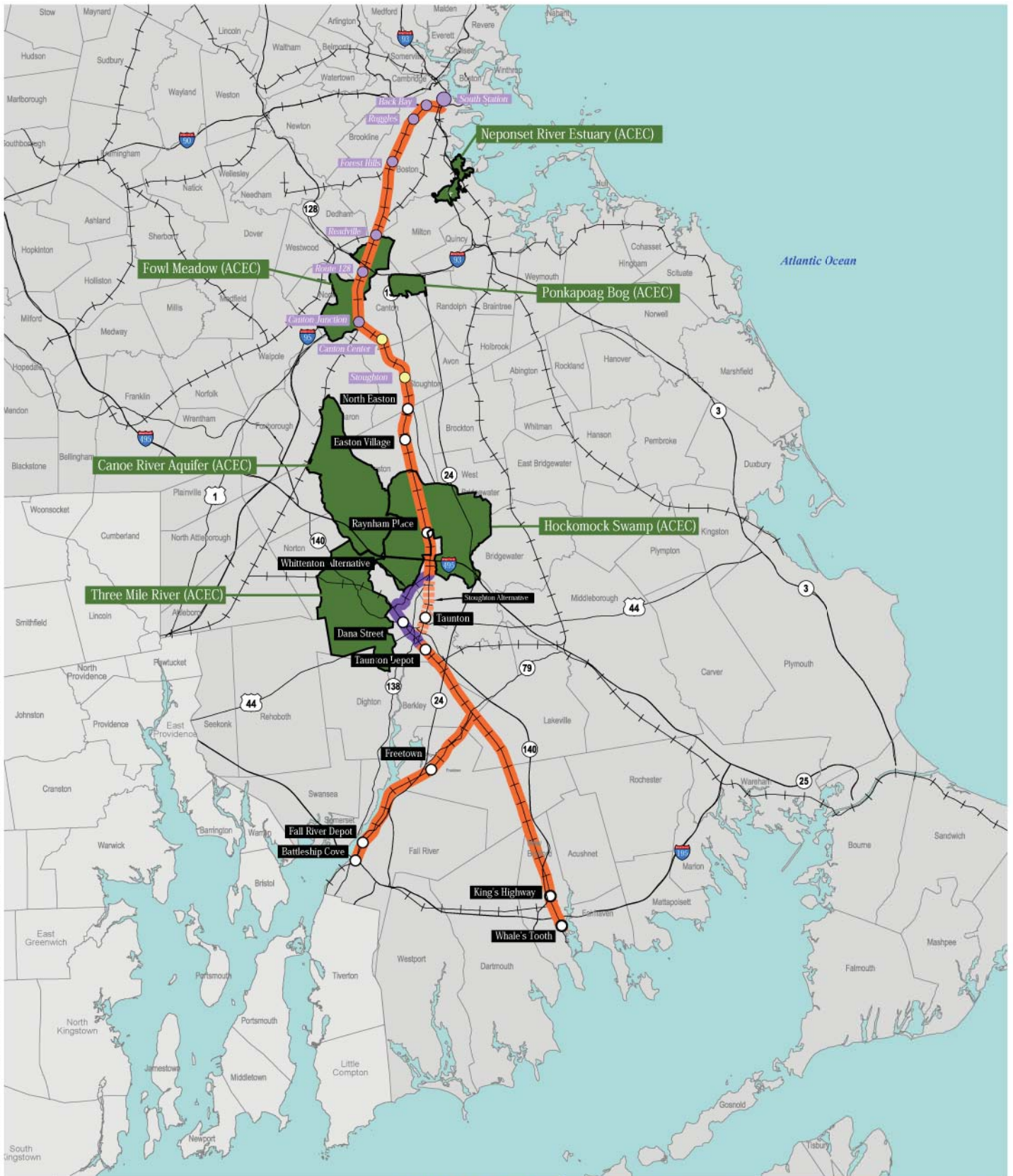


Legend






- Whittenton Alternative
- Existing Stations
- Proposed Stations
- Existing Stations to be Reconstructed
- Major Wetland Areas
- Freetown-Fall River State Forest
- Major Upland Areas



Figure 4.14-1
Major Wetland and Upland Natural Areas



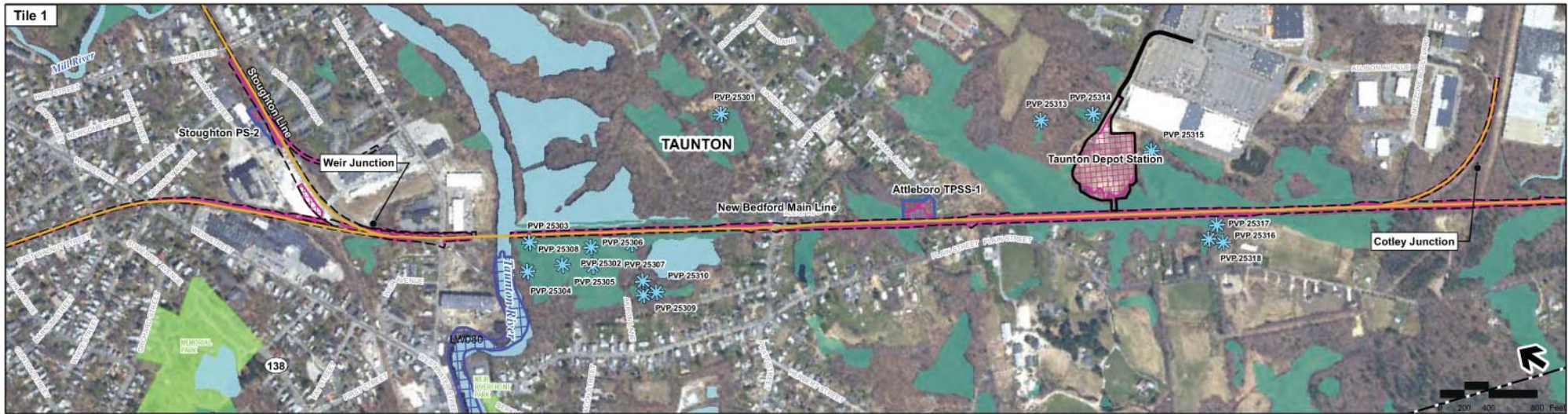
Legend

-  Whittenton Alternative
-  Existing Stations
-  Proposed Stations
-  Existing Stations to be Reconstructed
-  Areas of Critical Environmental Concern (ACEC)

Whittenton Alternative
Existing Stations
Proposed Stations
Existing Stations to be Reconstructed
Areas of Critical Environmental Concern (ACEC)

Figure 4.14-2
Areas of Critical Environmental
Concern (ACECs)





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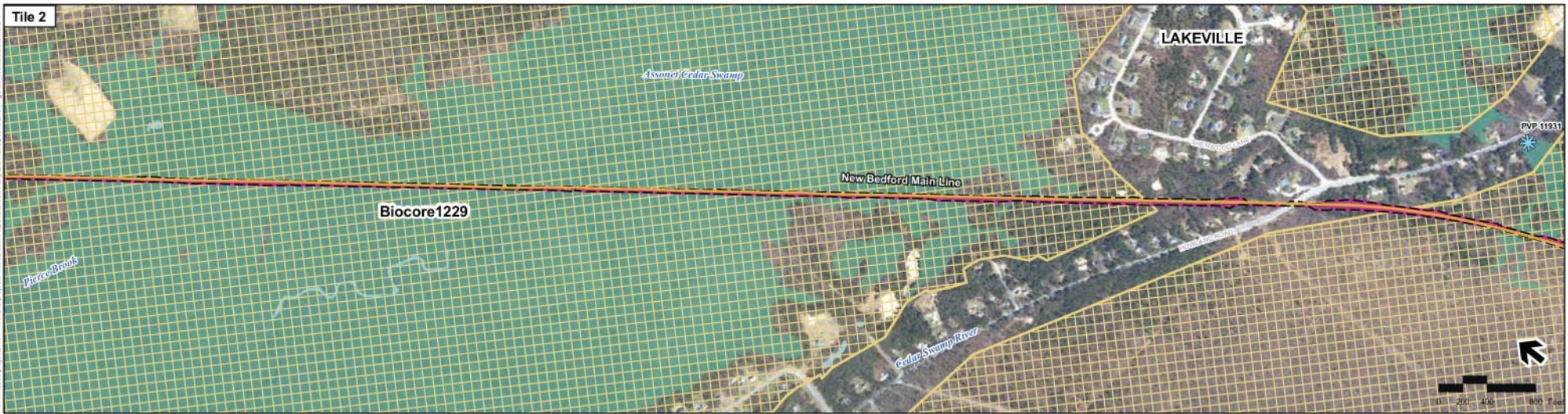
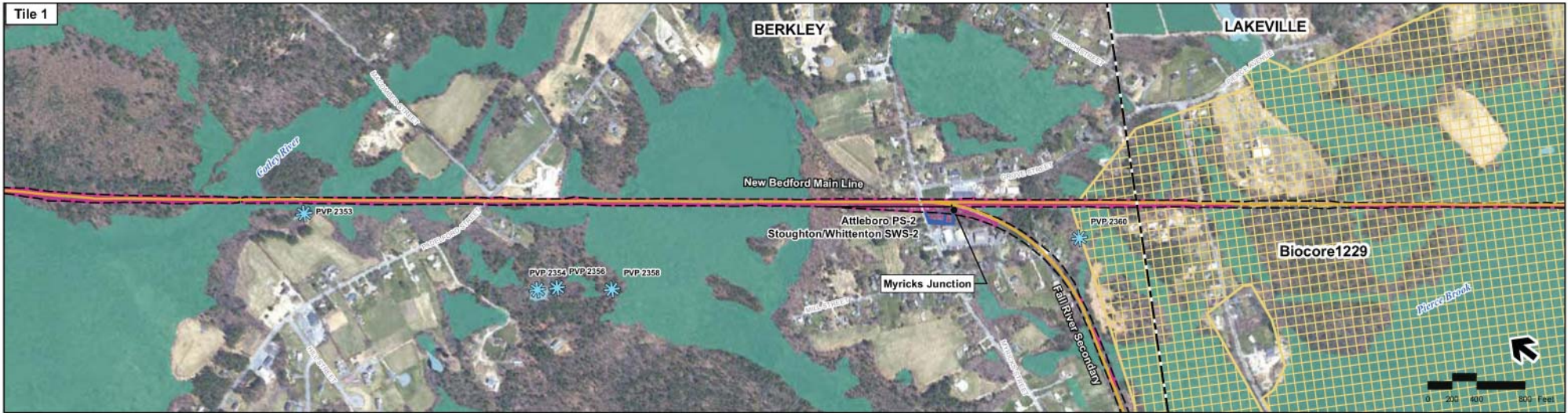
- Legend**
- MBTA Commuter Rail Station
 - MBTA Commuter Rail
 - - Town Boundaries
 - Area of Critical Environmental Concern (ACEC)
 - Proposed Alternative Alignment
 - Limit of Work for Proposed Station/Layover Facility
 - Limit of Permanent Impact for Proposed Rail
 - Traction Power Station*
 - Open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

* 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



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
 - Limit of Permanent Impact for Proposed Rail
 - Traction Power Station*
 - 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

* Traction power stations are only required for electric rail alternative

Index Map



Figure 4.14-3b
 All Rail Alternatives -
 New Bedford Main Line
 Biodiversity Impacts



- 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
 - ▭ 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

* Traction power stations are only required for electric rail alternative

Index Map



Figure 4.14-3d
All Rail Alternatives - New Bedford Main Line
Biodiversity Impacts



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Legend

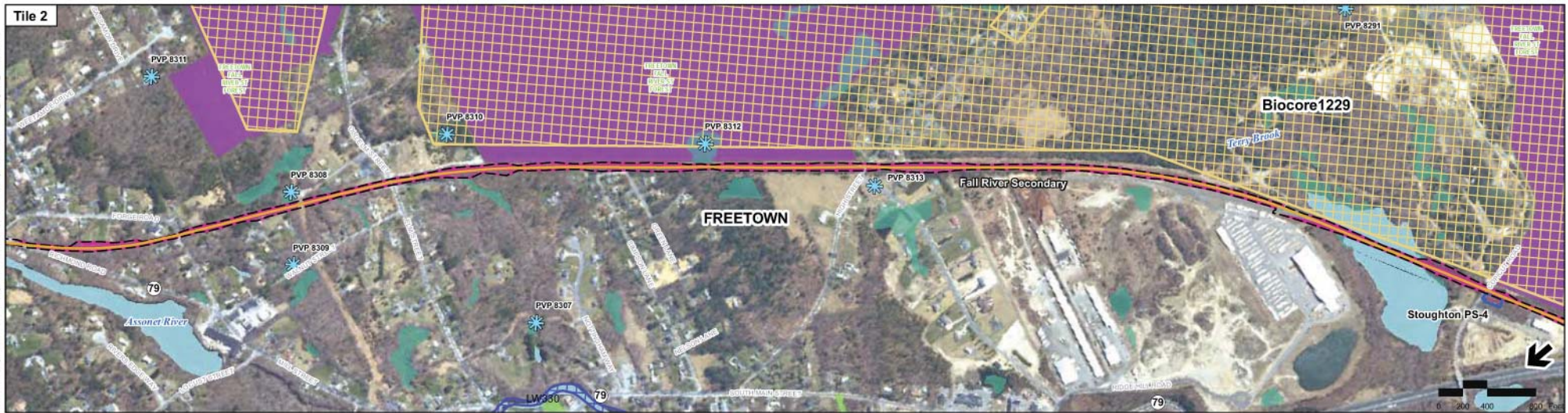
- MBTA Commuter Rail Station
- MBTA Commuter Rail
- - - Town Boundaries
- ▭ Area of Critical Environmental Concern (ACEC)
- Proposed Alternative Alignment
- ▭ Limit of Work for Proposed Station/Layover Facility
- ▭ Limit of Permanent Impact for Proposed Rail
- ▭ Traction Power Station*
- ▭ Open Water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

* Traction power stations are only required for electric rail alternative

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
 - ▭ Limit of Work for Proposed Station/Layover Facility
 - ▭ Limit of Permanent Impact for Proposed Rail
 - ▭ Traction Power Station*
 - ▭ Area of Critical Environmental Concern (ACEC)
 - ▭ Proposed Alternative Alignment
 - ▭ 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

* Traction power stations are only required for electric rail alternative



Figure 4.14-4a
 All Rail Alternatives -
 Fall River Secondary
 Biodiversity Impacts



Drawing Date: 7/25/2019
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Legend

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

* Traction power stations are only required for electric rail alternative

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

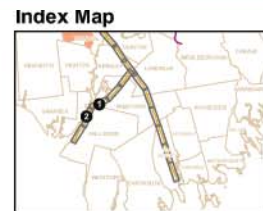


Figure 4.14-4b

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)
 - 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
 - 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 4.14-4c
All Rail Alternatives - Fall River Secondary
Biodiversity Impacts

* Traction power stations are only required for electric rail alternative



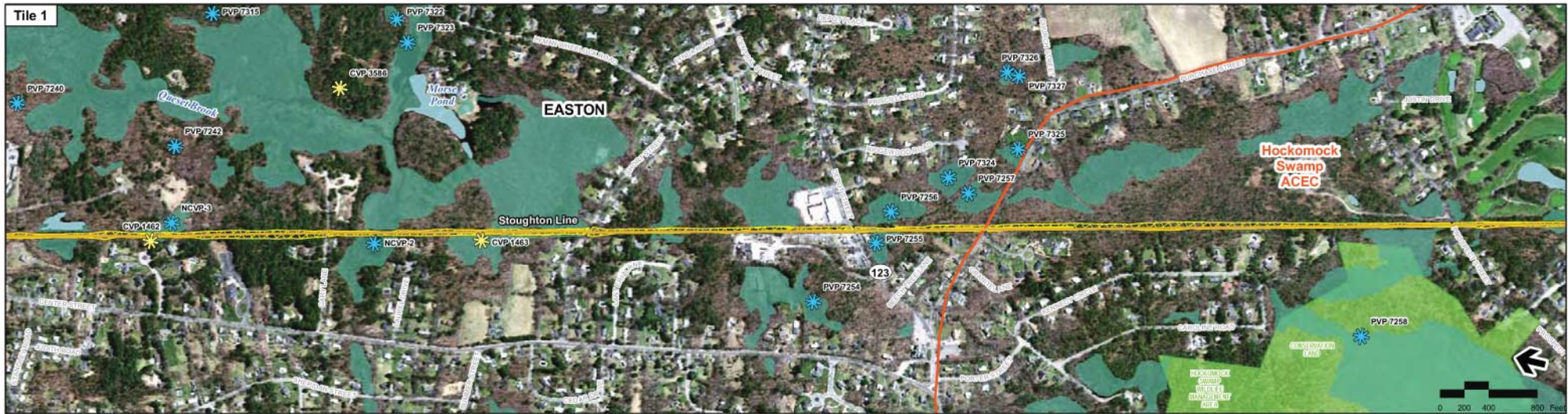
- Legend**
- MBTA Commuter Rail Station
 - MBTA Commuter Rail
 - - Town Boundaries
 - ▭ Area of Critical Environmental Concern (ACEC)
 - Proposed Alternative Alignment
 - ▭ Limit of Work for Proposed Station/ Layover Facility
 - ▭ Limit of Permanent Impact for Proposed Rail
 - ▭ Traction Power Station*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

