

# East Branch Housatonic River





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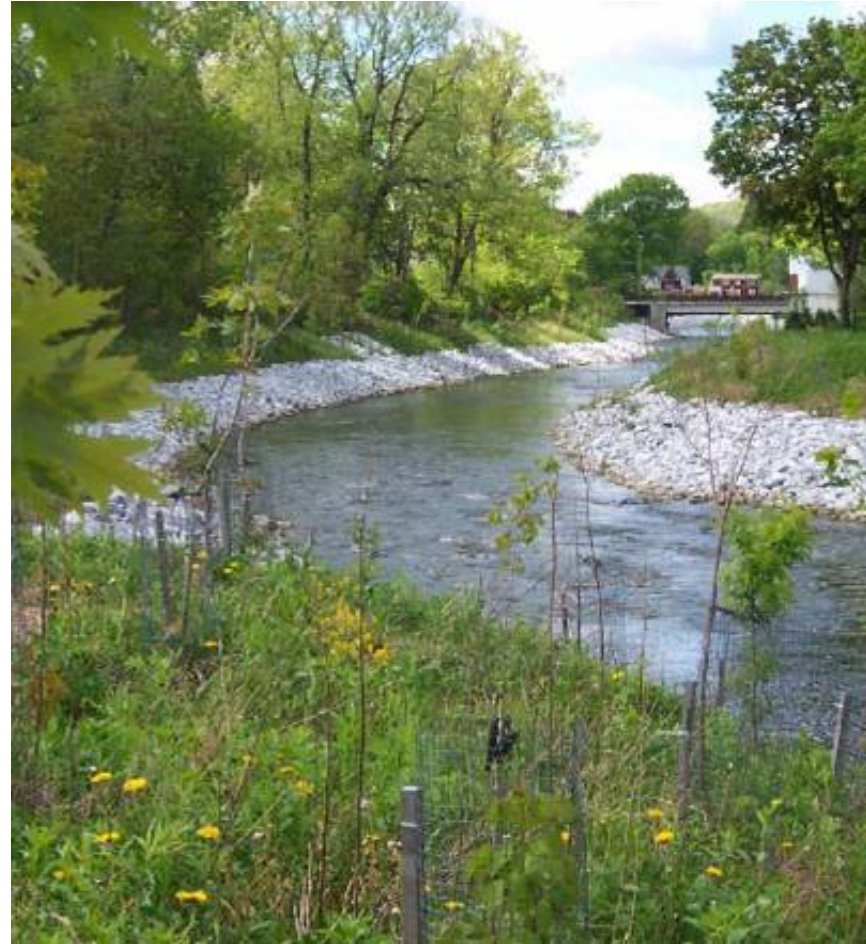
- Habitat Restoration Goals and Objectives
- Ecological Characterization Data
- Existing Conditions Plans
- Proposed Conditions Plans & Specifications
- Restoration Construction
- Long-Term Monitoring

9 20 00



# Restoration Objectives

- Protect removal construction against erosion
  - both river bed and banks
- Restore bank vegetation using native species
- Increase variability in velocity & low flow channel width to improve habitat
- Increase diversity & amount of substrate & water turbulence to improve habitat

