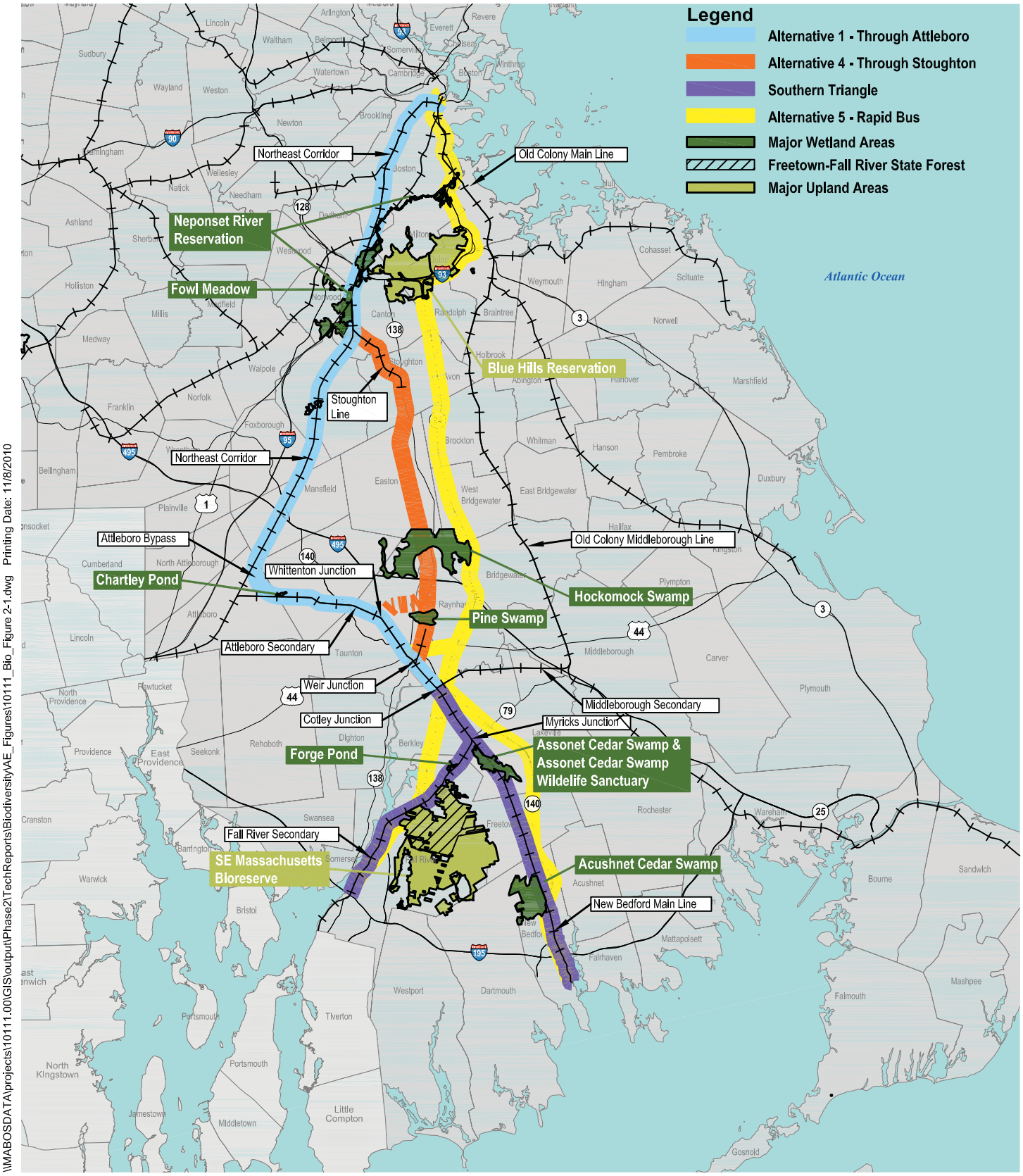

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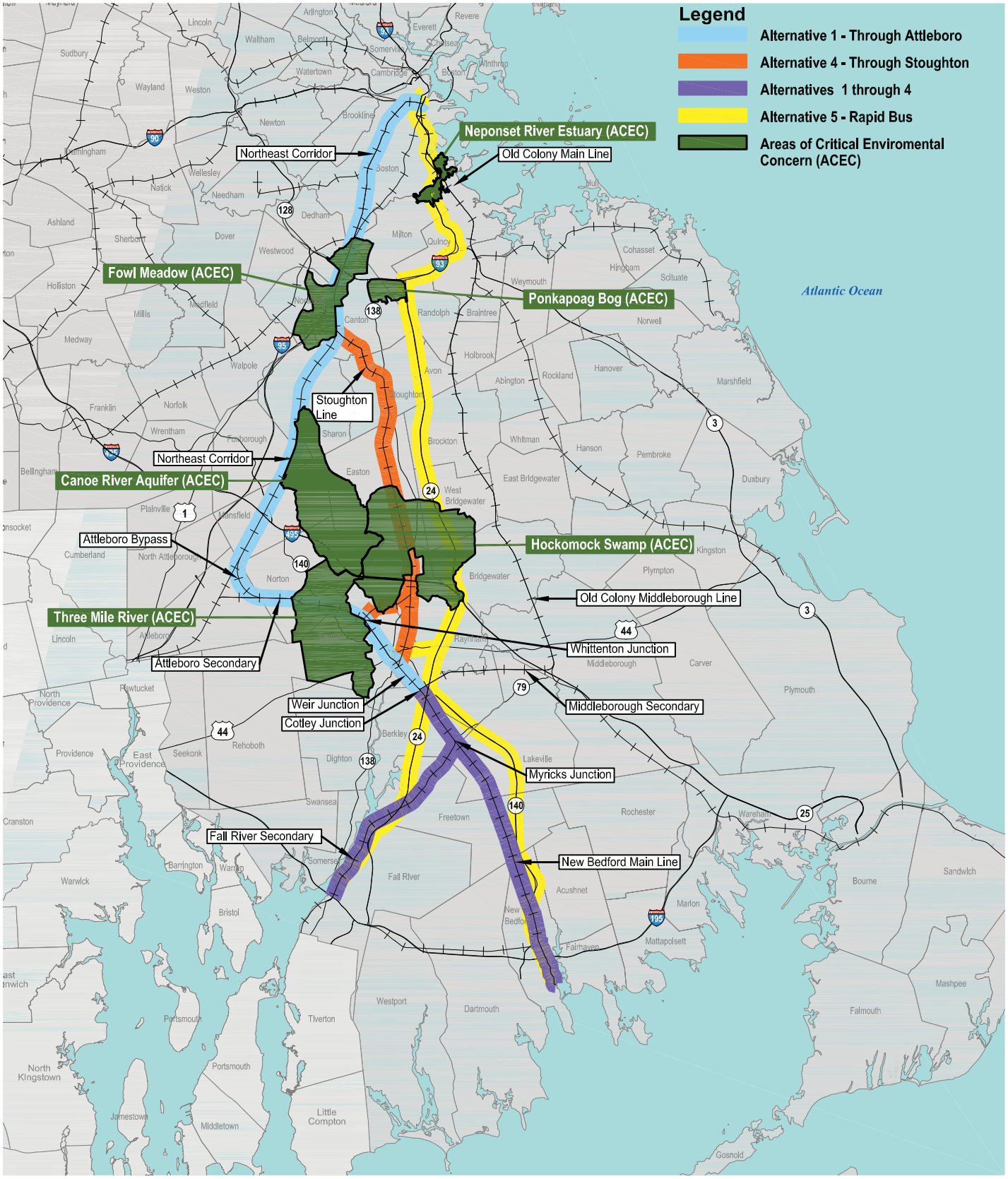
0 4 8 Miles

Figure 4.14-1

Major Open Space Areas



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0 4 8 Miles

Figure 4.14-2

Areas of Critical Environmental Concern (ACECs)

Printing Date: 7/22/2009
File: \\MABOS\projects\10111.00\GIS\project\Phase2\TechReports\Biodiversity\ECIBIO_Fig3-3a_NewBedford.mxd

Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Area of Critical Environmental Concern (ACEC)
- Proposed Alternative Alignment
- Limit of Work for Proposed Station/ Layover Facility
- Limit of Permanent Impact for Proposed Rail
- Traction Power Station*
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- Wetlands
- Protected Open Space
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- Biodiversity Impact - Edge Effects
- Biodiversity Impact - Interior Effects
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- NHESP Living Waters Core Habitat
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- SCR Identified Vernal Pools (Field Verified)
- # Vernal Pool ID

Note: NHESP Potential Vernal Pools: NOT equivalent to Certified Vernal Pools

* Traction power stations are only required for electric rail alternative

Index Map

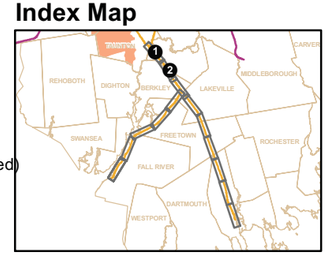
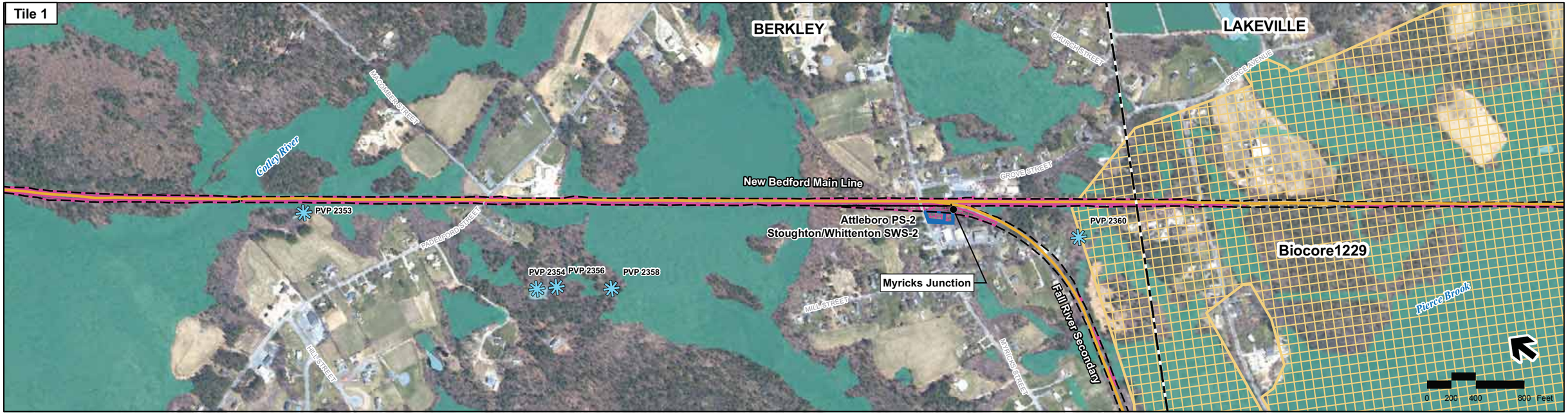
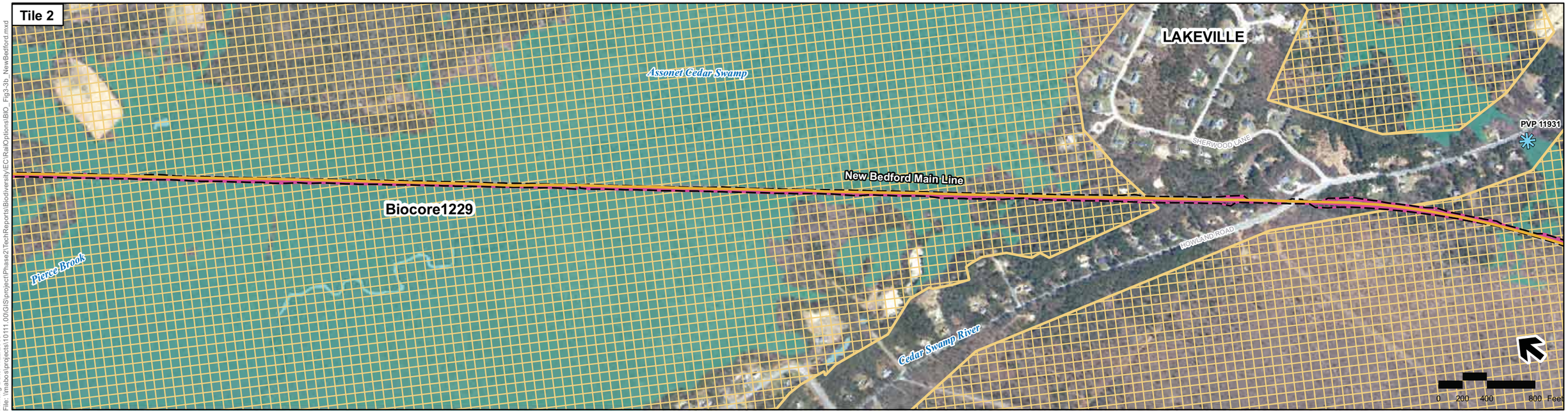


Figure 4.14-3a

All Rail Alternatives - New Bedford Main Line

Biodiversity Impacts





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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Area of Critical Environmental Concern (ACEC)
- Proposed Alternative Alignment
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- Limit of Permanent Impact for Proposed Rail
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Index Map

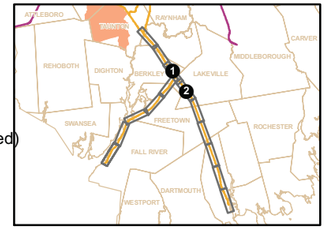
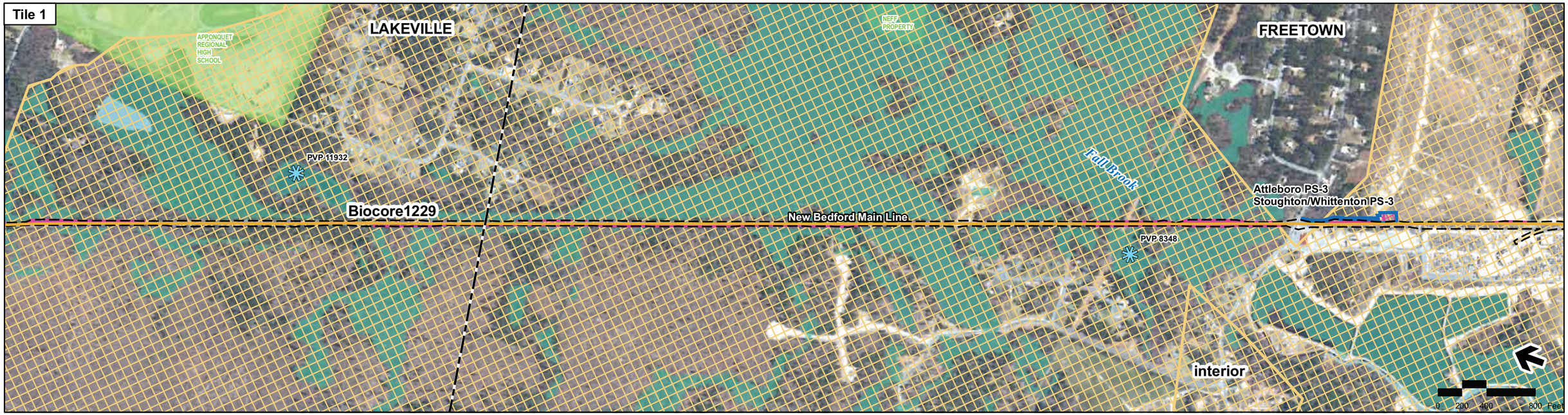


Figure 4.14-3b

All Rail Alternatives - New Bedford Main Line

Biodiversity Impacts



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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
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Index Map

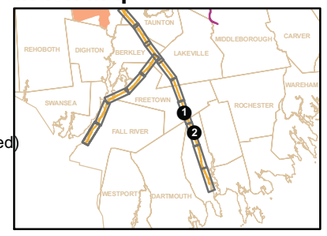
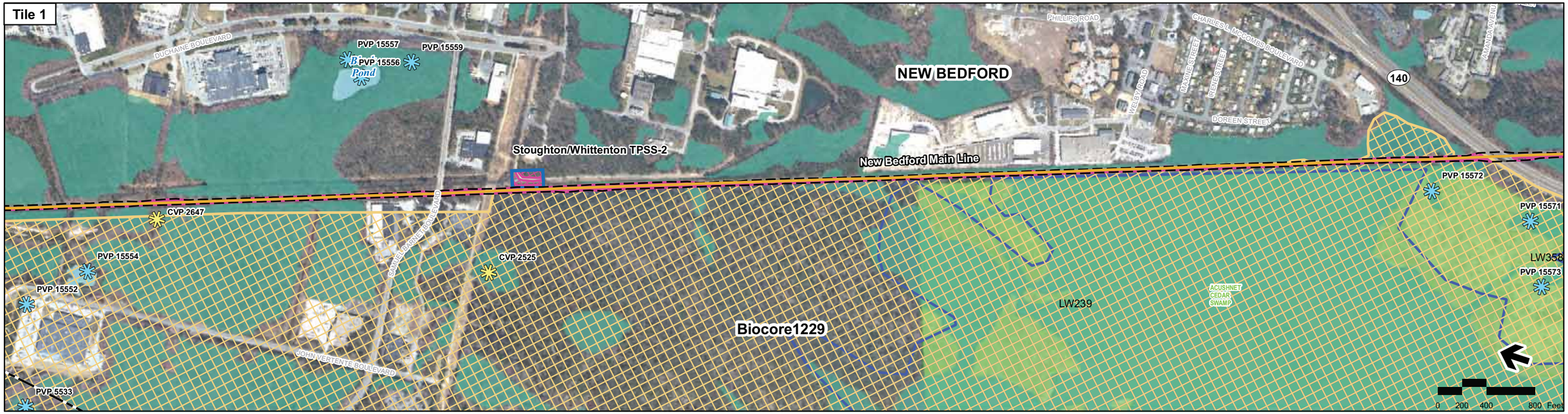


Figure 4.14-3c

All Rail Alternatives - New Bedford Main Line

Biodiversity Impacts



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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Area of Critical Environmental Concern (ACEC)
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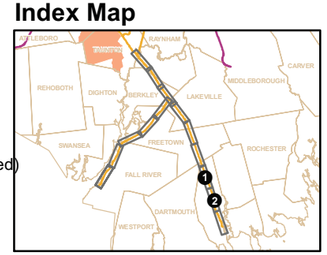

Figure 4.14-3d

All Rail Alternatives - New Bedford Main Line

Biodiversity Impacts

Printing Date: 7/22/2009
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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Area of Critical Environmental Concern (ACEC)
- Proposed Alternative Alignment
- Limit of Work for Proposed Station/ Layover Facility
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Index Map

