

Falls Bridge Renewal Project

Public Information Session – August 29th, 2018

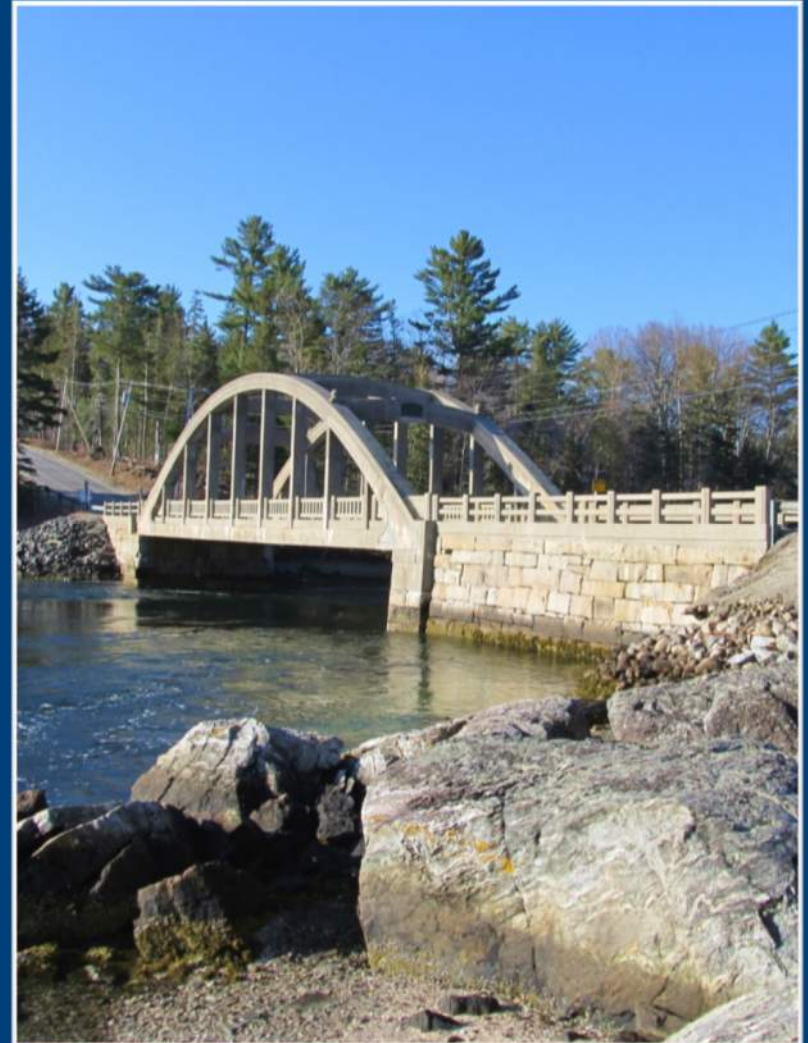


Integrity - Competence - Service



Meeting Intent

- Update public on project activity since the last public meeting
- State the goals of the Bridge Advisory Committee (BAC)
- Identify the rehabilitation, replacement, and alternate alignment options being considered
- Provide an opportunity for the public to ask questions and give comments regarding the alternatives and their potential impacts prior to selection of a preferred alternative



Project Update

What's happened since the August 8, 2017 public meeting?

- Ten meetings with the Bridge Advisory Committee
- Multiple workshop meetings between MaineDOT and design engineers
- A wide range of topics have been explored, including:
 - Project Purpose & Need
 - Environmental Constraints and Federal Process
 - Archeological and Architectural Constraints
 - Existing Bridge Conditions
 - Bridge Rehabilitation Options
 - Bridge Replacement Options
 - Constructing a Bypass Road to avoid Falls Bridge (Alternative Alignment)
 - Maintenance of Traffic

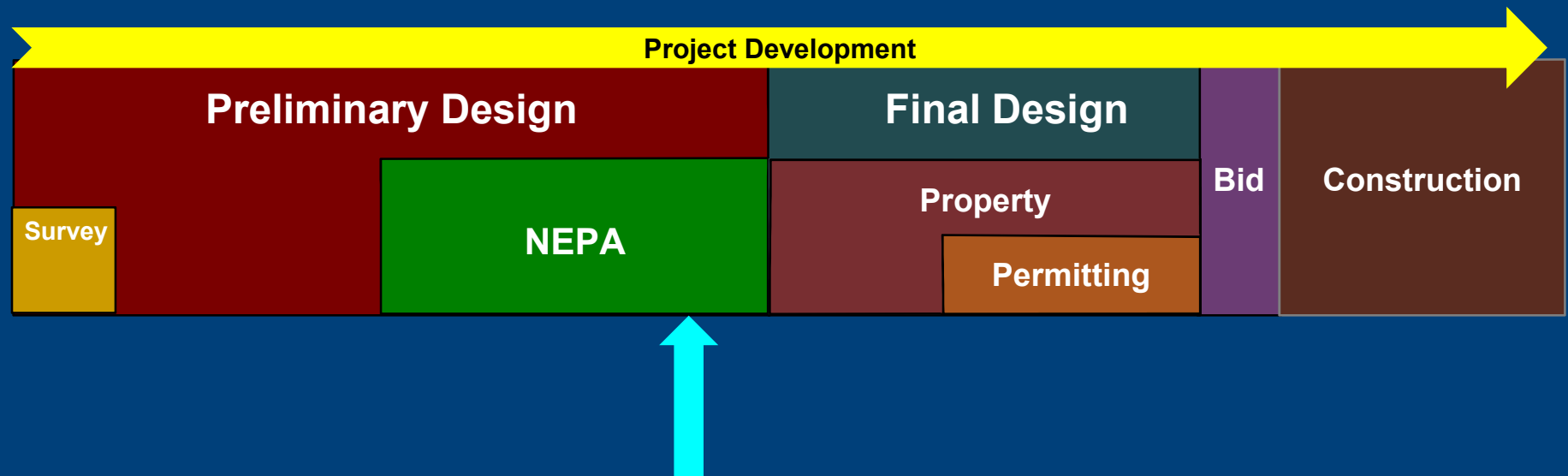
Bridge Advisory Committee

Bridge Advisory Committee Goals

- Identify project constraints
- Identify community problems & needs at the site
- Understand the National Environmental Policy Act (NEPA) decision-making process and assist in communicating this process to the community
- Challenge the design team to thoroughly vet all reasonable options
- Advise the Department in creation of an alternative design matrix
- Support the broader public outreach process
- Continue advisory process through preliminary & final design

National Environmental Policy Act

- National Environmental Policy Act (NEPA)
 - Requires developing and analyzing a reasonable range of alternatives:
 - Analyze environmental effects
 - Effects include natural, social, economic
 - Mitigate for adverse effects
 - Avoidance, Minimization, and Compensation
 - Complete Public Involvement & Interagency Coordination
 - Informed decisions that solve transportation problems
 - Document outcomes

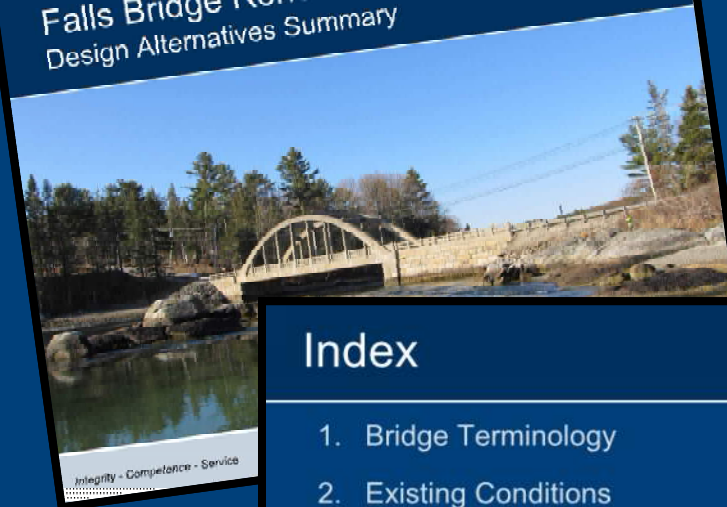


NEPA Umbrella

- Executive Order 12898 (Environmental Justice)
- Section 4(f) of USDOT Act
- Section 106 of National Historic Preservation Act
- Farmland Protection Policy Act
- Executive Order 11990 (Protection of Wetlands)
- Executive Order 11988 (Floodplain Management)
- Coastal Zone Management Act
- Fish and Wildlife Coordination Act
- Section 7 of the Endangered Species Act
- Clean Air Act
- Section 6(f) of the Land and Water Conservation Fund Act
- Noise (23 CFR 772)
- Marine Mammal Protection Act
- Magnuson-Stevens Fishery Conservation and Management Act
- Migratory Bird Treaty Act
- Clean Water Act



Falls Bridge Renewal Project Design Alternatives Summary



1. Bridge Terminology
2. Existing Conditions
3. Rehabilitation Alternatives
 - Alternative Concepts
 - Construction Schedule
4. Replacement Alternatives
 - Alternative Concepts
 - Construction Schedule
5. Alternate Route
6. Temporary Bridge



The image displays a large, tilted, and partially obscured table titled "Evaluation Criteria (Land Appropriately)". The table is a complex matrix with multiple columns and rows, containing various criteria and their corresponding values or impacts. The table is tilted at an angle, making the text difficult to read. A small inset image in the bottom left corner shows a bridge structure over water.

Table Title: Evaluation Criteria (Land Appropriately)

Columns (Criteria):

- Superstructure
- Substructure
- Combined Roadway & Sidewalk
- Anticipated Service Life
- Tree Clearing at Falls Bridge Alignment
- View FROM the Falls Bridge
- View OF the Falls Bridge
- Aesthetics of the alignment
- Local Interest/Comment
- Artificial Road Ownership
- Long-term Road Financial Challenge
- Long-term Bridge Financial Challenge
- Detour Impact to Motorists
- Fire/Rescue
- Proximity
- Flowing/Road Maintenance
- Tourism/Local Businesses
- Local Interest/Comment
- Winter Recreational/Access
- Blue/Ped Accommodations
- Relocation Access

Rows (Options/Impacts):

- Without Sidewalk
- With Sidewalk
- Conventional Construction
- Accelerated Bridge Construction
- Alternative Alignment (Route 172 w/ New Rd.)
- Temporary Bridge

Table Content (Approximate Values/Impacts):

- Superstructure:** Concrete Tied Arch, Existing Blacked Granite, Existing Blacked Granite, Existing Blacked Granite, Existing Blacked Granite, Existing Blacked Granite
- Substructure:** Concrete Tied Arch, Existing Blacked Granite, Existing Blacked Granite, Existing Blacked Granite, Existing Blacked Granite, Existing Blacked Granite
- Combined Roadway & Sidewalk:** Existing Blacked Granite, Existing Blacked Granite, Existing Blacked Granite, Existing Blacked Granite, Existing Blacked Granite, Existing Blacked Granite
- Anticipated Service Life:** 20-4, 20-4, 20-4, 20-4, 20-4, 20-4
- Tree Clearing at Falls Bridge Alignment:** 50 years, 50 years, 50 years, 50 years, 50 years, 50 years
- View FROM the Falls Bridge:** 90 Ft / 23,000 SqFt, 90 Ft / 23,000 SqFt, 90 Ft / 23,000 SqFt, 90 Ft / 23,000 SqFt, 90 Ft / 23,000 SqFt, 90 Ft / 23,000 SqFt
- View OF the Falls Bridge:** N/A, N/A, N/A, N/A, N/A, N/A
- Aesthetics of the alignment:** No Change, No Change, No Change, No Change, No Change, No Change
- Local Interest/Comment:** N/A, N/A, N/A, N/A, N/A, N/A
- Artificial Road Ownership:** N/A, N/A, N/A, N/A, N/A, N/A
- Long-term Road Financial Challenge:** N/A, N/A, N/A, N/A, N/A, N/A
- Long-term Bridge Financial Challenge:** N/A, N/A, N/A, N/A, N/A, N/A
- Detour Impact to Motorists:** N/A, N/A, N/A, N/A, N/A, N/A
- Fire/Rescue:** N/A, N/A, N/A, N/A, N/A, N/A
- Proximity:** N/A, N/A, N/A, N/A, N/A, N/A
- Flowing/Road Maintenance:** N/A, N/A, N/A, N/A, N/A, N/A
- Tourism/Local Businesses:** N/A, N/A, N/A, N/A, N/A, N/A
- Local Interest/Comment:** N/A, N/A, N/A, N/A, N/A, N/A
- Winter Recreational/Access:** N/A, N/A, N/A, N/A, N/A, N/A
- Blue/Ped Accommodations:** N/A, N/A, N/A, N/A, N/A, N/A
- Relocation Access:** N/A, N/A, N/A, N/A, N/A, N/A

Summary of Alternatives

The following alternatives were developed as solutions to achieve the project Purpose & Need:

- Options that preserve the Falls Bridge:
 - Bridge rehabilitation & strengthening
 - Bridge rehabilitation & strengthening with an added sidewalk
 - Construction of a new bypass roadway and bridge off-site
- Options that replace the Falls Bridge:
 - Aesthetically enhanced girder and tied arch bridge types considered

Summary of Alternatives

In general the assessment of each alternative followed these steps:

1. Identify project constraints
2. Develop design concepts and general assumptions
3. Complete a conceptual engineering and constructability assessment
4. Present design concept to BAC, refine concept based on feedback
5. Work with BAC to assess each option using evaluation criteria and incorporate assessment results into Design Alternatives Matrix

Design Alternatives Matrix

Tool used to compare and contrast each alternative against a series of evaluation criteria.

