

TOWN OF SUNAPEE
BRIDGE REPAIR AND/OR REPLACEMENT SCHEDULE & CAPITAL RESERVE PLAN
Updated on November 2, 2022

Planned Maintenance Schedule	NHDOT or Town Bridge No.	Road Name & Water Body Name	Year Built	Bridge Type	Total Bridge Length	Deck Width	Wearing Surface	Bridge Posting	Bridge Condition	Repair, Replacement, and/or Maintenance Required	Estimated Design, Repair or Replacement Cost	Annual Capital Reserve Contribution (Pending Results of Annual Vote)	Estimated Annual Capital Reserve Fund Balance
											Balance remaining from 2020		\$65,693.22
2021	069/069	Trask Brook Road over Trask Brook	1983	Twin 6-foot diameter corrugated metal culvert pipes with stone masonry and concrete abutments, dry laid field stone wing walls and no guardrail.	11 FT	16 FT	Gravel	None	NHDOT Redlist: Light rusting, pitting and scale at inverts, both pipe ends damaged with 8 FT section loss (ripped with holes along both valleys). FEMA Event 7/29/2021. Erosion on exterior sides of pipes caused sinkholes in the gravel road bridge surface adjacent to the upstream abutment. HEB Engineers approved repair sketch and Hansen Bridge constructed repair 12/2021	Replace existing culverts (or re-line the culverts provided hydraulic capacity is sufficient to allow), construct cast-in-place concrete abutments, inlet and discharge aprons and new guardrails.	\$23,000.00	\$50,000.00	\$92,693.22
2022	9	Sargent Road over Tucker Brook	Unknown	Single span cast-in-place concrete on corrugated metal deck, dry laid stone and concrete capped field stone abutments, dry laid field stone wing wall extensions, gravel wearing course and no guardrail system.	6FT	18FT	Gravel	None	Super structure (cast-in-place concrete deck) appear to be in fair condition. Substructure (dry laid stone abutments with a concrete cap) appear to be in fair to poor condition. Stone wing walls appear to be stable and in fair condition. Bridge should be analyzed for structural capacity. Bridge may need to be replaced in its entirety the near future. Guardrail system should be installed. Design & permitting of replacement bridge began in 2022. Contract awarded to HEB Engineers.	Design and permitting of replacement bridge	\$71,000.00	\$50,000.00	\$71,693.22
2023	108/99	High Street	2006	Single span laminated timber beam and laminated timber deck bridge with asphalt wearing course over timber deck, mortared field stone abutments and concrete capped footings, laminated wood guardrail (no approach rail).	27 FT	24.3 FT	3" Bituminous concrete pavement	None	Laminated wood deck and laminated wood beams are in good condition. Pavement cracking has progressed from the spring inspection and is observed above the laminated deck panel joints and at abutment joints. Superstructure is in very good condition. Substructure is in satisfactory condition. Bridge rail is substandard.	Cold plane pavement from existing bridge surface, install new membrane and resurface bridge in 2023. Clean and re-point existing field stone abutment joints within 1-3 years.	\$25,000	\$100,000.00	\$146,693.22
	121/166	Old Route 11 over Otter Pond Outlet	1927	Single span cast-in-place concrete slab with reinforced cast-in-place concrete abutments and footings, cast-in-place concrete channel bottom, 3" bituminous concrete wearing course, coated metal bridge rail (sub standard).	22 LF	21.9 LF	3" Bituminous concrete pavement	E2	Weeping observed at deck slab ends. Spalling of concrete at north end of bridge. Delamination at southwest breast wall with vertical and transverse cracking on all wing walls. Soil piping from west approach to northwest stone abutment filled with flowable fill. Reconstruct subsurface bridge approaches and cold plan bridge deck and install new asphalt wearing course in 2023.	Repair spalled areas of concrete on the abutments and wing walls. Treat concrete surfaces. Replace existing guardrails with standard bridge rail.	\$20,000		\$126,693.22
2024											\$0.00	\$100,000.00	\$226,693.22
2025											\$0.00	\$100,000.00	\$326,693.22
2026	9	Sargent Road over Tucker Brook	Unknown	Single span cast-in-place concrete on corrugated metal deck, dry laid stone and concrete capped field stone abutments, dry laid field stone wing wall extensions, gravel wearing course and no guardrail system.	6FT	18FT	Gravel	None	Super structure (cast-in-place concrete deck) appear to be in fair condition. Substructure (dry laid stone abutments with a concrete cap) appear to be in fair to poor condition. Stone wing walls appear to be stable and in fair condition. Bridge should be analyzed for structural capacity. Bridge may need to be replaced in its entirety the near future. Guardrail system should be installed.	Replace existing bridge with a new pre-cast concrete open bottom box culvert with pre-cast wing walls or equivalent.	\$400,000.00	\$100,000.00	\$26,693.22
