

Doan Brook Enhancement Project



30% Conceptual
Design Meeting
May 24, 2011

Doan Brook Enhancement Project

Tonight's Agenda

- Background Information
- Section 106 Status and Contributing Elements
- Stakeholder Involvement Plan
- Conceptual Design Review

Current Doan Brook Enhancement Project

- **May 2009:** *New Ohio EPA Findings and Orders*
 - ✓ Issued to City of Cleveland, Department of Port Control
 - ✓ \$2.5M investment in ecological enhancement of Doan Brook.
- **November 2009:** *Memorandum of Understanding*
 - ✓ NEORSD to act as City's agent in overseeing revised Doan Brook project planning, design, and construction.
- **November 2009:** *Doan Brook Enhancement Project Conceptual Plan Submitted to Ohio EPA*
- **January 2010:** *Conceptual Plan Approved by Ohio EPA*
- **June 2010:** *Section 106 Consultant Hired*
- **October 2010:** *Design Consultant Hired*
- **January 2011:** *Pre-Design Meeting*
- **May 2011:** *30% Conceptual Design Submittal*

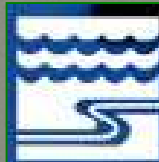
Project Team



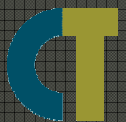
Federal Aviation Administration
– Detroit Airports District Office



City of Cleveland
– Office of the Mayor



**Northeast Ohio Regional
Sewer District**
Protecting Your Health and Environment



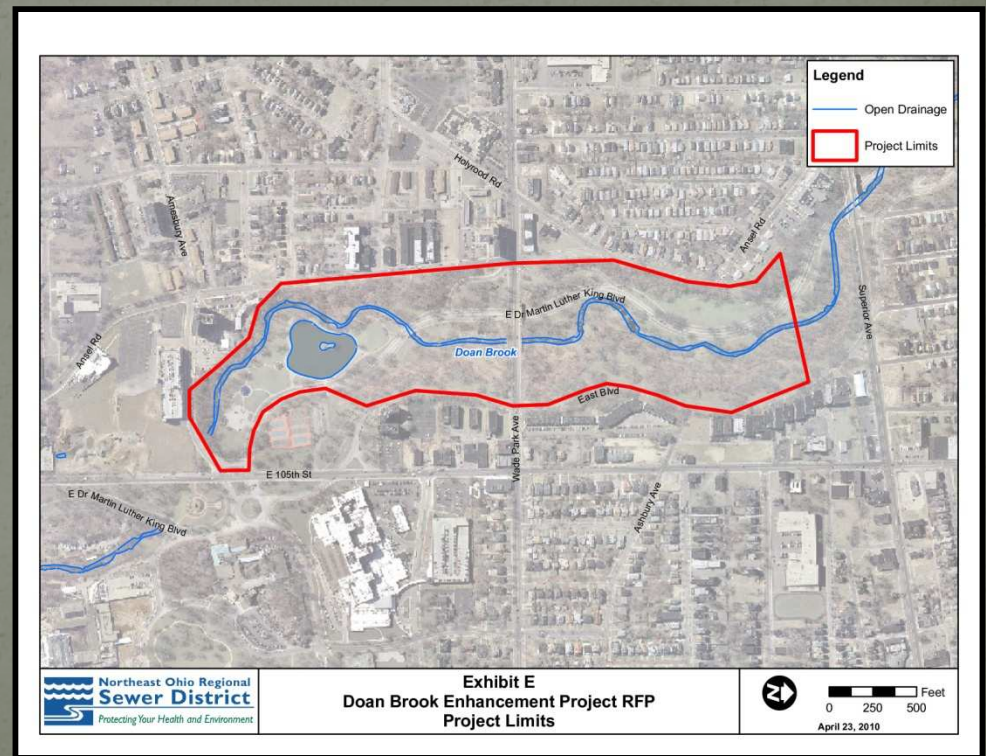
CT Consultants
engineers | architects | planners

Stream Enhancement Design

The Mannik & Smith
Group, Inc.

**Section 106 Consultation &
Stakeholder Involvement**

- Improve aquatic habitat in restored areas
- Provide for better control of stream flows
- Provide for some floodplain relief where possible
- Improve and enhance riparian vegetative cover
- Provide limited removal of invasive plant species
- Provide for some limited access to the brook
- Satisfy Ohio EPA Findings & Orders



Doan Brook Enhancement Project

Section 106 Coordination

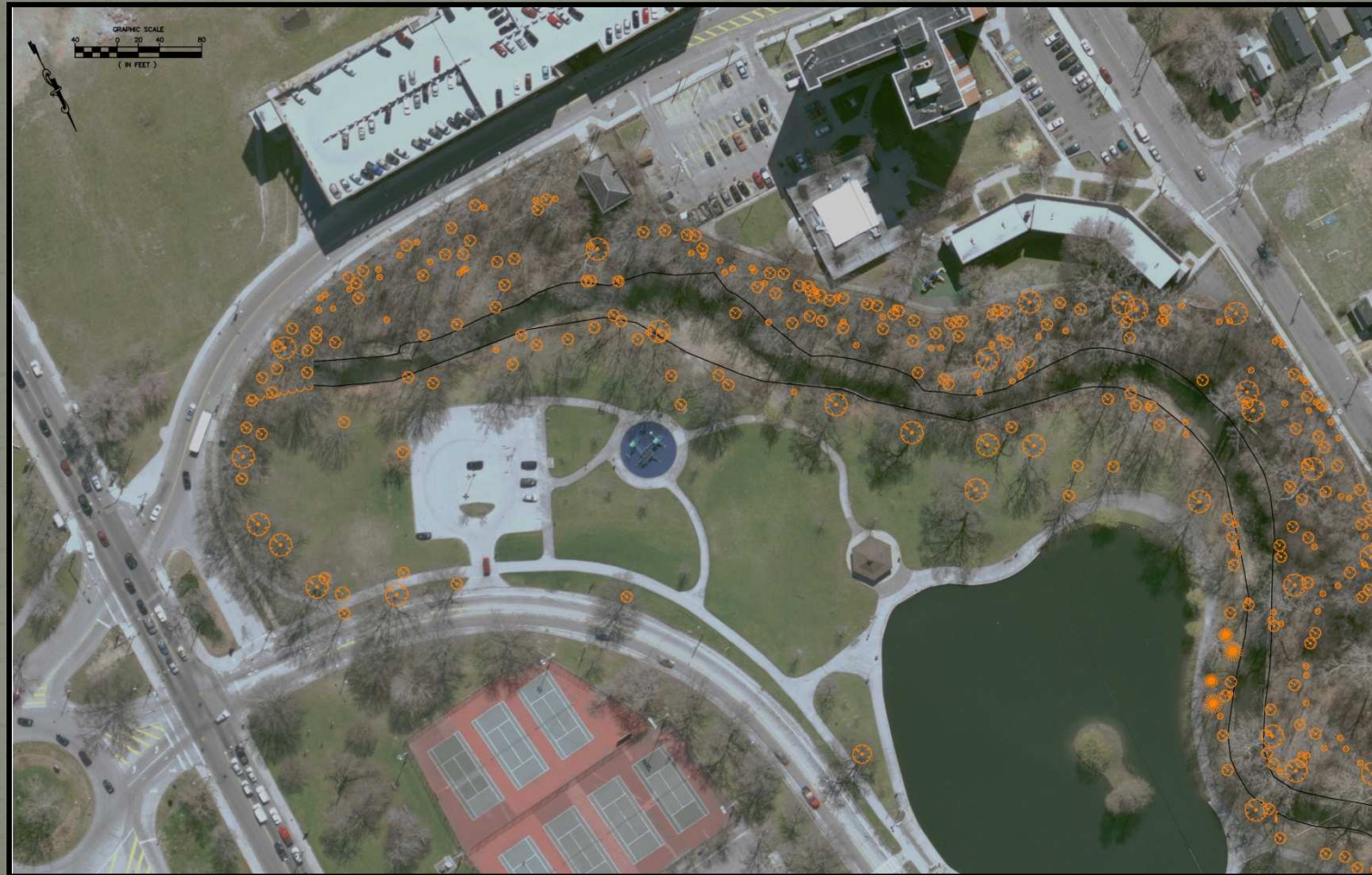
- Status of Section 106 Process
- Contributing Elements
- Stakeholder Involvement Plan