The design alternative matrix is arranged such that:

- Each column represents an alternative
- Each row represents an evaluation criteria (e.g. environmental impacts, construction schedule, etc.)
- A copy of the draft matrix is in the handout packet

Evaluation Criteria (Listed Alphabetically)	Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
	Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Dispersure	Concrete Tied Arch	Concrete Tied Arch	Grated/Tied Arch	Grated/Tied Arch	Reinforced Concrete	N/A
Substructure	Existing Stacked Girders ¹	Existing Stacked Girders ¹	Existing Stacked Girders ¹	Existing Stacked Girders ¹	~32'-0"	N/A
Conditioned Roadway & Sidewalk Width	20'-4"	~50' max ²	~30'-0"	~30'-0"	~100' years	N/A
Anticipated Service Life	90 Ft / 23,000 SqFt	90 Ft / 24,000 SqFt	N/A	80 Ft / 24,000 SqFt	~100 years	N/A
Tree Clearing at Falls Bridge	N/A	N/A	Changed	Changed	~100' years	N/A
Tree Clearing at Alternate Alignment	No Change	Slight Change	N/A	N/A	~100' years	N/A
View FROM the Falls Bridge	No Change	N/A	Changed	Changed	~100' years	N/A
View OF the Falls Bridge	N/A	N/A	Changed	Changed	~100' years	N/A
Aesthetics of the alternate alignment route	Strong structural statement to existing Falls Bridge	N/A	N/A	N/A	N/A	N/A
Local Interest/Comment	N/A	N/A	N/A	N/A	N/A	N/A
Additional Road Ownership	N/A	N/A	N/A	N/A	N/A	N/A
Long-term Road Financial Obligation ³	N/A	N/A	N/A	N/A	N/A	N/A
Additional Structure Ownership	N/A	N/A	N/A	N/A	N/A	N/A
Long-term Structure Financial Obligation ³	N/A	N/A	N/A	N/A	N/A	N/A
Detour Impact to Motorists	Greatest Impact	Greatest Impact	Least Impact	Least Impact	Least Impact	N/A
Fire/Rescue	Greatest Impact	Greatest Impact	Least Impact	Least Impact	Least Impact	N/A
Audience	No Change	No Change	No Change	No Change	No Change	N/A
Planning/Road Maintenance	No Change	No Change	No Change	No Change	No Change	N/A
Tourism/Local Businesses	No Change	No Change	No Change	No Change	No Change	N/A
Local Interest/Comment	No Change	No Change	No Change	No Change	No Change	N/A
Water Recreational Access ⁴	Least safe	Safer	Safer	Safer	Safer	N/A
Bike/Ped Accommodations ⁵	Least safe	Safer	Safer	Safer	Safer	N/A
Pedestrian Access ⁶	No increase	More community dollars for required pedestrian bridge	More community dollars for required pedestrian bridge	More community dollars for required pedestrian bridge	More community dollars for required pedestrian bridge	N/A
Parking ⁷	\$3,200,000	\$3,200,000	\$3,200,000	\$3,200,000	\$3,200,000	N/A
Local Interest/Comment	\$3,200,000	\$3,200,000	\$3,200,000	\$3,200,000	\$3,200,000	N/A
User Costs (Construction) ⁸	\$6,100,000	\$15,700,000	\$15,700,000	\$15,700,000	\$15,700,000	N/A
Initial Construction Cost	\$15,500,000	\$15,700,000	\$15,700,000	\$15,700,000	\$15,700,000	N/A
Service Life Cost ⁹	\$15,500,000	\$15,700,000	\$15,700,000	\$15,700,000	\$15,700,000	N/A
Neural Resources (Wildlife / Fish / Birds / Mammals)	Best accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	N/A
Archaeological Resources	Best accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	N/A
Historical Resources	Best accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	N/A
Sea Level Rise ¹⁰	Yes	Yes	Yes	Yes	Yes	N/A
Missions Reversing Falls	Cannot be bridge mounted	Cannot be bridge mounted	Cannot be bridge mounted	Cannot be bridge mounted	Cannot be bridge mounted	N/A
Utilities	4	2,250 SqFt	2,250 SqFt	2,250 SqFt	2,250 SqFt	N/A
Number of Affected Parcels ¹¹	2,250 SqFt	2,250 SqFt	2,250 SqFt	2,250 SqFt	2,250 SqFt	N/A
Permanent Impacts	20,000 SqFt	21,000 SqFt	21,000 SqFt	21,000 SqFt	21,000 SqFt	N/A
Temporary Impacts	Worst Visibility	Better Visibility	Better Visibility	Better Visibility	Better Visibility	N/A
Motorist Visibility	Worst Visibility	Better Visibility	Better Visibility	Better Visibility	Better Visibility	N/A
Pedestrian Visibility	Worst Visibility	Better Visibility	Better Visibility	Better Visibility	Better Visibility	N/A
Roadway Geometrics	18 to 24 months	18 to 24 months	18 to 24 months	18 to 24 months	18 to 24 months	N/A
Construction Duration	18 to 24 months	18 to 24 months	18 to 24 months	18 to 24 months	18 to 24 months	N/A
Duration of Traffic Impact	18 to 24 months	18 to 24 months	18 to 24 months	18 to 24 months	18 to 24 months	N/A
Night Work	18 to 24 months	18 to 24 months	18 to 24 months	18 to 24 months	18 to 24 months	N/A

Design Alternatives Matrix

Tool used to compare and contrast each alternative against a series of evaluation criteria.

The design alternative matrix is arranged such that:

- Each column represents an alternative
- Each row represents an evaluation criteria (e.g. environmental impacts, construction schedule, etc.)
- A copy of the draft matrix is in the handout packet

Matrix

Evaluation Criteria (Listed Alphabetically)	Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
	Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Superstructure	Concrete Tied Arch	Concrete Tied Arch	Girder/Tied Arch	Girder/Tied Arch	Reinforced Concrete	N/A
	Existing Stacked Girders ¹	Existing Stacked Girders ¹	Existing Stacked Girders ²	Existing Stacked Girders ²	~32'-0"	N/A
Substructure	20'-4"	~50' max ⁴	~100 years	~100 years	~100 years	N/A
	~50 years ³	90 Ft / 24,000 Sq Ft	90 Ft / 24,000 Sq Ft	90 Ft / 24,000 Sq Ft	~100 years	N/A
Anticipated Service Life	90 Ft / 23,000 Sq Ft	90 Ft / 24,000 Sq Ft	N/A	Changed	No Change	N/A
Tree Clearing at Falls Bridge	N/A	N/A	Changed	Changed	Changed	N/A
Tree Clearing at Alternate Alignment	No Change	No Change	Changed	N/A	12 miles	N/A
View FROM the Falls Bridge	No Change	Slight Change	N/A	N/A	12 miles	N/A
View OF the Falls Bridge	N/A	N/A	N/A	N/A	12 miles	N/A
Aesthetics of the Alternate Alignment	Strong structural attachment to existing Falls Bridge	Strong structural attachment to existing Falls Bridge	N/A	N/A	Falls Bridge to Causeway Crossing	N/A
Local Interest/Comment	N/A	N/A	N/A	N/A	\$4,000	N/A
Additional Road Ownership	N/A	N/A	N/A	N/A	Minor permanent impact in the future if Falls Bridge closed	Less
Long-term Road Financial Obligation	N/A	N/A	N/A	N/A	Minor permanent impact in the future if Falls Bridge closed	Less
Additional Structure Ownership	N/A	N/A	Least Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	N/A
Long-term Bridge Financial Obligation	N/A	Greatest Impact	Least Impact	Least Impact	Significant increase	N/A
Relative Impact to Motorists	Greatest Impact	Greatest Impact	Least Impact	Least Impact		

Let's begin with a brief discussion of alternatives

Service Life Cost (100 Year Period)	N/A	N/A	N/A	N/A	N/A	N/A
Natural Resources (Wetlands / Fish / Birds / Mammals)	N/A	N/A	N/A	N/A	N/A	N/A
Archaeological Resources	N/A	N/A	N/A	N/A	N/A	N/A
Historical Resources	N/A	N/A	N/A	N/A	N/A	N/A
Sea Level Rise ⁵	N/A	N/A	N/A	N/A	N/A	N/A
Mitigation Reversing Falls	N/A	N/A	N/A	N/A	N/A	N/A
Number of Affected Parcels ⁶	N/A	N/A	N/A	N/A	N/A	N/A
Permanent Impacts	N/A	N/A	N/A	N/A	N/A	N/A
Temporary Impacts	N/A	N/A	N/A	N/A	N/A	N/A
Motorist Visibility	N/A	N/A	N/A	N/A	N/A	N/A
Pedestrian Visibility	N/A	N/A	N/A	N/A	N/A	N/A
Roadway Geometrics	N/A	N/A	N/A	N/A	N/A	N/A
Construction Duration	N/A	N/A	N/A	N/A	N/A	N/A
Duration of Traffic Impact	N/A	N/A	N/A	N/A	N/A	N/A

Notes:
 1. Costs and impacts provided for each Alternative include accommodations for sea level rise.
 2. All costs shown are estimates of a range in \$/ft.
 3. Stacked some abutments will require concrete frame walls to accommodate sea level rise.
 4. This value represents the cost borne by the Town of Blue Hill on an annual basis to maintain the existing Falls Bridge over the 100 year period.
 5. This value represents the cost borne by the Town of Blue Hill on an annual basis to maintain the existing Falls Bridge over the 100 year period.
 6. This value represents the cost borne by the Town of Blue Hill on an annual basis to maintain the existing Falls Bridge over the 100 year period.
 7. This value represents the cost borne by the Town of Blue Hill on an annual basis to maintain the existing Falls Bridge over the 100 year period.
 8. This value represents the cost borne by the Town of Blue Hill on an annual basis to maintain the existing Falls Bridge over the 100 year period.
 9. This value represents the cost borne by the Town of Blue Hill on an annual basis to maintain the existing Falls Bridge over the 100 year period.
 10. User costs are calculated to reflect the operational consequences of traffic flow through the area.
 11. The service life cost for the rehabilitation alternatives and the conventional construction alternative include the additional cost for a temporary bridge.

Color Code Legend:
 More Desirable
 Less Desirable

Design Alternatives Matrix

Evaluation Criteria (Listed Alphabetically)		Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Description	Superstructure	Concrete Tied Arch	Concrete Tied Arch	Girder/Tied Arch	Girder/Tied Arch	Girder Bridge	N/A
	Substructure	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Reinforced Concrete	N/A
	Combined Roadway & Sidewalk Width	20'-4"	~25'-0"	~30'-0"	~30'-0"	~32'-0"	N/A
	Anticipated Service Life	~50 years ⁴	~50 years ⁴	~100 years	~100 years	~100 years	N/A
Aesthetics	Tree Clearing at Falls Bridge	90 Ft. / 23,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	N/A	Additional 35 Ft. / 6,000 Sq Ft. (125 Ft. / 30,000 Sq Ft. Total)
	Tree Clearing at Alternate Alignment	N/A	N/A	N/A	N/A	+/- 80 Ft. / 500,000 SqFt.	N/A
	View FROM the Falls Bridge	No Change	No Change	Changed	Changed	N/A	N/A
	View OF the Falls Bridge	No Change	Slight Change	Changed	Changed	No Change	N/A
	Aesthetics of the alternate alignment area	N/A	N/A	N/A	N/A	Changed	N/A
	Local Interest/Comment	Strong emotional attachment to existing Falls Bridge	Strong emotional attachment to existing Falls Bridge				Negative aesthetic impact associated with clearing
Community Impacts	Additional Road Ownership	N/A	N/A	N/A	N/A	1.2 miles	N/A
	Longterm Road Financial Obligation ⁷	N/A	N/A	N/A	N/A	\$12,500	N/A
	Additional Structure Ownership	N/A	N/A	N/A	N/A	Falls Bridge and Causeway Cross Culvert	N/A
	Longterm Bridge Financial Obligation ⁸	N/A	N/A	N/A	N/A	\$4,000	N/A
	Detour Impact to Motorists	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Ambulance	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Plowing/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant Increase	N/A
	Tourism/Local Businesses						
	Local Interest/Comment						