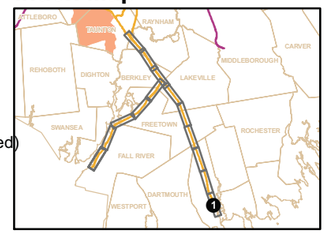
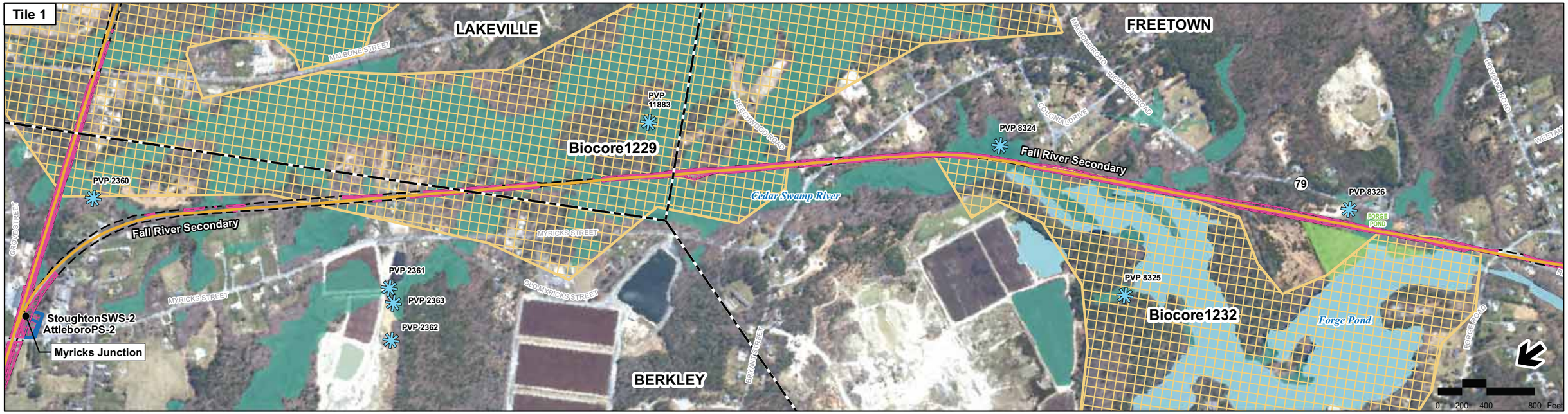
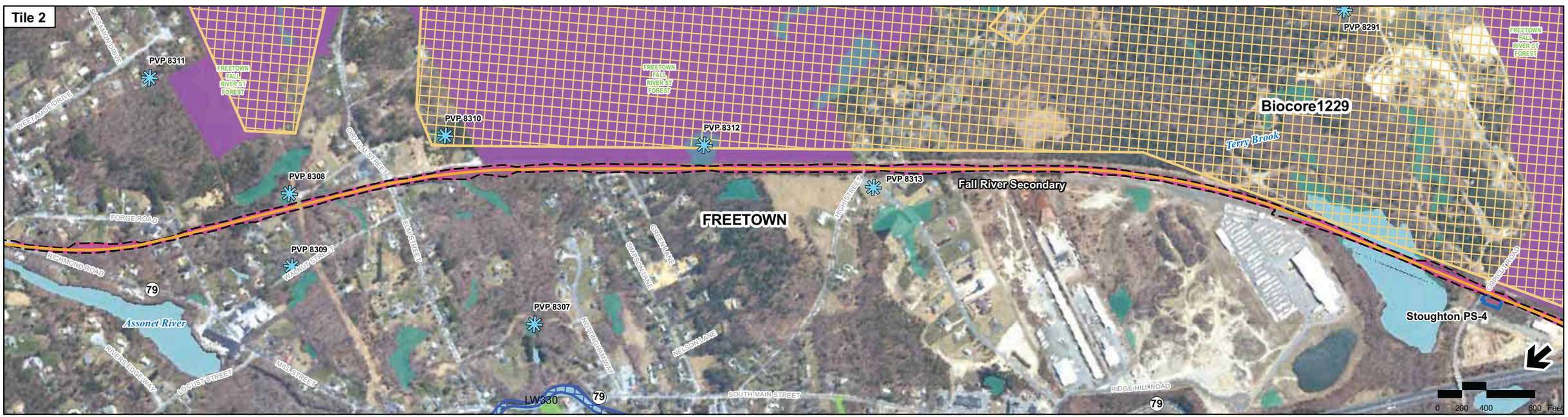


Figure 4.14-3e

All Rail Alternatives - New Bedford Main Line

Biodiversity Impacts





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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
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Index Map

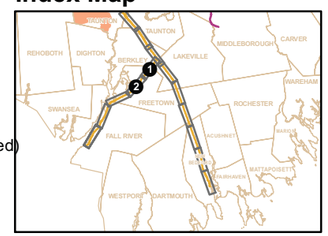
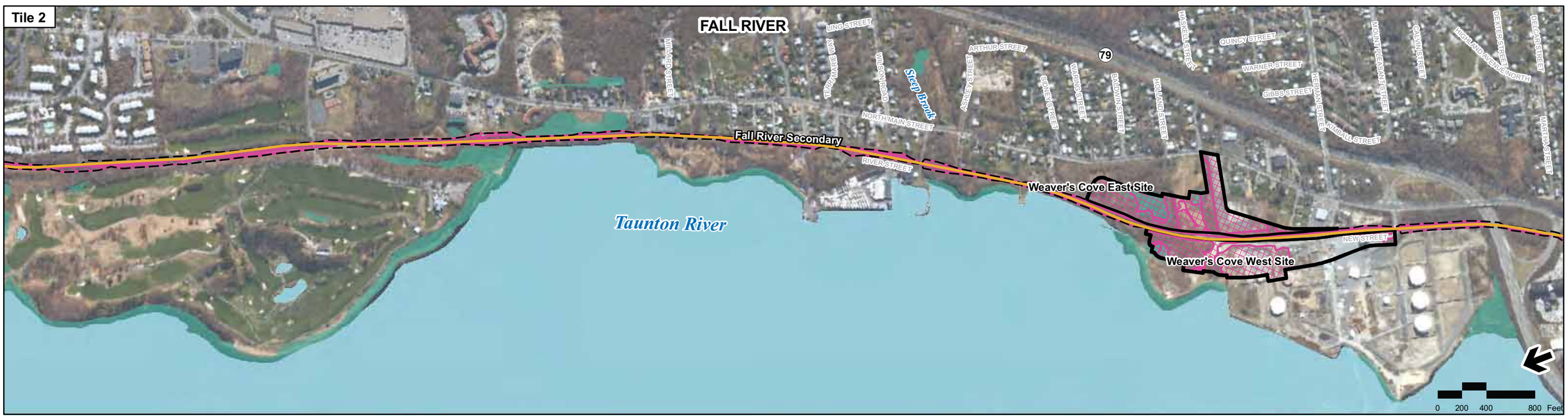


Figure 4.14-4a

All Rail Alternatives - Fall River Secondary

Biodiversity Impacts



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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Area of Critical Environmental Concern (ACEC)
- Proposed Alternative Alignment
- Limit of Work for Proposed Station/ Layover Facility
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- NHESP Potential Vernal Pools
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- # Vernal Pool ID

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Index Map

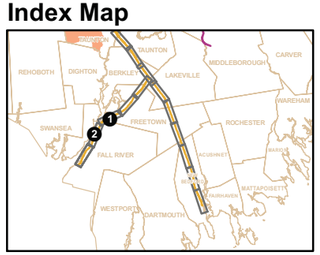
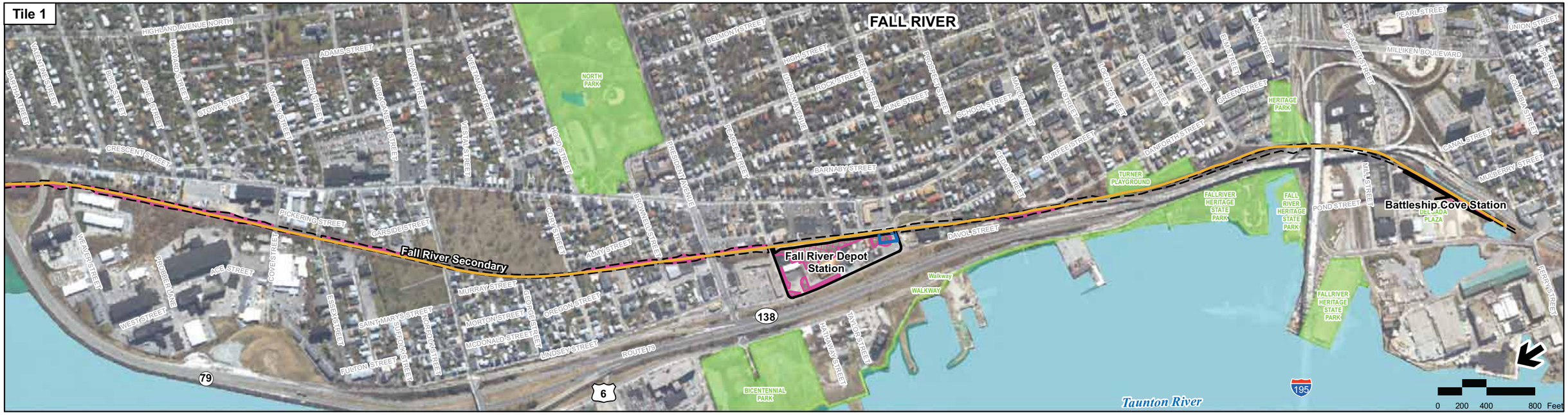


Figure 4.14-4b

All Rail Alternatives - Fall River Secondary

Biodiversity Impacts



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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Area of Critical Environmental Concern (ACEC)
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- Limit of Work for Proposed Station/ Layover Facility
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Index Map

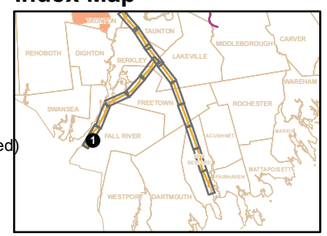
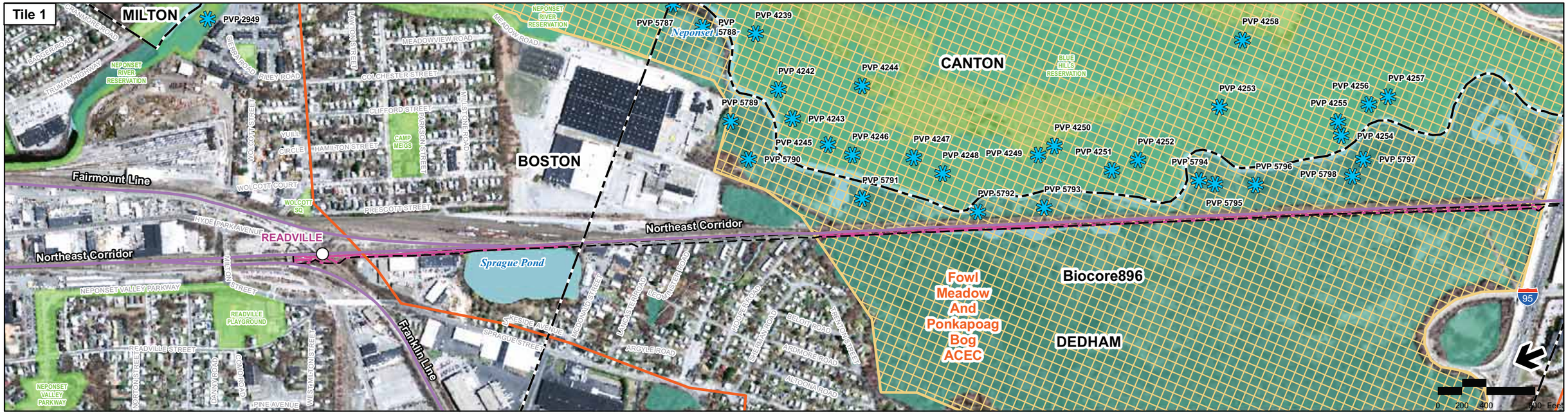


Figure 4.14-4c

All Rail Alternatives - Fall River Secondary

Biodiversity Impacts



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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Area of Critical Environmental Concern (ACEC)
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Index Map

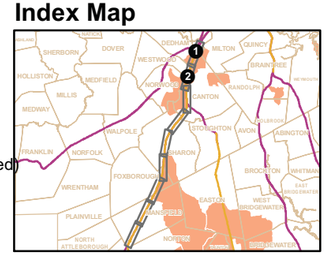

Figure 4.14-5a

Attleboro Alternatives - Northeast Corridor

Biodiversity Impacts

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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Area of Critical Environmental Concern (ACEC)
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- # Vernal Pool ID

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Index Map

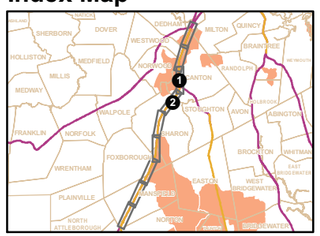
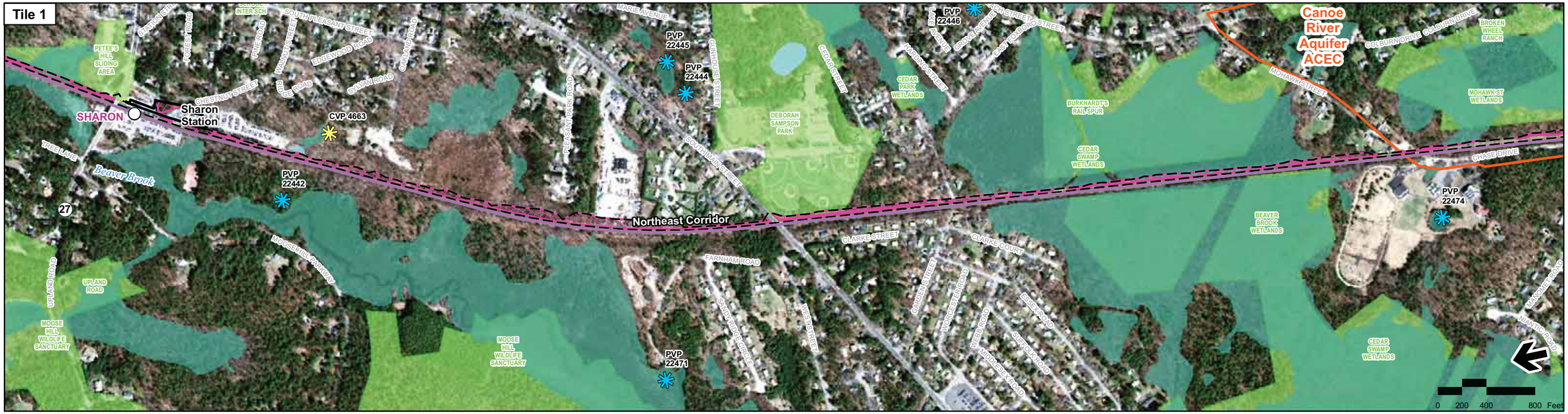
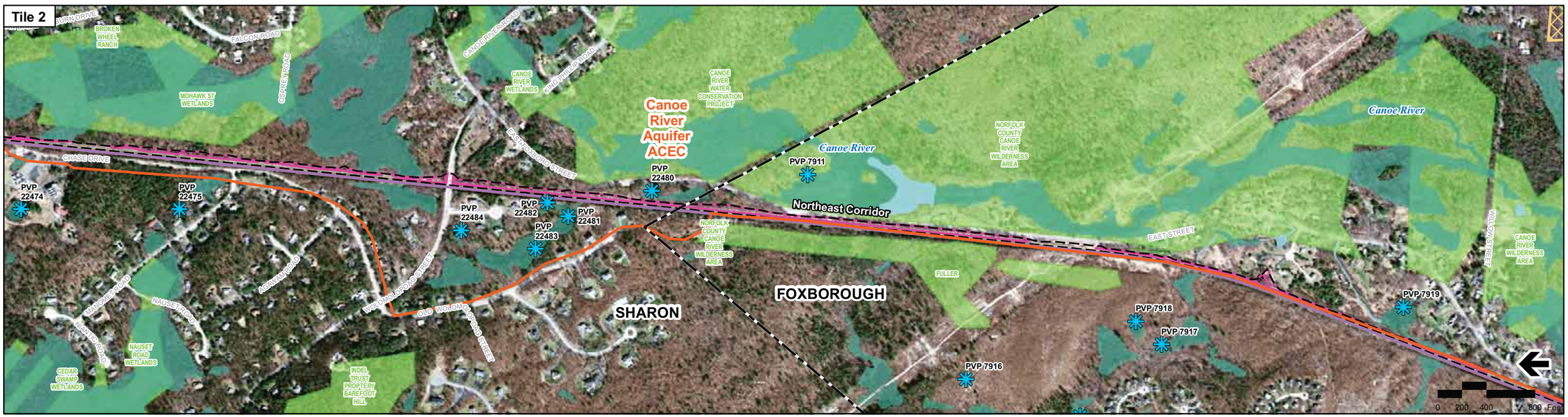


Figure 4.14-5b

Attleboro Alternatives - Northeast Corridor

Biodiversity Impacts





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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
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Index Map

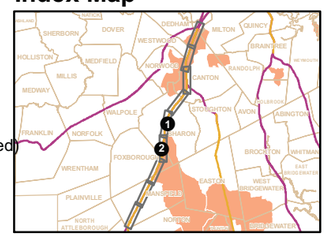

Figure 4.14-5c

Attleboro Alternatives - Northeast Corridor

Biodiversity Impacts

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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Area of Critical Environmental Concern (ACEC)
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Index Map

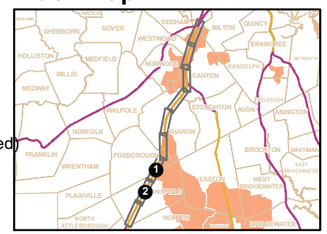

Figure 4.14-5d

Attleboro Alternatives - Northeast Corridor

Biodiversity Impacts

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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
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Index Map

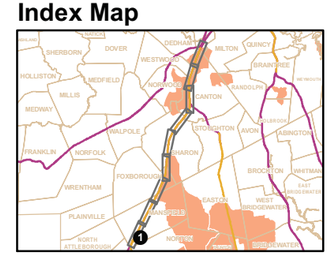

Figure 4.14-5e

Attleboro Alternatives - Northeast Corridor

Biodiversity Impacts

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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Area of Critical Environmental Concern (ACEC)
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* Traction power stations are only required for electric rail alternative

