

WHITE'S CREEK COVERED BRIDGE, ABUTMENTS
Spanning White's Creek on the Big Sandy River Road
Cyrus Vicinity
Wayne County
West Virginia

HAER No. WV-53

HAER
WVA
50-CYRUS,
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Northeast Region
U.S. Custom House
200 Chestnut Street
Philadelphia, PA 19106

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Location: Spanned White's Creek on the Big Sandy River Road (Wayne County Road 1), 25 feet east of U.S. Route 52, and 725 feet east of the Big Sandy River, Cyrus vicinity, Wayne County, West Virginia.

UTM: 17. 362635. 4241095.
Quad: Burnaugh, West Virginia/ Kentucky

Date of Construction: Erected 1877. Altered one or more times. Demolished in 1957.

Present Owner: State of West Virginia, Highway Department, Charleston

Present Use: None.

Significance: The White's Creek Covered Bridge served as an essential structure along the Big Sandy River Road. The road and its bridge were of both regional and local importance. The bridge played an important role in facilitating local economic life based on agriculture and trade. The bridge was demolished in 1957, leaving only its abutments. The abutments are considered eligible to the National Register of Historic Places as contributing structures pertaining to the nearby village of White's Creek, W. Va.

Project Information: This documentation was undertaken by the Cyrus Dock Co., Inc., in June of 1992, in accordance with the Memorandum of Agreement of October, 1991, by the U.S. Army Corps of Engineers, Huntington District, as a mitigative measure prior to construction of the Cyrus Dock Company's coal loading facility on the Big Sandy River. In order to construct an entrance road to underpass U.S. Route 52 and the Norfolk-and-Western railroad tracks, the southern abutment for the former covered bridge must be removed entirely by the company. The northern abutment will not be removed.

Douglas L. Bailey, Consulting Archaeologist
618 Grant Street, Fairbom, Ohio 45324

Location and Setting

The White's Creek Bridge was built in 1877 to span White's Creek at one of its most stable and certainly narrowest points, to permit a convenient continuance of the line of the Big Sandy River Road. The relict stone abutments are based solidly at ca. 530 feet elevation atop the massive Buffalo Sandstone, which forms the lower sides and bed of White's Creek under and just upstream of the bridge site (Krebs and Teets 1913: 113-114). The bridge crossed 35 feet high above the "fall rock", over which White's Creek once dropped about 10 feet into a deep, lazy channel across the floodplain and debouched into the Big Sandy River 725 feet to the west.

In 1937 the Big Sandy's floodwaters rose "so high you could take a row-boat through the bridge" (D. Newman interview). The flood-level suggested by this memory is about 552 feet (elevation of the asphalt surface at the edges of the bridge's former portals averages 548.32 ft). The '37 flood's high-water mark is recorded as "H.W. Elev. 561.0 (1937) Back Water" on 1953 right-of-way plans (W. Va. State Road Commission 1953). That such high water -- however momentary -- did not simply carry the unanchored bridge away aptly must demonstrate the basic soundness of its design and construction.

The White's Creek Covered Bridge succeeded one or more bridges at the mouth of White's Creek. When the never-incorporated village of White's Creek was subdivided into lots and streets around 1870, its "Main Street" (now Cyrus Road) ended at White's Creek 260 feet downstream of the covered bridge site (Ferguson 1884). The street's end either marked the route of the Big Sandy Road sometime prior to 1877, or was the intended site for a bridge never built. It is known that the local route of the Big Sandy River Road, from the William Cyrus' Mill south, was established formally in 1842, the year Wayne County was formed (Wayne County Circuit Court 1842: 16 and 31). This suggests that the bridge that was replaced in 1877 crossed near the covered bridge site. In fact, evidence for an earlier bridge there may have been found during study of the nearby Price-White (Cyrus) Mill archaeological site (Bailey 1992). Pecked into the sandstone creek bed, four rectangular holes (Features 1, 3, 31, 53) beneath the covered bridge crossing may have held support posts for this earlier bridge. Angled holes (Features 4 and 5) may have seated braces for the post in Feature 3.

