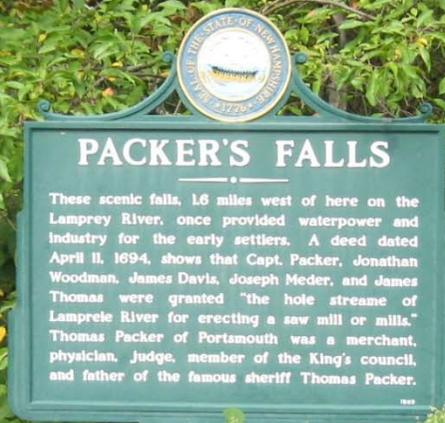


Durham-Newmarket 13080

NH Route 108



Transportation Enhancement Project
Conservation Commission Meeting

January 8, 2014

Agenda

- Thank you and Introductions
- Project Background, Limits and Need
- Proposed Improvements
- Environmental Concerns
- Environmental Review
- Wetland Impacts
- Mitigation Package

Project Background

- Project originated as a Department sponsored TE project in 1998.
- The ADT ranges from 10,000 to 13,000 vpd (in 2002) along the corridor. That was projected to increase to between 16,000 and 20,000 vpd in 2025.

Project Limits

- The overall 13080 project begins just south of Bay Road in Newmarket and extends approximately 3.7 miles north to the intersection of Mill Pond Road in Durham.
- The corridor will be broken into two contracts for Construction, however environmental permitting will be completed corridor wide under the 13080 parent project.

Project Limits (continued)

- The 13080A project:
 - Begins 500 feet north of Stagecoach Road and continues north approximately 1.6 miles to Hamel Brook
 - Scheduled to Advertise on April 1, 2014
 - Work could begin as early as June 2014
 - Is proposed to be completed by the Summer of 2015

Project Limits (continued)

- The 13080B project:
 - Will be completed in two segments:
 - The first begins just south of Bay Road in Newmarket and continues north to the pavement joint 500 feet north of Stagecoach Road
 - The second section begins at Hamel Brook and continues north to the intersection of Mill Pond Road in Durham
 - Scheduled to Advertise on April 7, 2015
 - Work could begin as early as June 2015
 - Is proposed to be completed by the Summer of 2016

Project Need

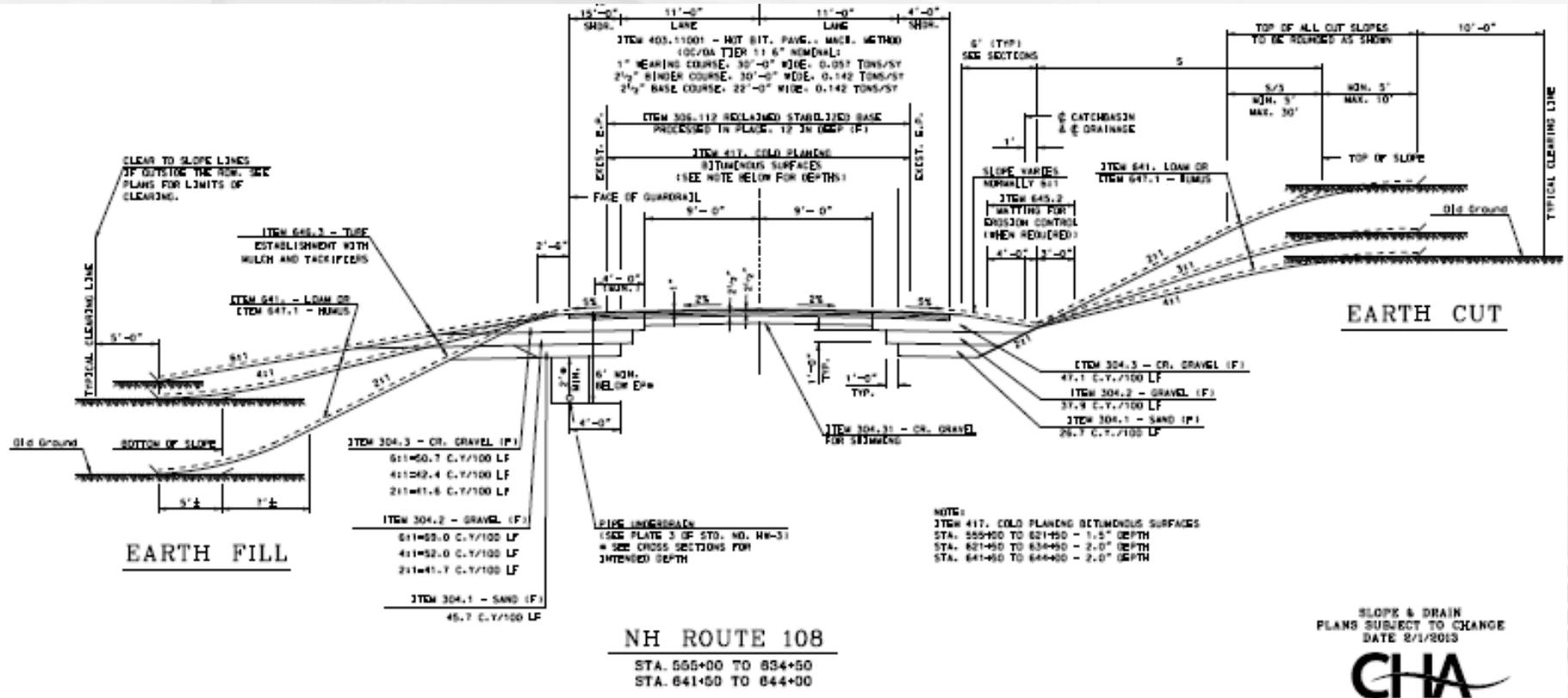
- Route 108 is a critical link in the Seacoast MPO bike network, and heavily used by the UNH bike community.
- The existing roadway is narrow and inadequate for bicycle use with 24 feet of pavement and no shoulders.
- A number of geometric deficiencies exist along the corridor, primarily at intersections.

