



**North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary Susi H. Hamilton

Office of Archives and History
Deputy Secretary Kevin Cherry

October 15, 2019

Caitlin Herrnstadt
JMT
1130 Situs Court, Suite 200
Raleigh, NC 27606

cherrnstadt@jmt.com

Re: Historic Structures Survey Report, BLRI Projects 2A16 and 2D17, Rehabilitate/Replace Big Pine Creek Bridge 3, Big Pine Creek Bridge 6, Brush Creek Bridge 1, and Laurel Fork Bridge, Ashe and Alleghany Counties, ER 18-2218

Dear Ms. Herrnstadt:

Thank you for your September 10, 2019, letter transmitting the above-referenced report and supporting materials on behalf of Ryan Kimberley with the Federal Highway Administration (FHWA). We have reviewed the report and offer the following comments.

While the report fulfills Stipulation I. B2 of the Memorandum of Agreement (MOA) for the undertaking, neither the cover letter nor the report notes that the MOA for the project was signed in the Spring of 2019 or that the current submittal is intended to fulfill the stipulation. Rather, the reports reads as if the project was only in the planning stage and the determination of the bridges' eligibility still in question, which is indeed, not the case.

We will file the report with our Blue Ridge Parkway survey site files. We look forward to receipt of the HAER documentation package from the National Park Service, upon their acceptance and approval, as well as further consultation on the designs for the replacement bridges.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

A handwritten signature in blue ink that reads "Renee Gledhill-Earley".

for Ramona Bartos, Deputy
State Historic Preservation Office

cc: Ryan Kimberley, FHWA, ryan.kimberley@dot.gov
John McDade, NPS/BRP, john_mcdade@nps.gov



Received: 09/13/2019
State Historic Preservation Office

ER 18-2218

September 10, 2019

Due -- 10/7/19

Renee Gledhill-Early
Environmental Review Coordinator
North Carolina State Historic Preservation Office
109 East Jones Street, Room 258
Raleigh, NC 27601

H-

ER Letters
10/14

RE: ER 18-2218, Blue Ridge Parkway Projects 2D17 and 2A16 Ashe and Allegheny Counties, Draft Structures Report
JMT Job No. 18-00857-001 -002

Dear Ms. Gledhill-Early:

Enclosed please find the Historic Structure Survey Report, survey site forms, and additional materials for the above referenced project that JMT is submitting on behalf of Ryan Kimberley of FHWA (ryan.kimberley@dot.gov).

If you have any questions or need further information, please do not hesitate to contact me at 984-269-4917 or cherrnstadt@jmt.com.

Sincerely,

JOHNSON, MIRMIRAN & THOMPSON, INC.

Caitlin Herrnstadt
Architectural Historian

CH/ch

Enclosures



HISTORIC STRUCTURES SURVEY REPORT

**Proposed Replacement of Four Bridges Along the Blue Ridge Parkway in
Alleghany and Ashe Counties, North Carolina**

FHWA #BLRI 2A16-2D17

JMT Project # 18-00857-001 -002

ER 18-2218

Submitted to:

North Carolina Department of Natural and Cultural Resources
109 E. Jones Street
Mail Service Center 4601
Raleigh, NC 27601

August 2019



MANAGEMENT SUMMARY

The National Park Service (NPS), in cooperation with the Federal Highway Administration (FHWA), proposes to replace four bridges (Laurel Fork Viaduct in Ashe County; and Brush Creek Bridge # 1, Big Pine Creek Bridge #3, and Big Pine Creek Bridge #6 in Alleghany County) along the Blue Ridge Parkway in Alleghany and Ashe Counties, North Carolina due to their structural deficiencies and to improve safety. The Area of Potential Effects (APE), established for the Undertaking in consultation with the North Carolina State Historic Preservation Officer (NCSHPO) and other Memorandum of Agreement (MOA) signatories, includes historic properties eligible or potentially eligible for listing in the National Register of Historic Places (NRHP) and within the proposed Blue Ridge Parkway National Historic Landmark Historic District. The following architectural components have been identified as contributing resources to the NRHP eligible Blue Ridge Parkway Historic District and proposed Blue Ridge Parkway National Historic Landmark Historic District: the road corridor, including alignment, grade, side slopes, pavement and curbs; road structures, including the four bridges, abutments, piers, masonry drainage channels, parapet guard-walls, rock embankments, and free-standing guard walls; and the scenic corridor, including the forest, woodland and agricultural scenes.

NPS determined that the three bridge replacements and rehabilitation of the Laurel Fork Viaduct will result in an adverse effect to the NRHP eligible Blue Ridge Parkway Historic District and proposed Blue Ridge Parkway National Historic Landmark Historic District. As a result, an MOA was drafted by NPS and FHWA in concurrence with NCSHPO and Tribal Historic Preservation Officers (THPOs).

All survey work was conducted in consultation with NPS and FHWA. The project complied with requirements of Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its corresponding implementing regulations in 36 CFR 800, as well as NCSHPO's *Standards for Historic Structure Survey Reports*. Johnson, Mirmiran and Thompson, Inc. (JMT) was contracted to identify and assess all resources of approximately fifty years of age or more within the APE. Four bridges within the APE warrant National Register eligibility evaluations, and they are the subjects of this report (Figures 1-3). The eligibility criteria established for significance or potential significance is established in 36 CFR 60.4.

JMT completed research, field investigation, Historic American Engineering Record (HAER) documentation, and NRHP evaluations of the four bridges and submits this report for concurrence on behalf of the NPS and FHWA. Based on this study, the recommendations for the NRHP are as follows:

Survey Site Number (SSN)	Name	Eligibility Determination/Status	Criteria
AH720	Laurel Fork Viaduct (Bridge)	Individually Eligible	C
AL315	Big Pine Creek Bridge #3	Not Individually Eligible	N/A
AL317	Big Pine Creek Bridge #6	Not Individually Eligible	N/A
AL319	Brush Creek Bridge #1	Not Individually Eligible	N/A



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INTRODUCTION

The National Park Service (NPS), in cooperation with the Federal Highway Administration (FHWA), proposes to replace four bridges along the Blue Ridge Parkway in Alleghany and Ashe Counties, North Carolina due to their structural deficiencies and to improve safety. The bridges included in the project are as follows: Laurel Fork Viaduct Structure 5140-159P- Mile post (MP) 248.9 in Ashe County (AH720), Big Pine Creek Bridge #3 Structure 5140-077P- MP 223.78 in Alleghany County (AL315), Big Pine Creek Bridge #6 Structure 5140-080P- MP 224.7 in Alleghany County (AL317), and Brush Creek Bridge #1 Structure 5140-081P- MP 227.45 in Alleghany County (AL319) (Figures 1-3).

The Area of Potential Effects (APE), established for the Undertaking in consultation with the North Carolina State Historic Preservation Officer (NCSHPO) and other Memorandum of Agreement (MOA) signatories, includes historic properties eligible or potentially eligible for listing in the National Register of Historic Places (NRHP) and within the proposed Blue Ridge Parkway National Historic Landmark Historic District. The following architectural components have been identified as contributing resources to the NRHP eligible Blue Ridge Parkway Historic District and proposed Blue Ridge Parkway National Historic Landmark Historic District: the road corridor, including alignment, grade, side slopes, pavement and curbs; road structures, including the four bridges, abutments, piers, masonry drainage channels, parapet guard-walls, rock embankments, and free-standing guard walls; and the scenic corridor, including the forest, woodland and agricultural scenes.

NPS determined that the four bridge replacements will result in an adverse effect to the Blue Ridge Parkway NRHP Eligible Historic District and proposed Blue Ridge Parkway National Historic Landmark Historic District. As a result, an MOA was drafted by NPS and FHWA in concurrence with NCSHPO and other signatories Tribal Historic Preservation Officers (THPOs). The MOA included the following stipulations for archival documentation of the four bridges:

- (1) Completion of Historic American Engineering Record (HAER) Level II documentation
- (2) Completion of a North Carolina Historic Structures Survey Report submitted to NCSHPO

The project complied with requirements of Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its corresponding implementing regulations in 36 CFR 800, as well as NCSHPO's *Standards for Historic Structure Survey Reports*. Johnson, Mirmiran and Thompson, Inc. (JMT) was asked to identify and assess all resources of approximately fifty years of age or more within the APE. Four bridges within the APE warrant intensive National Register eligibility evaluations and are the subjects of this report. The eligibility criteria established for significance or potential significance is established in 36 CFR 60.4.

METHODOLOGY

JMT completed research, field investigation, HAER documentation, and NRHP evaluations of the four bridges. All architectural properties within the APE, including the four bridges, drainage structures, guard walls, and any other features associated with the historic development of the Blue Ridge Parkway were



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also documented and photographed. Two drainage structures associated with Laurel Fork Viaduct and Big Pine Creek Bridge #6 were documented, but do not warrant separate National Register evaluations and were instead mentioned in the discussion of the associated bridge. JMT reviewed previous documentation and sources relating to the history and construction of the Blue Ridge Parkway including the 2003 *Blue Ridge Parkway Cultural Landscape Report for Guard Rails* prepared for NPS by the Jaeger Company.