* Traction power stations are only required for electric rail alternative

Index Map



Figure 4.14-5a
Stoughton Alternative -
Stoughton Line
Biodiversity Impacts



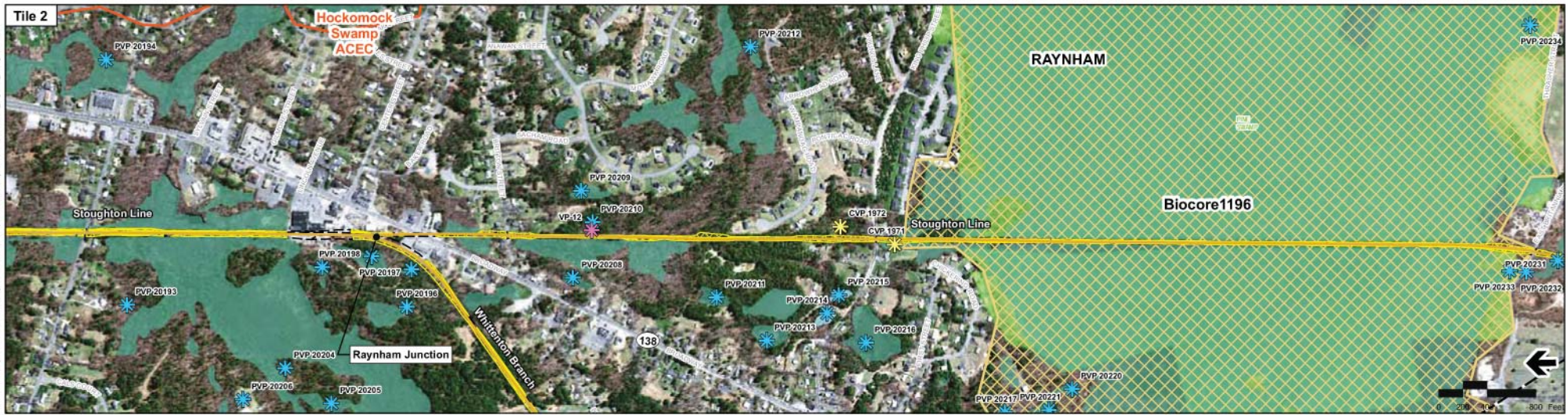
- Legend**
- MBTA Commuter Rail Station
 - MBTA Commuter Rail
 - - Town Boundaries
 - Area of Critical Environmental Concern (ACEC)
 - Proposed Alternative Alignment
 - Limit of Work for Proposed Station/Layover Facility
 - Limit of Permanent Impact for Proposed Rail
 - Traction Power Station*
 - Open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

* Traction power stations are only required for electric rail alternative

Index Map



Figure 4.14-5c
Stoughton Alternative -
Stoughton Line
Biodiversity Impacts



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

* Traction power stations are only required for electric rail alternative

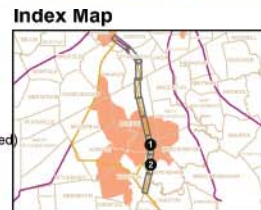
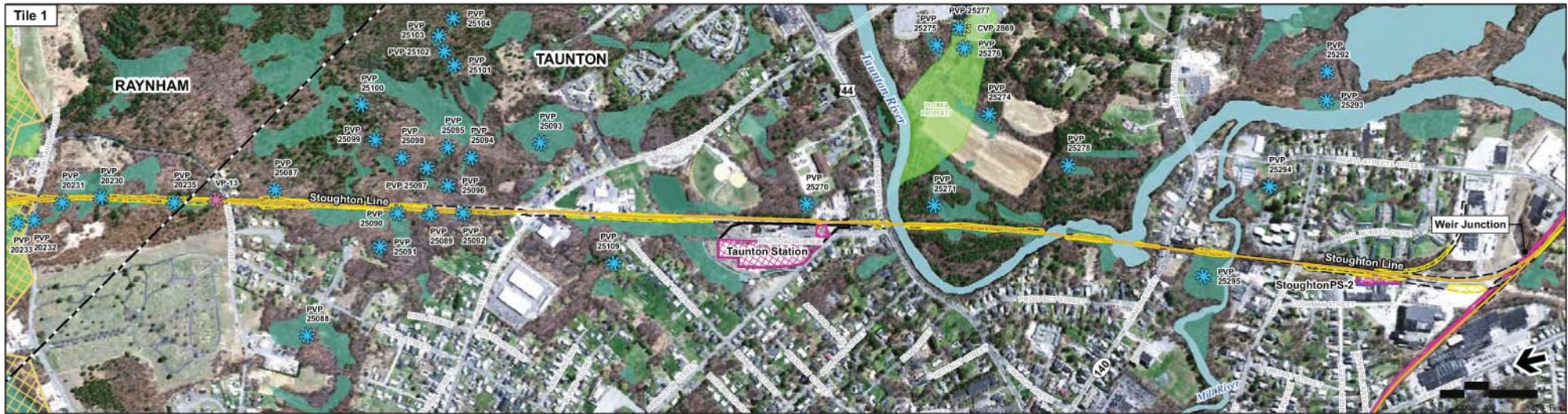


Figure 4.14-5d
 Stoughton Alternative -
 Stoughton Line
 Biodiversity Impacts



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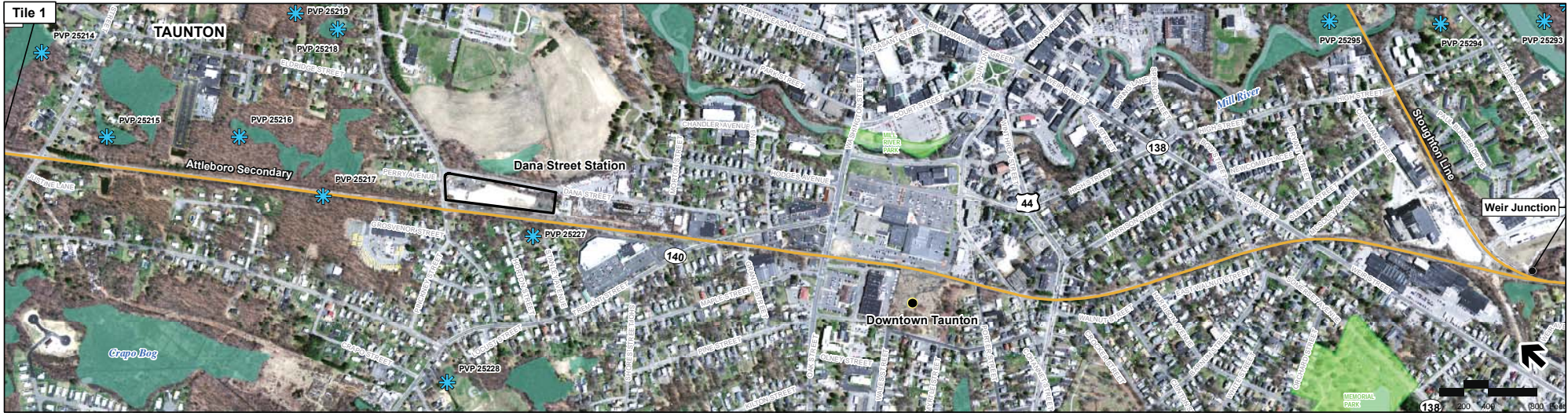
- MBTA Commuter Rail Station
- MBTA Commuter Rail
- - - Town Boundaries
- ▭ Area of Critical Environmental Concern (ACEC)
- Proposed Alternative Alignment
- ▭ Limit of Work for Proposed Station/Layover Facility
- ▭ Limit of Permanent Impact for Proposed Rail
- ▭ Traction Power Station*
- ▭ Open Water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

* Traction power stations are only required for electric rail alternative

Index Map



Figure 4.14-5e
 Stoughton Alternative -
 Stoughton Line
 Biodiversity Impacts



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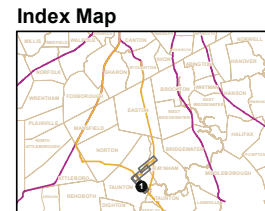
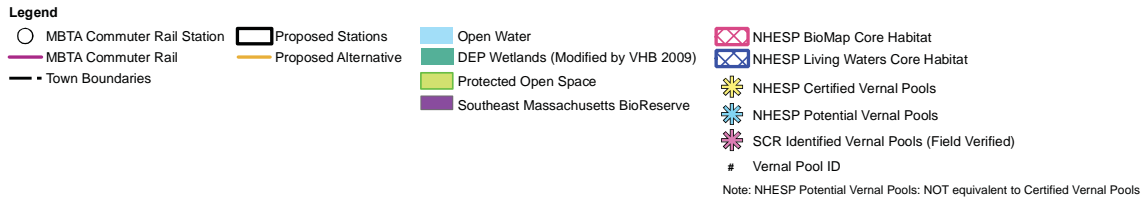
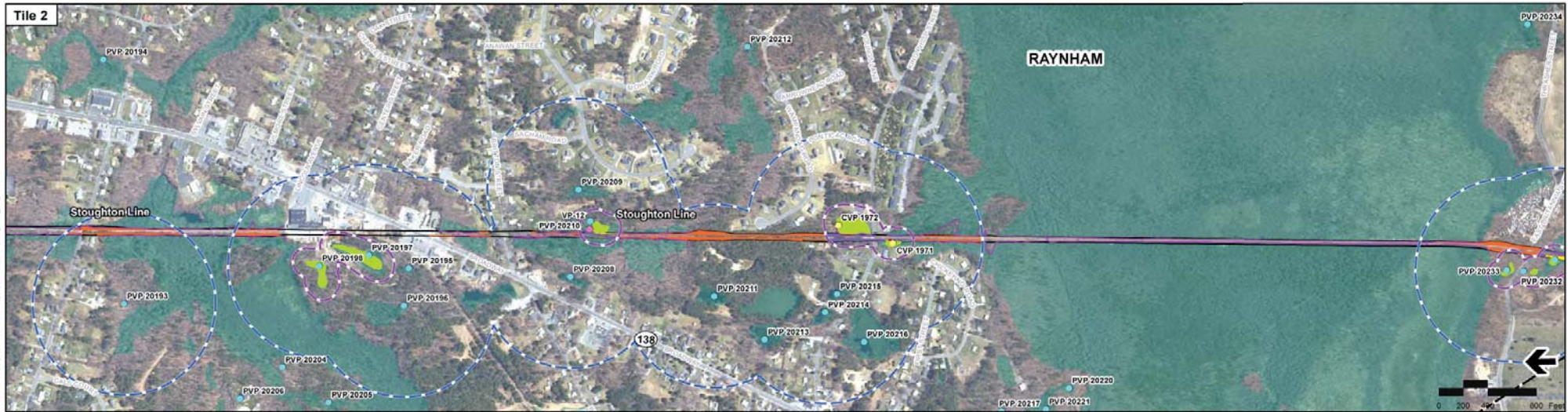
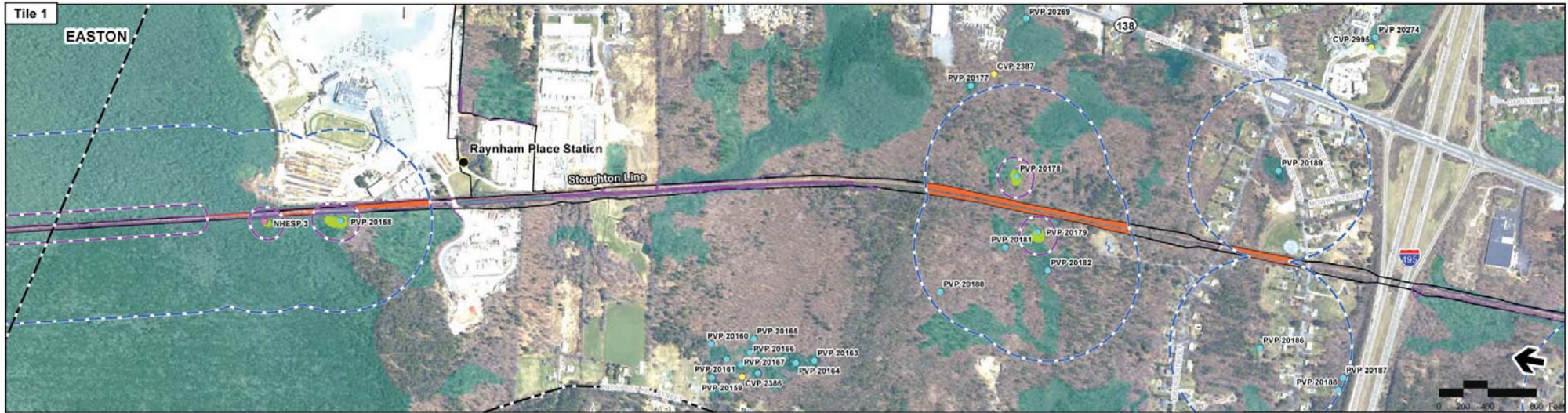


Figure 4.14-6b
Stoughton Alternative Whittenton Variation
Biodiversity



- Legend**
- MBTA Commuter Rail Station
 - Town Boundaries
 - Proposed Stations
 - Limit of Disturbance (LOD)
- Wetlands**
- Wetland Delineation
 - Wetland
 - Vernal Pool Habitat
- Vernal Pools**
- NHESP Certified Vernal Pool
 - NHESP Potential Vernal Pool
 - Field-verified Vernal Pool
- 100-foot Buffer
 - 750-foot Buffer
 - Fill to Vernal Pool
 - Fill to Vernal Pool Habitat
 - Loss of Buffer Habitat
 - Loss of Upland Habitat

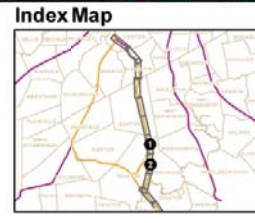
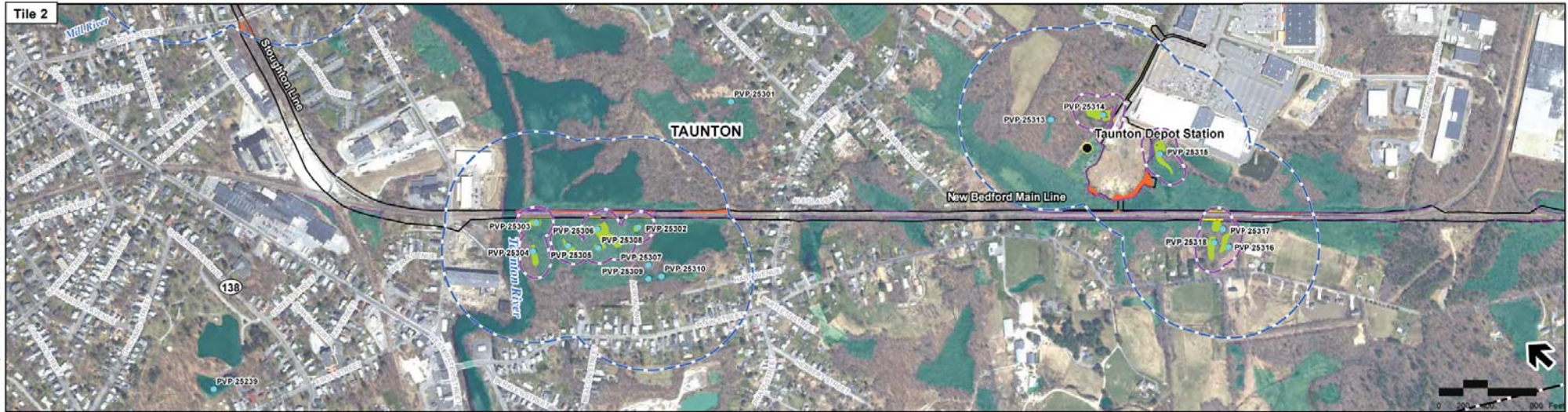


Figure 4.14-7d
Vernal Pool Impacts
Stoughton Line

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- Legend**
- MBTA Commuter Rail Station
 - Town Boundaries
 - Proposed Stations
 - Limit of Disturbance (LOD)
- Wetlands**
- Wetland Delineation
 - Wetland
 - Vernal Pool Habitat
- Vernal Pools**
- NHESP Certified Vernal Pool
 - NHESP Potential Vernal Pool
 - Field-verified Vernal Pool
- 100-foot Buffer
 - 750-foot Buffer
 - Fill to Vernal Pool
 - Fill to Vernal Pool Habitat
 - Loss of Buffer Habitat
 - Loss of Upland Habitat