Index Map

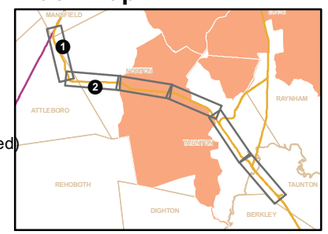
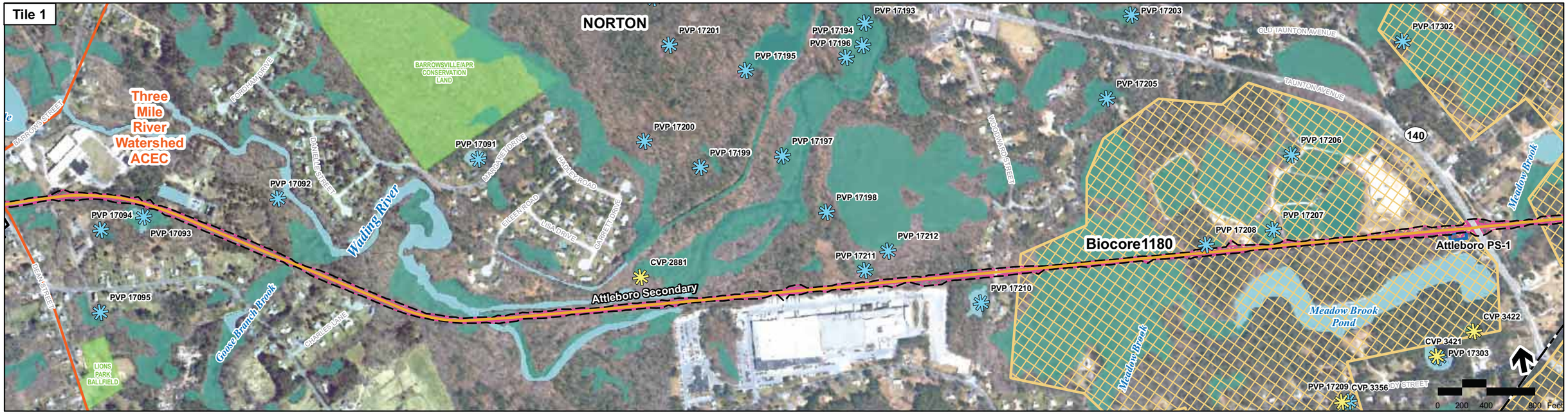
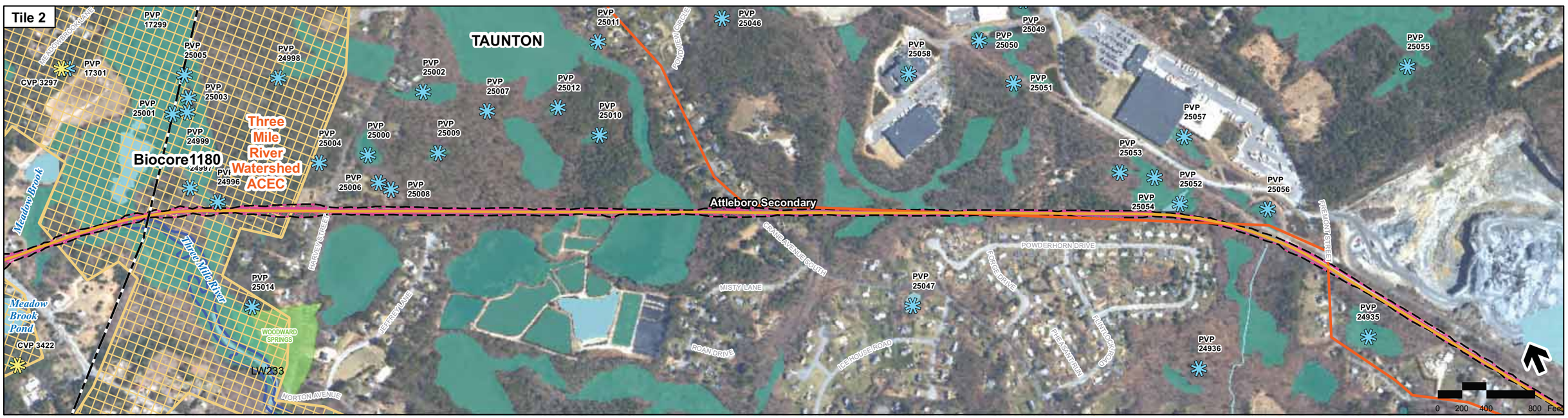


Figure 4.14-6a

Attleboro Alternatives - Attleboro Bypass and Attleboro Secondary

Biodiversity Impacts





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File: \\Vhb\proj\Boston\10111.00\GIS\projectPhase2\TechReports\BiodiversityIEC\RailOptions\BIO_Fig3-5b_Attleboro.mxd

Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Area of Critical Environmental Concern (ACEC)
- Proposed Alternative Alignment
- Limit of Work for Proposed Station/ Layover Facility
- Limit of Permanent Impact for Proposed Rail
- Traction Power Station*
- Open Water
- Wetlands
- Protected Open Space
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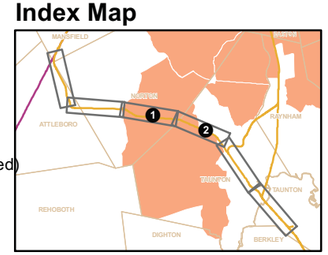
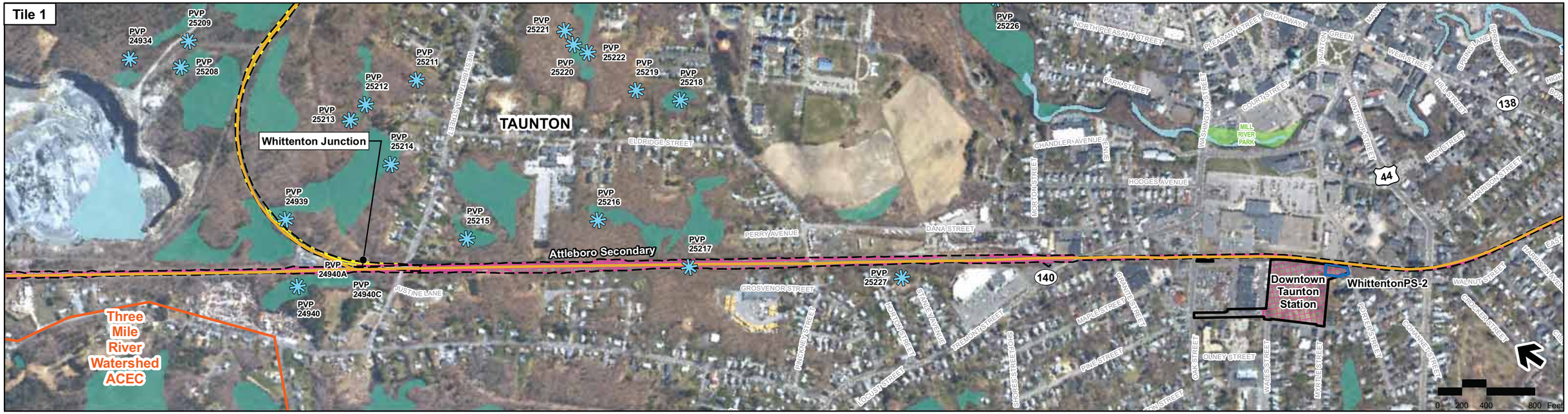


Figure 4.14-6b

Attleboro Alternatives - Attleboro Bypass and Attleboro Secondary

Biodiversity Impacts



Printing Date: 7/24/2009
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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Area of Critical Environmental Concern (ACEC)
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Index Map

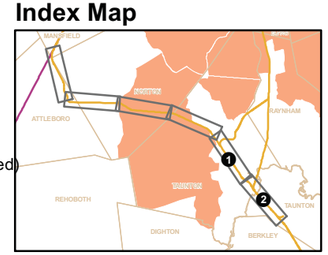

Figure 4.14-6c

Attleboro Alternatives - Attleboro Bypass and Attleboro Secondary

Biodiversity Impacts

Printing Date: 7/29/2009
File: \\Vhbprp\Boston\10111.00\GIS\project\Phase2\Tech Reports\Biodiversity\RailOptions\BIO_Fig2-8a_Stoughton.mxd

Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
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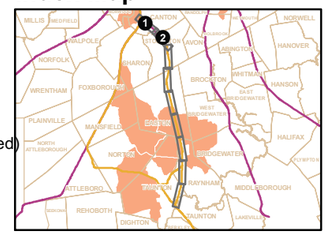
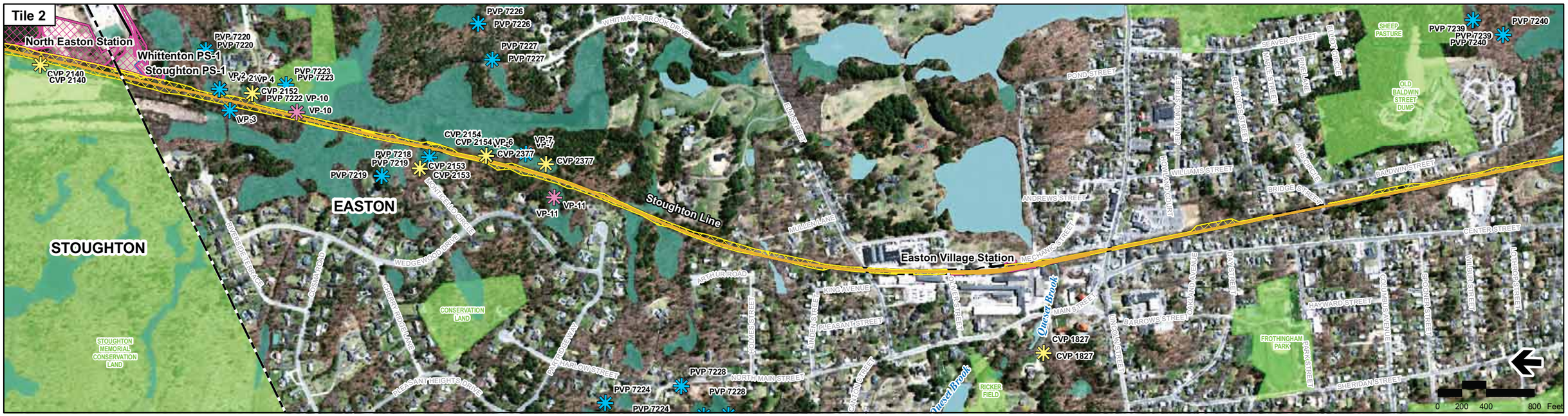


Figure 4.14-7a

Stoughton Alternatives - Stoughton Lines

Biodiversity Impacts



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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Area of Critical Environmental Concern (ACEC)
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Index Map

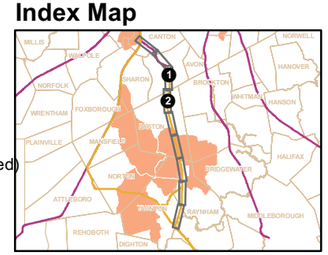
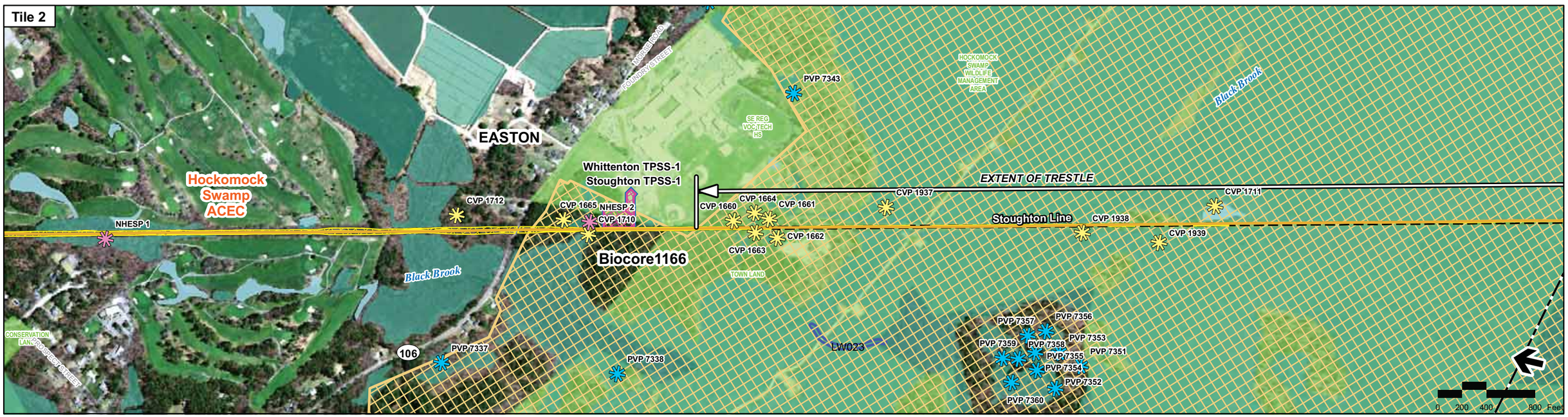


Figure 4.14-7b

Stoughton Alternatives - Stoughton Lines

Biodiversity Impacts



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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Area of Critical Environmental Concern (ACEC)
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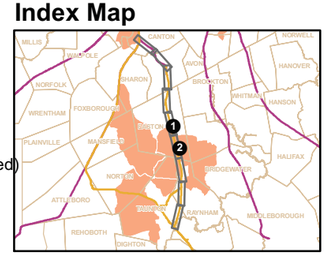
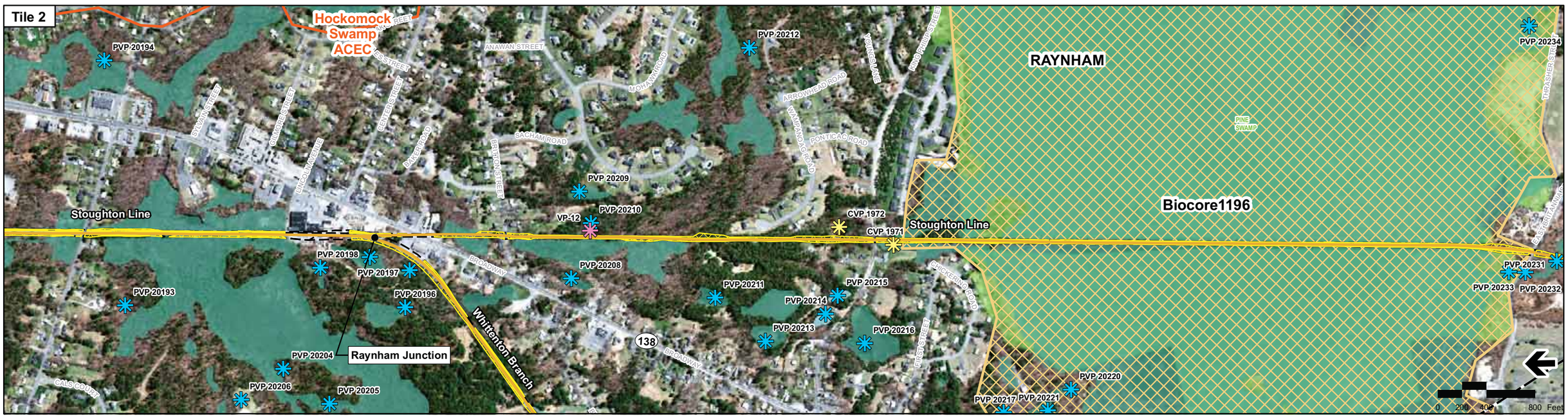


Figure 4.14-7c
Stoughton Alternatives - Stoughton Lines
Biodiversity Impacts



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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
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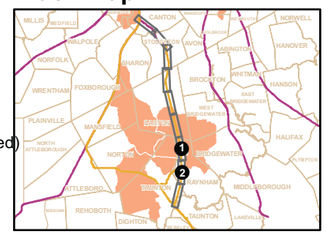
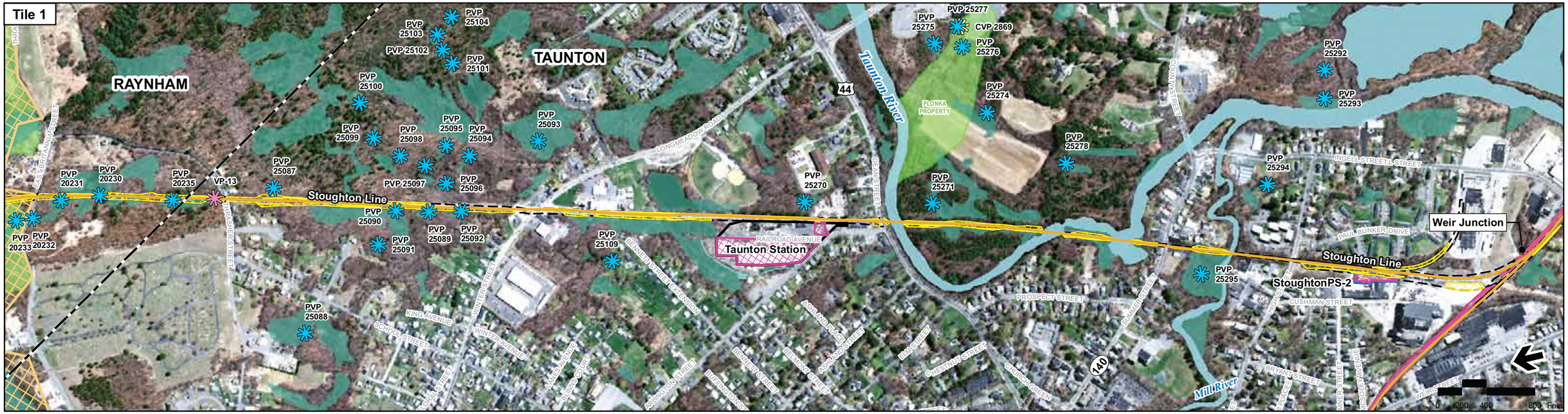


Figure 4.14-7d

Stoughton Alternatives - Stoughton Lines

Biodiversity Impacts



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Legend

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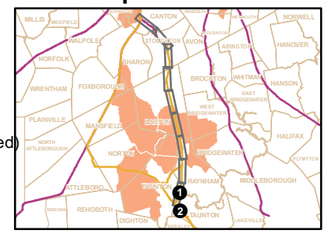
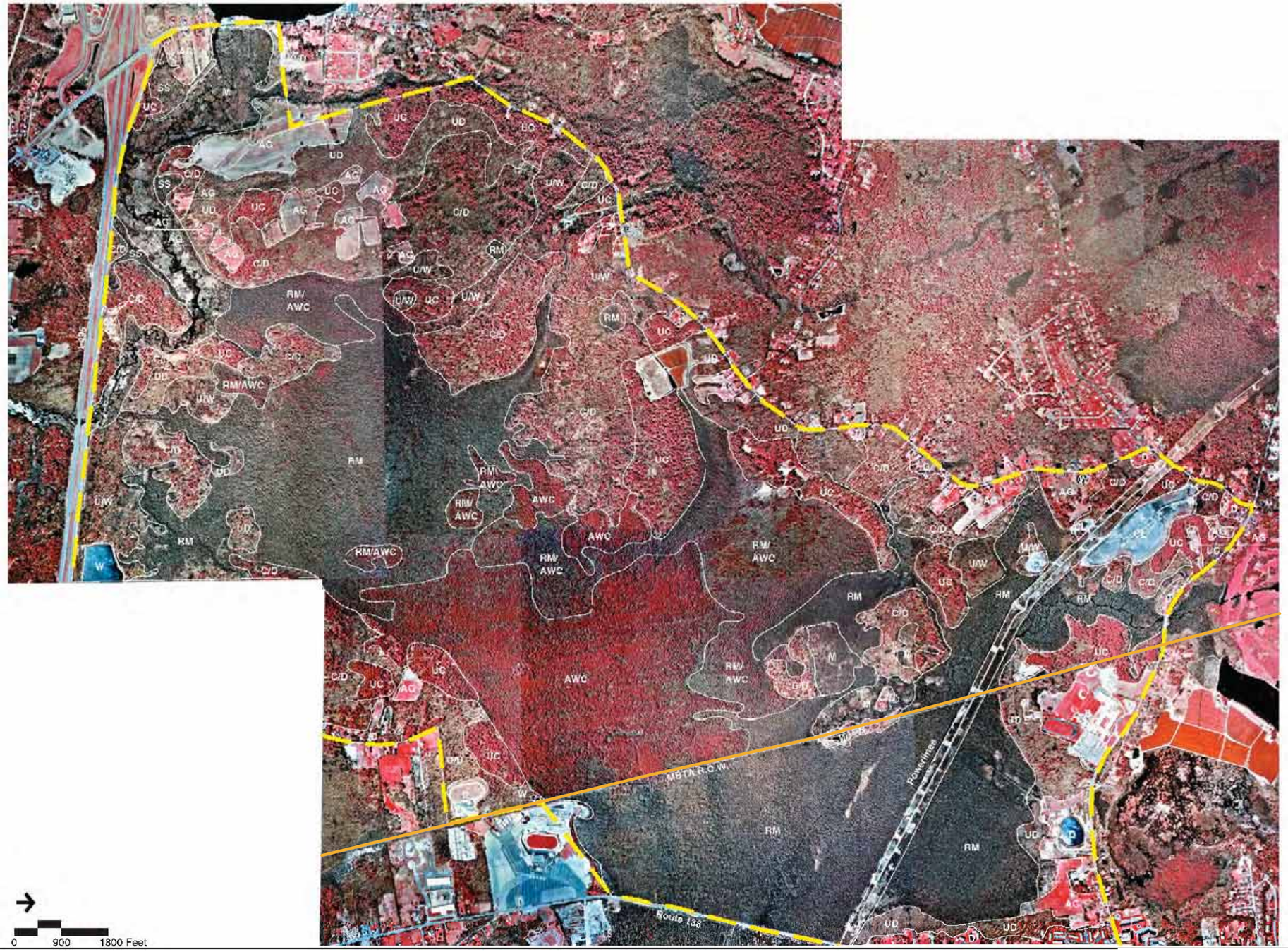


