
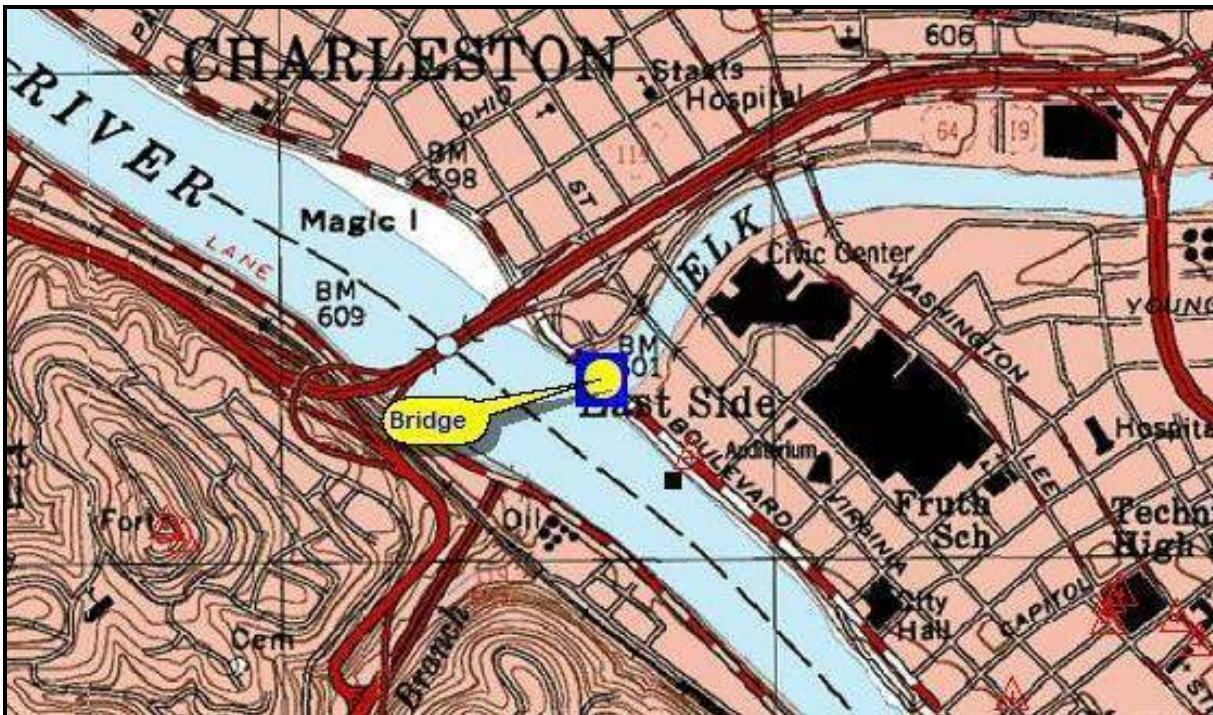




WEST VIRGINIA HISTORIC PROPERTY INVENTORY FORM

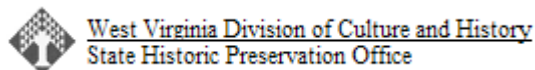
Street Address Kanawha Blvd over Elk River	Common/Historic Name/Both <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> Kanawha Blvd Bridge; Elk River Bridge	Field Survey # APE 1	Site # (SHPO Only) KA-5540_Rev01
Town or Community Charleston	County Kanawha	Negative No.	NR Listed Date
Architect/Builder • C P Fortney, engineer • E R Mills - substructure • Mt Vernon Bridge Co - superstructure	Date of Construction 1938	Style Three-span Continuous Steel Deck Girder	
Exterior Siding/Materials Steel	Roofing Material Rein Conc (Deck)	Foundation Rein. Concrete (Abutments/Piers)	
Property Use or Function Residence <input type="checkbox"/> Commercial <input type="checkbox"/> Other <input checked="" type="checkbox"/> <i>Transportation/ Bridge</i>	UTM# Zone 17N NAD 1983 443655E, 4245369N		
	Survey Organization & Date WVDOH April 14, 2025		
		Part of What Survey/FR# Kanawha Boulevard Bridge State Project S320-54-01	



KA-5540_Rev01

Site No.