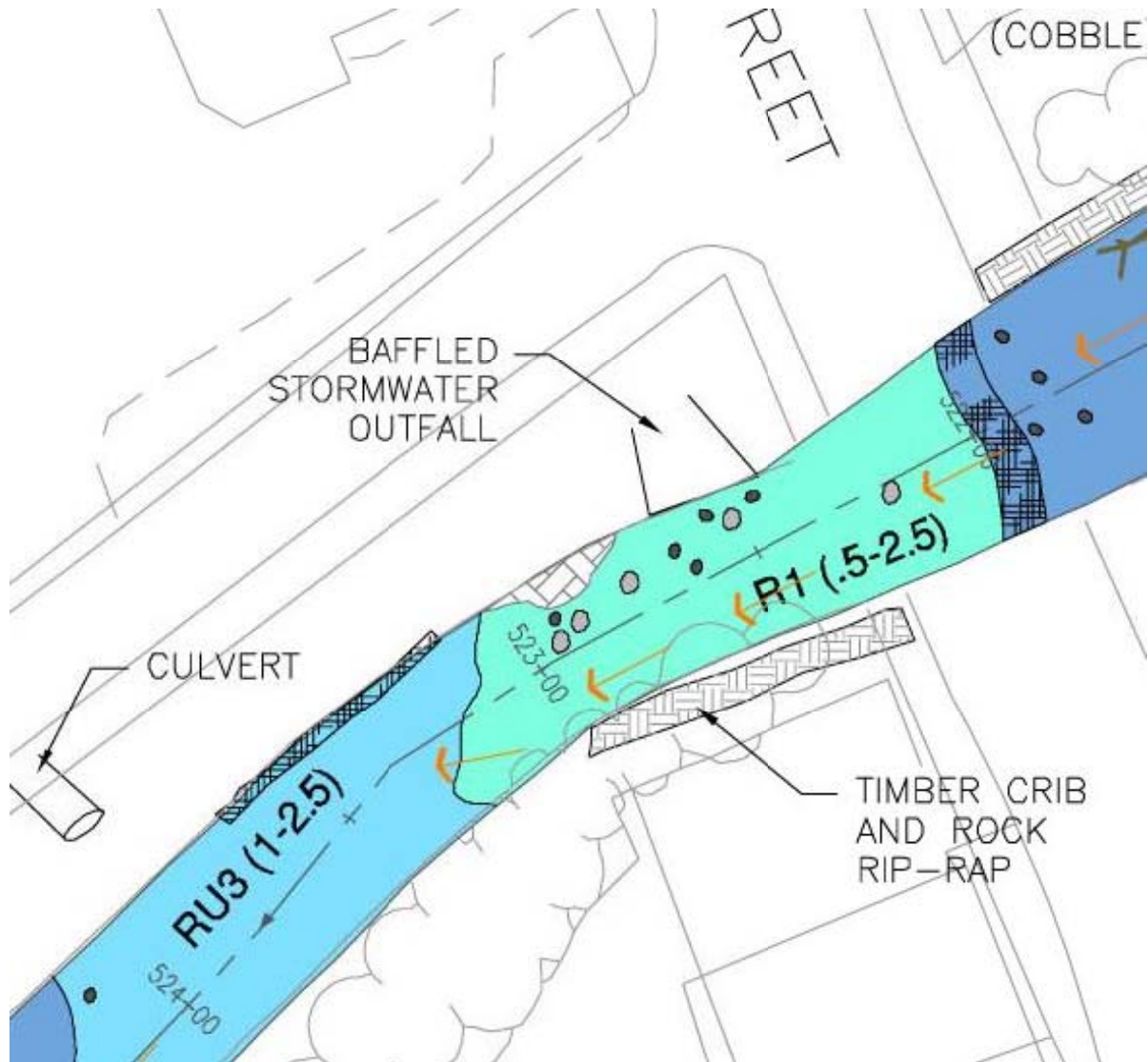


# Ecological Characterization

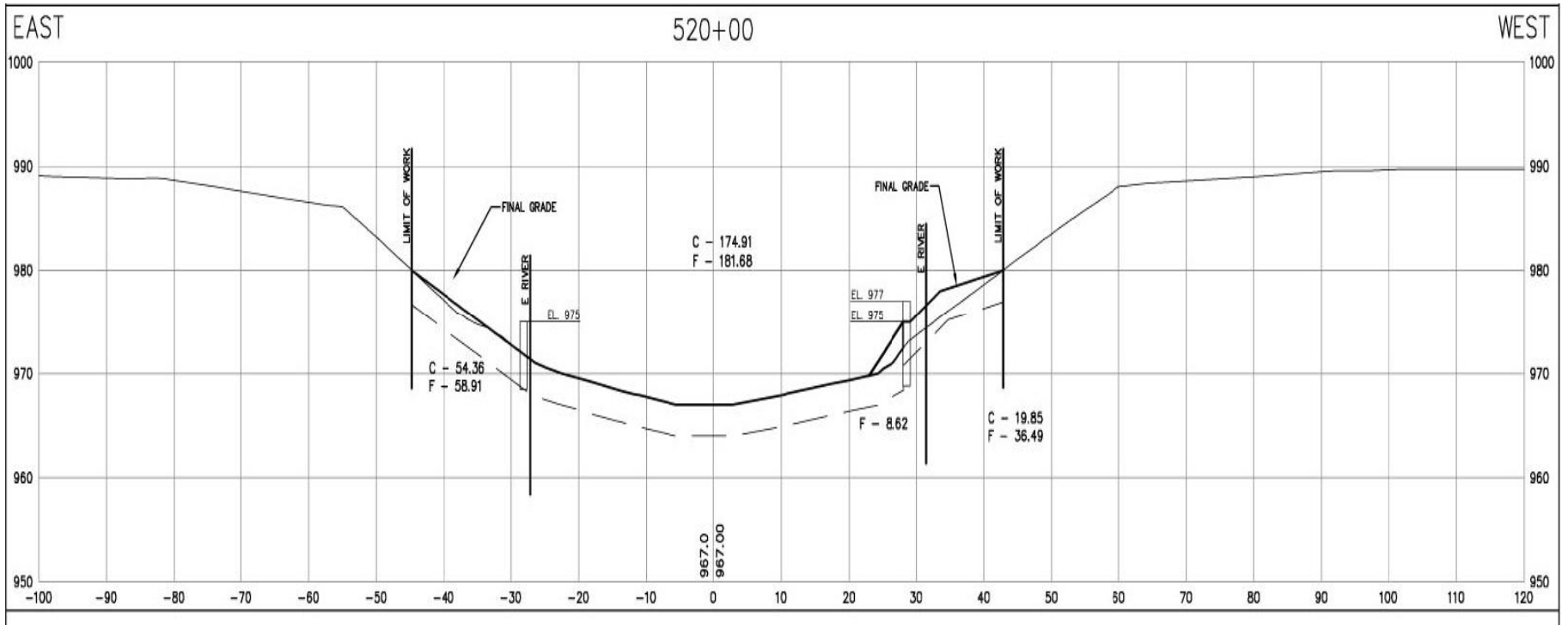
- Characterize existing conditions
- Focus on data needed to reconstruct/enhance habitat
  - Topography, bathymetry, hydrology
  - Plant communities; type, location, age
  - River features
    - Large woody debris
    - Runs, riffles, pools
    - Substrate
  - Biota



