West Virginia Historic Bridge Inventory Form

Bridge No. 50-052/56-002.64 **BARS No.** 50A132 **Federal Bridge No.** 00000000050A132 **Bridge Design No.** 6073.0

IDENTIFICATION INFORMATION

SHPO Survey No.WA-0126OwnerState Highway AgencyLocal NameFLEMING DECK GIRDERStatusExtant - in service

Other Local Name

LOCATIONAL AND SETTING INFORMATION

District 02 County Wayne Latitude 38052400 Longitude 082281200

Location 0.35 MI SOUTH OF CR 52/20 UTM-Northing
Facility Carried By Structure CR 52/56 UTM-Easting
UTM Zone

Features Intersected WEST FK TWELVEPOLE CK Surrounding Land Use Forested

Type of Development Rural - (undeveloped area outside communities)

STRUCTURAL INFORMATION

Main Span TypeSteel Stringer/Multi-beam or Girder - rivetedStructure Length (ft)145

Main Span Type Code 325 Length of Maximum Span (ft) 69

Number of Spans in Main Unit002Average Daily Traffic000150Year2001Number of Approach Spans0000Sufficiency Rating0659Skew40

(Note: Data current as of April 2006 database)

BRIDGE DESCRIPTIVE INFORMATION

Year Built 1911 Arrangement
Year Reconstructed Connection Type
Truss Bridge Type Truss Details

Alteration(s) Date of Alterations (Year)

Architectural Treatment(s) Bridge Plate Text

N/A

BRIDGE HISTORY

Engineer or Designer Builder or Fabricator

Bridge Plan Location None

Additional Details: No evidence of parapet. Timber deck and curb. Stone abutments, piers and wingwalls. Steel plate girders, bracing and stiffeners

with riveted connections. Converted railroad bridge crosses the Twelvepole Creek and located along former Norfolk & Western

Railroad line, which was used for a short time and determined not significant by WVDOH.

NATIONAL REGISTER EVALUATION INFORMATION

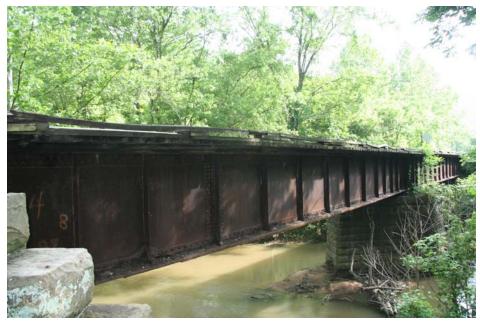
National Register Determination

Reason Not Evaluated

National Register Determination Date

This bridge has an association with a historic transportation system, program, event, trend, or policy identified through contextual research and survey activities. Further research is needed to determine whether the bridge is eligible for the National Register under Criterion A.





West Virginia Historic Bridge Inventory Form
Form Prepared By Mead & Hunt and KCI
Form Preparation Date 2011

Name: Fleming Deck Girder Bridge Repair Survey #: State Project: S350-52/56-2.64

Survey / FR#: NA

Form Prepared by Tracy D. Bakic (WVDOH) on December 5, 2013 (revised April 4, 2014)

Description of Bridge:

The Fleming Deck Girder Bridge was originally built in 1911 on the Norfolk & Western (N&W) Railway Twelvepole Branch alignment and later converted for automotive use after N&W abandoned the line in 1933. The two-span bridge is set on cut-stone abutments that were built circa 1891 for an earlier N&W bridge that spanned over this location. The mid-span cut-stone pier was added circa 1911 (N&W 1911). The riveted steel superstructure – built by Virginia Bridge and Iron Company of Roanoke, VA – consists of 6-foot-high built-up girders with bracing and diaphragms. The deck is built of a double layer of wood boards, each approximately 0.7-inch-wide. The overall dimensions of the bridge are 145.9 feet long by 12 feet wide. The distance between curbs is 9.9 feet (WVDOH 2013).

Statement of Significance:

Wayne County was established by an act of the Virginia Assembly on January 18, 1842, being formed from part of Cabell County. Early settlers in Wayne County around 1800 were primarily farmers. As people moved west, the population grew and more diverse industry such as grist mills, general stores and blacksmith shops emerged. The construction of the N&W railroad along Twelvepole Creek in the 1890s helped bring more remote areas of Wayne County into the industrial age. Wayne County's population and industry, particularly timber and coal mining, grew through the early 20th century, although activity along Twelvepole Creek declined as rail and automotive transportation corridors were shifted to extend along the Big Sandy River (Fint:2-3). Even after the railroad was removed from the area, the Twelvepole region of the county continued to be considered a farming area (*BDT* 1939).

