INDIVIDUAL INVENTORY FORM

NHDHR INVENTORY # CNW0006

Name, Location, Ownership

1. Historic name U.S. 302 Bridge over Mill Brook
2. District or area n/a
3. Street & number US 302 over Mill Brook (a.k.a. Outlet of Conway Lake)
4. City or town Conway
5. County Carroll
6. Current owner NHDOT

Function or Use

7. Current use(s) State Highway Bridge, Conway 158/137
8. Historic use(s) same

Architectural Information

9. Style Concrete T-beam, 3-span
10. Architect/builder NH Highway Department
11. Source NHDOT Records
12. Construction date 1955
13. Source NHDOT Records
14. Alterations, with dates Standard steel W-type guardrail added inside existing bridge railings; ca. 1990s?
15. Moved? no ☒ yes ☐ date:

Exterior Features

16. Foundation concrete abutments and piers
17. Cladding n/a
18. Roof material n/a
19. Chimney material n/a
20. Type of roof n/a
21. Chimney location n/a
22. Number of stories n/a
23. Entry location n/a
24. Windows n/a

Replacement? no ☐ yes ☐ date:

Site Features

25. Setting flood plain, wetlands, wooded, fields
26. Outbuildings n/a
27. Landscape features Riprapped channel slopes

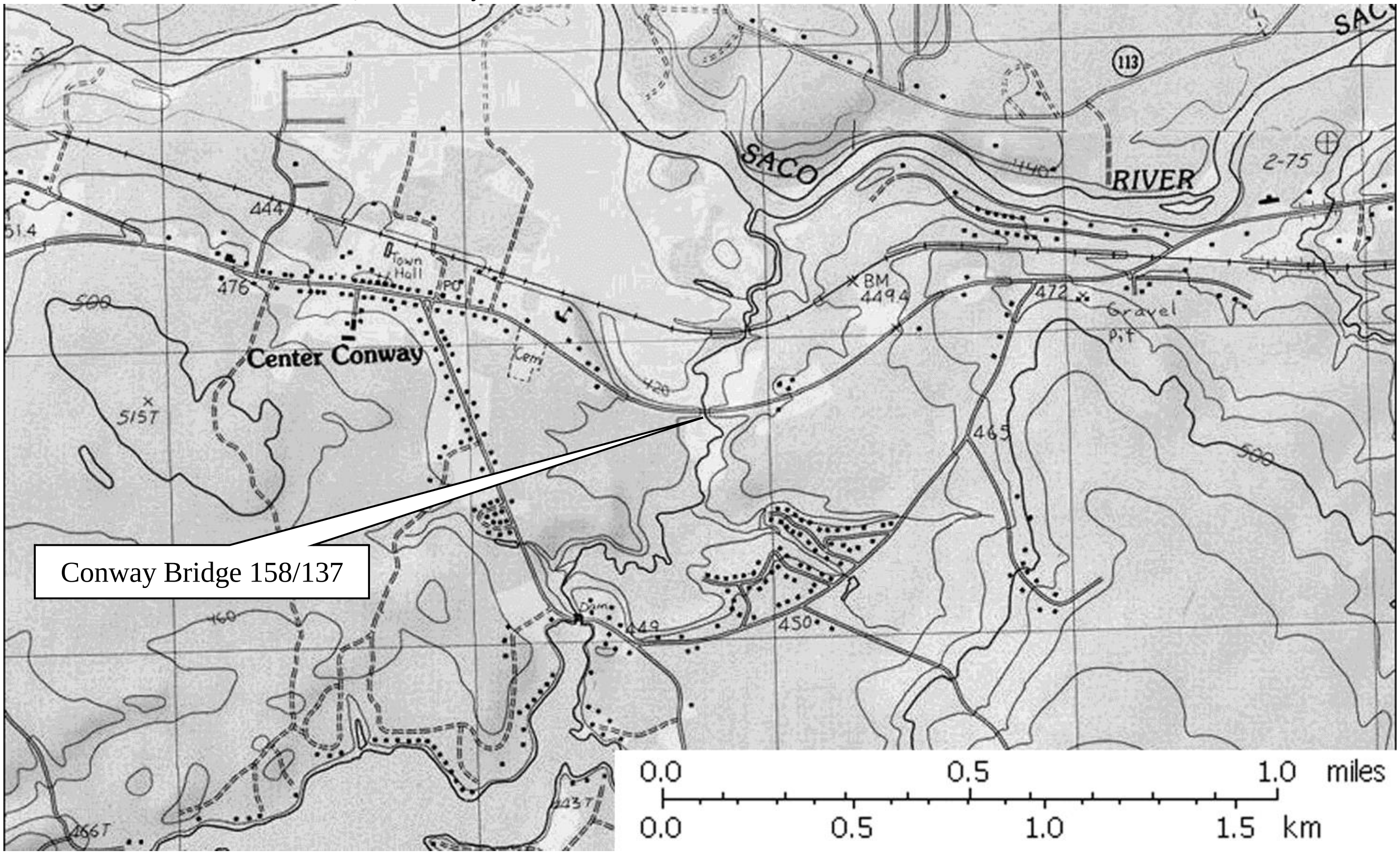
35. Photo # 1 Direction N
36. Date 5 April 2013
37. Reference (file name or frame #): CNW0006_001

28. Acreage less than 1 ac.
29. Tax map/parcel # n/a
30. Map reference UTM 19.335827.4872985
31. USGS quad and scale Conway, NH 7.5 minute

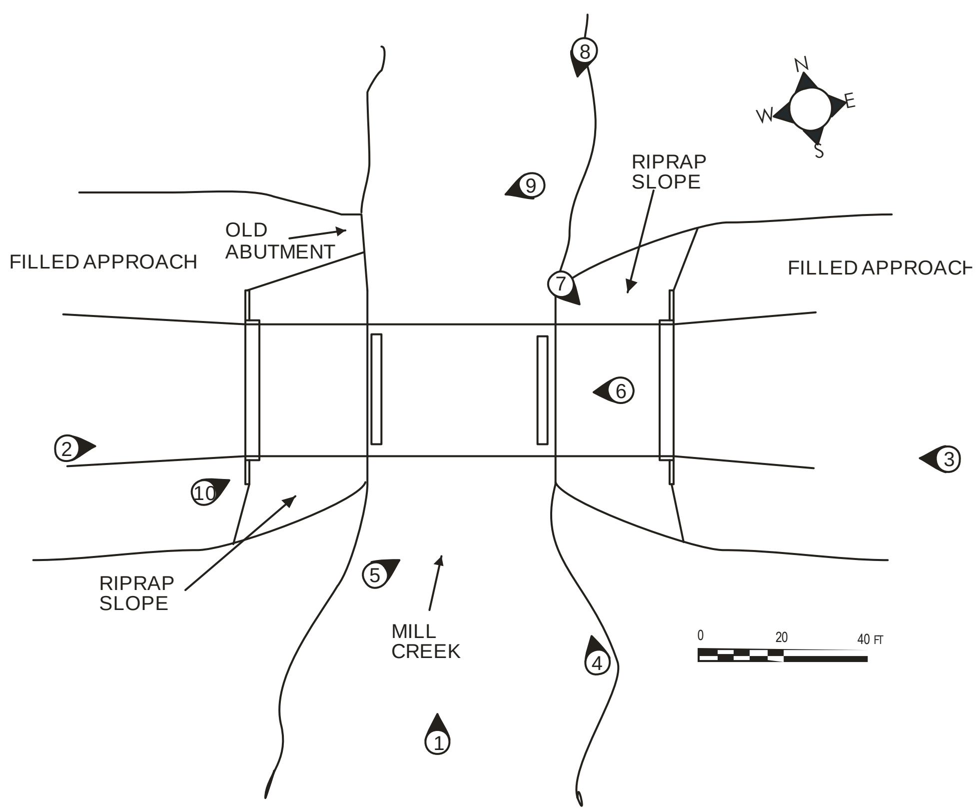
Form prepared by

32. Name Richard M. Casella
33. Organization Historic Documentation Company, Inc.
34. Date of Survey May 2013

39. LOCATION MAP: USGS Quad: Conway, NH 1998



40. PROPERTY MAP AND KEY TO PHOTOS:



41. Historical Background and Role in the Town or City's Development:

Route 302 Bridge over Mill Brook was built in 1955 to replace a much smaller existing bridge at the same location built in 1916. The brook drains Conway Lake, located about a third mile south of the bridge, into Saco River, about a third mile north of the bridge. The brook runs through a broad low flood plain (interval) that reaches its widest point in the vicinity of the bridge. The brook has historically always been known as Mill Brook due to the mills established by Timothy Walker in 1763 at the outlet of Conway Lake.[1] Walker's Mills were completely destroyed by fire in 1913; sometime after that Walker's Pond took the name Conway Lake. The 1860 and 1892 maps (Figures 1,2) show Walker's Pond, the mills and mill brook (unnamed), and the road crossing the brook at the present location of the bridge.

