Restoration of Southampton Creek

Upper Southampton Township

US ACOE

USF&WS

UNH

Who?

- Corps of Engineers
  - Heather Jensen, Project Manager
  - Mark Eberle, Project Biologist
  - Sarah Apperson, Jennifer McGrath, Real Estate
  - Rich Pearsall, public affairs
- Upper Southampton Township
  - Joe Golden, Lola Biuckians, EAC
- USFWS
  - Larry Brannaka
  - Tom Ballestero, University of New Hampshire

Southampton Creek Restoration Project

- Section 206, Aquatic Ecosystem Restoration Authority
  - Don't need addl congressional approval
- Cost-shared
  - 65% Federal
  - 35% non-Federal sponsor (Upper Southampton Twp.)

Southampton Creek Restoration Project

What?

- Natural stream channel design
  - Restore creek, stream banks & riparian zone to a more natural state
  - Improve in-stream habitat

Why?

- Degraded stream, erosion, stormwater
- Township approached the Corps
  - Project ID'd & initiated 2001- lack of Fed funds delayed start of design

How?

- Corps management, USFWS design, Upper Southampton Township cost-sharing sponsor

Activities

- Upper Southampton Township & Corps signed a Project Partnership Agreement (PPA) for $1 million project (total cost)
  - Upper Southampton Township will provide non-Fed cost share (35%=$320K)
- USFWS completed conceptual design and will complete final design
- Corps : environmental review, real estate plan, and all other steps required prior to construction
- Construction is tentatively planned for the Spring of 2011 (contract must be awarded this Fall)

How does this affect me?

Feedback

- Design is a dynamic process

Support

- Real estate easements (more info later)
  - Township responsibility
  - Corps Real Estate experts working with Twp.

Geomorphic Channel Design

- Move water and sediment in concert with the stream form
- Re-align the stream around constraints
- “Structures” still employed, but these are much more habitat-friendly.
- Long term expectation is for vegetation to maintain channel horizontal alignment.

Types of Overall Solutions

- Put the stream back up on the floodplain
- Leave channel in place, and create appropriate dimensions from there
- Armor the system to maintain its current form
- Do nothing

