

United States Department of the Interior
National Park Service

National Register of Historic Places
Registration Form

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials and areas of significance, enter only categories and subcategories listed in the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Federal Twist Road stone-arch bridge over Shirt Run Creek
other names/site number "Hunterdon County Bridge #D478"

2. Location

street & number Federal Twist Road at Shirt Run Creek not for publication
city or town Delaware Township vicinity
state New Jersey code 019 County Hunterdon zip code 08559

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property meets does not meet the National Register criteria. I recommend that this property be considered significant nationally statewide locally. See continuation sheet for additional comments.

Signature of certifying official/Title _____ Date _____
Deputy SHPO Assistant Commissioner for Community Investment and Economic Revitalization
State or Federal agency and bureau _____

In my opinion, the property meets does not meet the National Register criteria. See continuation sheet for additional comments.

Signature of certifying official/Title _____ Date _____
State or Federal agency and bureau _____

4. National Park Service Certification

I hereby certify that this property is:

<input type="checkbox"/> entered in the National Register. <input type="checkbox"/> See continuation sheet.	Signature of the Keeper _____	Date of Action _____
<input type="checkbox"/> determined eligible for the National Register. <input type="checkbox"/> See continuation sheet.	_____	_____
<input type="checkbox"/> determined not eligible for the National Register.	_____	_____
<input type="checkbox"/> removed from the National Register.	_____	_____
<input type="checkbox"/> other, (explain:) _____	_____	_____

Federal Twist Road stone-arch bridge over
Shirt Run Creek
Name of Property

Hunterdon County, New Jersey
County and State

5. Classification

Ownership of Property

(Check as many boxes as apply)

- private
- public-local
- public-State
- public-Federal

Category of Property

(Check only one box)

- building(s)
- district
- site
- structure
- object

Number of Resources within Property

(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
_____	_____	buildings
_____	_____	sites
1	_____	structures
_____	_____	objects
1	_____	Total

Name of related multiple property listing

(Enter "N/A" if property is not part of a multiple property listing.)

Historic Bridges of Delaware Township, Hunterdon County, New Jersey

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions

(Enter categories from instructions)

Transportation/road-related (vehicular)

Current Functions

(Enter categories from instructions)

Transportation/road-related (vehicular)

7. Description

Architectural Classification

(Enter categories from instructions)

Other: Stone arch bridge

Materials

(Enter categories from instructions)

foundation sandstone
walls Sandstone (abutments, parapets, wingwalls and arch barrel) Cut sandstone (arch ring)
roof N/A
other Asphalt (road)

Narrative Description

(Describe the historic and current condition of the property on one or more continuation sheets.)

See continuation sheet

Federal Twist Road stone-arch bridge over
Shirt Run Creek
Name of Property

Hunterdon County, New Jersey
County and State

8 Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A** Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B** Property is associated with the lives of persons significant in our past.
- C** Property embodies the distinctive characteristics of a type, period or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D** Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria considerations

(mark "x" in all the boxes that apply.)

Property is:

- A** owned by a religious institution or used for religious purposes.
- B** removed from its original location.
- C** a birthplace or grave.
- D** a cemetery.
- E** a reconstructed building, object or structure.
- F** a commemorative property.
- G** less than 50 years of age or achieved significance within the past 50 years.

Narrative Statement of Significance

(Explain the significance of the property on continuation sheets.)

9. Major Bibliographical References

Bibliography

(cite the books, articles, and other sources used in preparing this form on continuation sheets.)

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # _____

Areas of Significance

(Enter categories from instructions)

Engineering

Transportation

Period of Significance

Third quarter 19th century

Significant Dates

Third quarter 19th century (assumed construction period)

Significant Person

(Complete if Criterion B is marked above)

N/A

Cultural Affiliation

N/A

Architect/Builder

unknown

Primary location of additional data

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository: Hunterdon County Division of
Engineering

Federal Twist Road stone-arch bridge over
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10. Geographical Data

Acreege of property 0.041 acres

Latitude / Longitude Coordinates

(Note to Preparers: NJ HPO will complete this portion of the Registration Form for all Preparers, based on the coordinates derived from the Site Map or District Map that HPO produces.)

1. Lat 40. 429933 Long -75.024544

(NJ HPO will place additional coordinates, if needed, on a continuation sheet for Section 10.)

Verbal Boundary Description

(Describe the boundaries of the property on a continuation sheet for Section 10.)

Boundary Justification Statement

(Explain, on the section sheet following the Verbal Boundary Description, how the chosen boundaries meet the requirements for boundary selection and are the most appropriate boundaries for the nominated property or district.)

11. Form Prepared By

name/title Carla Cielo, Historic Preservation Consultant
organization None date 10/31/2023; revised 4/22/2024
street & number 548 County Road 579 telephone 908-310-2505
city or town Ringoes state New Jersey zip code 08551

Additional Documentation

(Submit the additional items with the completed form that are outlined in the "Standard Order of Presentation" that NJ HPO provides. Each page must contain the name of the nominated property or district, and the State and the county in which the property or district is located. Consult with NJ HPO if you have questions.)

Property Owner

(Either provide the name and address of the property owner here or provide the information separately to NJ HPO. Check with NJ HPO for other requirements. All owners' names and addresses must be provided, including public and non-profit owners, but their presence on the form, itself, is not required).

name Hunterdon County Department of Public Works
street & number 314 NJ-12 (Mailing: P.O. Box 2900) telephone 908-788-1227
city or town Flemington state NJ zip code 08822

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties and to amend existing listings. The proper completion of this form and the related requirements is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.470 *et seq.*)

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instructions, gathering and maintaining data and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Projects (1024-0018), Washington, DC 20503.

Direct questions regarding the proper completion of this form or questions about related matters to the Registration Section, New Jersey Historic Preservation Office, Mail code 501-04B, PO Box 420, Trenton, NJ 08625-0420.

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Federal Twist Road stone-arch bridge over Shirt Run Creek
Hunterdon County, NJSection number 7 Page 1

Summary

The Federal Twist Road stone-arch bridge over Shirt Run Creek is a single barrel, sandstone bridge located in a rural, agricultural area in Delaware Township in Hunterdon County, New Jersey.¹ It is roughly 40-foot long (wingwall end to wingwall end) and 20-foot wide (outside parapet face to outside parapet face). (Illustration 10, Photos 1-3). Decorative cut sandstone arch rings, set in an inset panel adorn both sides of the bridge. This bridge does not have a datestone or name panel, however the style of construction, with well-defined inset panels, suggests construction in the third quarter of the 19th century. It is a “normal” bridge, meaning that the abutments are perpendicular to the roadway with no skew angle. Federal Twist Road stone-arch bridge is in overall good condition. Despite some alterations, the bridge is able to convey its significance and therefore retains integrity.