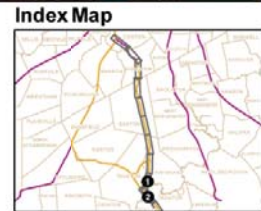


Figure 4.14-7e
 Vernal Pool Impacts
 Stoughton Line/New Bedford Main Line

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- Legend**
- MBTA Commuter Rail Station
 - Town Boundaries
 - Proposed Stations
 - Limit of Disturbance (LOD)

- Wetlands**
- Wetland Delineation
 - Wetland
 - Vernal Pool Habitat

- Vernal Pools**
- NHESP Certified Vernal Pool
 - NHESP Potential Vernal Pool
 - Field-verified Vernal Pool

- 100-foot Buffer
- 750-foot Buffer
- Fill to Vernal Pool
- Fill to Vernal Pool Habitat
- Loss of Buffer Habitat
- Loss of Upland Habitat

Index Map



Figure 4.14-8b

Vernal Pool Impacts
New Bedford Main Line



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- | | | |
|----------------------------|-----------------------------|-----------------------------|
| Legend | | |
| MBTA Commuter Rail Station | Wetland Delineation | 100-foot Buffer |
| Town Boundaries | Wetland | 750-foot Buffer |
| Proposed Stations | Vernal Pool Habitat | Fill to Vernal Pool |
| Limit of Disturbance (LOD) | | Fill to Vernal Pool Habitat |
| | Vernal Pools | Loss of Buffer Habitat |
| | NHESP Certified Vernal Pool | Loss of Upland Habitat |
| | NHESP Potential Vernal Pool | |
| | Field-verified Vernal Pool | |

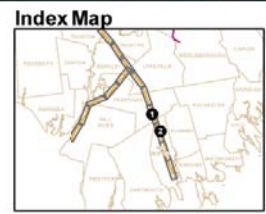


Figure 4.14-8c
 Vernal Pool Impacts
 New Bedford Main Line



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- Legend**
- MBTA Commuter Rail Station
 - Town Boundaries
 - Proposed Stations
 - Limit of Disturbance (LOD)

- Wetlands**
- Wetland Delineation
 - Wetland
 - Vernal Pool Habitat

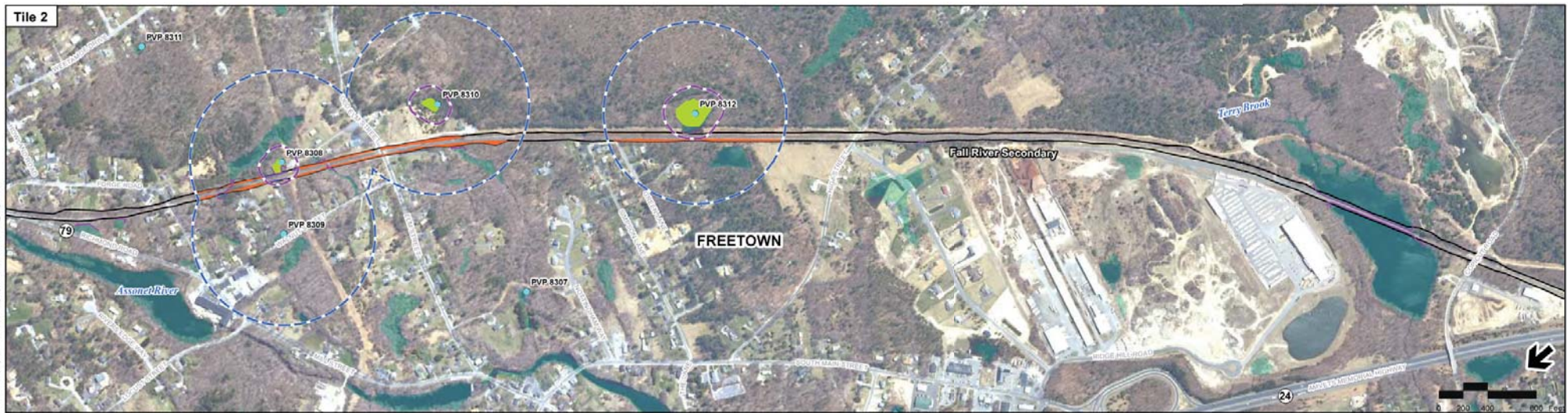
- Vernal Pools**
- NHESP Certified Vernal Pool
 - NHESP Potential Vernal Pool
 - Field-verified Vernal Pool

- 100-foot Buffer
- 750-foot Buffer
- Fill to Vernal Pool
- Fill to Vernal Pool Habitat
- Loss of Buffer Habitat
- Loss of Upland Habitat

Index Map



Figure 4.14-8d
 Vernal Pool Impacts
 New Bedford Main Line



Printing Date: 5/19/2011
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- | | | |
|------------------------------|-------------------------------|-------------------------------|
| Legend | Wetlands | |
| ○ MBTA Commuter Rail Station | — Wetland Delineation | □ 100-foot Buffer |
| --- Town Boundaries | ■ Wetland | □ 750-foot Buffer |
| ● Proposed Stations | ■ Vernal Pool Habitat | ■ Fill to Vernal Pool |
| □ Limit of Disturbance (LOD) | | ■ Fill to Vernal Pool Habitat |
| | Vernal Pools | ■ Loss of Buffer Habitat |
| | ● NHESP Certified Vernal Pool | ■ Loss of Upland Habitat |
| | ● NHESP Potential Vernal Pool | |
| | ● Field-verified Vernal Pool | |

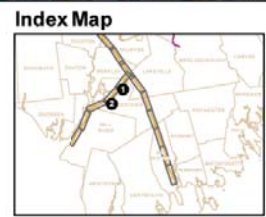


Figure 4.14-9a
 Vernal Pool Impacts
 Fall River Secondary



Drawing Date: 5/10/2015
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Legend

- MBTA Commuter Rail Station
- Town Boundaries
- Proposed Stations
- Limit of Disturbance (LOD)

Wetlands

- Wetland Delineation
- Wetland
- Vernal Pool Habitat

Vernal Pools

- NHESP Certified Vernal Pool
- NHESP Potential Vernal Pool
- Field-verified Vernal Pool

- 100-foot Buffer
- 750-foot Buffer
- Fill to Vernal Pool
- Fill to Vernal Pool Habitat
- Loss of Buffer Habitat
- Loss of Upland Habitat

Index Map



Figure 4.14-9c
Vernal Pool Impacts Fall River Secondary



- Legend**
- MBTA Commuter Rail Station
 - Town Boundaries
 - Proposed Rail Station
 - Limit of Grading
- Wetlands**
- Wetland
 - Vernal Pool Habitat
- Vernal Pools**
- NHESP Certified Vernal Pool
 - NHESP Potential Vernal Pool
 - Field-Identified Potential Vernal Pool
- 100-foot Buffer
 - 750-foot Buffer
 - Loss of Buffer Habitat
 - Loss of Upland Habitat

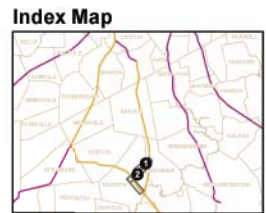


Figure 4.14-10a
 Whittenton Alternative
 Raynham Junction to Weir Junction
 Vernal Pool Impacts

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- Legend**
- MBTA Commuter Rail Station
 - Town Boundaries
 - Proposed Rail Station
 - Limit of Grading
- Wetlands**
- Wetland
 - Vernal Pool Habitat
- Vernal Pools**
- NHESP Certified Vernal Pool
 - NHESP Potential Vernal Pool
 - Field-Identified Potential Vernal Pool
- 100-foot Buffer
 - 750-foot Buffer
 - Loss of Buffer Habitat
 - Loss of Upland Habitat

Index Map

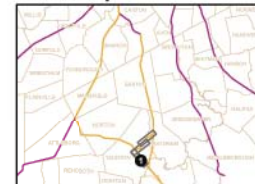


Figure 4.14-10b
Whittenton Alternative Raynham Junction to Weir Junction
Vernal Pool Impacts



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|--|---|--|---|

Index Map

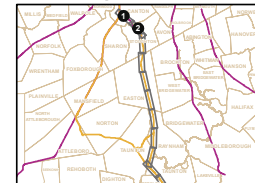


Figure 4.14-11a
 Fish and Wildlife Crossings
 Stoughton Line



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- | | | | |
|--|---|---|--|
| <p>Legend</p> <ul style="list-style-type: none"> ○ MBTA Commuter Rail Station — MBTA Commuter Rail — Town Boundaries ● Proposed Stations — Stoughton Line ▨ CAPS Index of Ecological Integrity Top 50% of the Landscape | <p>Wetlands</p> <ul style="list-style-type: none"> — Wetland Delineation ■ Wetland <p>Vernal Pools</p> <ul style="list-style-type: none"> ☀ Certified Vernal Pool ☀ Potential Vernal Pool | <p>Bridges</p> <ul style="list-style-type: none"> ▲ Constrained by Physical Characteristics ▲ Recommended to meet MA River and Stream Crossing Standards <p>Crossings</p> <ul style="list-style-type: none"> ✕ Between-tie Crossing ✕ Tunnel Crossing ✕ Wildlife Crossing, Type to be Determined | <p>Culverts</p> <ul style="list-style-type: none"> ■ Hydraulic Analysis, Replace in kind, or Eliminate ■ Recommended to be Daylighted ■ Recommended to meet MA River and Stream Crossing Standards |
|--|---|---|--|

Index Map

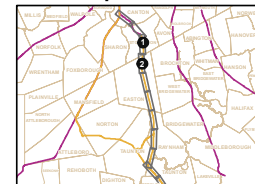
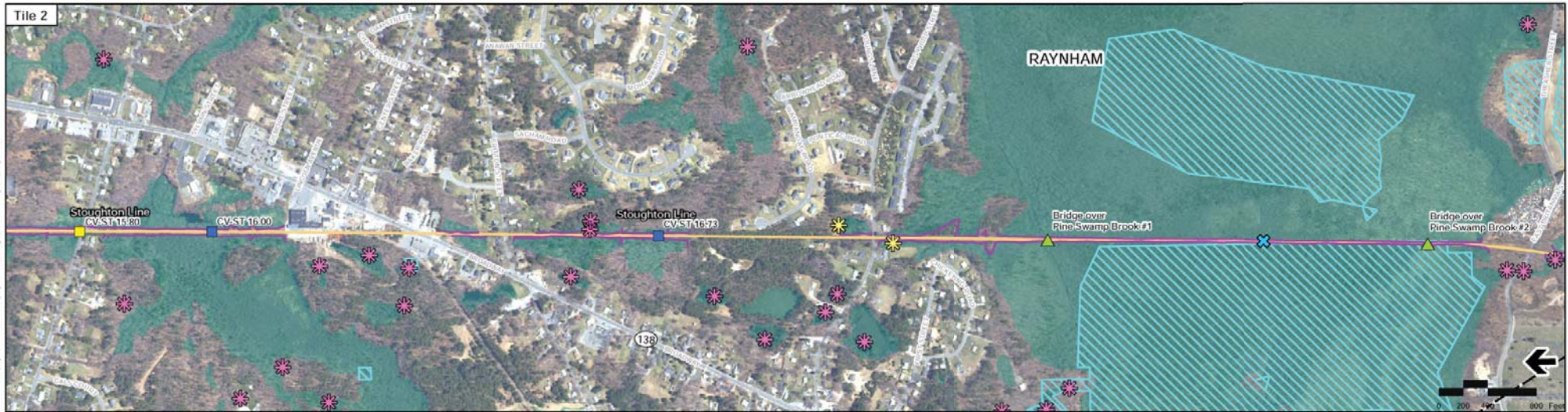
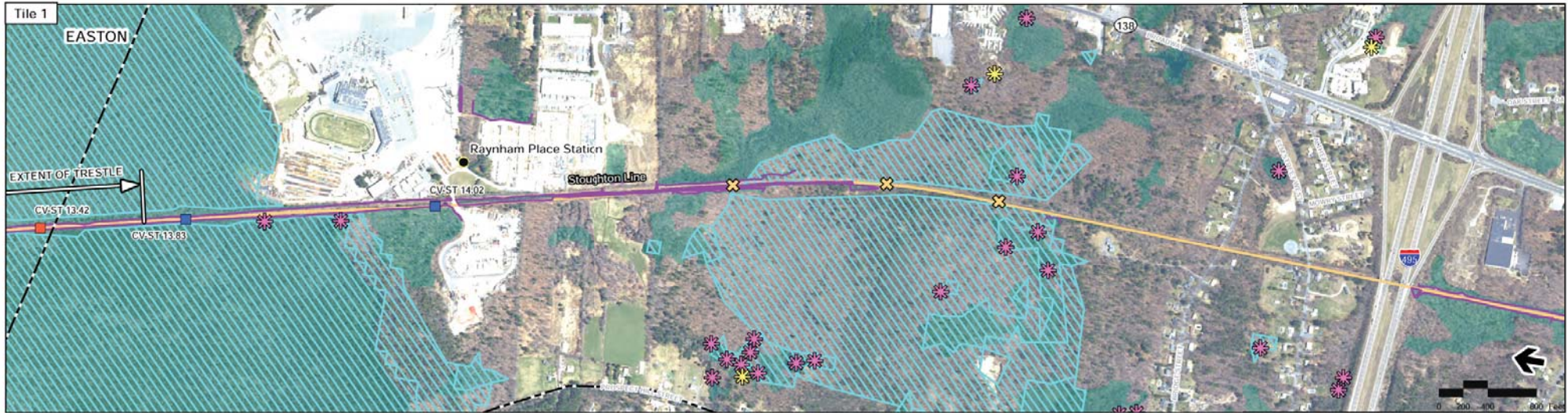


Figure 4.14-11b
Fish and Wildlife Crossings
Stoughton Line



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- | | | | |
|--|--|--|---|
| Legend
○ MBTA Commuter Rail Station
— MBTA Commuter Rail
- - - Town Boundaries
● Proposed Stations
— Stoughton Line
[Hatched] CAPS Index of Ecological Integrity Top 50% of the Landscape | Wetlands
— Wetland Delineation
[Green] Wetland
Vernal Pools
[Yellow Star] Certified Vernal Pool
[Pink Star] Potential Vernal Pool | Bridges
[Yellow Triangle] Constrained by Physical Characteristics
[Green Triangle] Recommended to meet MA River and Stream Crossing Standards
Crossings
[Pink X] Between-tie Crossing
[Blue X] Tunnel Crossing
[Yellow X] Wildlife Crossing, Type to be Determined | Culverts
[Yellow Square] Hydraulic Analysis, Replace in kind, or Eliminate
[Red Square] Recommended to be Daylighted
[Blue Square] Recommended to meet MA River and Stream Crossing Standards |
|--|--|--|---|

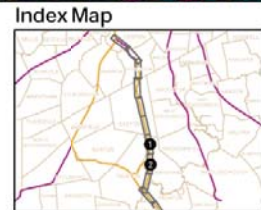


Figure 4.14-11d
Fish and Wildlife Crossings
Stoughton Line



Planning Date: 11/15/2017
 File Path: \\proj\proj\GIS\MapDocs_Collier\NewBedford_MainLine\MapDocs_Collier\NewBedford_MainLine_Tile2.mxd

- | | | | |
|--|---|--|---|
| <p>Legend</p> <ul style="list-style-type: none"> MBTA Commuter Rail Station MBTA Commuter Rail Town Boundaries Proposed Stations Stoughton Line CAPS Index of Ecological Integrity Top 50% of the Landscape | <p>Wetlands</p> <ul style="list-style-type: none"> Wetland Delineation Wetland <p>Vernal Pools</p> <ul style="list-style-type: none"> Certified Vernal Pool Potential Vernal Pool | <p>Bridges</p> <ul style="list-style-type: none"> Constrained by Physical Characteristics Recommended to meet MA River and Stream Crossing Standards <p>Crossings</p> <ul style="list-style-type: none"> Between-tie Crossing Tunnel Crossing Wildlife Crossing, Type to be Determined | <p>Culverts</p> <ul style="list-style-type: none"> Hydraulic Analysis, Replace in kind, or Eliminate Recommended to be Daylighted Recommended to meet MA River and Stream Crossing Standards |
|--|---|--|---|