The bridge is located on what was known as the Conway-Fryeburg Road (now Main Street/ US 302) roughly halfway between the villages of Conway (historically known as Conway P.O.) and Fryeburg, ME. The bridge is about a half mile east of Center Conway (historically known as Conway Centre) where Mill Street intersects Route 302. About a half mile east of the bridge is the intersection of Old Mill Road, running between the former mills and Fryeburg (see Figure 1). The Old Mill Road was the first road established in the area, built in 1763-1764 by Walker and Colonel Joseph Frye to connect the mills with Fryeburg. It followed the Pennecook (or Sokoki) Indian trail between the lake and the Indian village of Pequaket along the Saco River at what became Fryeburg. By 1775 a meetinghouse was established at Conway Centre and a road (Mill Street) connected it to Walker's Mills. At some point thereafter a short-cut road was pushed due east across the intervale and over Mill Brook to "straighten" the Conway-Fryeburg road and bypass the loop down to the mills. The 1860 map is the earliest evidence located showing the new section of road, but it is undoubtedly is much older.

Early roads developed through Conway in the late 18th century to link the eastern coastal region of Maine and New Hampshire with the northwest part of the state and the upper Connecticut River Valley by way of Crawford Notch. The passage through Crawford Notch was officially "discovered" in 1771 and improved to some degree at various times up to 1803 when the route was officially designated the Tenth Turnpike Road. The road became the primary gateway through the White Mountains for trade and tourism and was further improved during the early-to-mid nineteenth century to accommodate wagons and later stage coaches.[2]

After the death of the former U.S. President Theodore Roosevelt in 1919, the Tenth Turnpike was commemoratively designated a part of the Theodore Roosevelt International Highway. The TR Highway, or TR Trail, as it was also known, was a "Trail," stretching from Portland Maine to Portland Oregon, formed by an association of civic leaders from Duluth Minnesota.[3] In 1920, New Hampshire State Highway Commissioner F. E. Everett reported that the T.R. Highway in New Hampshire was fully marked along its length through the state from Littleton to Conway with rectangular red signs with white stripes top and bottom and the letters T.R. also in white.[45] In 1922 the Highway Commissioners of the New England States met and adopted a numbering system for major through roads and the entire New Hampshire trunk line system was assigned numbers. The TR Highway through New Hampshire was designated as part of Route 18, which began in Portland, Maine, entered the state at Conway Center and passed through Crawford Notch to Littleton.[6]

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[1] Snow Brook, is the primary inflow for Conway Lake, passing thru Snowville in Eaton and entering the lake at the south end. Online mapping identifies the lake outflow (Mill Brook) also as Snow Brook – this discrepancy is unresolved.

[2] "Crawford Notch," *New Hampshire Highways Monthly Bulletin* (June 1924), n.p.

[3] The idea of improving roads by forming citizen associations began about 1910 with the establishment of the national Old Trails Road (Baltimore to Los Angeles) and the Lincoln Highway (New York to San Francisco). By the mid-1920s over 250 routes were designated Trails by various trail associations who collected dues from business members along the routes, marked the roads and published promotional literature and maps to promote them. For more information on the T.R. Trail in New Hampshire see: Max J. Skidmore, "The Granite State and the TR Trail." Typed manuscript on file at the NH Division of Historic Resources, Concord.

[4] *Good Roads* (July 28, 1920), p. 50.

[5] The New Hampshire branch of the TR Highway Association published a map and guidebook that listed and showed photographs of the hotels and popular camping spots along the route through the White Mountains. See, "The Roosevelt Memorial Highway in New Hampshire," (Manchester: n.d.). Pamphlet on file at NH Historical Society Library, Concord.

[6] "New Hampshire's Road Marking System," *New Hampshire Highways* (September 1923), p. 9.

During the 1920s the American Association of State Highway Officials (ASSHO) and the Bureau of Public Roads held meetings and conferences across the country to develop a numerical identification system for primary roads. In November of 1926 ASSHO adopted the proposed system and the Federal Highway numbering system used today was born.[7] By 1935, Route 18 was re-designated US 302 from Portland Maine through NH to Montpelier Vermont where it joined US 2.

Meanwhile sometime prior to 1931, probably about 1915, the town of Conway built a concrete jack arch bridge to carry Main Street (Route 302) over Mill Brook.[8] This was the bridge replaced in 1955 by the subject bridge. The nature of any earlier bridges at the site was not determined. The bridge card prepared for the jack arch bridge in 1940 does not include a date of construction but provides a section drawing of the superstructure (Figure 5) and notes a roadway width of 20’-9” and a span of 20 feet. In 1931 NH Highway Department (NHHD) forces added concrete wings to the existing stone abutments. During the 1936 flood the bridge was completely submerged under 10 feet of water. The 1940 bridge card photo shows the bridge with its original pipe railing, typical of short low concrete deck bridges built in the 1910s and early 1920s (Figure 6). It also shows wood post and wire guardrails on the approaches, typical of those installed by the NHHD during the 1930s and 40s, probably installed when the abutment wings were added in 1931.

The 1953 flood of March 27-30 affecting northeast NH and eastern Maine resulted in the greatest peak discharge on the Saco River at Conway to date (2013) and put the jack arch bridge under 13 feet of water. The decision to replace the bridge may have already been in the planning stages since the project plans indicate borings were made at the site in December 1952. Additional borings were made in April after the flood and by June of 1953 the NH Department of Public Works & Highways (previously the NH Highway Department, now the NH Dept. of Transportation) began preparing the drawings for a new 3-span bridge to be built alongside the old bridge, with its centerline offset about 50 feet to the south (see Figures 7-10). To accommodate future floods the area of the waterway opening under the new bridge needed to be not only longer than the old bridge with 100 feet between the abutments versus 20 feet, but also about 15 feet higher. Aside from the obvious problem of inundation during flooding, the 175 s.f. waterway opening of the old bridge was inadequate for typical high flow conditions. Water turbulence created at the inlet and outlet of a restricted waterway opening scours the channel bottom, evidenced in the case of the old bridge by the deep pools shown on the Survey Plan (Figure 7). To elevate the new bridge the approaches were raised with earth fill for a distance of several hundred feet in each direction. The waterway opening of the new bridge is 1520 s.f., more than 8.5 times as large as the old opening.

Seven sheets of bridge plans (NHDOT file number 3-3-4-5) were prepared for the bridge under state project number P-2429. Department engineer Edward T. Swierz designed the bridge; Chief Engineer Harold E. Langley approved the plans on 12 August 1953. Bids for the work were opened 15 October 1953. Piedmont Construction Co., Inc. of 77 North Main St., Concord submitted the low bid of $288,121.17 which included roughly $70,000 for the bridge structure, the rest going to the approaches and 3 miles of new road pavement. According to the bridge card the bridge was completed in 1955; a precise date of opening was not determined.

42. Applicable NHDHR Historic Contexts: 84. Automobile highways and culture, 1900-present.

43. Architectural Description and Comparative Evaluation:

Description

Route 302 Bridge over Mill Brook is a three-span concrete T-beam bridge on a concrete substructure. Dimensions of the bridge according to the NHDOT records are: 106.0' overall length, 33.0' width overall with an inside curb width of 27.0 feet. The center span is 40', flanked by 30' spans. The area around the bridge is open field and flood plain to the north and immature wooded wetlands to the south. The nearest buildings are approximately 900' to the east and 1300' to the west and unrelated to the bridge.

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[7] See Richard F. Weingroff, "From Names to Numbers, The Origins of the U.S. Numbered Highway System," *AASHTO Quarterly* (Spring 1997).
[8] The estimated date is based on the design of the bridge evidenced by drawings and photos on the bridge card.

The original plans indicate the superstructure consists of a total of 4 reinforced concrete beams spaced 8' apart on centers. The beams are 24" wide by 36" deep and have ten full-length reinforcing bars in two rows of five at the bottom of the beams plus three additional partial length bars above them. This is the typical arrangement of reinforcement for T-beam bridges of this span range. The beams are integral with the reinforced deck slab, which defines the T-beam structural type in that the floor slab acts as the top flange of the beam.

The concrete T-beams are carried on concrete piers and abutments of standard design. The open piers consist of three 2' square columns spaced 12' on center and concrete cap beam 27" wide by 38" deep. The columns rest on a concrete pier footing 9' wide, 33' long and 3' deep that is in turn carried on 33 wood pilings. The concrete abutments are of the straight type, with backwall and dropped bridge seat, supported on 11 steel pilings.

The 6"-thick deck is cantilevered out 3 feet beyond the outside beams and thickened 9" to carry the granite curbing and steel railings. The bridge railing is of standard design known as Type E, consisting of three rows of steel 5x3" angle rails shop welded to 6x6" wide-flange posts. The railing are anchored to plain rectangular concrete posts that extend up from the abutments.

The only alteration other than deck repaving is the standard steel W-type guardrail added to the inside of the existing bridge railings, date unknown.

