

Sawmill River Implementation Project: An Ecosystem Approach to Restoration

Proponent: Franklin Conservation District
55 Federal Street
Greenfield, MA

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101 Walnut Street
Watertown, MA

Goals for tonight's meeting:

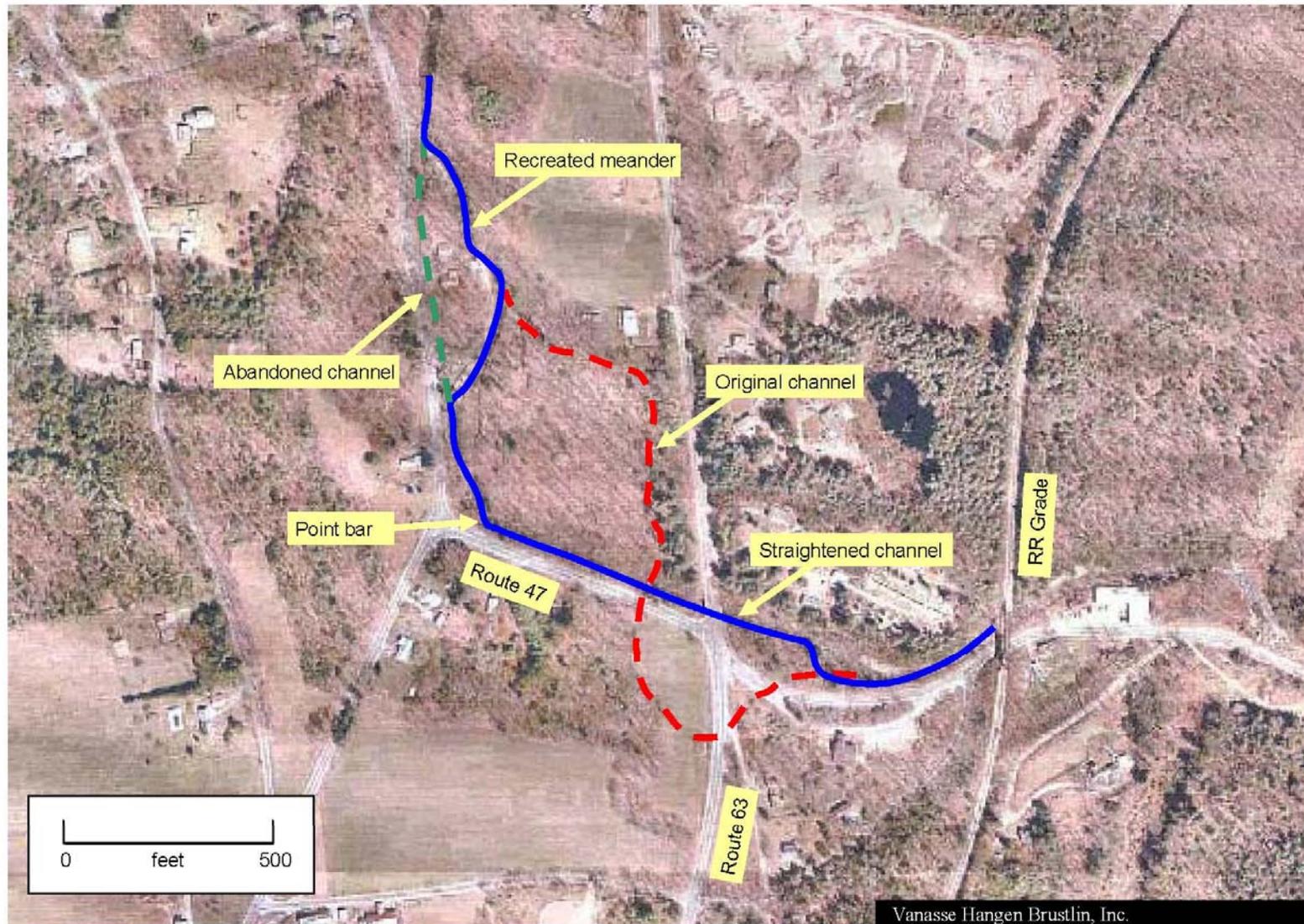
- Give brief overview of project history
- Provide description of current concept design and benefits
- Receive input/answer questions on design

Project History (2005)