The N&W Railroad and the Ohio Extension

The N&W Railroad was formed in 1881 after the foreclosure of the Atlantic, Mississippi & Ohio Railroad, a Virginia line that extended within that state from Norfolk to Bristol. With sights set on exploitation of the Pocahontas Coalfield, N&W constructed first the New River Division from Bristol to Pocahontas area (Garay:25-26) and then the Bluestone Extension to Elkhorn, WV in the 1880s (WVrailroads.com). Following the completion of surveys in 1888, the N&W decided to build its Ohio Extension along a route that would follow the Tug Fork of the Big Sandy River west of Elkhorn for approx. 90 miles and then along Twelvepole Creek for about 70 miles before crossing the Ohio River to get to Ironton, OH. This route was chosen for its easy grades, allowing for economy of construction and operation, and for the desire to locate the best areas for further coal and timber sources.

Construction of the Ohio Extension commenced in December 1890 (FHWA:15). Trains were running regularly from Kenova to Dunlow by mid-December 1891and whole line was reportedly finished and opened to traffic in November 1892 (Dickinson:70,152). However, work continued into 1893 for the route to be fully operational. Due to the extremely winding nature of the water routes, many tunnels and bridge crossings were necessary to avoid excessive curvature. As for bridges, the Tug Fork was crossed 10 times, Elkhorn Creek 13, the Laurel Fork of Pigeon Creek four and the Twelvepole was crossed 34 times. Most of the early bridges were wooden trestles were later replaced with metal bridges, many manufactured by Virginia Bridge & Iron Company of Roanoke, VA or the American Bridge Company of NY (FHWA:15-16).

N&W Railroad foreclosed and reorganized as N&W Railway in 1896. Development of the Pocahontas Coalfield and the resulting increased freight traffic along the N&W's Ohio Extension in the 1890s led management to propose construction of an additional rail line along the Big Sandy River which furnished a better grade for heavy traffic. The new 59-mile Big Sandy Low Grade Line from Naugatuck to Kenova was planned for established and growing traffic. Thus, it was constructed with less attention to the immediate economy as was illustrated by the numerous curves of the earlier route which was remote from other railways and required cross-country transportation over difficult western terrain (Henry HPI; WVrailroads.net).

The Big Sandy Low Grade Line was completed in 1904 and largely supplanted the Twelvepole Line. The new line was used for passenger service and for all heavy west bound freight traffic, principally coal, while the old line was used for local traffic and as the east bound track for empty coal cars, and considered an auxiliary line for passenger and freight service in case of interference, such as landslides, along the Big Sandy route (*BDT* 1904; Krebs & Teets:4-5; WVrailroads.net). Even though upgrades were made to the Twelvepole Line, including the replacement of several of its bridges in and around 1911, the use of the original main line was further decreased after a second track along the Big Sandy alignment was completed in 1925 (Dickinson:71).

Overall the Twelvepole Line had not fulfilled the expectations of the railroad, never producing substantial volumes of coal, even during WWI when coal prices were the highest (Dickinson:71). In 1933 N&W was granted Interstate Commerce Commission (ICC) approval to abandon the Twelvepole Line from Lenore to Wayne, with the *Charleston Daily Mail* of August

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11, 1933 quoting that "continued operation of the line was not justified by the traffic presently available or in prospect and that such operation would result in heavy deficit" and noting "opposition to this abandonment had been expressed by the state, its public service commission, the counties involved and the districts in those counties." The final day of operations on the Twelvepole Line was September 1, 1933 (*Huntington Advertiser*, WV PSC:50). The tracks were removed from the alignment in October and November 1933 (Dickinson:67). The remaining portion of the original Twelvepole Line from Wayne to Kenova and a short line from Wayne to East Lynn combined to become known as the Wayne Branch of the N&W and later of the Norfolk Southern Railway (NS) from 1982 to present (NScorp.com; WVDOT:8).