Summary of Concrete T-Beam Bridge History and Technology

The first known concrete bridge built in the United States was the 1871 Prospect Park Bridge in Brooklyn, New York, a non-reinforced-concrete example. The early concrete bridges were arches, following the traditional design technologies of the earlier masonry arch bridges, which required the erection of a temporary structure and framework to hold and shape the liquid concrete prior to hardening.

Between 1880 and 1895, knowledge of this structural material improved as European engineers tested the capabilities of concrete reinforced with metal components to absorb tensile stresses. The first modern reinforced concrete bridges were built in France and Germany as early as 1867, followed by England in 1871 and the United States in 1889. The predominant type of reinforcement for concrete bridges through the end of the nineteenth century employed rolled structural beams imbedded in the concrete. It was soon recognized that beam reinforcement required a substantial amount of steel, and bar reinforcement began to be explored as a more efficient use of material. Reinforcing bars required less steel and were lighter than beams, and they could be bent and placed in regions of high tensile stresses. During the last decade of the nineteenth century construction of reinforced concrete highway bridges became widespread in the U.S. and abroad as engineers turned their attention to the potential advantages of the type. Promoters of concrete pointed to the longevity of concrete structures built by the Romans, and the fact that the structures were fireproof, rustproof, maintenance free, low in cost, and built with locally available materials and labor. By 1910, reinforcing bars, or "rebars," had replaced beams as the preferred method of reinforcement. Between 1903 and 1916, the American Concrete Institute and the American Society of Civil Engineers Committee on Reinforced Concrete Highway Bridges and Culverts developed bridge classifications and appropriate load formulae for concrete bridge design. By 1917, bridge historian J. A. L. Waddell asserted that for short-span city bridges, the use of reinforced concrete was nearly universal.

Hool and Johnson gives the following definition of concrete T-beams in the first edition (1918) of the *Concrete Engineer's Handbook*: "When a slab and beam (or girder) are built at the same time and thoroughly tied together by means of stirrups, bent-up rods, and cross slab reinforcement, a portion of the slab may be considered to act with the upper part of the beam in compression. This form of beam is called a T-beam and the extra amount of concrete in the compressive part of such a beam makes possible a considerable saving over the rectangular form." The originator of the T-beam concept is apparently unknown – none of the literature attributes an "inventor" or discusses the first T-beam bridge built. Tests on concrete T-beams were conducted as early as 1904 by Frank P. McKibben at MIT and Arthur N. Talbot at the University of Illinois and it can be assumed that functional examples were being built at the approximately the same time. By 1910 the design and utility of CTB bridges was well understood and was increasingly explained in engineering textbooks and journal articles over the next decade. Tables were published that enabled simplified designing of T-beams without laborious math work.

DESIGN OF T-BEAM

The quantity of concrete in a beam may be reduced when it is built the same time as the slab so that there is no joint between them, by considering it to be a T-section, that is, computing a portion of the slab acting with the upper part of the beam in compression.

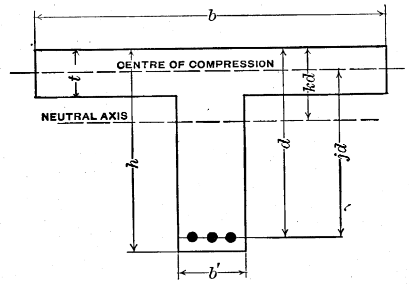

FIG. 132. Section of T-beam. (See p. 423.)

Taylor and Thompson, 1909, p. 423.

In 1911, the US Department of Agriculture, Office of Public Roads, issued a technical bulletin on "Highway Bridges and Culverts" (Hoyt, 1911) that provided the plan for a 24' T-beam bridge, including a bill of materials and a diagram of how to construct the timber formwork. The Public Roads Bulletins as they were known, were widely distributed to state highway departments, city and town engineers and others that requested them by mail.

By 1916 concrete T-beam bridges were built with spans as great as 60 feet and state highway departments had adopted standard designs for the type. George A. Hool, professor of structural engineering at the University of Wisconsin, published his seminal work *Reinforced Concrete Construction* that provided engineering students and practitioners perhaps the most comprehensive treatise on the subject.

The application of the Concrete T-Beam bridge type was greatest during the 1920s and 1930s due to its economy of materials and construction. The use fell off during the World War II years and never reached it former popularity due to improvements in the design and economy of steel girder bridges. Steel beams manufactured under controlled conditions provided a greater assurance of quality control and structural integrity compared to concrete beams constructed in the field under varying conditions.

Comparative Evaluation, Data Presentation:

There are 70 CTB bridges listed in the 2012 NHDOT Bridge Summary of which 67 are over fifty years old. A list of CTB bridges either state-owned or Town-owned state-aid bridges, compiled by the NHHD about 1955, lists 95 CTB bridges in existence at that time. The list gives the span length, town and date but not the bridge number. The span length is given – as opposed to overall bridge length given in the current inventory – which provides a better indicator of similarities in design. Cross-referencing the two lists gives a total of 112 bridges built of the type. City and town bridges built without state aid are not included in the totals.

TABLE 1: NH CONCRETE T-BEAM BRIDGE DATA

Total CTB Bridges in NH by Decade, Built/Existing	Maximum Span Length of CTB Bridges Built in NH by Decade	Total CTB Bridges by Number of Spans, Built/Existing
1910s: 1/1	1910s: 38'	
1920s: 45/19	1920s: 56'	1-span: 97/62
1930s: 45/34	1930s: 63'	2-span: 2/2
1940s: 10/5	1940s: 65'	3-span: 10/5
1950s: 7/7	1950s: 40'	4-span: 2/1
1960s: 1/1	1960s: ~19'	5-span: 1/0
1970s: 3/3	1970s: ~25'	Total 112/70
Total 112/70		

TABLE 2: FEATURES OF CONWAY 158/137 COMPARED TO OTHER NH CONCRETE T-BEAM BRIDGES

BRG. NO.	LOCATION	YEAR	TYPE/SUBTYPE	SPAN (S)	FSR*/ RED LIST?**	PHOTOS
Conway 158/137 (subject bridge)	**US 302 over Mill Brook**	**1955**	**CTB/ Simple constant depth girders**	**3 @ 30'-40'-30'**	**25.6 YES**	**1-10**
Walpole 222/063 (Bypassed)	Abandoned old NH 12 over Aldrich Bk.	1927	CTB/ Simple constant depth girders [plus 1 CS approach span]	2 CTB @ 38.5' 1 CS @ 22'	N/A N/A (offline)	11-12
Raymond 083/151	NH27 over Lamprey River	1932/ 1974	CTB/Continuous constant depth girder	3 @ 18'-27'-18'	72.5 NO	13-14
Sullivan 093/061	NH9 over Otter Creek	1932	CTB/ Continuous variable depth asymmetric girder	2 @ 40'-40'	27.0 YES	15-16
Exeter 089/045	NH108 over Exeter River	1935	CTB/ Continuous variable depth girder	3 @ 36'-48'-36'	57.7 NO	17-18
Concord 160/188	NH9 over Soucook R.	1936/ 1989	CTB/ Continuous variable depth girder on rigid frame legs	3 @ 50'-70'-50'	85.0 NO	19-20
Meredith 184/138	US3 over Lake Shore Dr. & B&MRR.	1947	CTB/ Continuous variable depth girder	4 @ 35'-46'-46'-35'	35.0 NO	21-22

* Federal Sufficiency Rating (FSR) measures the ability of the bridge to remain in service using a formula of weighted variables: including the structural condition of the bridge (55%); serviceability and obsolescence factors (30%) that include traffic volumes, number of lanes, road widths, clearances; and the importance of the bridge for national security and public use (15%).
** New Hampshire's red-list identifies bridges requiring interim inspections due to known deficiencies, poor conditions, weight restrictions, or type of construction. These structures are inspected twice yearly.

Comparative Evaluation, Discussion:

Conway 158/137 was built in 1955 and consists of three simple spans with a maximum span of 40'. The span length is insignificant, 40' spans were being built in the US by 1916 or earlier and in NH during the 1920's. By the 1950's the interest in CTB bridges was waning as other forms of short-span bridges such as the I-beam stringer were becoming more cost effective as the shortage of structural steel from the post-WWII building boom lessened. From the data it is evident that the CTB type was most popular during the Depression years because when built with abnormally low labor and material costs, they were cheaper than structural steel bridges.

Multi-span CTB bridges never reached a level of cost competitiveness that led to their widespread adoption. In their continuous-beam form a greater degree of skilled labor was typically required, offsetting the cost advantage that concrete bridges in general possessed due to the higher ratio of unskilled vs. skilled labor in their construction. Of the ten 3-span bridges built in NH, all but Conway 158/137 are continuous-beam. This was apparently because the Conway substructure (piers and abutments) are supported by wood pilings driven to a bearing capacity of 15 tons, indicating they were friction piles not end-bearing piles. Because there is no acceptable amount of settlement permitted in concrete continuous-beam substructures and friction piles over time may be subject to some settlement, simple beams were used instead of the more economical continuous-beam.