# Existing Conditions Plans - River



# Existing Conditions Plans





# General Restoration Design Issues

- Bank stability
- Revegetation
- Bed Stability
- Fish habitat



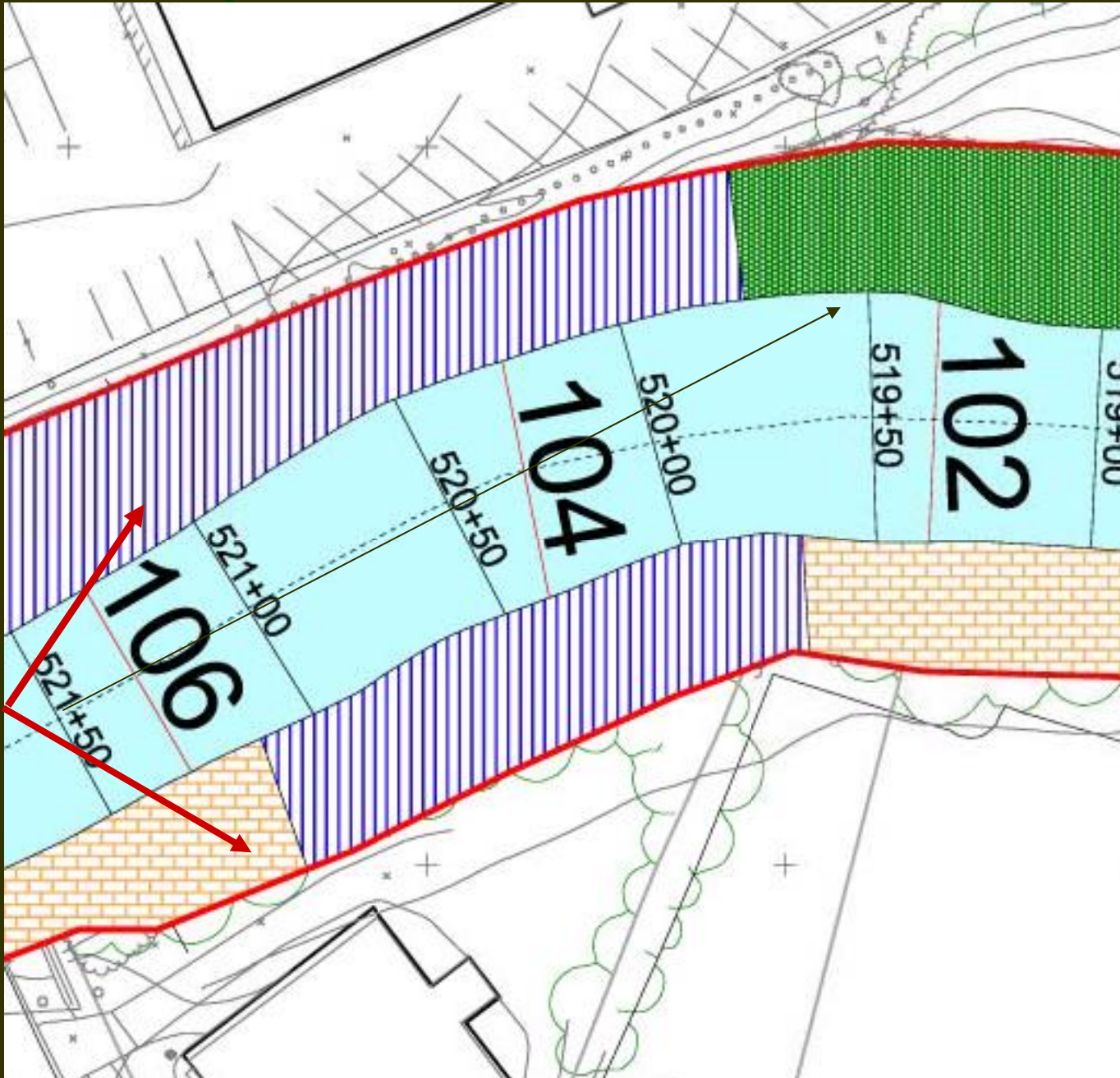
# Proposed Conditions Plans

- Produce plans & specifications for construction
- Use data to reconstruct the habitat
  - Topography and bathymetry
  - Resoiling
  - Plant communities; type, location, age
  - River features
    - Large woody debris
    - Runs, riffles, pools
    - Substrate





# Proposed Conditions Plans



Bank  
Treatments



A yellow Sevenson excavator is the central focus, positioned on a muddy and snow-dusted ground. Its arm is extended towards a row of sheetpiles that form a retaining wall along a body of water. The excavator's bucket is resting on a pile of debris, including several large tree stumps and branches. In the background, residential houses and a red barn are visible under an overcast sky. The scene depicts a construction project involving earth retention and site clearing.

Sheetpile  
installed,  
clearing,  
grubbing,  
soil removal

11 25 2002



# Restoration Construction Challenges

- Space constraints/limits of work
- Steep slopes on private properties
- Maintenance of Flood Storage
- Water Treatment – quantity and quality
- River Diversion – flashy river
- Coordinating design, contract, and construction schedules