Although the Twelvepole Line was abandoned, its legacy lives on in extant towns and small enclaves that were established or otherwise grew due to the N&W along Laurel Fork and Twelvepole Creek. The following locales along the line had N&W stations and/or post offices established during the railroad era: Lenore, Rapp, Canterbury, Parsley (Hale Station), Dingess, Trace, Kirk (Buttercup), Breeden and Lowney in Mingo County; and Wilsondale, Doane, Missouri Branch (Wells Branch/Preston), Dunlow, Quaker, Ferguson, Radnor, Fleming, Genoa, Sidney, Coleman, Echo and Wayne in Wayne County (Postalhistory.com; N&W:60; White:23). These places are still accessible as the former railroad alignment was rehabilitated many years ago for automotive use.

According to a November 30, 1933 article in the *Wayne County News*, many of the former railroad stations along the line were sold to residents along the alignment that expressed interest in converting them for new use, such as homes or stores (Dickinson:70). The Dunlow Station still apparently exists in an abandoned state and, reportedly, there are old depot structures still located in Genoa (moved from Sidney; converted into a residence) and Wilsondale (converted into a store; RRSHS.org).

Community of Fleming and Vicinity

In an issue of *The Coal Trade* reviewing the year 1891, the Twelve Pole Region of West Virginia is discussed in respect to the N&W coming through and prospects for coal in the area. "A new town called Dunlow, in Wayne County, belongs to the Guyandot [sic] Coal Land Association . . . It owns a great coal and timber estate, some 240,000 acres, lying between the Guyandot [sic] and Big Sandy rivers . . . including between them the basins of the East and the West forks of the Twelve Pole River. The Guyandot [sic] Coal Land Association, which owns the western border of the great Apalachian [sic] coal field, in West Virginia, the coals of which are above water level, where it is first penetrated by the N. & W., has already made leases near its new town of Fleming. . Mr. Toudy's mine at Fleming, is in a six-foot bed of superior Splint coal . . . he began delivering coal to the Norfolk & Western for use on its locomotives, November 9th, 1891, thus securing the honor of being the first operator to get his mine ready and deliver coal to the railway . . ." (Saward & Hale:97).

The Guyandotte Coal Land Association had noted in 1891 that the coalfield associated with the Twelvepole Line began at Billy's Branch located between Fleming and Genoa to the north (Dickinson:9). Henry J. Toudy's mine and tipple at Fleming was one of four early coal operations in the Twelvepole region, the others being in Dunlow and Ferguson. By 1892 and until at least 1896 Coaldale Mining and Manufacturing Co. was the operator of Toudy's mine (Edwards:101-102; Southeastern Reporter, WV Labor Comm.: 18). By March 1892 Toudy's mine employed 26 men with Eph Moore as mine boss. John Dilger was mine boss in 1893 and 1894. The mine had a capacity of 250 tons per day. The mining company had a store in Fleming operated by a Mr. Kraha (Dickinson:26). By 1907 Toudy's mine was listed as "abandoned" (Gannett & Baldwin:71-72).

The town was named for Robert Fleming (1845-1933), a Scottish financier and one of the major stockholders of the N&W. It was as an investor and expert on American railroads that Fleming established an early international reputation. Fleming was involved in the restructuring of many American railroads, including N&W (1895–6), of which he was also a director between 1886 and 1893 (Dickinson:26; Smith).

The village of Fleming had its own N&W station in 1891, but apparently no longer existed by 1903. N&W stations were near Fleming at Genoa by 1891, 3.5 miles to the north, and Radnor by 1903, about one mile south (N&W:60; White:23). Both nearby communities could also claim local coal mining operations, such as those of Ohio Lumber and Mining Co. in Genoa and Lincoln Coal, Handley Coal and May Branch Coal companies in Radnor (*CDM* 1918; Dickinson:145; Mine and Quarry News Bureau:653). Fleming had its own post office from 1892 until 1901, as did Genoa beginning in 1890 and nearby Radnor beginning in 1901, likely taking over for the Fleming office that closed in the same year (Postalhistory.com). All three of these communities are located within the northern portion of Wayne County's Lincoln Magisterial District (SRC 1933).

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Rehabilitation of N&W Alignment to Automotive Routes

When, in 1933, the ICC granted the N&W authority to abandon the 54-mile Twelvepole Line between Lenore and Wayne "permission was given on condition that the road donate to county authorities that portion of its right of way extending 12 miles from Missouri Branch and Lowney, W. Va." (*CDM* 1933). That portion of road basically became the automotive route through Cabwaylingo, a state forest established by land purchases in 1933 and 1935 (Gioulis:56). It was reported on September 1, 1933 that the railway "expressed willingness to deed all of its abandoned right of way to the state for an agreed consideration" (Huntington Reporter). It appears that it was not until March 1939 that the State Road Commission formally acquired the ROW of the Twelvepole Branch from the railroad (WV SRC 1939:294).

