Crystal Lake Road Bridge





Public Information Meeting Town of Gilmanton, New Hampshire November 6, 2017



Introductions

- > Project Team:
 - Sean T. James, P.E. Project Manager, Vice President
 - Josif Bicja, P.E. Senior Structural Engineer
 - Audrey G. Beaulac, P.E. Senior Transportation Engineer
 - Nichole E. Davis Public Outreach
- > Funding:
 - NHDOT 80% of Project Costs
 - Town 20% of Project Costs





Presentation Outline

- Public Outreach
- > Project Goals
- > Project Discussion
- > Project Summary
- > Questions





Public Outreach

- Local Concerns Meeting on August 7, 2017
 - Maintenance of Traffic/Short Duration Closure
 - Longer Bridge Span
 - Maintain or Slightly Increase Vertical Clearance Above the Water Level
 - Flooding on Upstream Properties
 - Investigate Increase in Lane Widths/Traffic Calming
 - Provide Fishing/Viewing Platform
 - Wildlife Passage Through Bridge Opening





Project Goals

- Replace Bridge with New Low-Maintenance Structure
 - Minimum 75-Year Design Service Life
 - Provide Adequate Freeboard at Design Flood Events
- Minimize Construction Duration and Road Closure
- > Minimize Project Costs
- Minimize Environmental and Wildlife Impacts
- Meet NHDOT Criteria as Much as Practicable
 - 1' Freeboard at 50-Year Design Flood Event
 - 24' minimum wide Travelway (face of rail to face of rail)
 - HL-93 Design Load (36 tons)





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- Built in 1929
- > 10' Clear Span
- > 19'-6" Travelway
- Concrete Rigid Frame
- Heavy Spalls/Exposed Rebar









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Stone Walls (Crystal Lake Side) – Poor Condition







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Stone Slopes (Nelson Brook Side) – Poor Condition









- > Proposed Bridge Opening
 - 30' Clear Span
 - Provides Approx. 7" of Freeboard above 50-Year Flood Event
 - Existing Vertical Clearance Below Water Level Maintained





Coordination to Date with Resource Agencies

- NHDES
 - Mitigation Required Due to Wetland Impacts
 - Wetland Restoration/Creation
 - In-Lieu Payment to Aquatic Resource Mitigation (ARM) Fund
- NH Fish & Game Department
 - Wood Turtles
 - Loons
 - Bridle Shiner
 - Preferred Construction from September to December









Existing Bridge Elevation

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> Roadway Option 1

- Maintain 19'-6" Travelway
- Remove Existing Stone Walls
- Construct New Walls
- New Walls Cost \$380,000
- Impacts to Water Resources
- Mitigation Required







Roadway Option 2

- Maintain 19'-6" Travelway
- Remove Existing Stone Walls
- Construct Steep Riprap Slopes
- Riprap Slopes Cost \$70,000
- Impacts to Water Resources
- Mitigation Required







> Roadway Option 3

- Widen to 24'-0" Minimum Travelway
- Remove Top Portions of Existing Stone Walls
- Construct New Walls
- New Walls Cost \$390,000
- Impacts to Water Resources
- Mitigation Required



Assočiates, Inc.



> Roadway Option 4

- Widen to 24'-0" Minimum Travelway
- Remove Top Portions of Existing Stone Walls
- Construct Steep Riprap
 Slopes
- Riprap Slopes Cost \$80,000
- Impacts to Water Resources
- Mitigation Required



Assočiates, Inc.



> Roadway Option 4









Sample Deck Beam Superstructure





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- > Fishing/Viewing Platform
 - Southwest Quadrant





Hoyle, Tanner Associates, Inc.

- > Project Schedule
 - Preliminary Design & Permitting 2018
 - Final Design 2019
 - Bid January 2020
 - Construction 2020





- Construction Schedule
 - 60 to 75-day Full Closure
 - Ideal During Lake Drawdown
 - Monday Friday 7:00 am to 7:00 pm





Project Summary

- Local Concerns Meeting on August 7, 2017
 - Maintenance of Traffic/Short Duration Closure 60 to 75 days
 - Longer Bridge Span Proposed 30' Span
 - Maintain or Slightly Increase Vertical Clearance Above the Water Level Maintaining Existing Vertical Clearance
 - Flooding on Upstream Properties Increased Span Reduces Likelihood of Upstream Flooding
 - Investigate Increase in Lane Widths/Traffic Calming Proposing 24' Wide Travelway
 - Provide Fishing/Viewing Platform Southwest Quadrant
 - Wildlife Passage Through Bridge Opening Coordinating with NH Fish & Game





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Thank you for your Attention

Any Questions?