Bridge Rehabilitation

Bridge Replacement

Alternate Alignment

Temporary Bridge

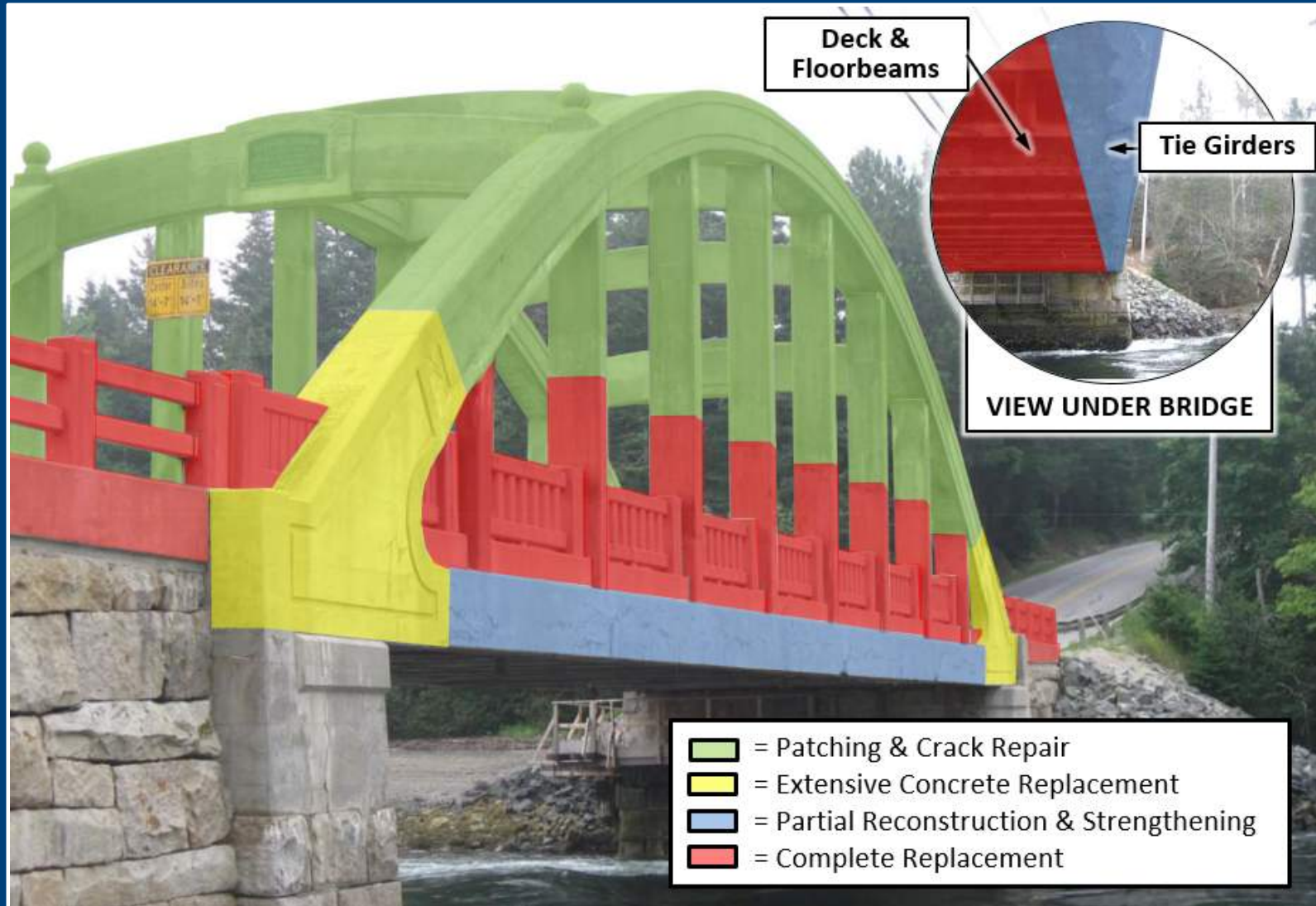
Design Alternatives Matrix

Evaluation Criteria (Listed Alphabetically)		Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Description	Superstructure	Concrete Tied Arch	Concrete Tied Arch	Girder/Tied Arch	Girder/Tied Arch	Girder Bridge	N/A
	Substructure	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Reinforced Concrete	N/A
	Combined Roadway & Sidewalk Width	20'-4"	~25'-0"	~30'-0"	~30'-0"	~32'-0"	N/A
	Anticipated Service Life	~50 years ⁴	~50 years ⁴	~100 years	~100 years	~100 years	N/A
Aesthetics	Tree Clearing at Falls Bridge	90 Ft. / 23,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	N/A	Additional 35 Ft. / 6,000 Sq Ft. (125 Ft. / 30,000 Sq Ft. Total)
	Tree Clearing at Alternate Alignment	N/A	N/A	N/A	N/A	+/- 80 Ft. / 500,000 SqFt.	N/A
	View FROM the Falls Bridge	No Change	No Change	Changed	Changed	N/A	N/A
	View OF the Falls Bridge	No Change	Slight Change	Changed	Changed	No Change	N/A
	Aesthetics of the alternate alignment area	N/A	N/A	N/A	N/A	Changed	N/A
	Local Interest/Comment	Strong emotional attachment to existing Falls Bridge	Strong emotional attachment to existing Falls Bridge				Negative aesthetic impact associated with clearing
Community Impacts	Additional Road Ownership	N/A	N/A	N/A	N/A	1.2 miles	N/A
	Longterm Road Financial Obligation ⁷	N/A	N/A	N/A	N/A	\$12,000	
	Additional Structure Ownership	N/A	N/A	N/A	N/A	Falls Bridge and Causeway Cross Culvert	N/A
	Longterm Bridge Financial Obligation ⁸	N/A	N/A	N/A	N/A	\$4,000	N/A
	Detour Impact to Motorists	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Ambulance	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Plowing/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant Increase	N/A
	Tourism/Local Businesses						
	Local Interest/Comment						

Bridge Rehabilitation

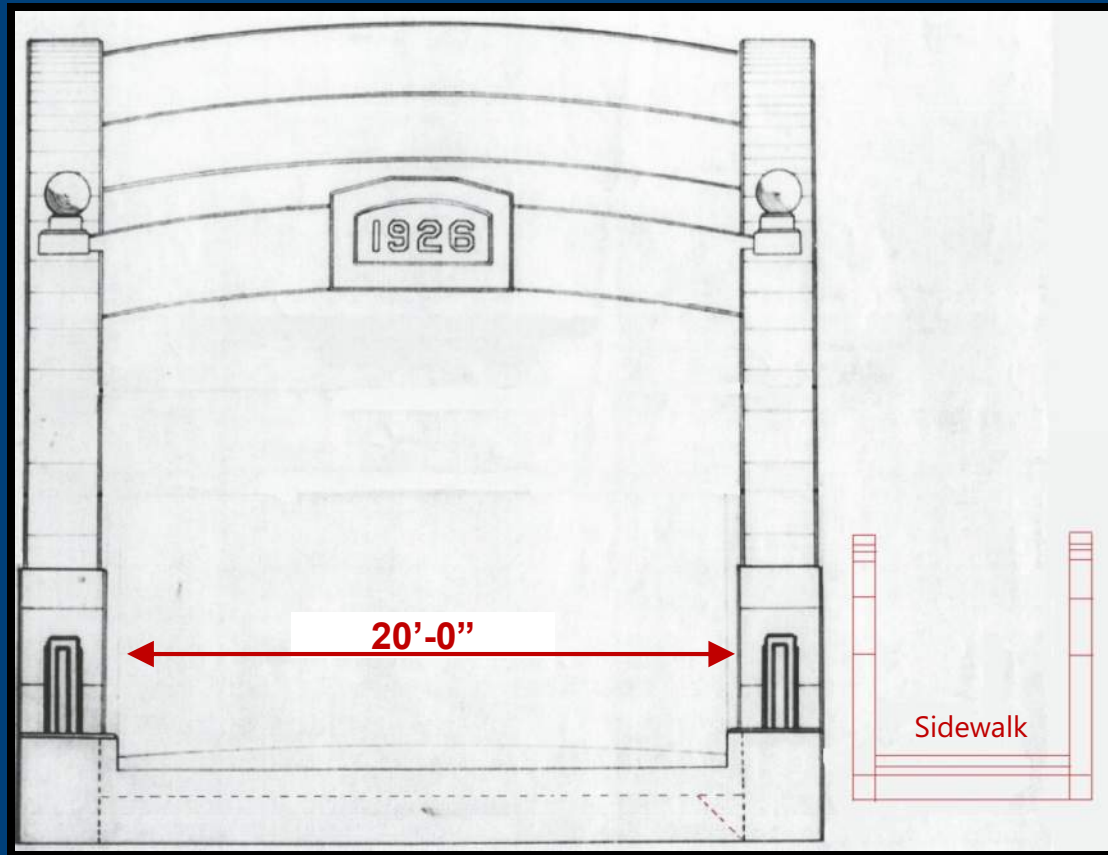
Design Alternatives Matrix - Rehabilitation

Superstructure



Design Alternatives Matrix - Rehabilitation

Superstructure – Maintain Existing Roadway



Design Alternatives Matrix - Rehabilitation

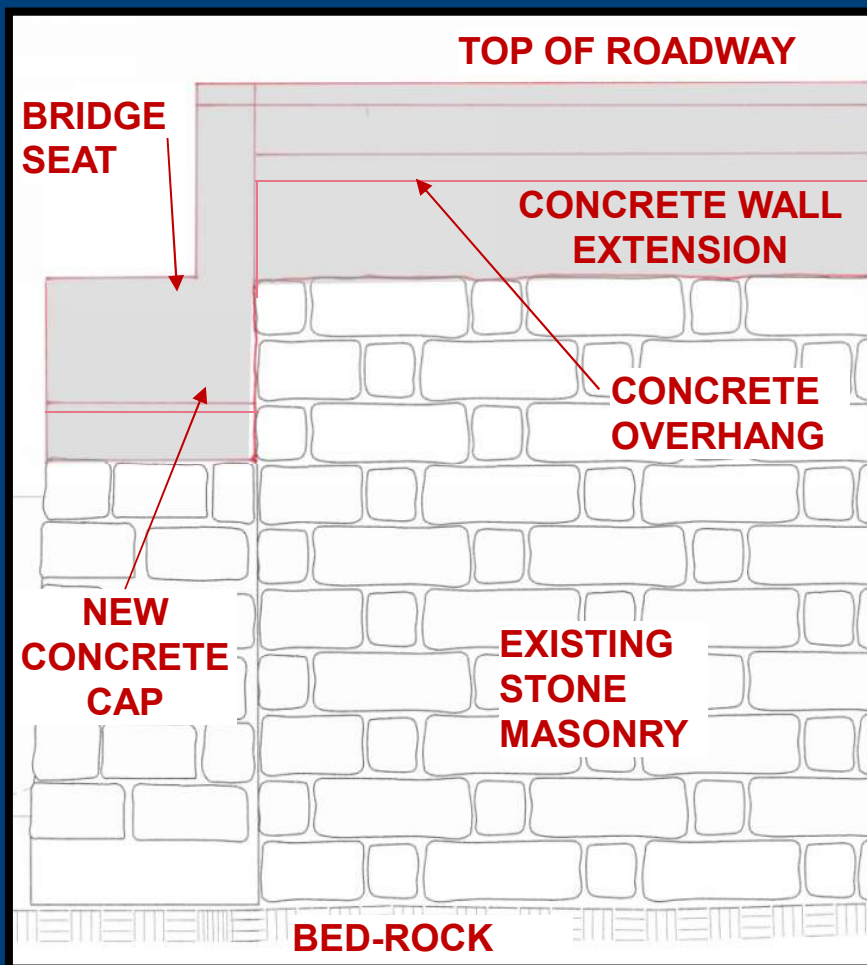
Substructure



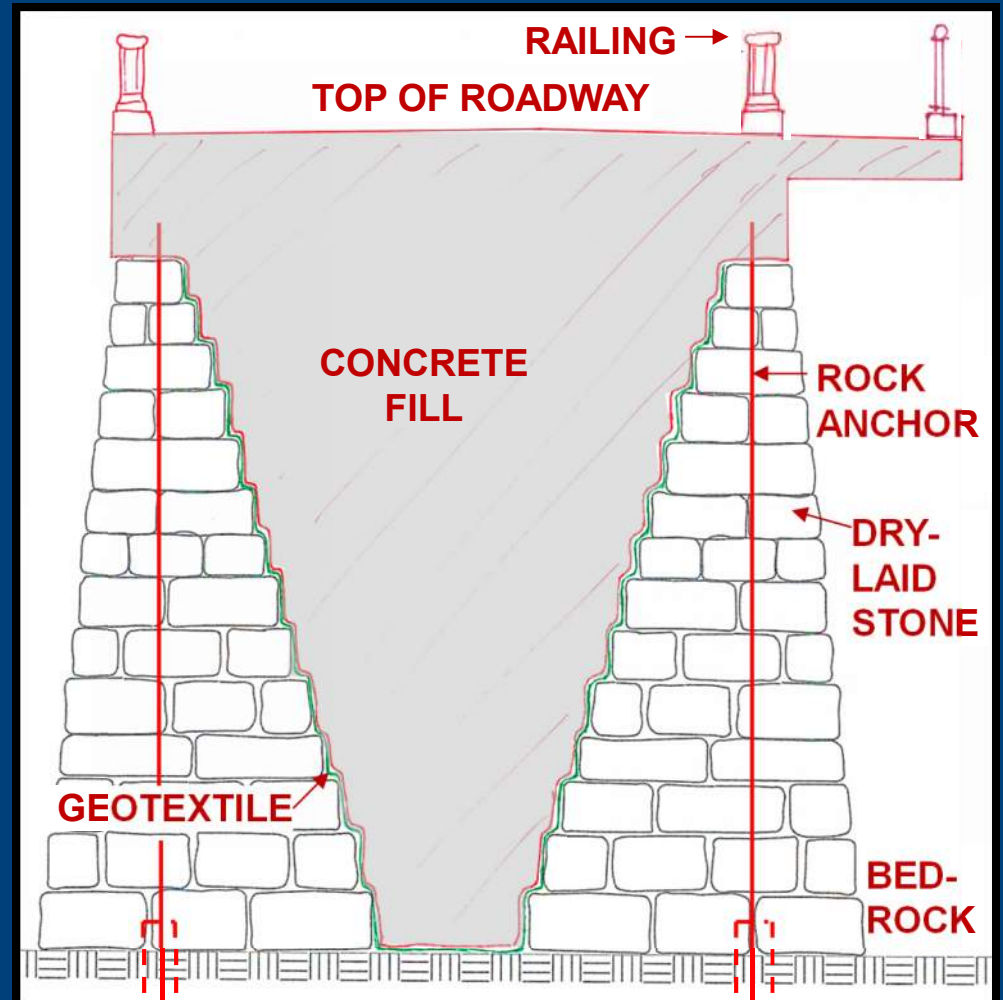
Design Alternatives Matrix - Rehabilitation

