



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF TRANSPORTATION

87 Deacon Road  
Fredericksburg, Virginia 22405

**Stephen C. Brich, P.E.**  
COMMISSIONER

January 21, 2025

Ms. Julie V. Langan, Director  
ATTN: Ms. Sherry Teal  
Virginia Department of Historic Resources  
2801 Kensington Avenue  
Richmond, Virginia 23221

**VDOT Project: I-66 EB & WB Bridge Replacement over Broad Run**  
**Project Number: 0066-030-543, B632, P101, R201 (UPC: 120814)**  
**Fauquier County Structure No.: 2053**  
**VDHR File: 2023-0072**  
**Locality: Fauquier County**  
**Federal Funding**  
**Action Required: Effect Determination**

Dear Ms. Teal:

As your office is aware, the Virginia Department of Transportation (VDOT) proposes to improve the Interstate-66 bridge (Structure No.: 2053) carrying the eastbound (EB) and westbound (WB) lanes over Broad Run in Fauquier County, Virginia. The VDOT on behalf of the Federal Highway Administration (FHWA) is coordinating the above referenced federally funded project with the Department of Historic Resources (DHR) and other interested/consulting parties in accordance with Section 106 of the National Historic Preservation Act of 1966 as amended, and implementing regulations, 36CFR800.

VDOT maintains that cultural resource work completed for this project meets the Secretary of Interior's Standards and Guidelines (1983) and the VDHR Guidelines for Conducting Historic Resource Surveys in Virginia (2017) with reference to VDOT's Programmatic Agreement (PA) entitled, *Programmatic Agreement Among the Federal Highway Administration, the U.S. Army Corps of Engineers, Norfolk District, the Tennessee Valley Authority, the Advisory Council on Historic Preservation, the Virginia State Historic Preservation Officer, and the Virginia Department of Transportation regarding Transportation Undertakings Subject to section 106 of the National Historic Preservation Act of 1966*. This letter constitutes a formal request for concurrence with our determination of project effect. Your department has previously concurred with VDOT's identification of historic properties for the undertaking (see concurrence dated, October 5, 2023)

### **The Undertaking and Area of Potential Effects**

The VDOT has concluded that a full bridge replacement over Broad Run will be necessary rather than a bridge superstructure replacement which was reported to you in previous coordination. Still consistent with the previous scope of work, no new or additional interstate capacity will be added because of this bridge replacement, and new right-of-way (ROW) will not be acquired for this project. Please see Appendix I for explanatory notes from VDOT's Structure and Bridge Section regarding the rationale for a full bridge replacement.

The area of potential effects (APE) is the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist" (36 CFR 800.16(d)). The APE is the proposed bridge replacement footprint, as well as immediately adjacent parcels to the bridge that may have views to the bridge.

### **Identification of Historic Properties**

The VDOT (and its consultant, Commonwealth Heritage Group (CHG)) completed the identification of historic properties for the undertaking. The VDOT provided these results to the VDHR and coordinated the eligibility of archaeological and architectural properties by letter dated, August 29, 2023.

### **Architectural Resources**

On Oct 5, 2023, the VDHR concurred that: the Thoroughfare Gap Battlefield (030-1016) and the Broad Run-Little Georgetown Rural Historic District (030-5514) are listed in the Virginia Landmarks Register/National Register of Historic Places (VLR/NRHP), the Buckland Mills Battlefield (030-5152) has been previously determined eligible for the NRHP, the Beverley Mill/Chapman Mill (076-0002) is listed in the VLR/NRHP; and the Thoroughfare Gap Post Office (076-0199) is eligible for the NRHP under Criteria A & C.

The VDHR also concurred that the undertaking is located within the American Battlefield Protection Program's (ABPP) 2014 potentially National Register eligible (PotNR) portions of the Buckland Mills (VA042) and Thoroughfare Gap (VA025) Battlefields. The VDHR also concurred that the PotNR limits for Thoroughfare Gap battlefield correspond with the limits of the Battle of Thoroughfare Gap (030-5610) landscape property; and for purposes of Section 106 for this project, 030-5610 is considered an historic property. The DHR concurred that the Chapman's/Beverley Mill Historic District (076-5311) has been previously determined eligible for the NRHP and that resources 030-5514-0001, 076-0197, 076-5311-0002, 076-5311-0003, 076-5311-0005, 076-5311-0006, 076-6175 and 076-6177 are not eligible for the NRHP. Lastly, the VDHR concurred that those resources: 076-0198, 076-5311-0004, and 076-5311-0008 are not NRHP eligible.