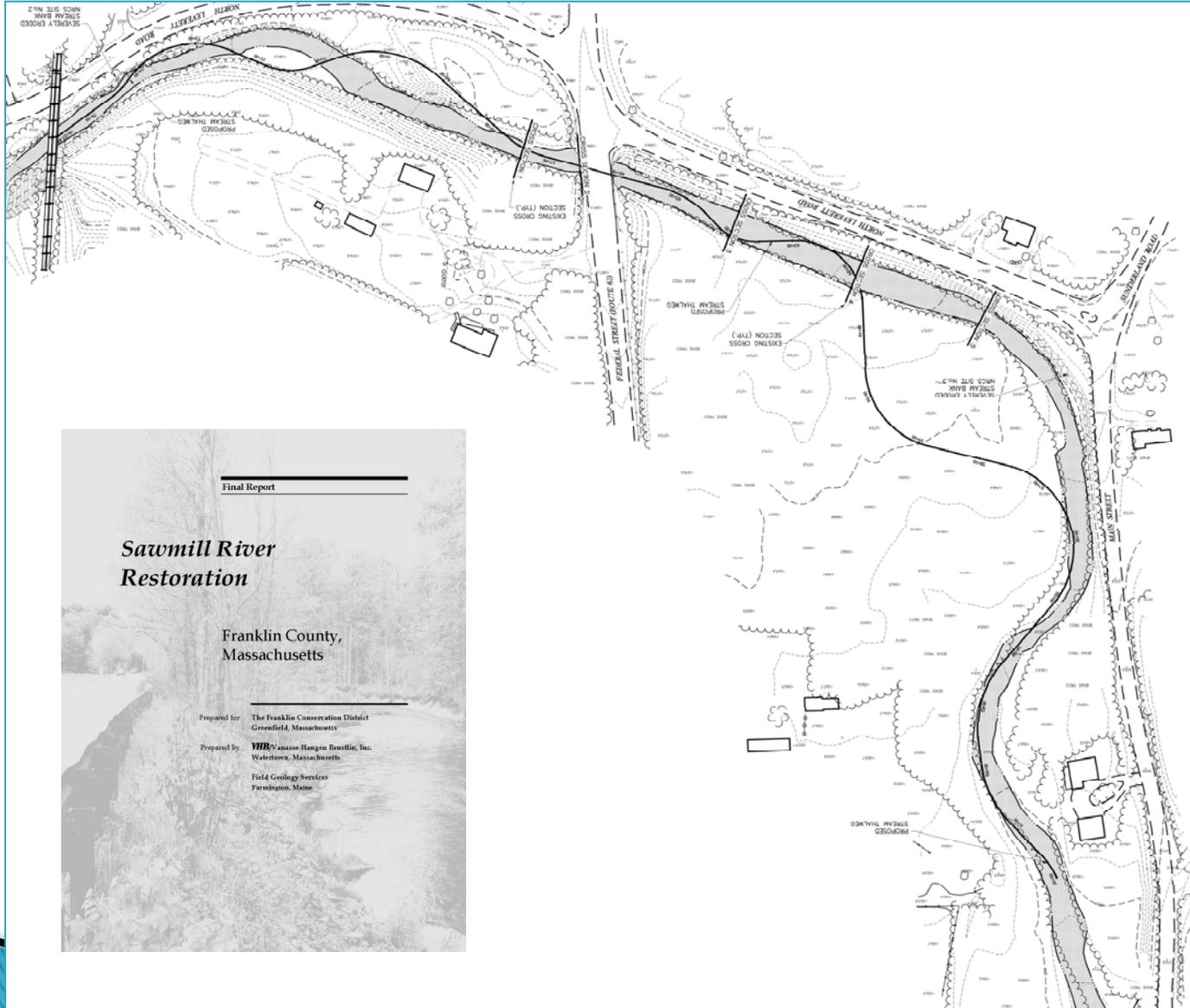
- FCD engaged VHB to conduct a three-phase geomorphic assessment to inventory and analyze the Sawmill River.
- Findings from the study were used to rank and prioritize sites for restoration.
- A conceptual design was developed using Natural Channel Design Principles for the highest priority reach based upon potential for reducing flooding and erosion and sedimentation, and improving aquatic habitat features.