2027											\$0.00	\$100,000.00	\$126,693.22
2028	13	Nutting Road over Trask Brook	Unknown	Twin 5-foot diameter corrugated metal culvert pipes with dry laid field stone embankment wing walls and no guardrail.	12FT	24FT	Pavement	None	Light rusting, pitting and scale at inverts, both pipe ends in fair condition. Pipes need to be exposed. Guardrail system should be installed.	Re-establish stream channel through both culverts. Install concrete headwalls at both pipe ends and install guardrail system.	\$75,000.00	\$100,000.00	\$151,693.22
2029												\$100,000.00	\$251,693.22
2030												\$100,000.00	\$351,693.22
2031	069/069	Trask Brook Road over Trask Brook	1983	Twin 6-foot diameter corrugated metal culvert pipes with stone masonry and concrete abutments, dry laid field stone wing walls and no guardrail.	11 FT	16 FT	Gravel	None	NHDOT Redlist: Light rusting, pitting and scale at inverts, both pipe ends damaged with 8 FT section loss (ripped with holes along both valleys).	Replace existing culverts (or re-line the culverts provided hydraulic capacity is sufficient to allow), construct cast-in-place concrete abutments, inlet and discharge aprons and new guardrails.	\$300,000.00	\$100,000.00	\$151,693.22
2032												\$100,000.00	\$251,693.22
2033												\$100,000.00	\$351,693.22
Planned Maintenance Schedule	NHDOT or Town Bridge No.	Road Name & Water Body Name	Year Built	Bridge Type	Total Bridge Length	Deck Width	Wearing Surface	Bridge Posting	Bridge Condition	Repair, Replacement, and/or Maintenance Required	Estimated Design, Repair or Replacement Cost	Annual Capital Reserve Contribution (Pending Results of Annual Vote)	Estimated Annual Capital Reserve Fund Balance
2034												\$100,000.00	\$451,693.22
2035	6	Perkins Pond Road over Ledge Pond Brook	Unknown	Single span cast-in-place concrete on corrugated metal deck, dry laid stone and concrete capped field stone abutments, dry laid field stone wing wall extensions, gravel wearing course and no guardrail system.			Gravel	None	Cast-in-place concrete deck appears to be in fair condition. Dry laid stone abutments appear to be in fair condition. The concrete cap appears to be in fair condition. Stone wing walls appear to be in fair condition and a couple of stones appear to have shifted outward on the southwest wing wall. Bridge deck slab should be analyzed for structural capacity. Bridge may need to be replaced in its entirety the near future. Guardrail system should be installed.	Remove existing bridge deck and abutments and replace it with a pre-cast concrete open bottom box culvert with pre-cast wing walls. Install bridge guardrail and approach rail systems.	\$400,000	\$100,000.00	\$151,693.22
2036												\$100,000.00	\$251,693.22
2037												\$100,000.00	\$351,693.22

2038	3	Jobs Creek Road GM over Un-named Brook	Unknown	Single span precast concrete arch deck slabs with field stone (dry laid) abutments (under road), pre-cast (dry stacked) concrete waste block abutments (at bridge ends) with extension on down gradient side of bridge, 3" bituminous concrete deck, waste block (dry stacked) wing walls, no guard rail			3" bituminous concrete pavement without bitumastic membrane	None	Super structure (pre-cast concrete deck slabs and cast-in-place concrete arch) appear to be in good and fair condition respectively. Substructure (2-ton waste block abutments and dry laid stone abutments) appear to be in good and fair/poor condition respectively. Stone wing walls appear to be stable and in fair condition. Stone gabion wearing surface retaining system should be replaced with proper bridge wearing surface retaining system. Bridge should be analyzed for structural capacity. Bridge may need to be replaced in the near future, or have the center section replaced at a minimum to match both bridge ends. Guardrail system should be installed.	Remove existing bridge deck and abutments and replace it with a pre-cast concrete open bottom box culvert with pre-cast wing walls. Install bridge guardrail and approach rail systems.	\$400,000	\$100,000.00	\$51,693.22
2039												\$100,000.00	\$151,693.22
2040												\$100,000.00	\$251,693.22