Index Map



Figure 4.14-12b
 Fish and Wildlife Crossings
 New Bedford Main Line



- Legend**
- MBTA Commuter Rail Station
 - MBTA Commuter Rail
 - Town Boundaries
 - Proposed Stations
 - Stoughton Line
 - ▨ CAPS Index of Ecological Integrity Top 50% of the Landscape
- Wetlands**
- Wetland Delineation
 - Wetland
- Vernal Pools**
- ✿ Certified Vernal Pool
 - ✿ Potential Vernal Pool
- Bridges**
- ▲ Constrained by Physical Characteristics
 - ▲ Recommended to meet MA River and Stream Crossing Standards
- Crossings**
- ✕ Between-tie Crossing
 - ✕ Tunnel Crossing
 - ✕ Wildlife Crossing, Type to be Determined
- Culverts**
- Hydraulic Analysis, Replace in kind, or Eliminate
 - Recommended to be Daylighted
 - Recommended to meet MA River and Stream Crossing Standards

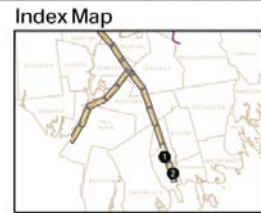
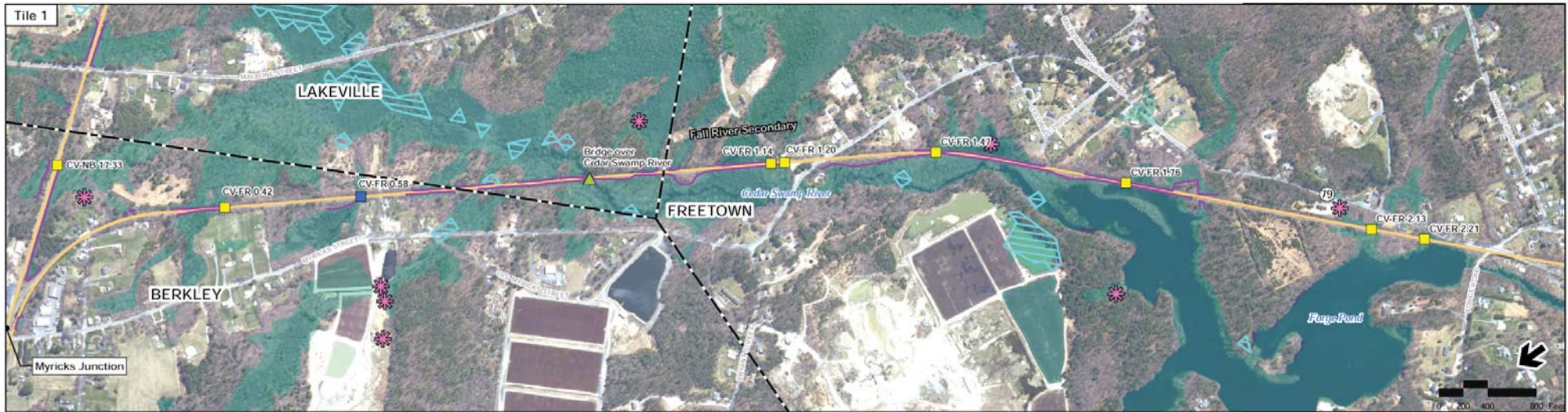


Figure 4.14-12d
Fish and Wildlife Crossings
New Bedford Main Line



Printing Date: 11/16/2011
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- | | | | |
|--|---|--|---|
| Legend
<ul style="list-style-type: none"> MBTA Commuter Rail Station MBTA Commuter Rail Town Boundaries Proposed Stations Stoughton Line CAPS Index of Ecological Integrity Top 50% of the Landscape | Wetlands
<ul style="list-style-type: none"> Wetland Delineation Wetland Vernal Pools
<ul style="list-style-type: none"> Certified Vernal Pool Potential Vernal Pool | Bridges
<ul style="list-style-type: none"> Constrained by Physical Characteristics Recommended to meet MA River and Stream Crossing Standards Crossings
<ul style="list-style-type: none"> Between-tie Crossing Tunnel Crossing Wildlife Crossing, Type to be Determined | Culverts
<ul style="list-style-type: none"> Hydraulic Analysis, Replace in kind, or Eliminate Recommended to be Daylighted Recommended to meet MA River and Stream Crossing Standards |
|--|---|--|---|

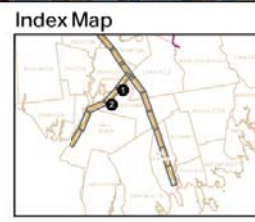


Figure 4.14-13a
 Fish and Wildlife Crossings
 Fall River Secondary



- Legend**
- MBTA Commuter Rail Station
 - MBTA Commuter Rail
 - - - Town Boundaries
 - Proposed Stations
 - Stoughton Line
 - ▨ CAPS Index of Ecological Integrity Top 50% of the Landscape
- Wetlands**
- Wetland Delineation
 - Wetland
- Vernal Pools**
- ✿ Certified Vernal Pool
 - ✿ Potential Vernal Pool
- Bridges**
- ▲ Constrained by Physical Characteristics
 - ▲ Recommended to meet MA River and Stream Crossing Standards
- Crossings**
- ✕ Between-tie Crossing
 - ✕ Tunnel Crossing
 - ✕ Wildlife Crossing, Type to be Determined
- Culverts**
- Hydraulic Analysis, Replace in kind, or Eliminate
 - Recommended to be Daylighted
 - Recommended to meet MA River and Stream Crossing Standards

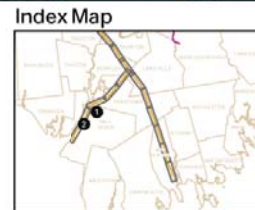


Figure 4.14-13b
Fish and Wildlife Crossings
Fall River Secondary



Drawing Date: 5/11/2015
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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Proposed Stations
- Stoughton Line
- CAPS Index of Ecological Integrity Top 50% of the Landscape

Wetlands

- Wetland Delineation
- Wetland

Vernal Pools

- Certified Vernal Pool
- Potential Vernal Pool

Bridges

- Constrained by Physical Characteristics
- Recommended to meet MA River and Stream Crossing Standards

Crossings

- Between-tie Crossing
- Tunnel Crossing
- Wildlife Crossing, Type to be Determined

Culverts

- Hydraulic Analysis, Replace in kind, or Eliminate
- Recommended to be Daylighted
- Recommended to meet MA River and Stream Crossing Standards

Index Map



Figure 4.14-13c
 Fish and Wildlife Crossings
 Fall River Secondary



- Legend**
- MBTA Commuter Rail Station
 - MBTA Commuter Rail
 - - - Town Boundaries
 - Proposed Stations
 - Stoughton Line
 - ▨ CAPS Index of Ecological Integrity Top 50% of the Landscape
- Wetlands**
- Wetland Delineation
 - Wetland
- Vernal Pools**
- ☀ Certified Vernal Pool
 - ☀ Potential Vernal Pool
- Bridges**
- ▲ Constrained by Physical Characteristics
 - ▲ Recommended to meet MA River and Stream Crossing Standards
- Crossings**
- ✕ Between-lie Crossing
 - ✕ Tunnel Crossing
 - ✕ Wildlife Crossing, Type to be Determined
- Culverts**
- Hydraulic Analysis, Replace in kind, or Eliminate
 - Recommended to be Daylighted
 - Recommended to meet MA River and Stream Crossing Standards

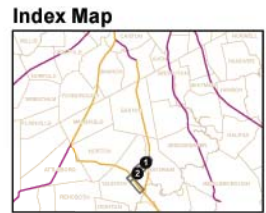


Figure 4.14-14a
 Whittenton Alternative
 Raynham Junction to Weir Junction
 Fish and Wildlife Crossings

Printing Date: 3/15/2013
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Legend

- MBTA Commuter Rail Station
- MBTA Commuter Rail
- Town Boundaries
- Proposed Stations
- Stoughton Line
- ▨ CAPS Index of Ecological Integrity Top 50% of the Landscape

Wetlands

- Wetland Delineation
- Wetland

Vernal Pools

- ☀ Certified Vernal Pool
- ✳ Potential Vernal Pool

Bridges

- ▲ Constrained by Physical Characteristics
- ▲ Recommended to meet MA River and Stream Crossing Standards

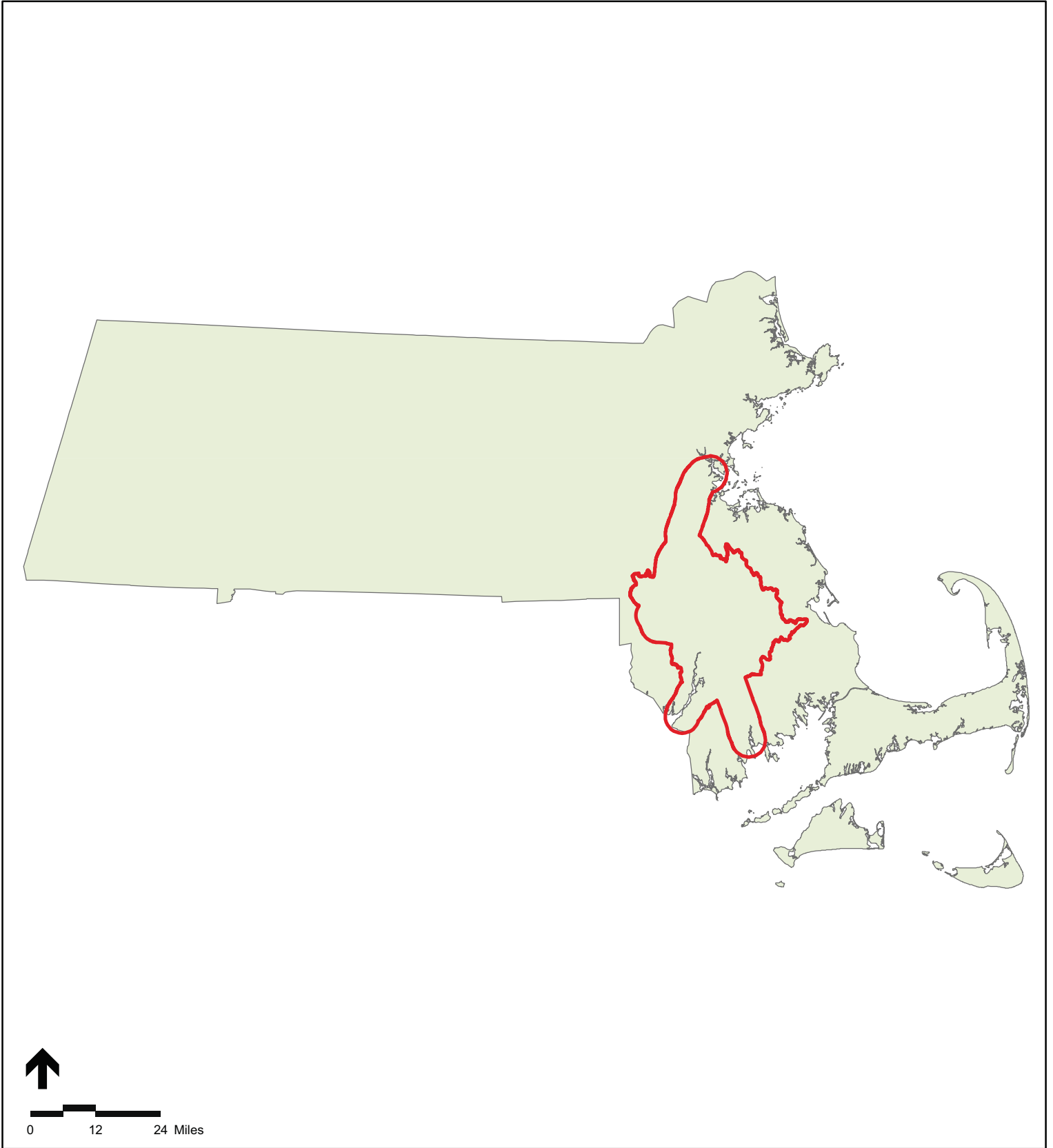
Crossings

- ✳ Between-tie Crossing
- ✳ Tunnel Crossing
- ✳ Wildlife Crossing, Type to be Determined

Culverts

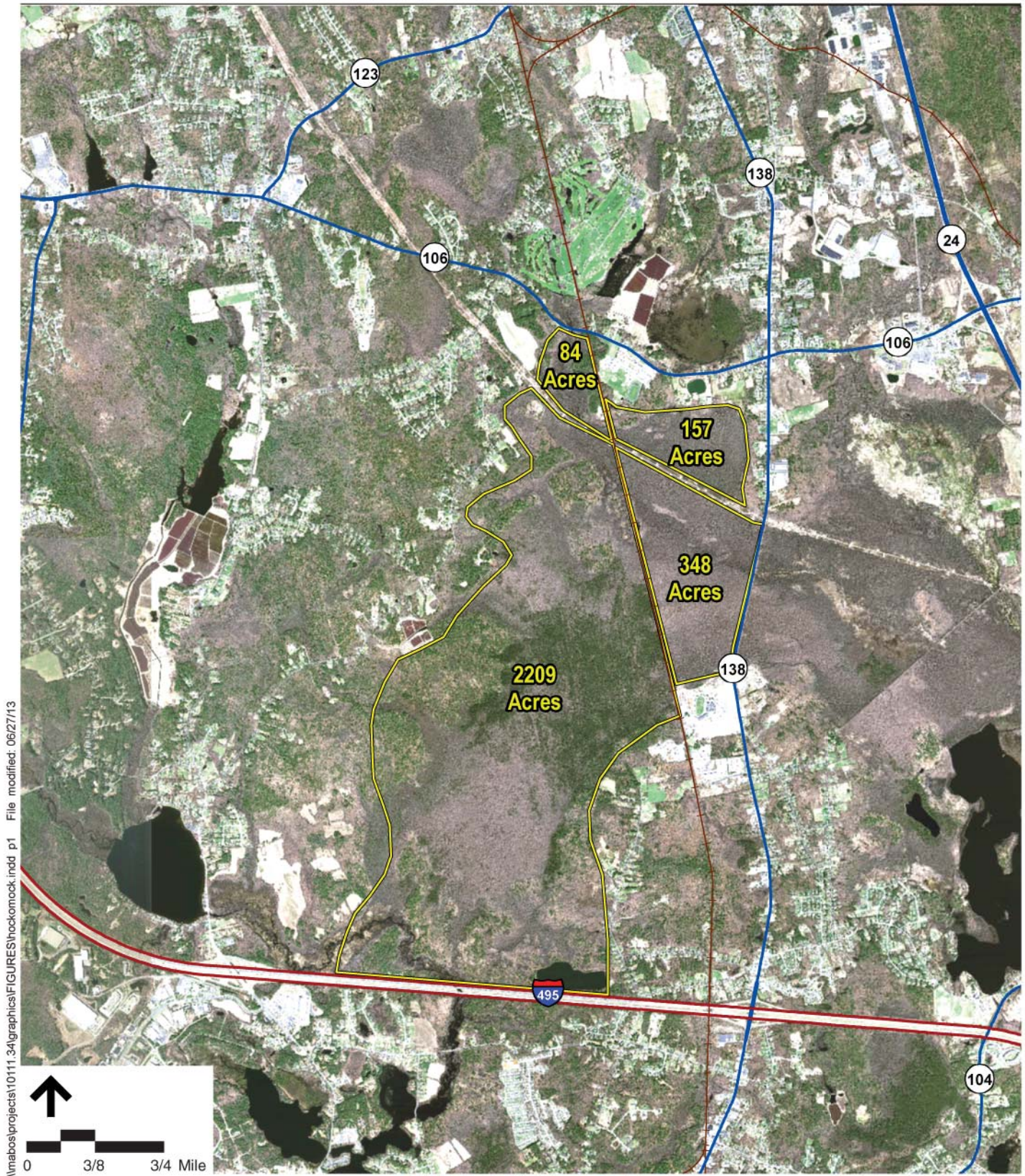
- Hydraulic Analysis, Replace in kind, or Eliminate
- Recommended to be Daylighted
- Recommended to meet MA River and Stream Crossing Standards

Figure 4.14-14b
 Whittenton Alternative
 Raynham Junction to Weir Junction
 Fish and Wildlife Crossings



Legend
Study Area

Figure 4.14-15
Study Area for the
South Coast Rail Analysis



\\mabos\projects\10111_34\graphics\FIGURES\hockomock.indd p1 File modified: 06/27/13