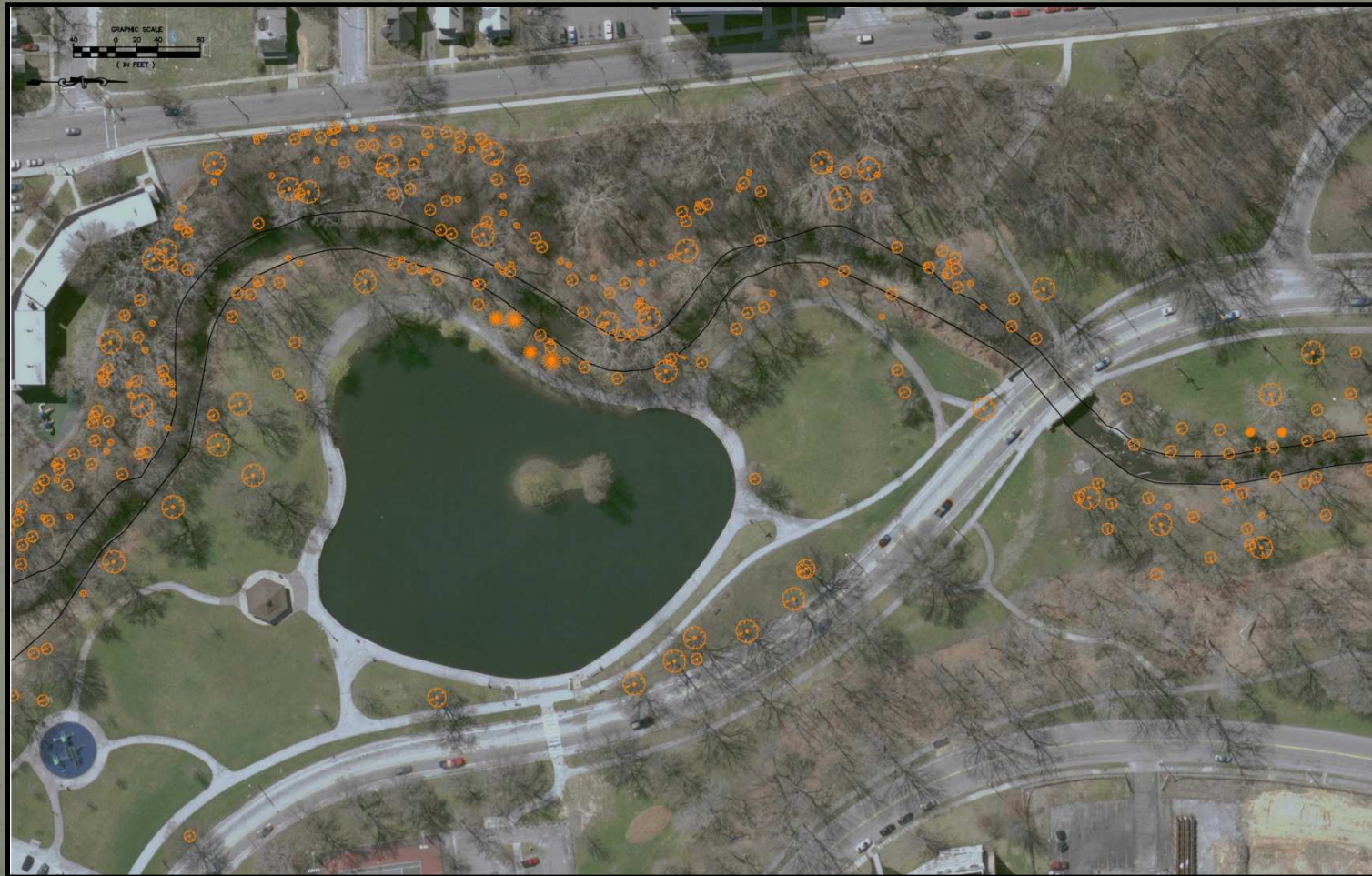
Contributing Elements



Contributing Trees - Reach 2



Contributing Trees - Reach 3



Contributing Trees - Reach 4



Contributing Trees - Reach 5



Veterans Trees



Summary of Contributing Elements and Impacts

	<u>Reach 2</u>	<u>Reach 3</u>	<u>Reach 4</u>	<u>Reach 5</u>
Number of Contributing Trees	18	30	60	80
Lineal Feet of Contributing Walls	900	800	600	2,000
Fair	----	300	500	1,500
Poor	600	300	100	300
Failed	300	200	----	200

Stakeholder Involvement Plan

A stakeholder is “any person or entity that has an interest in the outcome of the Doan Brook Stream Enhancement Project planning process, specifics of the environmental engineering design, and/or the project’s impacts to the historic integrity of the Rockefeller Park Historic District.”