Substructure – Existing masonry walls to remain

Elevation



Section



Design Alternatives Matrix

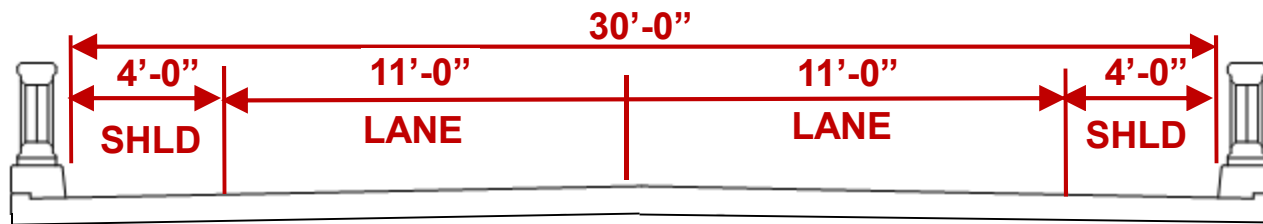
Evaluation Criteria (Listed Alphabetically)		Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Description	Superstructure	Concrete Tied Arch	Concrete Tied Arch	Girder/Tied Arch	Girder/Tied Arch	Girder Bridge	N/A
	Substructure	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Reinforced Concrete	N/A
	Combined Roadway & Sidewalk Width	20'-4"	~25'-0"	~30'-0"	~30'-0"	~32'-0"	N/A
	Anticipated Service Life	~50 years ⁴	~50 years ⁴	~100 years	~100 years	~100 years	N/A
Aesthetics	Tree Clearing at Falls Bridge	90 Ft. / 23,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	N/A	Additional 35 Ft. / 6,000 Sq Ft. (125 Ft. / 30,000 Sq Ft. Total)
	Tree Clearing at Alternate Alignment	N/A	N/A	N/A	N/A	+/- 80 Ft. / 500,000 SqFt.	N/A
	View FROM the Falls Bridge	No Change	No Change	Changed	Changed	N/A	N/A
	View OF the Falls Bridge	No Change	Slight Change	Changed	Changed	No Change	N/A
	Aesthetics of the alternate alignment area	N/A	N/A	N/A	N/A	Changed	N/A
	Local Interest/Comment	Strong emotional attachment to existing Falls Bridge	Strong emotional attachment to existing Falls Bridge				Negative aesthetic impact associated with clearing
Community Impacts	Additional Road Ownership	N/A	N/A	N/A	N/A	1.2 miles	N/A
	Longterm Road Financial Obligation ⁷	N/A	N/A	N/A	N/A	\$12,000	
	Additional Structure Ownership	N/A	N/A	N/A	N/A	Falls Bridge and Causeway Cross Culvert	N/A
	Longterm Bridge Financial Obligation ⁸	N/A	N/A	N/A	N/A	\$4,000	N/A
	Detour Impact to Motorists	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Ambulance	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Plowing/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant Increase	N/A
	Tourism/Local Businesses						
	Local Interest/Comment						

Bridge Replacement

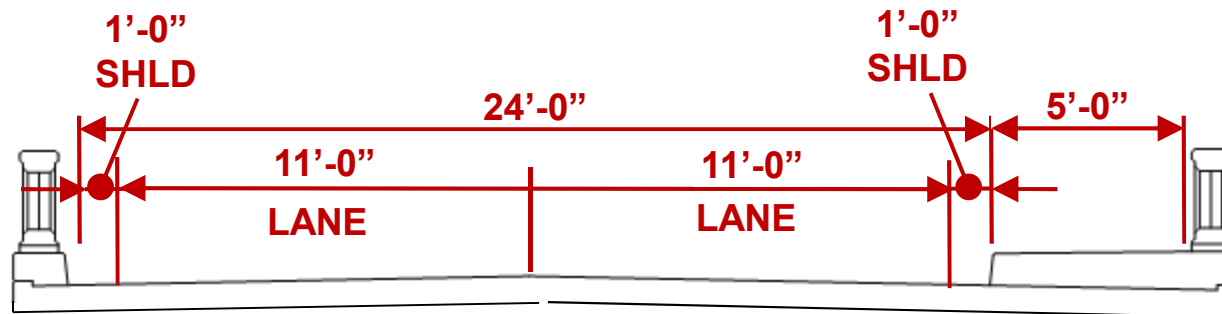
Design Alternatives Matrix - Replacement

Design Criteria

- 100 Year Service Life, Designed to Carry Modern Design Loads
- Modern Typical Section



TYPICAL SECTION WITH WIDE SHOULDERS



TYPICAL SECTION WITH SIDEWALK

Design Alternatives Matrix - Replacement

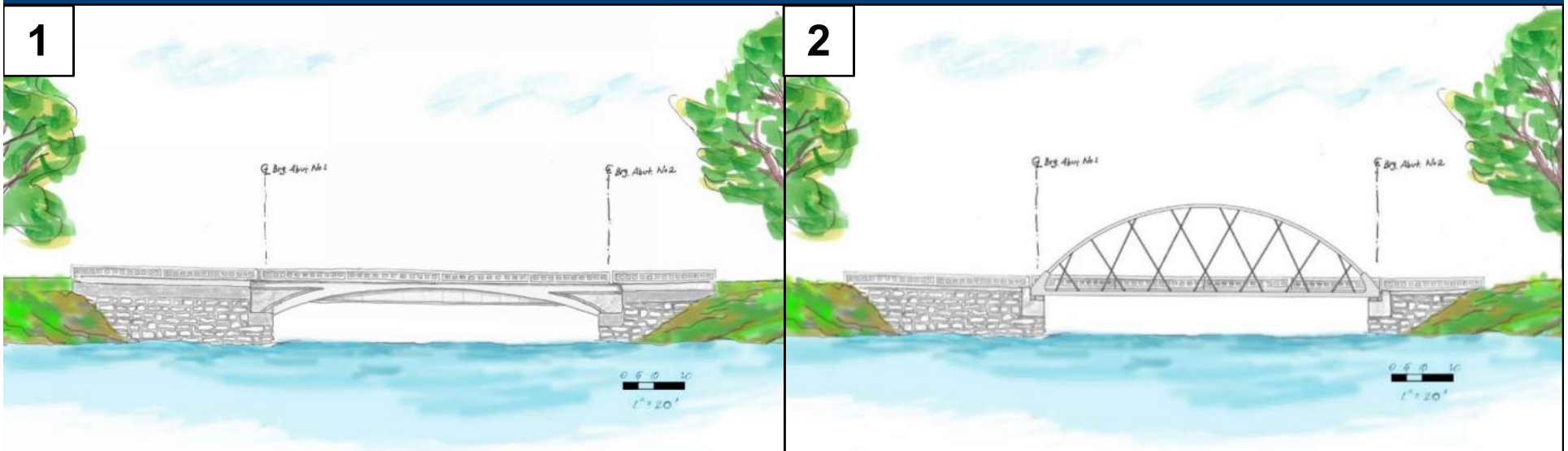
Superstructure

Precast Concrete Girders

1. Prefabricated standard girder shape with aesthetic fascia panel

Tied Arch

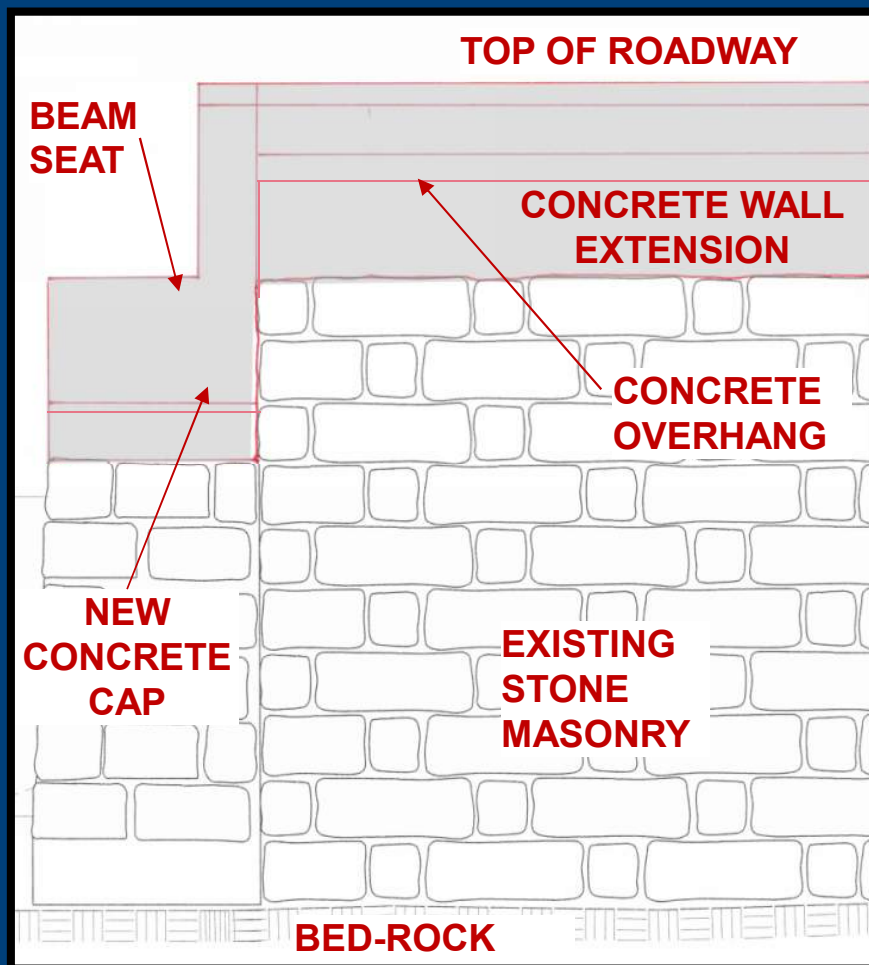
2. Tied arch with steel arch rib and concrete tie-girder



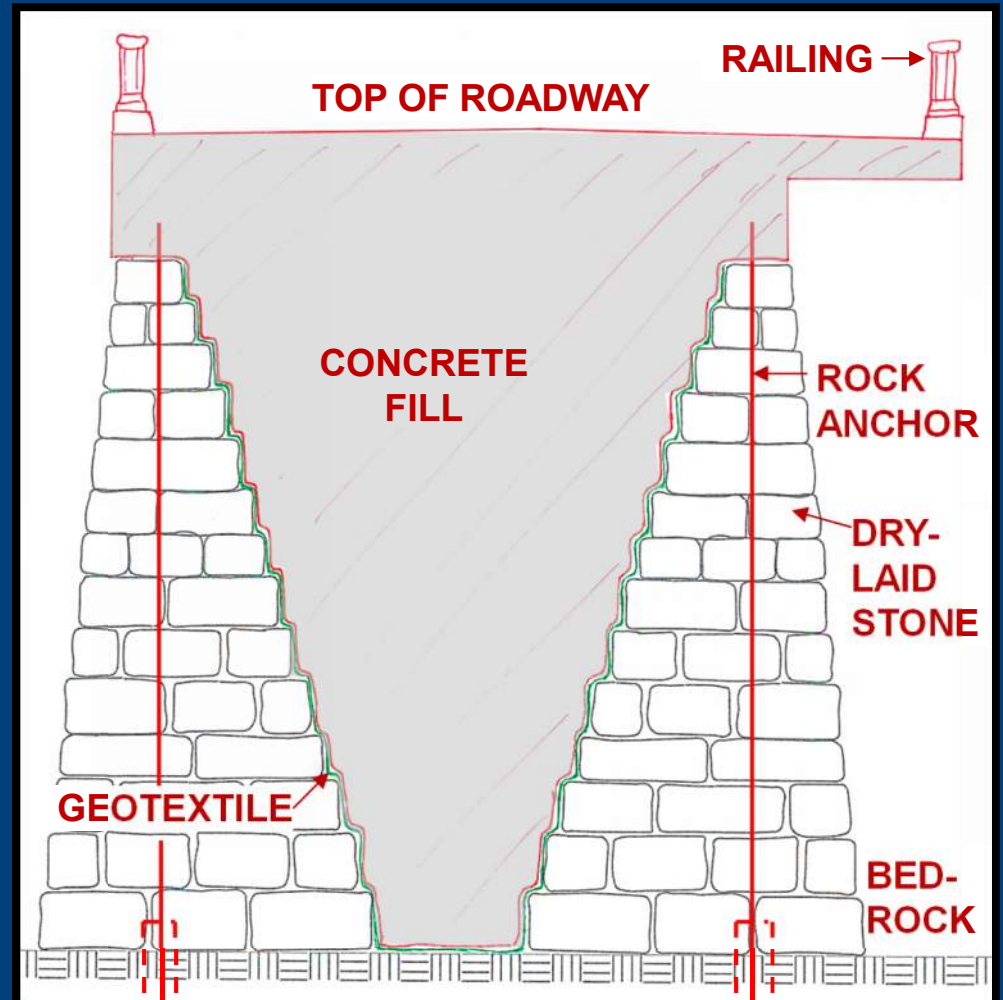
Design Alternatives Matrix - Replacement

Substructure

Elevation



Section



Design Alternatives Matrix - Replacement

Construction Methods Evaluated

- Conventional Construction

Typical construction approach using cast-in-place concrete where the majority of work is completed on-site. Results in a longer construction duration.

- Accelerated Bridge Construction (ABC)

Uses more prefabricated elements and minimizes the amount of work required on-site which reduces the overall construction duration.

Evaluated multiple approaches to ABC

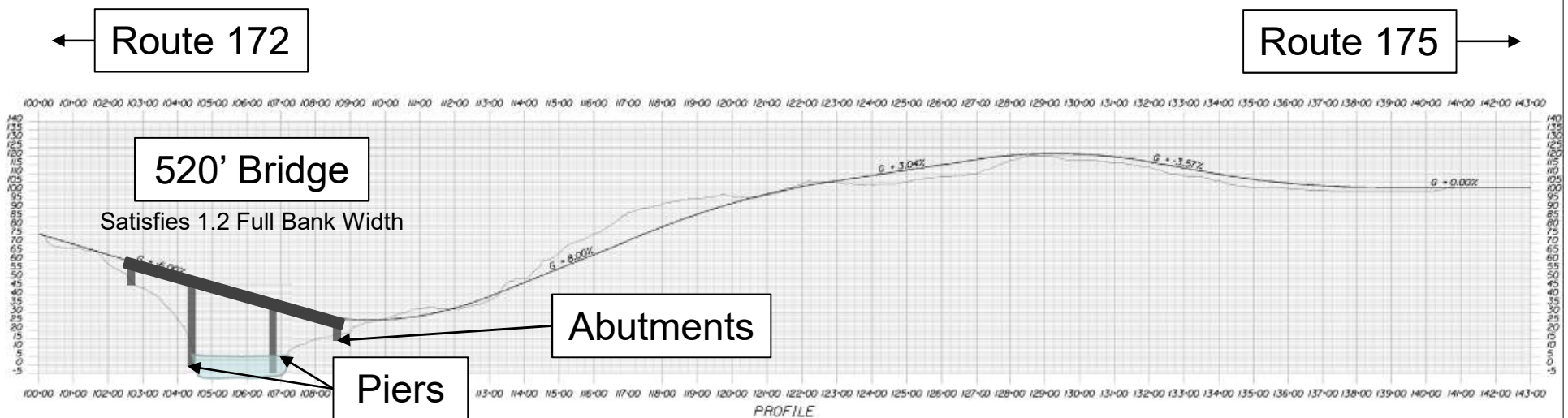
- Prefabricated Bridge Elements
- Bridge Movement Systems – Lateral Slide

ABC methods were explored for the rehabilitation option but are not applicable given the nature of the work.