Historical Significance

The White's Creek Covered Bridge served for many years as an essential structure on the Big Sandy River Road. Prior to the formation of Wayne County

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in 1842, the river road was the only direct land route in West Virginia connecting communities on the Tug, Big Sandy, and the Ohio River. However, the section on which the bridge was built was preferred less than the river road in Kentucky and the Big Sandy River itself. Beginning at mid-century, down-valley transport increasingly became oriented toward Wayne, the county seat, and the more distant City of Huntington. At the time the White's Creek Covered Bridge was built in 1877, its section remained an important county road, but played only a secondary role with respect to regional traffic and shipment of goods. In 1903-04 this role was subverted further when the Kenova and Big Sandy Railroad was built alongside most of its length. Nonetheless, between 1877 and 1954 the bridge and its section of river road did link the village of White's Creek with important valley farms in its hinterland, and to a number of small commercial towns along the Ohio River including Kenova-Ceredo, W. Va. and Catlettsburg, Ky.

Construction, Use, Maintenance, and Demolition

The White's Creek Covered Bridge was erected in 1877 (W. Va. State Road Commission 1953) on the Big Sandy River Road. Roads existing at the time of the creation of Wayne County were established formally by the County Court in 1842. The Big Sandy Road came to be designated County Road 1. In 1929, County Road 19 up White's Creek valley between Cyrus Station and Centerville, and County Road 1 south of Cyrus Station, were upgraded to become part of U.S. Route 52, which in those days had led through Wayne, the county seat. In the same year, County Road 1 through and north of Cyrus was improved and paved using state funds (W. Va. State Road Commission 1929).

Within two decades, the deteriorating bridge proved incapable of supporting increased loads and heavier traffic. In 1952 the covered bridge was in such bad condition school buses were not permitted to cross with a load of passengers; students had to get off at one end of the bridge, walk across, and get on their bus at the other end (D. Smith interview). When a new concrete deck bridge was completed across White's Creek in 1954, the White's Creek Covered Bridge was bypassed entirely and its use discontinued. The State of West Virginia had the bridge removed in 1957. Some of its "large timbers" are said to have been used in a then-new Ray store at the junction of the Big Sandy and White's Creek roads (H. Smith interview). The date the bridge was removed -- 1957 -- is annotated on a version of the 1953 County Road 1 section plan, revised in 1960. In the early 1970s, most of County Road 1 north of Cyrus was redesignated as a part of U.S. Rte. 52 which was routed directly north toward then-new Interstate 64. (W. Braley interview).

The White's Creek Covered Bridge is very poorly documented in official

archives. There are three reasons for this. First, prior to 1933 counties built, owned, and maintained bridges (W. Braley interview). The Office of the County Engineer was abolished around 1933 (W. Braley, M. Strogon interviews); in recent years some of its former cartographic functions have been assumed by the County Surveyor's Office (M. Strogon interview). In the intervening 50 years, most records of the county Engineers Office, including plans, specifications, contracts, and maintenance records have been discarded (M. Strogon interview).

Second, Commissioners' Records, in which early district roadwork and contracts were recorded, were lost in a fire around 1880. Records after 1881 (Vol. 1 et seq.) are not indexed in such a way as to permit efficient search for possible contracts for abutment repair or modification; moreover, record entries are not specific enough to determine, in nearly all cases, what work may have been done by local road district work crews.

Third, between 1913 and 1960, the only work entailing the Covered Bridge, recorded as having been done under West Virginia's State Road Commission, was in 1949 to replace the bridge's wooden floor for \$1,630.00 "by State forces" (i.e., not via contract) (State Road Commission, Annual Reports, 1913-1960; see especially cumulative listing of state road projects in the 1940/41 Annual Report). County Road 1 was improved and paved under a state contract in 1929, but contract terms did not entail work on the bridge (W. Va. State Road Commission 1929).

Description of the White's Creek Covered Bridge

The White's Creek Bridge was removed in 1957, leaving only its abutments and immediate approaches. Evidence for the construction and dimensions of the bridge derive almost entirely from a few photographs taken just prior to the bridge's removal, and from incidental, diagrammatic depictions and annotations of the structure on railroad and highway right-of-way maps Kenova and Big Sandy Railroad 1902; Norfolk and Western Railway 1925; W. Va. State Road Commission 1929 and 1953). The most accurate historical depiction of the bridge in plan, in accord with data from the abutments is the 1953 right-of-way map at 1:1200 scale (W. Va. State Road Commission 1953). However, the most useful documentation consists of photographs of the bridge apparently taken between 1952 and 1957. Five photographs are known: a color snapshot by Miss Caroline Cyrus; a faded newspaper half-tone photograph (one of two in an article on the bridge, source unknown) held by Dorothy Smith; a photograph reproduced in Rothrock (1952) (location of original unknown); and a slide taken by Russ Hogg (R. Hogg interview). Only three -- the Cyrus, Smith, and Rothrock photographs -- were available for use. Description of the bridge's exterior is based on all three

photographs. Descriptions of interior and truss details are based largely on the Cyrus and Smith photographs.