Ground Rules

- All input is valued and considered;
- Open and honest participation;
- Mutual respect;
- List of stakeholders may change as events warrant;
- Advisory role of stakeholders;
- Record of meetings and contacts;
- General public involvement;
- Media involvement;
- Goal is to develop a consensus plan.

Doan Brook Stream Enhancement Project – 30% Conceptual Design



Doan Brook Stream Enhancement Project

Fundamental Goals and Objectives of 30% Conceptual Design:

Environment

- Environmental and water quality impacts.
- Riparian Habitat Improvements.
- Flood risk impacts, control flows.

Economic

- Constructability
- Utility issues.
- Permitting.
- Costs – capital /operation/maintenance.

Social

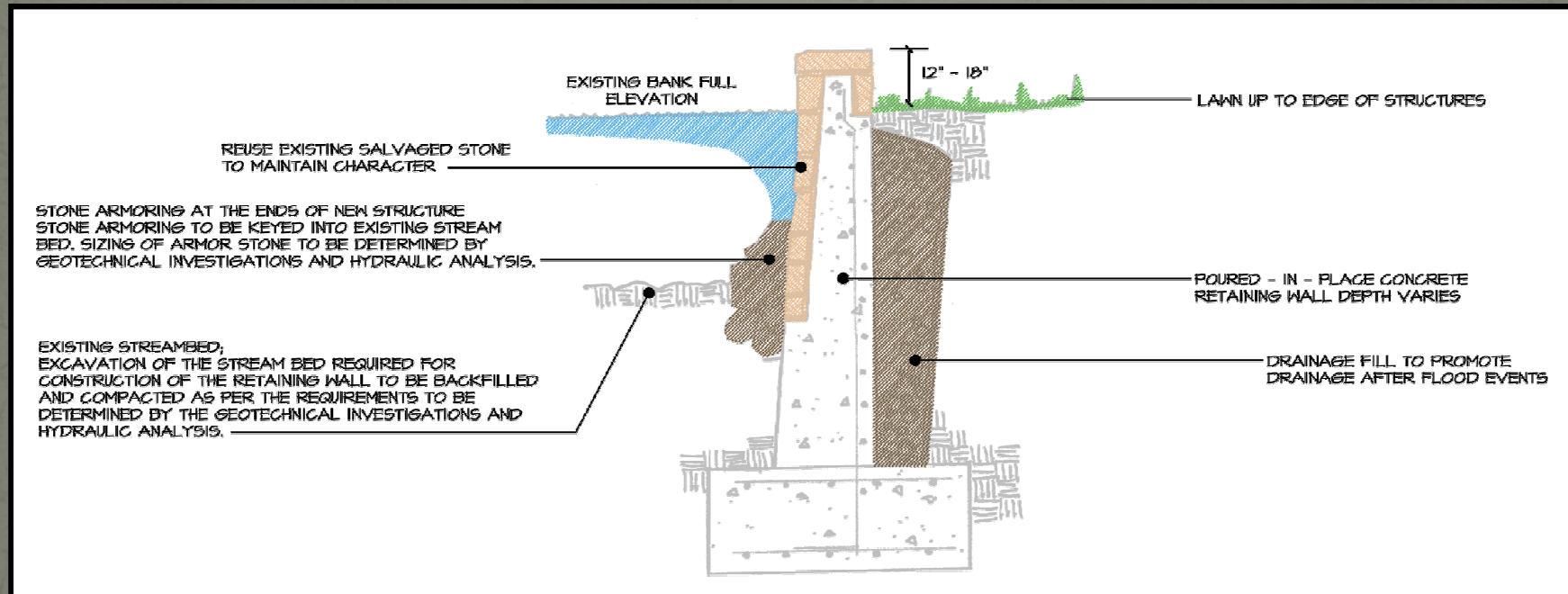
- Context sensitive design and community acceptance.
- Provide opportunities for park users access.

Doan Brook Enhancement Project

30% Design Concepts

- Structural Elements
- Managed Enhancements
- Naturalized Enhancements

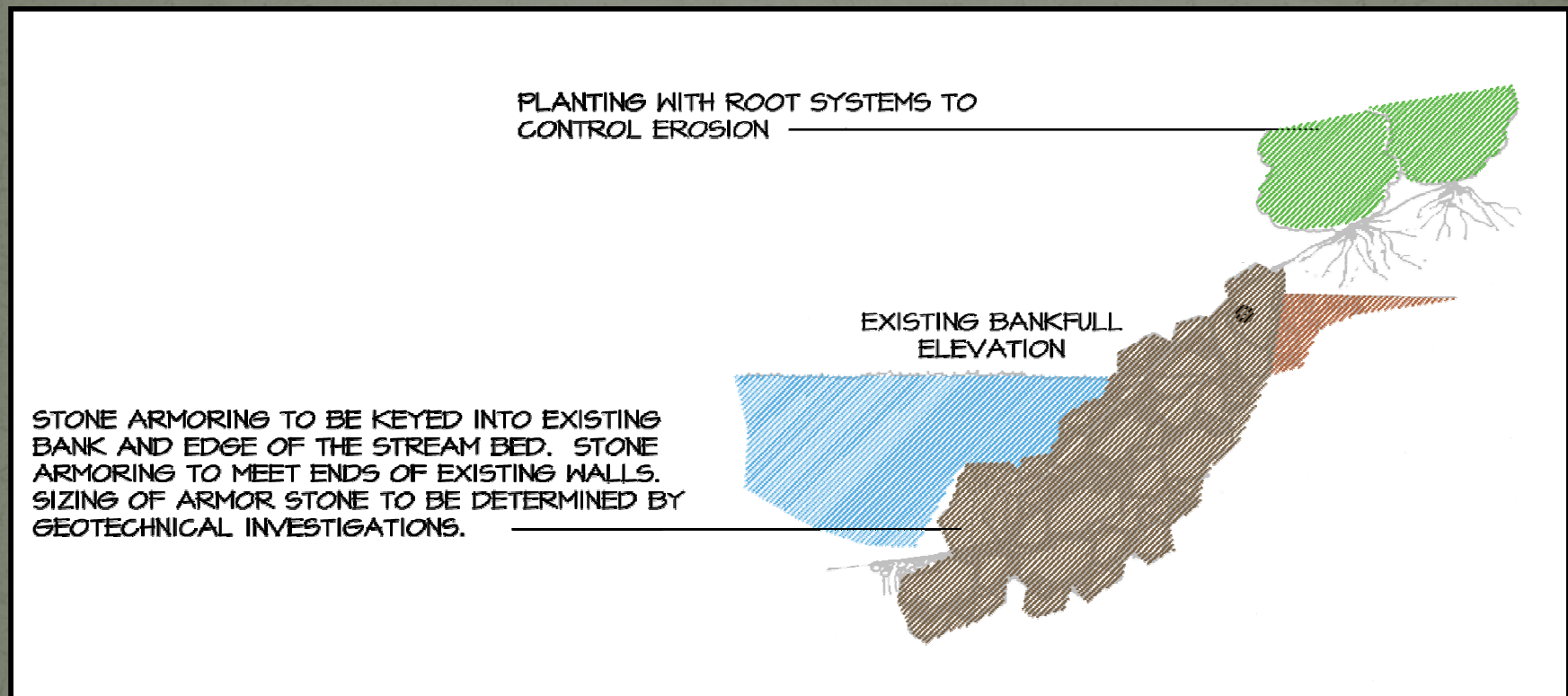
Doan Brook Enhancement Project Structural Elements