Design Alternatives Matrix

Evaluation Criteria (Listed Alphabetically)		Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Description	Superstructure	Concrete Tied Arch	Concrete Tied Arch	Girder/Tied Arch	Girder/Tied Arch	Girder Bridge	N/A
	Substructure	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Reinforced Concrete	N/A
	Combined Roadway & Sidewalk Width	20'-4"	~25'-0"	~30'-0"	~30'-0"	~32'-0"	N/A
	Anticipated Service Life	~50 years ⁴	~50 years ⁴	~100 years	~100 years	~100 years	N/A
Aesthetics	Tree Clearing at Falls Bridge	90 Ft. / 23,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	N/A	Additional 35 Ft. / 6,000 Sq Ft. (125 Ft. / 30,000 Sq Ft. Total)
	Tree Clearing at Alternate Alignment	N/A	N/A	N/A	N/A	+/- 80 Ft. / 500,000 SqFt.	N/A
	View FROM the Falls Bridge	No Change	No Change	Changed	Changed	N/A	N/A
	View OF the Falls Bridge	No Change	Slight Change	Changed	Changed	No Change	N/A
	Aesthetics of the alternate alignment area	N/A	N/A	N/A	N/A	Changed	N/A
	Local Interest/Comment	Strong emotional attachment to existing Falls Bridge	Strong emotional attachment to existing Falls Bridge				Negative aesthetic impact associated with clearing
Community Impacts	Additional Road Ownership	N/A	N/A	N/A	N/A	1.2 miles	N/A
	Longterm Road Financial Obligation ⁷	N/A	N/A	N/A	N/A	\$12,500	
	Additional Structure Ownership	N/A	N/A	N/A	N/A	Falls Bridge and Causeway Cross Culvert	N/A
	Longterm Bridge Financial Obligation ⁸	N/A	N/A	N/A	N/A	\$4,000	N/A
	Detour Impact to Motorists	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Ambulance	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Plowing/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant Increase	N/A
	Tourism/Local Businesses						
	Local Interest/Comment						

Design Alternatives Matrix - Alt. Alignment

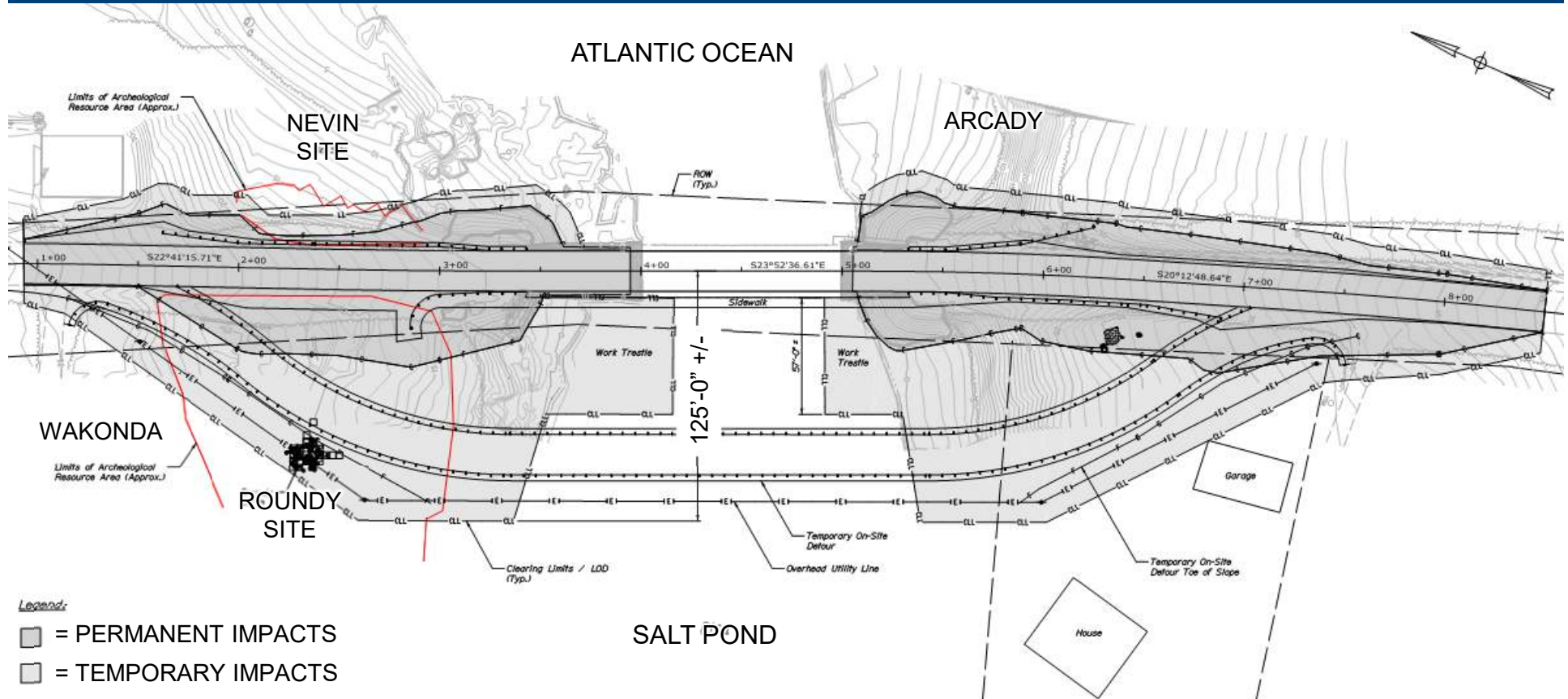


Design Alternatives Matrix

Evaluation Criteria (Listed Alphabetically)		Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Description	Superstructure	Concrete Tied Arch	Concrete Tied Arch	Girder/Tied Arch	Girder/Tied Arch	Girder Bridge	N/A
	Substructure	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Reinforced Concrete	N/A
	Combined Roadway & Sidewalk Width	20'-4"	~25'-0"	~30'-0"	~30'-0"	~32'-0"	N/A
	Anticipated Service Life	~50 years ⁴	~50 years ⁴	~100 years	~100 years	~100 years	N/A
Aesthetics	Tree Clearing at Falls Bridge	90 Ft. / 23,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	N/A	Additional 35 Ft. / 6,000 Sq Ft. (125 Ft. / 30,000 Sq Ft. Total)
	Tree Clearing at Alternate Alignment	N/A	N/A	N/A	N/A	+/- 80 Ft. / 500,000 SqFt.	
	View FROM the Falls Bridge	No Change	No Change	Changed	Changed	N/A	
	View OF the Falls Bridge	No Change	Slight Change	Changed	Changed	No Change	
	Aesthetics of the alternate alignment area	N/A	N/A	N/A	N/A	Changed	
	Local Interest/Comment	Strong emotional attachment to existing Falls Bridge	Strong emotional attachment to existing Falls Bridge				
Community Impacts	Additional Road Ownership	N/A	N/A	N/A	N/A	1.2 miles	Negative acoustic impact associated with clearing
	Longterm Road Financial Obligation ⁷	N/A	N/A	N/A	N/A	\$12,000	
	Additional Structure Ownership	N/A	N/A	N/A	N/A	Falls Bridge and Causeway Cross Culvert	
	Longterm Bridge Financial Obligation ⁸	N/A	N/A	N/A	N/A	\$4,000	
	Detour Impact to Motorists	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	
	Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	
	Ambulance	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	
	Plowing/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant Increase	
	Tourism/Local Businesses						
	Local Interest/Comment						

Design Alternatives Matrix - Temp. Bridge

Rehabilitation or Replacement (Conventional Construction Only)



Note: Layout is approximate and subject to change as more information about the site becomes available.

Design Alternatives Matrix

Tool used to compare and contrast each alternative against a series of evaluation criteria.

The design alternative matrix is arranged such that:

- Each column represents an alternative
- Each row represents an evaluation criteria (e.g. property impacts, construction schedule, etc.)
- A copy of the draft matrix is in the handout packet.

Matrix

Let's move on to evaluation criteria

Color Code Legend:

- More Desirable
- Less Desirable

Notes:

- Costs and impacts provided for each Alternative include accommodations for sea level rise.
- All costs shown are estimates of a range ± 30%.
- Shared some accounts will require additional road postings within that time frame.
- 50 year service life may require additional road postings to maintain the portion of Route 175 that will become a Town road once owned over by the Department. This value is based on MEDOT's historical routine maintenance expenditures at the Falls Bridge. This budget would cause the bridge to sustain over time through future road postings and eventual closure to vehicular traffic.
- This is an estimated number of permits, quantity may change after the search and evaluation process.
- Permitting, bridge, and water access will be prohibited during construction and installation of the bridge.
- This value represents the cost borne by the Town of Blue Hill on an annual basis to sustain over time through future road postings and eventual closure to vehicular traffic.
- This value represents the cost borne by the Department, future costs to maintain the existing Falls Bridge and the portion of Route 175 turned over to the Town are not included.
- This value represents the cost borne by the Department, future costs to maintain the existing Falls Bridge and the portion of Route 175 turned over to the Town are not included.
- User costs are calculated to reflect the operational consequences of the construction duration and the construction duration and the construction duration.
- The service life cost for the rehabilitation alternatives and the conversion construction alternatives include the additional cost for a temporary bridge.

Design Alternatives Matrix

Each alternative was assessed against ten groups of criteria, including:

- General description / features
- Aesthetics
- Community Impacts
- Community Interest
- Cost
- Environmental Impacts
- Other
- Property Impacts
- Safety
- Schedule

Evaluation Criteria (Listed Alphabetically)	Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
	Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Description						
Superstructure	Concrete Tied Arch	Concrete Tied Arch	Girder/Tied Arch	Girder/Tied Arch	Girder Bridge	N/A
Substructure	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Reinforced Concrete	N/A
Combined Roadway & Sidewalk Width	20'-4"	~25'-0"	~30'-0"	~30'-0"	~32'-0"	N/A
Anticipated Service Life	~50 years ²	~50 years ²	~100 years	~100 years	~100 years	N/A
Aesthetics						
Tree Clearing at Falls Bridge	90 Ft / 23,000 SqFt.	90 Ft / 24,000 SqFt.	90 Ft / 24,000 SqFt.	90 Ft / 24,000 SqFt.	N/A	Additional 35 Ft / 6,000 Sq Ft. (125 Ft / 30,000 Sq Ft. Total)
Tree Clearing at Alternate Alignment	N/A	N/A	N/A	N/A	+/- 80 Ft / 500,000 SqFt.	N/A
View FROM the Falls Bridge	No Change	No Change	Changed	Changed	N/A	N/A
View OF the Falls Bridge	No Change	Slight Change	Changed	Changed	No Change	N/A
Aesthetics of the alternate alignment area	N/A	N/A	N/A	N/A	Changed	N/A
Local Interest/Comment	Strong emotional attachment to existing Falls Bridge	Strong emotional attachment to existing Falls Bridge				Negative aesthetic impact associated with clearing
Community Impacts						
Additional Road Ownership	N/A	N/A	N/A	N/A	1.2 miles	N/A
Longterm Road Financial Obligation ⁷	N/A	N/A	N/A	N/A	\$12,000	N/A
Additional Structure Ownership	N/A	N/A	N/A	N/A	Falls Bridge and Causeway Chase Culvert	N/A
Longterm Bridge Financial Obligation ⁸	N/A	N/A	N/A	N/A	\$4,000	N/A
Detour Impact to Motorists	Greatest Impact	Greatest Impact	Less Impact	Less Impact	Minor permanent impact in the future if Falls Bridge closed	Less
Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Less Impact	Minor permanent impact in the future if Falls Bridge closed	Less
Ambulance	Greatest Impact	Greatest Impact	Less Impact	Less Impact	Minor permanent impact in the future if Falls Bridge closed	Less
Plowing/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant Increase	N/A
Tourism/Local Businesses						
Local Interest/Comment						
Community Interest						
Water Recreational Access ⁹	No change	No change	No change	No change	No change	No change
Bike/Ped Accommodations ⁹	Least safe	Safer	Safest	Safest	Unknown Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A
Pedestrian Access ⁹	Least safe	Safer	Safest	Safest	Unknown Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A
Parking ⁹	No increase	No increase	No increase	No increase	No increase	No increase
Local Interest/Comment		Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety		
Cost						
User Costs (Construction) ¹⁰	\$3,200,000	\$3,200,000	\$1,600,000	\$330,000	\$0	\$150,000
Initial Construction Cost	\$8,100,000	\$8,300,000	\$4,800,000	\$5,300,000	\$14,400,000	Additional \$800,000
Service Life Cost ¹¹ (100 Year Period)	\$15,500,000	\$15,700,000	\$7,000,000	\$6,900,000	\$19,600,000 ⁹	N/A
Environmental Impacts						
Natural Resources (Wetlands / Fish / Birds / Mammals)	See Handout					
Archaeological Resources						
Historical Resources						
Other						
Sea Level Rise ¹	Better accommodation of sea level rise	Better accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	Does not accommodate sea level rise at Falls bridge	N/A
Maintains Reversing Falls	Yes	Yes	Yes	Yes	Yes	Yes
Utilities	Cannot be bridge mounted	Cannot be bridge mounted	Bridge mounting possible	Bridge mounting possible	Cannot be bridge mounted	N/A
Property Impacts						
Number of Affected Parcels ⁶	4	4	4	4	3	No additional Parcels
Permanent Impacts	2,250 SqFt.	2,250 SqFt.	5,100 SqFt.	5,100 SqFt.	400,000 SqFt.	No additional permanent impacts
Temporary Impacts	20,000 SqFt.	21,000 SqFt.	21,000 SqFt.	21,000 SqFt.	54,000 SqFt.	Additional 9,000 SqFt.
Safety (At Falls Bridge Site)						
Motorist Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
Pedestrian Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
Roadway Geometrics	Worst Geometrics	Worst Geometrics	Best Geometrics	Best Geometrics	Unimproved at Falls Bridge	N/A
Schedule						
Construction Duration	18 to 24 months	18 to 24 months	18 to 24 months	12 to 24 months		
Duration of Traffic Impact	18 to 24 months	18 to 24 months	9 to 12 months	50-60 days		
Night Work	Minimal	Minimal	Minimal	Likely during traffic impact time period		

