



Blue Hill Falls Bridge #5038
WIN 17712.00

Falls Bridge Advisory Committee

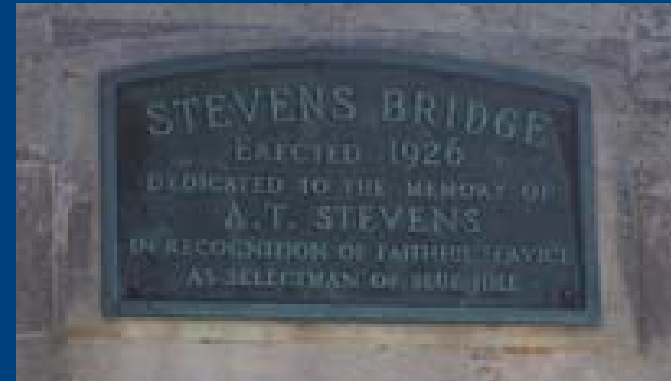
Introductions
Ground Rules
Binders



Falls Bridge Advisory Committee

Background

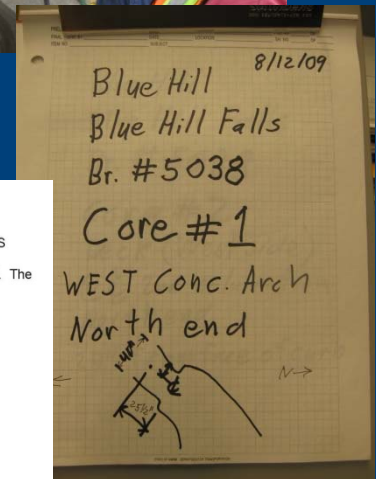
- Bridge Inspection Reports
- MDOT Work Plan (2010/2011)
- Detailed Investigations



Falls Bridge Advisory Committee

Background

- Bridge Inspection Reports
- MDOT Work Plan (2010/2011)
- Detailed Investigations
 - Concrete cores taken for strength analysis - 2009



CONCRETE STRENGTH

SUMMARY OF MAINEDOT CONCRETE COMPRESSION TEST RESULTS

MaineDOT gathered and tested the concrete for strength in 2009 and 2010. The results report that the concrete strength as outlined below.

Element	Governing Stress	Compressive Strength (psi) ¹	% Capacity HS20 Load ²	
Arch End Connection	C		30	*
Tie Girder	T		103	*
Arch Rib	C	6523-6936	38	*
Hangers	T	4714	87	*
Deck	C	5529-7958	-	
Floor Beams	T	5383-6700	145	**
S. Abutment Cap	C		-	
N Abutment Cap	C	6740	-	

1. A minimum of 4350psi required for new designs
 2. Preliminary Results based on hand computations, refined finite element model required. *Modified LRFD with HS20. **Inverse LFD Inv. Rating

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 - Geotechnical investigation - 2010



Tidal water penetrating through Northwest wing wall near High tide

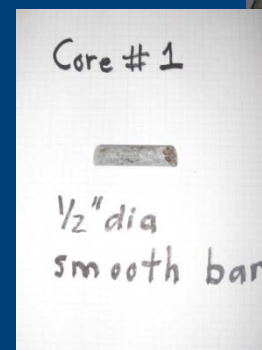


Approach fill between foundation abutments

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 - Geotechnical investigation - 2010
 - Petrographic examination of concrete - 2011



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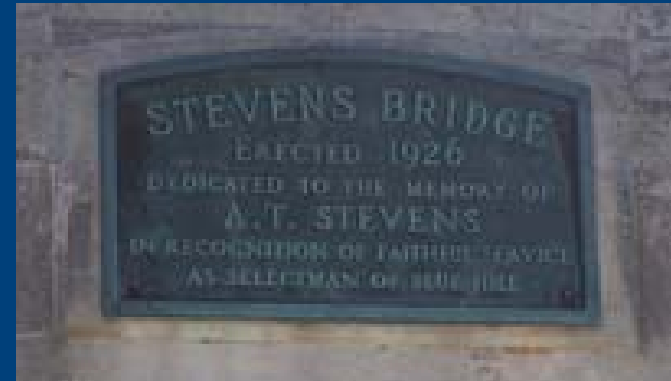
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 - Petrographic examination of concrete - 2011
 - Phase I Archaeological Investigation - 2015
 - Phase II Archaeological Investigation - 2016