Location and Roadway

Federal Twist Road stone-arch bridge is located midway on Federal Twist Road just south of the Delaware Township-Kingwood Township line in the southwestern section of the township. It crosses Shirt Run Creek, a small tributary of the Lockatong Creek which starts at the adjacent farm to drain the fields. The creek is so small that it is not shown on the 1851 *Cornell Map of Hunterdon County* or the 1873 *Beers' Map of Delaware Township*. The 1887 *Topographical Map of the Vicinity of Flemington* is the earliest map to show the crossing (Illustrations 2-4). The bridge vicinity remains rural and agriculturally oriented. The water course is parallel to the abutments which are perpendicular to the roadway. The flow is from west to east. Federal Twist Road is paved in asphalt and maintains a narrow 10½-foot road width for two lanes of traffic at the bridge. The roadway is carried on the arch barrel.

Narrative Description

For terminology reference, please see the “Stone Arch Bridge Components” diagram located in the “Accompanying Documentation” section of the *Historic Bridges of Delaware Township, Hunterdon County, New Jersey* Multiple Property Documentation Form (MPDF).

Arch Barrel and bases

The 7-foot, 6-inch-wide arch barrel comprises the upper third of a circle rather than a full semicircle, characterizing its construction as a segmental-arch bridge (Photo 5). The arch rises 2'-5" above the extended bases with a .32 circular arc (approximately 1/3 of a circle) and is embellished with rock-faced, cut sandstone voussoirs to form an arch ring on each end (Photos 4-6). As was customary, the arch barrel is formed with a single layer of longitudinal-oriented undressed stones (typically 1'-6" high) set in clay/lime mortar (Photo 8).²

¹ Federal Twist Road stone-arch bridge over Shirt Run Creek is simply referred to as Federal Twist Road stone-arch bridge throughout the nomination.

² Personal investigation of stone arch bridges throughout Hunterdon County. The clay/lime mortar remains visible.

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The raised bases are built with semi-coursed stonework with quoined corners and an intentional batter (an inward slope). The bases are 6-inches deeper than the arch barrel at their junction and extend 6-inches in front of the plane of the arch ring (Photos 7-8). On the west (upstream) side, the base is 2'-6" high at the south abutment and 3'-4" high at the north abutment. Due to the batter, the creek-bed is reduced to a 6'-2" width. The underside of the arch barrel is 5'-2" above the creek-bed on this side. On the east (downstream) side, the base is stepped with a 1'-6" high original stone extension that is in front of the base for an overall height of 3'-3." With the batter and stepped configuration, the creek bed is 4'-8" wide and the underside of the arch barrel is 5'-9" above the creek bed.

Arch Rings

The arch rings are similar on both sides of the bridge with slight variations stemming from the hand-made character of the stonework (Photos 4-6). However, the west (upstream) arch ring has a keystone while the east (downstream) arch ring does not. The voussoirs are set with thin, radially aligned mortared joints and their depths vary to key the arch ring into the stonework of the arch barrel.

The west (upstream) arch ring has 9 and 10 voussoirs on either side of the keystone for a total of 20 voussoirs (Photo 5). The keystone is 6" wide at the base, 12" wide at the top, and 1'-7" high. It is about an inch higher than the adjacent voussoirs. The voussoirs vary greatly in size and shape and included thin rectangular un-tapered stones (3 to 5-inches wide) near the arch apex and large, tapered voussoirs (10" wide at the base and 12" wide at the top) above the springers. The north springer/first voussoirs (6" wide at the base and 13" wide at the top) is trapezoidal and sits flush on the base. The south springer (4½" wide at the base and 5" wide at the top) is shimmed at the back.

The east (downstream) arch ring has 21 rectangular and tapered voussoirs with the smallest voussoirs (1½" x 4" and 2½" x 2½") clustered at the apex of the arch in place of a keystone. The larger wedge-shaped voussoirs (up to 10" wide at the base and 12" wide at the top) are above both springers (Photo 7). The south springer (8" wide at the base and 12" wide at the top) sits flush on the base and the north springer (6" wide at the base and 10" wide at the top) is shimmed at the back.

Wingwalls and inset panel

The arch ring is set in an inset panel (10'-4" wide and 4'-0" high) as a defining characteristic of the bridge (Photos 4-6). The vertical seams of the inset panel are formed by the wingwall which extend in front of the spandrels to align with the bases (Photo 7). The wingwalls have quoined corners and taper from a 6 to 9-inch depth in front of the plane of the arch ring at the base, to a 2½" depth at the top horizontal seam. The horizontal seam is formed by the parapets which are cantilevered approximately 2½-inches in front of the arch ring and spandrels. The first course of stonework at the cantilever is comprised of uniformly thin stones that are approximately 2½" high. The

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wingwalls are original to the bridge with no significant areas of reconstruction. The stonework is semi-coursed sandstone set with relatively thin fieldstone and the pointing is flush (Photo 6).

Wingwalls and parapets at the roadway

The wingwalls and parapets are fairly uniform in configuration and nearly symmetrical in plan (Illustration 9a and 9b, Photos 1-3). The wingwalls splay at each end to widen the approaches without a significant stagger. The north approach is roughly 21½-feet wide. The south approach is 23½-feet wide. The west (upstream) side of the bridge is 38-feet long. The east (downstream) side of the bridge is 40-feet long. The parapets are spaced 16'-5" apart which allows for soft shoulders on both sides of the 10'-6" wide roadway. The west (upstream) parapet rises 2'-8" above the shoulder and 4'-7" above the keystone intrados at its highest point. The east (downstream) parapet rises 1'-9" above the shoulders and 4-feet above the intrados. The top of each wingwall slopes to a height that is level with or slightly below the roadway.

Capstones

Eleven original rusticated sandstone capstones remain on the west (upstream) side and range in length from 1'-6" to 2'-8" (Photo 2). All are approximately 1'-7" wide to align with the wall thickness and are 3½" high. The spaces between the capstones are mortared. One original capstone remains on the east (downstream) side.

Alterations

Alterations have been consistent with the practices of bridge maintenance and include replacement of most of the original capstones on the west (upstream) side and limited repointing of the wingwalls and parapet wall and the underside of the arch barrel. Where the capstones are missing, the tops of the west (upstream) parapets and wingwalls are fitted with smaller stonework set in mortar. The center portion of the east (downstream) wingwalls and parapet are capped with a thin layer of concrete and the two ends have been re-capped with smaller stones set in mortar. A 1986 date written in concrete remains in the arch barrel and suggests the time of one repair episode. The creek bed is paved with a layer of concrete within the barrel (Photo 8). The concrete has exposed trap rock suggesting that it was added in the 1930s. An old 2-inch diameter cast-iron pipe is beneath the concrete.