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Alleghany and Ashe Counties, North Carolina

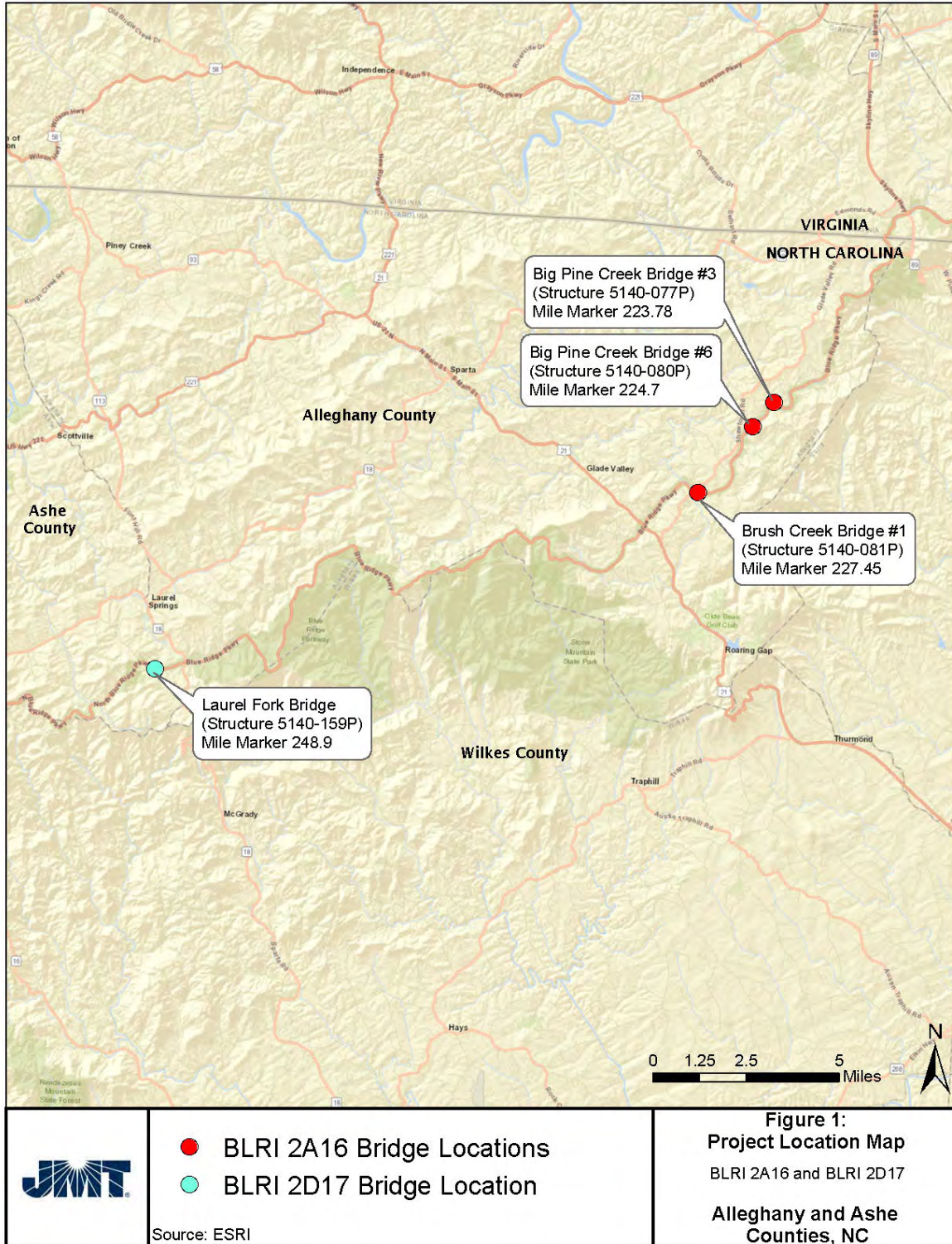


Figure 1. Project Location Map, showing location of four bridges to be replaced.

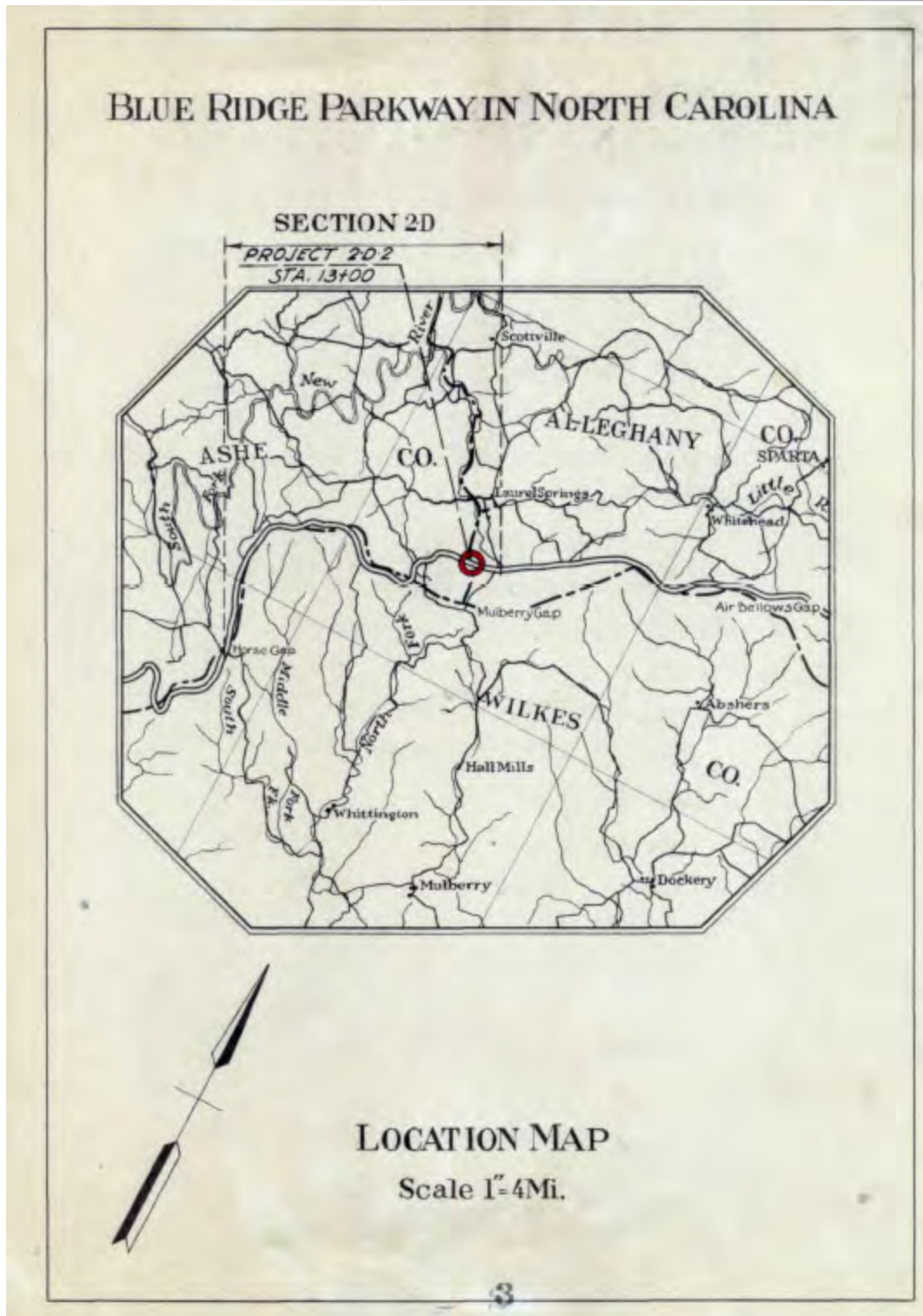


Figure 2. 1938 map showing the location of the Laurel Fork Viaduct (USDA BPR 1938).



Figure 3. 1937 map showing the location of the Big Pine Creek Bridge #3 (Location 3), Big Pine Creek Bridge #6 (Location 6), and Brush Creek Bridge #1 (Location 8) (USDA BPR 1937).



HISTORIC CONTEXT

HISTORY OF THE BLUE RIDGE PARKWAY

This historic context is adapted from JMT's Blue Ridge Parkway Bridge Projects Phase I Archaeological Survey.

The Blue Ridge Parkway is a 469-mile linear park that connects Shenandoah National Park to Great Smoky Mountains National Park. Construction began in 1935 but was briefly suspended during World War II. Progress was slow in the postwar years, and all sections were finally completed in 1987. Today, the parkway comprises approximately 83,000 acres of land plus additional acreage held in easements. In addition to the long roadway, 15 recreational parks are located along the parkway. It serves not only as a roadway linking Shenandoah and Great Smoky Mountains National Parks but is a destination in itself. With over twenty million visitors per year, the Blue Ridge Parkway is one of the most heavily visited units within the National Park System (Jaeger Company 2006: 1-2).

The idea for a parkway through the southern Appalachians was first conceived in 1906, almost 30 years before construction of the Blue Ridge Parkway would begin. Joseph Hyde Pratt, a North Carolina geologist, promoted a scenic "Crest of the Blue Ridge" highway that would stretch 350 miles from Marion, Virginia, to Tallulah, Georgia, along the Blue Ridge Mountains. Pratt had the route surveyed, and in 1912, construction began on the section between Altapass and Linville, North Carolina. Construction continued and reached Pineola but the start of World War I halted all road building efforts. Materials and manpower were reallocated to the war effort, and the scenic toll road was never completed (Jaeger Company 2003: 11).

The idea for the Blue Ridge Parkway began in 1933 when Virginia Senator Harry Byrd suggested that the construction of Skyline Drive continue southwest and connect with Great Smoky Mountains National Park. Roosevelt approved the idea, and Byrd moved forward with the plan, bringing the governors of Virginia, North Carolina, and Tennessee into the process. A planning team was organized to conduct an in-depth study of the project, and on November 24, 1933, Interior Secretary Harold Ickes authorized construction of the "Park to Park Road" (Jaeger Company 2003: 12). According to the 2003 Blue Ridge Parkway Cultural Landscape Report for Guardrails by the Jaeger Company,

Although it was not originally authorized as a National Park Service project, the Blue Ridge Parkway soon fell under NPS auspices. Promoted as a New Deal project, the road would provide employment and accordingly was funded with \$4,000,000 of public works funds. Responsibility for planning the route rested with the National Park Service and a project staff was assembled. [Stanley W. Abbott], who had worked on the Westchester County Parkway System in New York, served as the resident landscape architect for the project and held the leading role in planning and designing the parkway (Jaeger Company 2003: 11-12).

The parkway was designed by a team of landscape architects and the Bureau of Public Roads engineers, led by Stanley W. Abbott and William M. Austin respectively. These designers realized the importance of



establishing some design parameters to define themes and provide a context for the Parkway's design. These principles, which are still honored today, include:

- (1) maintaining a broad right-of-way to allow for restoration and preservation of the roadside landscape; (2) scenic control of certain areas; (3) rustic simplicity of all structures to harmonize with natural and cultural environments; (4) all design elements relating to each other and complementing the Parkway as a whole; and (5) recreational parks and areas for scenic protection at intervals along the Parkway right-of-way (Jaeger Company 2006: 2).

