Spy Pond Edge Protection and Erosion Control Project

Town of Arlington, MA

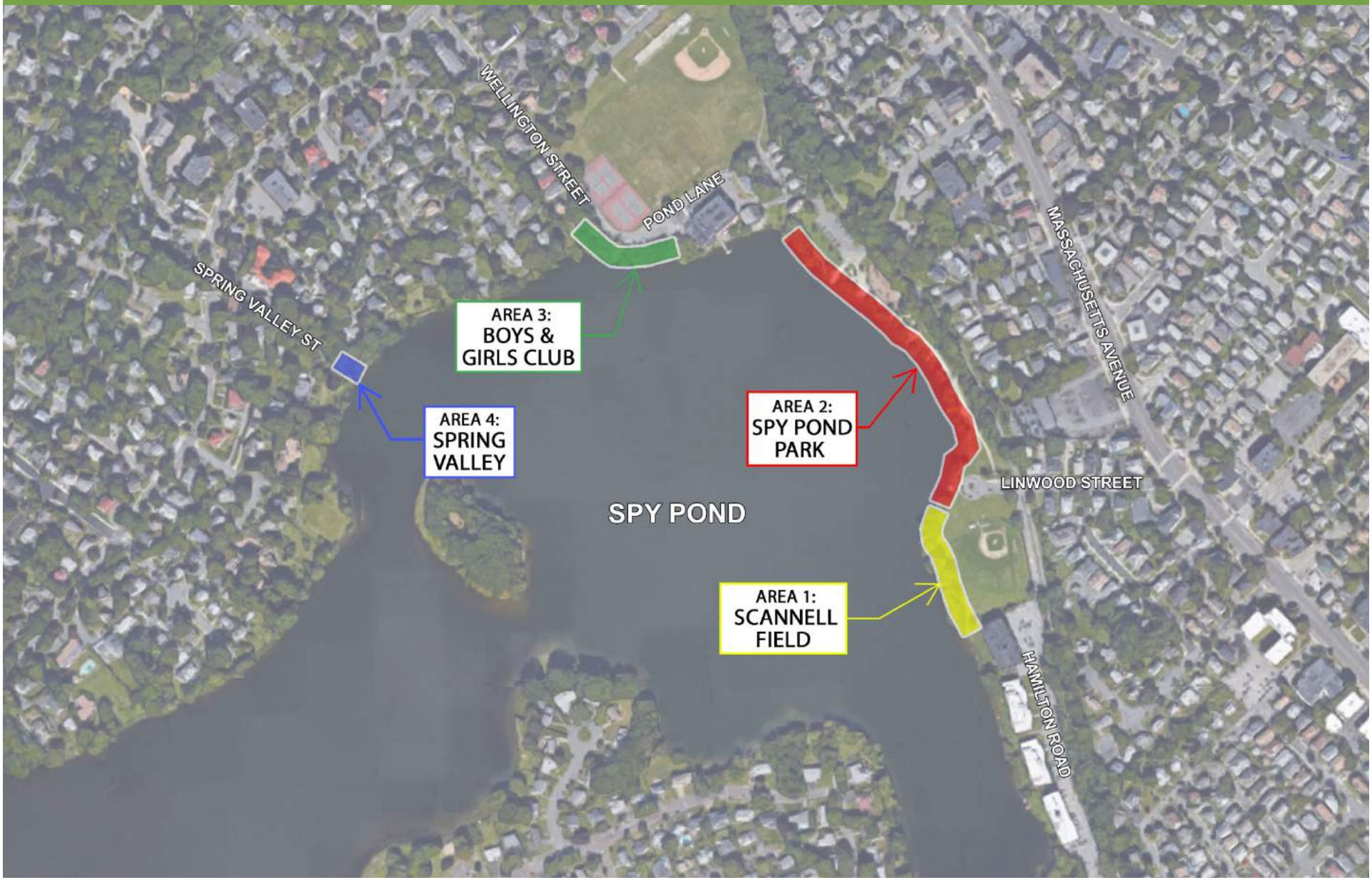
Final Concept Plan

08 December 2016

CHESTER ENGINEERS

TOWN OF ARLINGTON MASSACHUSETTS

Project Location



Project Goals

1. Preserve, stabilize & strengthen the pond's banks
2. Control bank erosion
3. Protect & enhance wildlife habitat
4. Control access to prevent unauthorized paths
5. Broaden & strengthen constituency groups
6. Increase quality & opportunity for water use
7. Promote stormwater infiltration along the shoreline
8. Implement environmental education

Site Activities

Activities

- Ball Playing
- Jogging & Walking
- Kayaking & Canoeing
- Fishing
- Picnicking & Gathering
- Children's Play
- Crew Team

Shoreline Categorization

STABLE

- Vegetated
- Uncompacted soils
- Controlled runoff
- Shallower slopes
- Controlled human use
- Hard or soft edge

VS.

UNSTABLE

- Loss of stabilizing vegetation
- Compacted soils
- Uncontrolled runoff
- Steep slopes
- Uncontrolled human use

Three Categories:

- Unstable
- Marginally Stable
- Stable

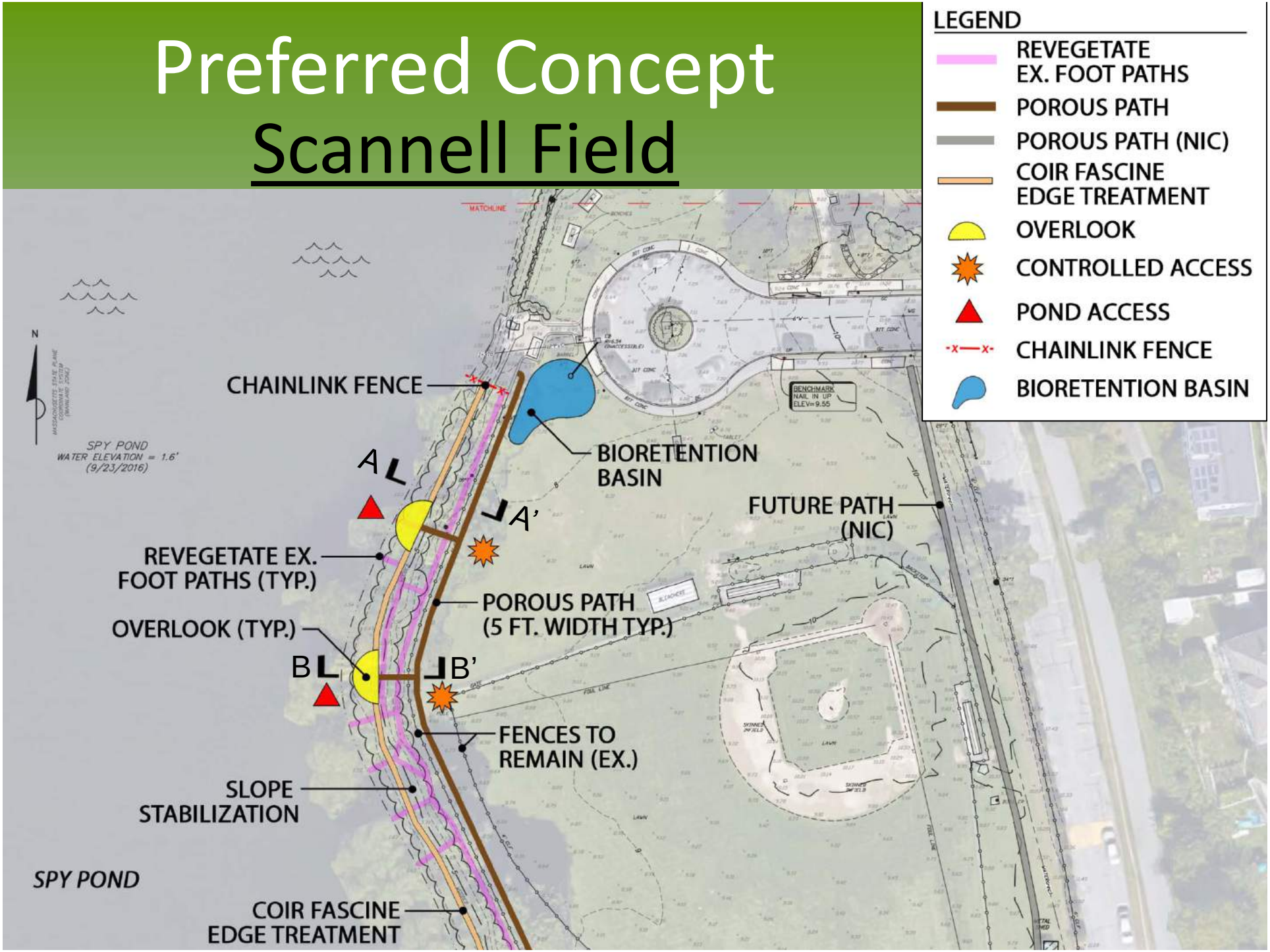
Scannell Field

Existing Shoreline Conditions

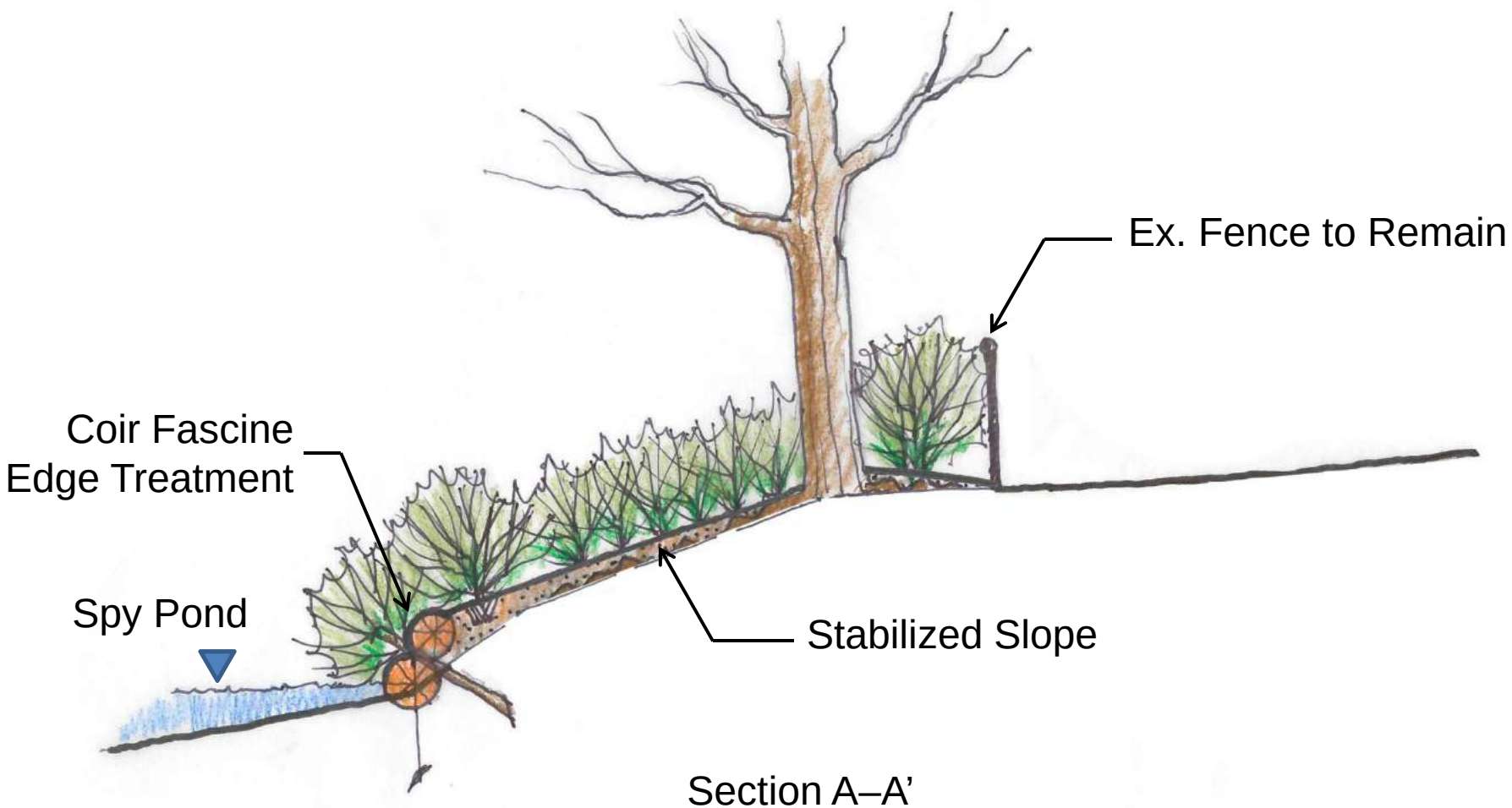
Scannell Field - Unstable

- Loss of stabilizing vegetation & soils
- Compacted soils
- Uncontrolled human use
- Steep slope
- Uncontrolled stormwater runoff