Over time, the former Twelvepole Line's ROW was rehabilitated for automotive use as primary and secondary highway routes, such as on the original (old) US 52 before it was realigned along the Big Sandy River and Old US 52 was designated as WV 152 in the 1970s (Fint:3-4; WVDOH 1974-1980). Some present day routes that make use of the former Twelvepole Branch alignment appear to be: WV 152 and WV 37 (both part of Old US 52) and county routes 52/55, 52/16 and 52/56 in Wayne County and CO 3/5 in Mingo County. Available old highway maps and other historic resources were reviewed, but it is presently considered unclear if CO 52/56 through Fleming was ever used part of the Old US 52 main alignment; it is identified as CO 52/56 by 1954 (USGS 1941; WV SRC 1933, 1937, 1954).

Criterion A

Even though it did not meet the expectations of the N&W, the Twelvepole Line was an initial part of the main line of that railroad company's Ohio Extension. The Twelvepole Line opened up a new coal region within West Virginia and created new towns and smaller post villages along its path that still exist today, but otherwise may have never been established. After the 1933 closure of the Twelvepole Line from Lenore to Wayne, the decision to rehabilitate the alignment for automotive use, utilizing its bridges and tunnels, was likely important to the continuance of industries, including coal mining, that would sustain the railroad-established locales.

The alignment exists today as part of several state and county automotive routes, with many of the roads retaining a setting, feeling and association with the former use via extant railroad structures like bridges and tunnels. This is particularly the case with secondary roads as they have tended to remain less affected by major traffic growth and construction. The alignment as an important cultural resource may be discontiguous from Lenore to Wayne.

The Fleming Deck Girder Bridge is on an approximately four mile section of former N&W railroad alignment that extends from Genoa south to Radnor (CO 52/56). This section includes two other extant 1911 N&W girder bridges, a second in Fleming, just 0.1 mile to the south, and one in Genoa. Starting just 0.4 miles north of CO 52/56 at Genoa is another rural section of the former N&W route that is about 5.5 miles long, ending at Echo and including CO 52/16 and 52/55. To the south of Radnor, there is a 9.5 mile stretch that may include former sections of N&W alignment, possibly with bridges or remains of, that are not clearly marked on current maps and perhaps are on private land. After this stretch, the historic alignment picks up on a much longer section of former railroad alignment now known as CO 35, starting at Missouri Branch, and following on CO 41 and CO3/05 which includes the old N&W tunnels at Breeden and Dingess. Former N&W buildings or other structures may also still exist along the overall route from Lenore to Wayne, such as the abandoned depot in Dunlow.

The former Twelvepole Line is within the federally-designated National Coal Heritage Area, established in 1996 with the mission to preserve, protect and interpret lands, structures and communities associated with the coal mining heritage of WV. A result, perhaps unforeseen, of the rehabilitation of this road from rail to auto use is the unique experience it provides to the automotive traveler. In taking the path of a historic alignment over single-lane former railroad bridges and tunnels, the route enforces the previous existence and scale of the N&W railroad and the importance of it to bringing the coal industry to the still-existing small communities on an otherwise consistently rural and forested route.

Given its unique history as part of two types of transportation routes, the Fleming Deck Girder Bridge has retained integrity in the aspects of location, design, materials, workmanship, feeling, association and setting. The prominent steel girders, bracing members between the girders, and stone abutments have remained unaltered through the years. Previously, the bridge required removal of its original rails and likely timbers for the placement of wooden decking for use as an automotive road. Over the years the decking has been repaired and replaced as part of roadway maintenance. As part of modern functioning roadways, it is expected that upgrading and alterations of structures are necessary to meet current regulatory/safety standards and can be considered as part of the 80-year and ongoing history of the former Twelvepole Line's rehabilitation for automotive use.

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The former N&W Twelvepole Line transportation route from Lenore to Wayne is significant as a railroad-turned-automotive alignment and for its role in the economic development and continuance of WV's coalfields and communities in Mingo and Wayne counties from 1891 to the present. As such, the Fleming Deck Girder Bridge, built in 1911 by the N&W with necessary later repairs for automotive use, is eligible under Criterion A as a part of the Former N&W Twelvepole Line Transportation Route.

Criterion B

This bridge is not known to have been associated with the significant productive period of some notable person's life, nor to have been associated for any length of time with such a person, nor to be the best representation of such a person's historic contribution. As such, it does not meet NRHP Criteron B.