Superstructure

The White's Creek Bridge was a single-span covered bridge whose ends rested on two stone abutments capped by concrete, and had no center pier. The bridge had a simple gabled roof covered by a raised-seam metal roofing. Its sides were clad with vertical boards-and-battens, much of this missing in the 1950s (Cyrus, Rothrock, and Smith photographs). The shelter panel in south gable end appears not to have boards, revealing at least one of the transverse tie rods that connected the bridge's upper chords (Cyrus and Smith photographs).

In each of its trusses, paired braces crossed single counterbraces, and iron tie-rods ran vertically where brace ends met at upper and lower chords. Sets of paired braces joined at upper chords at the bridge's center. Transverse tie rods appear to have generally connected the upper chords, although only one is visible at the bridge's southern portal. (Cyrus and Smith photographs). The truss system of the White's Creek Bridge appears to have been based on the Howe Truss design.

The Howe Truss was patented in 1840. It differed from, and was superior to, the Long Truss in that vertical posts between panels were replaced by adjustable tie-rods. The Howe Truss was a popular design for its ease of erection and structural stability, and was the fore-runner of the iron bridge. Many examples of Howe Truss covered bridges were built in the 1870s and 1880s. In 1989 an estimated 124 Howe Truss covered bridges remained in the U.S. (Krekeler 1989: 21 et passim).

The Stone-and-Concrete Abutments

In general details, the two abutments resemble each other. Differences in plan of the two abutments appear to be based solely on particular adaptations to the vagaries of the bedrock base. The abutments are of coursed stone capped with good quality concrete. The concrete work does not seem to be original, and probably was done under contract with the County, or by the County engineer's office, sometime after 1918, possibly in the late 1920s. However, documentary confirmation of this surmised has not been found to date. No initials, names, words, numbers, or dates were found in careful inspection of concrete and stone surfaces.

The sleepers forming the lower chords of the bridge's trusses seem to have rested atop the large, projecting concrete pier blocks. The distance from the top of the bridge deck to the bottom of the sleepers (top of the concrete pier blocks) is

about 2 feet. The abutments taken together imply a bridge about 21 feet wide and 83.5 feet long, oriented at a bearing of $42^{\circ}/222^{\circ}$ magnetic ($39^{\circ}/219^{\circ}$ geographic North).

Northern Abutment

The northern abutment consists of an intact front wall and one intact wing wall. The abutment's western wing wall has been destroyed. The abutment apparently was built up directly upon an outcrop of massive Buffalo Sandstone. The base of the abutment is obscured by slope-wash, but undoubtedly, the outcrop's top-surface was cleared of debris and levelled and stepped as needed before the abutment walls were laid up. The abutment's walls are comprised principally of squared stones with drafted edges, dressed back with a toothed chisel. Most of the stones show one or two drill holes pecked into their sides, simply for being hoisted by derrick.

The front of the abutment has eight range courses of such draft-edged squared stone. The thickness of the courses and sizes of the stone blocks decrease with height. These eight courses are capped by a single range course of rough-pointed stones, which are the best-dressed in the abutment. This course is capped directly by concrete work, comprised of two large concrete "pier" blocks backed by a concrete wall stepped on its upper front edge. The stepped concrete wall seems to have partly supported and to have met the bridge's end sills. The steps are irregularly formed, their edges not being parallel, but their top surfaces are level or nearly so. The distance between the front of the highest step on the back wall of the northern abutment, to an analogous position on the southern abutment, is 83.5 feet, the approximate length of the deck of the covered bridge. The pier blocks supported the ends of the bridge's large sills or sleepers. The transverse distance between the outer edges of the two concrete pier blocks (measured on the southern abutment) is 20.67 feet, the approximate outer width of the bridge.

Only a very short segment, several feet long, remains of the northern abutment's west wing wall. A line diagram of the bridge on the 1953 right-of-way plans depicts the west wing wall to have been about 37.5 feet long. All of the west wing wall projecting beneath the deck of the modern highway bridge appears to have been intentionally removed. Most of the stones probably were dumped, along with quantities of shot-rock, into the deep swimming hole below the falls, just beneath the modern highway bridge, to permit construction vehicles to drive to the site.

The faces of the west wing wall and front wall of the abutment meet at an

essentially vertical, well-defined drafted edge chiselled into angled corner blocks. This treatment contrasts noticeably with the juncture of the front wall and east wing wall, which is ill-defined.