Preferred Concept
Scannell Field

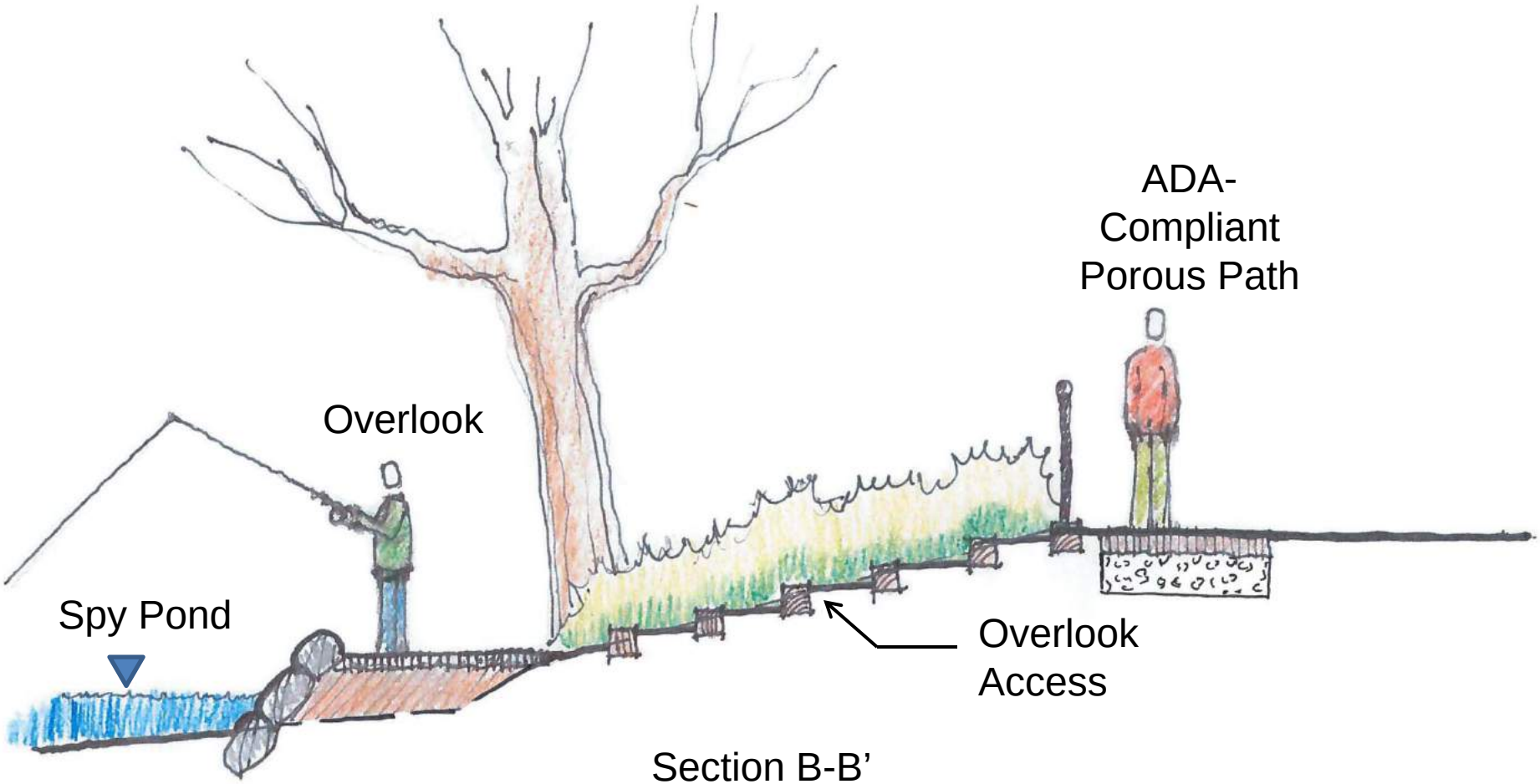


Preferred Concept
Scannell Field



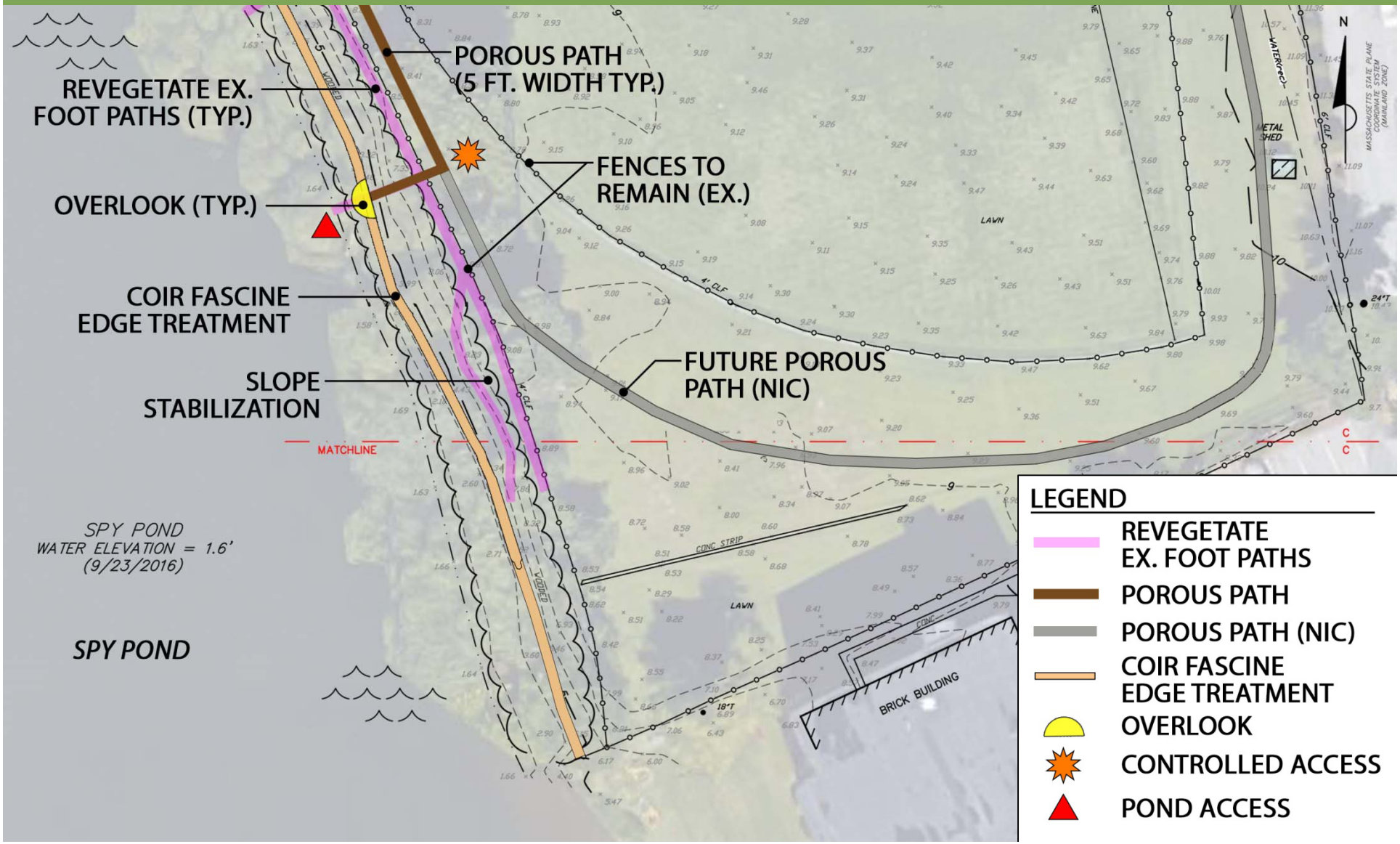
Section A–A’

Preferred Concept
Scannell Field

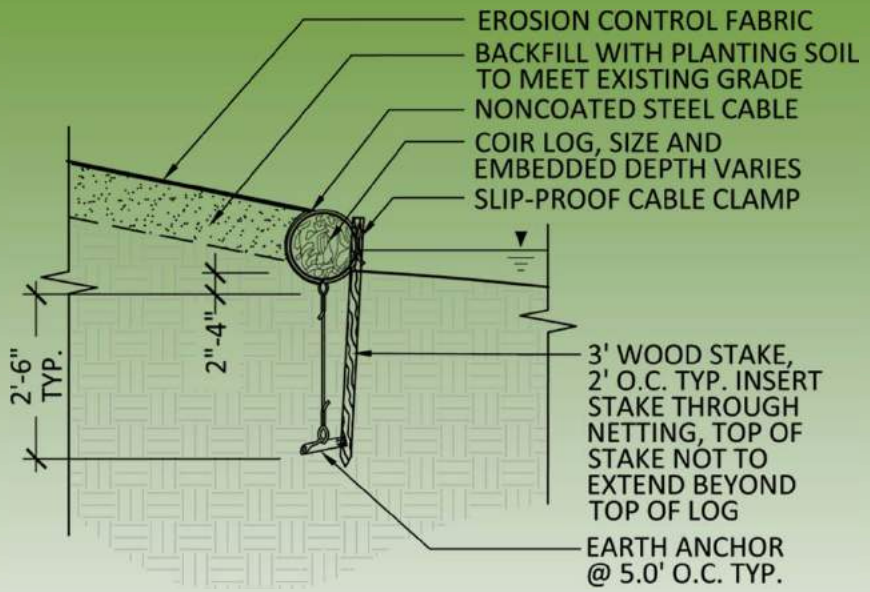


Section B-B’