The original Blue Ridge Parkway concept only provided a general route from Virginia, through the Blue Ridge Mountains to Great Smoky Mountains National Park. Fieldwork uncovered several possible route options, causing an almost year-long debate between politicians in North Carolina and Tennessee, as both states realized the value of having the parkway run through their state. Eventually, the Virginia-North Carolina route was chosen based on economic, scenic, land acquisition, and topographic factors. The parkway's final design combined the engineers' appeals to meet modern highway standards for grade and curvature while maintaining the landscape architects' desire to unify the road and landscape in a manner that minimized damage to the mountainside (Jaeger Company 2003: 12-13).

Public works funding stipulated that the states would be responsible for purchasing the land, and the federal government would be responsible for constructing the road. At the time, the Blue Ridge Parkway was the longest road ever to be planned as a single route in America. Parkway engineers divided the proposed roadway into 44 sections to facilitate simultaneous multi-district construction. Twenty of the sections are in Virginia and are identified by the number one followed by letters of the alphabet. Twenty-four sections are in North Carolina and are identified by the number two followed by letters of the alphabet. The project was referred to as the "Appalachian Parkway" until 1936 when Congress passed a law that formally named the route the "Blue Ridge Parkway" and placed it under the administration of the NPS (Jaeger Company 2003: 13).

Construction began in North Carolina near Cumberland Knob on September 11, 1935. Work began in Virginia in February 1936. Each section of the road was constructed by private contractors largely based in North Carolina, Virginia, or surrounding states. Skilled laborers came from outside the region, while unskilled labor was supplied by New Deal programs including the Works Progress Administration (WPA), Emergency Relief Administration (ERF), and Civilian Conservation Corps (CCC). By the end of 1936 over 133 miles of roadway was under construction, and "in 1938, a fifty-mile stretch of the parkway was opened to the public just south of Roanoke, Virginia" (Jaeger Company 2003: 13).

United States involvement in World War II stalled construction of the parkway as manpower and resources were diverted to the war effort. At that time, only 170 miles of the parkway were complete and open for travel, 160 miles were under construction, and 144 miles yet to be started. Funds initially budgeted for the parkway were impounded by Congress due to war expenses. Throughout the war, parkway administrative staff was reduced, and the New Deal programs that had provided manpower were suspended. Once the war ended, parkway operations recovered slowly, and funding, equipment, and personnel were not as abundant as they had been before the war. Planning and construction to complete the parkway proceeded, but at a much slower rate than before (Jaeger Company 2003: 13).



By the mid-1950s, more than half of the parkway was still incomplete. The remaining sections involved complex construction via difficult terrain. The NPS's Mission 66 development program gave the parkway project some much-needed support. Launched in 1956, this ten-year program prioritized, among other projects, completion of the Blue Ridge Parkway prior to the Park Service's 50th anniversary in 1966. In 1958, expenditures for parkway construction reached an all-time high of \$16 million. When the program ended in 1966, all but 7.7 miles of the parkway had been completed and opened (Jaeger Company 2003: 14).

The last 7.7 miles of roadway required officials to agree on an acceptable alignment around North Carolina's Grandfather Mountain. The NPS had tried to acquire right-of-way along this privately-owned mountain a number of times. However, the landowner was concerned that suggested routes would have negative impacts on the beauty of his land. He requested that the parkway follow a lower alignment, further away from the mountain's crest. In 1968 a compromise was reached, and construction began until the Nixon Administration froze funding and halted construction in the early 1970s (Jaeger Company 2003: 14).

Grandfather Mountain proved too unstable to cut a bench for the roadway, so an FHWA engineer suggested that a viaduct be constructed to carry the road around the mountain. According to the 2003 Blue Ridge Parkway Cultural Landscape Report for Guardrails by the Jaeger Company,

The completion of the Linn Cove Viaduct, a segmental post-tension viaduct built of custom-cast interlocking sections, brought fifty-two years of parkway construction to an end in 1987. The entire 469-mile route from Shenandoah National Park to the Great Smoky Mountains could finally be traversed in its entirety (Jaeger Company 2003: 14).

For a full comprehensive history of the Blue Ridge Parkway, see HAER NC-42.



ARCHITECTURAL CONTEXT

This section summarizes the bridge types seen throughout the Blue Ridge Parkway, including the four bridges that are the subject of this report. This background is intended to serve as a context for assessing the significance of the bridges and architectural resources in the APE. It has been adapted from the four HAER reports written by JMT (NC-42-B, NC-42-C, NC-42-D, and NC-42-E).

PLATE-GIRDER BRIDGES

Built-up plate-girder bridges, constructed using girders composed of flange angles riveted to a central plate to form an I-beam, were popularized by the railroads, who favored the structure type for its heavy-load bearing capacity. The earliest plate-girder bridge was built in 1846 by James Millholland for the Baltimore and Susquehanna Railroad at Bolton Station in Baltimore, Maryland (NCHRP 2005:110).

In the late nineteenth and early twentieth century, the built-up plate-girder bridge came into use for highway bridges; however, their use was limited by the expense of fabricating the built-up plate girders (NCHRP 2005:110). The North Carolina State Highway Department used this type sparingly due to the difficulty of transporting the large and heavy built-up steel girders (NCDOT:np). Shorter spans were more economically built using alternatives, including rolled girders and early concrete beams. Beginning in the 1930s, plate-girders were used for bridge spans longer than what could be achieved with these alternative types. The most common configuration for plate-girder bridges was the “two-girder” bridge, which consisted of a pair of parallel girders connected by transverse beams forming a floor, topped by a cast-in-place concrete deck-slab. While most two-bridge girders were simple, single-span structures, their use for multiple and continuous span applications was also common (NCHRP 2005:110-111).

The Laurel Fork Viaduct, built on a curve, is a two-girder bridge with a concrete slab deck supported by a floor structure. It spans more than 500 feet.

CONCRETE SLAB BRIDGES

Developed in the early twentieth century, the concrete slab bridge type is regarded as one of the simplest types of reinforced concrete bridges. The structure became common as early as 1905 and its use increased in the 1910s. The Bureau of Public Roads (BPR) supported this construction type, and this type of structure became very popular for small highway bridges in many states in the 1930s and 1940s as states adopted standard plans for slab bridges and books on bridge engineering and other technical publications promoted its use for its economy, ease of construction, and durability. Most of these early slab bridges were of modest length, usually shorter than 20 feet and supported by abutments or piers (NCHRP 2005:3.84-3.85).

In the 1930s, the continuous slab bridge was developed. In continuous slab bridge construction, a single slab extends over multiple spans. Structures with slabs of about 70 feet in continuous length had been



designed by 1939; however, increased lengths resulted in increased costs for materials (MDOT SHA:np). In North Carolina, slab spans rarely exceeded 35 feet in length as the amount of steel reinforcement and the depth of the slab were based on its length and live-load capacity (NCDOT:np). The increased length resulted in increased dead-weight and increased the need for supporting piers, increasing costs (NCHRP 2005:3.85). Therefore, the economy associated with this construction type decreased as associated costs increased for longer spans.

Big Pine Creek Bridge #3, Big Pine Creek Bridge #6, Brush Creek Bridge #1 are all cast-in-place concrete slab bridges. Big Pine Creek Bridge #3 is a continuous, two-span bridge supported by abutments and piers, 53 feet in total slab length. Big Pine Creek Bridge #6 is a continuous, 3-span bridge supported by abutments and piers, totaling 73 feet in total slab length. Brush Creek Bridge #1 is a continuous span bridge supported by abutments and piers. It is a two-span bridge which totals 71 feet in total slab length.

BRIDGES ON THE BLUE RIDGE PARKWAY

The bridges of the Blue Ridge Parkway are considered to be among the resource's most distinctive architectural features. Following the NPS's "rustic" style of architectural ornamentation, the majority of the 168 bridges and grade separation structures of the Blue Ridge Parkway have the appearance of traditional stone arch bridges. The majority of these structures are rigid-frame arch structures constructed by erecting the stone arches, abutments, and spandrel walls and then infilling the internal sections with steel reinforcing rods and concrete. In addition to facilitating a rustic appearance which complements the natural features of the Blue Ridge Parkway, the locally quarried stone facings function as the forms for the concrete work (HAER NC-42:145-148).

The design of the bridges of the Blue Ridge Parkway was a collaboration between the engineers of the BRP and the landscape architects of the NPS, with BPR preparing the structural designs and the NPS preparing the architectural plans, including the exterior appearance. BPR architect Charles Grossman transferred from the BPR's office in Gatlinburg, Tennessee, to join the Blue Ridge Parkway staff in Roanoke. Grossman prepared the plans for the majority of the stream crossing and grade separation structures built along the parkway during a 15-year span (HAER NC-42:150).

The majority of the masonry work was completed by skilled masons from outside of the region, while unskilled labor came from the Works Progress Administration (WPA) the Emergency Relief Administration (ERA) and the Civilian Conservation Corps (CCC) (Jaeger 2003:13). The skilled masonry work was done under the supervision of David Vecillio (from Italy) or Joe Troitino (from Spain) (HAER NC-42:152). The type of stone used for the bridge facings varied from location to location, with stone quarried from local sources, or obtained from rock cuts created during the construction of the roadway. The result is that the color and texture of the stone used on these structures matched that found in the surrounding area, creating a harmonious appearance (146). The native stone used for the construction of buildings and structures along the parkway included greenstone, schist, granite, and limestone (150).



EVALUATION: LAUREL FORK VIADUCT

DESCRIPTION

The Laurel Fork Viaduct, also known as Laurel Fork Bridge, (constructed 1938), is a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District. The Laurel Fork Viaduct is sited on the Blue Ridge Parkway and carries the parkway over a wide, deep ravine and Laurel Fork (also known as Cranberry Creek) (Figure 4). The ravine is populated with coniferous and deciduous trees of varying age and size. The Laurel Fork Viaduct, built on a curve, is a two-girder bridge with a concrete slab deck supported by a floor structure. It spans 542.5 feet and is 24.5 feet in width between the guardrails. While the bridge's appearance is more modern than the others in this section due to the use of exposed concrete for the piers, the abutments are clad in rustic stone veneer in keeping with the other early structures of the parkway. Per the final construction report dated May 9, 1938:

[Laurel Fork Viaduct was constructed as] a steel girder viaduct with concrete deck and superstructure... This structure is five hundred and forty-two and one-half feet in length from center to center of bearings and spans a wide, deep ravine at the bottom of which is a small stream known as Laurel Fork Creek. The viaduct was built on a 2° - 30' horizontal curve and a plus 0.538% grade. The supports between abutments are four reinforced concrete piers spaced symmetrically. The abutments were constructed of reinforced concrete and veneered with a foot of uncoursed stone masonry (USDA BPR 1938:5).