Condition

The overall condition of the bridge is good. There are no bulged or displaced areas of stonework and the arch ring remains keyed to the arch barrel. Some of the remaining original capstones have shifted a few inches over the northwest wingwall. The raised stone bases remain functional without the addition of a modern concrete curb.

Integrity

Federal Twist Road stone-arch bridge retains integrity with alterations limited to the tops of the wingwalls and parapets. It retains its integrity of location, setting, design, materials, feeling, association, and workmanship, and

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remains functional as a vehicular bridge. It has not been moved, closed to traffic, re-routed, or replaced. Its setting remains rural and agricultural. The stonework of the parapets, wingwalls, approaches and arch barrel, remain intact and with exceptional precision and refinements placing this bridge in an exemplary class. While the arch barrel has been repointed, some areas of original clay/lime mortar remain, which is rare. Its character-defining construction features - inset panel, tapered keystone, and raised and battered bases, plus many of its capstones also remain intact.

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Statement of Significance

Summary

The Federal Twist Road stone-arch bridge over Shirt Run Creek is significant at the local level under National Register Criteria A and C in the areas of transportation and engineering as a 19th century improvement to a rural 18th century farm road, and for its engineering as an excellent example of a type, period and method of construction.¹ This small segmental arch bridge is one of the best-preserved stone arch bridges remaining today in Delaware Township. It illustrates peak regional characteristics of 19th century stone-arch bridge construction in southern Hunterdon County – raised bearing seats, roughly symmetrical wingwalls and dressed arch rings set in an inset panel (Illustration 9a and 9b, Photos 4-6). Federal Twist Road stone-arch bridge meets the registration requirements set forth in the *Historic Bridges of Delaware Township, Hunterdon County, New Jersey Multiple Property Documentation Form* (MPDF) and is therefore individually eligible to be listed in the New Jersey and National Registers of Historic Places.² The period of significance is the third quarter of the 19th century, when the bridge is presumed to have been constructed based on the style and character-defining features of stone-arch bridges built during that time in Delaware Township (See P7-2; P8-3).

Federal Twist Road and History of the general vicinity of the bridge

The 3.8-mile length of Federal Twist Road was charted in 1775 to connect an 18th-century mill in Kingwood Township with a ferry landing in Delaware Township (Illustration 1). The ferry crossing was owned by Jacob McClain and was at the Delaware River below the hamlet of Raven Rock (see P8-2) in the southwest corner of Delaware Township (at present day State Highway 29). The grist mill was owned by John Snyder and was located in the village of Milltown in Kingwood Township.³ The 18th-century “Stompt Tavern” was along its route and “Johnson’s Tavern” was near the ferry.⁴ Within Delaware Township, this northbound road is very straight, suggesting that it was laid out to follow property boundaries. It shows on Thomas Gordon’s 1828 map entitled “*A Map of the State of New Jersey with part of the adjoining States Compiled under the Patronage of the Legislature of said State*” (Illustration 1). The fact that there was a Delaware River ferry at one end and a grist mill at the other suggests that the road was used for hauling heavy loads which made a sturdy bridge a necessity.

¹ Federal Twist Road stone-arch bridge over Shirt Run Creek will be simply referred to as Federal Twist Road stone-arch bridge throughout the nomination.

² Caroline Charlese Scott and Carla Cielo, “Historic Bridges of Delaware Township, Hunterdon County, New Jersey,” National Register of Historic Places Multiple Property Documentation Form. Washington, DC: US Department of the Interior, National Park Service, 2016, NRIS# 64501271.

³ Hunterdon County, New Jersey. “Road Book 1,” Page 96, November 1775; Record Room of the County Clerk’s Office, Flemington Borough; *Federal Twist Road*, Goodspeed Histories, August 12, 2012.

⁴ The Ferry closed shortly after the Stockton/Centerville Bridge opened in 1814.

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The 19th century brought continued nearby industrial pursuits with the opening of the D & R Canal along the Delaware River in 1833, the Belvidere-Delaware Railroad in 1855, and the Lumberville-Raven Rock Bridge which was completed in 1856 (Illustrations 2-3).⁵ The nearest hamlet - Raven Rock (known as Saxtonville in 1850) - is roughly 2 miles south of the bridge. It had a store, hotel, railway station, and by the 1870s, several sandstone quarries (Illustrations 2 and 4). The dressed sandstone for the arch rings may have come from the Raven Rock quarries. A 19th century sawmill was built on Strimples Mill Road, east of Federal Twist Road, to harness the power of the Lockatong Creek (Illustration 2).⁶ Aside from the nearby industries, Federal Twist Road was and has always been agricultural and rural.

Incidental History

William Stockton and his wife, Harriet Green, were the owners of the farm nearest to the bridge in 1851 (Illustration 2).⁷ The Stockton family was prominent in the Princeton area at the time of the American Revolution and was committed to the Federalist cause. Local folklore states a Federalist meeting occurring in its vicinity, thus suggesting the origin of its name, but this has not been verified. The “twist” portion of the name came from a triangular “twist” in the road (a 120-degree turn, then a 90 degree turn and then a second 120 degree turn to go straight again) where the road changes in grade to prevent horses from running away. The “twist” itself was removed from the road after 1946, but still remains visible in an undisturbed area off the current road alignment.⁸ Mrs. Stockton was the nearest owner on the 1860 and 1873 maps (Illustrations 3). William Wilson and A. Hann were the nearest property owners in 1902 (Illustration 5).

The Bridge Construction

The Federal Twist Road stone-arch bridge is undated. The limited records held by the Hunterdon County Engineering Office do not indicate a construction date or builder, however its style suggests construction in the third quarter of the 19th century as an upgrade on an 18th-century road (See P7-1; P8-3).

This single-barrel stone-arch bridge has a 7'-6" span in the form of a segmental arch with a low rise on battered stone bases. It is constructed in the traditional fashion with radially aligned stonework to form the barrel, a distinctive stone arch ring at each side, and low parapet walls and tapered wingwalls that rise above the roadway on both ends of the bridge. The bridge is built entirely of local sandstone including the arch barrel, which was set in clay/lime mortar with lime chunks. The wingwalls are semi-coursed with smaller fieldstones.

⁵ Scott and Cielo, Section E, p 4 and 9.

⁶ Samuel C. Cornell. *Map of Hunterdon County New Jersey: Entirely from Original Surveys*. Philadelphia: Van Derveer & Cornell, 1851.

⁷ Samuel C. Cornell. *Map of Hunterdon County New Jersey: Entirely from Original Surveys*. Philadelphia: Van Derveer & Cornell, 1851; 1850, U.S. Federal Census, Hunterdon County, NJ, Schedule 1, Township of Delaware, Dwelling no. 344, William Stockton

⁸ The folklore was obtained through communication with local resident, Paul Dorko in 2008; Personal examination by Carla Cielo.