Preferred Concept
Scannell Field

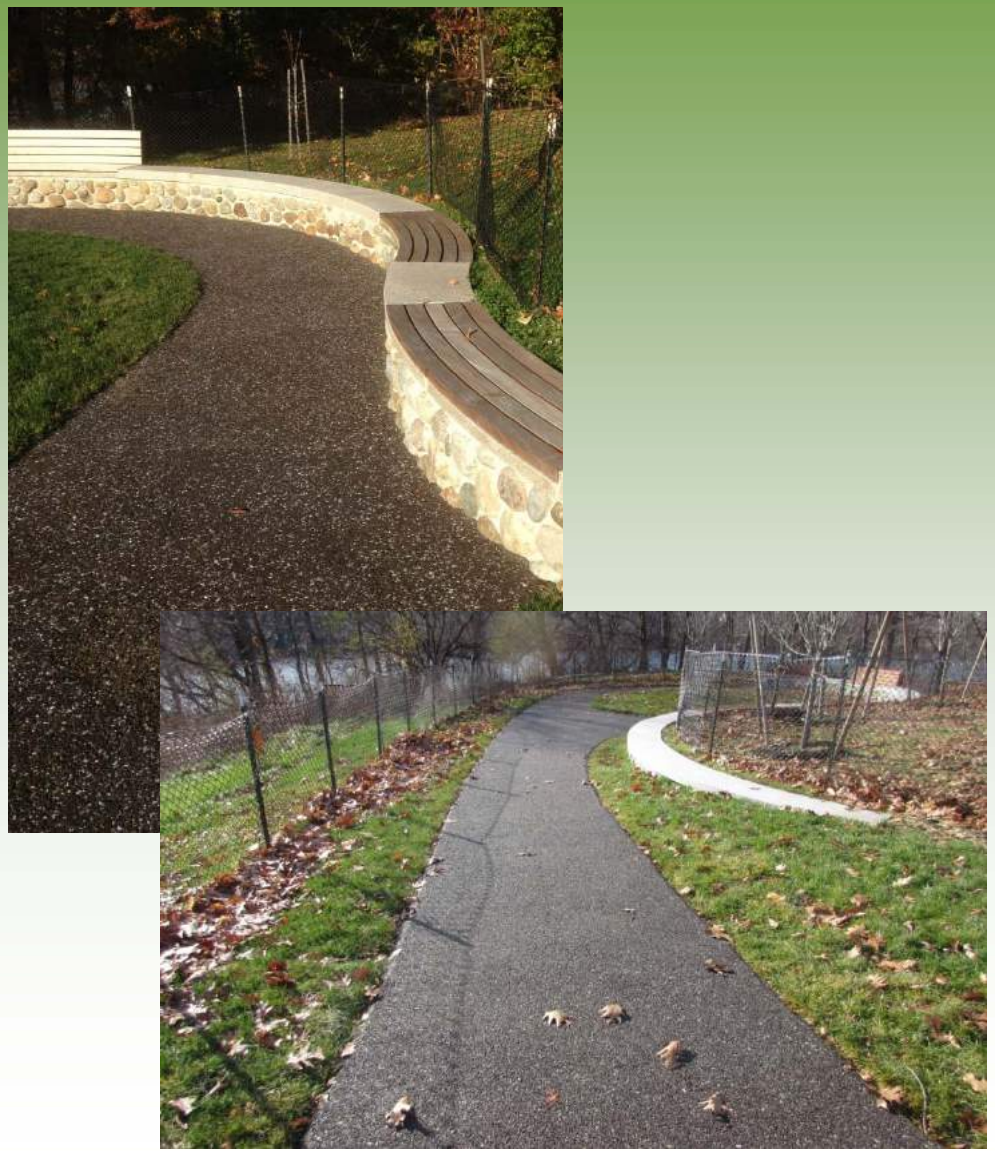


Coir Fascines



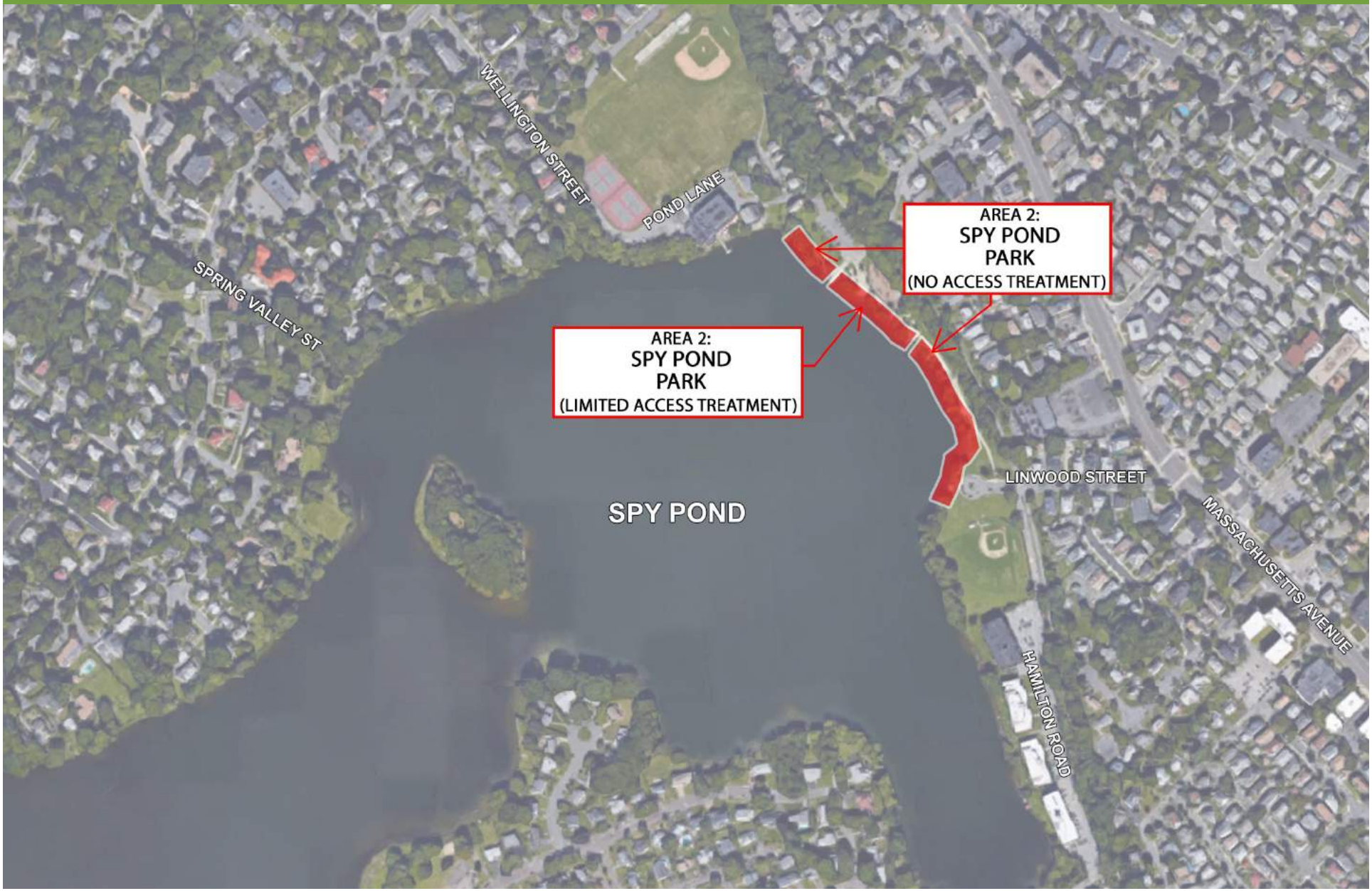
Stormwater Management

Porous Pavement



Bioretention Basin

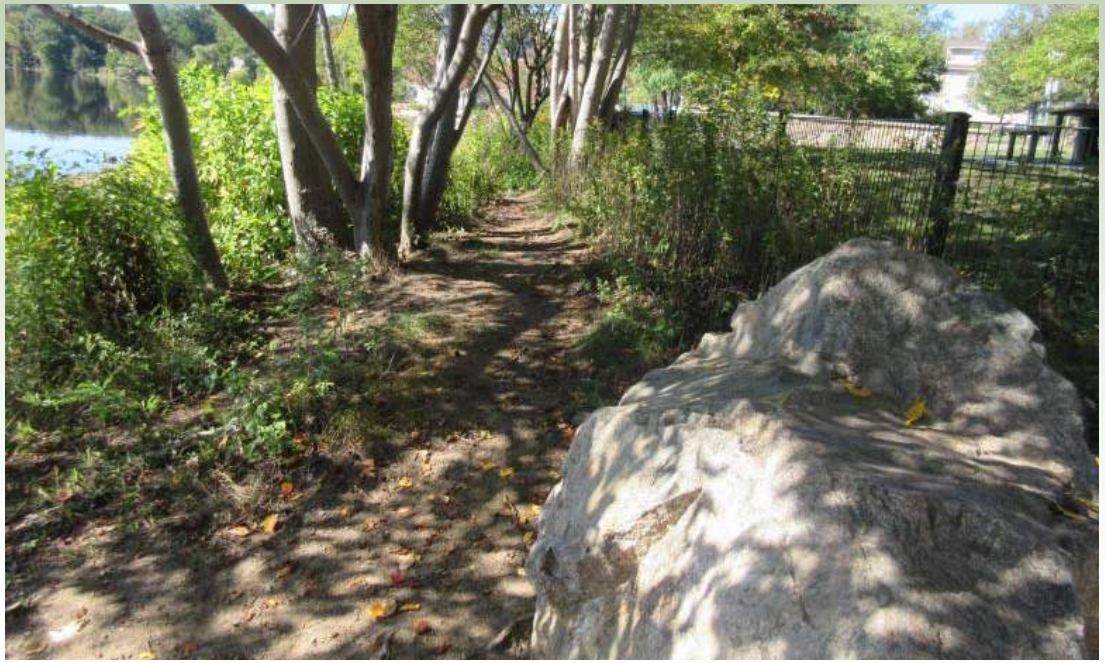
Spy Pond Park



Existing Shoreline Conditions

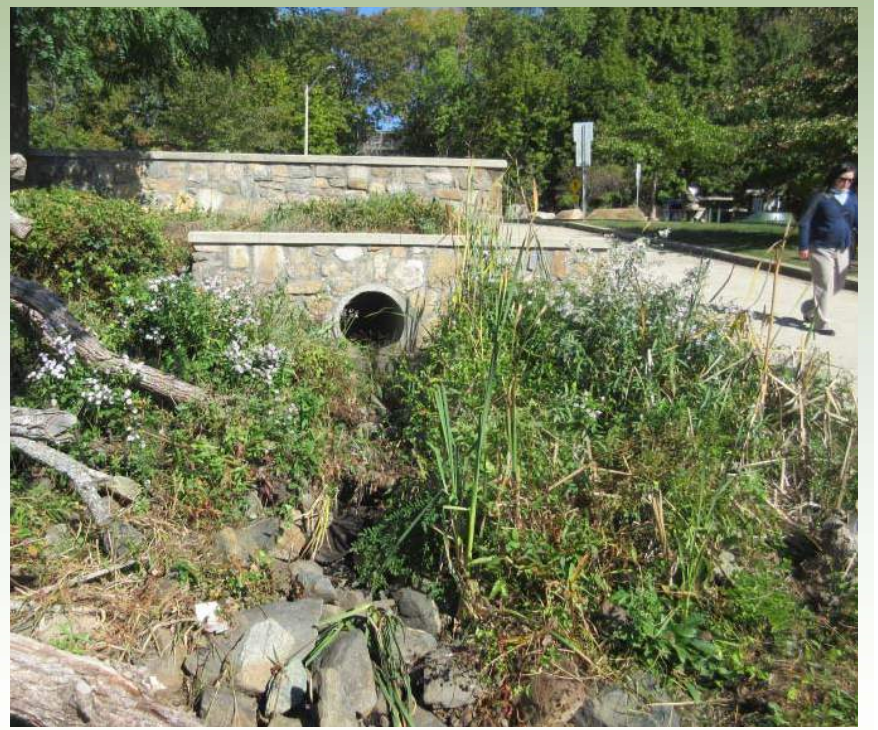
Spy Pond Park – Marginally Stable