The Laurel Fork Viaduct is a five-span, two-girder bridge with a concrete deck supported by a bracketed flooring system resting on built-up plate girders. The superstructure is supported by concrete abutments and four tapered, board-formed, cast-in-place concrete piers with concrete crossties and an arched opening in the upper section of each. The piers rest on concrete footers and are spaced every 108.99 feet on center (Photographs 1-10).

The abutments are constructed of cast-in-place reinforced concrete and are faced with rustic, quarry-faced stone veneer laid in a broken ashlar pattern, with the steel girders and concrete piers exposed, resulting in a modern, rather than rustic style overall. The finished surface of the concrete piers show the impressions of the 6-foot form boards. The deck is finished with a concrete guardrail consisting of a concrete curb with chamfered concrete posts and a concrete railing which extends out over the girders and are supported by steel brackets. The posts are spaced approximately every 10.7 feet on center. A stone-lined drainage channel runs from the northeast stone-faced parapet wall, draining water away (east and then north) from the bridge (Photograph 9).

According to US Department of Transportation project plans (Project 2D12, K9), the Laurel Fork Viaduct underwent a deck replacement and pier and abutment repairs in 1984. The repairs primarily replaced the original concrete deck and repaired damaged concrete and the piers and abutments. The step at the base of each pier was sloped as a result of the repair work.



The historic fabric of the Laurel Fork Viaduct is in fair condition. The interior steel reinforcement of some structural members has corroded, causing spalling of the concrete deck and piers. These conditions have been exacerbated by freeze-thaw and salt cycling. It has been deemed structurally deficient for modern traffic demands.



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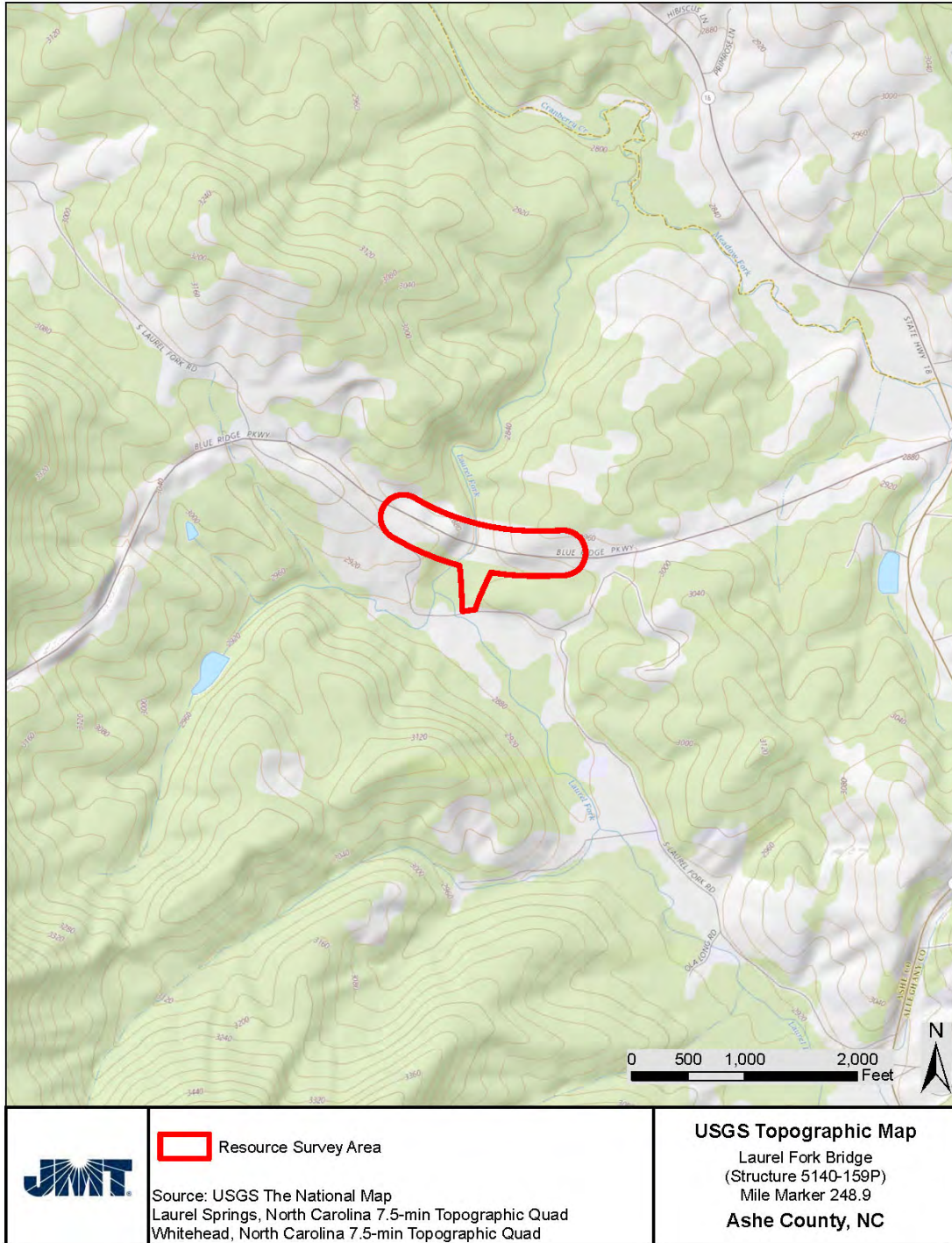


Figure 4. Location of Laurel Fork Viaduct, topographic map



Photograph 1. Detail view of the bases of the piers of the Laurel Fork Viaduct, looking west (NC-42-B-1).



Photograph 2. Detail view of the piers of the Laurel Fork Viaduct, showing the girders and floor structure, looking southwest (NC-42-B-2).



Photograph 3. View of the underside of the Laurel Fork Viaduct, showing the piers and girders, looking west-northwest (NC-42-B-3).



Photograph 4. South elevation of the Laurel Fork Viaduct, looking northwest (NC-42-B-4).



Photograph 5. View of the deck of the Laurel Fork Viaduct, looking east (NC-42-B-7).



Photograph 6. Three-quarter view of the Laurel Fork Viaduct, showing the girders and piers, looking east (NC-42-B-8).



Photograph 7. Detail view of the girders of the Laurel Fork Viaduct, looking east-southeast (NC-42-B-9).



Photograph 8. View of the deck of the Laurel Fork Viaduct, looking west. The stone-faced parapet wall and concrete guardrail are visible (NC-42-B-11).



Photograph 9. View of the stone-faced parapet wall and detail of a stone-lined drainage channel, looking southwest (NC-42-B-12)



Photograph 10. View of the approach to the Laurel Fork Viaduct, showing the parapet, deck, and guardrails, looking west-northwest (NC-42-B-13).



HISTORY

The Laurel Fork Viaduct (constructed 1938), is a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District. The Laurel Fork Viaduct is a distinctive architectural feature of the resource and embodies design characteristics developed by the NPS in the early twentieth century. According to construction reports completed during the construction of the Blue Ridge Parkway, the Laurel Fork Viaduct was completed in 1938. A.B. O'Mohundro, S.E.I.F., served as the Project Engineer from April 1937 to May 1938. Stanley W. Abbott was the Resident Landscape Architect and acting superintendent for the Blue Ridge Parkway and oversaw the project. Simson-Mayrant Company, contractor of Charleston, South Carolina, constructed the Laurel Fork Viaduct, and the Bethlehem Steel Company erected the structural steel for the project.

The Laurel Fork Viaduct was constructed as Project 2-D-2 on Section 2-D of the Blue Ridge Parkway in Ashe County, North Carolina (Figure 2). The project consisted of the construction of a viaduct over the Laurel Fork (also known as Cranberry Creek). Simons-Mayrant Company, of Charleston, South Carolina, served as contractors for the project. BPR's Washington, D.C. office provided the engineering plans and estimates, and the landscape plans were prepared by the NPS and approved on November 5, 1936 (USDA BPR 1938:5-6).

Construction began on April 5, 1937, with excavation for the west abutment and footings of the four piers. Excavation for the east abutment was conducted while the contractor placed the forms and steel reinforcement for the footing of the west abutment. The concrete for the footings was mixed using two, two-bag concrete mixers and allowed the contractors to pour the concrete for the footers quickly, with the footers completed by June 5 (USDA BPR 1938:7).

Following the completion of the concrete footers, a scaffold was constructed from the east abutment to the first pier, and the concrete mixer was set up at the abutment end. This arrangement allowed the contractors to move the mixed concrete using wheelbarrows to a system of chutes which lowered the concrete into the prepared forms. The remaining three piers required a different setup, utilizing a scaffold system that was independently braced. A gasoline powered elevator was used to carry the concrete to the top of the forms. Because the concrete of the piers was to be left exposed, wood forms were used. Each pier was cast in four sections (Figure 5). The abutments were constructed utilizing the stone masonry veneer as a form, and the concrete was poured in three-foot lifts (USDA BPR 1938:8).

Construction of the concrete piers and abutments was completed by August 1 and was immediately followed by preparations for the erection of the structural steel components by the Bethlehem Steel Company. The company began work on September 1, utilizing a trolley beam, a 96-foot derrick capable of moving 75 tons, a 79-horsepower steam hoist, and an air compressor to move the heavy steel units from the unloading point and to set the units into place on the bridge. The girders were assembled and riveted before being swung into place using the derrick. Each span was erected one at a time, beginning with the span from the east abutment to the first pier and moving west (USDA BPR 1938:9; Figure 6).

Wood jacks were constructed at the bottom flange of the steel girders to support the forms for the floor slab, which was poured in place one span at a time moving east to west. Handrails for the structure were



pre-cast while the curbs for the structure were being poured. The contractors erected the forms for the rail posts after the curbs were completed. The pre-cast rails were set into the forms, and the concrete for the posts was poured and allowed to cure for 28 days before the forms were disassembled. To provide damp proofing, the contractors applied tar to the back faces of the abutments and wing walls before backfilling using material excavated from road cut slopes from parkway construction. The bridge was completed by May 9, 1938 (USDA BPR 1938:9-9A; Figure 7).