Falls Bridge Advisory Committee

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- Bridge Inspection Reports
- MDOT Work Plan (2010/2011)
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 - Petrographic examination of concrete - 2011
 - Phase I Archaeological Investigation - 2015
 - Phase II Archaeological Investigation - 2016
- Public Process
 - September 7, 2010
 - August 5, 2015
 - November 6, 2015
- Mixed Response
- Reboot the Process
- Form Advisory Committee



Falls Bridge Advisory Committee

Advisory Committee Intent

- Identify all of the project constraints
- Identify community problems & needs at the site
- Understand the National Environmental Policy Act decision making process to help analyze project constraints considered during preliminary design such as historic, archaeological, environmental, design & budget and relay this information to the community outside of formal MDOT meetings as acting liaisons
- Challenge the design team to thoroughly vet all reasonable options
- Support the Department in creation of an alternative design matrix
- Support the broader public meeting process
- Continue advisory process through preliminary & final design

Falls Bridge Advisory Committee

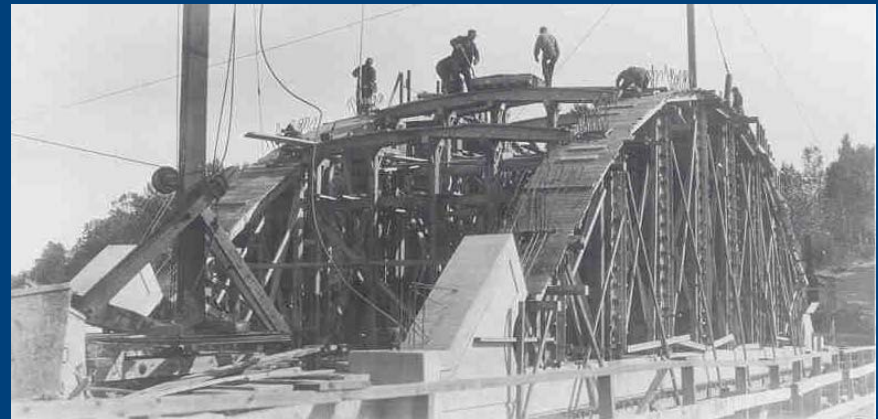
Guidelines

- Group Interaction
- Problems, Need & Vision Statement
 - Site Context Evaluation
 - Achieve Group Consensus for the Community
 - Provide a Written Statement for public use
- MDOT Purpose & Need Statement
 - Identify the need by identifying the existing transportation deficiencies
 - Identify the purpose by identifying the transportation facility performance upon project completion

Falls Bridge Advisory Committee

Public Involvement Plan

- Define the Committee's Role
- Identify how information will be relayed to the Community
 - Meeting agendas, minutes & presentations posted to Town of Blue Hill website: www.townofbluehillmaine.org
 - Meetings are open to the public & media



Falls Bridge Advisory Committee

Public Involvement Plan

- Define the Committee's Role
- Identify how information will be relayed to the Community
 - Meeting agendas, minutes & presentations posted to Town of Blue Hill website: www.townofbluehillmaine.org
 - Meetings are open to the public & media
- Provide a means of connectivity for the Community
 - Post a listing of committee member names
 - Provide link on Town of Blue Hill website for public to send comments



Falls Bridge Advisory Committee

Typical Meeting Agenda Outline

- Attendance
- Old Business
- New Business
- Topic Presentation
- Topic Discussion
- Review Environmental, Design & Construction Impacts
- Update Design Matrix
- Public comment

Falls Bridge Advisory Committee

Meeting Schedule

- Determine Time & Dates for Future Meetings
 - Select a recurring day of the week