Walpole 222/063 was built by the state with the improvement of NH Route 12 in 1927 and 1928. It has since been bypassed but remains visually accessible by means of the state's Cheshire Railroad Trail (Photos 11-12). The trail and one of the large stone arch culverts carrying it are visible in the background. Two of the three spans of the bridge are simple, constant depth T-beams of roughly the same span and design as the longer span of the Conway bridge. The bridge is a significant example of the CTB-type both for its span length for the time, its overall length, height of the concrete solid-web bents, and picturesque natural and historic setting.

Raymond 083/151 is similar to Conway with three spans on open piers and constant depth girders, but the beams are about 2/3 the span length as Conway, and continuous which allowed the elimination of bearings at the piers. Raymond is a typical and undistinguished example of the type.

Sullivan 093/061 has two 40' spans, the same length as the center span of Conway, but differs in that the beams are continuous and increase in depth over the pier bearing– or decrease in depth away from the pier bearing. The beam design reflects the savings afforded by continuous design: the Conway beams are of a constant depth of 3'; the Sullivan beams are 3' deep at the pier bearing, reducing to 1'-11" in depth for roughly ¾ of their length. The beams are not increased in depth over the abutments, because it is not required structurally and maximum material savings was obviously the objective. But the result is an asymmetric beam of uncommon design but questionable aesthetic appeal that misses the aesthetic advantage that symmetrical, smoothly-arched variable depth girders offer. It lacks engineering significance and is a poor example of its type.

Exeter 089/045, a three span continuous variable depth girder bridge dating from 1935 is an example of a solid workhorse design that can undoubtedly be found by the hundreds around the US. The 35'-50'-35' standard design (actually 36'-48'-36') falls in the about the middle of the typical lengths for the type, where the type is most cost-effective. The low concrete balustrade railings combined with the arched girders give the bridge an aesthetically pleasing elevation, albeit diminished by its short piers and closeness to the water. It does not possess engineering significance, but is a good example of its type that would warrant documentation in the absence of superior examples.

Concord 160/188 appears to be the outstanding example of the type in the state reflecting the potential the type offers for highly aesthetic and efficient design at the upper end of the cost-effective span range for the type. It has the longest spans of the type in NH, which, combined with the tall slender rigid-frame legs instead of piers, the sharp 38 degree skew and the pastoral setting (from the river bank perspective), make it an exceptional visual example of the type with notable engineering characteristics. It was built in 1936, reflecting the popularity of the type during the Depression.

Meredith 184/138 is a 4-span example of the continuous variable depth girder CTB bridge built in 1947. The date of the bridge reflects the resurgence in the use of concrete spans during the post-war structural-steel shortage that lasted in various degrees into the 1950s. There is no particular significance to that association, it simply explains the use of the type when other types would have been more cost-effective in a balanced market. The bridge spans railroad tracks and no effort was made to take advantage of the aesthetic potential of the type: it rests on expansion bearings on undistinguished open piers that required pyramidal derail crash barriers at their bases, which add to their unattractiveness. The standard-design steel railings in use at the time further diminish the design appeal. It does not possess engineering significance, and is an undistinguished example of its type.

44. National or State Register Criteria Statement of Significance:

Conway Bridge 158/137 has not played any important or significant role in the development of the Town and is therefore not eligible for the National Register under Criteria A. The bridge is of typical design and unexceptional construction and does not possess important architectural or engineering characteristics that make it a superior example of the concrete T-beam type in NH. The design characteristics of the T-beam bridge type are better represented by continuous-span examples, the best being Concord 160/188. The bridge is therefore not eligible for the National Register under Criteria A or C.

45. Period of Significance: N/A

46. Statement of Integrity: The property retains integrity of location, setting, association, feeling, design, materials and workmanship. The addition of standard steel W-type guardrail to the inside of the existing bridge railings does not significantly diminish the integrity of the bridge.

47. Boundary Discussion: The boundary of the property is defined by the physical limits of the bridge and its abutments and attached retaining walls.

48. Bibliography and/or References: (Also see footnote citations)

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Surveyor's Evaluation:

NR listed:	individual	_____	NR eligible:		NR Criteria:	A	____
	within district	_____	individual	____		B	_____
			within district	____		C	_____
Integrity:	yes	__X__	not eligible	_X___		D	_____
	no	__ __	more info needed	____		E	_____

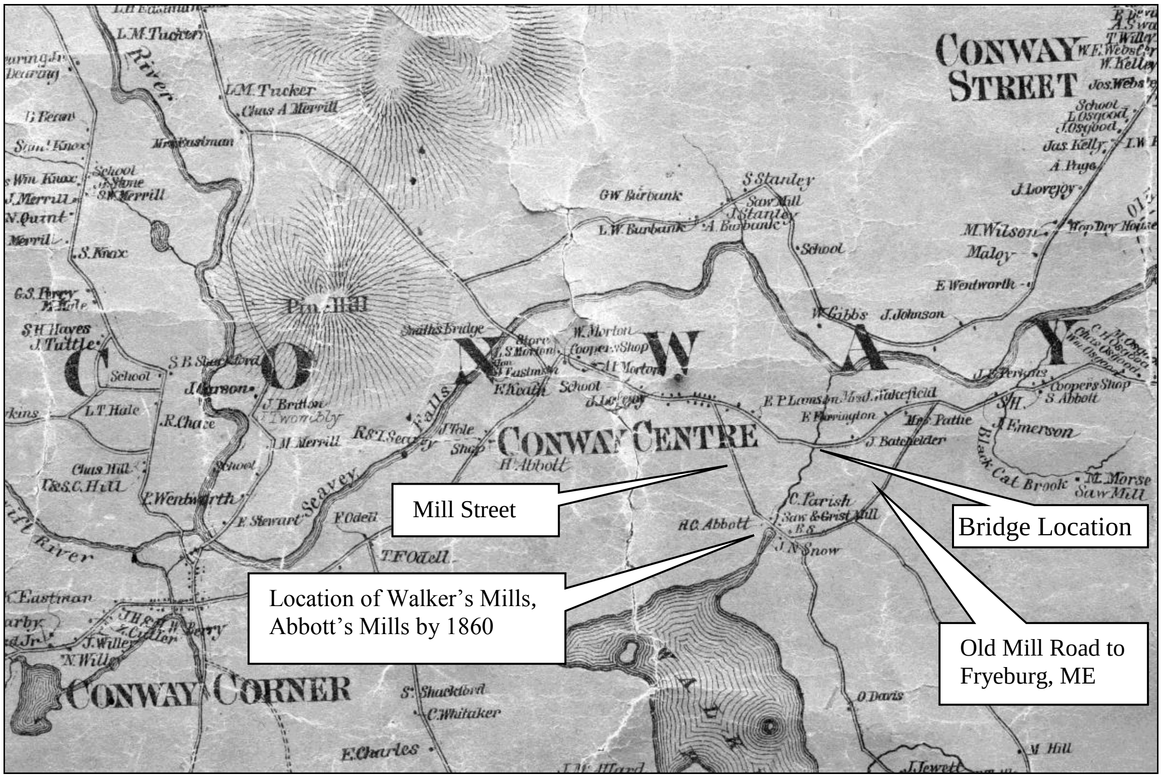

FIGURE 1: Wallings 1860 Map [Conway Lake was called Walker's Pond].

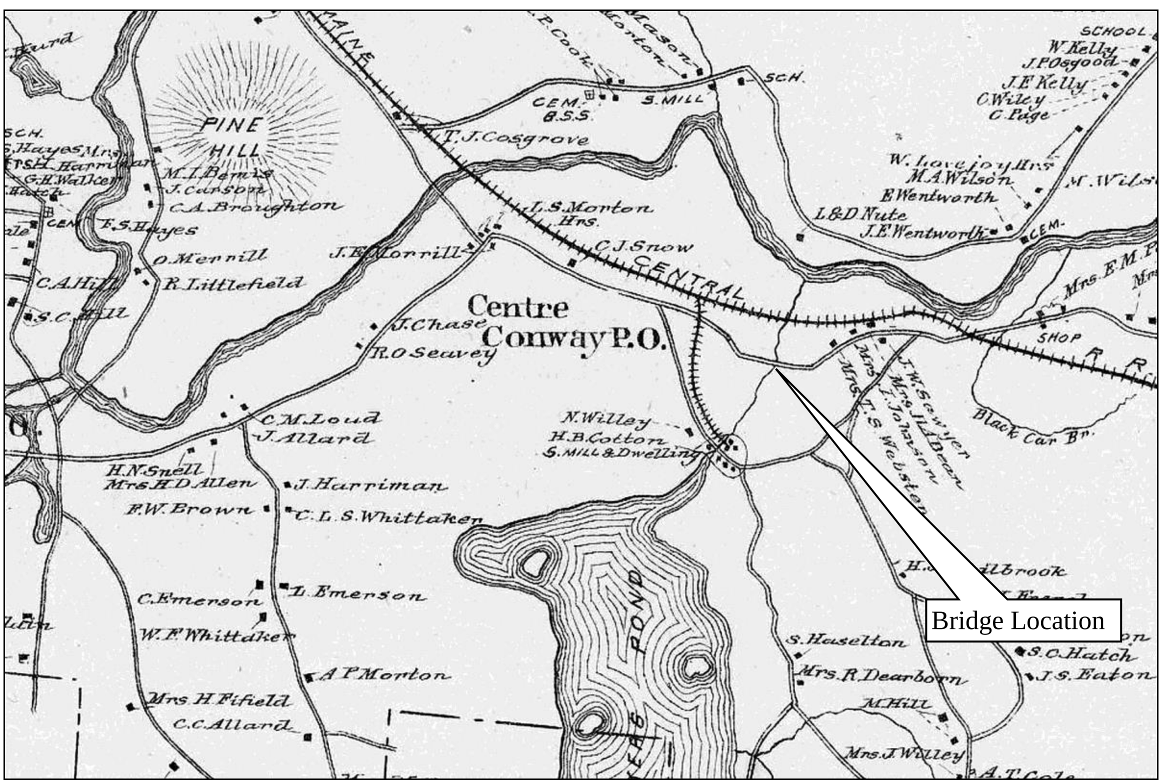

FIGURE 2: Hurd 1892 Map [Conway Lake was still called Walker's Pond; Walker's Mills now owned by Henry B. Cotton].