Figure 4.14-7e
Stoughton Alternatives - Stoughton Lines
Biodiversity Impacts



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Wetland Community Types

RM	Red Maple Swamp
AWC	Atlantic White Cedar Swamp
RM/AWC	Mixed Forested Wetland
SS	Shrub Swamp
M	Marshes - Fens
W	Open Water
W/V	Wetland/Upland Forested Mix

Upland Community Types

UD	Deciduous Forested Upland
UC	Coniferous Forested Upland
C/D	Mixed Forested Upland (C/D)
AG	Agricultural Use
D	Developed
P	Powerline
CL	Cleared

Study Area Limits
Proposed Alternative

Figure 4.14-8

Hockomock Swamp
Vegetative Cover Map

Biodiversity

Printing Date: 7/24/2009
File: \\Whbipro\Boston\10111.00\GIS\project\Phase2\TechReports\Biodiversity\EC\RailOptions\BIO_Fig3-7a_Whittenton.mxd

Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
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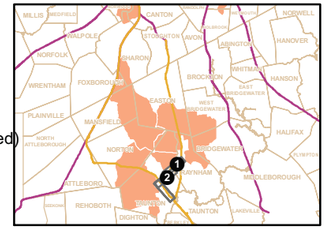

Figure 4.14-9a

Whittenton Alternatives - Whittenton Branch

Biodiversity Impacts

Printing Date: 7/24/2009
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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
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- Area of Critical Environmental Concern (ACEC)
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Index Map

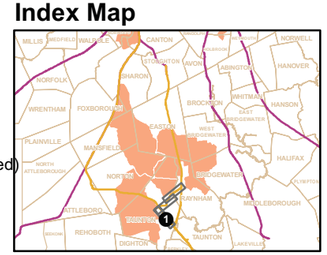
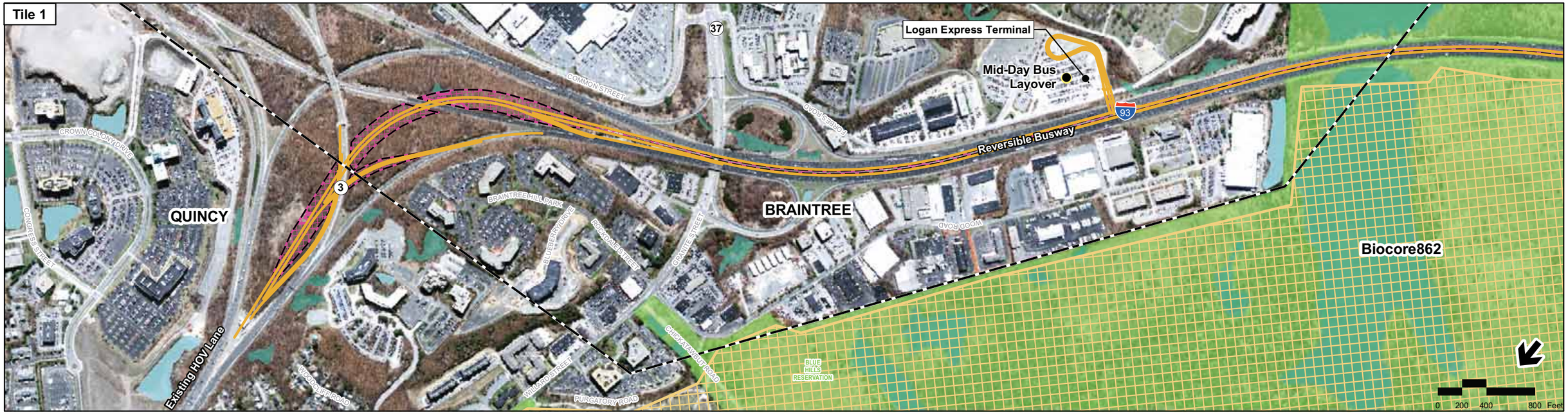
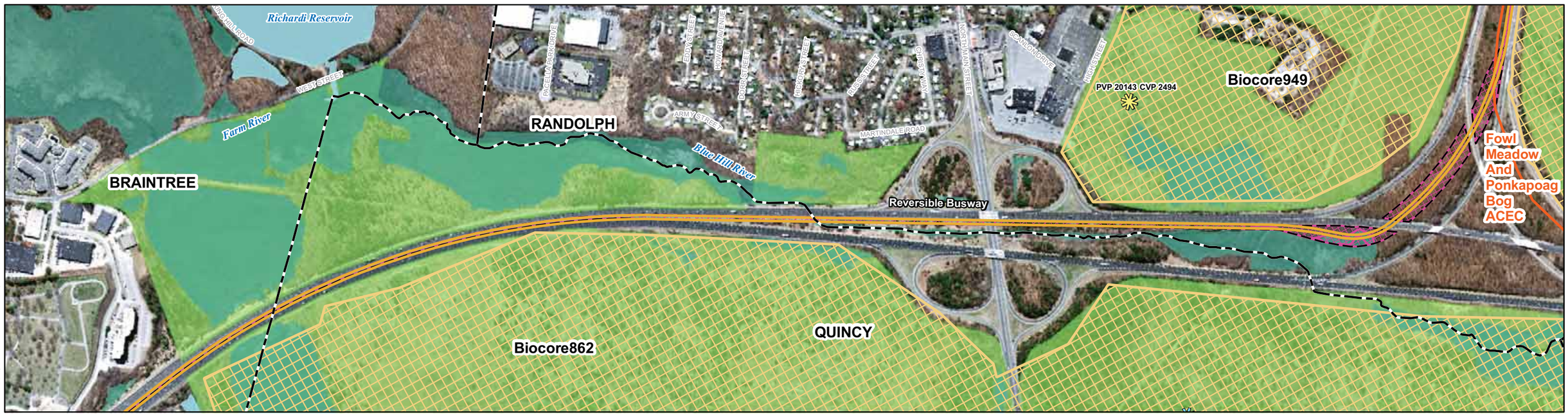


Figure 4.14-9b

Whittenton Alternatives - Whittenton Branch

Biodiversity Impacts





Printing Date: 7/22/2009
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Legend

- Town Boundaries
- Limit of Permanent Impact for Proposed Rapid Bus
- Proposed Mid-Day Bus Layover Station
- Area of Critical Environmental Concern (ACEC)
- Open Water
- Wetlands
- Protected Open Space
- Southeast Massachusetts BioReserve
- Biodiversity Impact - Edge Effects
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- NHESP BioMap Core Habitat
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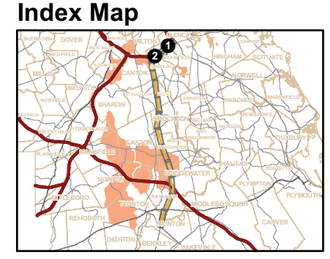
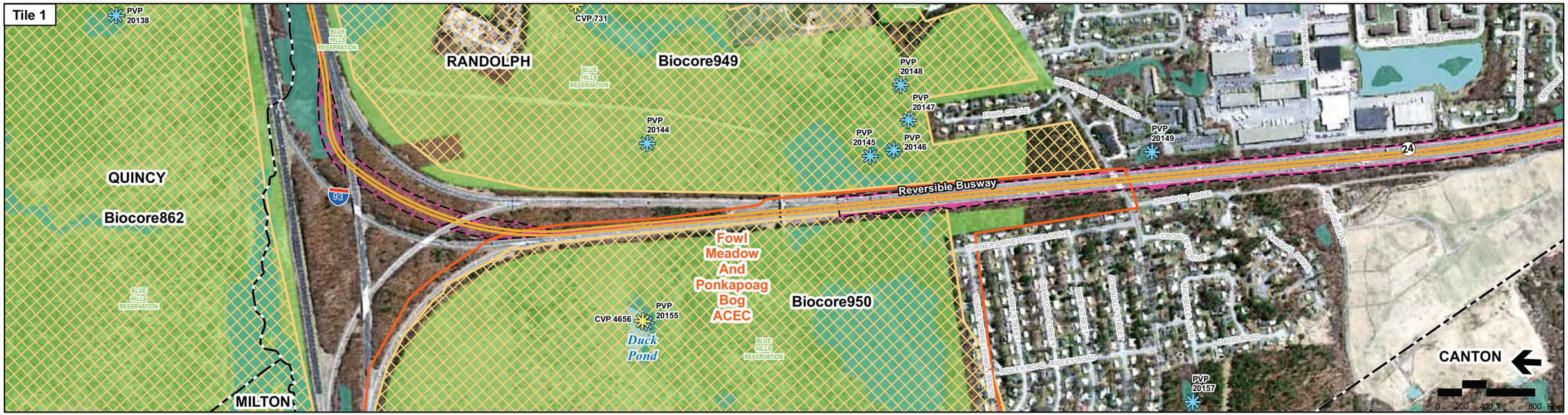


Figure 4.14-10a
Rapid Bus Alternative
Biodiversity Impacts



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Legend

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- Limit of Permanent Impact for Proposed Rapid Bus
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- Area of Critical Environmental Concern (ACEC)
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Index Map

Figure 4.14-10b
Rapid Bus Alternative
Biodiversity Impacts

Printing Date: 7/22/2009
File: \\Vhb\proj\Boston\10111.00\GIS\project\Phase2\TechReports\Biodiversity\EC\BusAlternative\BIO_Fig3-8c_RapidBus.mxd

Legend

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- Limit of Permanent Impact for Proposed Rapid Bus
- Proposed Mid-Day Bus Layover Station
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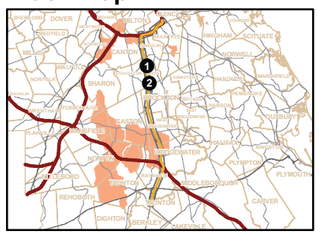

Figure 4.14-10c

Rapid Bus Alternative

Biodiversity Impacts

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Legend

- Town Boundaries
- Limit of Permanent Impact for Proposed Rapid Bus
- Proposed Mid-Day Bus Layover Station
- Area of Critical Environmental Concern (ACEC)
- Open Water
- Wetlands
- Protected Open Space
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Index Map

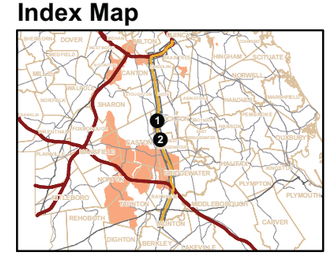
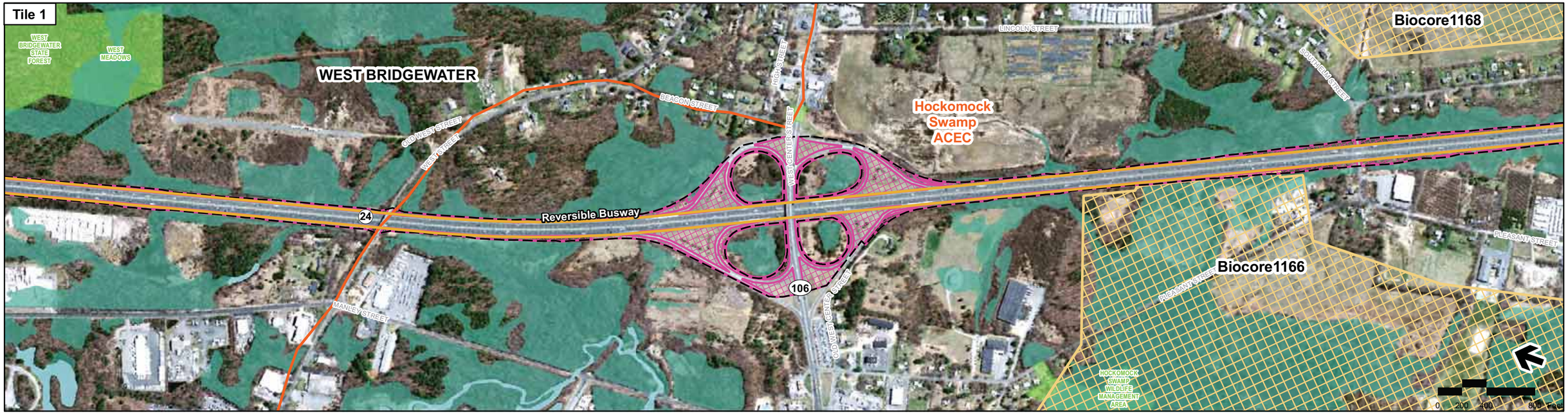
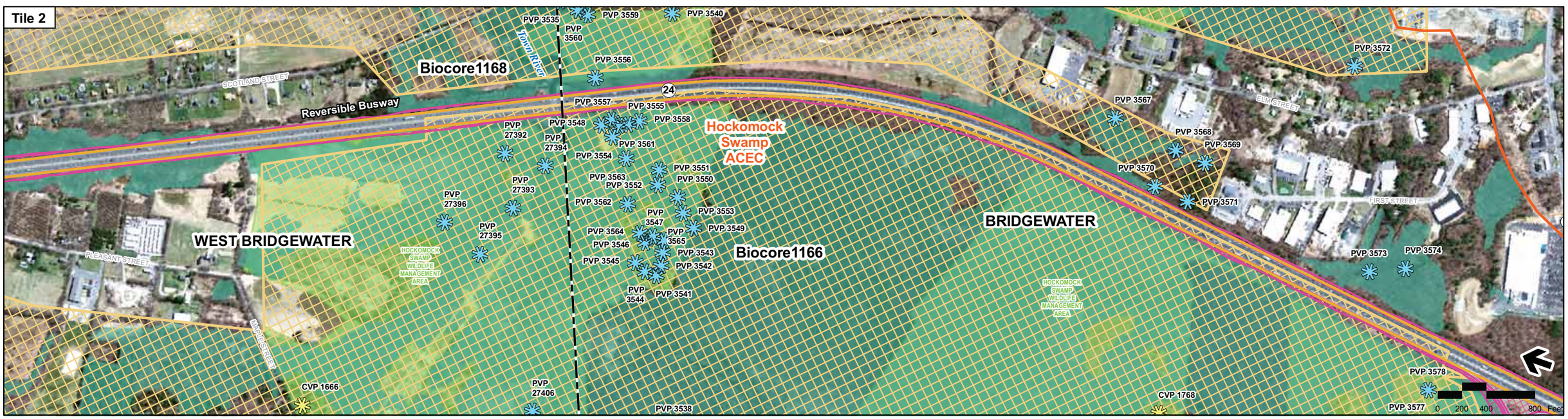


Figure 4.14-10d
Rapid Bus Alternative
Biodiversity Impacts





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Legend

- Town Boundaries
- Limit of Permanent Impact for Proposed Rapid Bus
- Proposed Mid-Day Bus Layover Station
- Area of Critical Environmental Concern (ACEC)
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- Wetlands
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- Southeast Massachusetts BioReserve
- Biodiversity Impact - Edge Effects
- Biodiversity Impact - Interior Effects
- NHESP BioMap Core Habitat
- NHESP Living Waters Core Habitat
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- SCR Identified Vernal Pools (Field Verified)
- # Vernal Pool ID

Note: NHESP Potential Vernal Pools: NOT equivalent to Certified Vernal Pools

Index Map

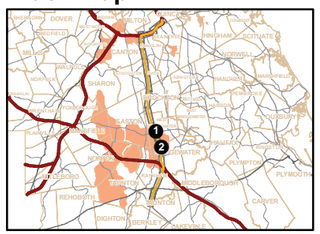
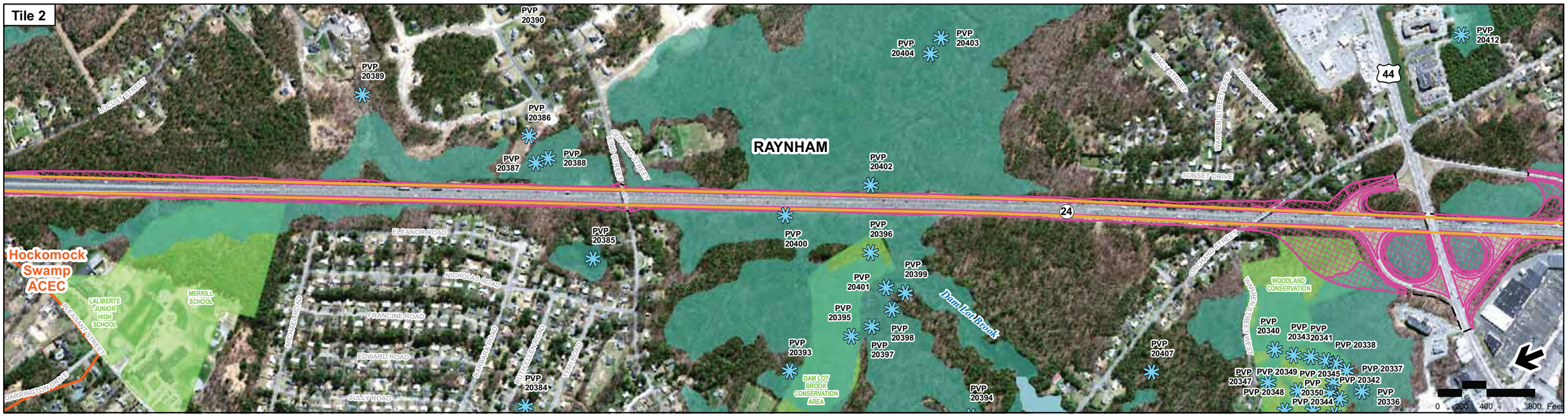


Figure 4.14-10e
Rapid Bus Alternative
Biodiversity Impacts



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File: \\hhb\proj\Boston\10111.00\GIS\project\Phase2\Tech Reports\Biodiversity\EC\BusAlternative\BIO_Fig3-8f_RapidBus.mxd