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The Federal Twist Road stone-arch bridge has some of the best representative features of certain character defining elements that are typical of a third-quarter, vernacular stone-arch bridge remaining today in Delaware Township as well as southern Hunterdon County. Setting the arch rings in a recessed panel is one such feature. The recessed panel is formed by constructing the wingwalls beyond the plane of the arch ring to align with the raised base, and by cantilevering the parapet stonework immediately above the arch ring (Illustration 8, Photo 5). The reason for the inset panel is not known; however, the vertical seams are the result of constructing the abutments, wingwalls and base independent of the arch barrel. The cantilevered line of horizontal stonework seems purely decorative. The inset panels are present in most stone-arch bridges which remain today in Delaware Township, but are particularly refined at this bridge, due to the high quality of workmanship and the fact that this bridge remains almost entirely original with rehabilitation limited to the areas of missing capstones (See Section 7, page 3). Other character-defining and exceptional features include the west (upstream) keystone, which is perfectly wedge-shaped and the raised and battered stone bases which are unusually high and are anchored with large corner quoins. Despite being a humble utilitarian structure, a pride of craftsmanship can be seen in the execution of its construction details.⁹

Thomas Boothby considered this bridge to be an excellent example of a “type 3” bridge in the southern portion of Hunterdon County. The “type 3” bridge has an inset panel with a refinement found in the southern structures in which the arch ring and spandrel walls are on a different plane from the parapet and wingwalls.¹⁰ Thus, the bridge falls under the bridge stylistic category of “Inset”, as described in the *Historic Bridges of Delaware Township, Hunterdon County, New Jersey* Multiple Property Documentation Form.¹¹

MPDF requirements

Federal Twist Road stone-arch bridge is listed in *Historic Bridges of Delaware Township, Hunterdon County, New Jersey* National Register of Historic Places Multiple Property Documentation Form and meets all of the registration requirements established by the MPDF under Criterion A and C.¹² It contributed to the improvement of the rural road network in Delaware Township to aid local farmers in the transport of crops to mills, markets, and urban centers, and to aid local industries. This stone-arch bridge reflects the growth and permanence of the local agricultural and industrial community.¹³ The bridge and its setting retain a remarkably high degree of authenticity with relatively few 20th or 21st century changes (Illustrations 6-8). Federal Twist Road stone-arch bridge also embodies the distinctive characteristics of a type, period, and method of construction. The bridge was constructed within the period of significance (1829-1882). The bridge shows a vernacular character in the

⁹ Scott and Cielo, Section E, p 1-17.

¹⁰ Thomas Boothby et al, *Stone Arch Bridge Inventory, Phase II Hunterdon County, New Jersey*. University Park, PA: The Pennsylvania State University, 1998.

¹¹ Scott and Cielo, Section F, Page 1-2.

¹² Scott and Cielo, Section F, p 1-5.

¹³ Ibid, Section E, p 4-10.

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construction of its parapets and wingwalls, and the arch ring shows a distinction in workmanship. The arch-barrel and arch ring remain intact. Categorized as an inset arch bridge, the inset panels around the arch rings are also intact and visible.¹⁴

Conclusion

The Federal Twist Road stone-arch bridge represents a local construction typology reflecting both the area's abundant supply of sandstone and the skills of a Euro-American population which settled the region in the 18th and 19th centuries. The rural historic landscape of Federal Twist Road provides the appropriate setting for this small-scale, stone-arch bridge. The Federal Twist Road stone-arch bridge is one of the best examples of a stone-arch bridge with the arch rings placed in an inset panel remaining today in Hunterdon County.

¹⁴ Scott and Cielo, Section F, Page 1-5; Ibid, Section E, p 10-17.

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Bibliography

Books

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Census

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Maps

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Gordon, Thomas. *A Map of the State of New Jersey with part of the adjoining States Compiled under the Patronage of the Legislature of said State*. Trenton: Thomas Gordon, 1828.

Hicks, Irving C. *Map of Hunterdon County, New Jersey*. Philadelphia: Irving C. Hicks, 1902.

Lake, D. J. and S. N. Beers. *Map of the Vicinity of Philadelphia and Trenton from actual Surveys*. Philadelphia: C.K. Stone & A. Pomeroy, 1860.

U.S. Geological Survey, 2023, Topographical Map, accessed December 2023 at URL <https://apps.nationalmap.gov/viewer/>.

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Unpublished

A. G. Lichtenstein & Associates Inc. *The New Jersey Historic Bridge Database*. September 1994.

Boothby, Thomas et al. *Stone Arch Bridge Inventory, Phase II Hunterdon County, New Jersey*. University Park, PA: The Pennsylvania State University, 1998.

Scott, Caroline Charlese and Carla Cielo. "Historic Bridges of Delaware Township, Hunterdon County, New Jersey," National Register of Historic Places Multiple Property Documentation Form. Washington, DC: US Department of the Interior, National Park Service, 2016, NRIS# 64501271.

Unpublished County Records

Hunterdon County, New Jersey. "Bridge file D478," Hunterdon County Engineer's Office, Raritan Township.

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Hunterdon County, New Jersey. "Road Book 1," Page 96, November 1775; Record Room of the County Clerk's Office, Flemington Borough.

Websites

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<https://goodspeedhistories.com/federal-twist-road/>.

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Boundary Description

The boundary of the nominated resource consists of the main body of the bridge (arch barrel, parapets, abutments and wingwalls) extending to the end of its wingwalls in all directions. It also includes the bridge right-of-way.

Boundary Justification

Hunterdon County owns the bridge and the bridge right-of-way. The boundaries of the nominated resource are the same as the boundaries of the bridge and the bridge right-a-way property. There is no deed which records the boundaries of that property.







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**Federal Twist Road stone-arch bridge
over Shirt Run Creek**

New Jersey and National Registers Nomination
Delaware Township, Hunterdon County, New Jersey

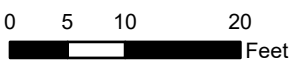
Legend

-  SR & NR boundary
-  Parcels Data (Block and Lot)
-  Coordinates
-  Roads NJ (Centerlines)
-  Stream/River
-  Connector

0.041 Acres



NJDEP,
Historic Preservation Office
April 2024



Boundary and tax map

Datum: NAD 1983 State Plane New Jersey

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Photo Log

Name: Federal Twist Road stone-arch bridge over Shirt Run Creek

Location: Delaware Township, Hunterdon County, NJ

Photographer: Carla Cielo

Date(s): April 6, 2023; November 9, 2023

Repository: 548 County Road 579, Ringoes, New Jersey 08551

Photo 1: Federal Twist Road at the bridge. View facing north showing the roadway.

Photo 2: Federal Twist Road at the bridge. View facing northeast showing the roadway.

Photo 3: Federal Twist Road at the bridge. View facing south showing the roadway.

Photo 4: Federal Twist Road stone-arch bridge, Overall view of the west (upstream) side, view facing east.