Proposed Improvements

- 13080A Roadway Work:
 - 11 foot travel way and 4 foot shoulder
 - Bus Stops
 - Step box widening with pavement reclaim
 - Full Box reconstruction (700')
 - 6" Pavement
 - No sidewalks

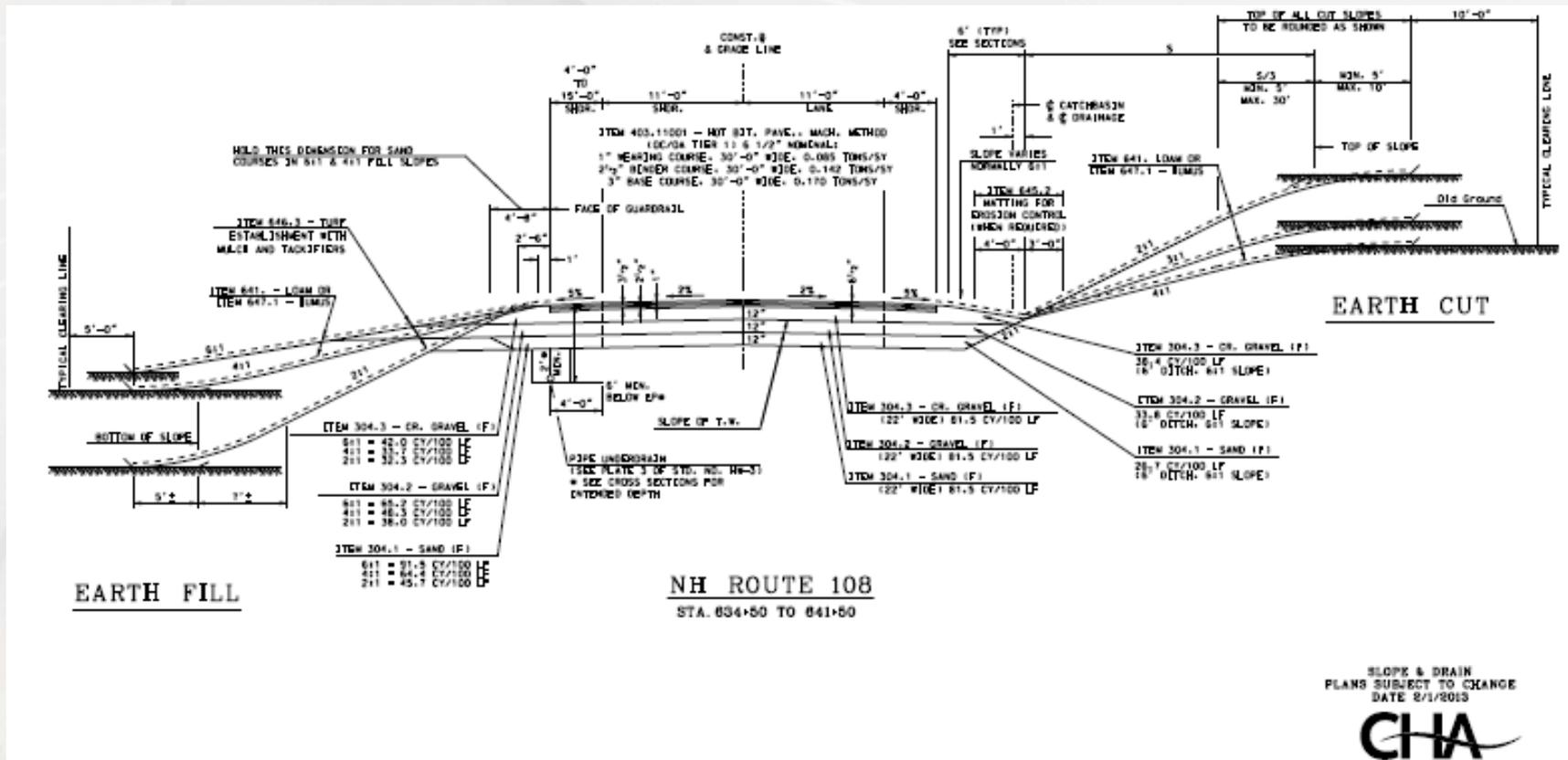
Proposed Improvements (Continued)