- Scattered loss of vegetation
- Compacted soils
- Uncontrolled human use

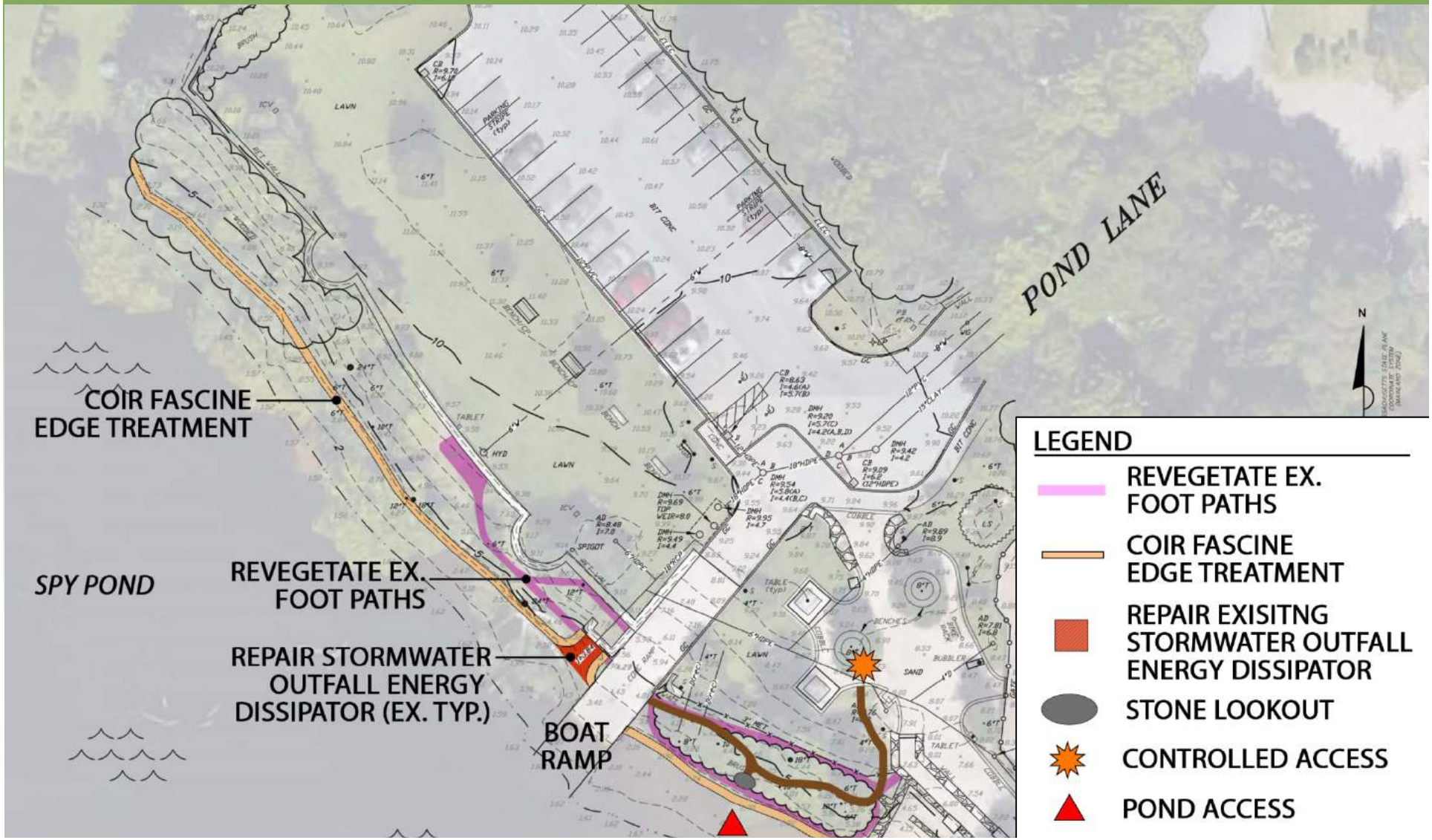


Existing Shoreline Conditions

Spy Pond Park – Marginally Stable



Preferred Concept
Spy Pond Park (No Access Treatment)



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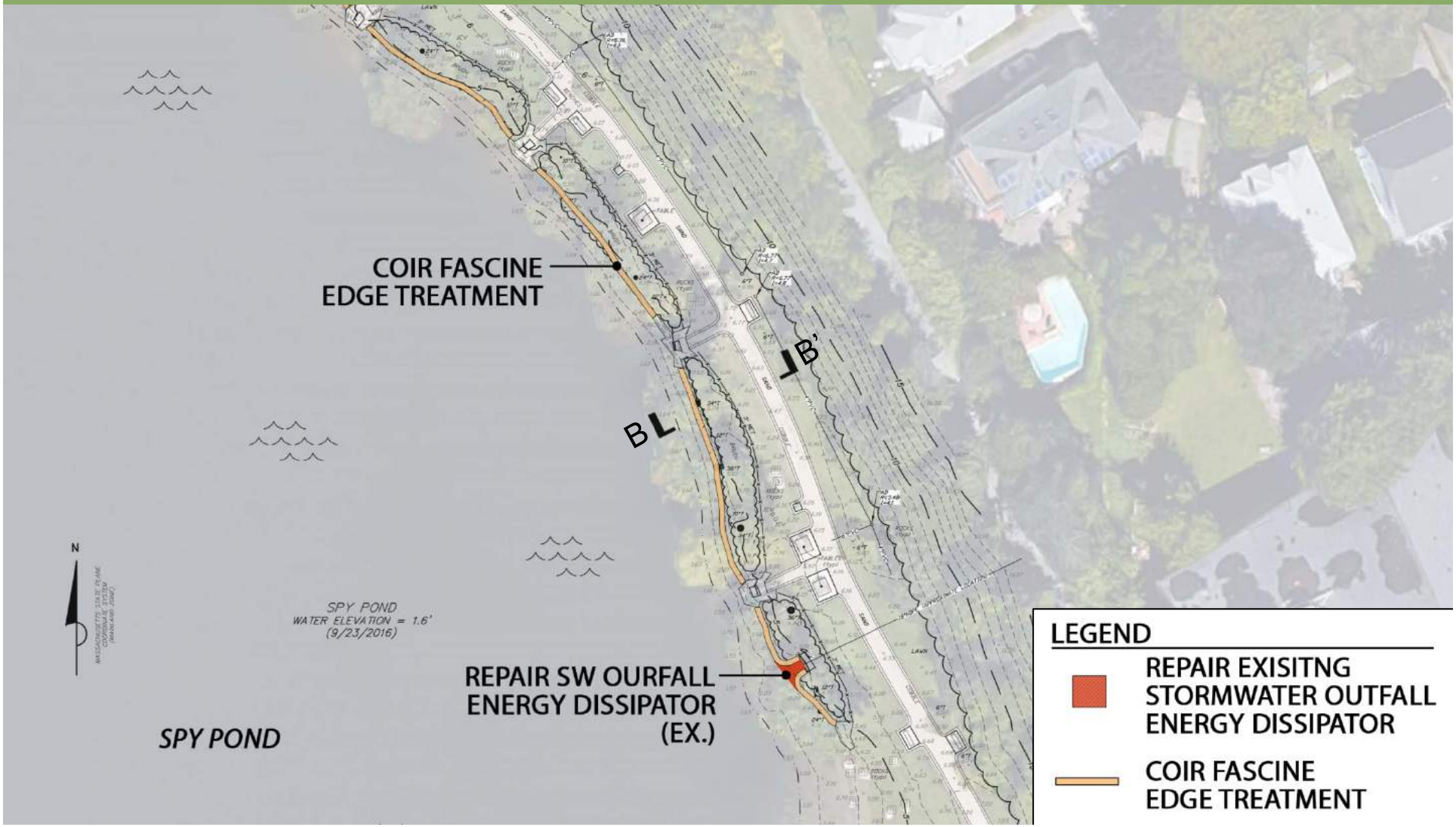