# Resoiling bank



Sheeting &  
armor @ toe

Geo-web

05 23 2003



# Plant installation





# Dense plantings to reestablish riparian vegetation and control erosion





# Fast growing trees & shrubs





# Browsing Control



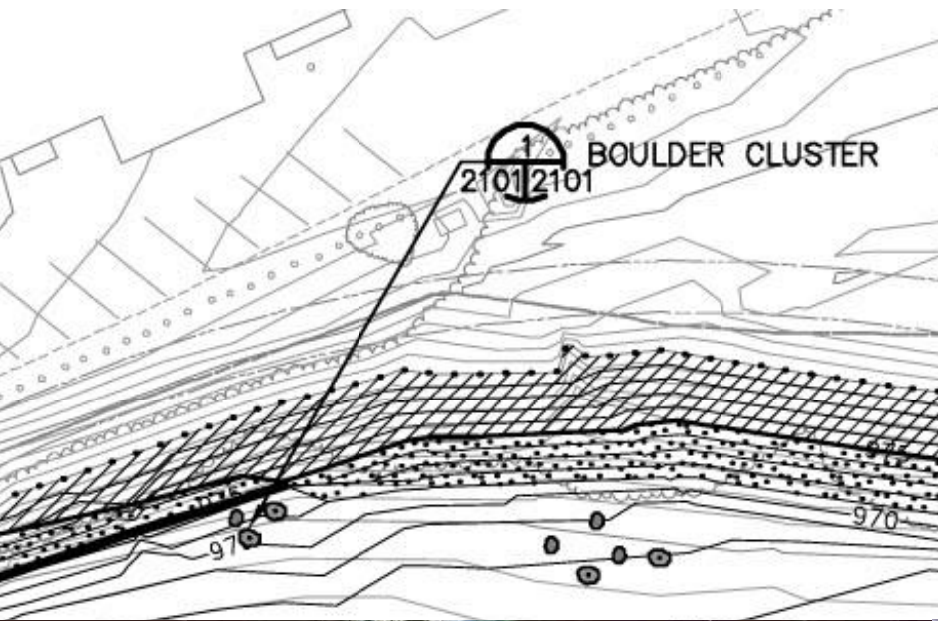


# Invasive Species – Japanese knotweed controlled with herbicide





# Instream Structures





May 2007









# Long Term Monitoring

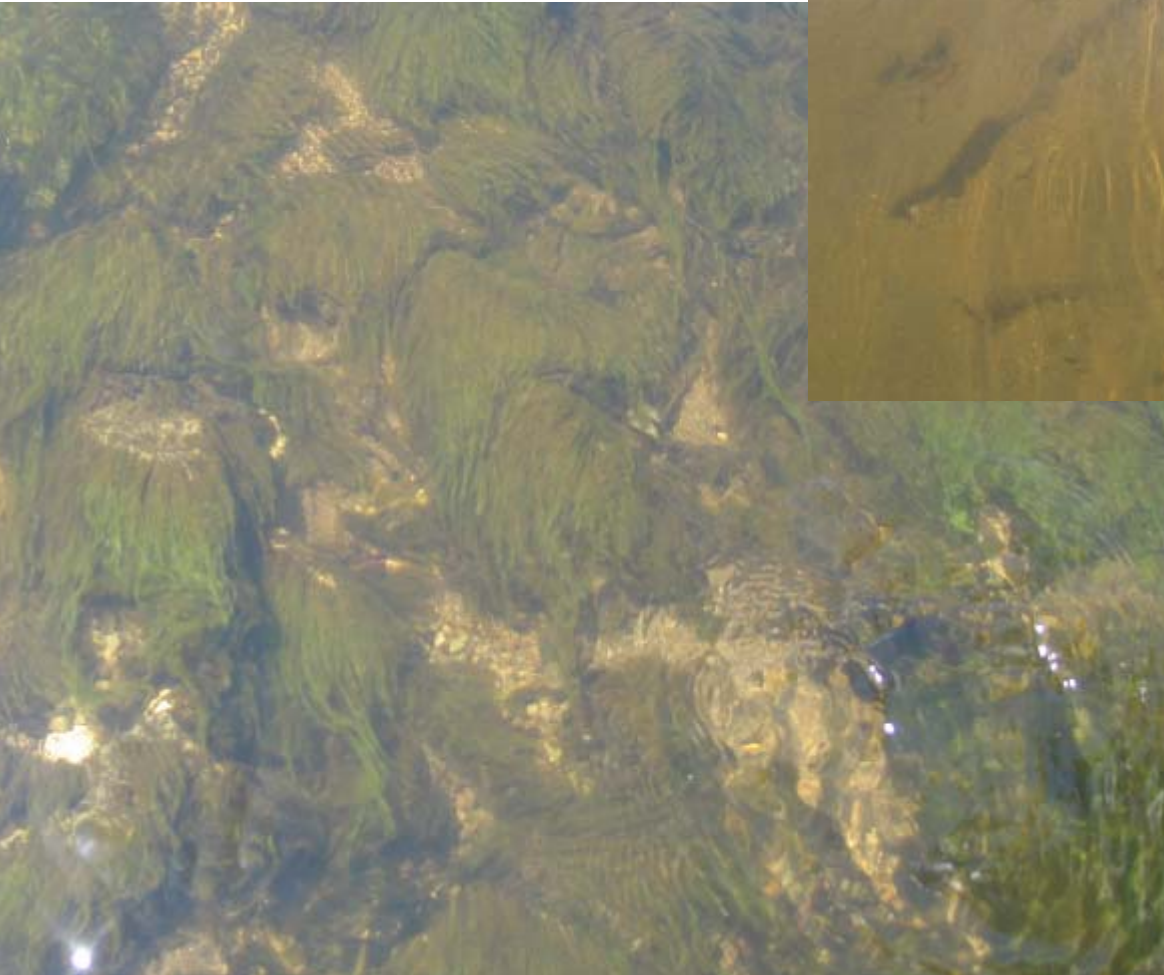


- Plant survival and coverage
- Invasive Species control
- Erosion Control
- In-stream structures
- Wildlife utilization





Riprap placed Fall 2005,  
quiescent area



Riprap placed Summer 2005,  
higher velocities





May 2007







May 2007

10.14.2002









May 2007



Vernal Pool May 2007