Legend

- Town Boundaries
- Limit of Permanent Impact for Proposed Rapid Bus
- Proposed Mid-Day Bus Layover Station
- Area of Critical Environmental Concern (ACEC)
- Open Water
- Wetlands
- Protected Open Space
- Southeast Massachusetts BioReserve
- Biodiversity Impact - Edge Effects
- Biodiversity Impact - Interior Effects
- NHESP BioMap Core Habitat
- NHESP Living Waters Core Habitat
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- SCR Identified Vernal Pools (Field Verified)
- # Vernal Pool ID

Note: NHESP Potential Vernal Pools: NOT equivalent to Certified Vernal Pools

Index Map

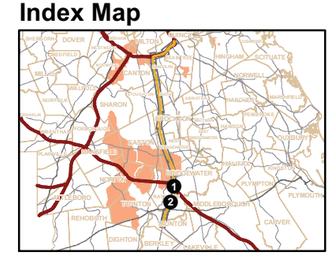
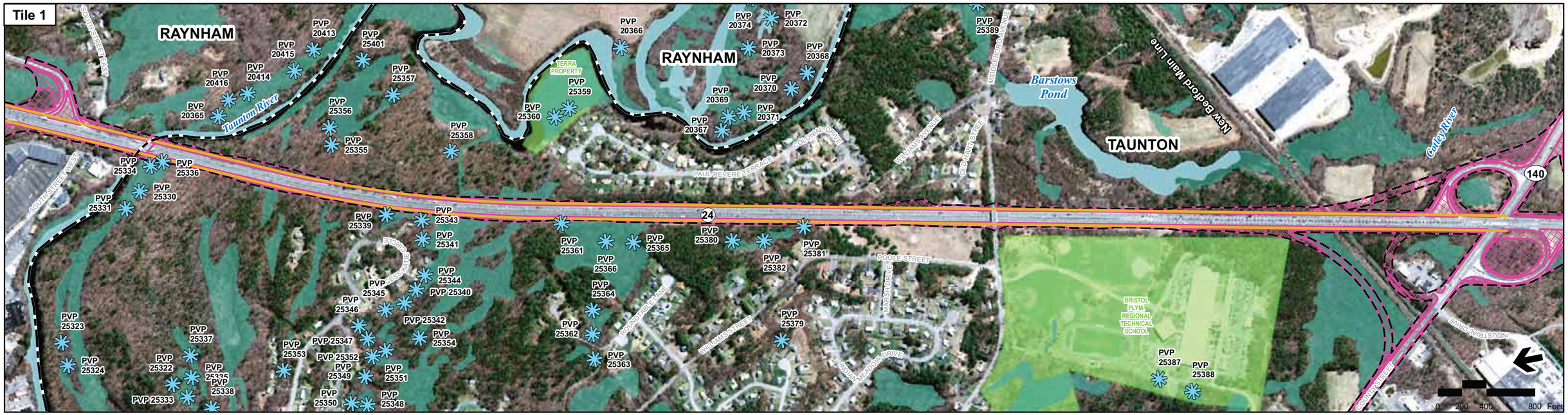


Figure 4.14-10f

Rapid Bus Alternative

Biodiversity Impacts



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File: \\Vhb\proj\Boston\10111.00\GIS\project\Phase2\TechReports\Biodiversity\EC\BusAlternative\BIO_Fig3-8g_RapidBus.mxd

Legend

- Town Boundaries
- Limit of Permanent Impact for Proposed Rapid Bus
- Proposed Mid-Day Bus Layover Station
- Area of Critical Environmental Concern (ACEC)
- Open Water
- Wetlands
- Protected Open Space
- Southeast Massachusetts BioReserve
- Biodiversity Impact - Edge Effects
- Biodiversity Impact - Interior Effects
- NHESP BioMap Core Habitat
- NHESP Living Waters Core Habitat
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- SCR Identified Vernal Pools (Field Verified)
- # Vernal Pool ID

Note: NHESP Potential Vernal Pools: NOT equivalent to Certified Vernal Pools

Index Map

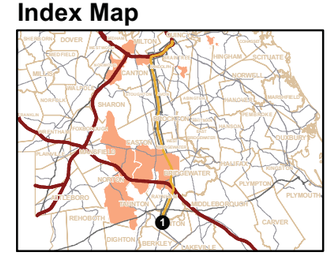

Figure 4.14-10g

Rapid Bus Alternative

Biodiversity Impacts

9/21/2009
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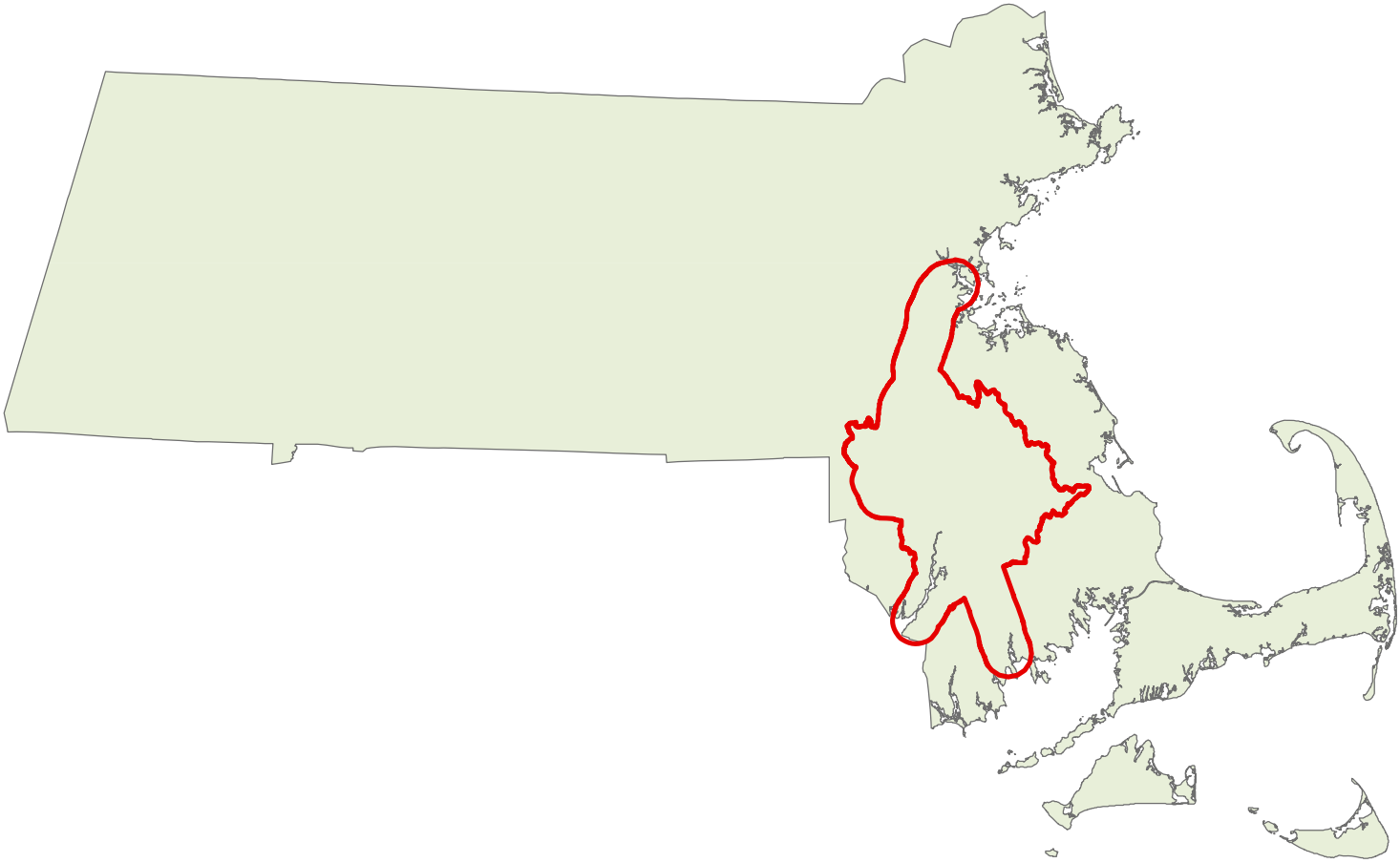

0 12 24 Miles

Legend

Study Area

Figure 4.14-11

Study Area for the
South Coast Rail Analysis

Printing Date: 3/10/2009
File: \\mabos\projects\10111.00\GIS\project\Phase2\TechReports\Biodiversity\Stations_Biodiversity.mxd

Legend

- Proposed Alternative
- Limit of Permanent Impact for Proposed Rail
- Limit of Work for Proposed Station
- Forested Upland
- Upland Scrub Shrub
- Wooded Swamp Deciduous
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- SCR Identified Vernal Pools (Field Verified)
- # Vernal Pool ID

Note: NHESP Potential Vernal Pools: NOT equivalent to Certified Vernal Pools

Figure 4.14-12

Freetown Station

Biodiversity Impacts

Printing Date: 3/10/2009
File: \\mabos\projects\10111.00\GIS\project\Phase2\TechReports\Biodiversity\Stations_Biodiversity.mxd

Legend

- Proposed Alternative
- Limit of Permanent Impact for Proposed Rail
- Limit of Work for Proposed Station
- Forested Upland
- Upland Scrub Shrub
- Wooded Swamp Deciduous
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- SCR Identified Vernal Pools (Field Verified)
- # Vernal Pool ID

Note: NHESP Potential Vernal Pools: NOT equivalent to Certified Vernal Pools

Figure 4.14-13

North Easton Station

Biodiversity Impacts

Printing Date: 3/10/2009
File: \\mabos\projects\10111.00\GIS\project\Phase2\TechReports\Biodiversity\Stations_Biodiversity.mxd

Legend

- Proposed Alternative
- Limit of Permanent Impact for Proposed Rail
- Limit of Work for Proposed Station
- Forested Upland
- Upland Scrub Shrub
- Wooded Swamp Deciduous
- Area of Critical Environmental Concern (ACEC)
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- SCR Identified Vernal Pools (Field Verified)
- # Vernal Pool ID

Note: NHESP Potential Vernal Pools: NOT equivalent to Certified Vernal Pools

Figure 4.14-14

Barrowsville Station

Biodiversity Impacts

Printing Date: 3/10/2009
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Legend

- Proposed Alternative
- Limit of Permanent Impact for Proposed Rail
- Limit of Work for Proposed Station
- Forested Upland
- Upland Scrub Shrub
- Wooded Swamp Deciduous
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- SCR Identified Vernal Pools (Field Verified)
- # Vernal Pool ID

Note: NHESP Potential Vernal Pools: NOT equivalent to Certified Vernal Pools

Figure 4.14-15

Taunton Depot Station

Biodiversity Impacts

Printing Date: 3/10/2009
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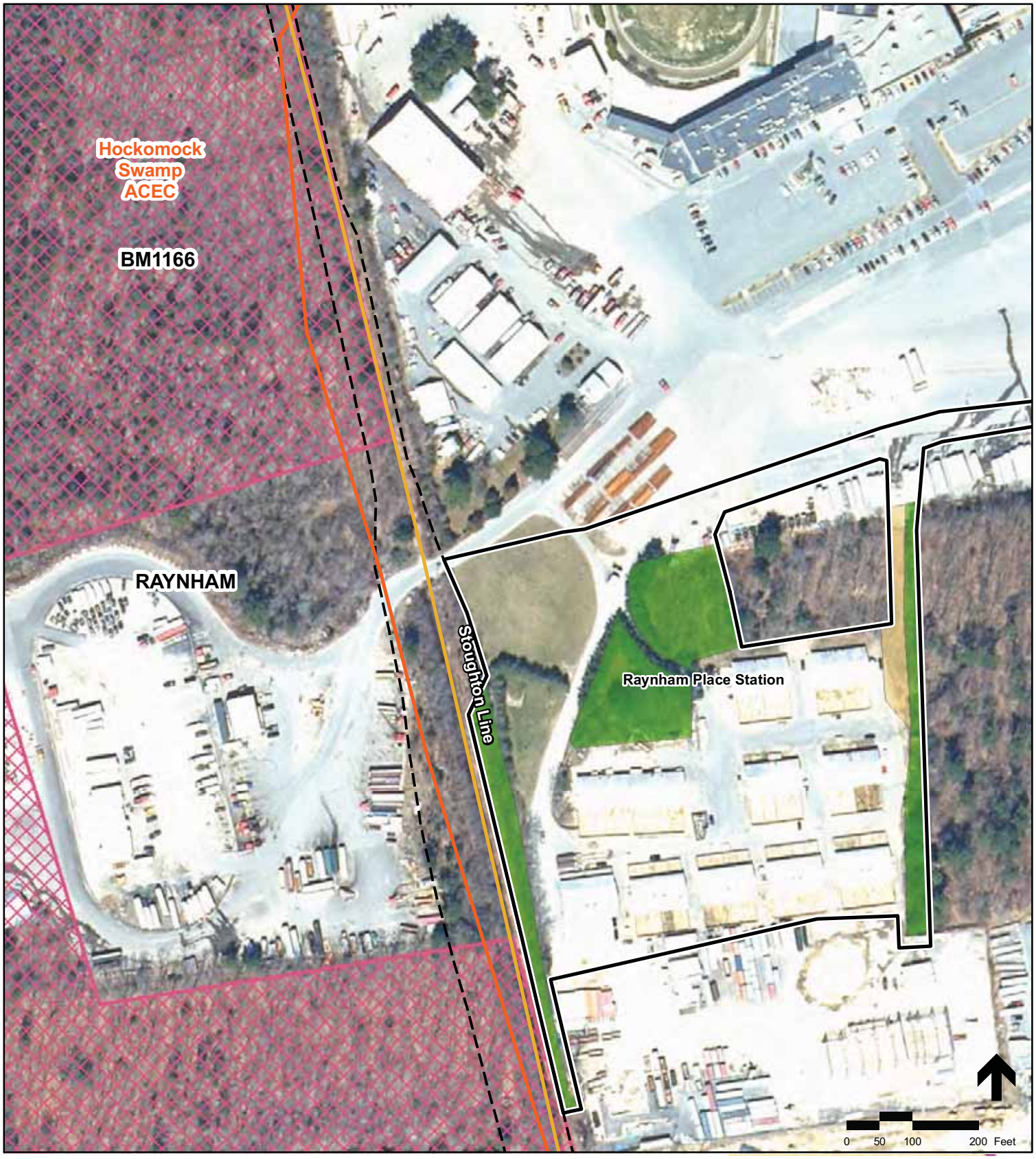

Legend

- Proposed Alternative
- Limit of Permanent Impact for Proposed Rail
- Limit of Work for Proposed Station
- Forested Upland
- Upland Scrub Shrub
- Wooded Swamp Deciduous
- Area of Critical Environmental Concern (ACEC)
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- SCR Identified Vernal Pools (Field Verified)
- # Vernal Pool ID

Note: NHESP Potential Vernal Pools: NOT equivalent to Certified Vernal Pools

Figure 4.14-16

Raynham Place Station

Biodiversity Impacts

9/21/2009
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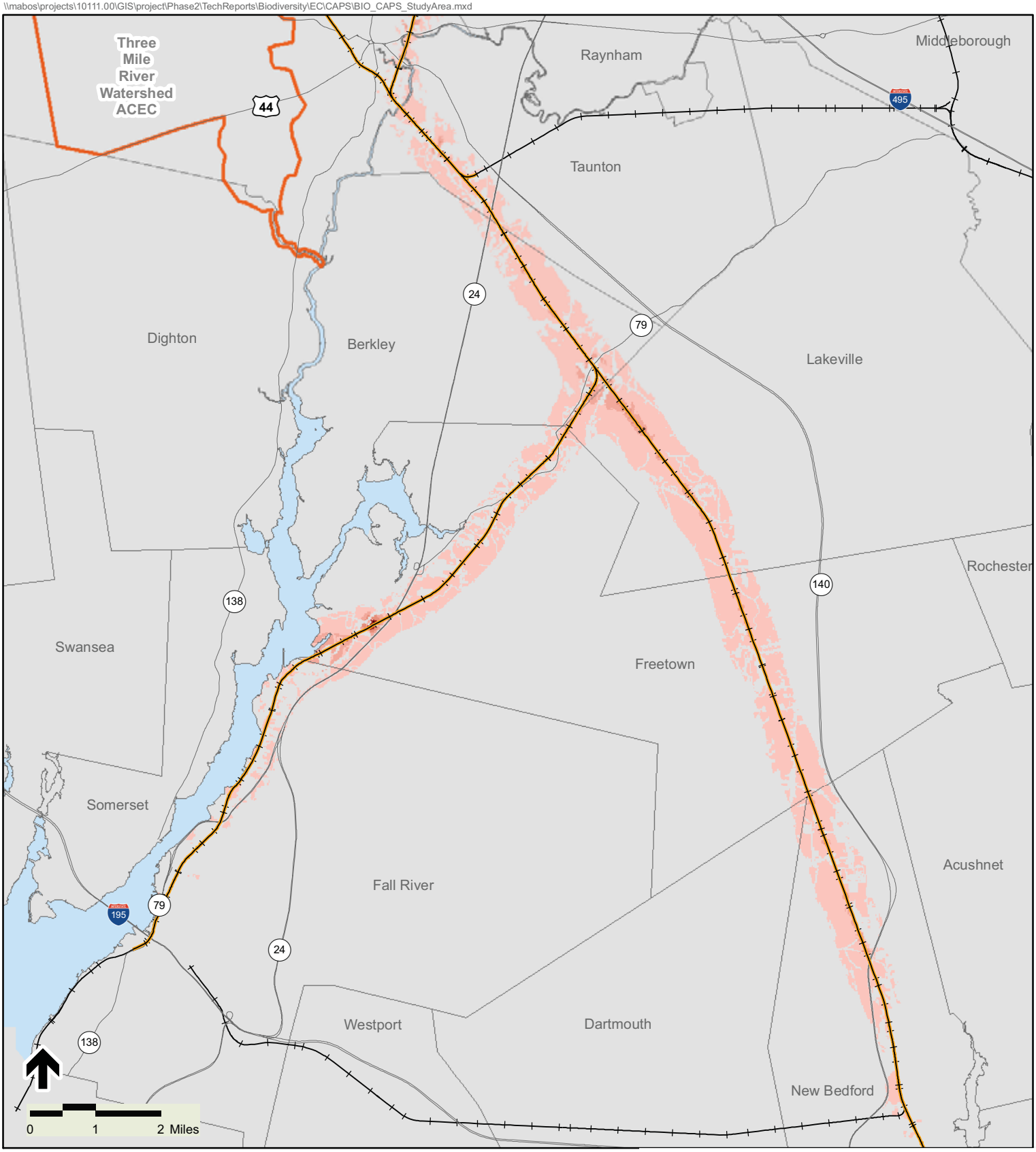


Legend

Area of Critical Environmental Concern (ACEC)