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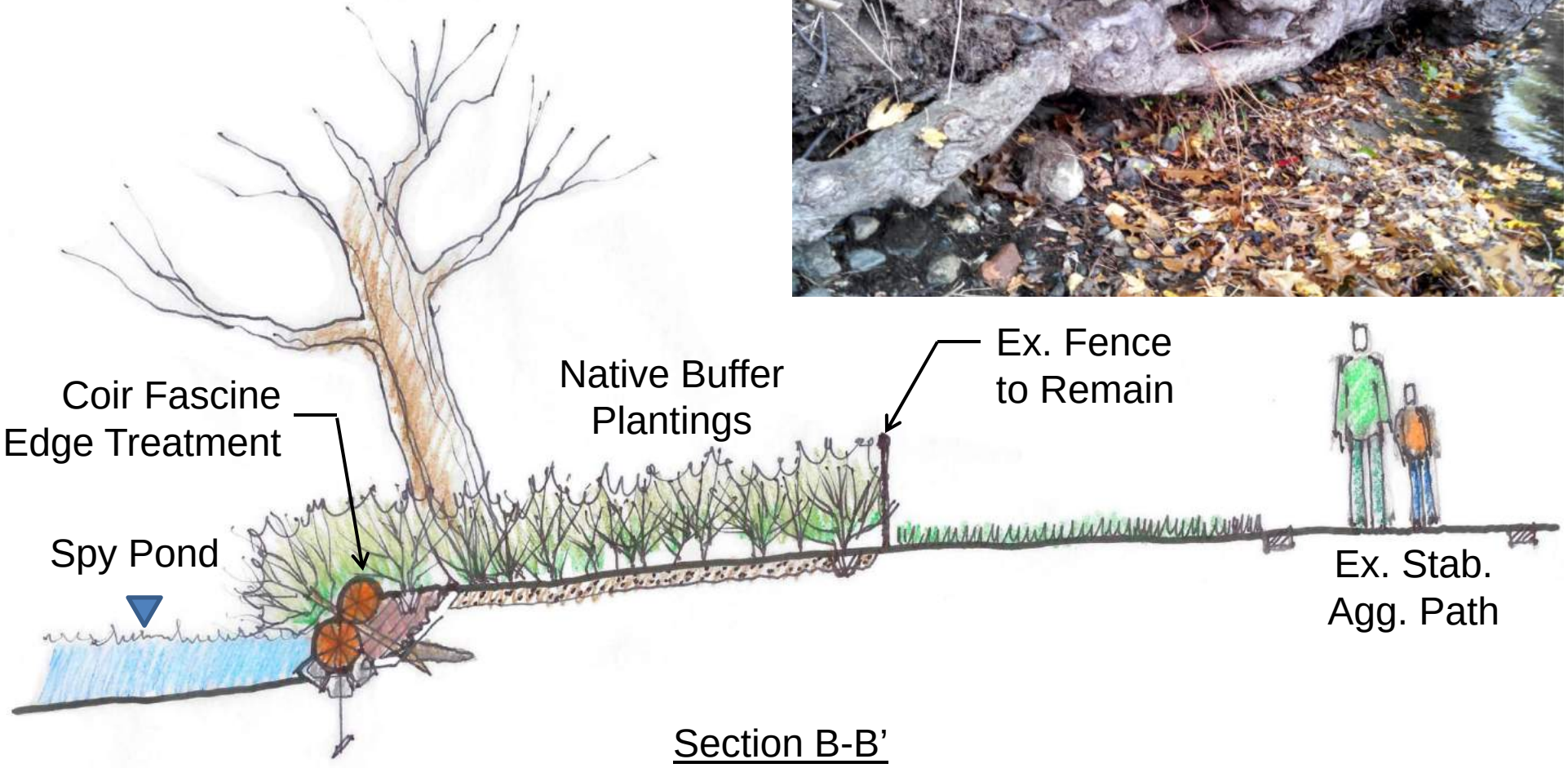
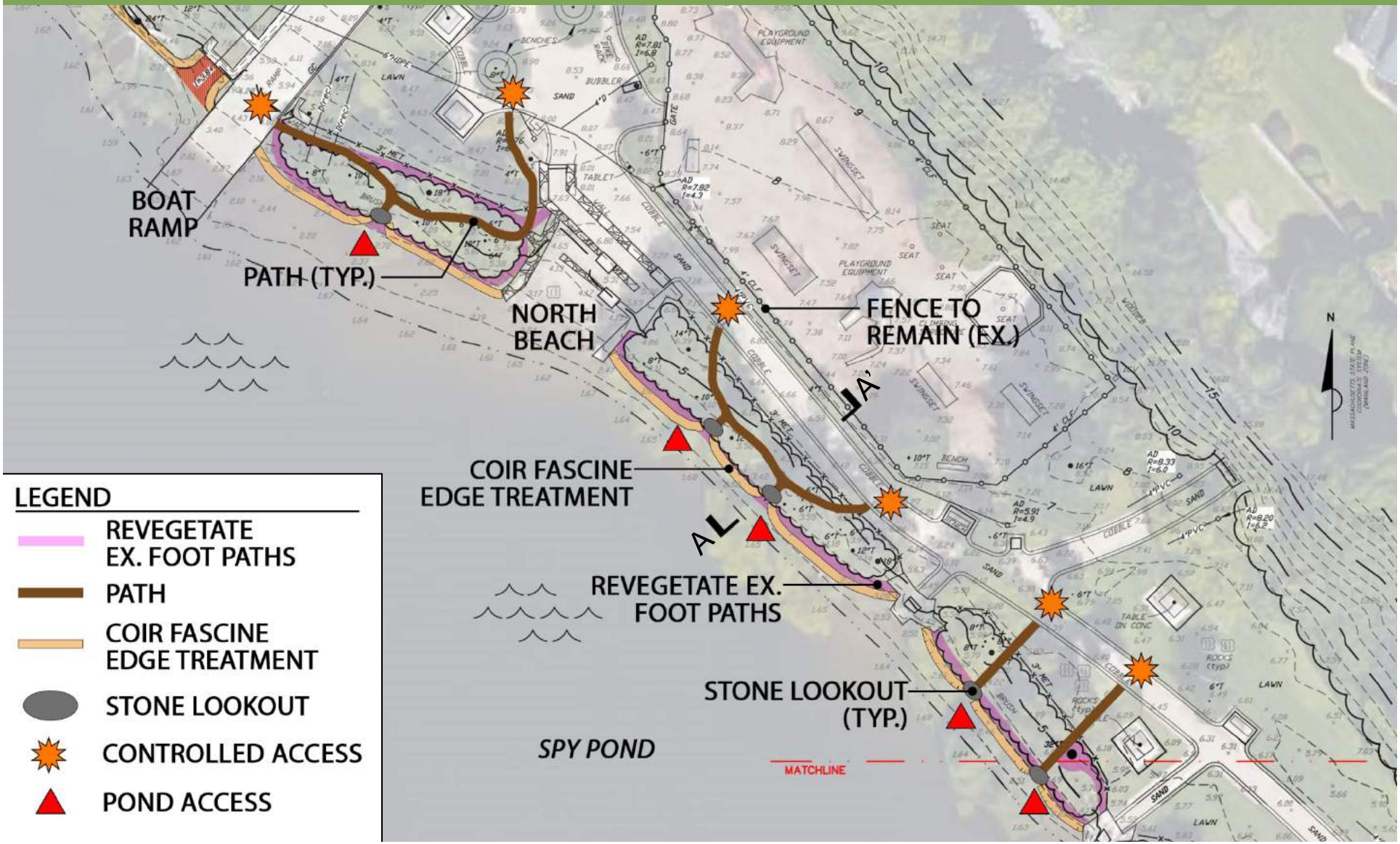
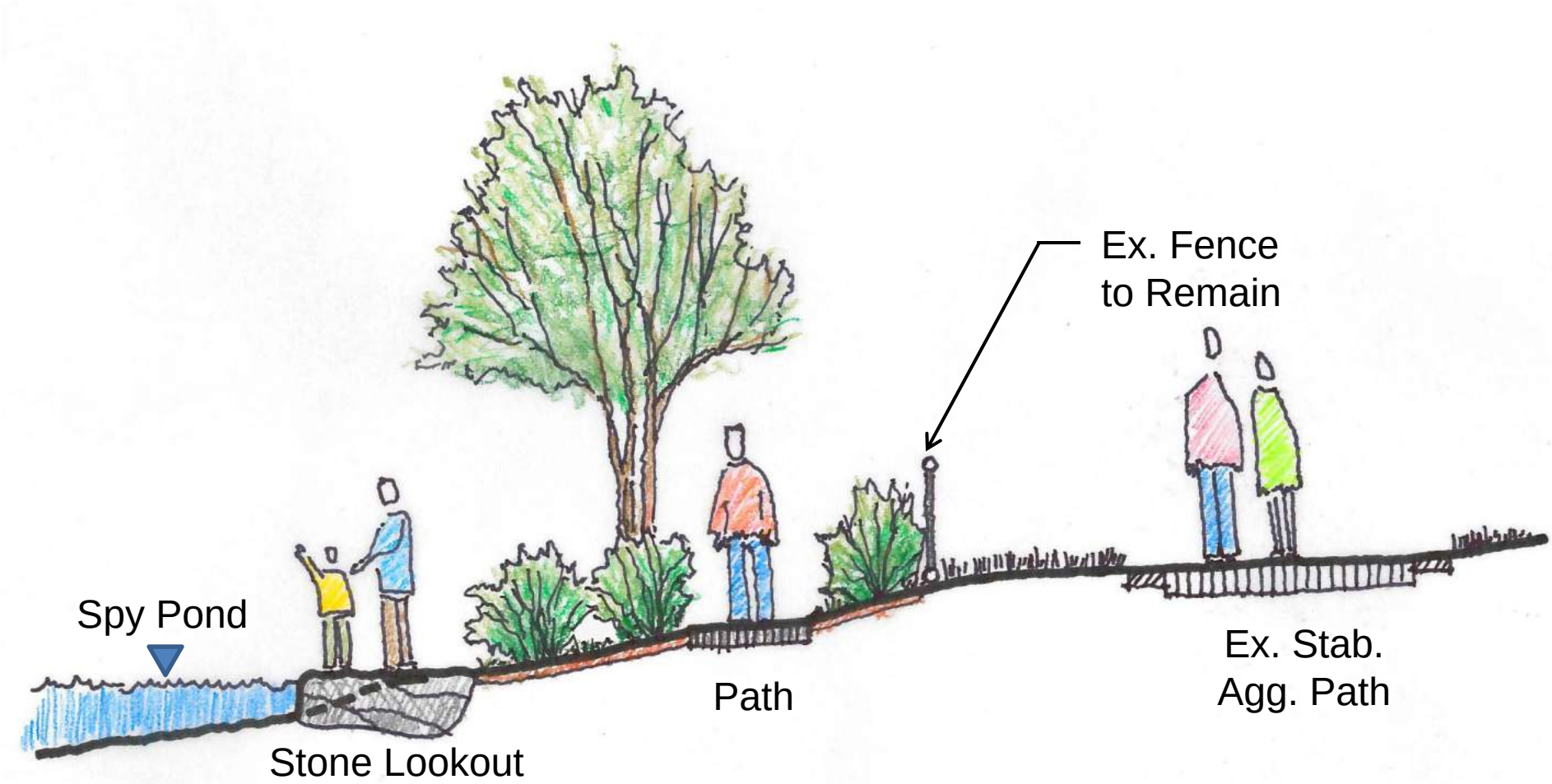


Section B-B’

Preferred Concept
Spy Pond Park (Limited Access Treatment)



Preferred Concept
Spy Pond Park (Limited Access Treatment)



Section A-A'