Some Specific Solutions

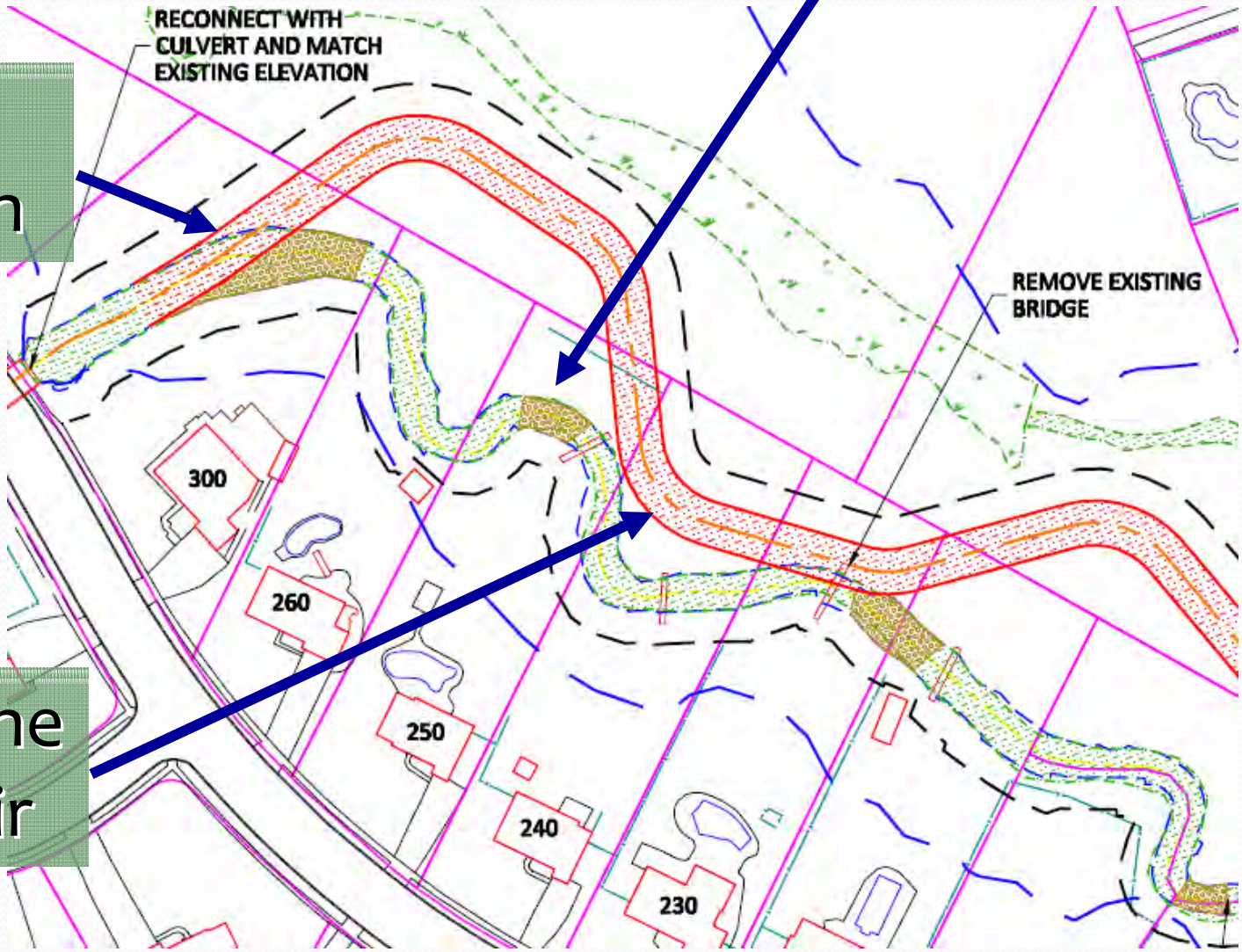
- Re-Alignment
- Diversion Structures
- Channel Blocks
- Log Structures
- Rock Structures
- Fiber (Coir) Mattresses
- Vegetation
- Grading Back Steep Slopes
- Culvert Baffles