Figure 5. Photograph, ca. 1938, showing the construction of the piers for the Laurel Fork Viaduct (USDA BPR 1938).



Figure 6. Photograph, ca. 1938, showing the erection of the girders for the Laurel Fork Viaduct (USDA BPR 1938).



Figure 7. Photograph, ca. 1938, showing the newly completed Laurel Fork Viaduct (USDA BPR 1938).



NATIONAL REGISTER OF HISTORIC PLACES EVALUATION

Based on research and fieldwork completed for this report, JMT recommends the Laurel Fork Viaduct as eligible for listing on the National Register of Historic Places. The resource maintains a sufficient level of integrity in all seven aspects (location, setting, feeling, association, materials, workmanship, and design). The bridge remains intact, and although some material alterations have been made, these alterations do not impact the bridge's original design. The Laurel Fork Viaduct possesses the degree of architectural integrity and individual distinction necessary for listing in the National Register. Therefore, it warrants inclusion in the National Register under Criterion C (design/construction).

The Laurel Fork Viaduct is not eligible for the National Register under Criterion A (event). *To be eligible under Criterion A, a resource must be associated with events that have made a significant contribution to the broad patterns of our history.* Although the Laurel Fork Viaduct is considered a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District, it does not possess any special historic significance outside of its association with the Blue Ridge Parkway that would make it individually eligible under Criterion A. It is for this reason that the Laurel Fork Viaduct is not eligible for listing in the National Register of Historic Places under Criterion A.

The Laurel Fork Viaduct is not eligible for the National Register under Criterion B (person). *To be eligible under Criterion B, a resource must be associated with the lives of significant persons in our past.* Although the Laurel Fork Viaduct is considered a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District, it does not possess association with any significant individuals outside of those involved in the larger parkway construction that would make it individually eligible under Criterion B. The resource is not associated with the lives of significant persons in our past, therefore, the bridge is not eligible for listing in the National Register of Historic Places under Criterion B.

The Laurel Fork Viaduct is eligible for the National Register under Criterion C (design/construction). *To be eligible under Criterion C, a resource must embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.* The Laurel Fork Viaduct's appearance is more modern than other bridges in this part of the parkway due to the use of exposed concrete for the piers. However, the abutments are clad in rustic stone veneer, which is more in keeping with the other early parkway structures and bridges. This unique design makes it stand out from other bridges located on the parkway, while the use of rustic, quarry-faced stone veneer laid in a broken ashlar pattern ties it to the other bridges and structures constructed along the parkway during this period. The bridge remains intact although some material alterations have been made, including the replacement of the deck and repairs of concrete piers and abutments. The step at the base of each pier was sloped as a result of repair work. Despite these alterations, the bridge's original design was not impacted, and it retains a high degree of integrity in all aspects, including design. It is for these reasons that the Laurel Fork Viaduct is eligible for individual listing in the National Register of Historic Places under Criterion C.



Laurel Fork Viaduct is not eligible for the National Register under Criterion D (potential to yield information). *To be eligible under Criterion D, a resource must yield or be likely to yield information important in history or prehistory.* The 1938 bridge is unlikely to contribute significant information pertaining to building technology or historical documentation not otherwise accessible from other extant resources and written records.



EVALUATION: BIG PINE CREEK BRIDGE #3

DESCRIPTION

Big Pine Creek Bridge #3 (constructed 1937) is a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District. Big Pine Creek Bridge #3 is sited along the Blue Ridge Parkway and carries the parkway over Big Pine Creek at mile marker 223.78 (Figure 8). The bridge is sited on a curve and surrounded by dense coniferous and deciduous trees. Big Pine Creek Bridge #3 is a cast-in-place concrete slab bridge. It is a continuous span bridge supported by abutments and piers. Constructed in 1936, the abutments and piers of the bridge are faced with rustic stone veneer in a broken ashlar pattern in keeping with the rustic style of architecture utilized by the NPS for the buildings and structures of the Blue Ridge Parkway. It spans 73.9 feet and is 32.5 feet in width between the guardrails. Per the final construction report dated July 12, 1937:

[Big Pine Creek Bridge #3 was constructed as] three spans and is on a 35° 45' right forward skew. Overall slab length along centerline of roadway is 73.90' feet. Suitable foundations for east abutment and wing walls were encountered approximately three feet below plan depth. Suitable foundations for Pier No. 1 were encountered at approximately plan depth. Pier No. 2 footings were carried approximately two feet below plan depth, and west abutment and wing footings were carried approximately five feet below plan depth. All footings rest on solid rock. Abutment and wing wall footings are of Class B concrete, used in lieu of cement rubble masonry. Abutment walls and wing walls on abutments are cement rubble masonry to within approximately two feet of finished ground line, and cement stone masonry above this elevation. Piers, pier footings, and superstructure are of Class D concrete. Handrails are stone on abutment wings and locust on superstructure. All exposed concrete except under side of slab is stained with two coats of shingle stain (USDA BPR 1937: 7-8).

Big Pine Creek Bridge #3 is a three-span structure constructed on a 35°, 45 foot right forward skew. The bridge consists of a concrete slab deck supported by battered abutments and a skewed pair of narrow, board-formed, cast-in-place concrete piers. The abutments are constructed with a core of reinforced concrete clad in quarry-faced stone laid in an uncoursed, broken ashlar pattern. Unlike the majority of the bridges constructed in this section (2A), the concrete of the piers is exposed rather than clad in stone facing. The board-formed, cast-in-place concrete deck is set into a rabbet in each of the stone abutments, and the top of the concrete deck is flush with the top of the parapet walls. A guardrail extends from the roadway across the entire length of the bridge on both sides. The guardrail consists of heavy wooden planks bolted to steel plates anchored into poured concrete posts with a bullnose at the top edge on the stream-facing sides (Photographs 11-18).

Based on physical and documentary evidence (1935 drawings), the stone-faced parapet walls on the abutments of Big Pine Creek Bridge #3 have been reduced so that the tops of the abutment walls lie flush with the top of the concrete decking. The exposed concrete was originally stained brown, and the bridge was originally constructed with guardrails of rustic locust logs which have now been replaced.



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The historic fabric of the bridge is in fair condition. The interior steel reinforcement of some structural members has corroded, causing spalling of the concrete deck and piers. These conditions have been exacerbated by freeze-thaw and salt cycling. Big Pine Creek Bridge #3 has been deemed structurally deficient for modern traffic demands.



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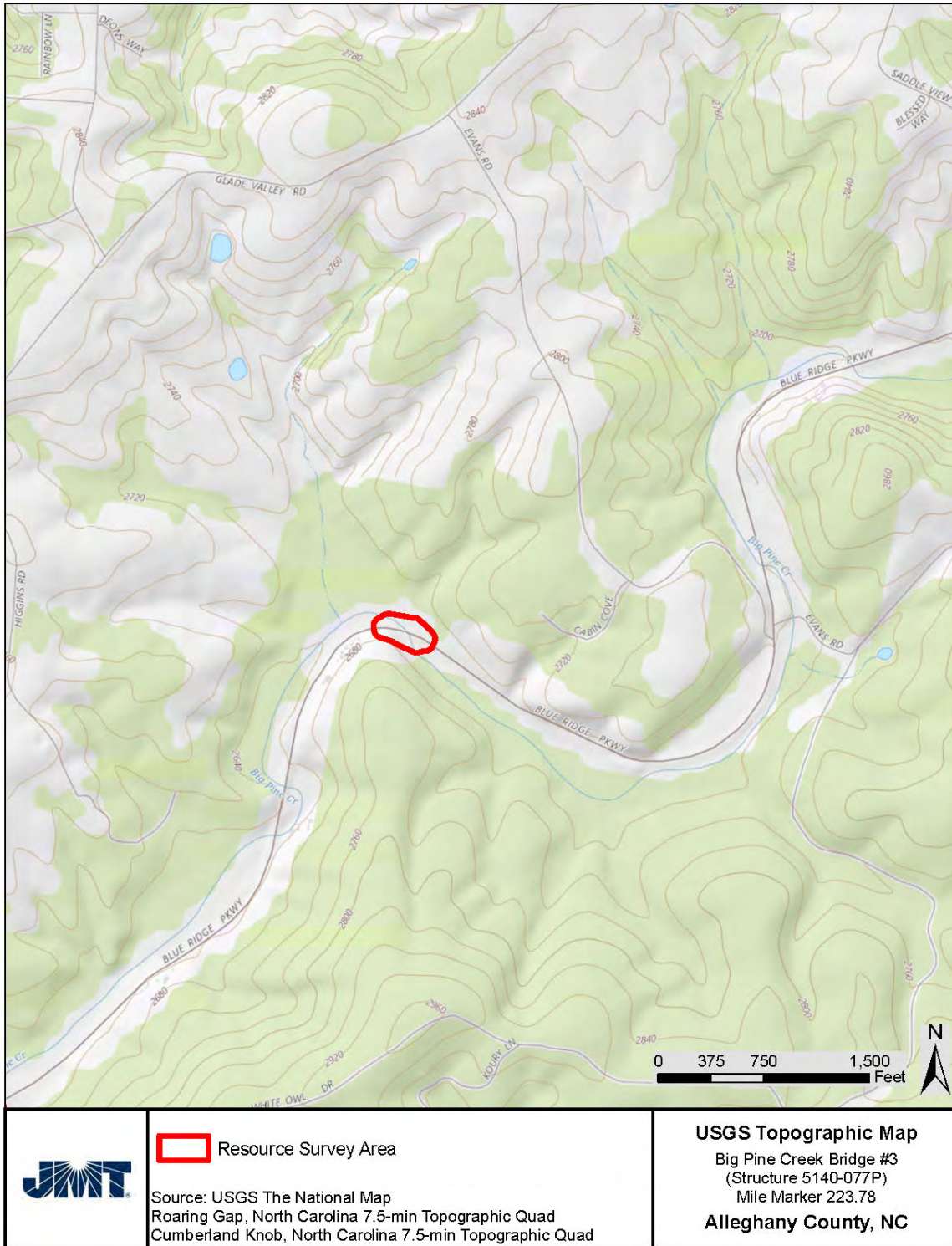


Figure 8. Location of Big Pine Creek Bridge #3, topographic map



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Photograph 11. Three-quarter view of Big Pine Creek Bridge #3, looking west-southwest (NC-42-C-1).