Figure 4.14-16
Hockomock Swamp Areas

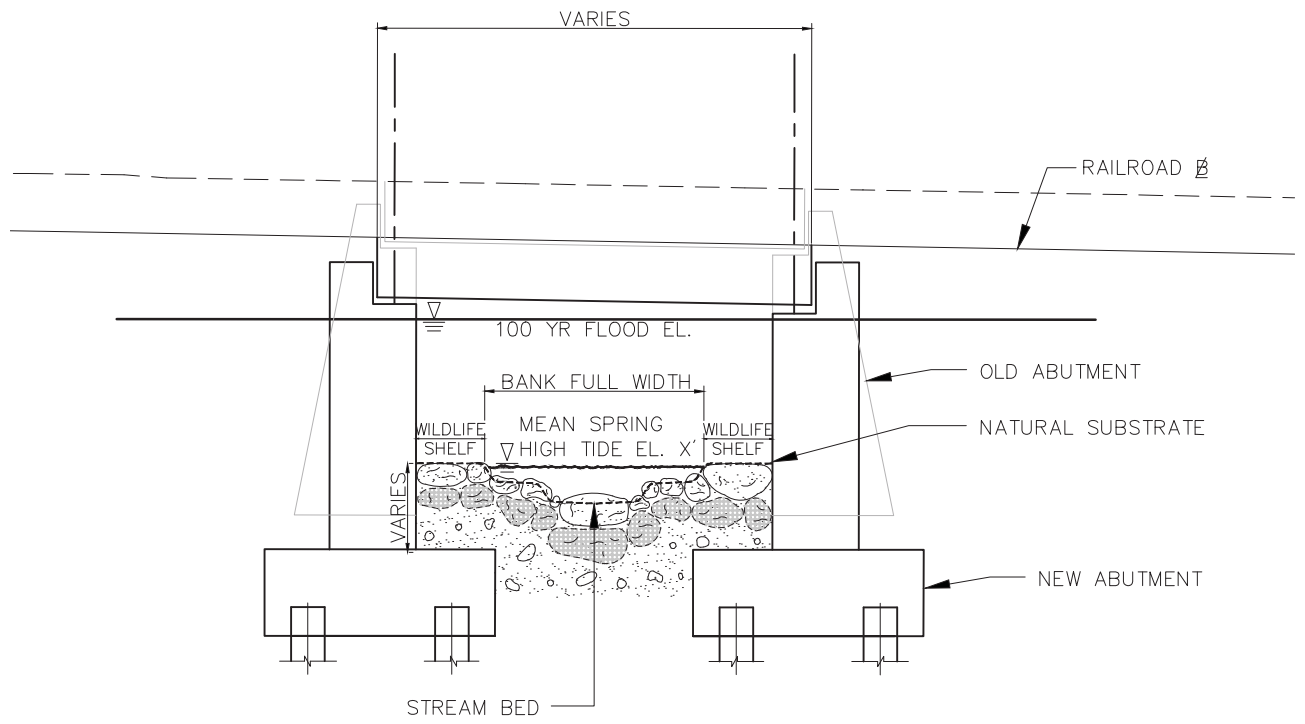


Figure 4.14-21a
Typical Single-span Bridge Cross Section

\\mabes\projects\10111_00\cast\stplmest\slough\10111_18_795_TAUNTONRV.dwg Printing Date: 5/1/2012

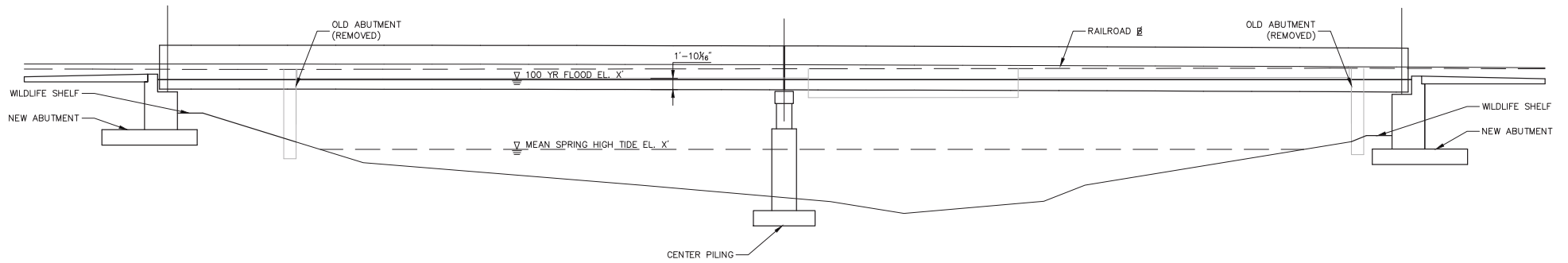


Figure 4.14-21b
Typical Two-span Bridge Cross Section



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 4.14-26
Taunton Depot Station
Biodiversity Impacts



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

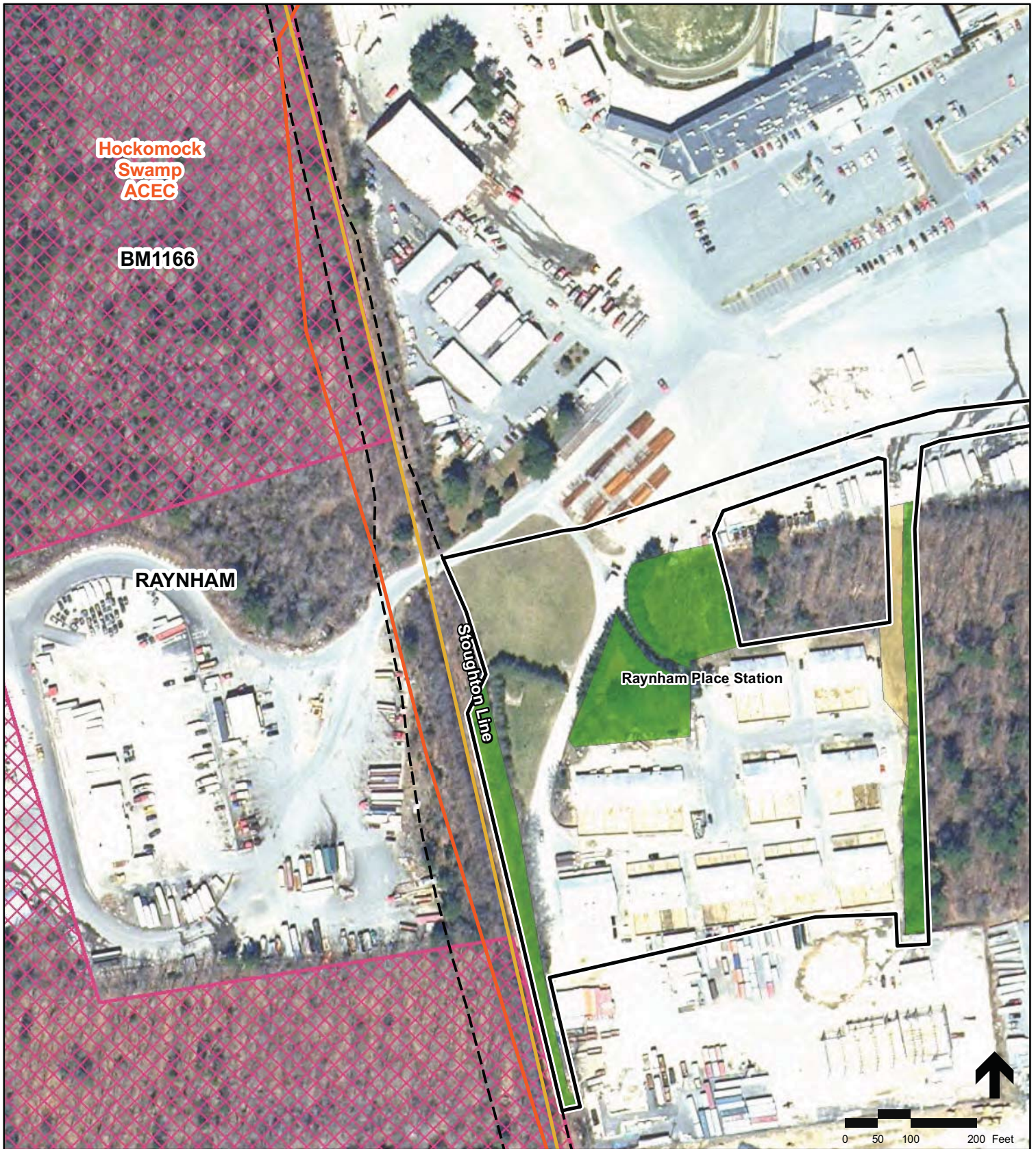
Figure 4.14-27
Freetown Station
Biodiversity Impacts



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 4.14-28
North Easton Station
Biodiversity Impacts

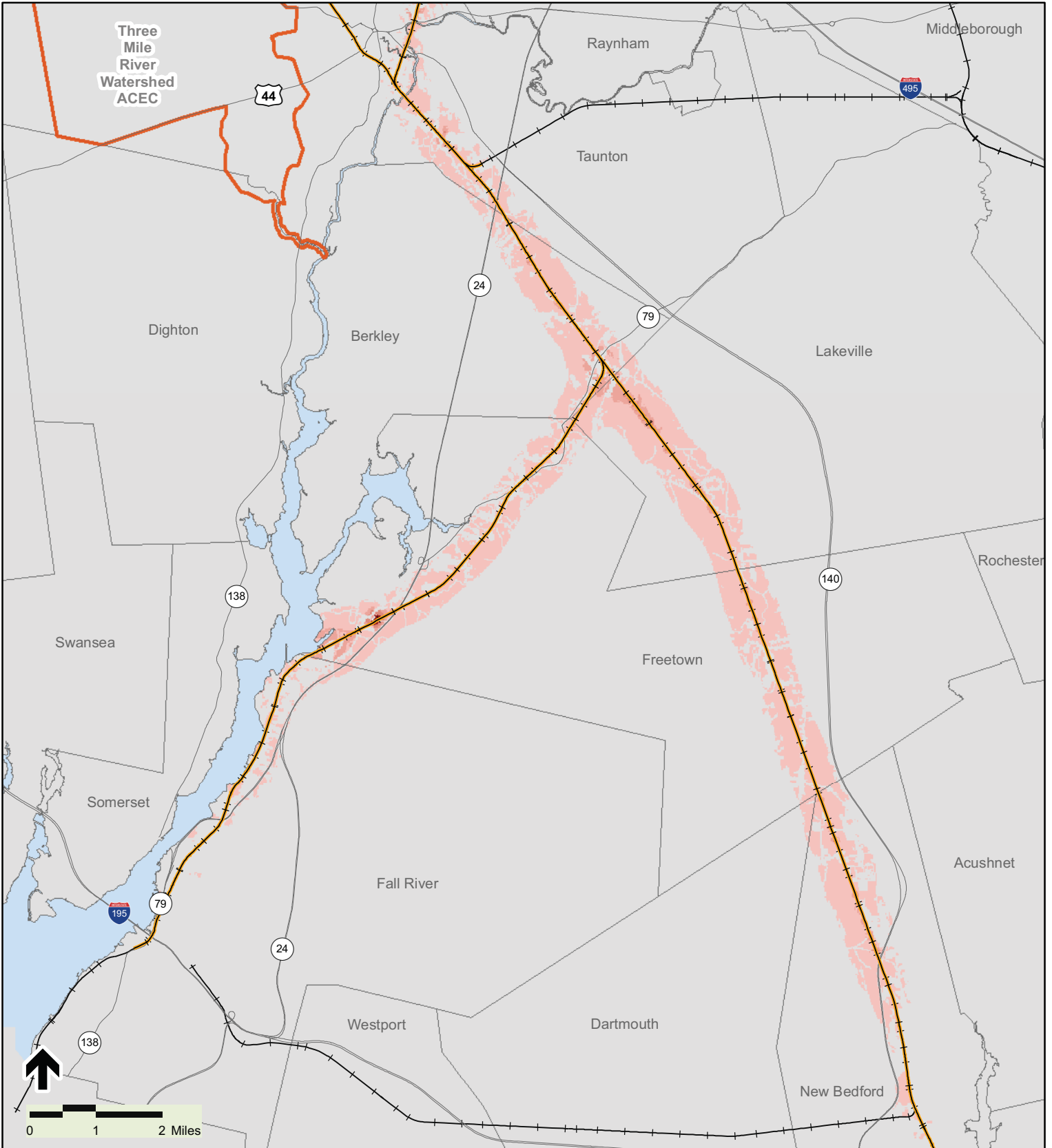


Legend

- 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 4.14-29
Raynham Place Station
Biodiversity Impacts



Legend



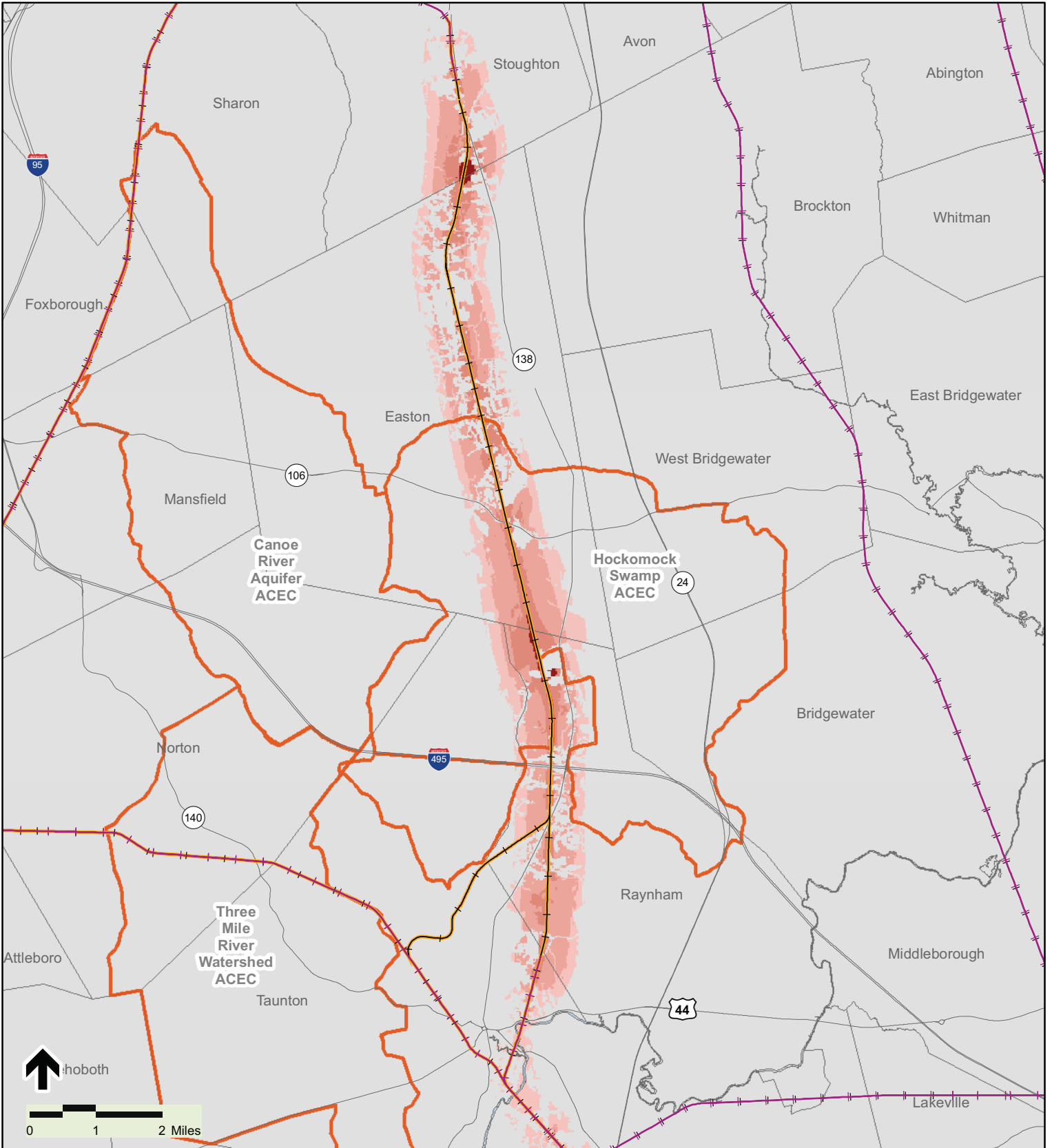
-  Area of Critical Environmental Concern (ACEC)
-  Proposed Alternative Rail