2041	097/100	Lower Winn Hill over Sugar River	2004	Laminated wood deck, laminated beams, field stone (mortared) capped concrete abutments, asphalt wearing course, wing-walls and footings, and laminated wood guardrail over bridge with no approach rail system.	25 FT	16 FT	1" Bituminous concrete pavement	None	Deck is in good condition with some slight reflective cracking in the asphalt wearing course. Superstructure is in very good condition. Substructure is in fair condition. Approach rail and rail end not installed.	Clean, and cap (fill) existing field stone abutment. Remove and replace asphalt wearing course. Treat the laminated wood deck and beams. Install bridge approach guardrail, and replace damaged bridge guardrail.	\$100,000	\$100,000.00	\$251,693.22
2042	097/101	Lower Main Street over Ledge Pond Brook	1985	Metal plate single span box culvert with cast-in-place concrete deck, asphalt wearing course, granite bridge curb and galvanized bridge guardrail.	11 FT	24 FT		E2	South end of culvert and wing wall is severely undermined. Small kinks are present along the springline of the barrel. Settling of the barrel is approximately 3/8" at south end. Curbing is cracked in three areas at south end and spalling is present in construction joints at north end.	Remove and reconstruct the existing headwalls at both ends of the culvert. Rehabilitate the existing abutments, reconstruct sidewalk and re-install guardrail system.	\$75,000	\$100,000.00	\$276,693.22
2043	100/100	Mill Street over Sugar River	1920	Double span multi-steel "I" beams with wood deck and custom metal railing (Bridge Closed).	52 FT	13 FT	Timber Planks	CLOSED	BRIDGE CLOSED DUE TO FAILING CONDITION	Remove existing wood deck and bridge beams. Install permanent barrier.	\$0	\$100,000.00	\$376,693.22
2044												\$100,000.00	\$476,693.22
Planned Maintenance Schedule	NHDOT or Town Bridge No.	Road Name & Water Body Name	Year Built	Bridge Type	Total Bridge Length	Deck Width	Wearing Surface	Bridge Posting	Bridge Condition	Repair, Replacement, and/or Maintenance Required	Estimated Design, Repair or Replacement Cost	Annual Capital Reserve Contribution (Pending Results of Annual Vote)	Estimated Annual Capital Reserve Fund Balance
2045	122/163	Cooper Street over Otter Pond Outlet	2006	Laminated wood deck, laminated beams, asphalt wearing course, field stone (mortared) abutments capped with concrete, field stone wing-walls and footings, and laminated wood guardrail over bridge with no approach rail system.	27.5 LF	15.3 LF	1.5" Bituminous concrete pavement	None	Deck is in very good condition. Superstructure is in very good condition. Substructure is in satisfactory condition with cracked stones and light erosion at the northeast and southwest abutments, and fine vertical cracks in the backwalls. Asphalt wearing course was replaced in 2022 and COR-10 weathering steel guardrail approached were completed in 2021.	Clean and cap (fill) existing field stone abutments with concrete. Resurface existing deck (with Pavement Management Plan). Treat existing wood beams and wood deck, tighten all bolts and waterproof concrete bearing pedestals.	\$60,000	\$100,000.00	#REF!
2046	1	Meadow Brook Road over Muzzy Brook	Unknown	Single span pre-cast concrete waste block slab with pre-cast concrete waste block abutments, gravel wearing surface, dry-laid stone abutments and no guardrail.			Gravel	None	Super structure (pre-cast concrete deck slabs) and substructure (2-ton pre-cast waste block abutments) appear to be in good condition. Stone wing walls appear to be stable. No bridge rail installed. Minor scouring and sediment deposition present at inlet and discharge of bridge.	Rehabilitate inlet and discharge aprons, remove vegetation from abutments, and clean stream channel	\$15,000		#REF!
2047	2	Main Street GM over Muzzy Brook	Unknown	Single span precast concrete deck slabs with pre-cast (dry stacked) concrete waste block abutments, cast-in-place concrete stream channel, 3" bituminous concrete deck, dry-laid stone wing walls, wood guardrail and posts with no approach guardrail.			3" bituminous concrete pavement without bitumastic membrane	None	Super structure (pre-cast concrete deck slabs) and substructure (2-ton pre-cast concrete waste block abutments) appear to be in good condition. Stone wing walls appear to be stable and in fair condition. Wood post and wood guardrails are substandard. Approach bridge guardrails should be installed.	Complete a structural evaluation of the pre-cast concrete bridge deck, and replace deck slabs if determined necessary. Clean, mortar and fill existing waste block joints. Rehabilitate discharge apron. Install standard bridge rail and approach rail.	\$30,000	\$100,000.00	#REF!