APRIL

M	T	W	T	F	S	S
					1	2
3	4	5	6	7	8	9
10	11	12	13 ¹	14	15	16
17	18	19	20	21	22	23
24 ²	25	26	27	28	29	30

MAY

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12 ³	13	14
15	16	17	18	19	20	21
22	23	24	25	26 ⁴	27	28
29	30	31				

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Meeting Schedule

- Determine Time & Dates for Future Meetings
 - Select a recurring day of the week
- Start Time
- Duration
 - Two Hours
- Strategize for future public meetings



Falls Bridge Advisory Committee

Topics to be presented

- Site Visit with Context Evaluation Activity
- Archaeological Significance
- Architectural Significance
- Environmental & Cultural Resources
- Site Safety & Traffic Control
- Existing Conditions
- Finalize Problems, Need & Vision Statement
- Bridge Rehabilitation
- Bridge Replacement
- Alternative Concepts & Constructability

Falls Bridge Advisory Committee

Maine's Freedom of Access Act

- Definition of Public Record:

“Any written, printed or graphic matter or any mechanical or electronic data compilation from which information can be obtained, directly or after translation into a form susceptible of visual or aural comprehension, that is in the possession or custody of an agency or public official of this State or any of its political subdivisions, or is in the possession or custody of an association, the membership of which is composed exclusively of one or more of any of these entities, and has been received or prepared for use in connection with the transaction of public or governmental business or contains information relating to the transaction of public or governmental business.”

Falls Bridge Advisory Committee

Maine's Freedom of Access Act

What can be requested by the public:

- Printed material originating from or provided to a State employee and its subcontractors
 - Letters, meeting agendas & minutes, e-mail correspondence

What can't be requested by the public:

- Printed material between private individuals
 - E-mails between committee members

Copy of Maine's Freedom of Access Act in binder

Additional Information: www.maine.gov/foaa

Falls Bridge Advisory Committee

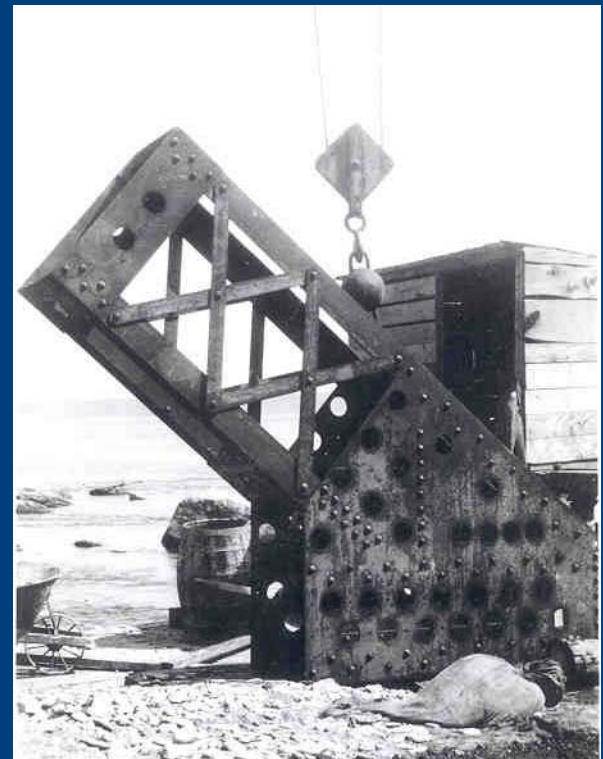
National Environmental Policy Act (NEPA)

- Signed into law January 1st, 1970
- Requires Federal Agencies to assess environmental effects of their proposed actions prior to making decisions:
 - Permit applications
 - Adopting federal land management actions
 - Constructing highways and other publicly owned facilities
- Agencies evaluate environmental and related social and economic affects of their proposed actions.
- Provide opportunities for public review and comment on those evaluations.

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National Historic Preservation Act

- Established by Congress in 1966
- “Preserve the historical and cultural foundations of the nation as a living part of community life.”
- Section 106 of the NHPA requires Federal Agencies to consider the effects of projects they carry out, approve, or fund on historic properties.