Figure 4.14-30
Modeled Loss in Ecological Integrity
for the Southern Triangle

Note: Darker areas represent greater loss



Legend



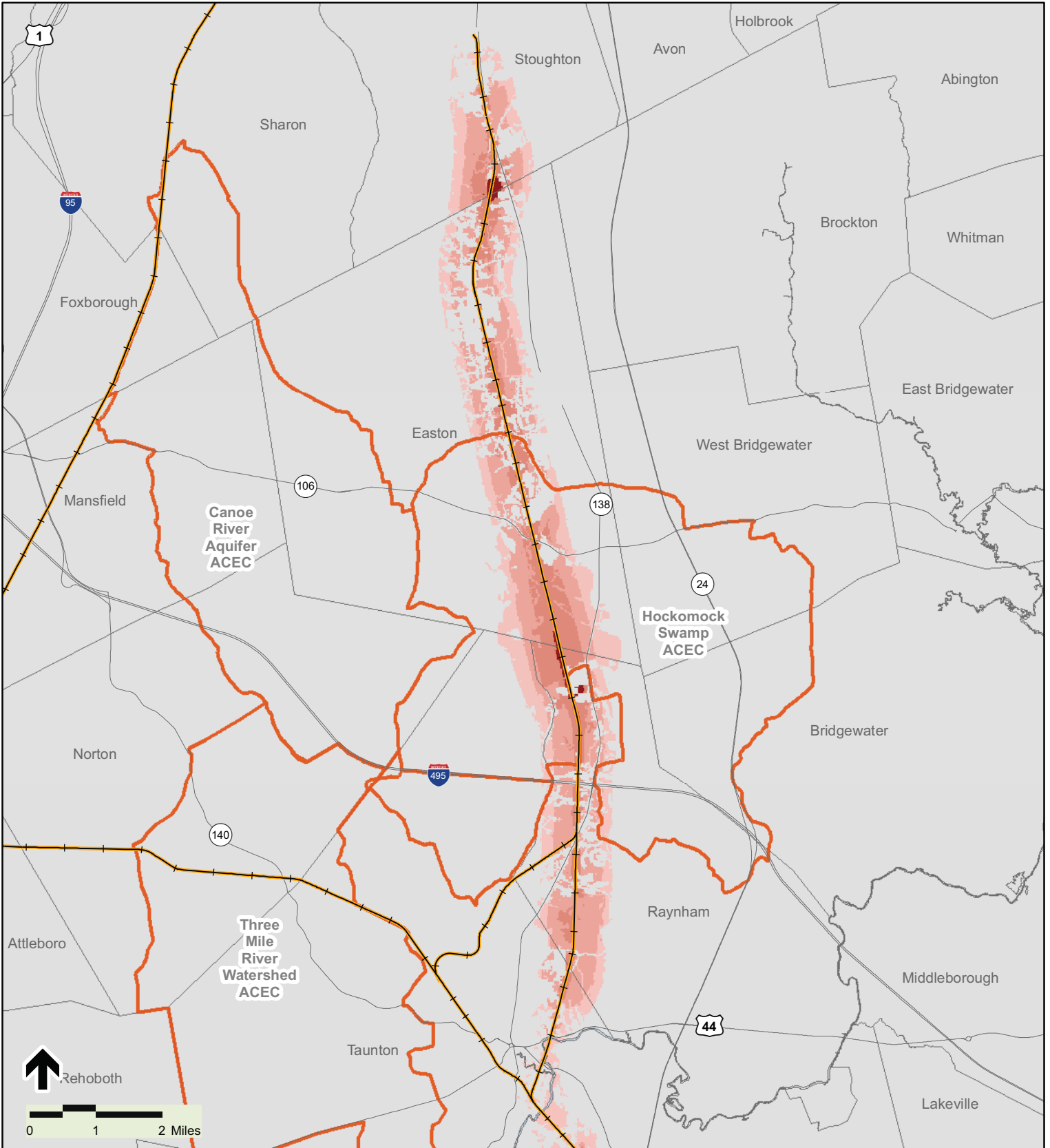
-  Area of Critical Environmental Concern (ACEC)
-  Proposed Alternative Rail

Figure 4.14-31
Modeled Loss in Ecological Integrity
for the Stoughton Alternative (with Trestle)

Note: Darker areas represent greater loss



Legend



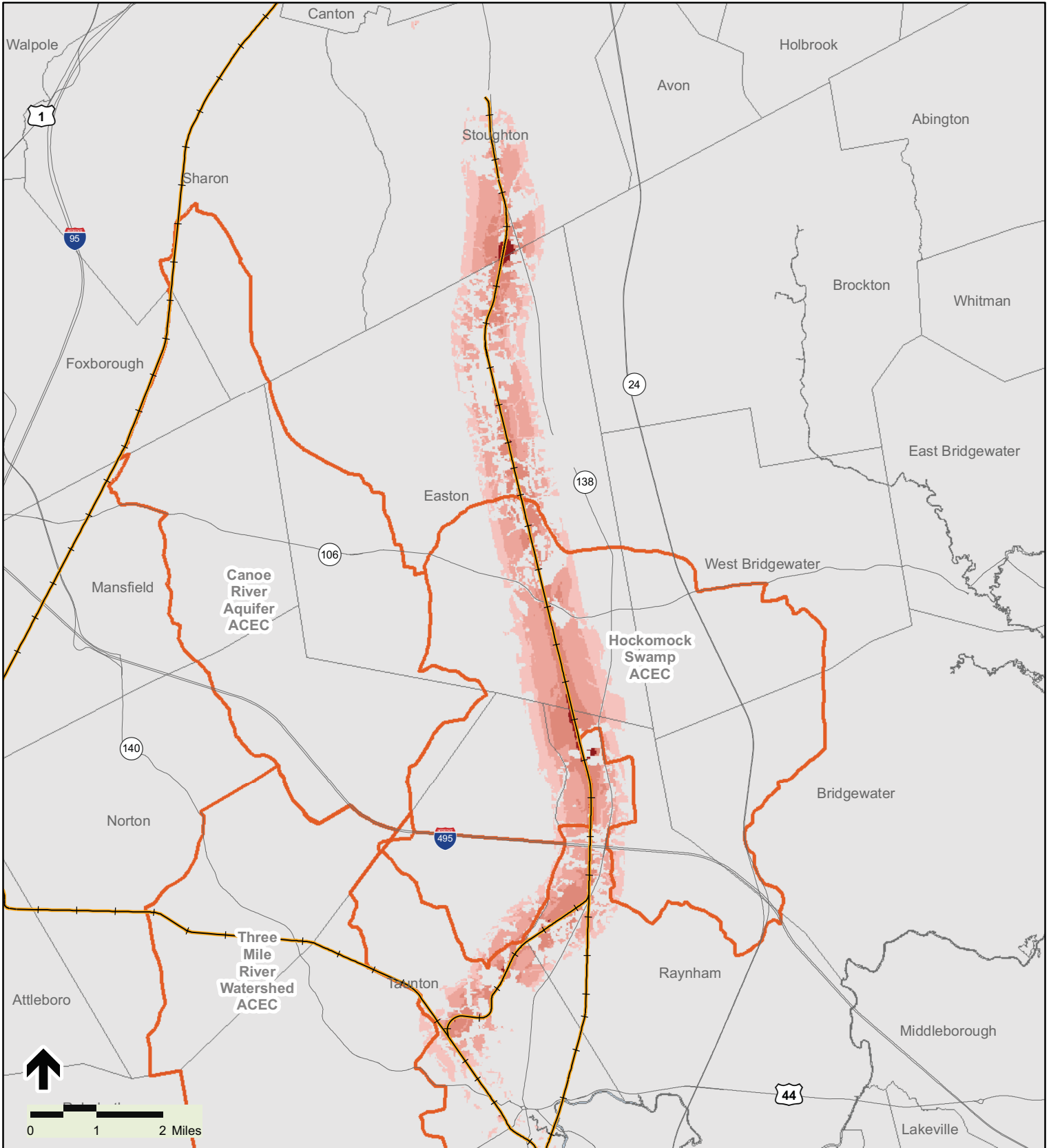
-  Area of Critical Environmental Concern (ACEC)
-  Proposed Alternative Rail

Figure 4.14-32
Modeled Loss in Ecological Integrity for the Stoughton Alternative (without trestle)

Note: Darker areas represent greater loss



Legend



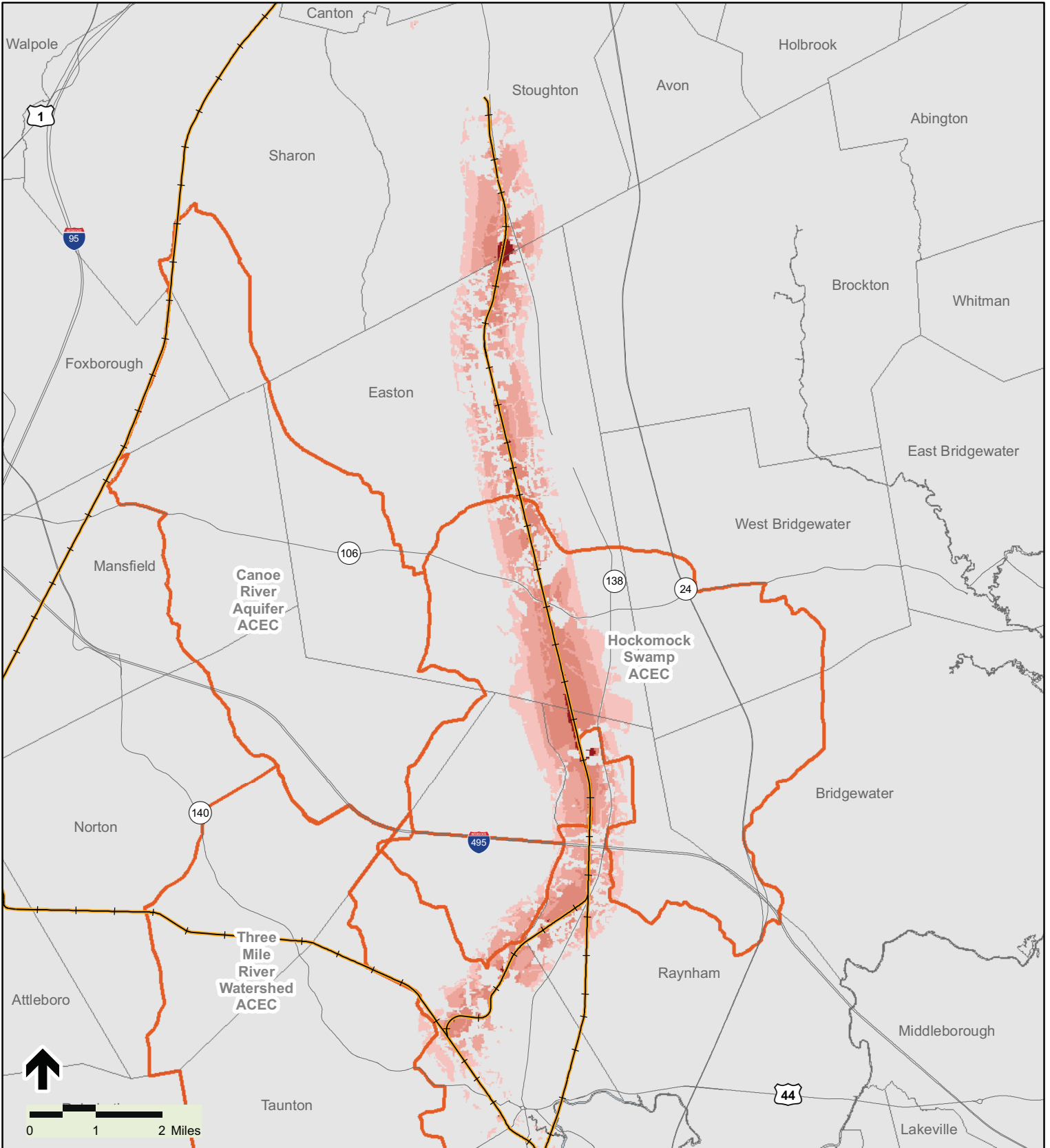
-  Area of Critical Environmental Concern (ACEC)
-  Proposed Alternative Rail

Figure 4.14-33
Modeled Loss in Ecological Integrity for the Whittenton Alternative (with trestle)

Note: Darker areas represent greater loss



Legend



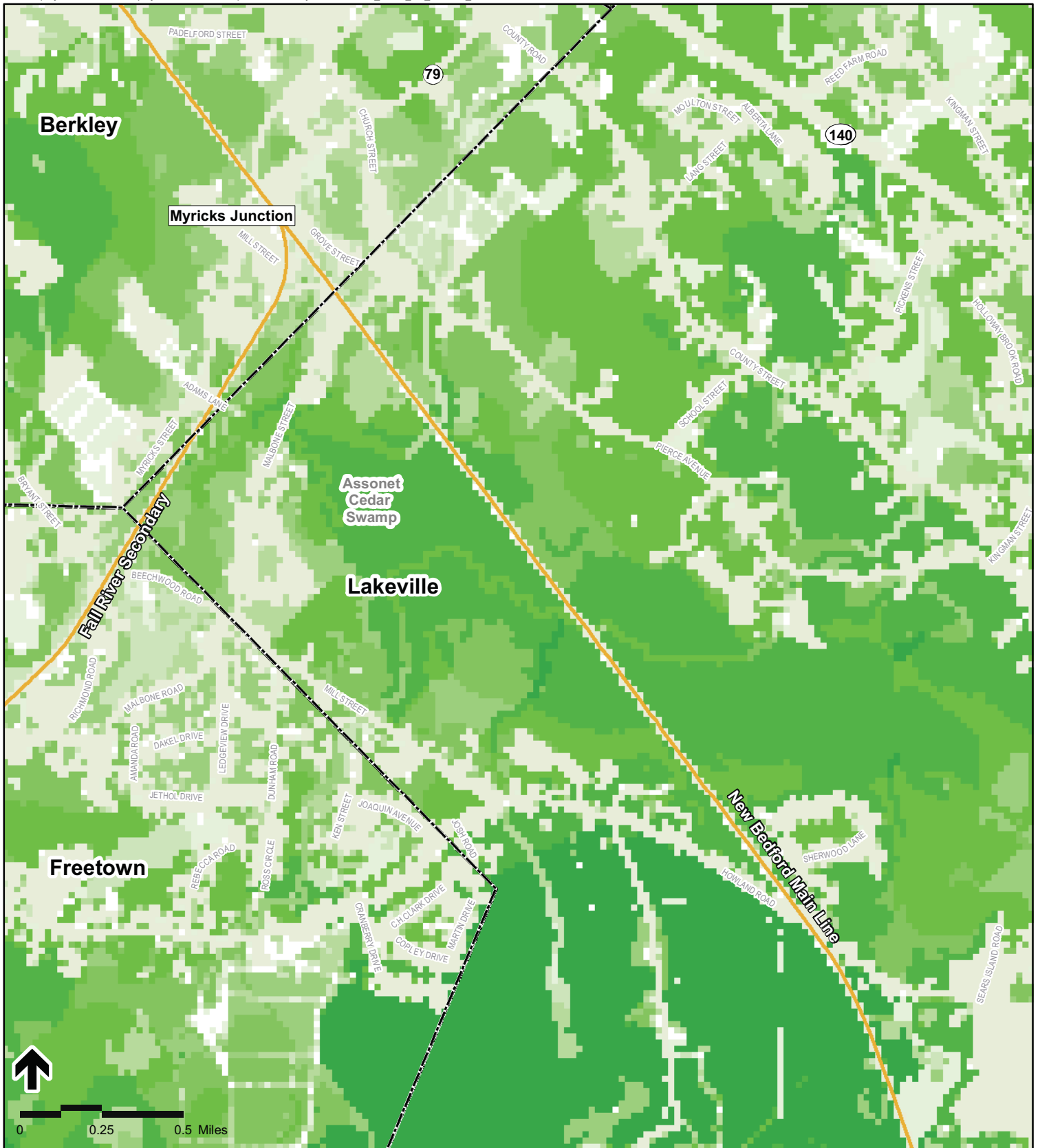
-  Area of Critical Environmental Concern (ACEC)
-  Proposed Alternative Rail

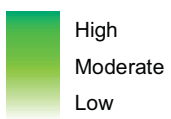
Figure 4.14-34
Modeled Loss in Ecological Integrity for the Whittenton Alternative (without trestle)

Note: Darker areas represent greater loss



Legend

Connectedness



Area of Critical Environmental Concern (ACEC)