Photo 5: Federal Twist Road stone-arch bridge, west (upstream) side, view facing east showing the keystone and inset panel.

Photo 6: Federal Twist Road stone-arch bridge, Overall view of the east (downstream) side, view facing northwest.

Photo 7: Federal Twist Road stone-arch bridge, east (downstream) side, view facing west showing the quoined corners of the inset panel.

Photo 8: Federal Twist Road stone-arch bridge, view facing west showing the arch barrel and the battered stone bases.

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Illustration 1: An 1828 map showing Federal Twist Road¹

¹ Thomas Gordon. *A Map of the State of New Jersey with part of the adjoining States Compiled under the Patronage of the Legislature of said State*. Trenton: Thomas Gordon, 1828.

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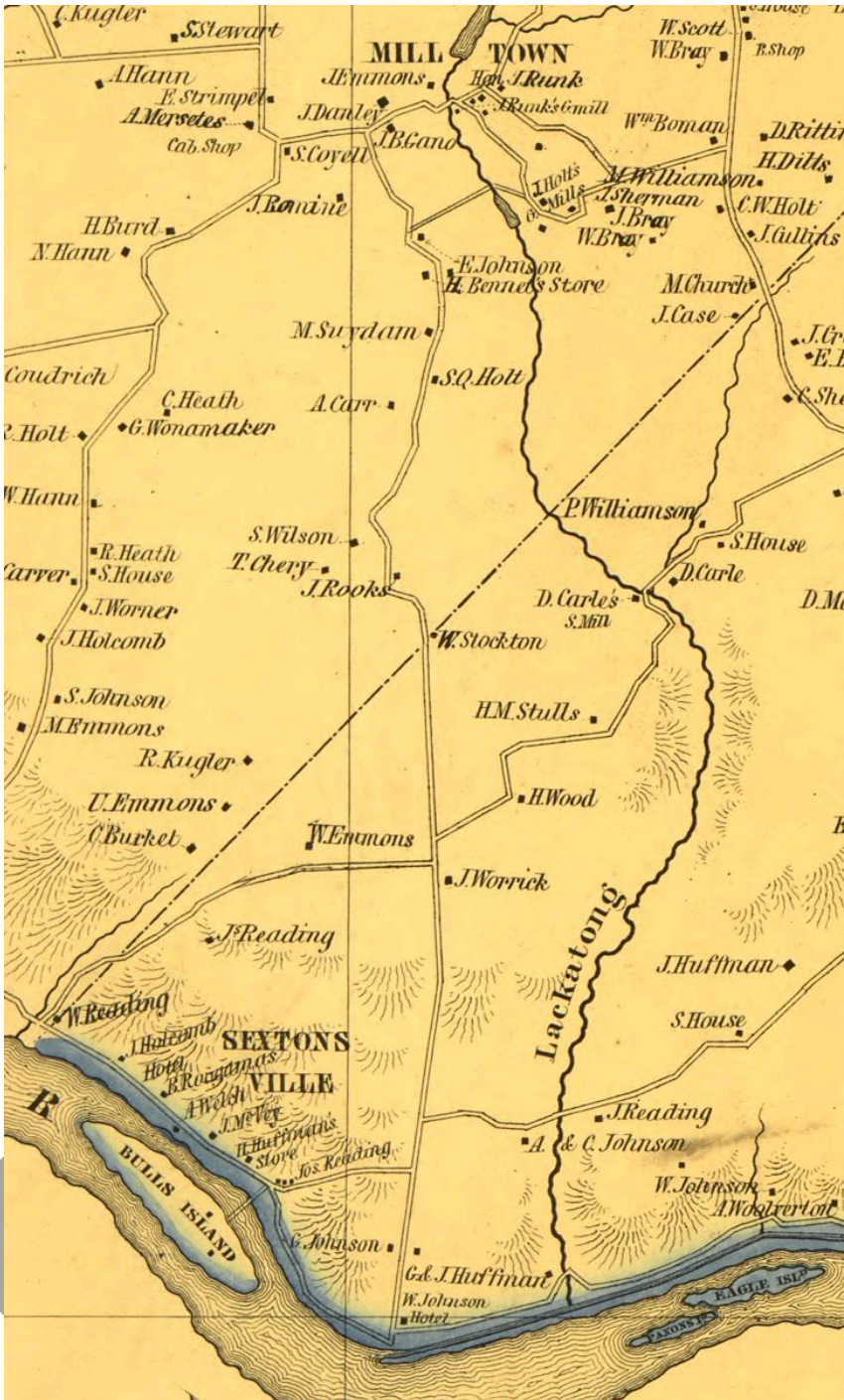


Illustration 2: A 1851 map showing the location of the bridge (noted by a star).²

² Samuel C. Cornell. *Map of Hunterdon County New Jersey: Entirely from Original Surveys*. Philadelphia: Van Derveer & Cornell, 1851.

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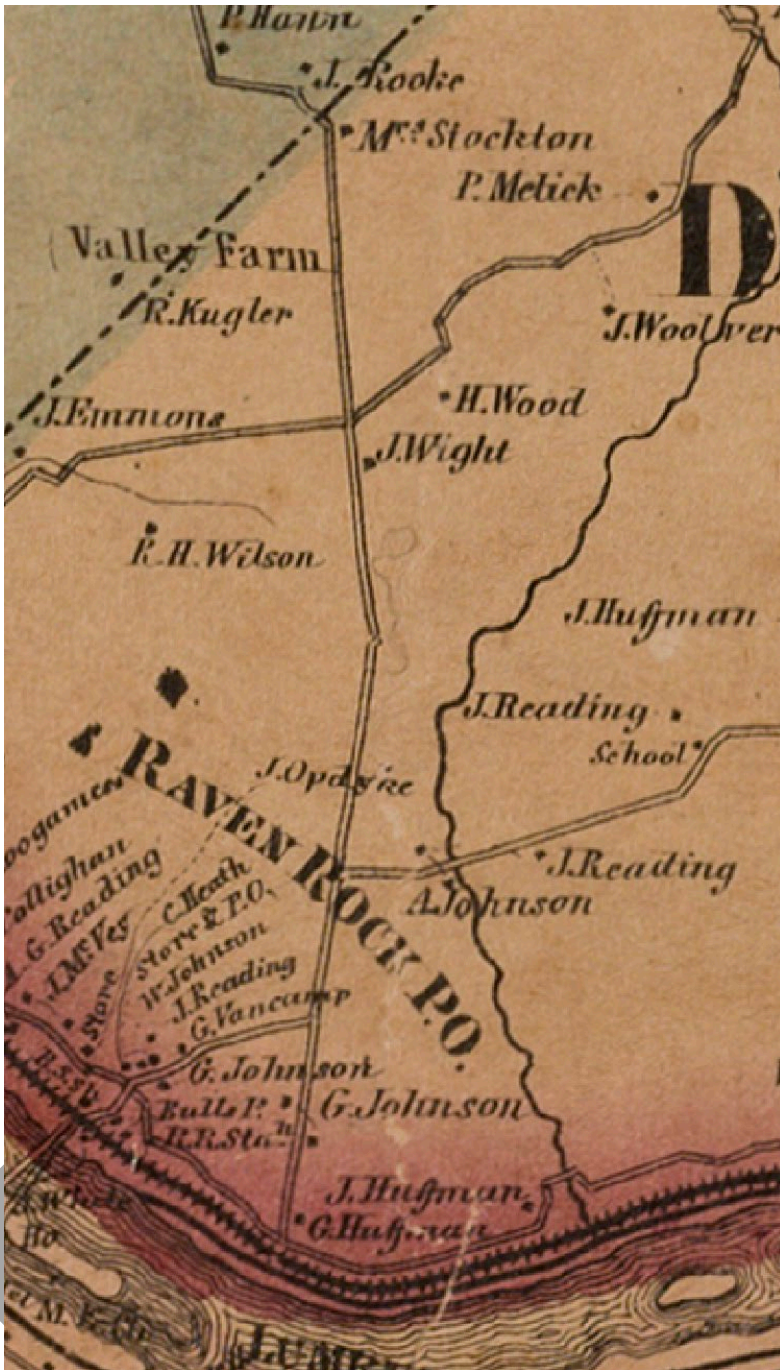