The east wing wall is comprised of five range courses of small ashlar superimposed over at least six levels of larger, draft-edged cut stones coursed continuously with the front wall. The uppermost two courses of the wing wall are merely pitch-faced, due to the small sizes of the blocks used. These courses run atop a course of rough-pointed ashlar whose top surface runs at about the level of the concrete pier blocks. One cut stone from the course below this pointed ashlar apparently was removed to permit the end of a stoneware sewer pipe to drain freely. The piercing made for this pipe is not bridged stably by blocks above it. This pipe probably was put in well after the uppermost courses of the wing wall had been laid.

Southern Abutment

The front wall of the southern abutment is, in its essential details, identical to the northern, and requires no specific description. The highest step of concrete work is capped by a remnant of asphalt / Macadam pavement laid to the bridge in 1929.

Modern highway plans (WVSRC 1953) show the southern abutment's western wing wall to have been about 25.5 feet long. The wing wall now is only about 15 feet long, much of which has been remortared with modern Portland cement. The part of the wall beneath the modern highway bridge seems to have been removed intentionally, probably in 1953. The mortar seems to have been applied to prevent eventual collapse of the wing wall, rather than to preserve the bridge or its approach. It is probable that these changes were associated directly with construction of the modern highway bridge, but preceded the actual removal of the covered bridge.

The eastern wing wall is in very poor condition. Its topmost stones are absent, seemingly having collapsed into the stream bed. The wall is fissured and its stones are out of position.

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BIBLIOGRAPHY

Bailey, Douglas L.

1992 The Price-White Mill Site, White's Creek, Wayne Co., W. Va. Contract report prepared for the Cyrus Dock Co., Inc., Belle, W. Va.

Ferguson, Milton J.

1884 Plat of Lots in the Village of White's Creek Given to George W. Johnson. Recorded in 1889 in Book of Unacknowledged Writings, Vol.1, Page 11, Wayne County Clerk's Office, Wayne, W. Va.

Kenova and Big Sandy Railroad

1902 Plat of Right of Way Required Through Lands of G.W. Johnson, Wayne County, W. Va. Scale 1: 200. November 24, 1902. Map on file, Wayne County Clerk's Office, Deed Book 58, Pages 165-167.

Krebs, Charles E. and D.D. Teets, Jr.

1913 Geological Survey of Cabell, Wayne, and Lincoln Counties. West Virginia Geological Survey, Morgantown.

Krekeler, Brenda

1989 Covered Bridges Today. Daring Publishing Group, Akron, Ohio.

Norfolk and Western Railway Company, Big Sandy Line [N. & W.]

1925 Land to be Acquired from D.H. Johnson et Ux, M.P. No. 51+ 12495, Wayne County, West Virginia. Scale 1: 1200. Office of the Chief Engineer, Roanoke. March 4, 1925. Map on file, Wayne County Clerk's Office, Deed Book 146, Page 196.

Rothrock, C.A., State Planning Engineer

1952 Covered wooden bridges in West Virginia. West Virginia Highways 14(6): 4, 5, and 11. State Road Commission of West Virginia, Charleston.

Wayne County Circuit Court

1842 Court Order Book 1, 1842-1851. On file, Circuit Court Record Room, Wayne, W. Va.

West Virginia State Road Commission [WVSRC]

1913+ Annual Reports 1913-1970s. Charleston.

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West Virginia State Road Commission [WVSRC]

1929 Project No. 150, Docks Creek - Cyrus Road, Ceredo District. Plan scale 1: 600; profile scales 1: 600 horiz., 1: 48 vert. On file, Drawer 13, Wayne County Clerk's Office, Wayne.

West Virginia State Road Commission [WVSRC]

1953 Plan and Profile for Construction of State Road Project No. S-617 (1), Route No. Sec. 1, Ceredo District, Wayne County, White's Creek Bridge and Approaches, Sta. 688 + 00 to Sta. 719.00, Length 0.589 mile (3109.60 ft). Plan scale 1"=100'; profile scales 1"=100' horiz., 1"=10' vert. On file, Map Drawer 21, Wayne County Clerk's Office, Wayne.

Interviews

Braley, Wilson

Telephone interview by D. Bailey, 11 A.M., July 20, 1992.

Chadwick, Frank Jr.

Interview by D. Bailey, 3-5 P.M., August 3, 1992.