Town Boundaries

Proposed Alternative

Figure 4.14-35

Existing Connectedness for the
 Assonet Cedar Swamp

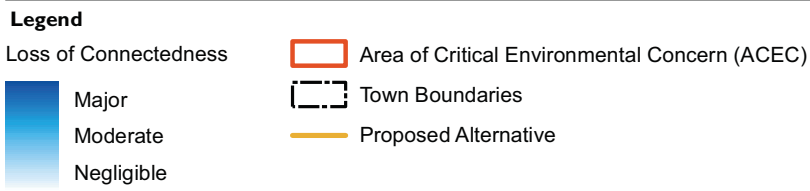
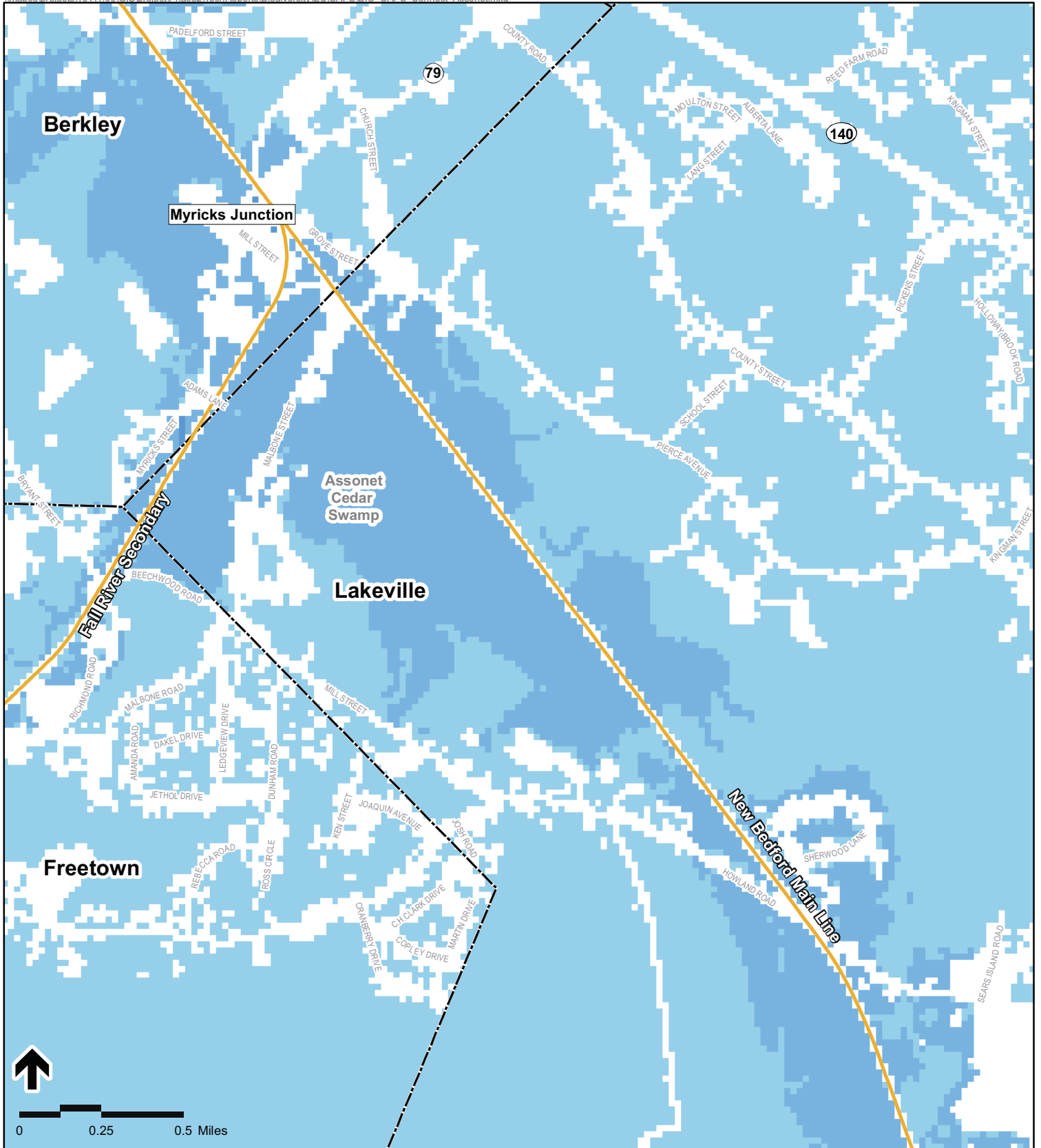
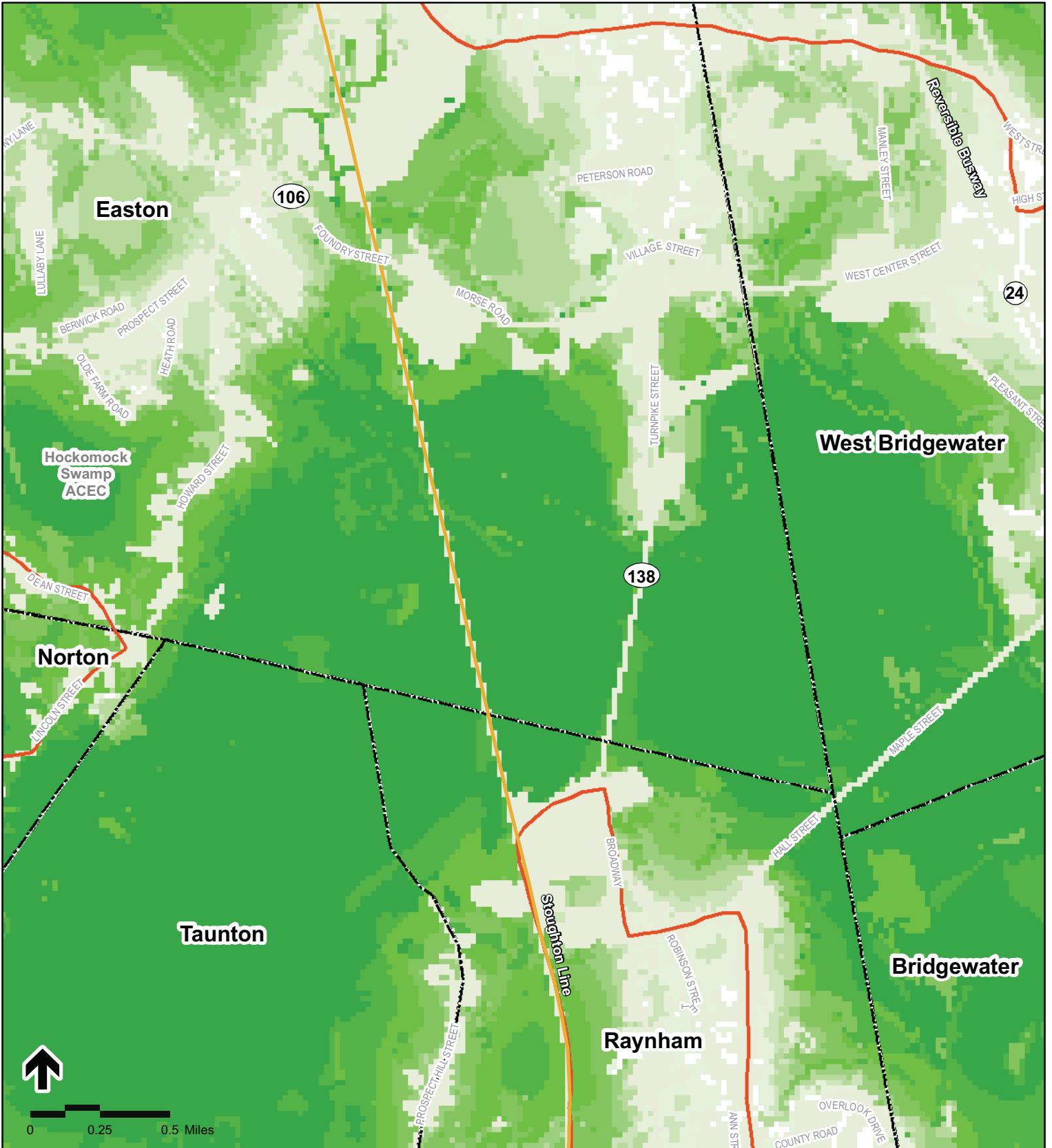
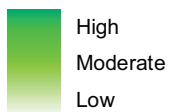


Figure 4.14-36
 Change in Connectedness for the Assonet Cedar Swamp




Legend

Connectedness



 Area of Critical Environmental Concern (ACEC)

 Town Boundaries


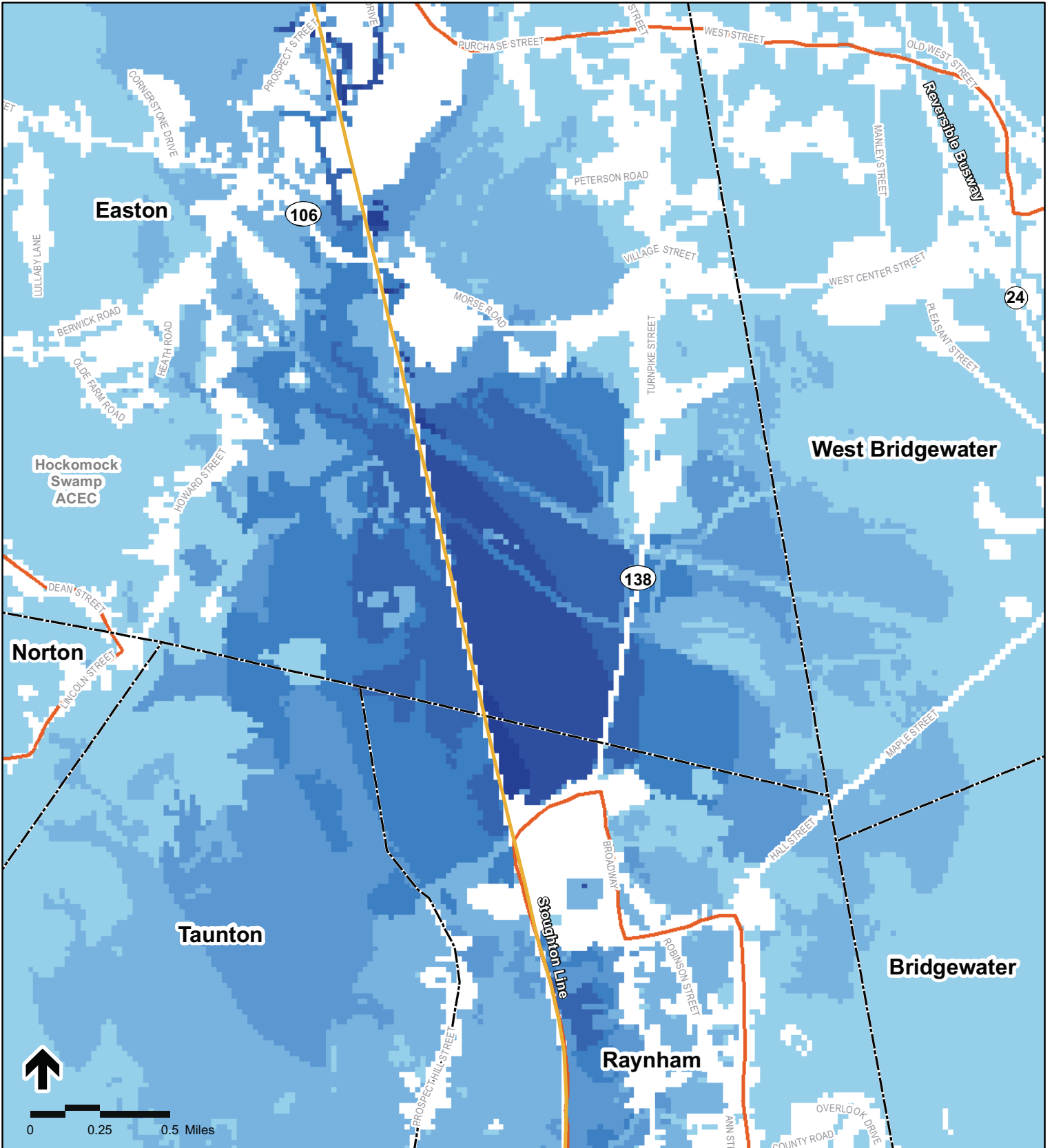
 Proposed Alternative

Figure 4.14-37

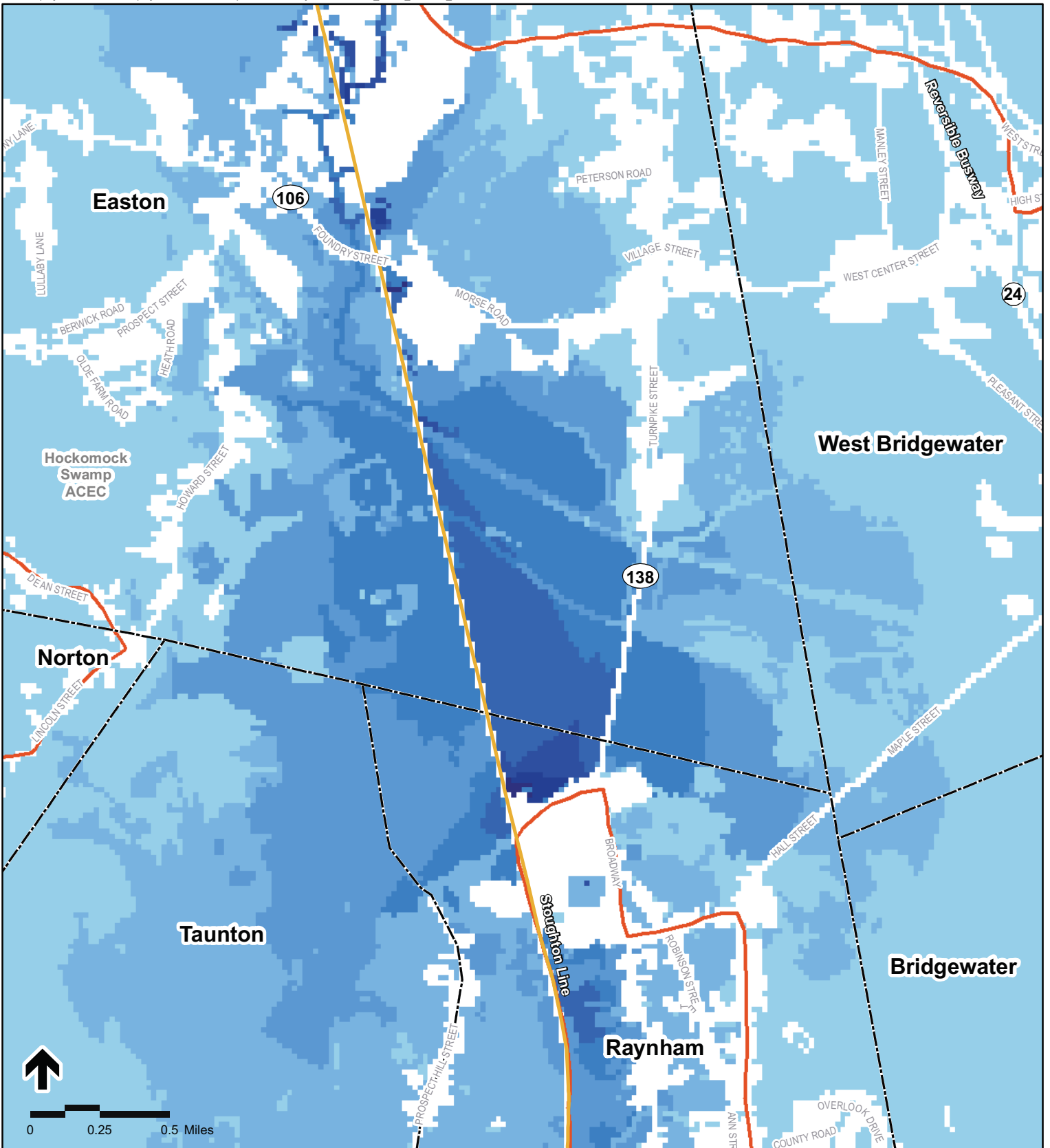
Existing Connectedness for the
 Hockomock Swamp



Legend

- | | |
|-----------------------|---|
| Loss of Connectedness | Area of Critical Environmental Concern (ACEC) |
| Major | Town Boundaries |
| Moderate | Proposed Alternative |
| Negligible | |