Illustration 3: A 1860 map showing the location of the bridge (noted by a star).³

³ D. J. Lake and S. N. Beers. *Map of the Vicinity of Philadelphia and Trenton from actual Surveys*. Philadelphia: C.K. Stone & A. Pomeroy, 1860.

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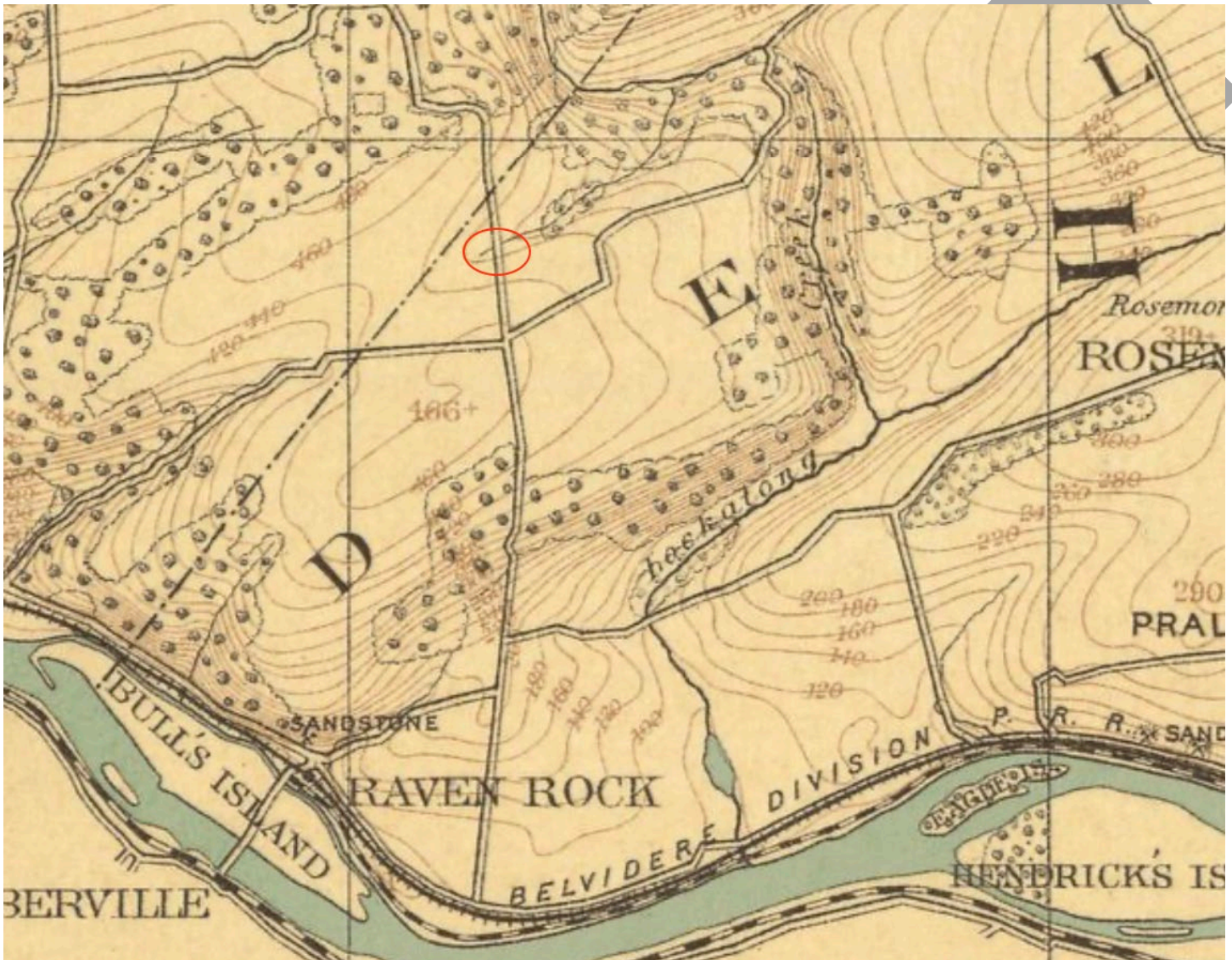


Illustration 4: An 1887 map showing the location of the bridge.⁴

⁴ C. C. Vermeule. *A Topographical Map of the Vicinity of Flemington: From Somerville and Princeton westward to The Delaware*. Trenton: Geological Survey of New Jersey, 1887.

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Illustration 5: An 1902 map showing the location of the bridge.⁵

⁵ Irving C. Hicks. *Map of Hunterdon County, New Jersey*. Philadelphia: Irving C. Hicks, 1902.

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Illustration 6: A circa 1930-40 view of the Federal Twist Road bridge.⁶

⁶ Hunterdon County, New Jersey. "Bridge file D478."

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Illustration 7: A circa 1930-40 view of Federal Twist Road at the stone arch bridge.⁷

⁷ Hunterdon County, New Jersey. "Bridge file D478."

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Illustration 8: circa 1980 views of the bridge.⁸

⁸ Hunterdon County, New Jersey. "Bridge file D478."