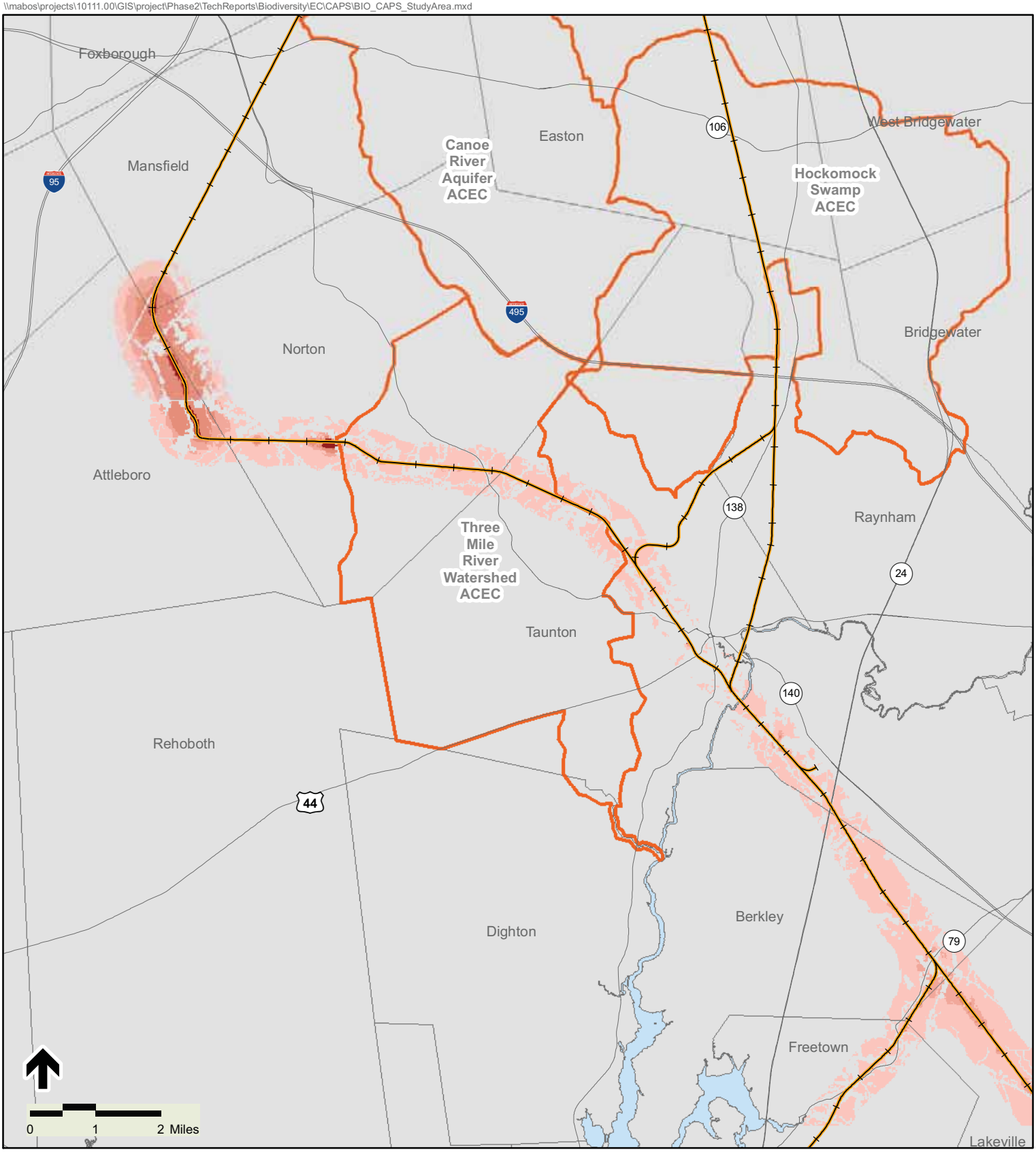
Proposed Alternative Rail

Figure 4.14-17

Modeled Loss in Ecological Integrity for the Southern Triangle

Note: Darker areas represent greater loss

9/21/2009
\\mabos\projects\10111.00\GIS\project\Phase2\TechReports\Biodiversity\EC\CAPS\BIO_CAPS_StudyArea.mxd



Legend

- Existing Freit and Commuter Rails
- Proposed Alternative
- Area of Critical Environmental Concern (ACEC)

Figure 4.14-18

Modeled Loss in Ecological Integrity for the Attleboro Alternative

Note: Darker areas represent greater loss

9/21/2009
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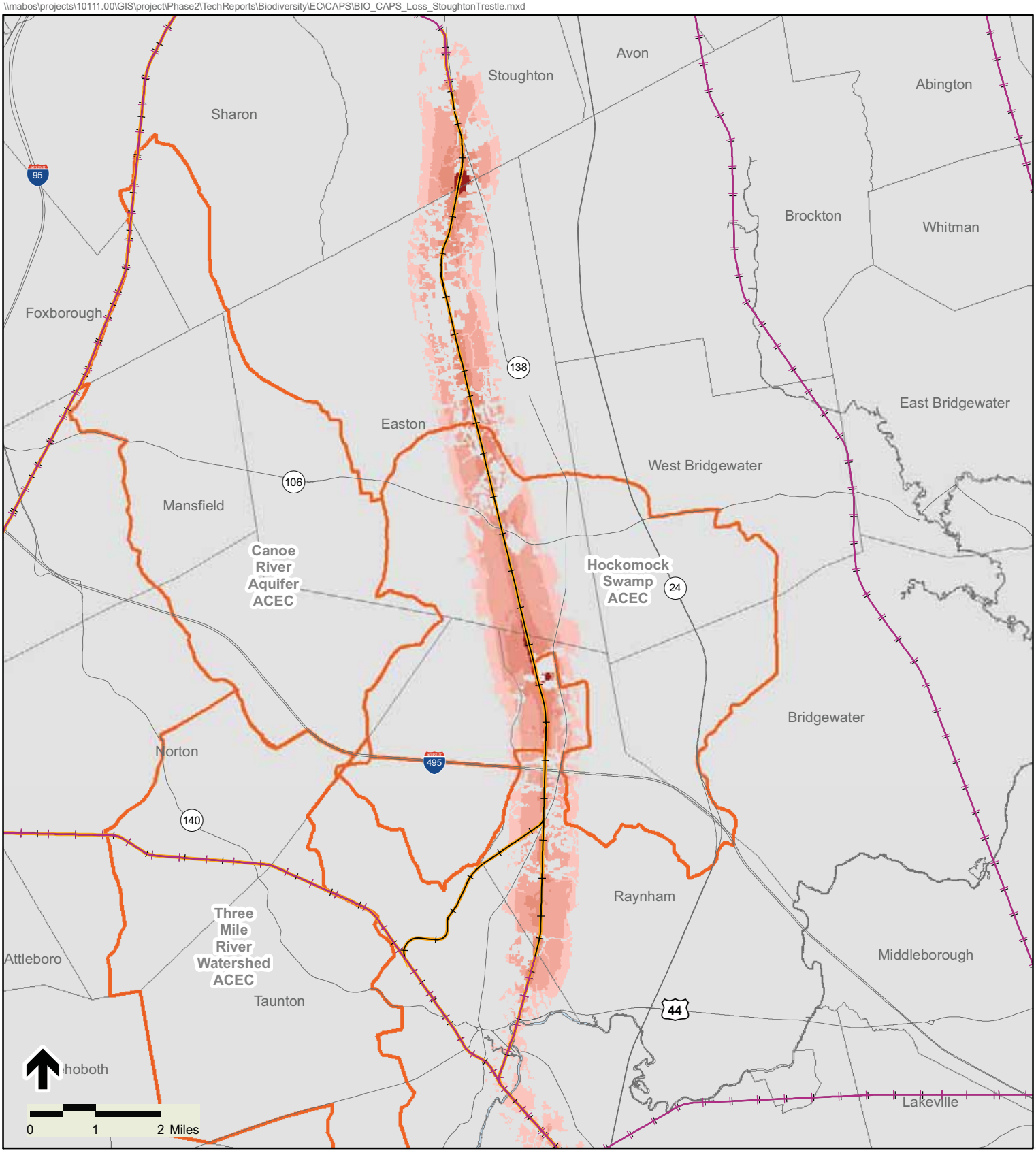


Legend

Area of Critical Environmental Concern (ACEC)

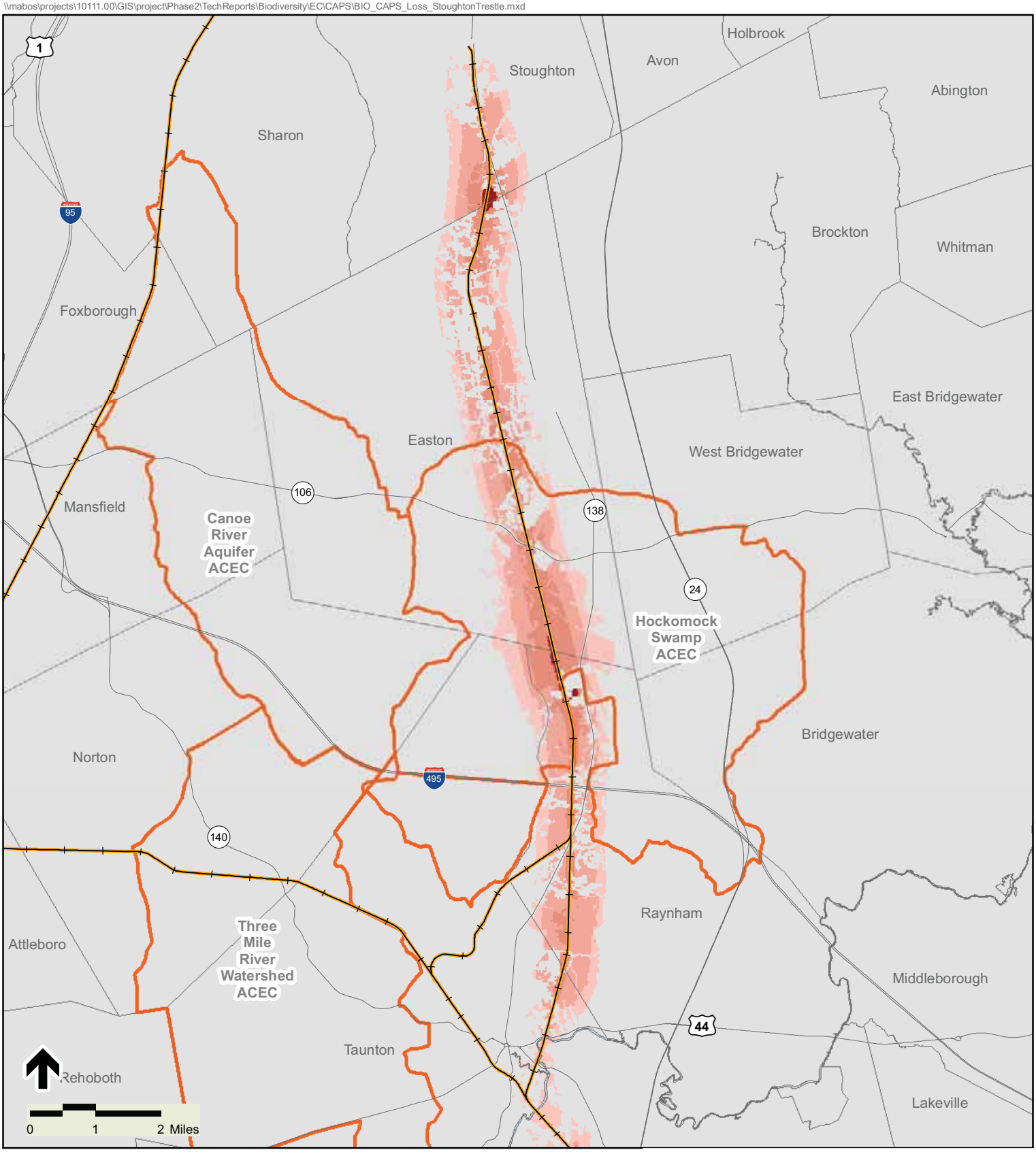
Proposed Alternative Rail

Figure 4.14-19

Modeled Loss in Ecological Integrity for the Stoughton Alternative (with trestle)

Note: Darker areas represent greater loss

9/21/2009
\\mabos\projects\10111.00\GIS\project\Phase2\TechReports\Biodiversity\EC\CAPS\BIO_CAPS_Loss_StoughtonTrestle.mxd



Legend

Area of Critical Environmental Concern (ACEC)

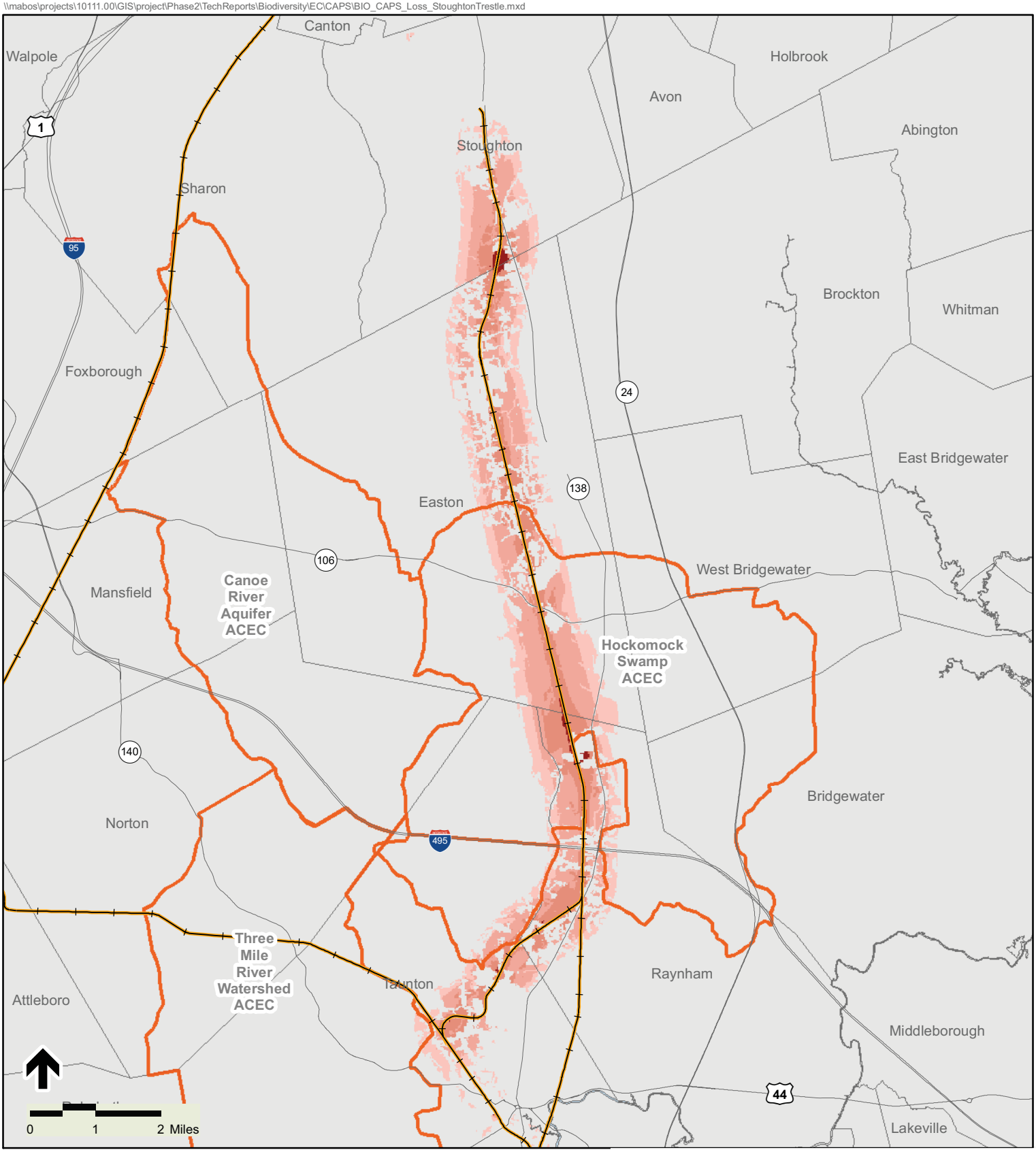
Proposed Alternative Rail

Figure 4.14-20

Modeled Loss in Ecological Integrity for the Stoughton Alternative (without trestle)

Note: Darker areas represent greater loss

9/21/2009
\\mabos\projects\10111.00\GIS\project\Phase2\TechReports\Biodiversity\EC\CAPS\BIO_CAPS_Loss_StoughtonTrestle.mxd



Legend

Area of Critical Environmental Concern (ACEC)

Proposed Alternative Rail

Figure 4.14-21

Modeled Loss in Ecological Integrity for the Whittenton Alternative (with trestle)

Note: Darker areas represent greater loss

9/23/2009
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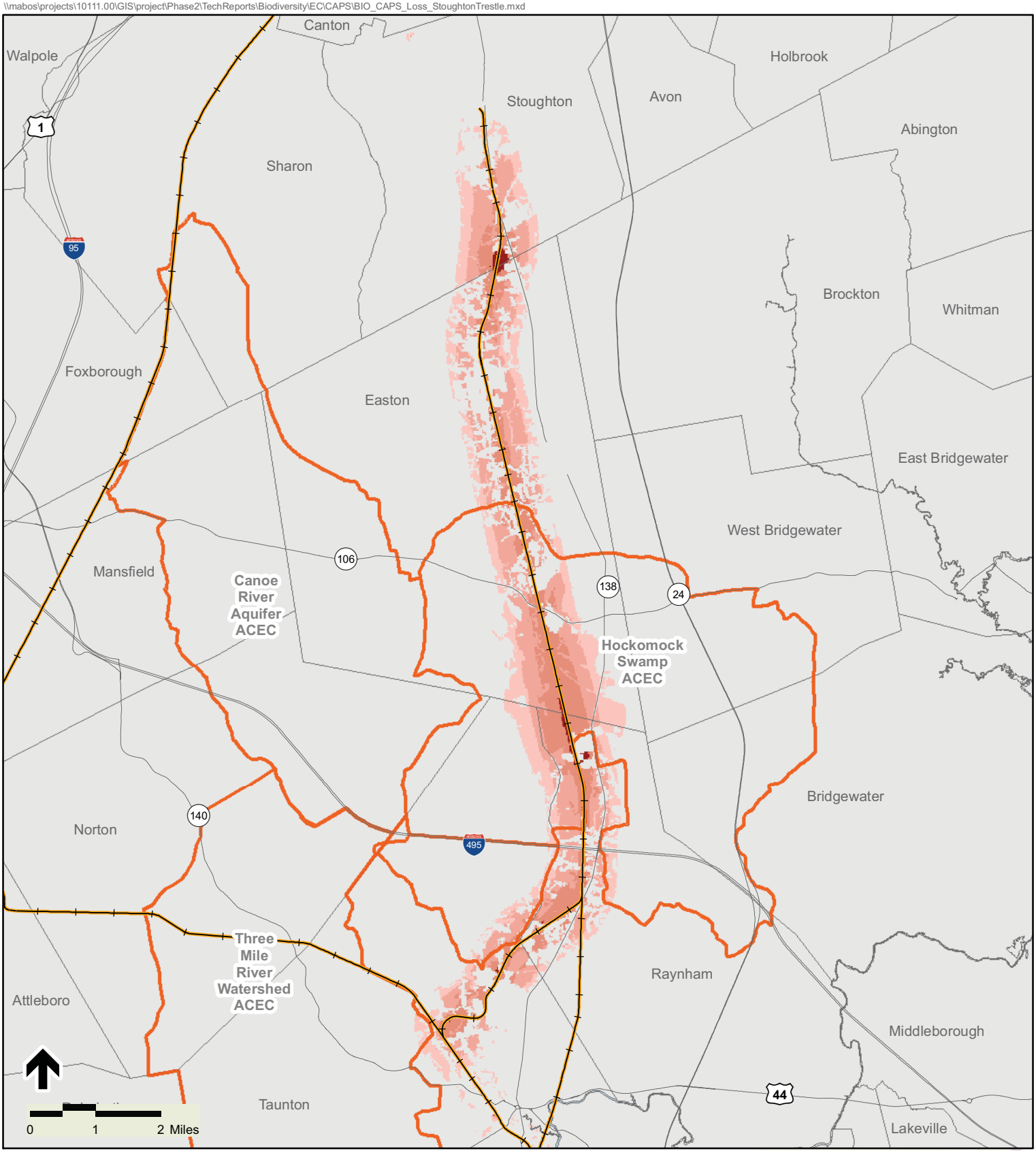