Concrete Retaining Wall w/Stone Facing

Doan Brook Enhancement Project

Structural Elements

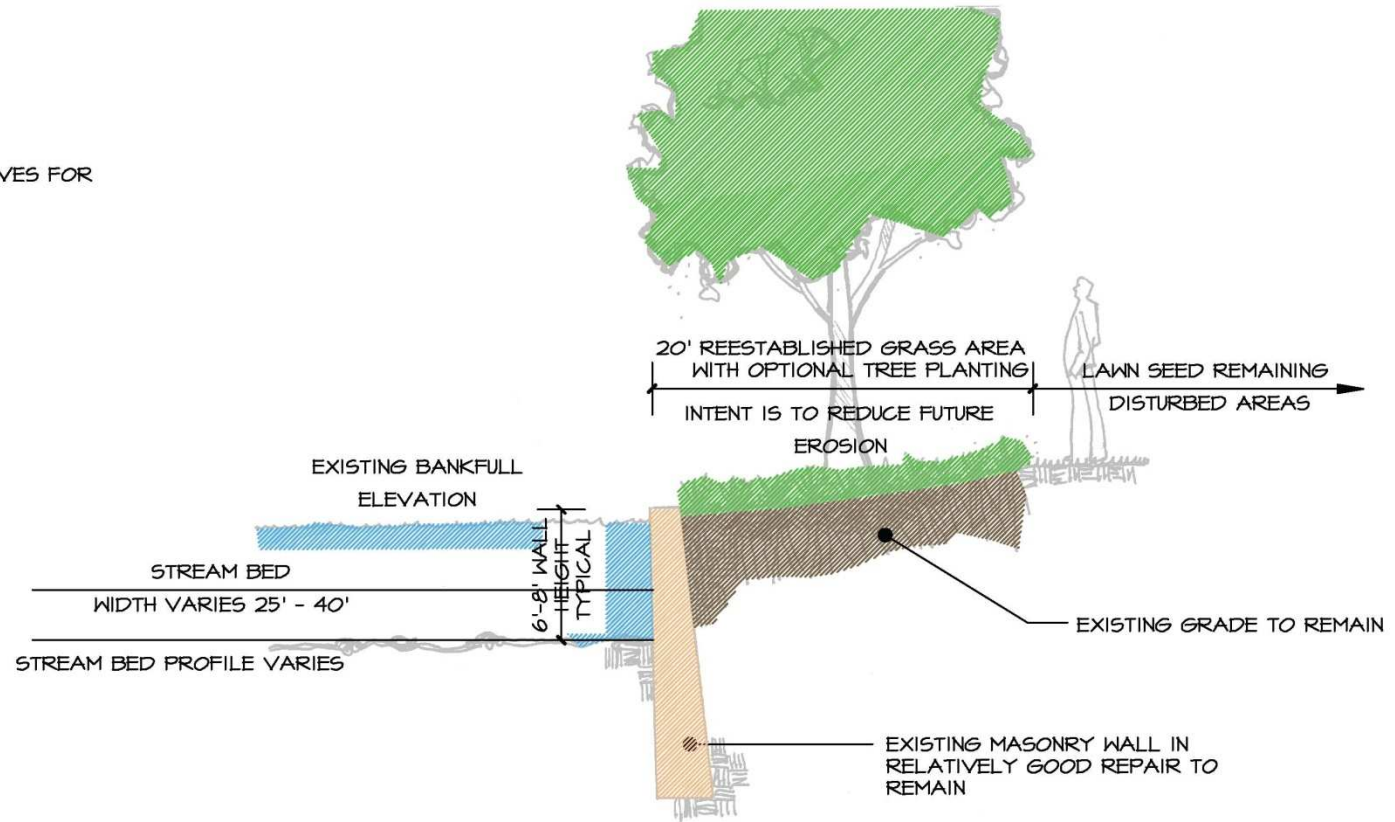


Stone Armoring w/Vegetation

Doan Brook Enhancement Project

Managed Enhancements

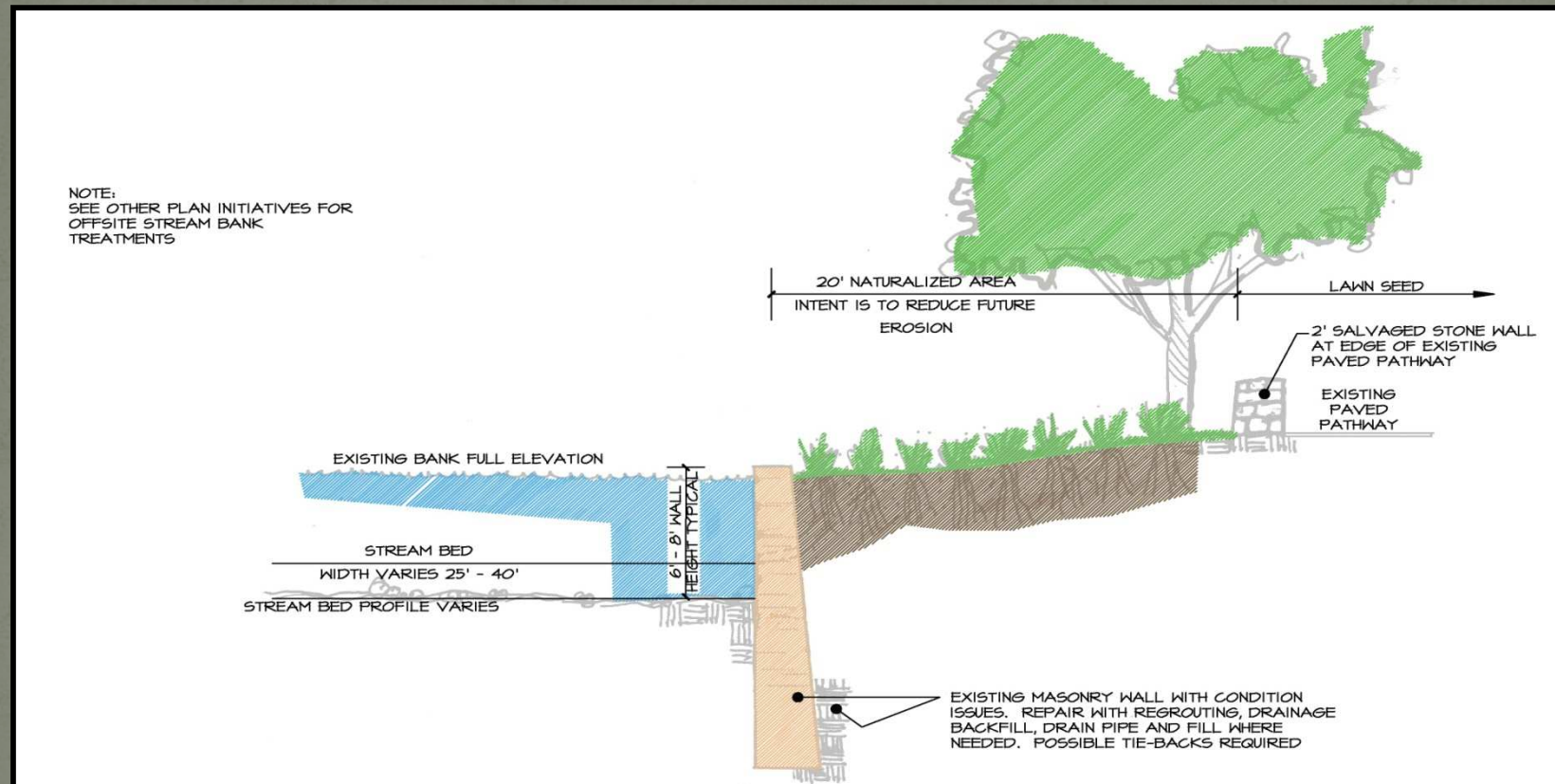
NOTE:
SEE OTHER PLAN INITIATIVES FOR
OFFSITE STREAM BANK
TREATMENTS



Retain Existing Wall

Doan Brook Enhancement Project

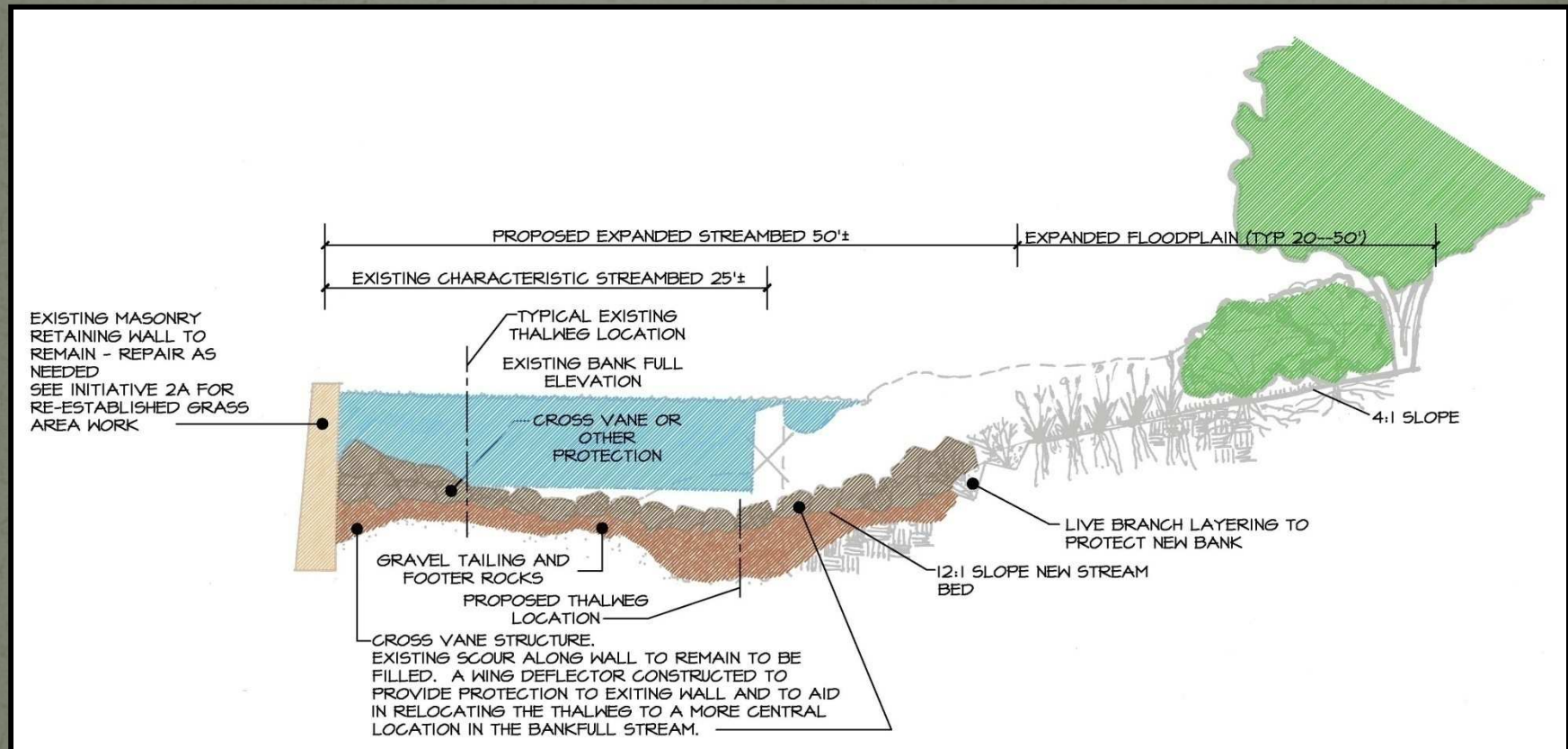
Managed Enhancements