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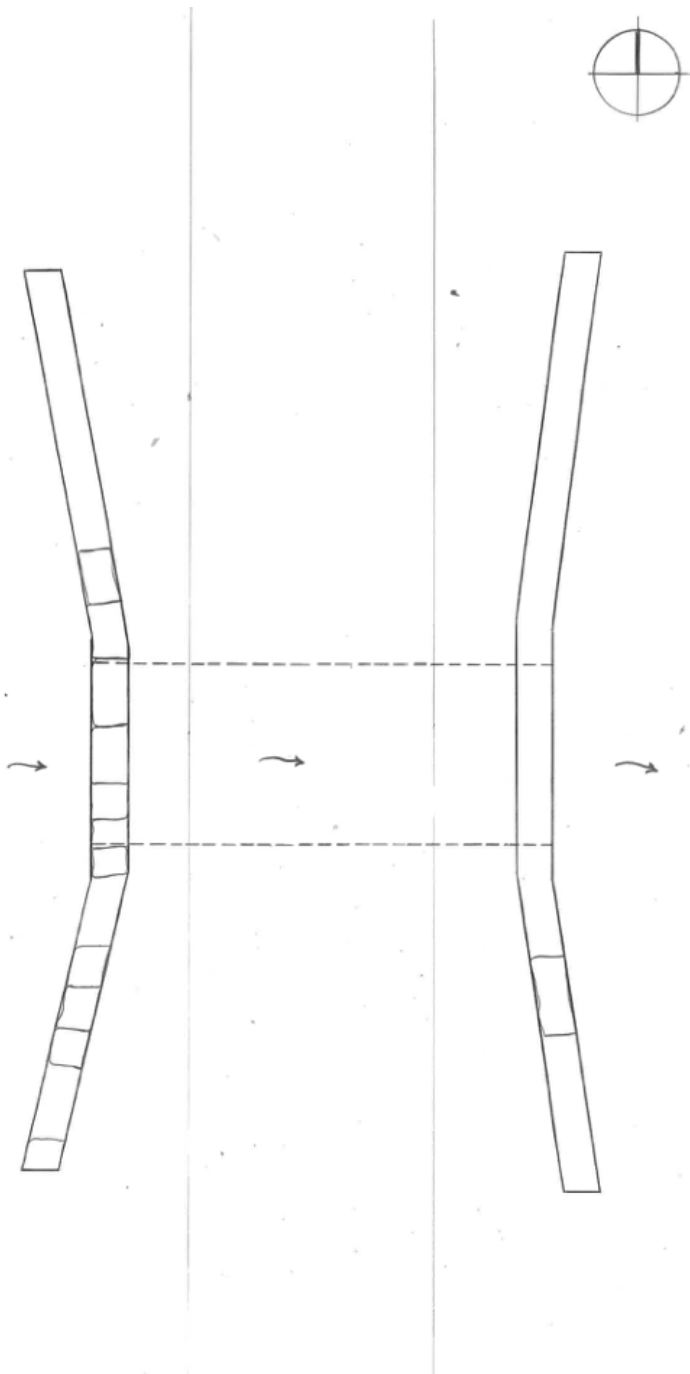


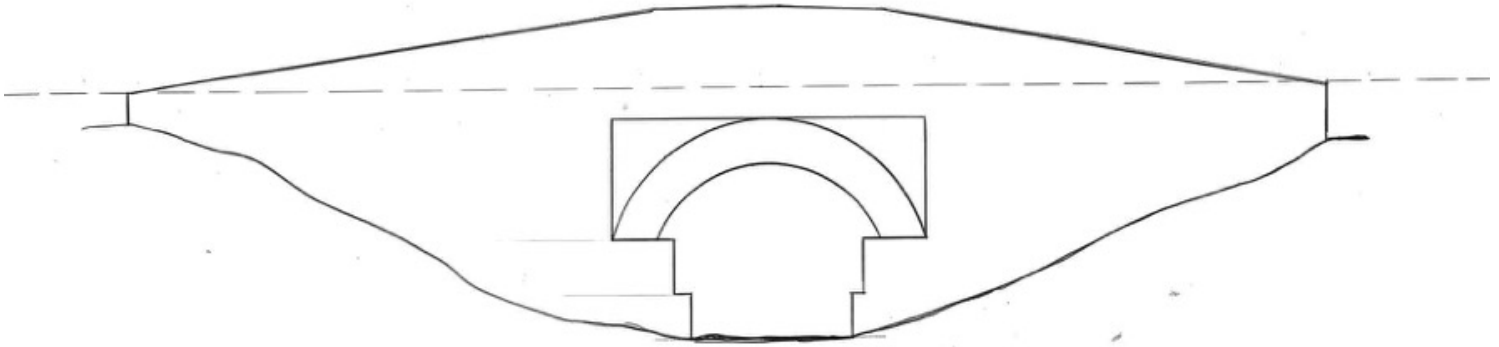
Illustration 9a: Measured drawings. Not to Scale
Drawn by Carla Cielo, September, 2023

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Downstream Elevation

Illustration 9b: Measured drawings. Not to Scale
Drawn by Carla Cielo, September, 2023

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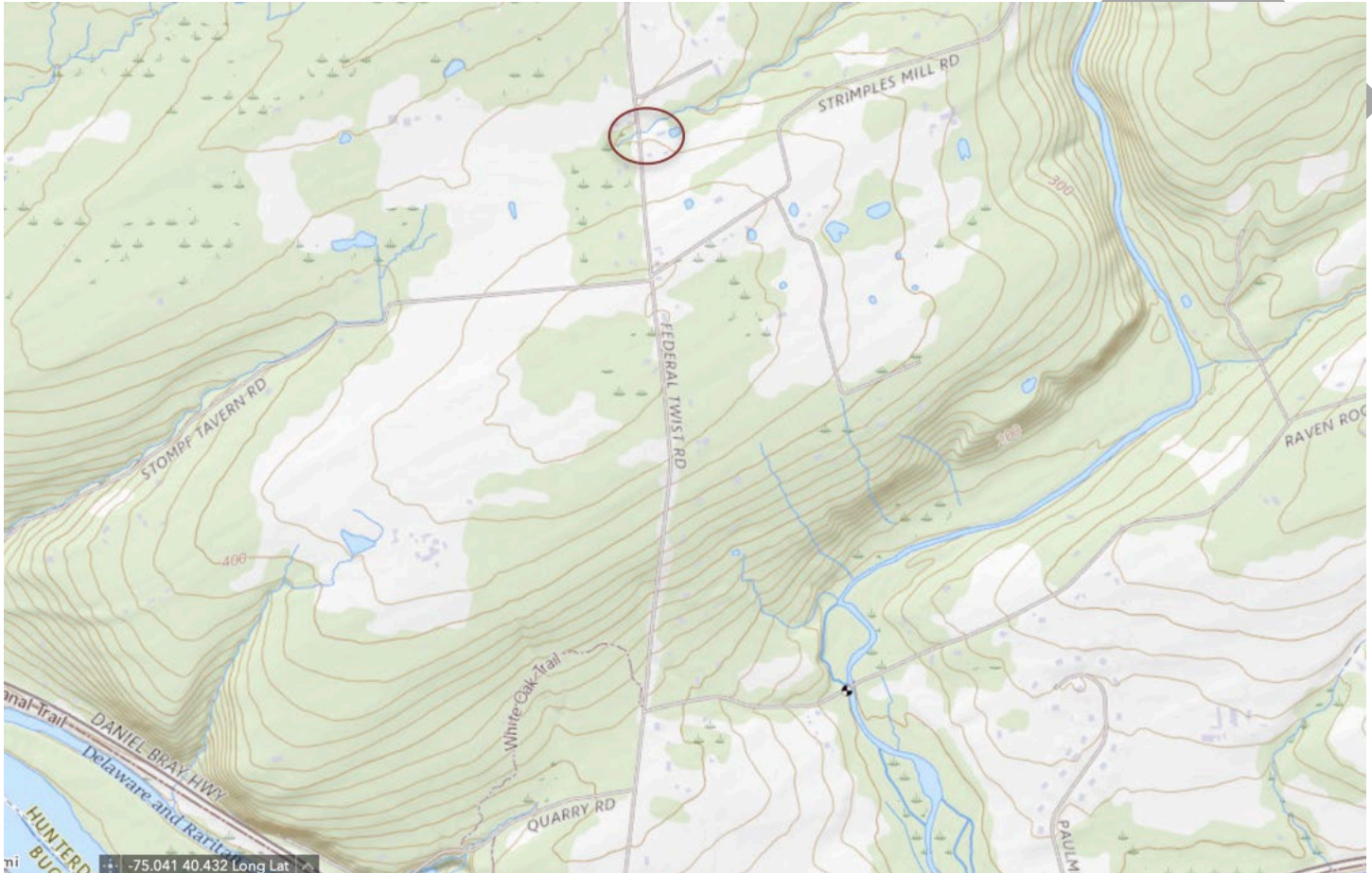