	5	North Road over Ledge Pond Brook	Unknown	Single span pre-cast concrete waste block slab deck with pre-cast concrete waste block abutments, gravel wearing surface, dry-laid stone abutments and no guardrail.			Gravel	None	Super structure (pre-cast concrete deck slabs) and substructure (2-ton pre-cast waste block abutments) appear to be in good condition. Stone wing walls appear to be stable. No bridge rail installed. Bridge should be analyzed for structural capacity. A new guardrail system should be installed. A beaver debris grate should be installed on the upstream side of the bridge.	Complete a structural evaluation of the pre-cast concrete bridge deck, and replace deck slabs if determined necessary. Clean and mortar waste block abutment joints. Install beaver debris grate. Install bridge guardrail and approach rail systems.	\$20,000		#REF!
2048	7	Avery Road (End of pavement) over Tucker Brook	Unknown	Single span pre-cast concrete waste block slab deck with pre-cast concrete waste block abutments, 3" bituminous concrete wearing surface, dry-laid stone abutments and no guardrail.			3" bituminous concrete pavement without bitumastic membrane		Super structure (pre-cast concrete deck slabs) and substructure (2-ton pre-cast waste block abutments) appear to be in good to fair condition. Stone wing walls appear to be stable. No bridge rail installed. Bridge should be analyzed for structural capacity. Guardrail system should be installed.	Complete a structural evaluation of the pre-cast concrete bridge deck, and replace deck slabs if determined necessary. Clean, mortar and fill existing waste block joints. Rehabilitate discharge apron. Install standard bridge rail and approach rail.	\$20,000	\$100,000.00	#REF!
2049	8	Avery Road (Beginning of private road) over Tucker Brook	Unknown	Single span pre-cast concrete waste block slab deck with pre-cast concrete waste block abutments, gravel wearing surface, dry-laid stone abutments and no guardrail.			Gravel	None	Super structure (pre-cast concrete deck slabs) and substructure (2-ton pre-cast waste block abutments) appear to be in good to fair condition. Stone wing walls appear to be stable. No bridge rail installed. Bridge should be analyzed for structural capacity. Guardrail system should be installed.	Complete a structural evaluation of the pre-cast concrete bridge deck, and replace deck slabs if determined necessary. Clean, mortar and fill existing waste block joints. Rehabilitate discharge apron. Install standard bridge rail and approach rail.	\$20,000		#REF!
2050	10	Stagecoach Road (near Harding Hill Road) over Trask Brook	Unknown	Single span cast-in-place concrete box culvert with cast-in-place concrete abutments, wing walls and channel bottom, 3" bituminous concrete wearing course and no guardrails.			3" bituminous concrete pavement without bitumastic membrane	None	Super structure and substructure (cast-in-place concrete box culvert) appear to be in good to fair condition with corrosion of the west end of the box culvert visible. Cast-in-place concrete wing walls appear to be in good condition. No bridge rail installed. Bridge should be analyzed for structural capacity. Guardrail system should be installed.	Repair spalled areas of concrete on the abutments and wing walls. Clean and treat concrete surfaces. Resurface the bridge with 3" bituminous concrete (with Roadway Management Plan). Install guardrails and approach bridge rail.	\$25,000	\$100,000.00	#REF!
2051	11	Harding Hill Road (west end) over Unknown Intermittent Stream	Unknown	Single span cast-in-place open bottom concrete box culvert with cast-in-place concrete wing-walls, gravel wearing course and no guardrail system.			Gravel	None	Super structure and substructure (cast-in-place concrete open bottom box culvert) appear to be in good to fair condition with corrosion of the south end of the box culvert visible. Stone wing walls appear to be in fair condition. No bridge rail installed. Bridge should be analyzed for structural capacity. Guardrail system should be installed.	Replace with rigid concrete pipe as determined necessary. Rehabilitate inlet and discharge aprons.	\$15,000	\$100,000.00	#REF!
2052	083/088	Treatment Plant Road over Sugar River	2009	Single span cast-in-place concrete slab with reinforced cast-in-place concrete abutments and footings, cast-in-place concrete channel bottom, 3" bituminous concrete wearing course, coated metal bridge rail (sub standard).	28 LF	36.3 LF	3" Bituminous concrete pavement	HL-93	Deck is in very good condition. Superstructure is in very good condition. Substructure is in very good condition. Asphalt wearing surface is in good condition. Approach rail and rail ends are in good condition.	Clean and treat concrete surfaces.	\$0	\$100,000.00	#REF!