The project is funded through a s.319 grant from the USEPA/MADEP (Project No. 10-08/319)

Restoration Reach 1 (2006)



Concept Design (2006)



Current Project Limits

- ▶ ±1,700 feet downstream from Federal Street (Route 63)
- ▶ Land owned by MA Division of Fisheries, Wildlife, and Environmental Law Enforcement
 - License to conduct work has been granted
- ▶ Within Priority and Estimated NHESP Habitat (PH1337; EH76)
- ▶ Sawmill River is designated as a coldwater fishery (ID#3420550)

Aerial w/ property lines



Current River Conditions

Sawmill River (homogeneous channel)



Sawmill River Point Bar



October 2011

Sawmill River Bank Erosion



August 2011

Example of Floodplain Channel



Example of Floodplain Channel



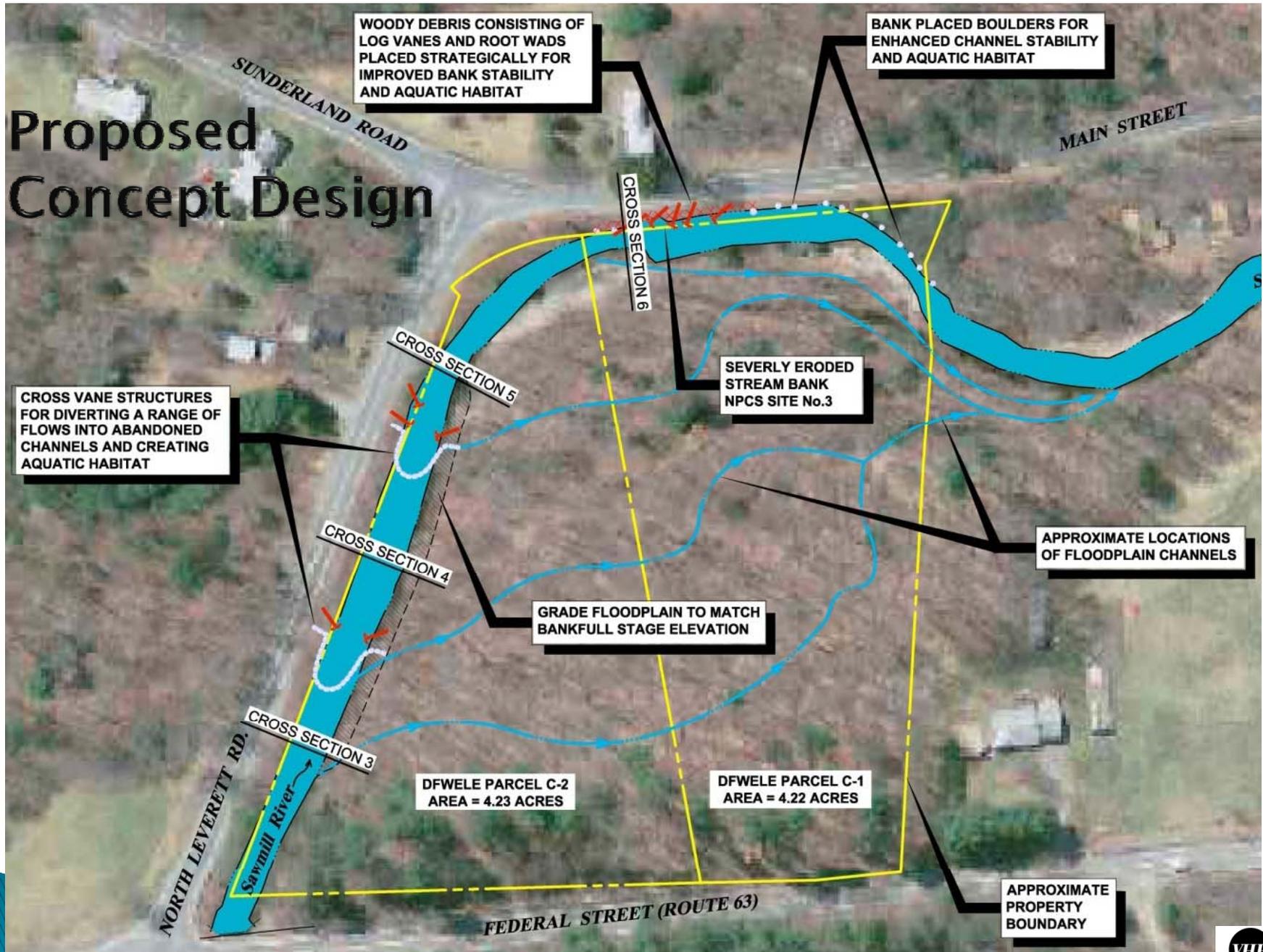
Example of Floodplain Channel



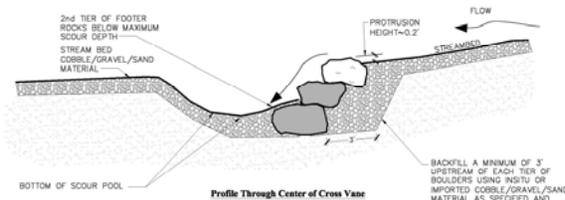
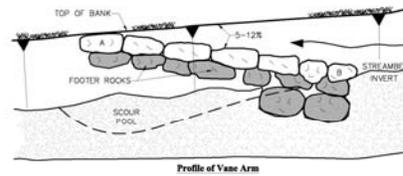
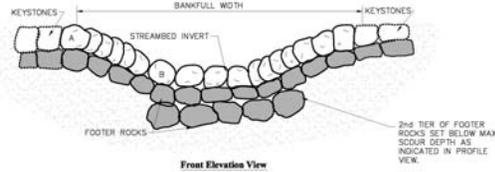
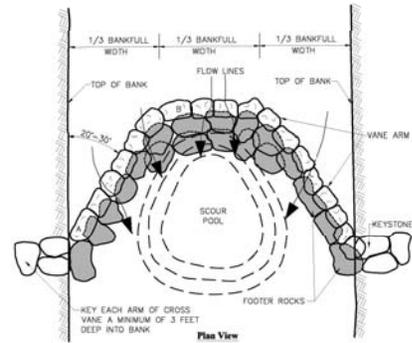
Goals of Proposed Concept Design

- ▶ Reduce Erosion and Sedimentation
- ▶ Reconnect River with the Floodplain
- ▶ Improve/Restore Fisheries Habitat/River Structure