### **Archaeological Resources**

In VDOT's August 29, 2023, coordination letter to the VDHR, site 44FQ0271 was recommended potentially eligible for the National Register, but due to heavy disturbance associated with the construction and maintenance of the adjacent interstate, the portion of this site within the APE

for archaeology does not contribute to the site's overall potential eligibility or archaeological significance.<sup>1</sup>

### **Consulting Parties**

In accordance with 36 CFR 800.2(a)(4) and 800.2(c), the FWH and the VDOT have involved the following interested/consulting parties for this project: Prince William County, Fauquier County, Bull Run Mountain Conservancy, Turn the Mill Around Campaign, Buckland Preservation Society, and the Piedmont Environmental Council.

### **Effects on Historic Properties**

The VDOT has applied the criteria of adverse effect to historic properties within the project's APE. The regulations implementing Section 106 of the National Historic Preservation Act define an effect as an "alteration to the characteristics of a historic property qualifying it for inclusion in or eligible for the National Register" [36CFR800.16(i)]. The effect is adverse when the alteration of a qualifying characteristic occurs in a "manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association" [36CFR800.5(a)]. In accordance with Stipulation II.B(4)(b) of VDOTs 2016 Federal PA, the VDOT finds that the proposed I-66 Bridge replacement over Broad Run will have No Adverse Effect on historic properties or properties that could be eligible for the NRHP.

The project proposes to replace the existing I-66 EB & WB bridge over Broad Run to improve safety of the travelling public and to alleviate fatigue stress on the bridge, prolonging its lifespan. The project does not involve acquisition of additional new ROW nor will it increase the interstate capacity of I-66 in this area nor the bridge itself.

The interstate corridor was constructed in the 1970s, previously diminishing the historic setting and feeling of the immediate area adjacent to the highway and in the APE. Attachment No. 1 shows this portion of I-66 during its construction in 1979 and has been overlaid with the limits of the project. The figure demonstrates that the bridge replacement project is contained within previously disturbed areas of the interstate corridor. It is VDOTs opinion that impacts to adjacent historic properties, such as: Thoroughfare Gap Battlefield (030-1016), Broad Run-Little Georgetown Rural Historic District (030-5514), Buckland Mills Battlefield (030-5152), Beverley Mill/Chapman Mill (076-0002) (which was gutted by fire in 1998), Thoroughfare Gap Post Office (076-0199), and archaeological site 44FQ0271 will not appreciably alter any character defining elements of these historic properties nor any the aspects of historic setting or feeling. There will be no diminishment to the historic association, feeling, workmanship, materials, setting, design or location of any surrounding historic property or property that could be eligible for the National Register because of the bridge project.

The surroundings to the I-66 bridge outside the existing Interstate corridor, as well as the character of the neighboring historic properties, will remain intact and undiminished (and dominated by woodlands along I-66). The historic properties will continue to function as they do

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<sup>1</sup> The recommendation for site 44FQ0271 was inadvertently omitted from the concurrence page of the August 29, 2023 letter to the VDHR (although it was discussed in the body of the letter and included in the Phase I report). The VDOT requests VDHR concurrence on this recommendation by this letter.

now, reflecting the characteristics for which they are significant. The proposed new bridge barrier/parapet will resemble what is there currently (a concrete barrier surmounted with a timber rail). The only difference is that the new parapet will eliminate the timber railing currently mounted on top. The barrier will be characterized by 42-inch cast in place concrete which is the normal traffic barrier type and will enhance commuter safety. The new barrier, like others along I-66, will not draw undue attention to the bridge and the difference from the existing is minor. The project will be contained within the existing Interstate ROW and no new ROW will be needed for the project. Therefore, it is VDOT's opinion that the proposed project will have **no adverse effect** on historic properties provided that the VDOT provide 60% and 90% project plans to the VDHR and consulting parties for review and comment..