2053	111/099	Main Street over Sugar River	1992	Single span laminated timber beam and laminated timber deck bridge with asphalt wearing course over timber deck, pointed field stone abutments and concrete capped footings, laminated wood guardrail (no approach rail).	30 FT	24.1 FT	3" Bituminous concrete pavement	None	Deck is in good condition. Superstructure is in good condition. Substructure is in satisfactory condition. Cracking and potholes present in wearing course on the deck and leaking water observed at deck ends.	Resurface existing deck (with Pavement Management Plan). Treat existing wood beams and wood deck, tighten all bolts and waterproof concrete bearing pedestals.	\$0	\$100,000.00	#REF!
2054	12	Harding Hill Road (east end) over Unknown Intermittent Stream	Unknown	Single span cast-in-place concrete box culvert with cast-in-place concrete wing-walls, gravel wearing course and no guardrail system.			Gravel	None	Super structure and substructure (cast-in-place concrete open bottom box culvert) appear to be in good to fair condition with corrosion of the south end of the box culvert visible. Stone wing walls appear to be in fair condition. No bridge rail installed. Bridge should be analyzed for structural capacity. Guardrail system should be installed.	Replace with rigid concrete pipe as determined necessary. Rehabilitate inlet and discharge aprons.	\$15,000	\$100,000.00	#REF!
Historic Maintenance Schedule	NHDOT or Town Bridge No.	Road Name & Water Body Name	Year Built	Bridge Type	Total Bridge Length	Deck Width	Wearing Surface	Bridge Posting	Bridge Condition	Repair, Replacement, and/or Maintenance Required	Estimated Design, Repair or Replacement Cost	Annual Capital Reserve Contribution (Pending Results of Annual Vote)	Estimated Annual Capital Reserve Fund Balance
2016	094/100	Lower Main Street over Sugar River	2015	Laminated wood deck and laminated wood beam bridge with 3" asphalt wearing course and wood beam and post guardrails, COR-10 weathering steel guardrails at bridge approaches.	26 FT	22 FT	3" Bituminous concrete pavement	6 Ton	Laminated wood deck and laminated wood beam bridge good condition. 3" asphalt wearing course slight cracking above wood deck seams. Wood beam and wood post guardrails good condition. COR-10 weathering steel guardrails at bridge approaches good condition.	Annual bridge deck cleaning. Treatment of laminated timbers every 3-5 years.	\$0		\$179,837.00
2018	071/052	Bradford Road over Trask Brook	2018	Laminated wood deck and laminated wood beam bridge with 3" asphalt wearing course and wood beam and post guardrails, COR-10 weathering steel guardrails at bridge approaches.	20 FT	19 FT - 4 Inches	3" Bituminous concrete pavement	12 Ton	Laminated wood deck and laminated wood beam bridge good condition. 3" asphalt wearing course slight cracking above wood deck seams. Wood beam and wood post guardrails good condition. COR-10 weathering steel guardrails at bridge approaches good condition.	Replace the existing bridge with a pre-cast concrete open bottom box culvert on pre-cast concrete footings, pre-cast concrete abutments, 3" bituminous concrete pavement wearing course and new guardrails.	\$210,000	\$50,000.00	#REF!
2020	4	Jobs Creek Road over Jobs Creek	2020	Laminated wood deck and laminated wood beam bridge with 3" asphalt wearing course and wood beam and post guardrails, COR-10 weathering steel guardrails at bridge approaches.			3" Bituminous concrete pavement	None	Laminated wood deck and laminated wood beam bridge good condition. 3" asphalt wearing course slight cracking above wood deck seams. Wood beam and wood post guardrails good condition. COR-10 weathering steel guardrails at bridge approaches good condition.	Remove existing bridge deck and abutments and replace it with a pre-cast concrete open bottom box culvert with pre-cast wing walls. Install bridge guardrail and approach rail systems.	\$208,000	\$50,000.00	#REF!

NOTE: THE COST ESTIMATE WAS DEVELOPED USING CURRENT NHDOT UNIT PRICES. BRIDGE CONTRACTORS ONLY HOLDING ESTIMATED COSTS FOR 6-MONTHS MAXIMUM. THE PROJECT COMPONENTS SHALL BE REVIEWED BY A STRUCTURAL ENGINEER PRIOR TO ADVERTISING FOR BID PROPOSALS. THE ESTIMATED COST MAY BE ADJUSTED AS NECESSARY TO REFLECT THE MOST CURRENT COST AVAILABLE TO COMPLETE THE PROJECT.