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National Historic Preservation Act

- Nationally Registered Eligible Historic District
 - Falls Bridge
 - One of two remaining tied arches in the state
 - Possibly oldest of its kind in the nation
 - National Historic Registered Property Eligible
 - Arcady
 - NHRP Eligible
 - Wakonda
 - NHRP Eligible



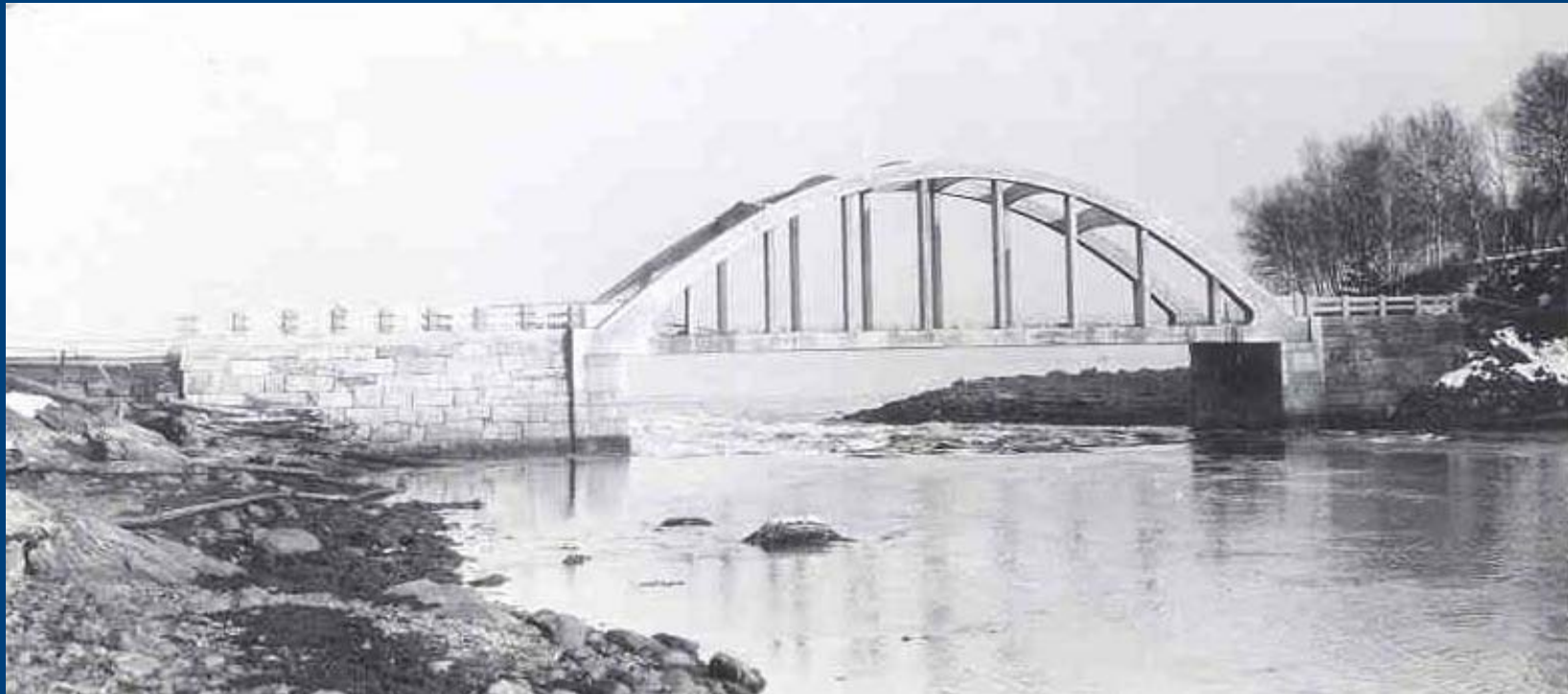
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National Historic Preservation Act

- Federal Agencies must provide an opportunity for comment on such projects
 - Consulting Party Process
 - Determine how historic properties might be affected
 - Explore measures to avoid or reduce harm to historic properties
- Section 106 review may encourage, but does not mandate, preservation
- A Citizen's Guide to Section 106 Review in binder
- For more information: www.achp.gov/citizensguide.html