Cyrus, Miss Caroline

Interviews by D. Bailey, 5:30 P.M., August 4, and 7-9 P.M., August 10, 1992.

Hogg, Russ

Telephone interview by D. Bailey, 9: 45 P.M., July 28, 1992.

Newman, Don

Interviews by D. Bailey, 1 P.M., June 2, and 3-4 P.M., June 4, 1992.

Smith, Dorothy

Interview by D. Bailey, 3-5 P.M., July 30, 1992.

Smith, Homer

Telephone interview by D. Bailey, 9 P.M., August 3, 1992.

Strogen, Matt

Interview by D. Bailey, 4 P.M., August 11, 1992.

Repositories Searched and Agencies Contacted (July, 1992)

Wayne County Civil Offices, Courthouse, Wayne, W. Va.

Clerk's Office
Clerk of Court
Assessor
Surveyor

West Virginia Department of Highways (State Offices, Charleston)

Structures Division (304) 558-2838

Bob Smith, Assistant Director

District No. 2 Offices (Huntington)

Right-of-Way Division

Charles Proctor (304) 528-5635

Bridges Division

Wilson Braley, Bridge Engineer, District No. 2

Wayne County Highway Garage

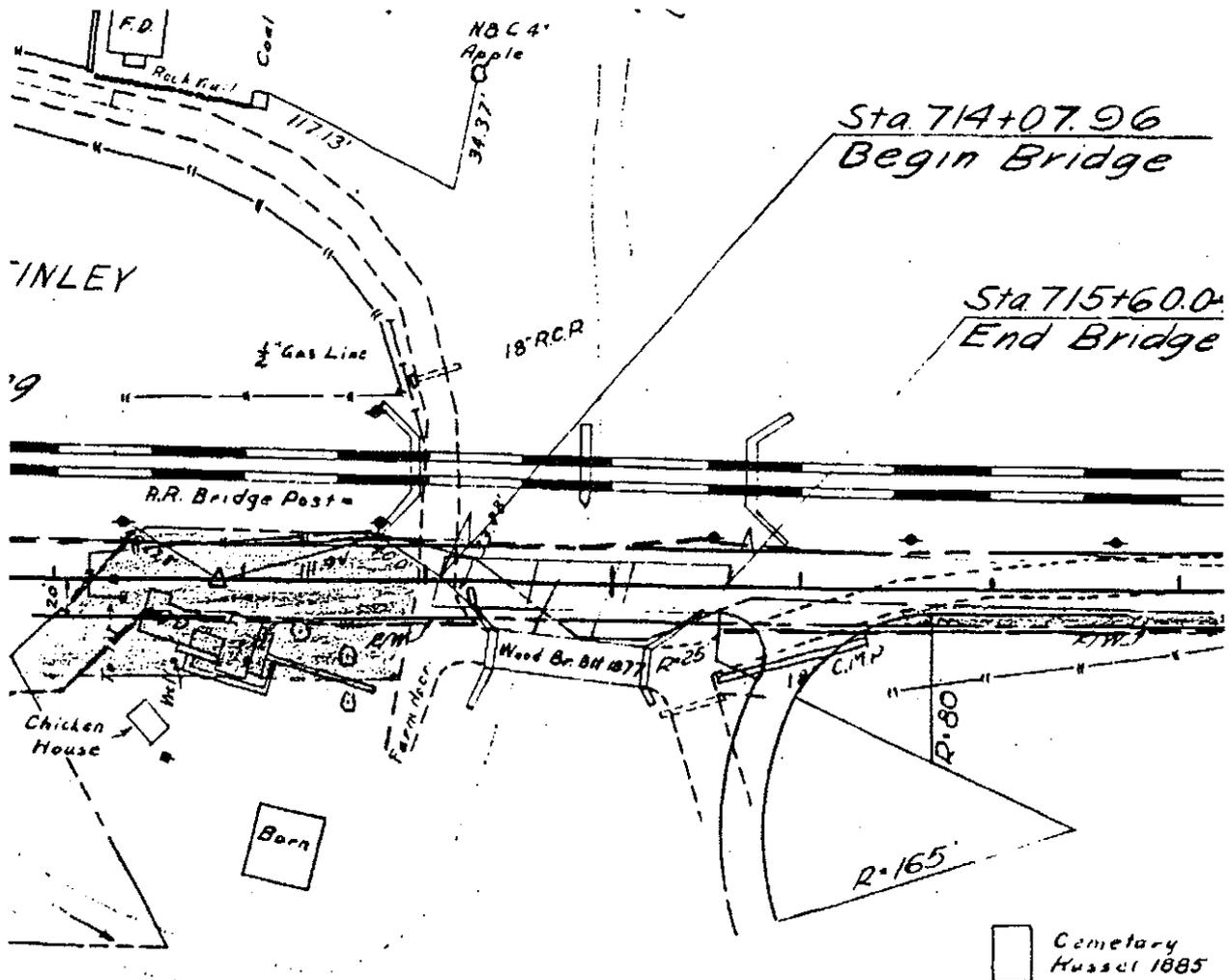
Terry "Topper" Spry, Supervisor (304) 272-5127