- The 13080A project:



Proposed Improvements (Continued)

- The 13080A project:

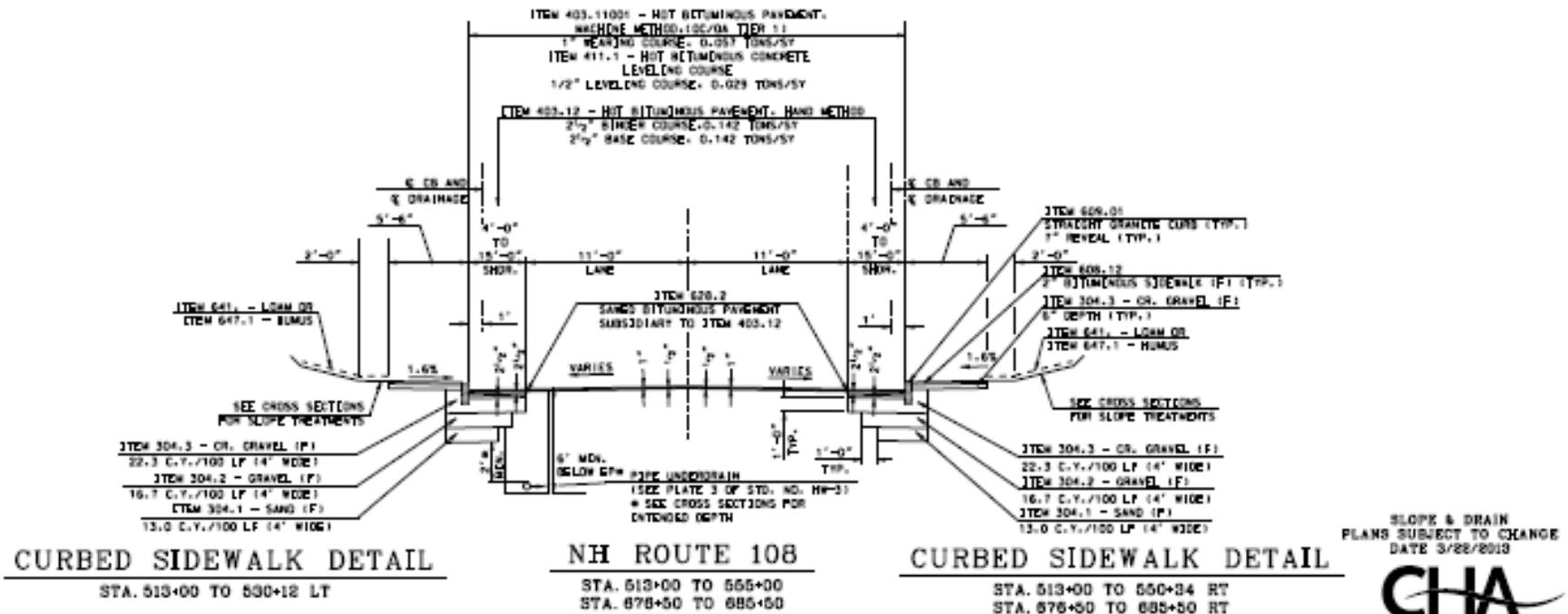


Proposed Improvements (Continued)