Photograph 12. View of the Big Pine Creek Bridge #3, showing the south-facing elevation, looking north (NC-42-C-2).



Photograph 13. Detail view of Big Pine Creek Bridge #3, showing the deck and guardrail, looking north (NC-42-C-3).



Photograph 14. Detail view of Big Pine Creek Bridge #3, showing the pier and deck, looking west (NC-42-C-4).



Photograph 15. Detail view of Big Pine Creek Bridge #3, showing the south abutment, looking northwest (NC-42-C-5).



Photograph 16. Detail view of Big Pine Creek Bridge #3, showing the north abutment, looking east-northeast (NC-42-C-6).



Photograph 17. View of the deck and guardrail of Big Pine Creek Bridge #3, looking west-northwest (NC-42-C-7).



Photograph 18. View of Big Pine Creek Bridge #3, showing the bridge and asphalt shoulder, looking southeast (NC-42-C-8).



HISTORY

Big Pine Creek Bridge #3 (constructed 1937) is a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District. The bridge is a distinctive architectural feature of the resource that displays the naturalistic design style and rustic characteristics utilized by the NPS during the 1930s. According to construction reports completed during the construction of the Blue Ridge Parkway, Big Pine Creek Bridge #3 was completed in 1937. Charles Grossman of the BPR served as the architect for this bridge. The project engineer is unknown. Stanley W. Abbott was the Resident Landscape Architect and acting superintendent for the Blue Ridge Parkway and oversaw the project. Simson-Mayrant Company, contractor of Charleston, South Carolina, constructed the bridge.

Big Pine Creek Bridge #3 was constructed as part of Project 2-A-2, on Section 2-A of the Blue Ridge Parkway in Alleghany County, North Carolina (Figure 3). The project consisted of the construction of nine reinforced concrete and stone bridges with spans ranging from 25 to 74 feet, all of which were designed to “present a rustic appearance appropriate to the surrounding woodland country” (USDA BPR 1937:3).

The Galax, Virginia office of the BPR began work in 1935, with preliminary cross-sections of the wetted perimeters of the creeks taken in May and bridge site surveys conducted in July (USDA BPR 1937:3). BPR’s Washington, D.C. office provided the engineering plans and estimates, and the landscape plans were prepared by the NPS (4).

Simons-Mayrant Company, of Charleston, South Carolina, served as contractors for the project. Simons-Mayrant began work on the project in April of 1936, first excavating for the footings for Big Pine Creek Bridge #3 and three others (Figures 9-10). Work stalled for approximately one month, as the contractor “endeavored to find local sand that would pass specifications” and “found that satisfactory sand could not be obtained in the vicinity of this project.” Ultimately, sand was shipped to the project site, and work commenced with the laying of the stone masonry and the pouring of concrete. The installation of the timber guard rails was the last of the work to be undertaken (USDA BPR 1937:5). The project was completed, inspected, and deemed satisfactory on April 27, 1937 (14).



Figure 9. Photograph, ca. 1937, showing the construction of the abutment wings of Big Pine Creek Bridge #3 (USDA BPR 1937).



Figure 10. Photograph, ca. 1937, showing the newly completed Big Pine Creek Bridge #3 (USDA BPR 1937).



NATIONAL REGISTER OF HISTORIC PLACES EVALUATION

Based on research and fieldwork completed for this report, JMT recommends the Big Pine Creek Bridge #3 as not eligible for listing in the National Register of Historic Places. The resource maintains a sufficient level of integrity of location, setting, and association, but lacks integrity of feeling, materials, workmanship, and design. The bridge remains intact; however, material alterations have been made to some of the bridge's most distinctive characteristics including the stone-faced parapet walls and guardrails. Although the bridge displays the naturalistic design style and rustic characteristics utilized by the NPS during the 1930s, there are other similar bridges located on the parkway. Therefore, Big Pine Creek Bridge #3 does not possess the degree of architectural integrity and individual distinction necessary for listing in the National Register. Therefore, it does not warrant individual inclusion in the National Register.

Big Pine Creek Bridge #3 is not eligible for the National Register under Criterion A (event). *To be eligible under Criterion A, a resource must be associated with events that have made a significant contribution to the broad patterns of our history.* Although Big Pine Creek Bridge #3 is considered a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District, it does not possess any special historic significance outside of its association with the Blue Ridge Parkway that would make it individually eligible under Criterion A. It is for this reason that Big Pine Creek Bridge #3 is not eligible for listing in the National Register of Historic Places under Criterion A.

Big Pine Creek Bridge #3 is not eligible for the National Register under Criterion B (person). *To be eligible under Criterion B, a resource must be associated with the lives of significant persons in our past.* Although the Big Pine Creek Bridge #3 is considered a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District, it does not possess association with any significant individuals outside of those involved in the larger parkway construction that would make it individually eligible under Criterion B. The resource is not associated with the lives of significant persons in our past, therefore, the bridge is not eligible for listing in the National Register of Historic Places under Criterion B.

Big Pine Creek Bridge #3 is not eligible for the National Register under Criterion C (design/construction). *To be eligible under Criterion C, a resource must embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.* Big Pine Creek Bridge #3 is a cast-in-place concrete slab bridge. It is a continuous, two-span bridge supported by abutments and piers, 53 feet in total slab length. The appearance and design of Big Pine Creek Bridge #3 are in keeping with other parkway structures and bridges from this period, which makes it eligible as a contributing resource to the parkway but does not give it the individual distinction necessary for individual listing. In addition, multiple material alterations were made to some of the bridge's most distinctive characteristics including the reduction of the stone-faced parapet walls on the abutments and the replacement of the original rustic locust log guardrails. As a result of the loss of integrity and lack of individual distinction, Big Pine Creek Bridge #3 is not eligible for individual listing in the National Register of Historic Places under Criterion C.



Big Pine Creek Bridge #3 is not eligible for the National Register under Criterion D (potential to yield information). *To be eligible under Criterion D, a resource must yield or be likely to yield information important in history or prehistory.* The 1937 bridge is unlikely to contribute significant information pertaining to building technology or historical documentation not otherwise accessible from other extant resources and written records.



EVALUATION: BIG PINE CREEK BRIDGE #6

DESCRIPTION

Big Pine Creek Bridge #6 (constructed 1937) is a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District. Big Pine Creek Bridge #6 is sited along the Blue Ridge Parkway and carries the parkway over Big Pine Creek at mile marker 224.7 (Figure 11). The bridge is surrounded by dense coniferous and deciduous trees. Big Pine Creek Bridge #6 is a cast-in-place concrete slab bridge. It is a continuous span bridge supported by abutments and piers. The bridge consists of a concrete slab deck supported by battered abutments and a wide, battered, central pier with a battered cutwater on each end. Constructed in 1936, the abutments and piers of the bridge are faced with rustic stone veneer in a broken ashlar pattern in keeping with the rustic style of architecture utilized by the NPS for the buildings and structures of the Blue Ridge Parkway. It spans 62.5 feet and is 30 feet in width between the guardrails.

Big Pine Creek Bridge #6 was constructed as “a two-span, right-angle, slab structure with overall slab length along center-line of roadway of 62.50 feet. Footings are founded on rock at approximately plan elevation. Abutments and pier to two feet below ground are cement rubble masonry and above this line are cement stone masonry. The slab is Class D concrete. Parapets over abutments are cement stone masonry, and hand-rails over deck are locust” (USDA BPR 1937: 9).

The board-formed, cast-in-place concrete deck is set into a rabbet in each of the stone abutments, and the top of the concrete deck is flush with the top of the parapet walls. A guardrail extends across the entire length of the bridge on both sides. The guardrail consists of heavy wooden planks bolted to steel plates anchored into poured concrete posts with a bullnose at the top edge on the stream-facing sides (Photographs 19-25). A stone-lined drainage channel runs from the southeast stone-faced parapet wall, draining water away (south) from the bridge. It is partially obscured from view by vegetation (Photograph 25).

Based on physical and documentary evidence (1935 drawings), the stone-faced parapet walls on the abutments of Big Pine Creek Bridge #6 have been reduced so that the tops of the abutment walls lie flush with the top of the concrete decking. The exposed concrete of the bridge was originally stained brown, and it was originally constructed with guardrails of rustic locust logs which have now been replaced.

The historic fabric of the bridge is in fair condition. The interior steel reinforcement of some structural members has corroded, causing spalling of the concrete deck and piers. These conditions have been exacerbated by freeze-thaw and salt cycling. It has been deemed structurally deficient for modern traffic demands.