Retain Existing Wall with Some
Restoration and Backfill

Doan Brook Enhancement Project

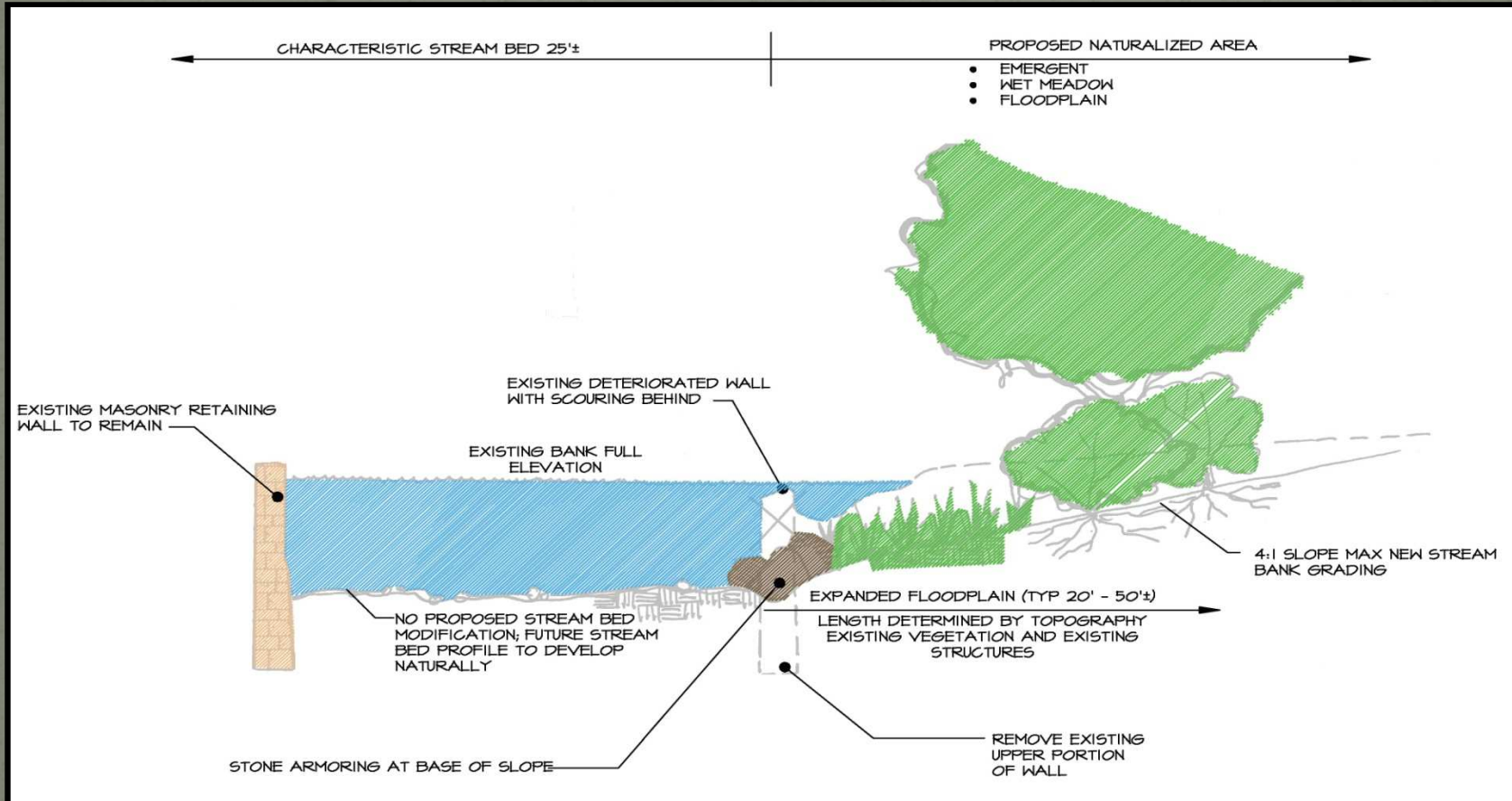
Naturalized Enhancements



Wall Removed and Streambed Improvements

Doan Brook Enhancement Project

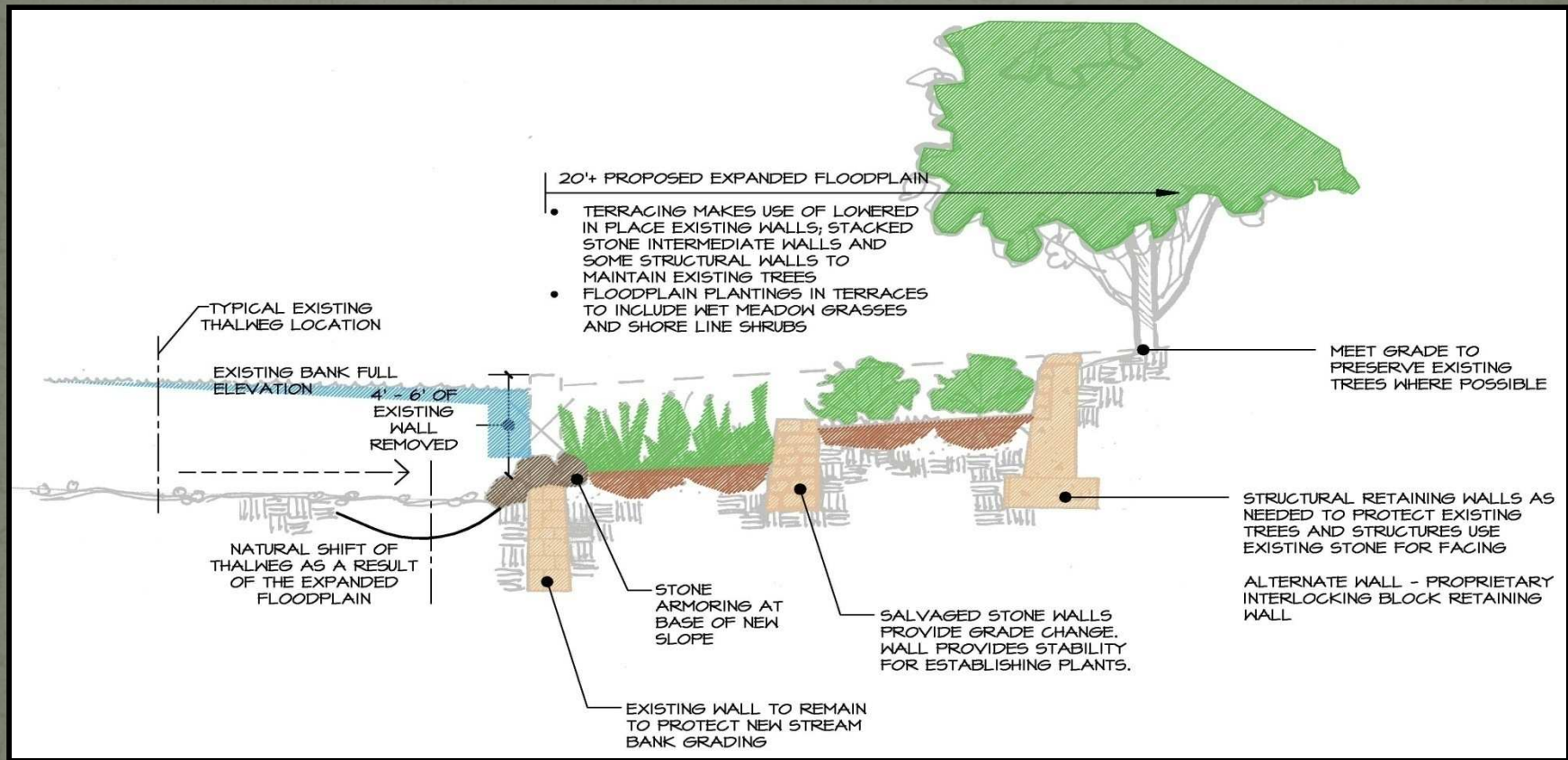
Naturalized Enhancements



Wall Removed with Stream Bank Improvements

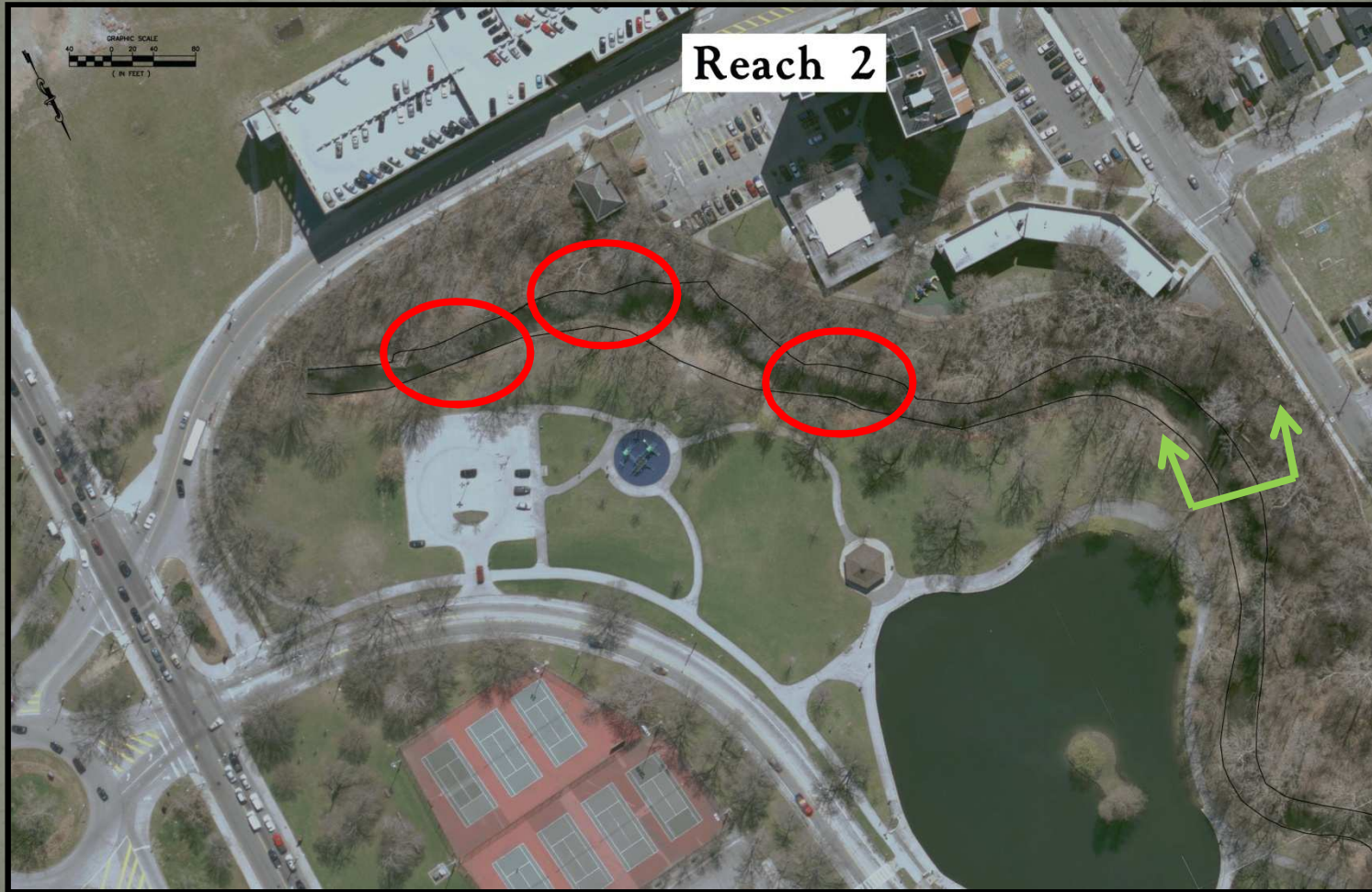
Doan Brook Enhancement Project

Naturalized Enhancements