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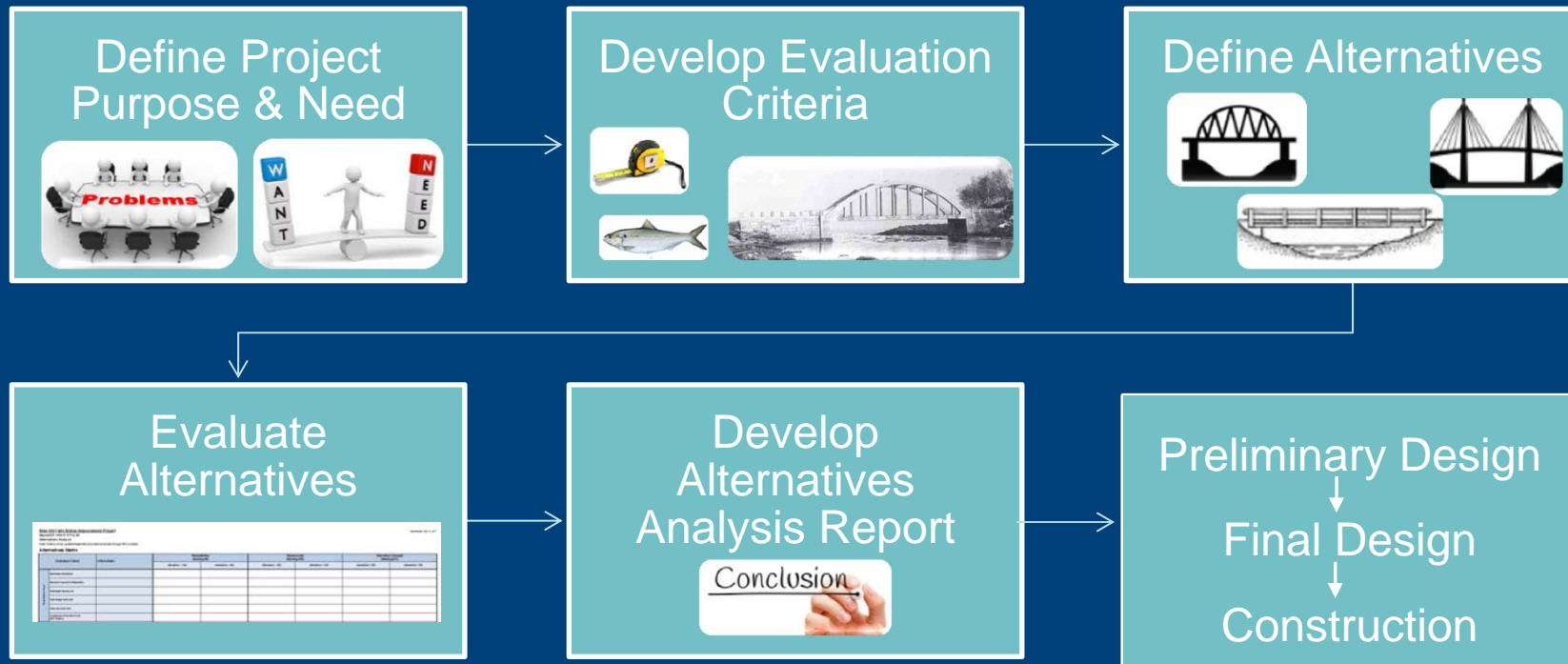
Alternatives Analysis & Design Matrix



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What is an Alternatives Analysis?

The process of evaluating and comparing project alternatives against a series of evaluation criteria to determine the most practicable solution.



Falls Bridge Advisory Committee

Role of Design Consultant

- Evaluate load capacity of existing bridge.
- Develop bridge and roadway concepts based on input from the Bridge Advisory Committee.
- Complete conceptual engineering evaluations for identified alternatives to assess feasibility.
- Assist the Department with gathering bridge related technical information.