Illustration 10: Current location map (the circle indicates the location of the bridge).⁹

⁹ U.S. Geological Survey, 2023, Topographical Map, accessed December 2023 at URL <https://apps.nationalmap.gov/viewer/>.

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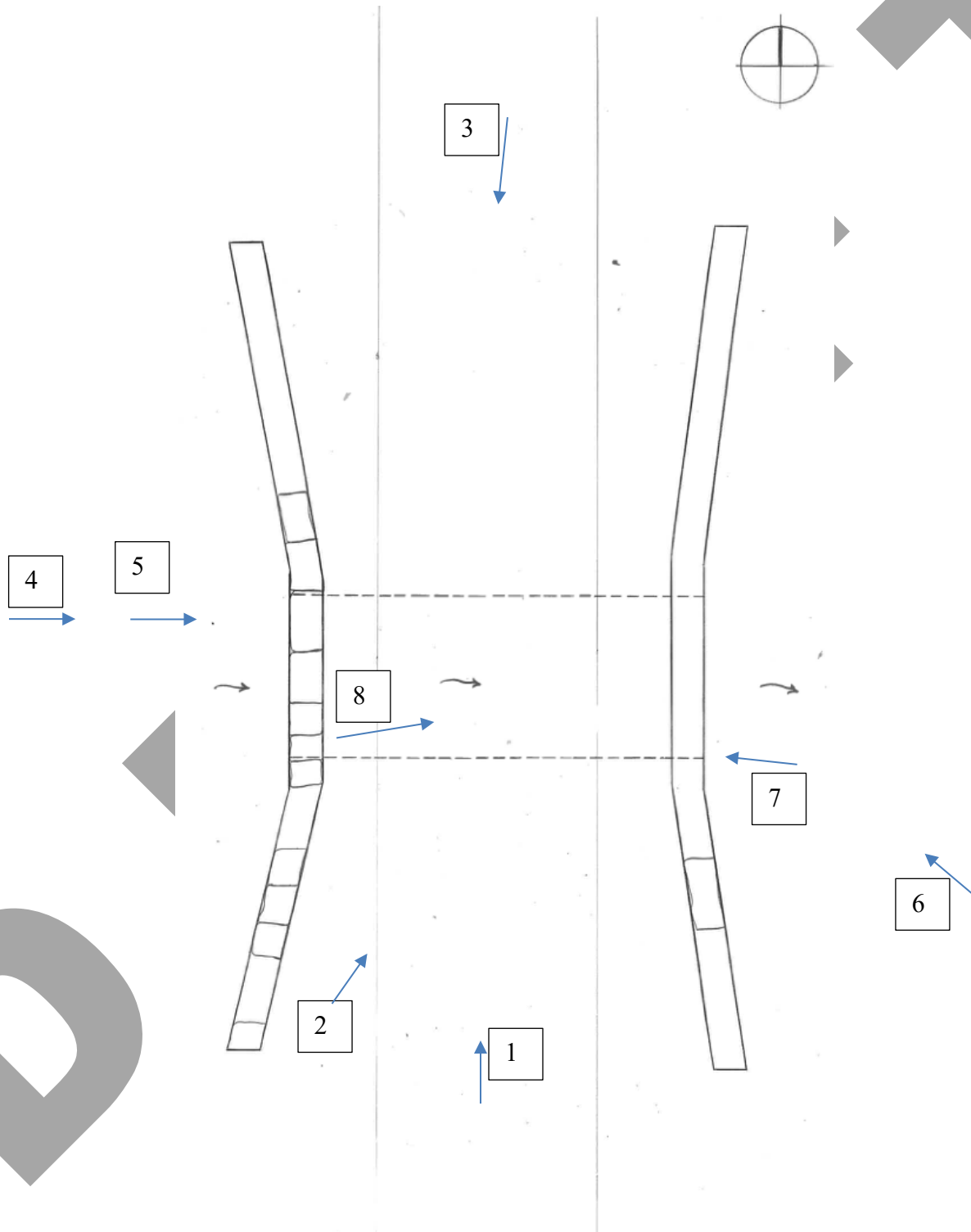


Photo Key

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Photo 1: Federal Twist Road at the bridge. View facing north showing the roadway.

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Photo 2: Federal Twist Road at the bridge. View facing northeast showing the roadway.

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Photo 3: Federal Twist Road at the bridge. View facing south showing the roadway.

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Photo 4: Federal Twist Road stone-arch bridge, Overall view of the west (upstream) side, view facing east.

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Photo 5: Federal Twist Road stone-arch bridge, west (upstream) side, view facing east showing the keystone and inset panel.

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Photo 6: Federal Twist Road stone-arch bridge, Overall view of the east (downstream) side, view facing northwest.

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Photo 7: Federal Twist Road stone-arch bridge, east (downstream) side, view facing west showing the quoined corners of the inset panel.

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Photo 8: Federal Twist Road stone-arch bridge, view facing west showing the arch barrel and the battered stone bases.