Educational Signage - Examples

Permanent

Temporary

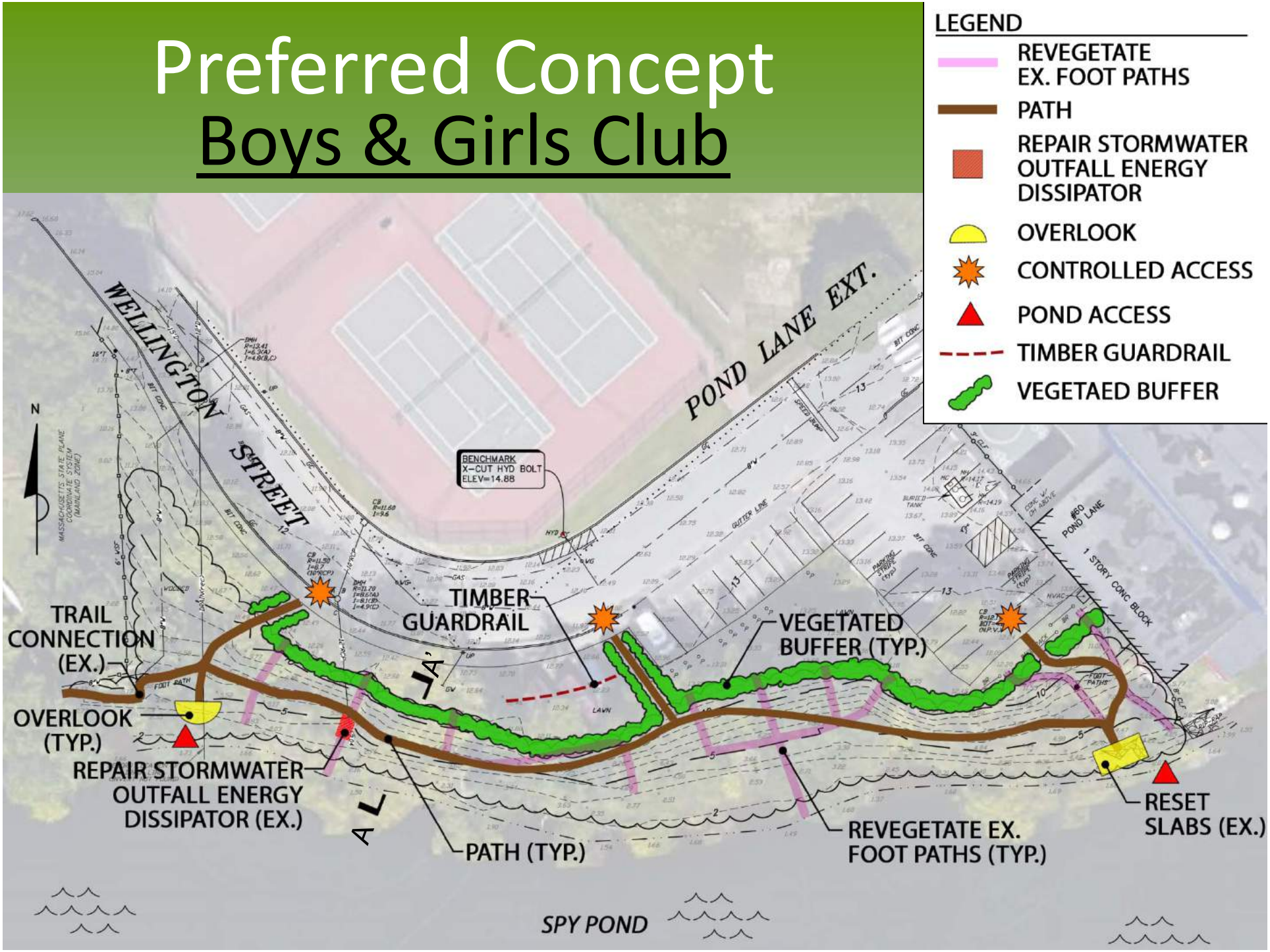
Plant Establishment

Boys & Girls Club

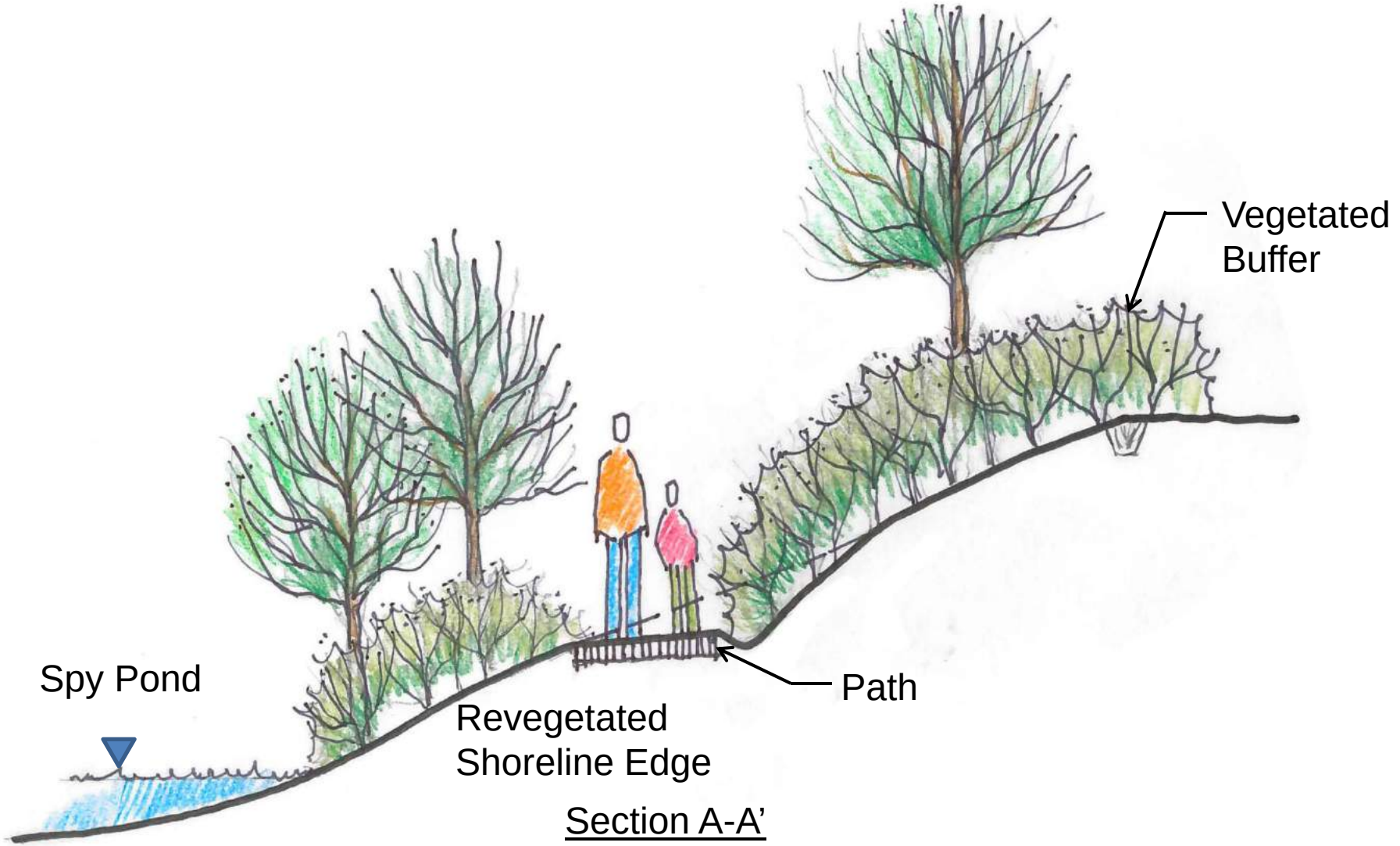
Existing Shoreline Conditions
Boys & Girls Club - Unstable

- Loss of stabilizing vegetation
- Compacted soils
- Uncontrolled human use
- Steep slope