The VDOT invites you to review the enclosed information and concur with our findings by signing the signature block below and returning the original signature to my attention within 30 days. If you or any of the consulting parties copied on this letter have any questions, please contact me at (540) 654-1737 or [Raymond.Ezell@vdot.virginia.gov](mailto:Raymond.Ezell@vdot.virginia.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'Raymond Ezell', written over a horizontal line.

Raymond Ezell, RPA  
District Archaeologist

Attachment: project overlay on historic imagery  
Enclosure: project plansheet

cc:/Justin Patton, Prince William County  
cc:/Wendy Wheatcraft, Fauquier County  
cc:/Michael Kieffer, Bull Run Mountain Conservancy  
cc:/Eric Allard, Turn the Mill Around Campaign  
cc:/Linda Wright, Buckland Preservation Society  
cc:/Kevin Kask, Piedmont Environmental Council

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**CONCURRENCE**

**VDOT Project: I-66 EB & WB Bridge Replacement over Broad Run**  
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**VDHR File: 2023-0072**

The Virginia Department of Historic Resources (VDHR) concurs with the Virginia Department of Transportation's (VDOT's):

- 1) Recommendation that site 44FQ0271 is potentially eligible for the National Register, but the portion of this site within the APE does not contribute to the site's overall potential eligibility or archaeological significance; and
- 2) the project will have No Adverse Effect to historic properties or properties potentially eligible for the National Register provided that VDOT submit 60% and 90% plans to VDHR and consulting parties for review.

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Ms. Julie V. Langan  
Director, Virginia Department of Historic Resources  
Virginia State Historic Preservation Officer

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Date

## Appendix I.

The I-66 bridge over Broad Run was originally scoped as a superstructure replacement project. Design for the superstructure replacement option was advanced to 30% complete and cost estimates were developed.

As part of the Stage 1 Bridge Report, a cost estimate was also developed for a full bridge replacement to compare alternatives. During the review of the Stage 1 Report, it was found that the superstructure cost was 85% of the funding needed for a full replacement. Given the added service life provided by a complete replacement, the project scope was changed to replace the entire structure.

The rationale for revising the scope from a superstructure replacement to a full replacement can be summarized by the following three points:

- **Improved Safety**

- o New bridges are expected to have a 100-year service life per current AASHTO and VDOT design specifications. Due to the aging substructure (45 years in age), the superstructure replacement option would not last 100 years, and it is expected that another major reconstruction project would be needed in approximately 50 years.

- o The wider bridge, needed to accommodate 2 travel lanes during all phases of construction, will also provide a final shoulder width that will accommodate disabled vehicles, should motorists need to quickly pull off due to an emergency. The increased width will allow space between a disabled vehicle and passing traffic therefore improving safety.

- **Economic Stewardship**

- o The prepared estimates indicate that the cost of a new bridge is approximately 17% higher than the superstructure replacement. According to Chapter 32 of the VDOT Manual of the Structure and Bridge Division, bridge replacement is the preferred option if the cost of rehabilitation exceeds 65% of the cost of replacement. In this case, the cost of rehabilitation is approximately 85% of the cost of replacement and is the most economical solution based on the anticipated service life and prudent spending of allocated funds.

- **Design Concerns**

- o The fatigue stress caused by the existing span arrangement is what led to a sooner than expected need for replacement. If this span arrangement is maintained with a superstructure replacement, the same results can be expected.

- o The existing span configuration is not conducive to a superstructure replacement using continuous beams because uplift is present under modern design loading. Meaning the beams can lift off of the abutments during certain loading conditions. The alternative is to use simple spans which results in a method of joint elimination that is less durable than what can be achieved with a continuous structure.

- o Maintenance of Traffic was complicated by the presence of drainage structures in the median which led to higher costs to perform traffic shifts increasing the project cost.

- o The overhangs on the existing piers are not capable of supporting the loads from an interior girder without complex modifications.
- o One of the existing piers is inside ordinary high water making it more susceptible to scour. The full bridge replacement will move the substructure units away from the stream.