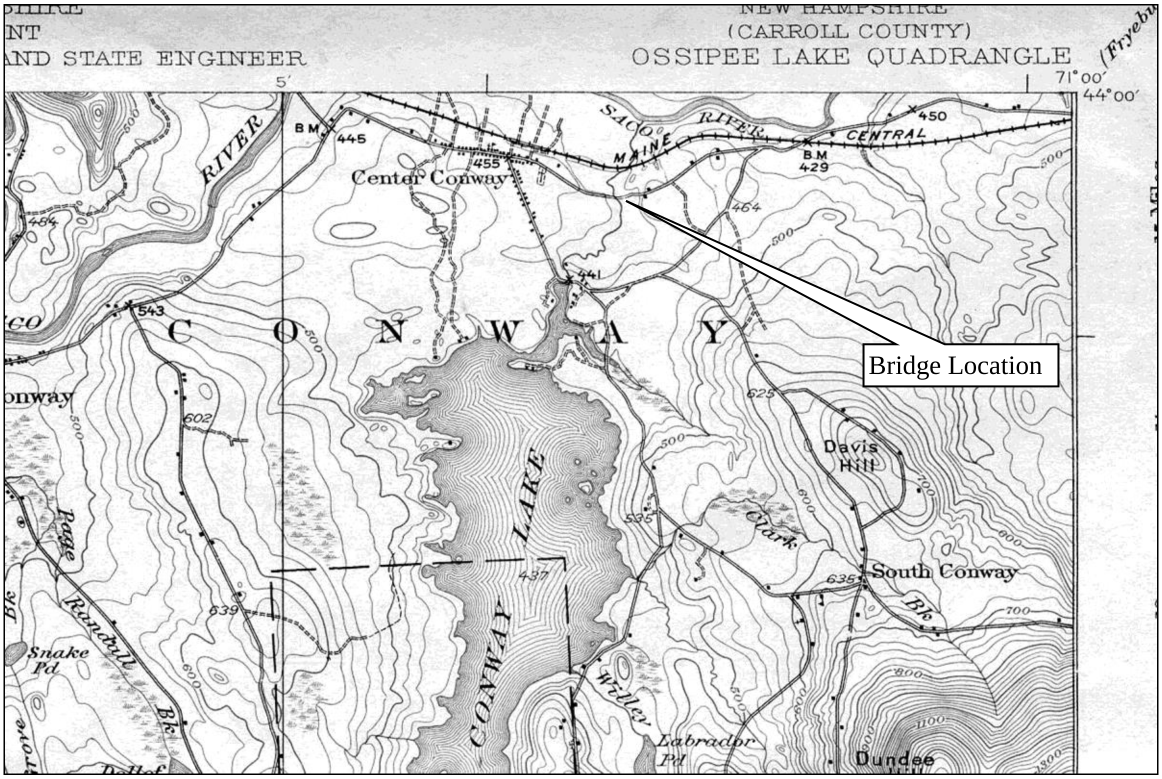

FIGURE 3: Topo Map 1930 (Ossipee Lake Quadrangle, 1930)

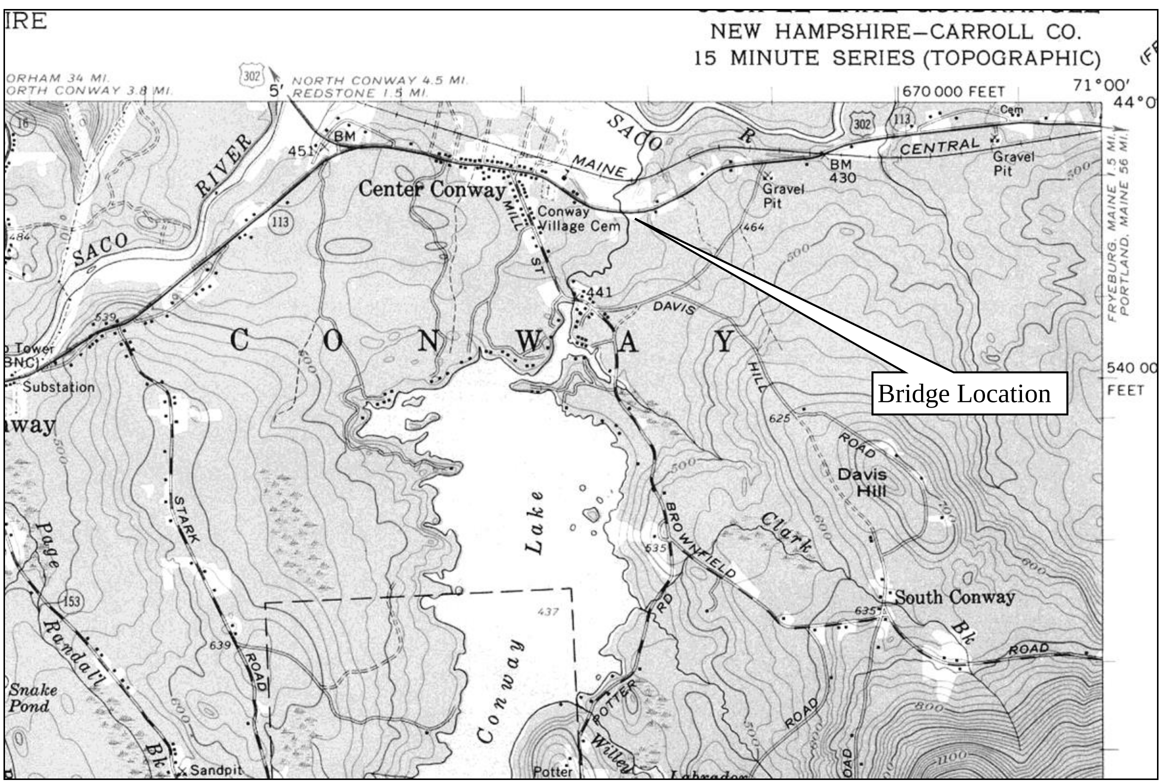

FIGURE 4: Topo Map 1958 (Ossipee Lake Quadrangle, 1958)

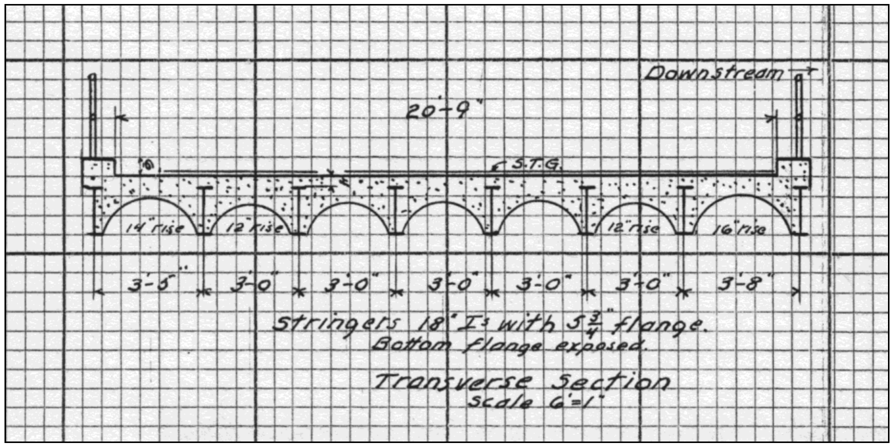

FIGURE 5: Section of jack arch bridge that preceded subject bridge (NHHD Bridge Card 1940)

FIGURE 6: Photo of jack arch bridge that preceded the subject bridge (NHHD Bridge Card 1940)