Legend

Area of Critical Environmental Concern (ACEC)

Proposed Alternative Rail

Figure 4.14-22

Modeled Loss in Ecological Integrity for the Whittenton Alternative (without trestle)

Note: Darker areas represent greater loss

11/12/2009
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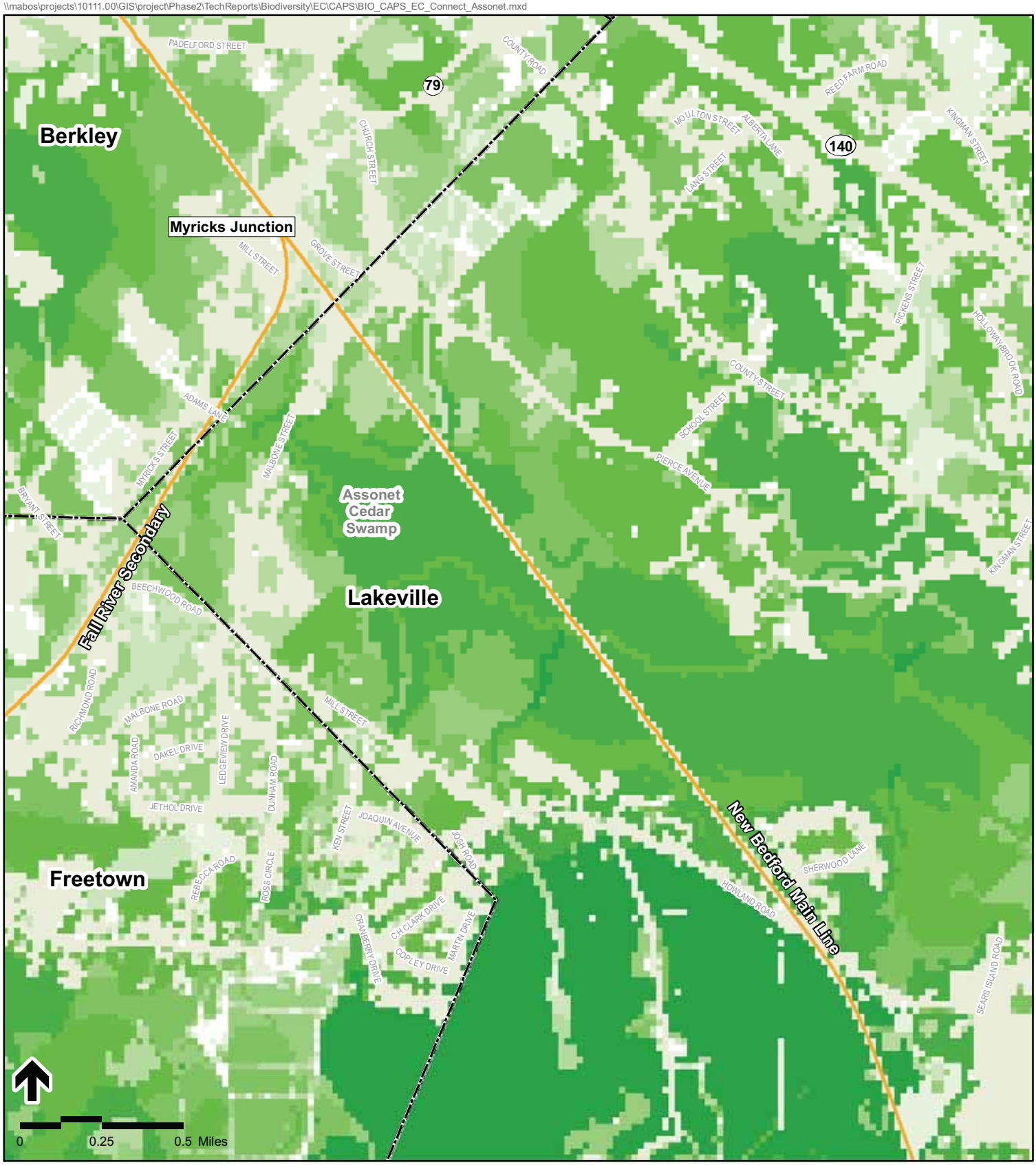

Legend

Connectedness

High

Moderate

Low

Area of Critical Environmental Concern (ACEC)

Town Boundaries

Proposed Alternative

Figure 4.14-23

Existing Connectedness for the Assonet Cedar Swamp

9/21/2009
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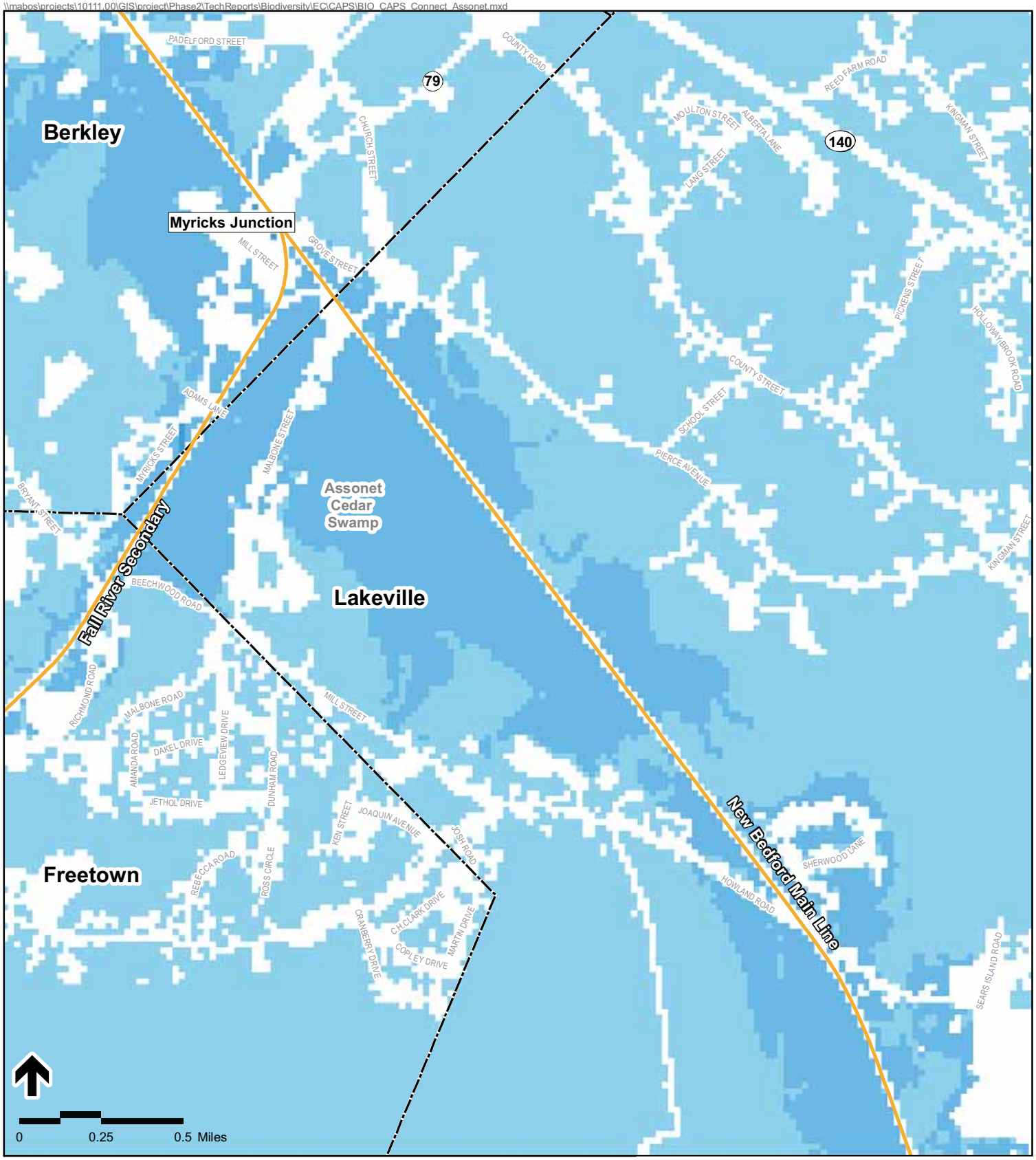


Legend

Loss of Connectedness

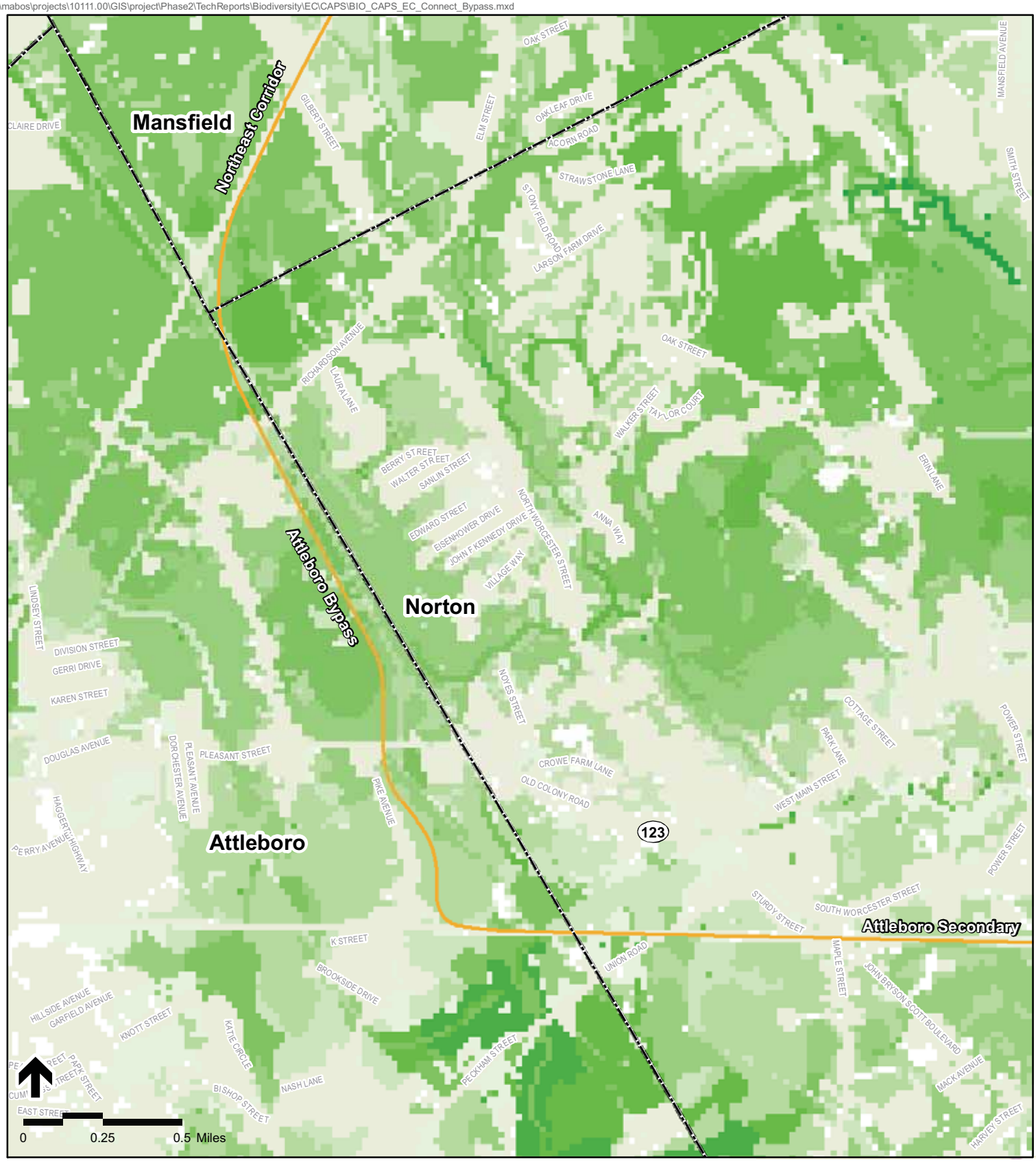
- Major
- Moderate
- Negligible

- Area of Critical Environmental Concern (ACEC)
- Town Boundaries
- Proposed Alternative

Figure 4.14-24

Change in Connectedness for the Assonet Cedar Swamp

11/12/2009
\\mabos\projects\10111.00\GIS\project\Phase2\TechReports\Biodiversity\EC\CAPS\BIO_CAPS_EC_Connect_Bypass.mxd



Legend

Connectedness

High

Moderate

Low

Area of Critical Environmental Concern (ACEC)

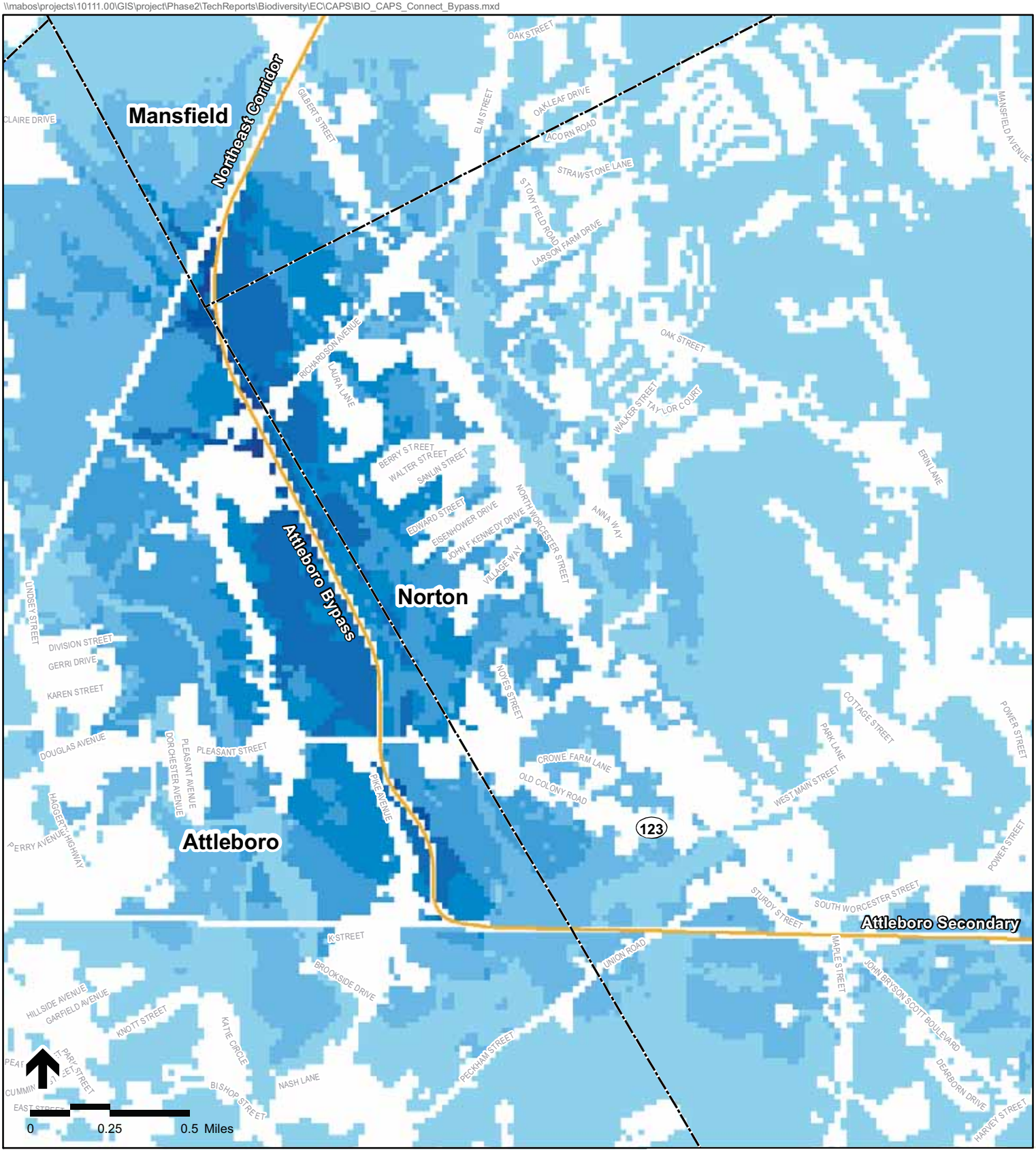
Town Boundaries

Proposed Alternative

Figure 4.14-25

Existing Connectedness for the Attleboro Bypass

9/21/2009
\\mabos\projects\10111.00\GIS\project\Phase2\TechReports\Biodiversity\EC\CAPS\BIO_CAPS_Connect_Bypass.mxd



Legend

Loss of Connectedness

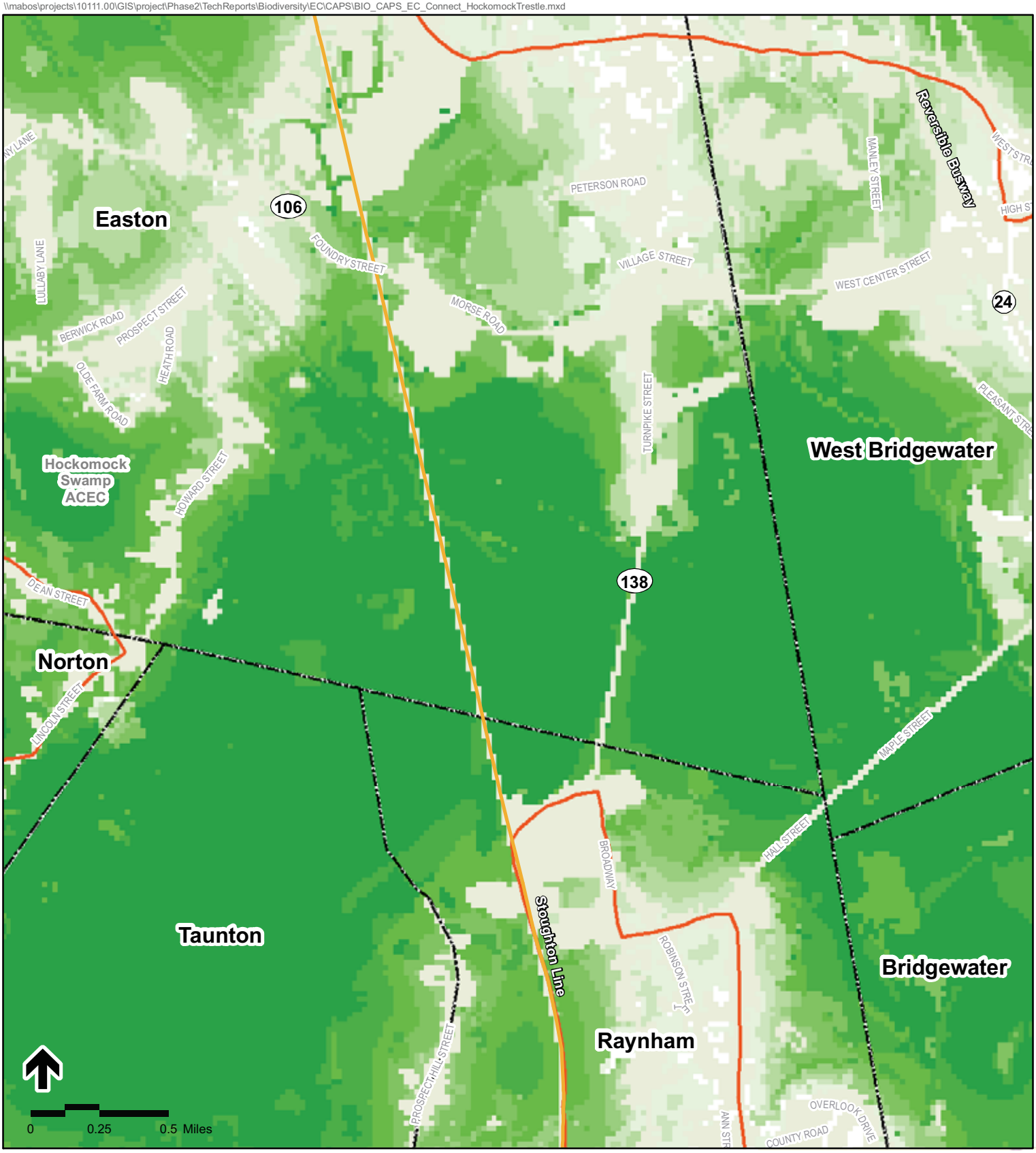
- Major
- Moderate
- Negligible

- Area of Critical Environmental Concern (ACEC)
- Town Boundaries
- Proposed Alternative