Color Code Legend:

More Desirable

Less Desirable

Design Alternatives Matrix

Description	Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
	Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Superstructure	Concrete Tied Arch	Concrete Tied Arch	Girder/Tied Arch	Girder/Tied Arch	Girder Bridge	N/A
Substructure	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Reinforced Concrete	N/A
Combined Roadway & Sidewalk Width	20'-4"	~25'-0"	~30'-0"	~30'-0"	~32'-0"	N/A
Anticipated Service Life	~50 years ⁴	~50 years ⁴	~100 years	~100 years	~100 years	N/A

Description
Key Factors & Differentiators:
 Roadway Width
 Service Life

Tree Clearing at Falls Bridge	90 Ft / 23,000 Sq Ft	90 Ft / 24,000 Sq Ft	90 Ft / 24,000 Sq Ft	90 Ft / 24,000 Sq Ft	N/A	Additional 30 Ft / 6,000 Sq Ft (125 Ft / 30,000 Sq Ft Total)
Tree Clearing at Alternate Alignment	N/A	N/A	N/A	N/A	+/- 30 Ft / 300,000 Sq Ft	N/A
View FROM the Falls Bridge	No Change	No Change	Changed	Changed	N/A	N/A
View OF the Falls Bridge	No Change	Slight Change	Changed	Changed	No Change	N/A
Aesthetics of the alternate alignment area	N/A	N/A	N/A	N/A	Changed	N/A
Local Interest/Comment	Strong emotional attachment to existing Falls Bridge	Strong emotional attachment to existing Falls Bridge				Negated w/ aesthetic impact associated with clearing
Additional Road Ownership	N/A	N/A	N/A	N/A	1.2 miles	N/A
Long-term Road Financial Obligation ⁵	N/A	N/A	N/A	N/A	\$12,000	N/A
Additional Structure Ownership	N/A	N/A	N/A	N/A	Falls Bridge and Causeway/Cross Culvert	N/A
Long-term Bridge Financial Obligation ⁵	N/A	N/A	N/A	N/A	\$4,000	N/A
Detour Impact to Motorists	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
Ambulance	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
Plowing/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant increase	N/A
Tourism/Local Businesses						
Local Interest/Comment						
Water Recreational Access ⁶	No change	No change	No change	No change	No change	No change
Bike/Ped Accommodations ⁶	Least safe	Safer	Safest	Safest	Unknown Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic. Unknown if closed to traffic.	N/A

Evaluation Criteria (Listed Alphabetically)		Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Description	Superstructure	Concrete Tied Arch	Concrete Tied Arch	Girder/Tied Arch	Girder/Tied Arch	Girder Bridge	N/A
	Substructure	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Reinforced Concrete	N/A
	Combined Roadway & Sidewalk Width	20'-4"	~25'-0"	~30'-0"	~30'-0"	~32'-0"	N/A
	Anticipated Service Life	~50 years ⁴	~50 years ⁴	~100 years	~100 years	~100 years	N/A

Number of Affected Parcels ⁷	4	4	4	4	3	No additional Parcels
Permanent Impacts	2,250 Sq Ft	2,250 Sq Ft	5,100 Sq Ft	5,100 Sq Ft	400,000 Sq Ft	No additional permanent impacts
Temporary Impacts	30,000 Sq Ft	21,000 Sq Ft	21,000 Sq Ft	21,000 Sq Ft	54,000 Sq Ft	Additional 3,000 Sq Ft
Motorist Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
Pedestrian Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
Roadway Geometrics	Worst Geometrics	Best Geometrics	Best Geometrics	Best Geometrics	Unimproved at Falls Bridge	N/A
Construction Duration	18 to 24 months	18 to 24 months	18 to 24 months	12 to 24 months	18 to 24 months	Additional 6 months
Duration of Traffic Impact	18 to 24 months	18 to 24 months	9 to 12 months	50-60 days	3 months	No additional impact
Night Work	Minimal	Minimal	Minimal	Likely during traffic impact time period	Not anticipated	Minimal

Design Alternatives Matrix

Evaluation Criteria (Listed Alphabetically)	Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
	Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Superstructure	Concrete Tied Arch	Concrete Tied Arch	Girder/Tied Arch	Girder/Tied Arch	Girder Bridge	N/A
Substructure	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Reinforced Concrete	N/A
Combined Roadway & Sidewalk Width	20'-4"	~25'-0"	~30'-0"	~30'-0"	~32'-0"	N/A
Anticipated Service Life	~50 years ⁴	~50 years ⁴	~100 years	~100 years	~100 years	N/A
Tree Clearing at Falls Bridge	90 Ft. / 23,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	N/A	Additional 35 Ft. / 6,000 Sq Ft. (125 Ft. / 30,000 Sq Ft. Total)
Tree Clearing at Alternate Alignment	N/A	N/A	N/A	N/A	+/- 80 Ft. / 500,000 SqFt.	N/A
View FROM the Falls Bridge	No Change	No Change	Changed	Changed	N/A	N/A
View OF the Falls Bridge	No Change	Slight Change	Changed	Changed	No Change	N/A
Aesthetics of the alternate alignment area	N/A	N/A	N/A	N/A	Changed	N/A
Local Interest/Comment	Strong emotional attachment to existing Falls Bridge	Strong emotional attachment to existing Falls Bridge				Negative aesthetic impact associated with clearing
Additional Road Ownership	N/A	N/A	N/A	N/A	1.2 miles	N/A
Long-term Road Financial Obligation ⁵	N/A	N/A	N/A	N/A	\$12,000	N/A
Additional Structure Ownership	N/A	N/A	N/A	N/A	Falls Bridge and Causeway/Cross Culvert	N/A
Long-term Bridge Financial Obligation ⁵	N/A	N/A	N/A	N/A	\$4,000	N/A
Detour Impact to Motorists	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Major permanent impact in the future if Falls Bridge closed	Less
Ambulance	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
Paving/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant increase	N/A
Tourism/Local Businesses						
Local Interest/Comment						

Aesthetics

Key Factors & Differentiators:

- Tree clearing
- Impact to view of Falls Bridge
- Impact to view from Falls Bridge
- Local interest comments

Evaluation Criteria (Listed Alphabetically)	Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
	Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Tree Clearing at Falls Bridge	90 Ft. / 23,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	N/A	Additional 35 Ft. / 6,000 Sq Ft. (125 Ft. / 30,000 Sq Ft. Total)
Tree Clearing at Alternate Alignment	N/A	N/A	N/A	N/A	+/- 80 Ft. / 500,000 SqFt.	N/A
View FROM the Falls Bridge	No Change	No Change	Changed	Changed	N/A	N/A
View OF the Falls Bridge	No Change	Slight Change	Changed	Changed	No Change	N/A
Aesthetics of the alternate alignment area	N/A	N/A	N/A	N/A	Changed	N/A
Local Interest/Comment	Strong emotional attachment to existing Falls Bridge	Strong emotional attachment to existing Falls Bridge				Negative aesthetic impact associated with clearing
Permanent Impacts	2,280 SqFt.	2,280 SqFt.	5,100 SqFt.	5,100 SqFt.	405,000 SqFt.	No additional permanent impacts
Temporary Impacts	20,000 SqFt.	21,000 SqFt.	21,000 SqFt.	21,000 SqFt.	94,000 SqFt.	Additional 9,000 SqFt.
Motorist Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
Pedestrian Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
Roadway Geometrics	Worst Geometrics	Worst Geometrics	Best Geometrics	Best Geometrics	Unimproved at Falls Bridge	N/A
Construction Duration	18 to 24 months	18 to 24 months	18 to 24 months	12 to 24 months	18 to 24 months	Additional 6 months
Duration of Traffic Impact	18 to 24 months	18 to 24 months	9 to 12 months	50-60 days	0 months	No additional impact
Night Work	Minimal	Minimal	Minimal	Likely during traffic impact time period	Not anticipated	Minimal

Design Alternatives Matrix

Community Impacts
Key Factors & Differentiators:
 Infrastructure Cost to Town
 Emergency Response Time

Evaluation Criteria (Listed Alphabetically)	Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
	Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Description						
Superstructure	Concrete Tied Arch	Concrete Tied Arch	Girder/Tied Arch	Girder/Tied Arch	Girder Bridge	N/A
Substructure	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Existing Stacked Granite ³	Reinforced Concrete	N/A
Combined Roadway & Sidewalk Width	20'-4"	~25'-0"	~30'-0"	~30'-0"	~32'-0"	N/A
Anticipated Service Life	~50 years ⁴	~50 years ⁴	~100 years	~100 years	~100 years	N/A
Aesthetics						
Tree Clearing at Falls Bridge	90 Ft / 23,000 Sq Ft	90 Ft / 24,000 Sq Ft	90 Ft / 24,000 Sq Ft	90 Ft / 24,000 Sq Ft	N/A	Additional 35 Ft / 6,000 Sq Ft (125 Ft / 30,000 Sq Ft Total)
Tree Clearing at Alternate Alignment	N/A	N/A	N/A	N/A	+/- 80 Ft / 80,000 Sq Ft	N/A
View FROM the Falls Bridge	No Change	No Change	Changed	Changed	N/A	N/A
View OF the Falls Bridge	No Change	Slight Change	Changed	Changed	No Change	N/A
Aesthetics of the alternate alignment area	N/A	N/A	N/A	N/A	Changed	N/A
Local Interest/Comment	Strong emotional attachment to existing Falls Bridge	Strong emotional attachment to existing Falls Bridge				Negative aesthetic impact on existing Falls Bridge
Community Impacts						
Additional Road Ownership	N/A	N/A	N/A	N/A	1.2 miles	N/A
Longterm Road Financial Obligation ⁷	N/A	N/A	N/A	N/A	\$12,000	N/A
Additional Structure Ownership	N/A	N/A	N/A	N/A	Falls Bridge and Causeway Cross Culvert	N/A
Longterm Bridge Financial Obligation ⁸	N/A	N/A	N/A	N/A	\$4,000	N/A
Detour Impact to Motorists	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
Ambulance	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
Plowing/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant Increase	N/A
Tourism/Local Businesses						
Local Interest/Comment						

Evaluation Criteria (Listed Alphabetically)	Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
	Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Community Impacts						
Additional Road Ownership	N/A	N/A	N/A	N/A	1.2 miles	N/A
Longterm Road Financial Obligation ⁷	N/A	N/A	N/A	N/A	\$12,000	N/A
Additional Structure Ownership	N/A	N/A	N/A	N/A	Falls Bridge and Causeway Cross Culvert	N/A
Longterm Bridge Financial Obligation ⁸	N/A	N/A	N/A	N/A	\$4,000	N/A
Detour Impact to Motorists	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
Ambulance	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
Plowing/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant Increase	N/A
Tourism/Local Businesses						
Local Interest/Comment						


Design Alternatives Matrix

(Listed Alphabetically)		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction (Route 175 w/ New Rd.)	Bridge		
Superstructure	Concrete Tied Arch	Concrete Tied Arch	Order/Tied Arch	Order/Tied Arch	Order Bridge	N/A		
Description	Evaluation Criteria (Listed Alphabetically)	Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge	
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction			
Community Interest	Water Recreational Access ⁵	No change	No change	No change	No change	No change	No change	
	Bike/Ped Accommodations ⁵	Least safe	Safer	Safest	Safest	Unknown Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A	
	Pedestrian Access ⁵	Least safe	Safer	Safest	Safest	Unknown Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A	
	Parking ⁵	No increase	No increase	No increase	No increase	No increase	No increase	
	Local Interest/Comment		Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety		
Tourism/Local Businesses								
Community Interest	Local Interest/Comment							
	Water Recreational Access ⁵	No change	No change	No change	No change	No change	No change	
	Bike/Ped Accommodations ⁵	Least safe	Safer	Safest	Safest	Unknown Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A	
	Pedestrian Access ⁵	Least safe	Safer	Safest	Safest	Unknown Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A	
	Parking ⁵	No increase	No increase	No increase	No increase	No increase	No increase	
Local Interest/Comment		Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety			
Cost	Over Costs (Construction)	\$3,000,000	\$3,000,000	\$1,400,000	\$3,300,000	\$0	\$100,000	
	Initial Construction Cost	\$8,100,000	\$9,300,000	\$6,600,000	\$5,300,000	\$14,400,000	Additional \$600,000	
	Service Life Cost ¹¹ (100 Year Period)	\$15,500,000	\$15,700,000	\$7,000,000	\$6,900,000	\$19,800,000 ¹⁰	N/A	
	Natural Resources (Wildlands / Fish / Birds / Mammals)							
	Archaeological Resources							
Environmental Impacts	Historical Resources							
	Sea Level Rise ⁹	Better accommodation of sea level rise	Better accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	Dow not accommodate sea level rise at Falls bridge	N/A	
	Maintains Reversing Falls	Yes	Yes	Yes	Yes	Yes	Yes	
	Utilities	Cannot be bridge mounted	Cannot be bridge mounted	Bridge mounting possible	Bridge mounting possible	Cannot be bridge mounted	N/A	
	Number of Affected Parcels ⁸	4	4	4	4	3	No additional Parcels	
Property Impacts	Permanent Impacts	2,200 SqFt	2,200 SqFt	5,100 SqFt	5,100 SqFt	400,000 SqFt	No additional permanent impacts	
	Temporary Impacts	20,000 SqFt	21,000 SqFt	21,000 SqFt	21,000 SqFt	64,000 SqFt	Additional 9,000 SqFt	
	Motorist Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A	
	Pedestrian Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A	
	Roadway Geometrics	Worst Geometrics	Worst Geometrics	Best Geometrics	Best Geometrics	Unimproved at Falls Bridge	N/A	
Safety (At Falls Bridge Only)	Construction Duration	18 to 24 months	18 to 24 months	18 to 24 months	12 to 24 months	18 to 24 months	Additional 6 months	
	Duration of Traffic Impact	18 to 24 months	0 to 24 months	9 to 12 months	0-60 days	0 months	No additional impact	
	Night Work	Minimal	Minimal	Minimal	Likely during traffic impact time period	Not anticipated	Minimal	
	Schedule							