Falls Bridge Advisory Committee

Project Alternatives Matrix

- Tool to assist in evaluating alternatives against established evaluation criteria. Aides in identifying a single preferred alternate for construction.
- Two Types of Criteria:
 1. Quantitative Criteria: Defined and compared with tangible quantities (e.g., roadway width, project life cycle cost, etc.)
 2. Qualitative Criteria: Defined and compared with level of desirability (e.g., aesthetic value)
- Matrix will be updated based on each Bridge Advisory Committee meeting.

Falls Bridge Advisory Committee

Initial Project Alternatives Matrix

Blue Hill Falls Bridge Improvement Project

MaineDOT WIN # 17712.00

Alternatives Analysis

Note: Criteria will be updated/expanded as project advances through BAC process.

L&S Released Apr 12, 2017

Alternatives Matrix

Evaluation Criteria	Criteria Notes	Rehabilitation (Meeting #9)		Replacement (Meeting #10)		Alternative Concepts (Meeting #11)	
		Alternative 1 - TBD	Alternative 2 - TBD	Alternative 3 - TBD	Alternative 4 - TBD	Alternative 5 - TBD	Alternative 6 - TBD
Description & Cost	Alternative Description						
	Structure Type and Configuration						
	Anticipated Service Life						
	Total Bridge Deck Area						
	Total Life Cycle Cost						
	Conceptual Construction Cost (2017 Dollars)						
Site Specific Problems & Needs (Meeting #9)	Site Specific Problem #1 - TBD						
	Site Specific Problem #2 - TBD						
	Community Need #1 - TBD						
	Community Need #2 - TBD						
Archaeological Resources (Meeting #9)	Northwest Quadrant						
	Southwest Quadrant						
	Southwest Quadrant						
	Southwest Quadrant						
Archaeology (Meeting #9)	Archaic Residence						
	Wahonda Residence						
	Existing Bridge						
	Historic District						
Environmental Resources (Meeting #9)	Marine Mammals						
	Fish						
	Bats & Birds						
	Commercial Activities						
	Recreational Activities						

Color Code Legend: More Desirable → Less Desirable

Falls Bridge Advisory Committee

Initial Project Alternatives Matrix

Blue Hill Falls Bridge Improvement Project
 MaineDOT WIN # 17712.00
 Alternatives Analysis
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L&S Released April 12, 2017

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Description & Cost	Alternative Description						
	Structure Type and Configuration						
	Anticipated Service Life						
	Total Bridge Deck Area						
	Total Life Cycle Cost						
	Conceptual Construction Cost (2017 Dollars)						
Site-Specific Problems & Needs (Meeting #8)	Site-Specific Problem #1 - TBD						
	Site-Specific Problem #2 - TBD						
	Community Need #1 - TBD						
	Community Need #2 - TBD						
Archaeological Resources (Meeting #9)	Northwest Quadrant						
	Southwest Quadrant						
	Southwest Quadrant						
	Southwest Quadrant						
Archaeology (Meeting #9)	Archaic Residence						
	Wahonda Residence						
	Existing Bridge						
	Historic District						
Biological Resources (Meeting #9)	Marine Mammals						
	Fish						
	Bats & Birds						
	Commercial Activities						
	Recreational Activities						

Rows are Evaluation Criteria

Color Code Legend: More Desirable → Less Desirable

Falls Bridge Advisory Committee

Initial Project Alternatives Matrix

Blue Hill Falls Bridge Improvement Project
 MaineDOT WIN # 17712.00
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L&S Revised: Apr 12, 2017

Alternatives Matrix

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Description & Cost	Alternative Description						
	Structure Type and Configuration						
	Anticipated Service Life						
	Total Bridge Deck Area						
	Total Life Cycle Cost						
	Conceptual Construction Cost (2017 Dollars)						
Site Specific Problems & Needs (Meeting #9)	Site Specific Problem #1 - TBD						
	Site Specific Problem #2 - TBD						
	Community Need #1 - TBD						
	Community Need #2 - TBD						
Accessibility (Meeting #9)	Northwest Quadrant						
	Southwest Quadrant						
	Southwest Quadrant						
	Southwest Quadrant						
Architectural (Meeting #9)	Archaic Residence						
	Wahonda Residence						
	Existing Bridge						
	Historic District						
Environmental (Meeting #9)	Marine Mammals						
	Fish						
	Bats & Birds						
	Commercial Activities						
	Recreational Activities						