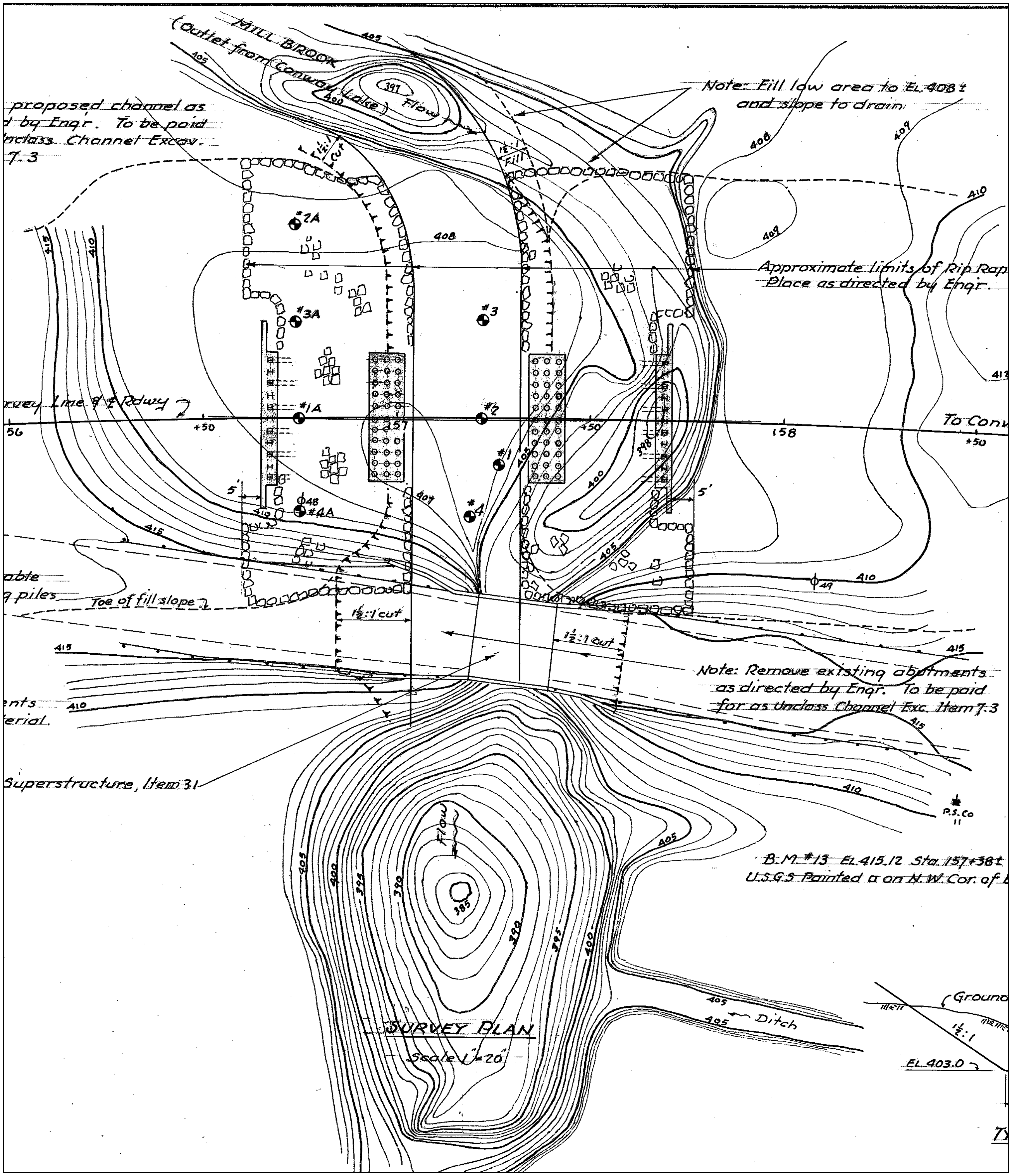

FIGURE 7: Plan for new bridge along the south side of existing bridge. Note deep scour pool resulting from inadequate waterway opening. (Clip from NHDOT Bridge Plans "General Plan & Elevation," Sheet 1 of 7, June 1953).

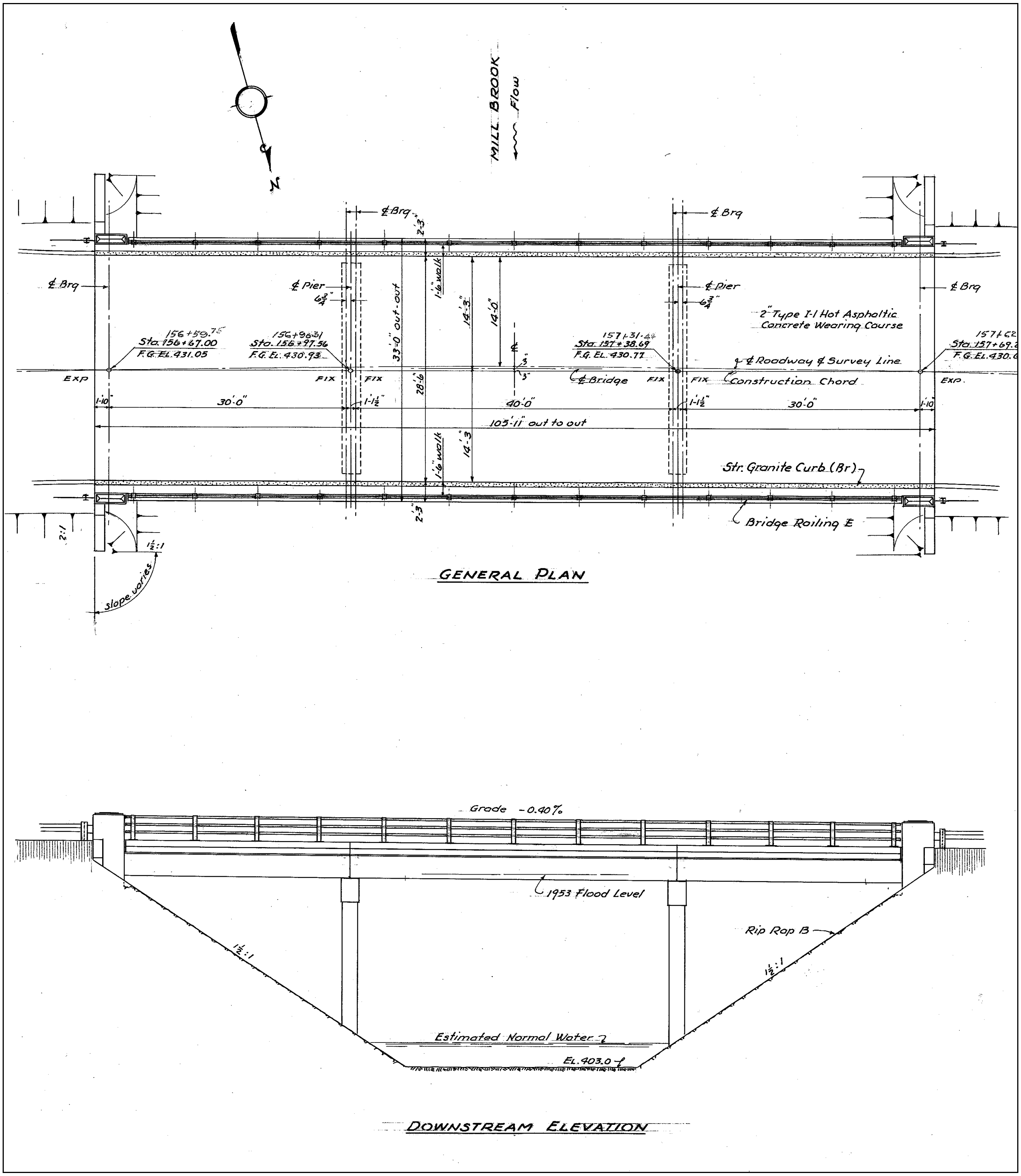

FIGURE 8: Plan and elevation for bridge. Note 1953 flood level. (Clips from NHDOT Bridge Plans "General Plan & Elevation," Sheet 1 of 7, June 1953).