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PHOTOCOPY OF PORTION OF 1953 RIGHT-OF-WAY PLAN SHOWING SETTING
OF COVERED BRIDGE

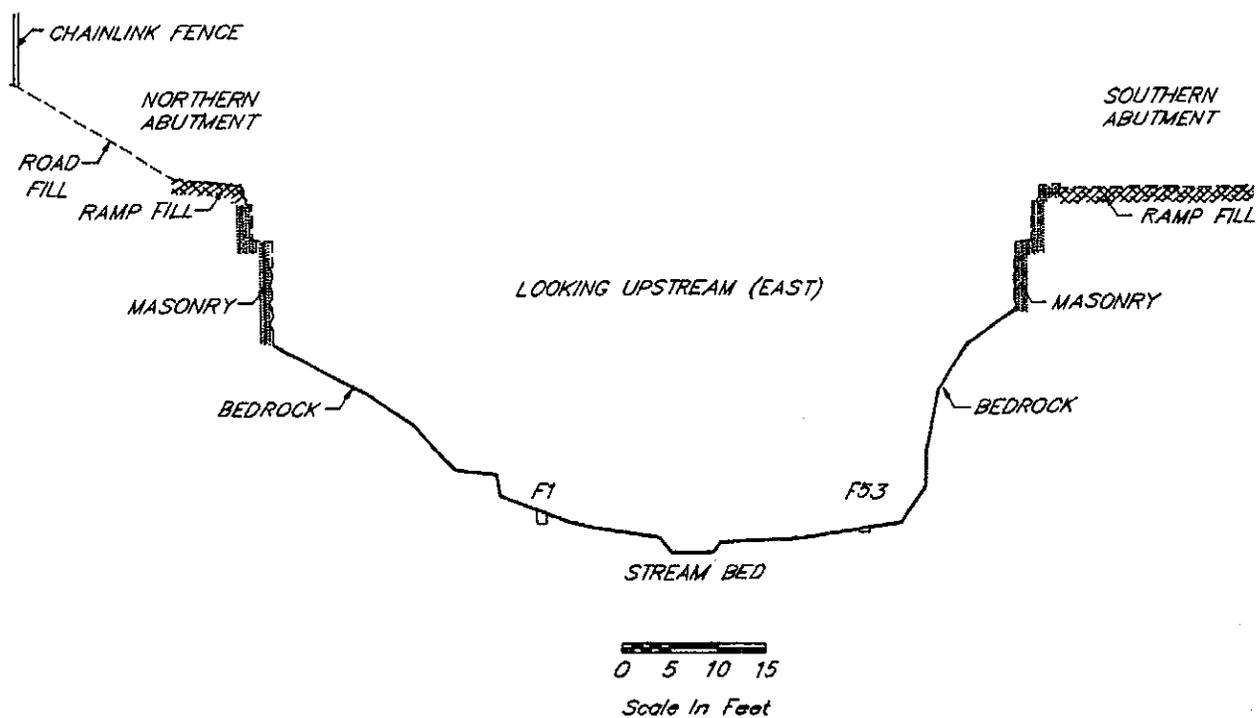
West Virginia State Road Commission

1953 Plan and Profile for Construction of State Road Project No. S-617 (1), Route No. Sec. 1, Ceredo District, Wayne County, White's Creek Bridge and Approaches, Sta. 688 + 00 to Sta. 719.00, Length 0.589 mile (3109.60 ft). Plan scale 1"=100'; profile scales 1"=100' horiz., 1'=10' vert. On file, Map Drawer 21, Wayne County Clerk's Office, Wayne.



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SECTION ACROSS WHITE'S CREEK, LOOKING UPSTREAM
(This is an original drawing based on survey data recorded in 1992.)



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SITE PLAN, WITH KEY TO PHOTOGRAPHS WV-53-1, 2, 3, 4
(This is an original drawing based on field data by Douglas Bailey in 1992.)