Southampton Creek

Channel Block

Stream Diversion

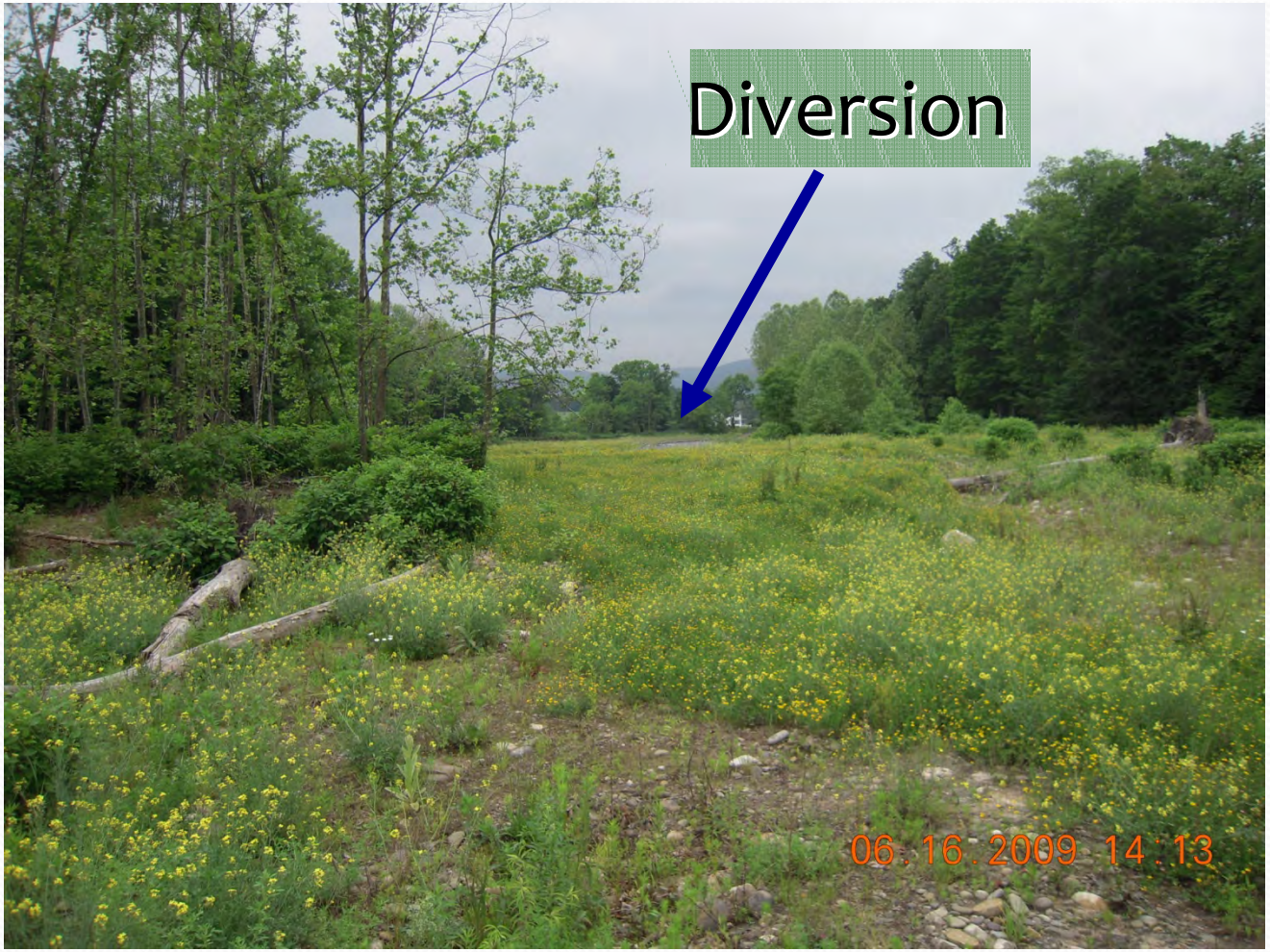
Log Vane and Coir



Stream Diversion – Location to be diverted

Stream Diversion – 1 year after construction

Stream Diversion – 2 years after construction



Re-Aligned Stream Section

The Abandoned Channel 1 Year Later

Designed Wet

Designed Dry

The Abandoned Channel 2 Years Later

Designed Wet

Designed Dry

Channel Block – 2 years later

Floodplain Sill - after construction

Floodplain Sill – 2 years after construction

Coir Mattress

Mud Sill

Log Structures

Rock Structures

Rock Cross Vane

The Long Term Protector

Real Estate Requirements For The Southampton Creek Ecosystem Restoration Project

- **Temporary Work Area Easement (TWAE)**
- **Perpetual Ecosystem Restoration Easement**

Understanding Easements

- An Easement is simply the right to ***use*** the property of another, usually to benefit adjoining lands
- Easements are acquired to allow the use of others' properties for the such purposes as roads, pipelines, levees, flooding, flowage, etc.
- This easement will be similar to other common easements like utility easements

Temporary Work Area Easement

- **Access and staging during construction**
- **Finite term**

What does it mean for me, the homeowner?

- For the duration of the temporary easement, the workers/equipment may access the project via your property

Perpetual Ecosystem Restoration Easement

- Will protect the area within the project limits with specific language
- Easement allows Township to maintain and care for project area

What does it mean for me, the homeowner?

- There will be restrictions within the easement area so that the project area can be properly protected and maintained

Easements continued…

Who will be acquiring the necessary easements?

- The Township, not the Army Corps of Engineers, will be acquiring the appropriate easement from you, the homeowner

Will I still own the land?

- You will still own the land identified as needed for the project in fee. The easement only restricts activities for the protection of the project area on a portion of the parcel, not the entire parcel itself

Why is the Perpetual Ecosystem Restoration Easement restrictive?

- To minimize negative human impact and minimize natural degradation

Potential collaboration with Pennypack Watershed Partnership

- Assistance with plantings

- Assistance with ecological monitoring (pre and post construction for 5 years)
  - Macroinvertebrate (aquatic insect) monitoring
  - Taking photos and monitoring vegetation