Criterion C

The Fleming Deck Girder Bridge is an example of typical riveted girder bridge design used in railroad construction throughout the US by the early 1900s. The stone abutments were initially built circa 1891 for the earlier N&W bridge in this location and then were reused for the 1911 replacement bridge. The mid-span stone pier was built in 1911 (N&W 1911). The existing superstructure of the bridge was built by Virginia Bridge and Iron Company (VBI), which was initially formed in the late 1880s as the American Bridge Company of Roanoke and then reorganized as VBI in 1895. Its plant was located along the N&W and Southern Railroad lines. By 1904 VBI was considered the largest steel fabricator in the South with a product line that included bridges, turntables, warehouses, and general structural iron and steel. By the early 1930s, VBI had offices throughout the US. However, the Depression era took a toll on VBI and, in 1936, was purchased into the US Steel monopoly under a new name - Virginia Bridge Co. In 1952, the company merged into US Steel's American Bridge Co. with the VBI Roanoke plant serving as American Bridge's Southern headquarters until the facility closed in 1965 (Louis Berger & Assoc.:10-11).

This bridge was previously evaluated for the *West Virginia Statewide Historic Bridge Survey* (KCI Technologies & Mead & Hunt 2013) and was determined not eligible for the NRHP under Criterion C. VBI constructed many of N&W's bridges, including deck girder versions which were typical railroad bridge types in the early 1900s and not the most significant bridge type related to VBI. Shortly after the railroad abandoned the Twelvepole Line in 1933, the alignment was altered for automotive road use. The prominent steel girders, bracing members between the girders, and stone abutments have remained unaltered through the years. However, the rails were removed (likely ca. 1933) and wood roadway decking was installed. The wood roadway decking has been repaired and replaced over the years. Although associated with VBI, a nationally recognized bridge company, and N&W, this structure represents common railroad bridge design and construction methods, is not an important example of such building practices, and includes alterations for automotive use. Therefore, WVDOT continues to agree with the previous finding that this bridge does meet NRHP Criterion C.

Criterion D

This bridge is not likely to have important information that will contribute to our understanding of human history or prehistory. Its construction appears to have utilized commonly known techniques, tools and materials. The potential for information is minimal, so it does not meet NRHP Criterion D.

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View Southwest, Taken from North Side of Fleming Deck Girder Bridge (WVDOH 2013).



View Northeast, Taken from South Side of Fleming Deck Girder (WVDOH 2013).

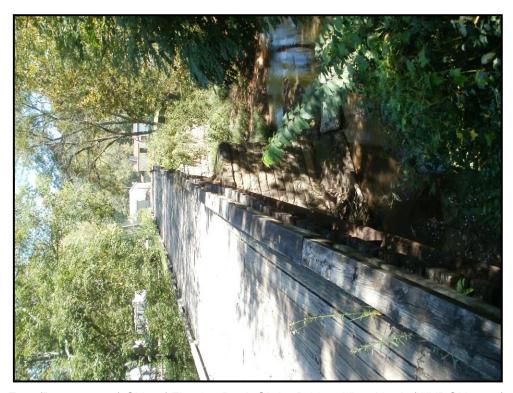
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West (Upstream) Side of Fleming Deck Girder Bridge. View East/Northeast (WVDOH 2013)



East (Downstream) Side of Fleming Deck Girder Bridge. View North (WVDOH 2013)

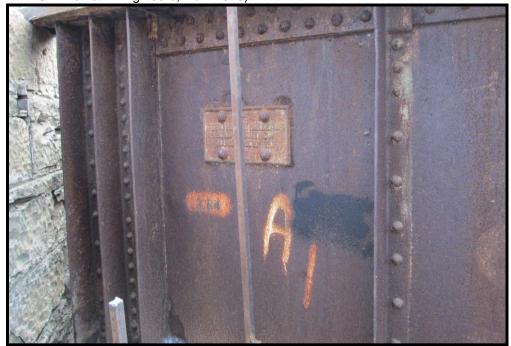
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Plaque on West (Upstream) Side Girder on Fleming Bridge, as north end. Reads "BUILT BY / VIRGINIA BRIDGE / AND IRON CO. / ROANOKE VA / 1911. Photo courtesy of WVDOH District 2 Engineers, Nov. 2013)



Plaque (same as in top photo) at North End West Girder of Bridge. Photo couresty of WVDOH District 2 Engineers, Nov. 2013).