Portion of Wall Removed, Terracing w/Stone and Construction of Secondary Walls

Reach 2-Rockefeller Lagoon Area



Reach 2 – Existing Conditions



Stone Armoring /Vegetation



Reach 2 – Existing Failed Metal Sheet Piles



Wall Removed with Stream Bank Improvements



Reach 2 – Rockefeller Lagoon Area

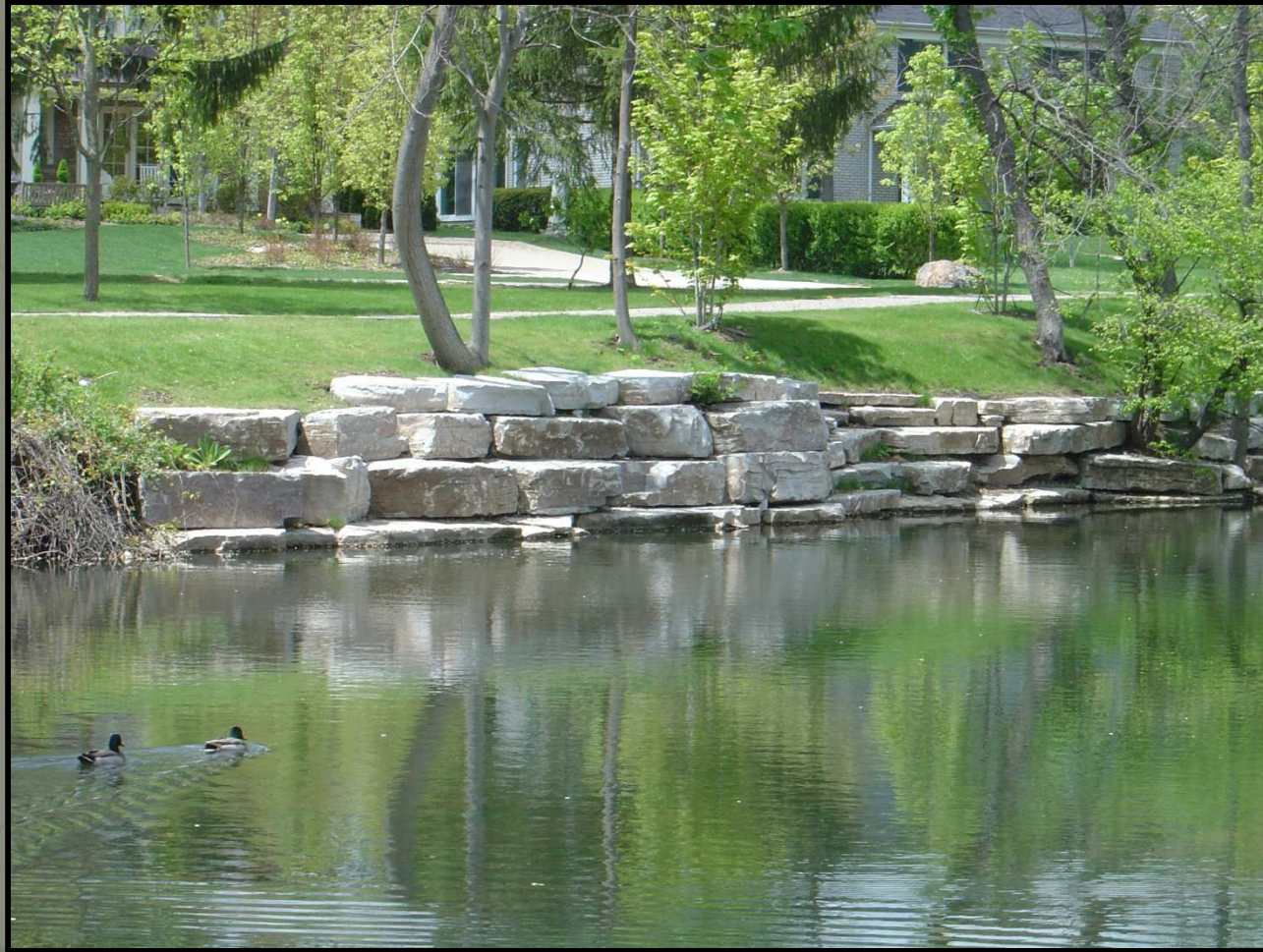


Reach 2 – Existing Conditions

Bank Erosion



Example - Stone Armoring & Upper Banks Planted