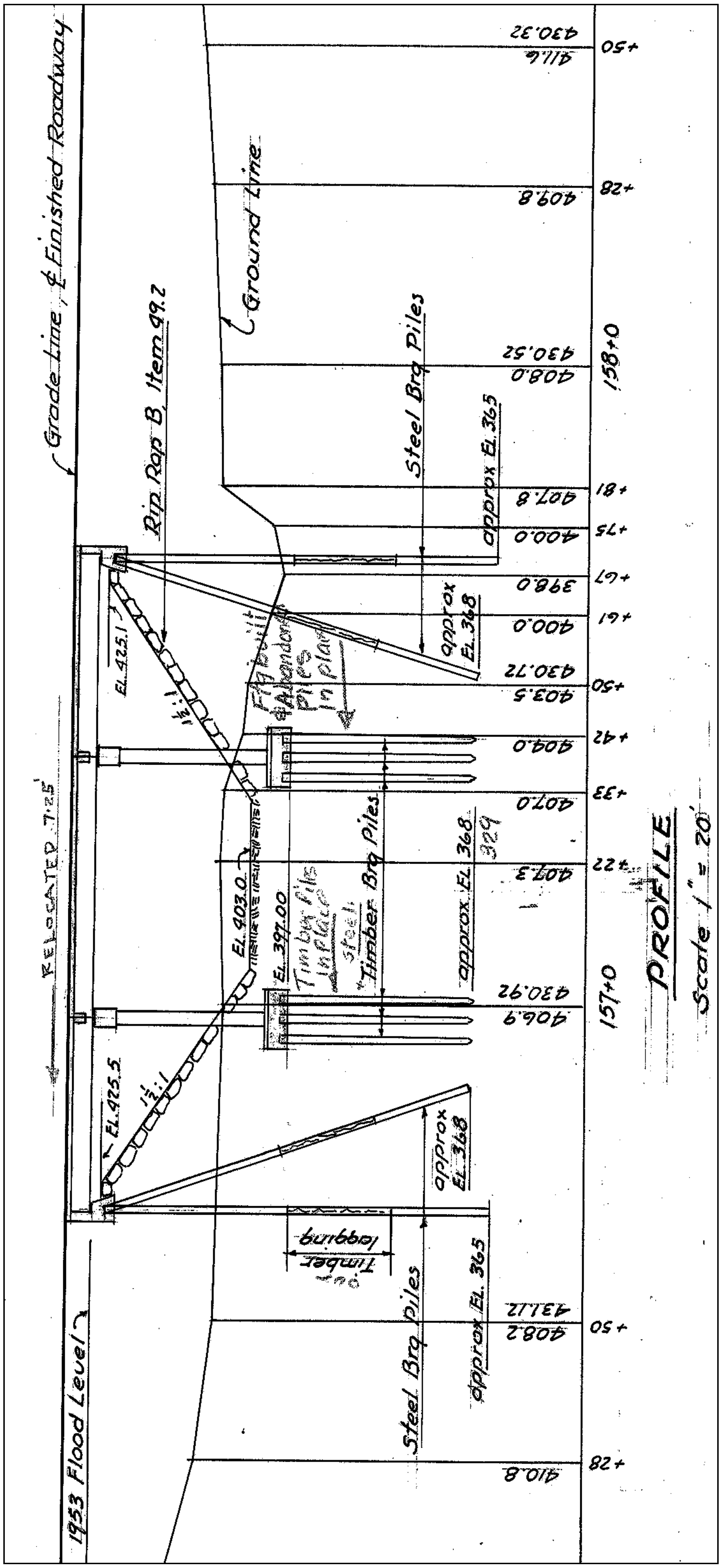

FIGURE 9: Profile drawing of bridge showing substructure foundations. (Clip from NHDOT Bridge Plans "Survey Plan & Profile," Sheet 2 of 7, June 1953).

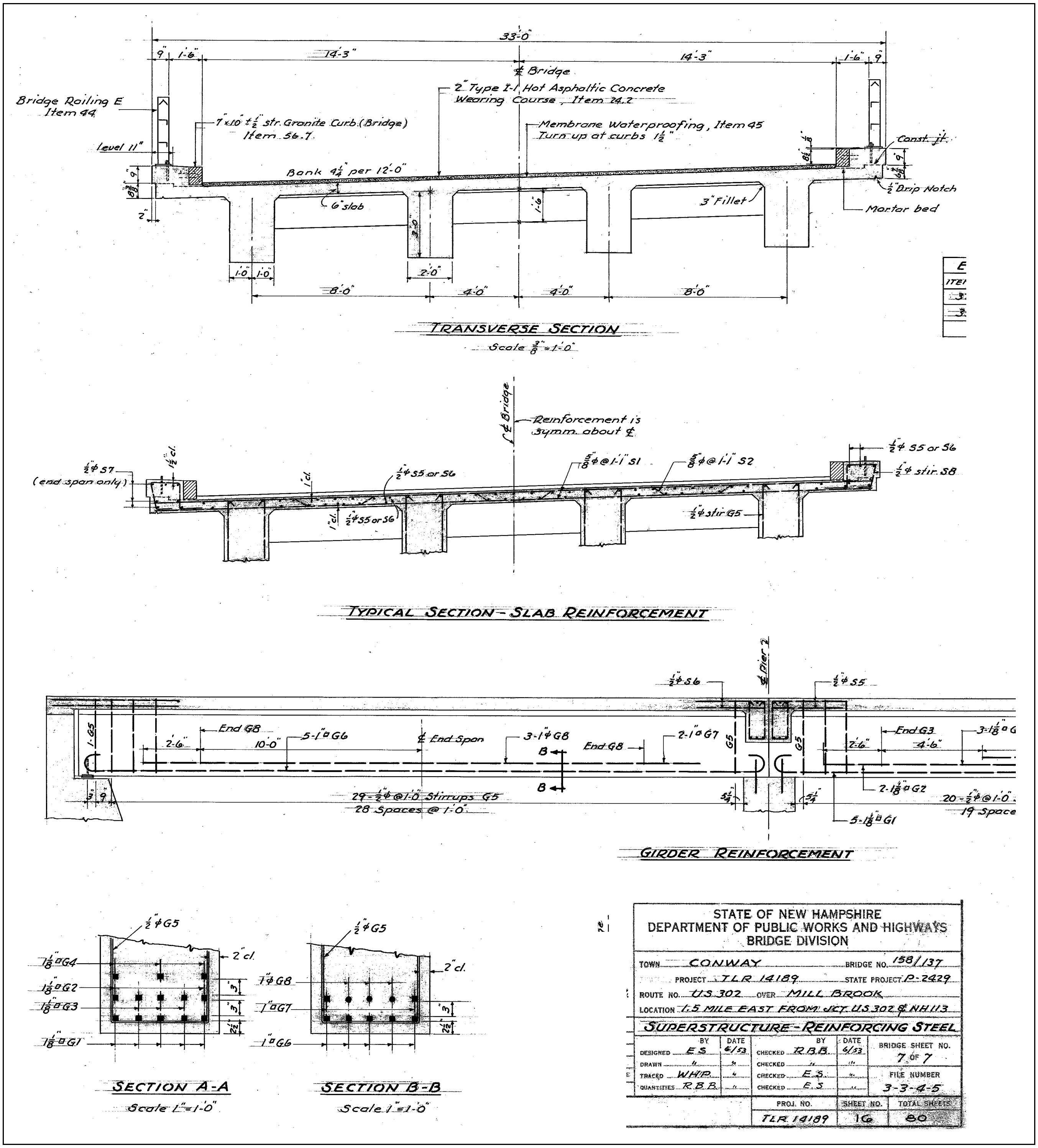

FIGURE 10: Sections, details and title block. (Clips from NHDOT Bridge Plans, Sheets 6 and 7, June 1953).

Date photos taken: April 5, 2013

Photo :#	2	Description: Bridge approach and roadway view from west

Reference (file name or frame #): CNW0006_002 Direction: E

Date photos taken: April 5, 2013

Photo :#	3	Description: Bridge approach and roadway view from east.

Reference (file name or frame #): CNW0006_003 Direction: NW

Date photos taken: April 5, 2013

Photo :#	4	Description: Upstream elevation.

Reference (file name or frame #): CNW0006_004 Direction: N

Date photos taken: April 5, 2013

Photo :#	5	Description: East pier, east abutment & riprapped filled approach embankment

Reference (file name or frame #): CNW0006_005 Direction: NE

Date photos taken: April 5, 2013

Photo :#	6	Description: East pier cap and underside of concrete T-beam deck
Reference (file name or frame #): CNW0006_006		Direction: W

Date photos taken: April 5, 2013

Photo :#	7	Description: East abutment detail showing beam seat, integral railing anchor column, wingwall and riprapped channel slope.
Reference (file name or frame #): CNW0006_007		Direction: SE

Date photos taken: April 5, 2013

Photo :#	8	Description: North (downstream) elevation. Note remains of former west abutment

Reference (file name or frame #): CNW0006_008 Direction: SW

Date photos taken: April 5, 2013

Photo :#	9	Description: Remains of former west abutment from preceding bridge, partly buried by approach embankment.