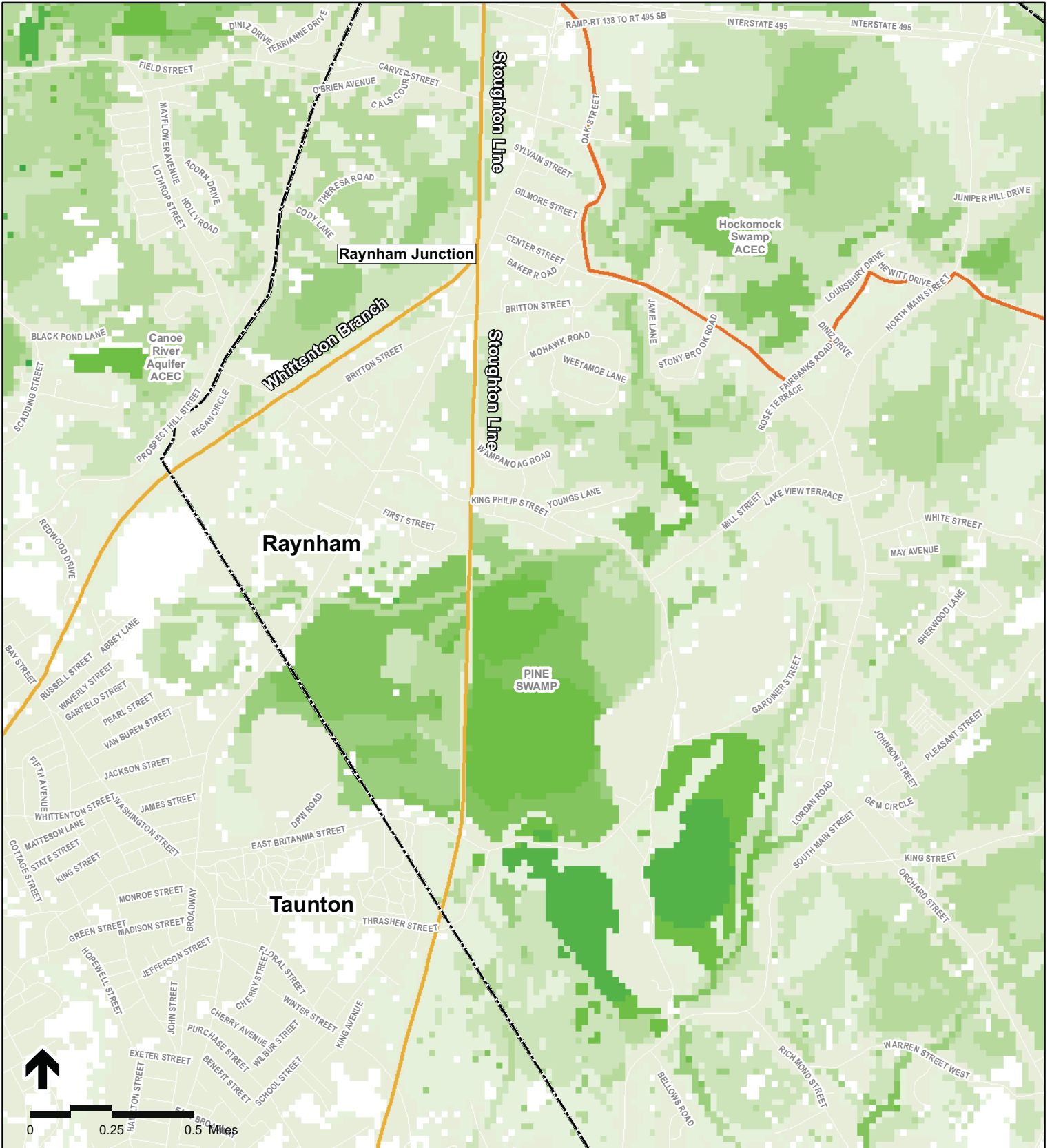
Figure 4.14-38
 Change in Connectedness for the Hockomock Swamp (without trestle)



Legend

- | | |
|-----------------------|---|
| Loss of Connectedness | Area of Critical Environmental Concern (ACEC) |
| Major | Town Boundaries |
| Moderate | Proposed Alternative |
| Negligible | |

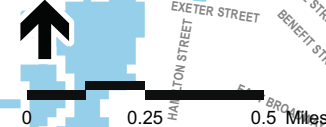
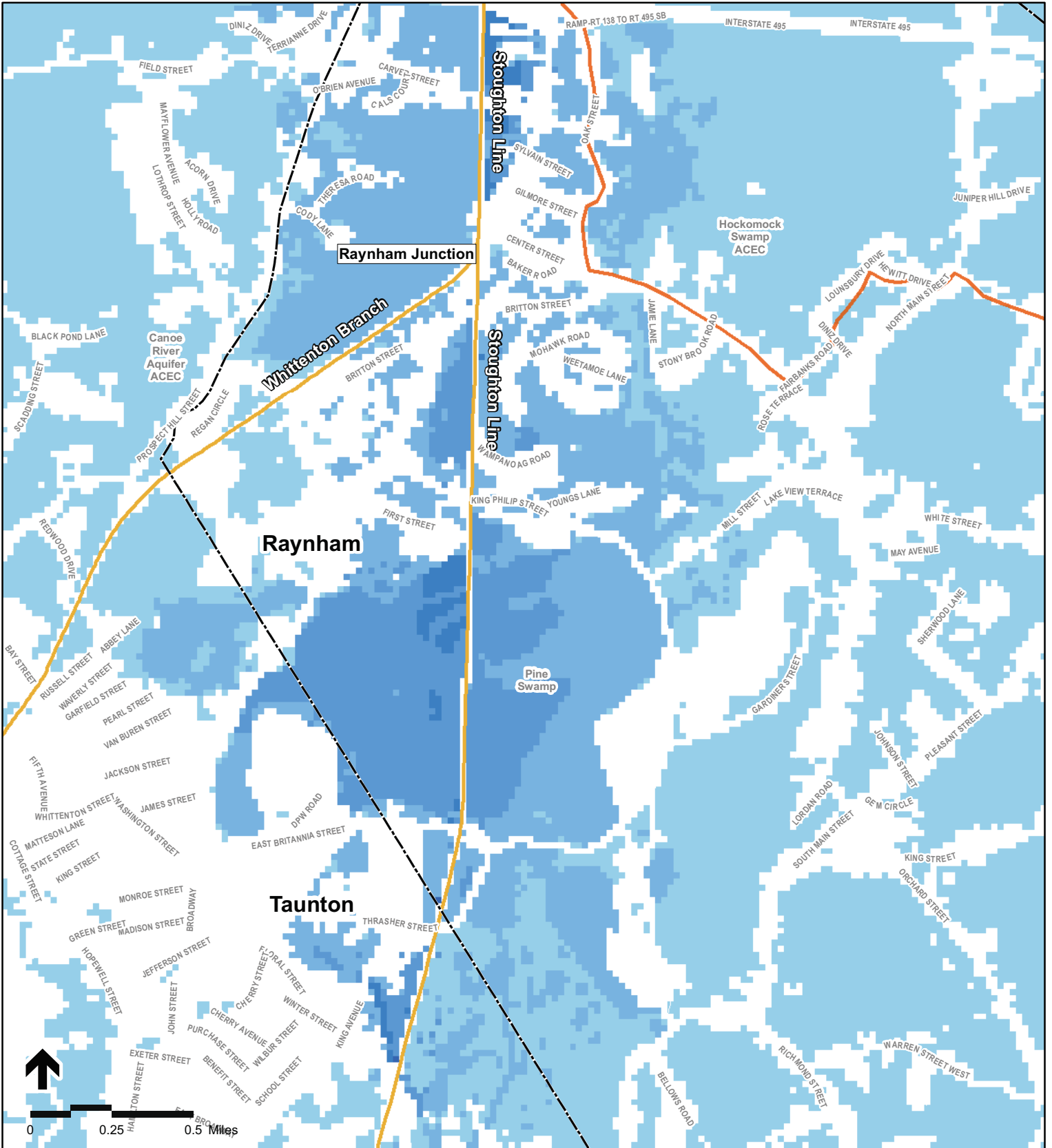
Figure 4.14-39
 Change in Connectedness for the Hockomock Swamp (with trestle)



Legend

- Connectedness
 - High
 - Moderate
 - Low
- Area of Critical Environmental Concern (ACEC)
- Town Boundaries
- Proposed Alternative

Figure 4.14-40
 Existing Connectedness for the Pine Swamp



- Legend**
- Loss of Connectedness
 - Major
 - Moderate
 - Negligible
 - Area of Critical Environmental Concern (ACEC)
 - Town Boundaries
 - Proposed Alternative

Figure 4.14-41
 Change in Connectedness for the
 Pine Swamp

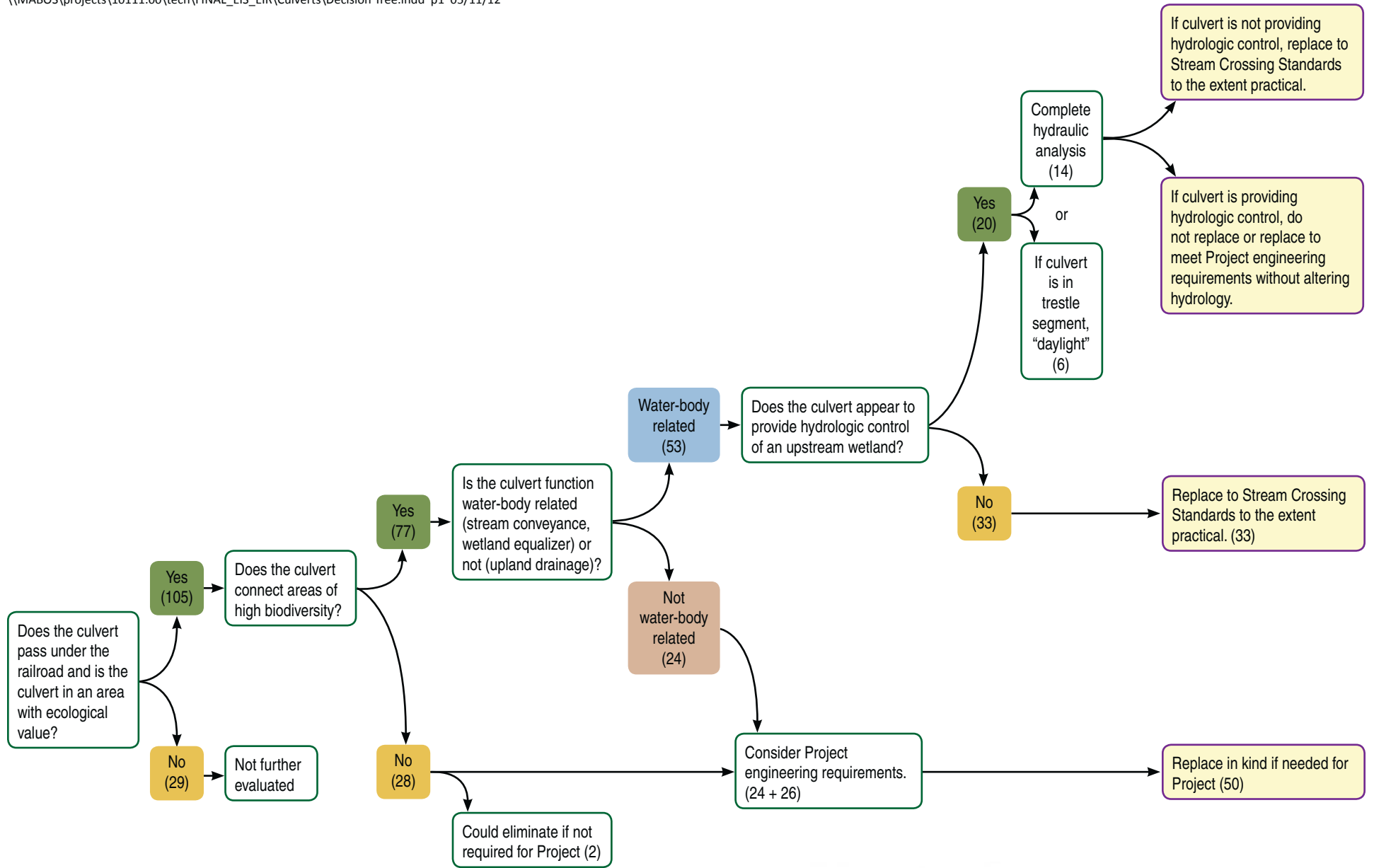
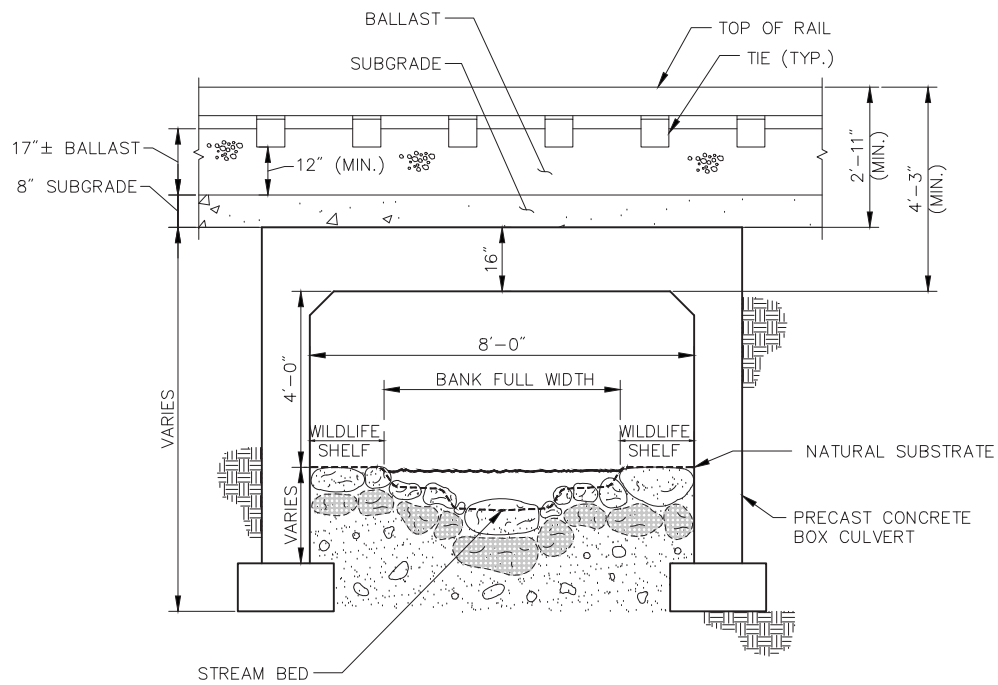


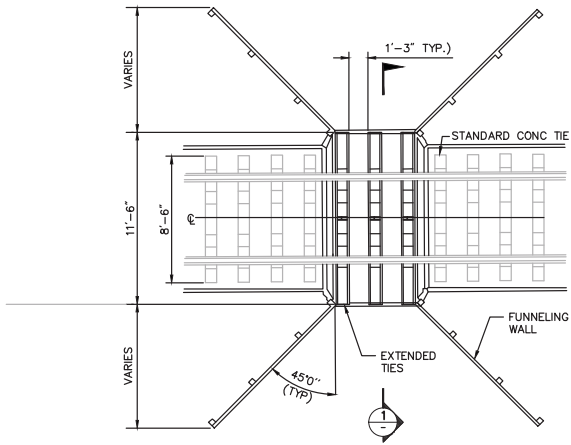
Figure 4.14-42
Culvert Mitigation Measure
Decision Tree



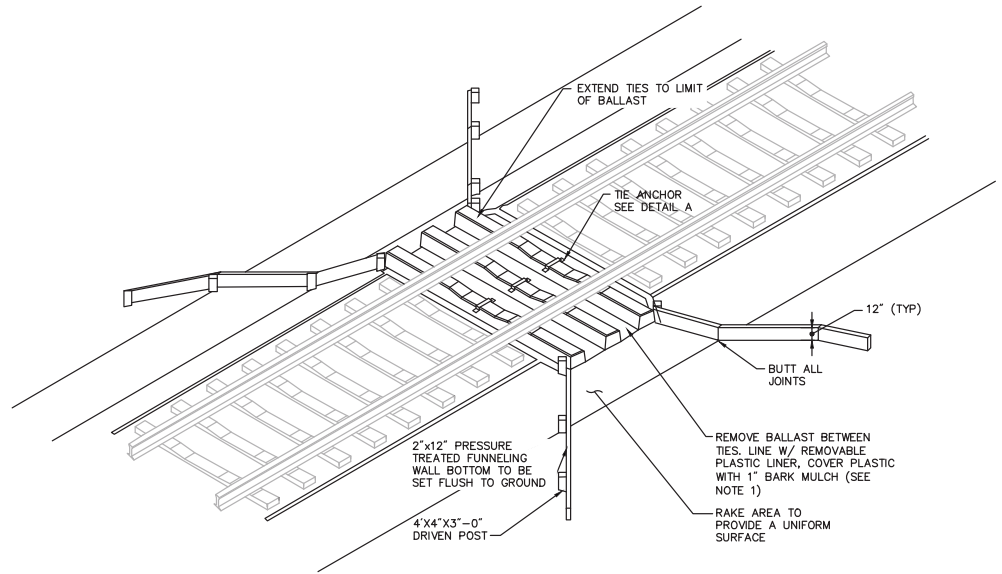
8'-0" WIDE PRECAST CONCRETE BOX CULVERT

SCALE: 1/4" = 1'-0"

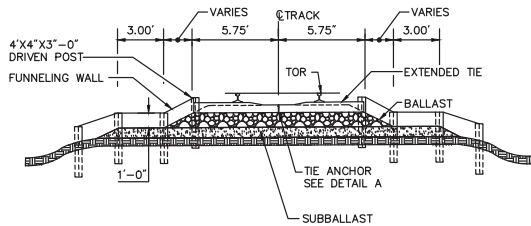
Figure 4.14-43
Typical Culvert Cross Section



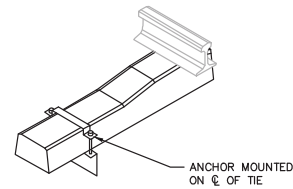
BETWEEN-TIE CROSSING PLAN
NTS



BETWEEN-TIE CROSSING
NTS



SECTION 1
NTS



TIE ANCHOR DETAIL A
NTS

- NOTES:**
- CONTRACTOR TO REMOVE BALLAST BETWEEN TIES AND LINE AREA WITH 40 MIL HDPE FORMED TIGHTLY BETWEEN TIES. CONNECT TO CONC TIES WITH CONC ANCHORS

Figure 4.14-44
Between-tie Crossing