Streambed Improvements



Riffle /Pool Structures



Reach 2-Parking Area



Rain Garden Enhancement



Reach 2 –Existing Conditions



Streambed Improvements



Reach 3 – Rockefeller Lagoon Area



Reach 3 – Existing Condition



Wall Removed with Stream Bank Improvements for Public Access



Wall Removed with Stream Bank Improvements for Public Access



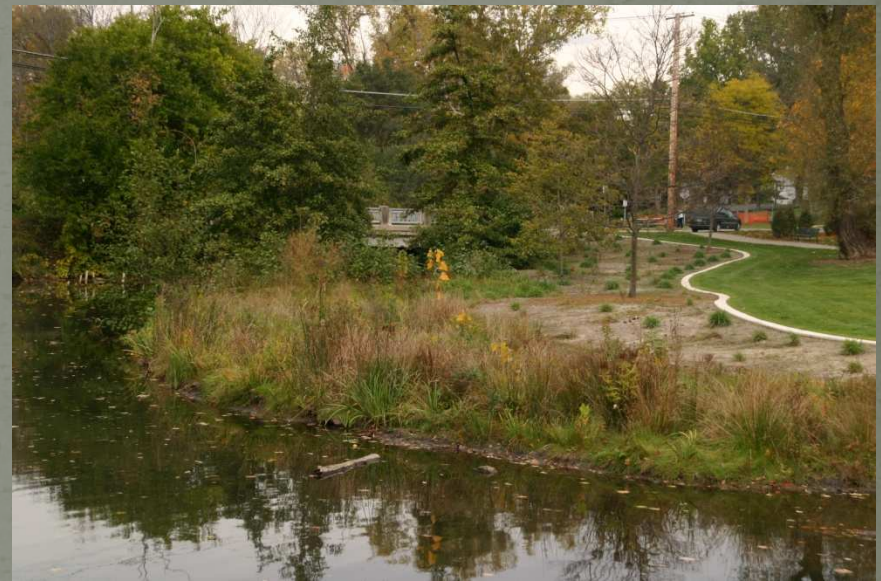
Reach 3



Reach 3- Existing Condition



Wall Removed and Stream Bank Improvements



Reach 4



Reach 4-Existing Condition



Concrete Retaining Wall with Stone Facing



Stone Armoring with Vegetation



Summary of Contributing Elements and Project Improvement Costs

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Lineal Feet of Contributing Walls	900	800	600	2,000
Fair	----	300	500	1,500
Poor	600	300	100	300
Failed	300	200	----	200
Costs	\$ 1,250,000	\$ 700,000	\$ 400,000	\$ 2,000,000