- 13080B Roadway Work:
 - 11 foot travel way and 4 foot shoulder
 - Bus Stops
 - Step box widening with pavement overlay
 - Step box widening with pavement reclaim
 - 6" Pavement
 - Formal sidewalks:
 - Bay Road north to the Town Line (left and right)
 - Town Line north to Stagecoach Road (right)
 - Durham Point Road north 900' (right)

Proposed Improvements (Continued)

- The 13080B project:



Environmental Concerns

- Wildlife connectivity
 - Threatened and endangered species of Turtles (Blanding's Turtle and Spotted Turtle)
- Historic properties/districts
- Stone walls
 - Reconstruct walls impacted by construction
- Wetland impacts
- Shoreland Impacts

Wildlife Connectivity

- The “flats” has the highest turtle mortality rate along this corridor
 - Approximately Station 572+00 – 617+50
- Larger pipes were requested by NHF&G
- New pipe locations, for wildlife, were determined by NHF&G biologists
- Open channels - with natural bottom
 - Two existing embedded box culverts will remain
 - Additional box culverts were discussed, however were determined to be beyond the project scope

Environmental Review

- Cultural Resources
 - Historic properties
 - Archeology
- Natural Resources
 - Wetland permits



Wetland Impacts

- Wetland Impacts
 - Temporary = 18,637 SF
 - Permanent = 44,998 SF
 - Total = 63,635 SF
- Mitigation
 - ARM Fund Payment would have been \$139,996.25, however a mitigation package that also consisted of onsite improvements was requested by the Natural Resource Agencies

Wetland Impacts Minimized

- No slope rounding in wetland areas
- Used guardrail with 2:1 slopes
- No additional wetlands will be replaced or created as a part of this project
 - Large drainage easement at Station 517+00
 - Consideration of BMPs

Approved Mitigation Package

- Culvert Upgrades
 - Larger or dual culverts to increase wildlife mobility
- Corridor & turtle sustainability improvements
 - Minimize tree clearing
 - Eradicate Japanese Knotweed along the corridor
 - Roughen roadway side slopes in the “flats” to deter turtle nesting
- ARM Fund payment of \$105,000

Culvert Upgrades

(cross pipes Station 572+00 to 617+50)

Based off of Slope and Drain Plans dated 02/01/13

Number	Drain Note	Station	Existing Structure	Proposed Structure	Proposed Pipe Length (FT)	Comment
1	B11	573+00	15" rcp	24" RCP, 2000D	56.9	Replace with a larger pipe
2	Ellison Brook	577+25	5' x 4' box culvert	No Work		Ellison Brook, No work
3	B15	581+00	15" rcp	18" RCP, 2000D	64.4	Replaces BR3 (580+90)
4	B18	587+00	24" rcp	30" RCP, 3000D	55	Replaces BR4 (587+24)
	B19	587+02	-	30" RCP, 3000D	55	New dual culvert
5	B22	593+25	18" rcp	36" RCP, 3000D	80.7	Replaces BR6 (592+92)
	B23	593+17	-	36" RCP, 3000D	80.7	New dual culvert
6	B24	599+00	-	15" RCP, 2000D	30.9	New cross culvert
7	B26	609+00	-	36" RCP, 3000D	52.5	New cross culvert
8	Beaudette Brook	609+75	4' x 5' box culvert	No Work		Beaudette Brook, No work
9	B31	611+00	-	15" RCP, 2000D	84.6	New cross culvert
10	B34	614+75	15" rcp	30" RCP, 3000D	8.8	Replaces BR7 (614+50)
11	B36	617+50	-	18" RCP, 3000D	30	New cross culvert

Storm Water Runoff

- During Construction
 - The Contractor will be responsible to provide a Storm Water Pollution Prevention Plan
 - Requires regular monitoring
 - Requires and the installation of appropriate BMPs (silt fence, compost socks, etc.)
- Post Construction
 - Stone aprons on drainage pipes
 - Catch basins sumps
 - No formal BMPs

Watershed Connectivity

- Project is within of two watersheds
 - Lamprey River (west side of NH Route 108)
 - Oyster River (east side of NH Route 108)
- Existing - Two watersheds co-mingle
 - Through cross culverts on a daily basis
 - On low frequency storms (i.e. the 10 year storm)
- Proposed – Two watersheds co-mingle
 - Through larger cross culverts on a daily basis
 - On low frequency storms (i.e. the 25 year storm)

Thank You!

<http://www.nh.gov/dot/projects/specifics.htm>