Community Interest

Key Factors & Differentiators:

- Bicycle Accommodation
- Pedestrian Accommodation
- Local interest comment



Community Interest

Key Factors & Differentiators:

- Bicycle Accommodation
- Pedestrian Accommodation
- Local interest comment



Design Alternatives Matrix

Evaluation Criteria (Listed Alphabetically)		Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Description	Evaluation Criteria (Listed Alphabetically)	Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
	Cost						
Cost	User Costs (Construction) ¹⁰	\$3,200,000	\$3,200,000	\$1,600,000	\$330,000	\$0	\$150,000
	Initial Construction Cost	\$8,100,000	\$8,300,000	\$4,600,000	\$5,300,000	\$14,400,000	Additional \$800,000
	Service Life Cost ¹¹ (100 Year Period)	\$15,500,000	\$15,700,000	\$7,000,000	\$6,900,000	\$19,600,000 ⁹	N/A
Community Impacts	Long-term Road Financial Obligation ¹	N/A	N/A	N/A	N/A	\$12,000	
	Additional Structure Ownership	N/A	N/A	N/A	N/A	Falls Bridge and Causeway/Crises Culvert	N/A
	Long-term Bridge Financial Obligation ²	N/A	N/A	N/A	N/A	\$4,000	N/A
	Detour Impact to Motorists	Greatest Impact	Greatest Impact	Less Impact	Less Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Less Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Ambulance	Greatest Impact	Greatest Impact	Less Impact	Less Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Paving/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant increase	N/A
	Tourism/Local Businesses						
	Local Interest/Comment						
	Water Recreational Access ³	No change	No change	No change	No change	No change	No change
Community Interest	Bike/Ped Accommodations ⁴	Least safe	Safer	Safest	Safest	Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A
	Pedestrian Access ⁴	Least safe	Safer	Safest	Safest	Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A
	Parking ⁵	No increase	No increase	No increase	No increase	No increase	No increase
	Local Interest/Comment		Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety	
Cost	User Costs (Construction) ¹⁰	\$3,200,000	\$3,200,000	\$1,600,000	\$330,000	\$0	\$150,000
	Initial Construction Cost	\$8,100,000	\$8,300,000	\$4,600,000	\$5,300,000	\$14,400,000	Additional \$800,000
	Service Life Cost ¹¹ (100 Year Period)	\$15,500,000	\$15,700,000	\$7,000,000	\$6,900,000	\$19,600,000 ⁹	N/A
Environmental	Natural Resources (Wetlands / Fish / Birds / Mammals)						
	Archaeological Resources						
	Historical Resources						
Other	Sea Level Rise ¹	Better accommodation of sea level rise	Better accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	Does not accommodate sea level rise at Falls bridge	N/A
	Maintains Reversing Falls	Yes	Yes	Yes	Yes	Yes	Yes
	Utilities	Cannot be bridge mounted	Cannot be bridge mounted	Bridge mounting possible	Bridge mounting possible	Cannot be bridge mounted	N/A
Property Impacts	Number of Affected Parcels ⁶	4	4	4	4	3	No additional Parcels
	Permanent Impacts	2,250 SqFt	2,250 SqFt	5,100 SqFt	5,100 SqFt	400,000 SqFt	No additional permanent impacts
	Temporary Impacts	20,000 SqFt	21,000 SqFt	21,000 SqFt	21,000 SqFt	54,000 SqFt	Additional 9,000 SqFt
Safety (At Falls Bridge)	Motorist Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
	Pedestrian Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
	Roadway Geometrics	Worst Geometrics	Best Geometrics	Best Geometrics	Best Geometrics	Unimproved at Falls Bridge	N/A
Schedule	Construction Duration	18 to 24 months	18 to 24 months	18 to 24 months	12 to 24 months	18 to 24 months	Additional 6 months
	Duration of Traffic Impact	18 to 24 months	18 to 24 months	9 to 12 months	50-60 days	0 months	No additional impact
	Night Work	Minimal	Minimal	Minimal	Likely during traffic impact time period	Not anticipated	Minimal

Cost

Key Factors & Differentiators:

- User costs
- Construction cost
- Service life cost

Design Alternatives Matrix

Evaluation Criteria (Listed Alphabetically)	Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
	Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Superstructure	Concrete Tied Arch	Concrete Tied Arch	Order/Tied Arch	Order/Tied Arch	Order Bridge	N/A
Substructure	Existing Stacked Granite ¹	Existing Stacked Granite ¹	Existing Stacked Granite ¹	Existing Stacked Granite ¹	Reinforced Concrete	N/A
Combined Roadway & Sidewalk Width	20'-4"	~25'-0"	~30'-0"	~30'-0"	~32'-0"	N/A

Evaluation Criteria (Listed Alphabetically)		Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Environmental Impacts	Natural Resources (Wetlands / Fish / Birds / Mammals)	See Handout					
	Archeological Resources						
	Historical Resources						

Community Impacts	Detour Impact to Motorists	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Ambulance	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Plowing/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant increase	N/A
	Tourism/Local Businesses						
	Local Interest/Comment						
Community Interest	Water Recreational Access ²	No change	No change	No change	No change	No change	No change
	Bike/Ped Accommodations ²	Least safe	Safer	Safest	Safest	Unknown Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic.	N/A
	Pedestrian Access ⁴	Least safe	Safer	Safest	Safest	Unknown Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic.	N/A
	Parking ⁶	No increase	No increase	No increase	No increase	No increase	No increase
	Local Interest/Comment		Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety		
Cost	User Costs (Construction) ¹⁰	\$3,200,000	\$3,200,000	\$1,600,000	\$300,000	\$0	\$150,000
	Initial Construction Cost	\$8,100,000	\$8,300,000	\$4,600,000	\$0,300,000	\$14,400,000	Additional \$600,000
	Service Life Cost ¹¹	\$14,400,000	\$14,400,000	\$7,200,000	\$0,300,000	\$14,400,000	N/A

Environmental Impacts	Natural Resources (Wetlands / Fish / Birds / Mammals)	See Handout					
	Archeological Resources						
	Historical Resources						
Other	Sea Level Rise ¹	Better accommodation of sea level rise	Better accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	Does not accommodate sea level rise at Falls bridge	N/A
	Maintains Reversing Falls	Yes	Yes	Yes	Yes	Yes	Yes
	Utilities	Cannot be bridge mounted	Cannot be bridge mounted	Bridge mounting possible	Bridge mounting possible	Cannot be bridge mounted	N/A
Property Impacts	Number of Affected Parcels ⁹	4	4	4	4	3	No additional Parcels
	Permanent Impacts	2,200 SqFt	2,200 SqFt	5,100 SqFt	5,100 SqFt	400,000 SqFt	No additional permanent impacts
	Temporary Impacts	20,000 SqFt	21,000 SqFt	21,000 SqFt	21,000 SqFt	64,000 SqFt	Additional 9,000 SqFt
Safety (At Falls Bridge)	Motorist Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
	Pedestrian Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
	Roadway Geometrics	Worst Geometrics	Worst Geometrics	Best Geometrics	Best Geometrics	Unimproved at Falls Bridge	N/A
Schedule	Construction Duration	18 to 24 months	18 to 24 months	18 to 24 months	12 to 24 months	18 to 24 months	Additional 6 months
	Duration of Traffic Impact	18 to 24 months	18 to 24 months	9 to 12 months	50-60 days	3 months	No additional impact
	Night Work	Minimal	Minimal	Minimal	Likely during traffic impact time period	Not anticipated	Minimal

Environmental Impacts
Key Factors & Differentiators:
(see next slides)

Fish and Wildlife

- Permanent Habitat Conversion
- Temporary Impacts:
 - Noise
 - Turbidity
 - Behavior
 - Migration



Fish and Wildlife

- Both rehab and replacement alternatives will affect fish and wildlife
- Alternate alignment results in largest permanent footprint at a new location
- Temporary detour adds temporary footprint, in-water activities, and construction duration

Historic Properties

PROPERTIES

- Blue Hill Falls Historic District
- Blue Hill Falls Bridge
- Arcady
- Wakonda
- Nevins Site
- John Roundy Site
- Luskey Site

EFFECTS

- Rehabilitation (Adverse Effect)
- Replacement (Adverse Effect)
- Alternate Alignment (No Adverse Effect*)



Figure 24. Northeast corner of the Roundy foundation of split stone.

Avoid, Minimize, Mitigate

- Refine footprint of permanent and temporary features
- Minimize species interactions with work windows
- Best Management Practices
- Minimize duration
- Minimize area of disturbance
- In-water noise attenuation and monitoring
- Consult/permit/mitigate for unavoidable impacts
- Documentation of property, recovery of archaeological artifacts

Design Alternatives Matrix

Evaluation Criteria (Listed Alphabetically)		Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Other	Evaluation Criteria (Listed Alphabetically)	Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
	Sea Level Rise ¹	Better accommodation of sea level rise	Better accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	Does not accommodate sea level rise at Falls bridge	N/A
	Maintains Reversing Falls	Yes	Yes	Yes	Yes	Yes	Yes
Other	Utilities	Cannot be bridge mounted	Cannot be bridge mounted	Bridge mounting possible	Bridge mounting possible	Cannot be bridge mounted	N/A
Community Impacts	Adverse Roadway Conditions	N/A	N/A	N/A	N/A	N/A	N/A
	Long-term Road Financial Obligation ²	N/A	N/A	N/A	N/A	\$12,000	N/A
	Additional Structure Ownership	N/A	N/A	N/A	N/A	Falls Bridge and Causeway/Criss Culvert	N/A
	Long-term Bridge Financial Obligation ³	N/A	N/A	N/A	N/A	\$4,000	N/A
Community Impacts	Detour Impact to Motorists	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Ambulance	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Plowing/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant increase	N/A
Community Interest	Tourism/Local Businesses						
	Local Interest/Comment						
	Water Recreational Access ⁴	No change	No change	No change	No change	No change	No change
	Bike/Ped Accommodations ⁵	Least safe	Safer	Safest	Safest	Unknown Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A
Cost	Pedestrian Access ⁶	Least safe	Safer	Safest	Safest	Unknown Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A
	Parking ⁷	No increase	No increase	No increase	No increase	No increase	No increase
	Local Interest/Comment						
	User Costs (Construction) ⁸	\$3,200,000	\$3,200,000	\$1,600,000	\$330,000	30	\$150,000
Environmental Impacts	Initial Construction Cost	\$8,100,000	\$8,300,000	\$4,900,000	\$5,300,000	\$14,400,000	Additional \$600,000
	Service Life Cost ¹¹ (100 Year Period)	\$15,800,000	\$15,700,000	\$7,000,000	\$6,900,000	\$19,800,000 ¹⁰	N/A
	Natural Resources (Wetlands / Fish / Birds / Mammals)						
	Archaeological Resources						
Other	Historical Resources						
	Sea Level Rise ¹	Better accommodation of sea level rise	Better accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	Does not accommodate sea level rise at Falls bridge	N/A
	Maintains Reversing Falls	Yes	Yes	Yes	Yes	Yes	Yes
	Utilities	Cannot be bridge mounted	Cannot be bridge mounted	Bridge mounting possible	Bridge mounting possible	Cannot be bridge mounted	N/A
Property Impacts	Number of Affected Parcels ⁹	4	4	4	4	3	No additional Parcels
	Permanent Impacts	2,200 SqFt	2,200 SqFt	5,100 SqFt	5,100 SqFt	400,000 SqFt	No additional permanent impacts
	Temporary Impacts	20,000 SqFt	21,000 SqFt	21,000 SqFt	21,000 SqFt	64,000 SqFt	Additional 9,000 SqFt
	Motorist Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
Safety (At Falls Bridge)	Pedestrian Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
	Roadway Geometrics	Worst Geometrics	Worst Geometrics	Best Geometrics	Best Geometrics	Unimproved at Falls Bridge	N/A
	Construction Duration	18 to 24 months	18 to 24 months	18 to 24 months	12 to 24 months	18 to 24 months	Additional 6 months
	Duration of Traffic Impact	18 to 24 months	18 to 24 months	9 to 12 months	50-60 days	9 months	No additional impact
Schedule	Night Work	Minimal	Minimal	Minimal	Likely during traffic impact time period	Not anticipated	Minimal

Other

Key Factors & Differentiators:

Sea level rise accommodation

Possible bridge-mounted utilities

Design Alternatives Matrix

Evaluation Criteria (Listed Alphabetically)		Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Property Impacts	Evaluation Criteria (Listed Alphabetically)	Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
	Number of Affected Parcels ⁶	4	4	4	4	3	No additional Parcels
	Permanent Impacts	2,250 SqFt.	2,250 SqFt.	5,100 SqFt.	5,100 SqFt.	400,000 SqFt.	No additional permanent impacts
Community Impacts	Temporary Impacts	20,000 SqFt.	21,000 SqFt.	21,000 SqFt.	21,000 SqFt.	54,000 SqFt.	Additional 9,000 SqFt.
	Long-term Road Financial Obligation ⁷	N/A	N/A	N/A	N/A	\$12,000	
	Additional Structure Ownership	N/A	N/A	N/A	N/A	Falls Bridge and Causeway/Crisis Culvert	N/A
	Long-term Bridge Financial Obligation ⁸	N/A	N/A	N/A	N/A	\$4,000	N/A
Environmental Impacts	Debris Impact to Materials	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the Azule Falls Bridge closed	Less
	Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Major permanent impact in the Azule Falls Bridge closed	Less
	Ambulance	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the Azule Falls Bridge closed	Less
	Paving/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant Increase	N/A
Local Interest/Comment	Tourism/Local Businesses						
	Local Interest/Comment						
	Water Recreational Access ⁹	No change	No change	No change	No change	No change	No change
	Bike/Ped Accommodations ⁸	Least safe	Safer	Safest	Safest	Unknown Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A
Cost	Pedestrian Access ⁸	Least safe	Safer	Safest	Safest	Unknown Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A
	Parking ⁵	No increase	No increase	No increase	No increase	No increase	No increase
	Local Interest/Comment		Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety		
	User Costs (Construction) ¹⁰	\$3,200,000	\$3,200,000	\$1,600,000	\$330,000	30	\$160,000
Schedule	Initial Construction Cost	\$8,100,000	\$8,300,000	\$4,800,000	\$5,300,000	\$14,400,000	Additional \$600,000
	Service Life Cost ¹¹ (100 Year Period)	\$15,500,000	\$16,700,000	\$7,000,000	\$6,900,000	\$19,600,000 ¹²	N/A
	Natural Resources (Wetlands / Fish / Birds / Mammals)	See Handbook					
	Archaeological Resources	See Handbook					
Safety (At Falls Bridge)	Historical Resources	See Handbook					
	Sea Level Rise ¹³	Better accommodation of sea level rise	Better accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	Does not accommodate sea level rise at Falls bridge	N/A
	Maintain Reversing Falls	Yes	Yes	Yes	Yes	Yes	Yes
	Utilities	Cannot be bridge mounted	Cannot be bridge mounted	Bridge mounting possible	Bridge mounting possible	Cannot be bridge mounted	N/A
Property Impacts	Number of Affected Parcels ⁶	4	4	4	4	3	No additional Parcels
	Permanent Impacts	2,250 SqFt.	2,250 SqFt.	5,100 SqFt.	5,100 SqFt.	400,000 SqFt.	No additional permanent impacts
	Temporary Impacts	20,000 SqFt.	21,000 SqFt.	21,000 SqFt.	21,000 SqFt.	54,000 SqFt.	Additional 9,000 SqFt.
	Motorist Visibility	Worst Visibility	Below Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
Schedule	Pedestrian Visibility	Worst Visibility	Below Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
	Roadway Geometrics	Worst Geometrics	Below Geometrics	Best Geometrics	Best Geometrics	Unimproved at Falls Bridge	N/A
	Construction Duration	18 to 24 months	18 to 24 months	18 to 24 months	12 to 24 months	18 to 24 months	Additional 6 months
	Duration of Traffic Impact	18 to 24 months	18 to 24 months	9 to 12 months	50-60 days	0 months	No additional impact
Night Work	Night Work	Minimal	Minimal	Minimal	Likely during traffic impact time period	Not anticipated	Minimal

Property Impact
Key Factors & Differentiators:
Permanent Impact
Temporary Impact

Design Alternatives Matrix

Evaluation Criteria (Listed Alphabetically)		Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Safety (At Falls Bridge Site)	Evaluation Criteria (Listed Alphabetically)	Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
	Motorist Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
	Pedestrian Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
Community Impacts	Roadway Geometrics	Worst Geometrics	Worst Geometrics	Best Geometrics	Best Geometrics	Unimproved at Falls Bridge	N/A
	Long-term Road Financial Obligation ¹	N/A	N/A	N/A	N/A	\$12,000	
	Additional Structure Ownership	N/A	N/A	N/A	N/A	Falls Bridge and Causeway/Cross Culvert	N/A
	Long-term Bridge Financial Obligation ²	N/A	N/A	N/A	N/A	\$4,000	N/A
Community Interest	Deliver Impact to Motorists	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Ambulance	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Paving/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant increase	N/A
Cost	Tourism/Local Businesses						
	Local Interest/Comment						
	Water Recreational Access ³	No change	No change	No change	No change	No change	No change
	Bike/Ped Accommodations ⁴	Least safe	Safer	Safest	Safest	Unimproved at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A
Environmental Impacts	Pedestrian Access ⁵	Least safe	Safer	Safest	Safest	Unimproved at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A
	Parking ⁶	No increase	No increase	No increase	No increase	No increase	No increase
	Local Interest/Comment		Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety	No increase	No increase
	User Costs (Construction) ¹⁰	\$3,200,000	\$3,200,000	\$1,000,000	\$330,000	\$0	\$150,000
Other	Initial Construction Cost	\$8,100,000	\$8,300,000	\$4,800,000	\$5,300,000	\$14,400,000	Additional \$800,000
	Service Life Cost ¹¹ (100 Year Period)	\$16,800,000	\$16,700,000	\$7,000,000	\$8,000,000	\$19,800,000	N/A
	Natural Resources (Wetlands / Fish / Birds / Mammals)	See Handbook					
	Archaeological Resources	See Handbook					
Property Impacts	Historical Resources	See Handbook					
	Sea Level Rise ⁷	Better accommodation of sea level rise	Better accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	Does not accommodate sea level rise at Falls bridge	N/A
	Maintains Reversing Falls	Yes	Yes	Yes	Yes	Yes	Yes
	Utilities	Cannot be bridge mounted	Cannot be bridge mounted	Bridge mounting possible	Bridge mounting possible	Cannot be bridge mounted	N/A
Schedule	Number of Affected Parcels ⁸	4	4	4	4	3	No additional Parcels
	Permanent Impacts	3,280 Sq Ft	2,280 Sq Ft	5,100 Sq Ft	5,100 Sq Ft	401,000 Sq Ft	No additional permanent impacts
	Temporary Impacts	35,000 Sq Ft	25,000 Sq Ft	21,000 Sq Ft	21,000 Sq Ft	84,000 Sq Ft	Additional 3,700 Sq Ft
	Motorist Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
Safety (At Falls Bridge Site)	Pedestrian Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
	Roadway Geometrics	Worst Geometrics	Worst Geometrics	Best Geometrics	Best Geometrics	Unimproved at Falls Bridge	N/A
	Construction Duration	18 to 24 months	18 to 24 months	18 to 24 months	12 to 24 months	18 to 24 months	Additional 6 months
	Duration of Traffic Impact	18 to 24 months	18 to 24 months	9 to 12 months	50-60 days	0 months	No additional impact
Night Work		Minimal	Minimal	Minimal	Unlikely during traffic impact time period	Not anticipated	Minimal

Safety
Key Factors & Differentiators:
Motorist visibility
Pedestrian visibility

Design Alternatives Matrix


Evaluation Criteria (Listed Alphabetically)		Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Schedule	Construction Duration	18 to 24 months	18 to 24 months	18 to 24 months	12 to 24 months	18 to 24 months	Additional 6 months
	Duration of Traffic Impact	18 to 24 months	18 to 24 months	9 to 12 months	50-60 days	0 months	No additional impact
	Night Work	Minimal	Minimal	Minimal	Likely during traffic impact time period	Not anticipated	Minimal

Schedule

Key Factors & Differentiators:

- Construction duration
- Duration of traffic impact
- Night work

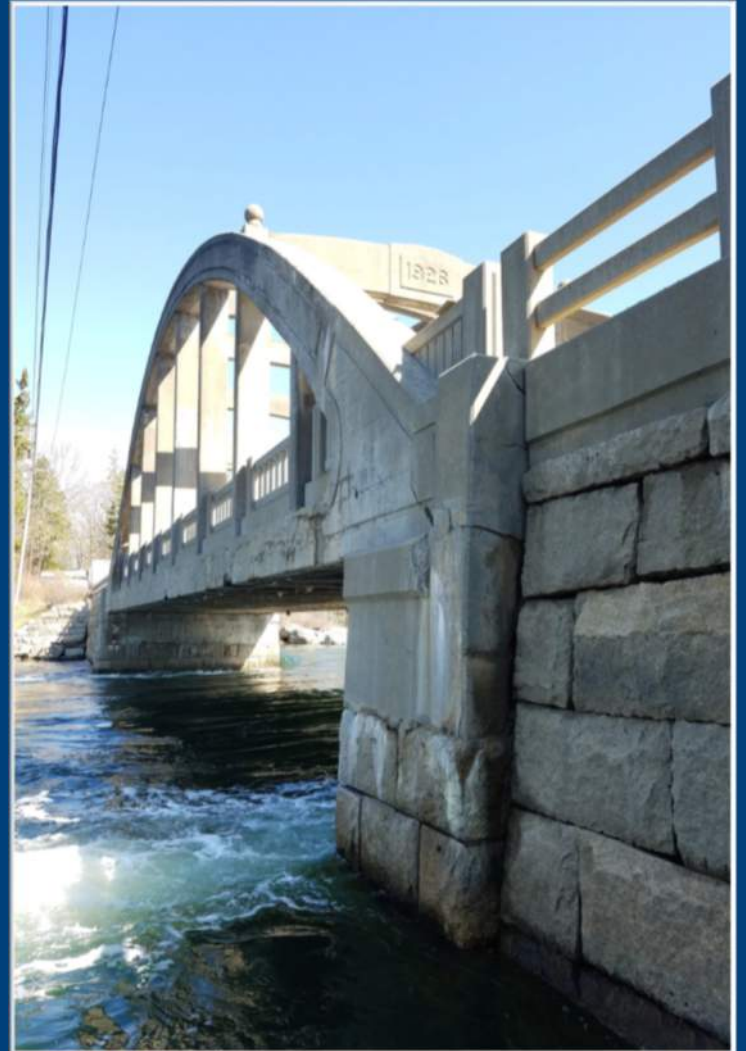
Evaluation Criteria (Listed Alphabetically)		Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
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Moving Forward

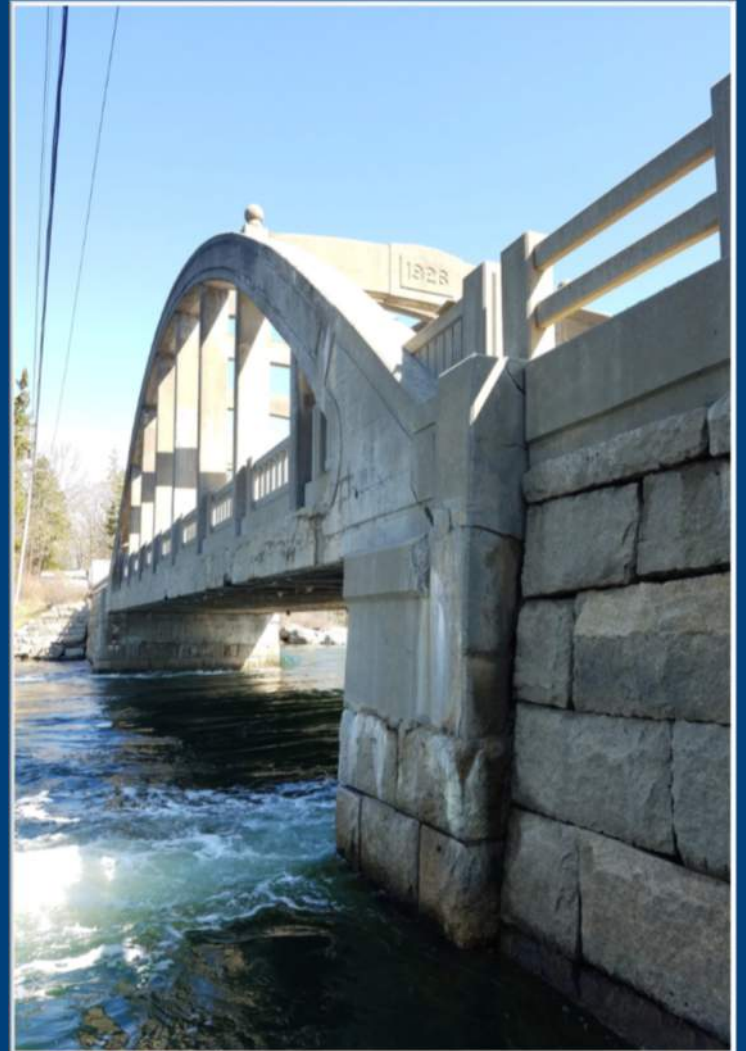
Where do we go from here?

1. Public comments associated with the selection of a preferred alternative will be received and reviewed until September 29, 2018.
2. Public comments related to the design of the selected alternative will continue to be received and reviewed during the design process.
3. The Department will review public comments received with the Bridge Advisory Committee in October and may update the design matrix as needed.
4. The Department will select a preferred alternative from those listed on the design matrix.
5. Design will likely begin in the Winter 2018/2019.



Opportunities for Public Comment / Input

- Bridge Advisory Committee meetings are open to the public. Meeting dates are posted on the Town of Blue Hill website.
- Meeting minutes and presentation materials for Bridge Advisory Committee meetings are published on the Town of Blue Hill's website:
 - <https://www.townofbluehillmaine.org>
- Additional historic information can be found on the MaineDOT's website:
 - www1.maine.gov/mdot/env/documents/section_106/Blue_Hill_17712_00_Draft_Determination_of_Effects.pdf
- Town of Blue Hill website has a link to MaineDOT's website where electronic comments can be submitted directly to the Department of Transportation.



Community Discussion



Integrity - Competence - Service