- ▶ Improve Wildlife Habitat
- ▶ Demonstration Project to Reveal Effective Solutions

Proposed Concept Design



Structure Details

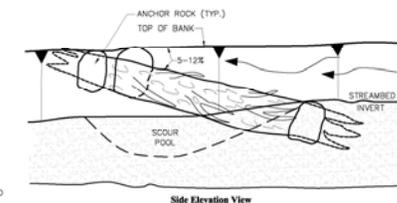
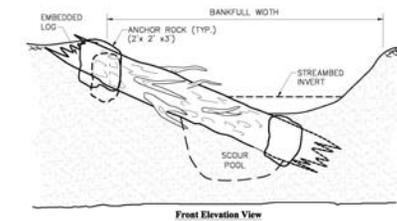
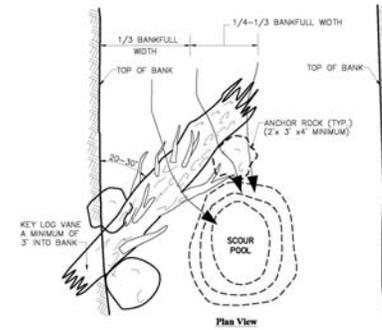


Rock Cross Vanes

N.T.S. Source: VHB

Notes:

INDIVIDUAL ROCK FRAGMENTS SHALL BE BLOCKY IN SHAPE AND MEET THE FOLLOWING MINIMUM/MAXIMUM SIZE REQUIREMENTS. AT LEAST 50% OF THE MATERIAL SHALL HAVE A MEAN SPHERICAL DIAMETER OF 2.2 FEET. THE LEAST DIMENSION OF ANY INDIVIDUAL ROCK FRAGMENT SHALL NOT BE LESS THAN 40% OF THE MAXIMUM DIMENSION. ALL MATERIAL SHALL HAVE A MEAN SPHERICAL DIAMETER GREATER THAN 1.9 FEET BUT LESS THAN 3.1 FEET. EXAMPLES OF ROCK FRAGMENTS MEETING THE ABOVE CRITERIA INCLUDE: 1.5' X 1.5' X 2.0', 1.5' X 2.0' X 3.0', AND 2.0' X 3.0' X 4.0'.



Log Vanes

N.T.S. Source: VHB

Root Wad

N.T.S. Source: VHB

Rock Cross Vane



South Platte River, CO

Rock Cross Vane



South Platte River, CO

Sawmill River Implementation Project



Log Vane



Sawmill River Implementation Project



Log Vane



Root Wad



Questions / Comments