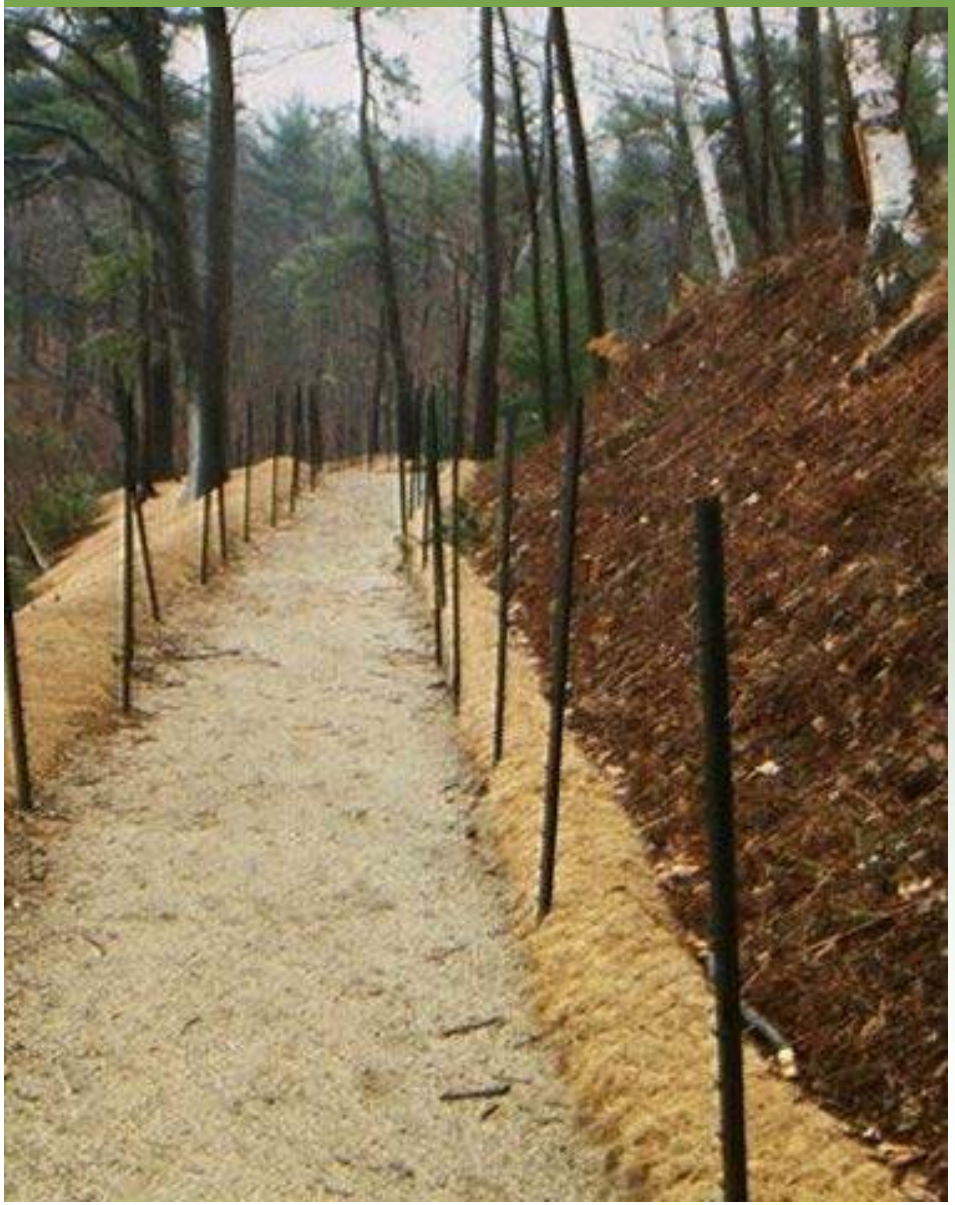
Preferred Concept
Boys & Girls Club



Preferred Concept
Boys & Girls Club



Shoreline path during construction (1996)



Three years later

Spring Valley Street

Existing Shoreline Conditions

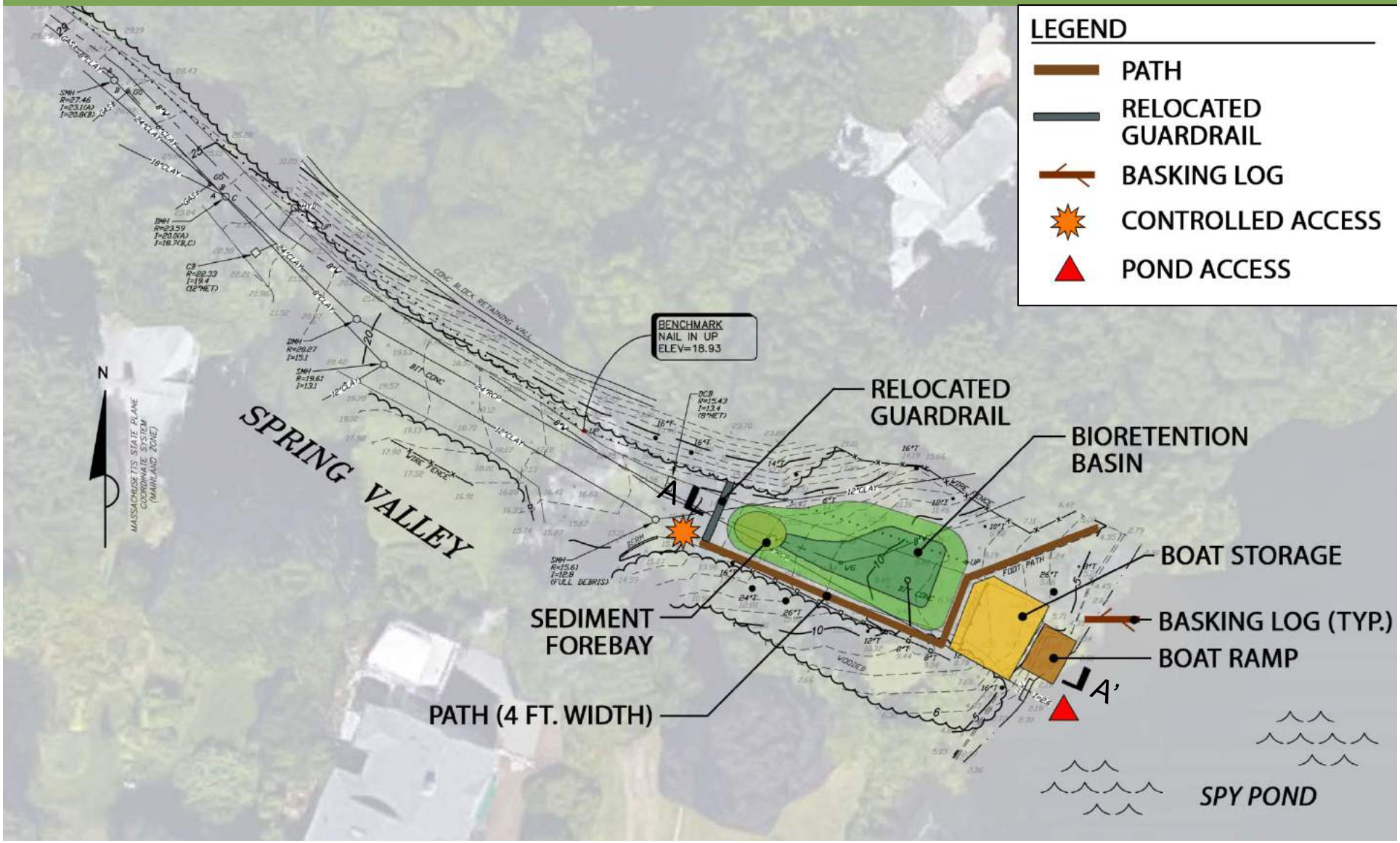
Spring Valley Road – Unstable

- Loss of stabilization
- Steep slope
- Uncontrolled stormwater runoff
- Human use

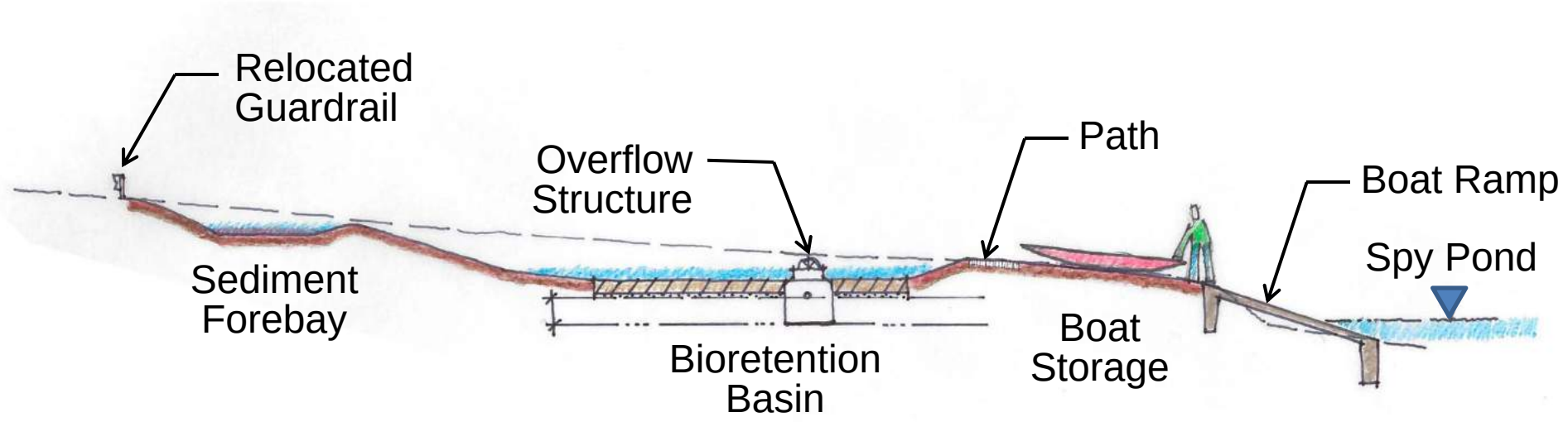
Existing Shoreline Conditions

Spring Valley Road – Unstable

Preferred Concept
Spring Valley Street



Preferred Concept
Spring Valley Street



Section A-A’

Shoreline Planting

High Marsh Herbaceous Plants

Left to Right: *Eupatorium maculatum, Eupatorium perfoliatum, Juncus canadensis, Juncus effusus*

Left to Right: *Carex stipata, Carex vulpinodea, Caltha palustris*

Left to Right: *Hibiscus moscheutos, Scirpus cyperinus, Leersia oryzoides*

Shoreline Planting

Native Shrubs (Low to Medium)



Left to Right: *Spiraea tomentosa, Cornus sericea, Rosa palustris*


Left to Right: *Rhus aromatica, Clethra alnifolia, Photinia pyrifolia*

Shoreline Planting

Native Shrubs (Tall)



Left to Right: *Cornus amomum, Ilex verticillata, Cephalanthus occidentalis*



Left to Right: *Alnus rugosa, Vaccinium corymbosum, Salix discolor*