Reference (file name or frame #): CNW0006_009 Direction: SW

Date photos taken: April 5, 2013

Photo :#	10	Description: Detail of railing, railing anchor column & deteriorated deck edge beam

Reference (file name or frame #): CNW0006_010 Direction: NE

END SUBJECT RESOURCE PHOTOS

BEGIN COMPARATIVE (COMP) RESOURCE PHOTOS

Date photos taken: June 2011

Photo :# 11 Description: **COMP:** Walpole 222/063, CTB/ Simple constant depth girders

Reference (file name or frame #): CNW0006_011 Direction: E

Date photos taken: June 2011

Photo :# 12 Description: **COMP:** Walpole 222/063, CTB/ Simple constant depth girders

Reference (file name or frame #): CNW0006_012 Direction: NE

Date photos taken: xx, 2013

Photo :#	13	Description: **COMP:** Raymond 083/151 CTB/Continuous constant depth girder, 1932

Reference (file name or frame #): CNW0006_013 Direction: N

Date photos taken: xx, 2013

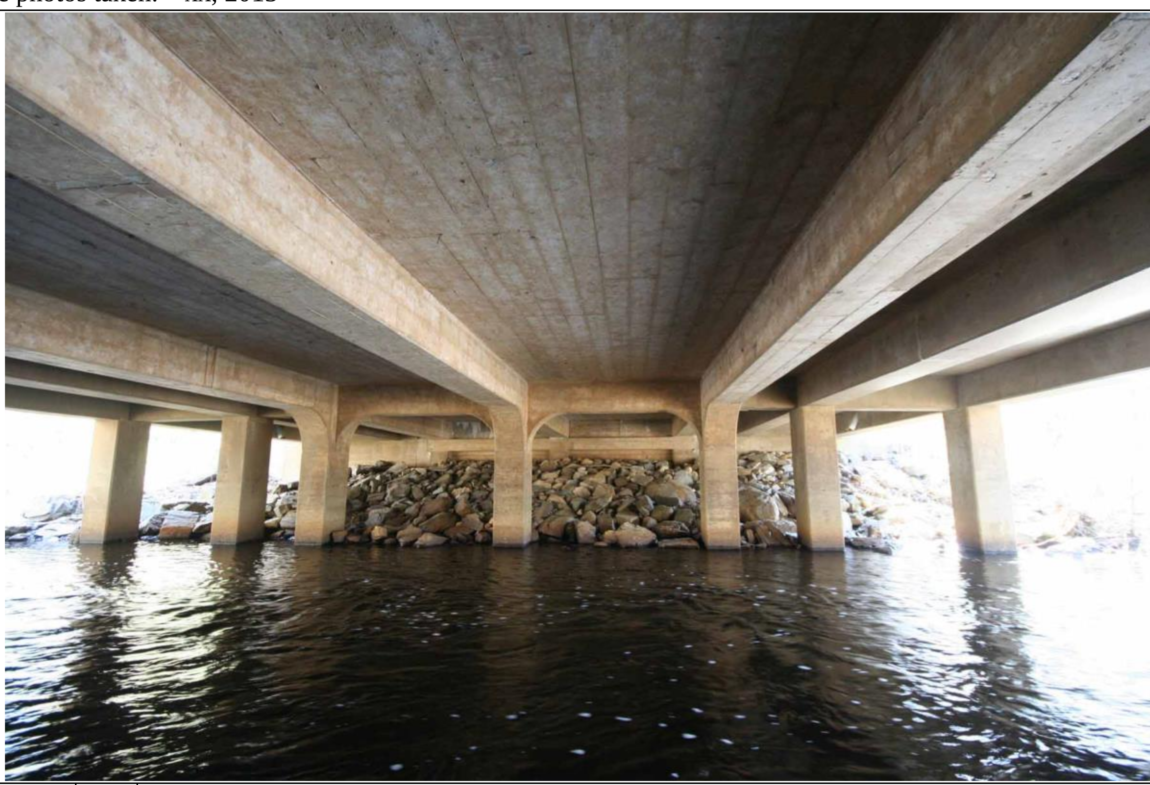

Photo :#	14	Description: **COMP**: Raymond 083/151 CTB/Continuous constant depth girder, 1932

Reference (file name or frame #): CNW0006_014 Direction: E

Date photos taken: xx, 2013

Photo :#	15	Description: **COMP:** Sullivan 093/061, CTB/Continuous variable depth asymmetric girder 1932

Reference (file name or frame #): CNW0006_015 Direction: S

Date photos taken: xx, 2013

Photo :#	16	Description: **COMP:** Sullivan 093/061, CTB/Continuous variable depth asymmetric girder 1932

Reference (file name or frame #): CNW0006_016 Direction: E

Date photos taken: xx, 2013

Photo :#	17	Description: **COMP:** Exeter 089/045, CTB/ Continuous variable depth girder, 1935

Reference (file name or frame #): CNW0006_017 Direction: NE

Date photos taken: xx, 2013

Photo :#	18	Description: **COMP:** Exeter 089/045, CTB/ Continuous variable depth girder, 1935

Reference (file name or frame #): CNW0006_018 Direction: SW

Date photos taken: xx, 2013

Photo :#	19	Description: **COMP:** Concord 160/188, CTB/ Continuous variable depth girder, 1936

Reference (file name or frame #): CNW0006_019 Direction: NE

Date photos taken: xx, 2013

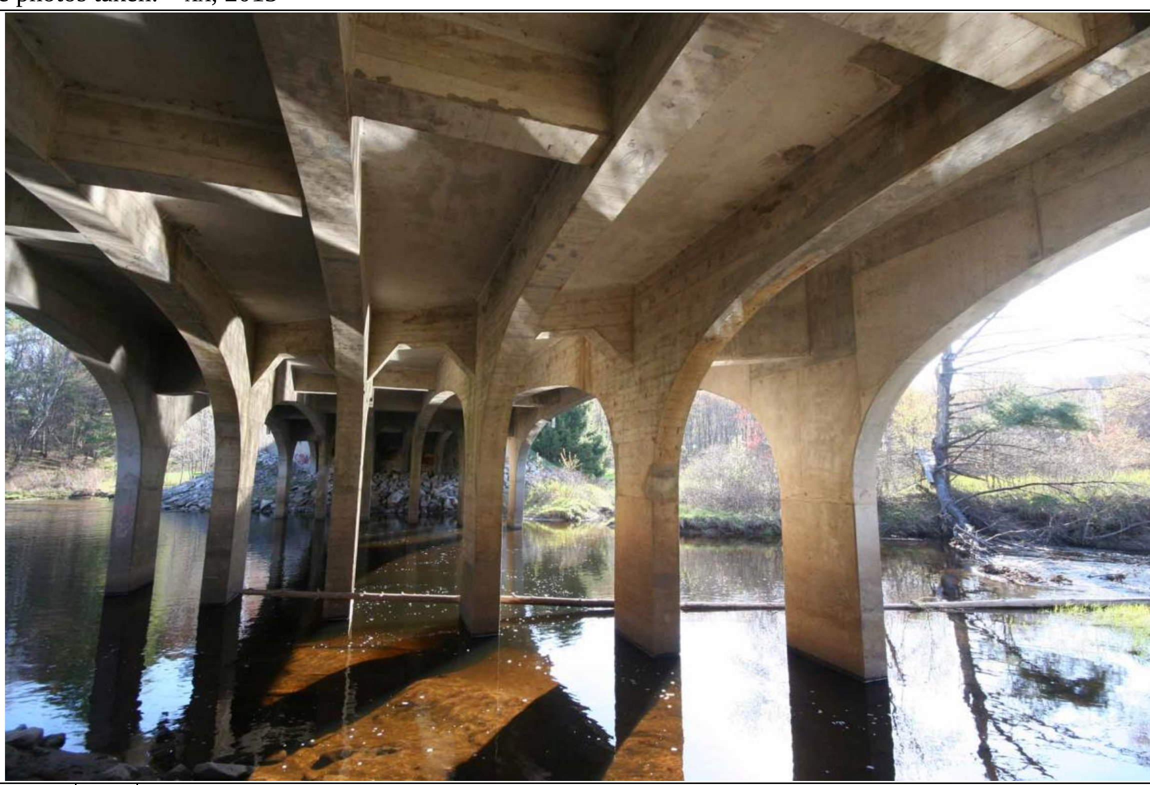

Photo :#	20	Description: **COMP:** Concord 160/188, CTB/ Continuous variable depth girder, 1936

Reference (file name or frame #): CNW0006_020 Direction: E

Date photos taken: xx, 2013

Photo :#	21	Description: **COMP:** Meredith 184/138, CTB/ Continuous variable depth girder, 1947

Reference (file name or frame #): CNW0006_021 Direction: N

Date photos taken: xx, 2013

Photo :#	22	Description: **COMP:** Meredith 184/138, CTB/ Continuous variable depth girder, 1947

Reference (file name or frame #): CNW0006_022 Direction: NE

PHOTO KEY IS LOCATED ON PAGE_2__

I, the undersigned, confirm that the photos in this inventory form have not been digitally manipulated and that they conform to the standards set forth in the NHDHR Photo Policy. These photos were printed at the following commercial printer OR were printed using the following printer, ink, and paper: HP Photosmart 7850 Printer, HP Vivera 100 Gray Photo Ink, HP Premium-Plus Photopaper.
(Color photos must be professionally printed.)
The negatives or digital files are housed at/with: Historic Documentation Company, Inc., 490 Water St., Portsmouth, RI 02871

SIGNED:

FOR STATE REGISTER LISTING ONLY!
If this inventory form is being submitted for consideration of New Hampshire State Register listing, have you included:

____ a photo CD with digital images included in the nomination (does not apply if film photography was used)

____ the State Register Contact Information sheet