Columns are Bridge Options

Color Code Legend: More Desirable → Less Desirable

Falls Bridge Advisory Committee

Initial Project Alternatives Matrix

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L&S Released Apr 12, 2017

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Description & Cost	Alternative Description				(Meeting #10)		
	Structure Type and Configuration						
	Anticipated Service Life						
	Total Bridge Deck Area						
	Total Life Cycle Cost						
	Conceptual Construction Cost (2017 Dollars)						
Issues	Site Specific Problem #1 - TBD						
	Site Specific Problem #2 - TBD						
	Community Need #1 - TBD						
	Community Need #2 - TBD						
Archaeology (Meeting #8)	Northwest Quadrant						
	Southwest Quadrant						
	Southwest Quadrant						
	Southwest Quadrant						
Archaeology (Meeting #9)	Archaic Residence						
	Wahonda Residence						
	Existing Bridge						
	Historic District						
Environmental (Meeting #10)	Marine Mammals						
	Fish						
	Bats & Birds						
	Commercial Activities						
	Recreational Activities						

Color Code Legend: More Desirable → Less Desirable

Each aspect addressed at a Bridge Advisory Committee Meeting

Falls Bridge Advisory Committee

Initial Project Alternatives Matrix

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L&S Released April 12, 2017

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Site Specific Concerns & Needs (Meeting #8)	Site Specific Problem #1 - TBD						
	Site Specific Problem #2 - TBD						
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	Community Need #2 - TBD						
Archaeological (Meeting #9)	Northwest Quadrant						
	Southwest Quadrant						
	Southeast Quadrant						
Archaeology (Meeting #9)	Archaic Residence						
	Wahonda Residence						
	Existing Bridge						
	Historic District						
	Marine Resources						
Environmental/Cultural Resources (Meeting #9)	Fish						
	Bats & Birds						
	Commercial Activities						
	Recreational Activities						

Evaluations of each criteria will be completed by the Design Team and the results will be reported as old business at the next Bridge Advisory Committee Meeting.

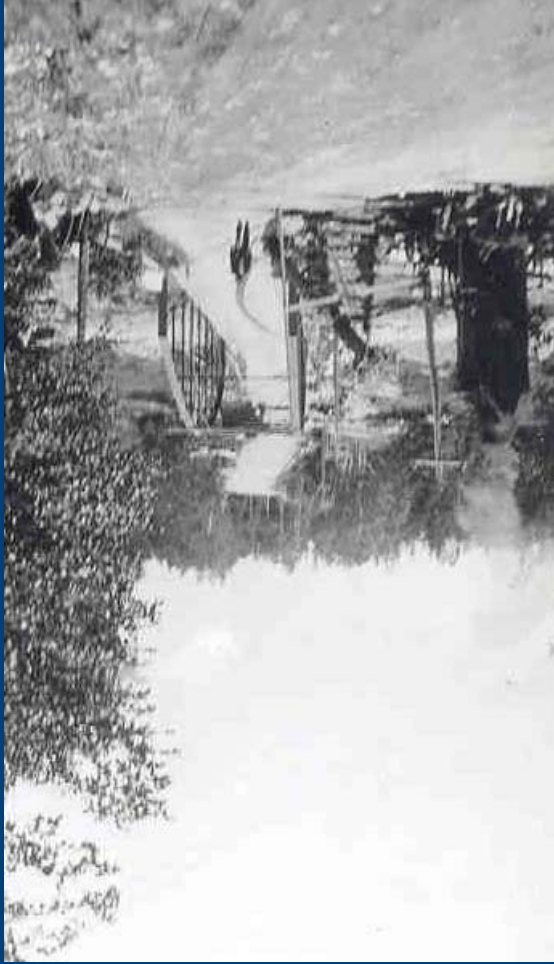
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Falls Bridge Advisory Committee

The Village Bridge





Falls Bridge Advisory Committee

Questions?