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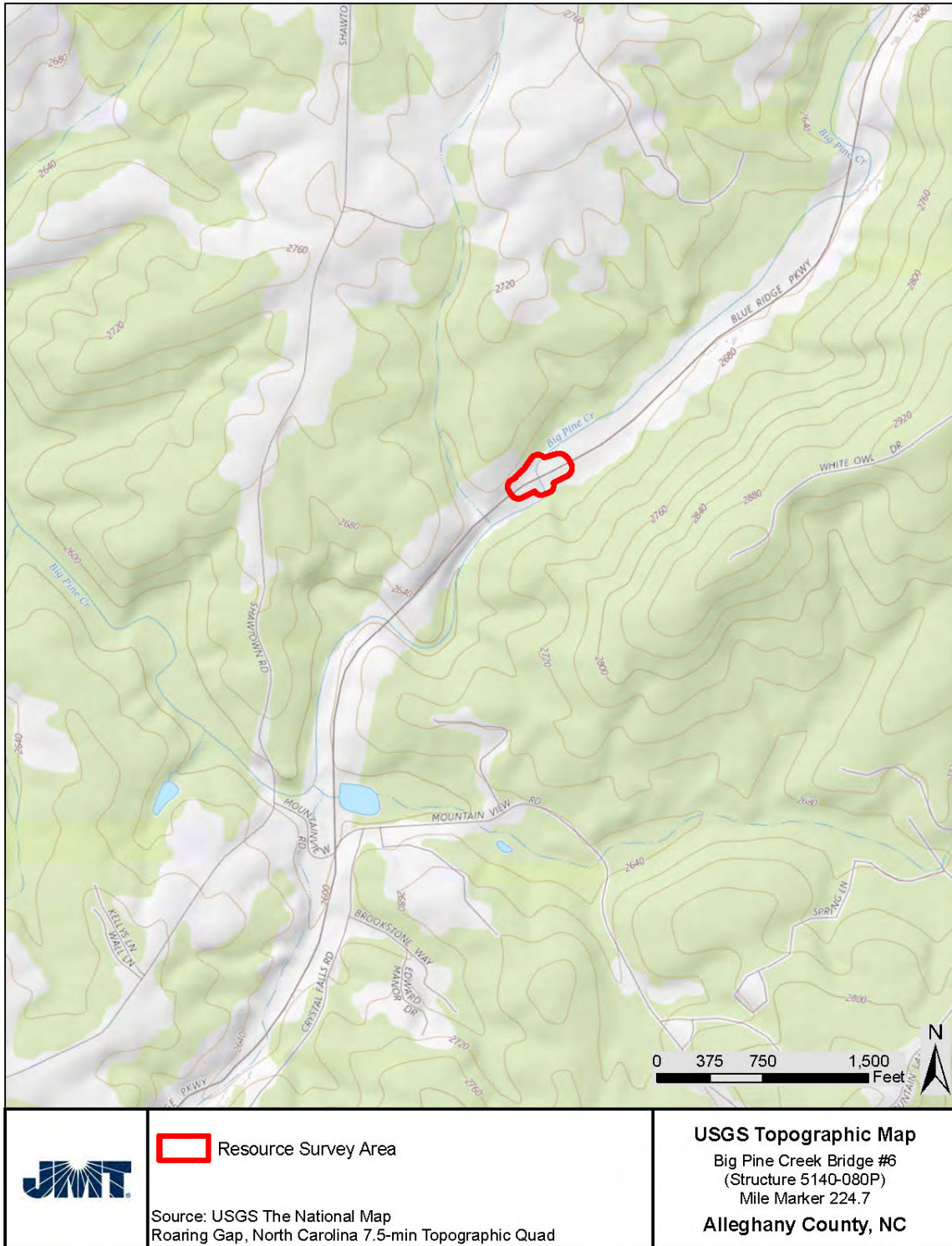


Figure 11. Location of Big Pine Creek Bridge #6, topographic map



Photograph 19. View of Big Pine Creek Bridge #6, looking north-northeast (NC-42-D-1).



Photograph 20. View of Big Pine Creek Bridge #6, looking north-northwest (NC-42-D-2).



Photograph 21. View of Big Pine Creek Bridge #6, looking northwest (NC-42-D-3).



Photograph 22. Detail view of Big Pine Creek Bridge #6, showing the pier and underside of the deck, looking west (NC-42-D-4).



Photograph 23. Three-quarter view of Big Pine Creek Bridge #6, showing the north abutment, looking east-southeast (NC-42-D-5).



Photograph 24. Three-quarter view of Big Pine Creek Bridge #6, showing the south abutment, looking southwest (NC-42-D-6).



Photograph 25. View of Big Pine Creek Bridge #6, showing a stone drainage channel, looking northeast (NC-42-D-7).



HISTORY

Big Pine Creek Bridge #6 (constructed 1937) is a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District. The bridge is a distinctive architectural feature of the resource that displays the naturalistic design style and rustic characteristics utilized by the NPS during the 1930s. Per construction reports completed during the construction of the Blue Ridge Parkway, Big Pine Creek Bridge #6 was completed in 1937. Charles Grossman of the BPR served as the architect for this bridge. The project engineer is unknown. Stanley W. Abbott was the Resident Landscape Architect and acting superintendent for the Blue Ridge Parkway and oversaw the project. Simson-Mayrant Company, contractor of Charleston, South Carolina, constructed the bridge.

Big Pine Creek Bridge #6 was constructed as part of Project 2-A-2, on Section 2-A of the Blue Ridge Parkway in Alleghany County, North Carolina (Figure 3). The project consisted of the construction of nine reinforced concrete and stone bridges with spans ranging from 25 to 74 feet, all of which were designed to “present a rustic appearance appropriate to the surrounding woodland country” (USDA BPR 1937:3).

The Galax, Virginia office of the BPR began work in 1935, with preliminary cross-sections of the wetted perimeters of the creeks taken in May and bridge site surveys conducted in July (USDA BPR 1937:3). BPR’s Washington, D.C. office provided the engineering plans and estimates, and the landscape plans were prepared by the NPS (4).

Simons-Mayrant Company, of Charleston, South Carolina, served as contractors for the project. Simons-Mayrant began work on the project in April of 1936, first excavating for the footings for Big Pine Creek Bridge #6 and three others. Work stalled for approximately one month, as the contractor “endeavored to find local sand that would pass specifications” and “found that satisfactory sand could not be obtained in the vicinity of this project.” Ultimately, sand was shipped to the project site, and work commenced with the laying of the stone masonry and pouring of concrete. The installation of the timber guard rails was the last of the work to be undertaken (USDA BPR 1937:5). The project was completed, inspected, and deemed satisfactory on April 27, 1937 (14; Figure 12).



Figure 12. Photograph, ca. 1937, showing the newly completed Big Pine Creek Bridge #6 (USDA BPR 1937).

NATIONAL REGISTER OF HISTORIC PLACES EVALUATION

Based on research and fieldwork completed for this report, JMT recommends the Big Pine Creek Bridge #6 as not eligible for listing in the National Register of Historic Places. The resource maintains a sufficient level of integrity of location, setting, and association, but lacks integrity of feeling, materials, workmanship, and design. The bridge remains intact; however, material alterations have been made to some of the bridge's most distinctive characteristics including the stone-faced parapet walls and guardrails. Although the bridge displays the naturalistic design style and rustic characteristics utilized by the NPS during the 1930s, there are other similar bridges located on the parkway. Therefore, Big Pine Creek Bridge #6 does not possess the degree of architectural integrity and individual distinction necessary for listing in the National Register. Therefore, it does not warrant individual inclusion in the National Register.

Big Pine Creek Bridge #6 is not eligible for the National Register under Criterion A (event). *To be eligible under Criterion A, a resource must be associated with events that have made a significant contribution to the broad patterns of our history.* Although Big Pine Creek Bridge #6 is considered a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District, it does not possess any special historic significance outside of its association with the Blue Ridge Parkway that would make it individually eligible under Criterion A. It is for this reason that Big Pine Creek Bridge #6 is not eligible for listing in the National Register of Historic Places under Criterion A.

Big Pine Creek Bridge #6 is not eligible for the National Register under Criterion B (person). *To be eligible under Criterion B, a resource must be associated with the lives of significant persons in our past.* Although the Big Pine Creek Bridge #6 is considered a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District, it does not possess association with any significant individuals outside of those involved in the



larger parkway construction that would make it individually eligible under Criterion B. The resource is not associated with the lives of significant persons in our past, therefore, the bridge is not eligible for listing in the National Register of Historic Places under Criterion B.

Big Pine Creek Bridge #6 is not eligible for the National Register under Criterion C (design/construction). *To be eligible under Criterion C, a resource must embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.* Big Pine Creek Bridge #6 is a cast-in-place concrete slab bridge. It is a continuous, 3-span bridge supported by abutments and piers, totaling 73 feet in total slab length. The appearance and design of Big Pine Creek Bridge #6 are in keeping with other parkway structures and bridges from this period, which makes it eligible as a contributing resource to the parkway but does not give it the individual distinction necessary for individual listing. In addition, multiple material alterations were made to some of the bridge's most distinctive characteristics including the reduction of the stone-faced parapet walls on the abutments and the replacement of the original rustic locust log guardrails. As a result of the loss of integrity and lack of individual distinction, Big Pine Creek Bridge #6 is not eligible for individual listing in the National Register of Historic Places under Criterion C.

Big Pine Creek Bridge #6 is not eligible for the National Register under Criterion D (potential to yield information). *To be eligible under Criterion D, a resource must yield or be likely to yield information important in history or prehistory.* The 1937 bridge is unlikely to contribute significant information pertaining to building technology or historical documentation not otherwise accessible from other extant resources and written records.



EVALUATION: BRUSH CREEK BRIDGE #1

DESCRIPTION

Brush Creek Bridge #1 (constructed 1937) is a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District. Brush Creek Bridge #1 is sited along the Blue Ridge Parkway and carries the parkway over Brush Creek at mile marker 227.54 (Figure 13). The bridge is surrounded by coniferous and deciduous trees. Brush Creek Bridge #1 was constructed as “a two-span, deck girder structure on a 15° right forward skew” with an “overall length of slab of 71.08 feet. East abutment and wings and pier are founded on hardpan. All footings were carried to approximately plan depth. Abutment footings and west wing wall footings are Class B concrete in lieu of cement rubble masonry to within two feet of finished fill line, and cement stone masonry above this elevation. Deck is Class D concrete. Parapets over abutment wings are cement stone masonry, and hand-rail over deck is locust” (USDA BPR 1937: 10).

Brush Creek Bridge #1 is a two-span concrete slab structure constructed on a 15° forward right skew. The bridge consists of a concrete slab deck with engaged concrete girders cast into the underside. The slab is supported by battered abutments and a narrow, central, battered pier with a battered cutwater on each end. The abutments and pier are constructed with a core of reinforced concrete clad in quarry-faced stone laid in an uncoursed, broken ashlar pattern in keeping with the rustic style of architecture utilized by the NPS for the buildings and structures of the Blue Ridge Parkway (Photographs 26-34).

The board-formed, cast-in-place concrete deck is set into a rabbet in each of the stone abutments, and the top of the concrete deck is flush with the top of the parapet walls. A guardrail extends the entire length of the bridge on both sides. The guardrail consists of heavy wooden planks bolted to steel plates anchored into poured concrete posts with a bullnose at the top edge on the stream-facing sides.

Based on physical and documentary evidence (1935 drawings), the stone-faced parapet walls on the abutments of Brush Creek Bridge #1 have been reduced so that the tops of the abutment walls lie flush with the top of the concrete decking. The exposed concrete of the bridge was originally stained brown, and it was originally constructed with guardrails of rustic locust logs which have now been replaced. The guardrails on Brush Creek Bridge #1 were constructed with a 10-inch diameter bottom rail, a nine-inch top rail, and posts consisting of a 12-inch log flanked by eight-inch logs spaced approximately 10 feet on center.