Figure 4.14-26

Change in Connectedness for the Attleboro Bypass

11/12/2009
\\mabos\projects\10111.00\GIS\project\Phase2\TechReports\Biodiversity\EC\CAPS\BIO_CAPS_EC_Connect_HockomockTrestle.mxd



Legend

Connectedness

High

Moderate

Low

Area of Critical Environmental Concern (ACEC)

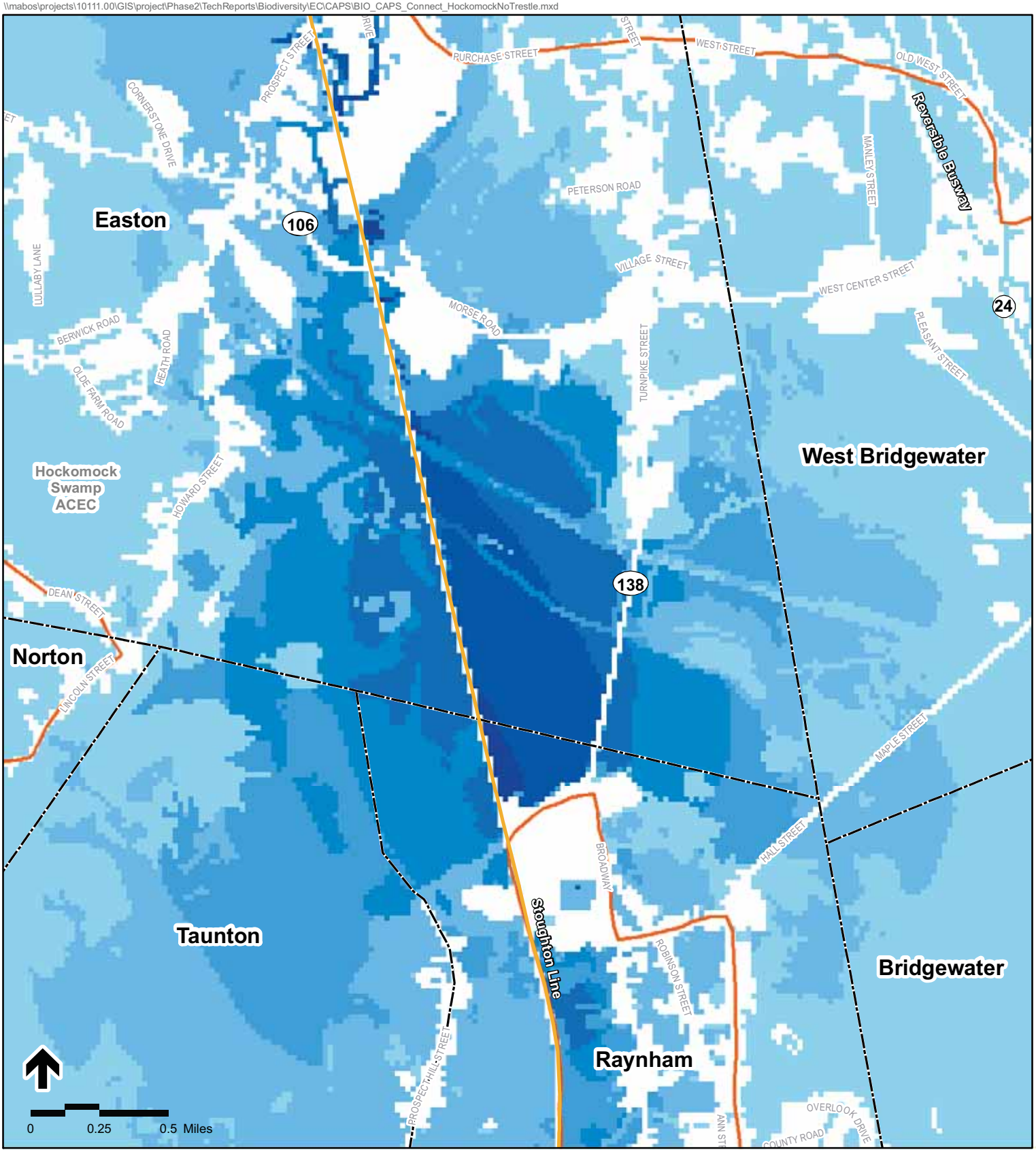
Town Boundaries

Proposed Alternative

Figure 4.14-27

Existing Connectedness for the Hockomock Swamp

9/21/2009
\\mabos\projects\10111.00\GIS\project\Phase2\TechReports\Biodiversity\EC\CAPS\BIO_CAPS_Connect_HockomockNoTrestle.mxd



Legend

Loss of Connectedness

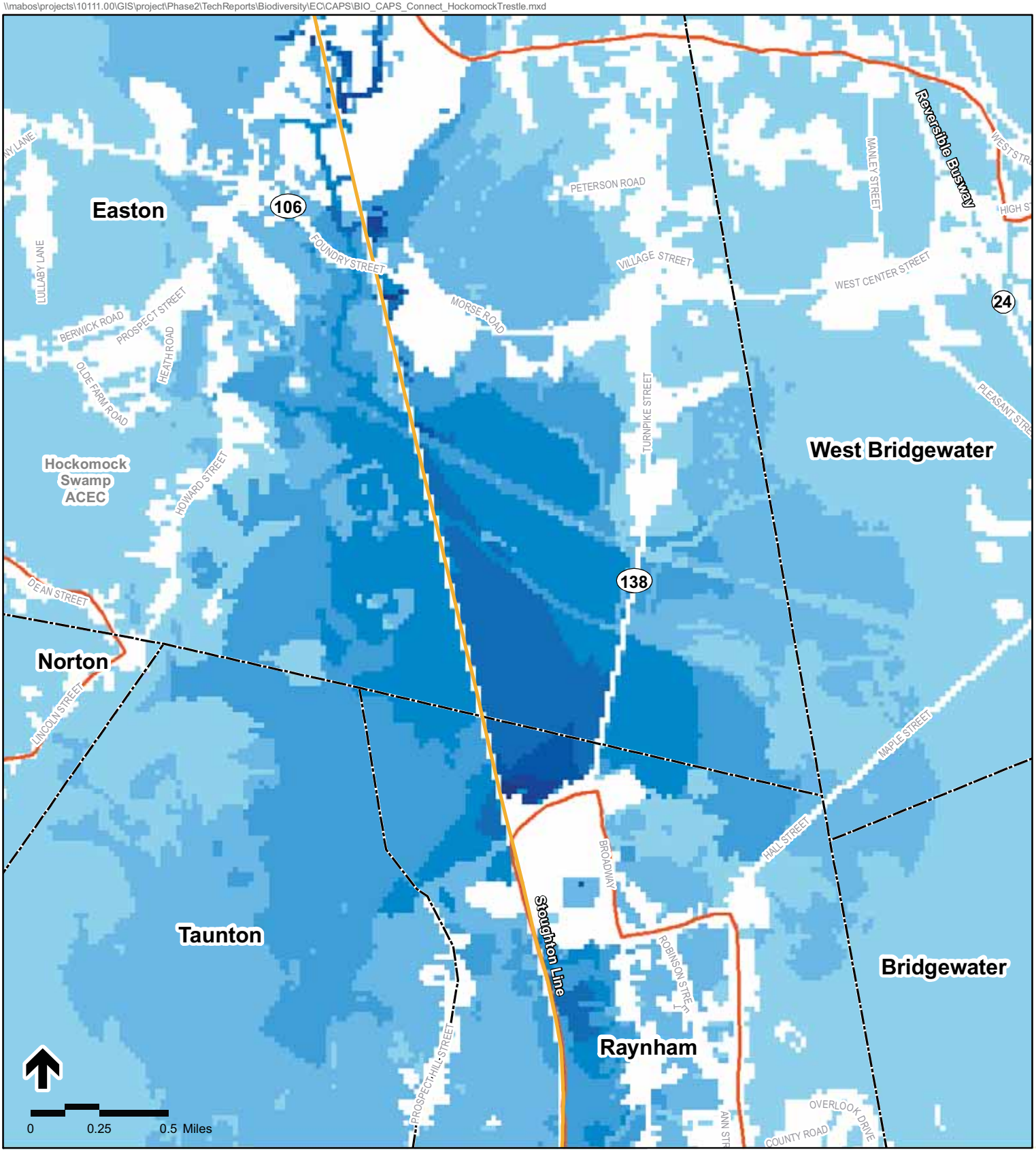
- Major
- Moderate
- Negligible

- Area of Critical Environmental Concern (ACEC)
- Town Boundaries
- Proposed Alternative

Figure 4.14-28

Change in Connectedness for the Hockomock Swamp (without trestle)

9/21/2009
\\mabos\projects\10111.00\GIS\project\Phase2\TechReports\Biodiversity\EC\CAPS\BIO_CAPS_Connect_HockomockTrestle.mxd



Legend

Loss of Connectedness

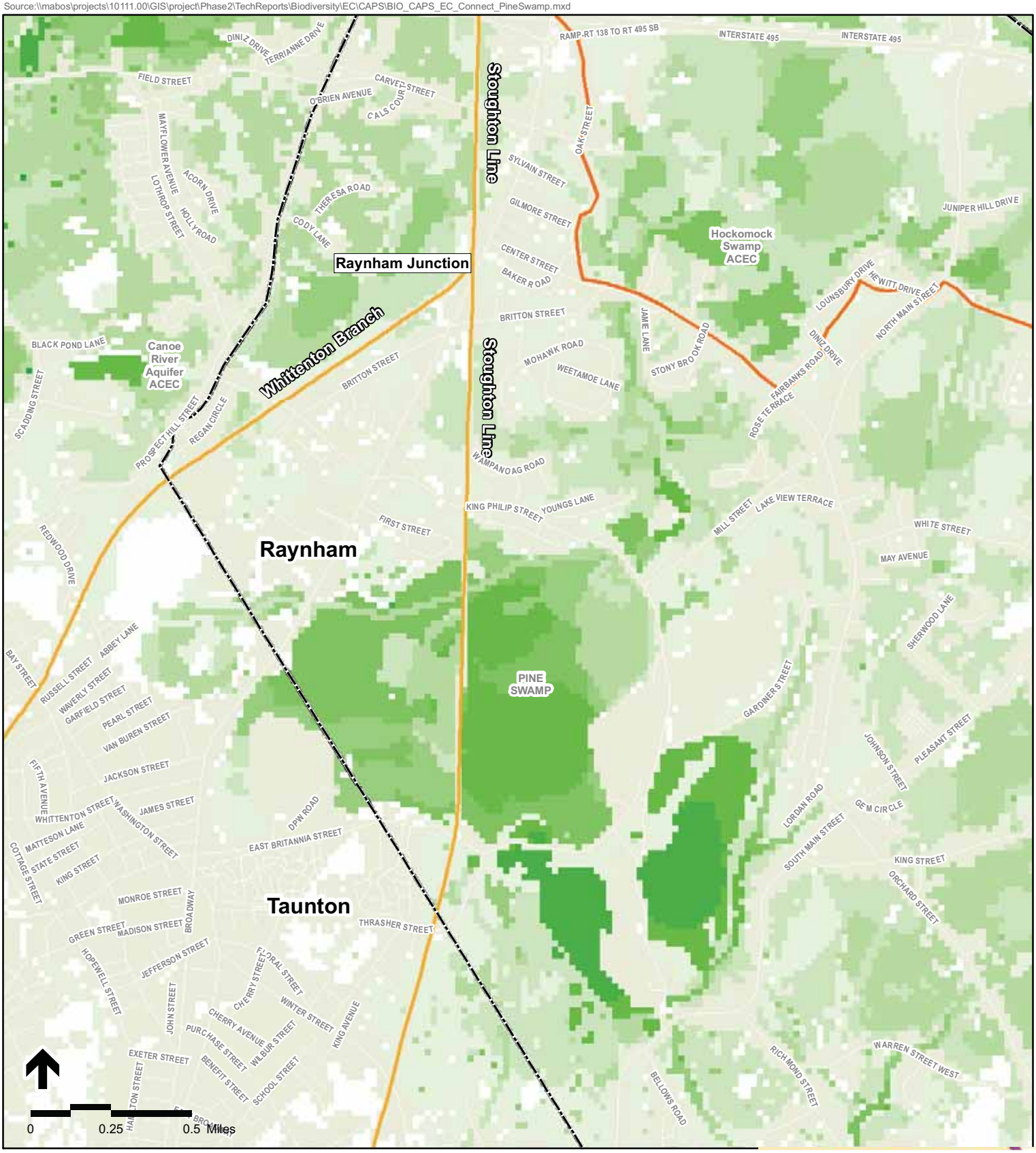
- Major
- Moderate
- Negligible

- Area of Critical Environmental Concern (ACEC)
- Town Boundaries
- Proposed Alternative

Figure 4.14-29

Change in Connectedness for the Hockomock Swamp (with trestle)

11/12/2009
Source:\\mabos\projects\10111.00\GIS\project\Phase2\TechReports\Biodiversity\EC\CAPS\BIO_CAPS_EC_Connect_PineSwamp.mxd



Legend

Connectedness

High

Moderate

Low

Area of Critical Environmental Concern (ACEC)

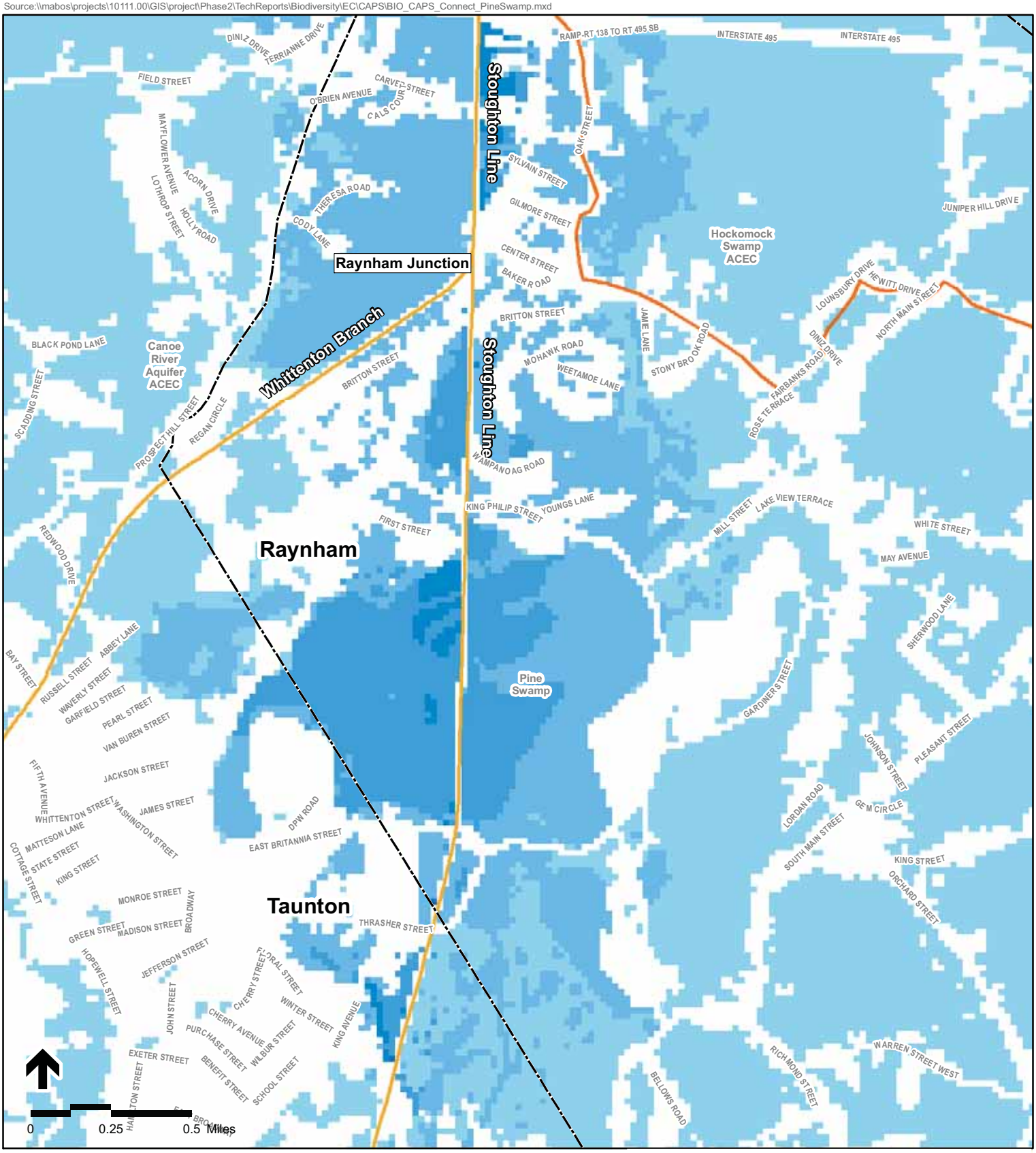
Town Boundaries

Proposed Alternative

Figure 4.14-30

Existing Connectedness for the Pine Swamp

11/12/2009
Source:\\mabos\projects\10111.00\GIS\project\Phase2\TechReports\Biodiversity\EC\CAPS\BIO_CAPS_Connect_PineSwamp.mxd



Legend

Loss of Connectedness

- Major
- Moderate
- Negligible

- Area of Critical Environmental Concern (ACEC)
- Town Boundaries
- Proposed Alternative

Figure 4.14-31

Change in Connectedness for the Pine Swamp