The historic fabric of the bridge is in fair condition. The interior steel reinforcement of some structural members has corroded, causing spalling of the concrete deck and piers. These conditions have been exacerbated by freeze-thaw and salt cycling. It has been deemed structurally deficient for modern traffic demands.



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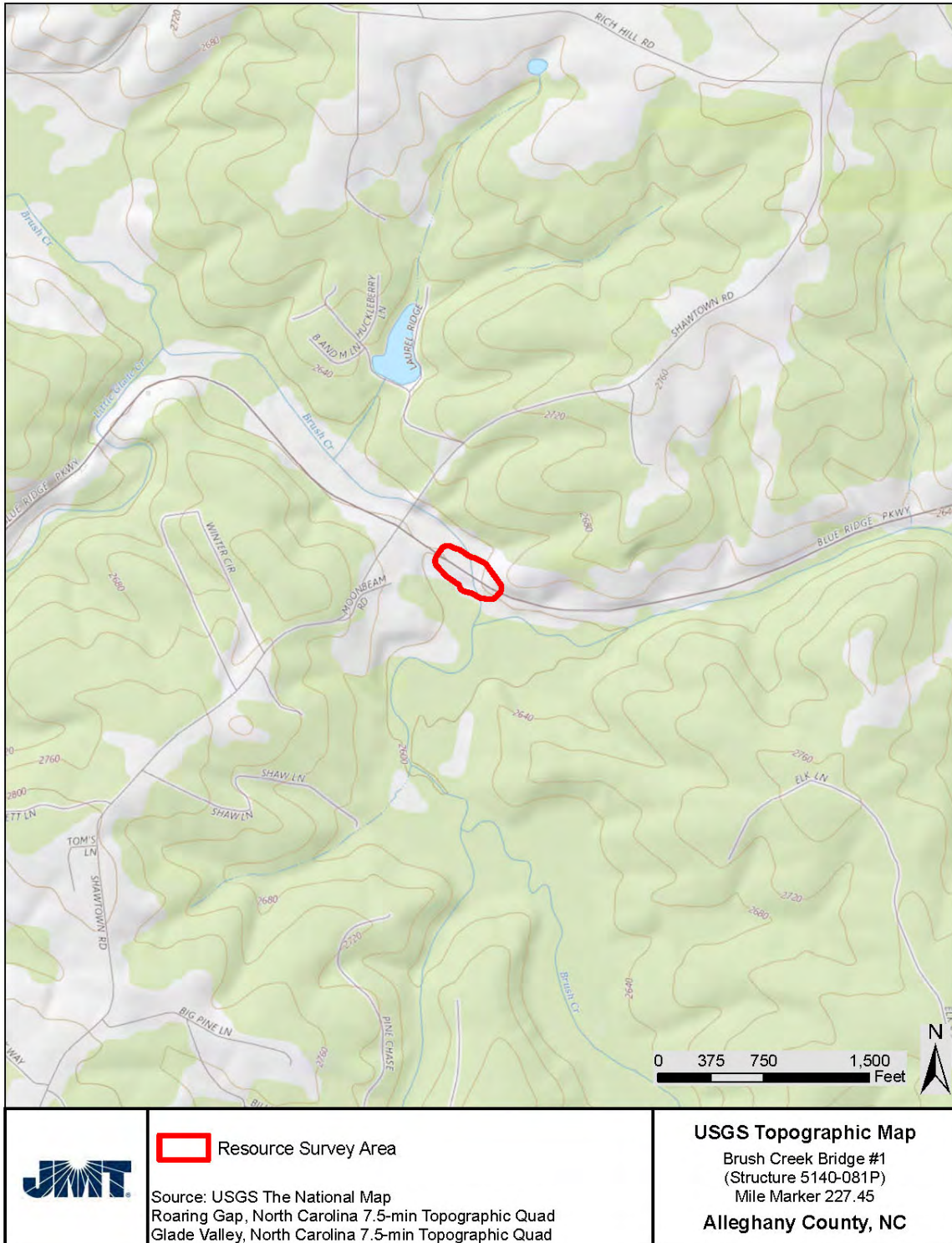


Figure 13. Location of Brush Creek Bridge #1, topographic map



Photograph 26. View of Brush Creek Bridge #1, showing the deck, looking northwest (NC-42-E-1).



Photograph 27. View of Brush Creek Bridge #1, southbound on the Blue Ridge Parkway, looking west-northwest (NC-42-E-2).



Photograph 28. Detail view of Brush Creek Bridge #1, showing the guardrail, looking northeast (NC-42-E-3).



Photograph 29. Detail view of Brush Creek Bridge #1, showing the east abutment wall, looking northeast (NC-42-E-4).



Photograph 30. Detail view of Brush Creek Bridge #1, showing the beams at the underside of the deck, looking north-northeast (NC-42-E-5).



Photograph 31. Detail view of Brush Creek Bridge #1, showing the beams at the underside of the deck and the central pier, looking north (NC-42-E-6).



Photograph 32. View of Brush Creek Bridge #1, looking north-northeast (NC-42-E-7).



Photograph 33. View of Brush Creek Bridge showing east abutment and center pier, looking north (NC-42-E-8).



Photograph 34. Detail view of Brush Creek Bridge #1, showing the stonework at the abutment wall, looking northeast (NC-42-E-9).



HISTORY

Brush Creek Bridge #1 (constructed 1937), is a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District. Brush Creek Bridge # 1 is a distinctive architectural feature of the resource that displays the naturalistic design style and rustic characteristics utilized by the NPS during the 1930s. According to construction reports completed during the construction of the Blue Ridge Parkway, the Brush Creek Bridge #1 was completed in 1937. Charles Grossman of the BPR served as the architect for this bridge. The project engineer is unknown. Stanley W. Abbott was the Resident Landscape Architect and acting superintendent for the Blue Ridge Parkway and oversaw the project. Simson-Mayrant Company, contractor of Charleston, South Carolina, constructed the bridge.

Brush Creek Bridge #1 was constructed as part of Project 2-A-2, on Section 2-A of the Blue Ridge Parkway in Alleghany County, North Carolina (Figure 3). The project consisted of the construction of nine reinforced concrete and stone bridges with spans ranging from 25 to 74 feet, all of which were designed to “present a rustic appearance appropriate to the surrounding woodland country” (USDA BPR 1937:3).

The Galax, Virginia office of the BPR began work in 1935, with preliminary cross-sections of the wetted perimeters of the creeks taken in May and bridge site surveys conducted in July (USDA BPR 1937:3). BPR’s Washington, D.C. office provided the engineering plans and estimates, and the landscape plans were prepared by the NPS (4).

Simons-Mayrant Company, of Charleston, South Carolina, served as contractors for the project. Simons-Mayrant began work on the project in April of 1936 (Figures 14-15). Work stalled for approximately one month, as the contractor “endeavored to find local sand that would pass specifications” and “found that satisfactory sand could not be obtained in the vicinity of this project.” Ultimately, sand was shipped to the project site, and work commenced with the laying of the stone masonry and pouring of concrete. The installation of the timber guard rails was the last of the work to be undertaken (USDA BPR 1937:5). The project was completed, inspected, and deemed satisfactory on April 27, 1937 (14; Figures 14-15).



Figure 14. Photograph, ca. 1937, showing the construction of Brush Creek Bridge #1 (USDA BPR 1937).



Figure 15. Photograph, ca. 1937, showing the newly completed Brush Creek Bridge #1 (USDA BPR 1937).



NATIONAL REGISTER OF HISTORIC PLACES EVALUATION

Based on research and fieldwork completed for this report, JMT recommends the Brush Creek Bridge #1 as not eligible for listing in the National Register of Historic Places. The resource maintains a sufficient level of integrity of location, setting, and association, but lacks integrity of feeling, materials, workmanship, and design. The bridge remains intact; however, material alterations have been made to some of the bridge's most distinctive characteristics including the stone-faced parapet walls and guardrails. Although the bridge displays the naturalistic design style and rustic characteristics utilized by the NPS during the 1930s, there are other similar bridges located on the parkway. Therefore, Brush Creek Bridge #1 does not possess the degree of architectural integrity and individual distinction necessary for listing in the National Register. Therefore, it does not warrant individual inclusion in the National Register.

Brush Creek Bridge #1 is not eligible for the National Register under Criterion A (event). *To be eligible under Criterion A, a resource must be associated with events that have made a significant contribution to the broad patterns of our history.* Although Brush Creek Bridge #1 is considered a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District, it does not possess any special historic significance outside of its association with the Blue Ridge Parkway that would make it individually eligible under Criterion A. It is for this reason that Brush Creek Bridge #1 is not eligible for listing in the National Register of Historic Places under Criterion A.

Brush Creek Bridge #1 is not eligible for the National Register under Criterion B (person). *To be eligible under Criterion B, a resource must be associated with the lives of significant persons in our past.* Although the Brush Creek Bridge #1 is considered a contributing resource to the National Register eligible Blue Ridge Parkway Historic District and the proposed Blue Ridge Parkway National Historic Landmark Historic District, it does not possess association with any significant individuals outside of those involved in the larger parkway construction that would make it individually eligible under Criterion B. The resource is not associated with the lives of significant persons in our past, therefore, the bridge is not eligible for listing in the National Register of Historic Places under Criterion B.

Brush Creek Bridge #1 is not eligible for the National Register under Criterion C (design/construction). *To be eligible under Criterion C, a resource must embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.* Brush Creek Bridge #1 is a cast-in-place concrete slab bridge. It is a continuous span bridge supported by abutments and piers. It is a two-span bridge which totals 71 feet in total slab length. The appearance and design of Brush Creek Bridge #1 are in keeping with other parkway structures and bridges from this period, which makes it eligible as a contributing resource to the parkway but does not give it the individual distinction necessary for individual listing. In addition, multiple material alterations were made to some of the bridge's most distinctive characteristics including the reduction of the stone-faced parapet walls on the abutments and the replacement of the original rustic locust log guardrails. As a result of the loss of integrity and lack of individual distinction, Brush Creek Bridge #1 is not eligible for individual listing in the National Register of Historic Places under Criterion C.



Brush Creek Bridge #1 is not eligible for the National Register under Criterion D (potential to yield information). *To be eligible under Criterion D, a resource must yield or be likely to yield information important in history or prehistory.* The 1937 bridge is unlikely to contribute significant information pertaining to building technology or historical documentation not otherwise accessible from other extant resources and written records.



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