Present Owners City of Charleston (owner); WVDOT (maintains) Phone #	Owners Mailing Address
Describe Setting --- Acres The subject Bridge spans Kanawha Blvd over the Elk River – at its confluence with the Kanawha River - in the City of Charleston, Kanawha County. Kanawha Boulevard is generally considered to be an east-west route through Charleston. The bridge is 0.10 miles east of Interstate 64 (I-64). The surrounding area to both sides of the Kanawha River is developed city area, mainly commercial and civic properties – the area north of the Kanawha River being relatively flat and the area south of the river being relatively flat between the riverbank and the CSX railroad tracks (formerly C&O) with residential development uphill from the railroad. <input type="checkbox"/> Archaeological Artifacts Present	
Description of Building or Site (Original and Present): __ Stories __ Front Bays This form covers the bridge as part of the overall Kanawha Boulevard context and includes small portions of the non-bridge-related boulevard approximately 80 feet further out to both the east and west of the bridge structure, equaling an evaluated boulevard section length of approximately 1,040 feet, or 0.2 miles; this is done to cover the limits of construction work boundary provided for the bridge rehabilitation project for which this form has been completed. This bridge has a three-span continuous riveted steel plate girder superstructure. It is a five-lane bridge – with three lanes westbound and two lanes eastbound – and includes a sidewalk along both sides. The overall measurements of the bridge are 507 feet, four inches long (between backs of abutment backwalls) and 67 feet, four inches wide. The middle span is 250 feet long and each end span is 125 feet long. The clear roadway width is 48 feet, eight inches (between interior-facing bottom of Jersey barriers). The total length of the south/downstream side from west wingwall termination to east wingwall termination is approximately 880 feet. <u>Superstructure:</u> The built-up girders are haunched at the interior supports (piers); this results in the arch/curved shape to the lower flange of the girders, likely used for adequate transfer of loads over the long spans. The girder depths range from about 9 feet, 11 inches to 14 feet where the haunches meet the piers. The floor system consists of built-up steel plate floorbeams (main floorbeams) that are framed into the girders. The longitudinal center stringers (wide flange steel beams) frame into the main floorbeams. Smaller intermediate floorbeams (wide flange silicon steel beam) frame into the girders while bearing on top of the stringers. Lateral cross-frame bracing is installed between the girders and main floorbeams. All connections are riveted. <p style="text-align: right;"><i>(See Continuation Sheets)</i></p>	
Alterations <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: The 1984 rehabilitation referenced in the description above included full replacement of the original sidewalks and curbs/barriers. Around 2015 the upstream/south concrete sidewalk was overlaid with asphalt. The original light fixtures were replaced ca. 1980 and the replacements had a more modern lamp design. The lamp fixtures were replaced again ca. 2008-10.	
Additions <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe: The 2008 installation of colored/sequence LED lighting to the bridge was an addition for aesthetics, but did not alter the structure/design of the bridge.	
Describe All Outbuildings There are two narrow staircases near the west abutment wingwalls, one to the upstream and one to the downstream. Both provided access between steep grades to access the riverbank shoreline. They are on State Division of Natural Resources property and may have been added by the state for access to inspect the bridge or the waterways. The staircases do not appear part of the original bridge construction and are estimated ca. 1960s-80s structures. They are concrete utilitarian structures, with brick veneer on the sides and plain concrete stepping pads.	
Statement of Significance <i>(See Continuation Sheets)</i>	
Bibliographical Reference <i>(See Continuation Sheets)</i>	
Form Prepared By: Tracy D. Bakic Date: April 14, 2025 Name/Organization: West Virginia Division of Highways Address: Capitol Complex Building 5, Rm 820 Charleston, WV 25305 Phone #: 304-414-6407	



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NAME: Kanawha Boulevard Bridge

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Description of Building or Site (Original and Present):

Substructure: The superstructure is supported at each end on full height reinforced concrete abutments and intermediately by reinforced concrete two-column pier bents. Each abutment includes buttresses/lateral support behind the backwall. Each pier bent includes a pair of Art Deco-style stepped concrete columns with a concrete web wall between; the upper portion of the web wall has a square arch central opening, and the lower web wall (largely below the water line) is solid. Each pier bent is supported on a concrete spread footer.

The east end abutment has return-type wingwalls. The west end abutment has a return-type wingwall at the south/downstream side and a straight/parallel wingwall at the north/upstream side. To the upstream and downstream side of each abutment is a Modern/Art Deco-style stepped pylon that extends upward to just above sidewalk railing height. There are similar features along each return-type wingwall that are incorporated into the bridge railings – a partial pylon at the wingwall termination and smaller, less elaborate intermediate pylons/posts between.

At the west abutment the steel girders of the superstructure rest on steel rocker bearings to allow for longitudinal displacement; tie-down devices at these bearings prevent uplift. The expansion finger dam at the west abutment allows for deck displacement. The bearings at both piers are steel rockers. The east abutment has fixed bearings and a fixed roadway joint is built into the deck.

Deck: The bridge deck consists of four-and-one-quarter inch concrete-filled steel grid deck with an asphalt wearing surface. To each side of the main deck, an eight-foot-wide concrete-filled steel grid sidewalk is cantilevered from the bridge girder and includes aluminum railings. Originally reinforced concrete curbs separated the roadway from the sidewalk at both sides of the bridge; this curbing rose 1'-6" from the road surface and 1'-3" from the sidewalk surface. The original curbing has been removed and, today, the roadway/sidewalks are separated by Jersey-type concrete barriers which are taller than the original curbs.

Railings: The bridge railings are original aluminum post and rail. Where the railings extend along the return-type wingwalls (one at the west end; two at the east end), the railings are attached to the pylons/posts on the wingwalls. The railings are not attached to the main abutment pylons, but extend past the inward-facing side of those pylons.

Lampposts: There are a total of 12 lampposts associated with the bridge. Although unconfirmed, it appears that the lampposts could be original; however, the lamp fixtures (luminaires, arms/braces) are not original. On some of the lampposts (fluted metal poles), near the bases, metal tags can be found that include "UNION METAL MFG. CO."; in a 1940 article about the Kanawha Blvd lights, it mentions that the luminaires are mount on "Union Metal" poles (*American City* 3/1940). There are five lampposts along each side of the bridge from backwall to backwall of abutments and they are spaced 125 feet apart; three on each side are set into larger sized aluminum railing posts, and the two end lampposts on each side are set in the large abutment pylons. At each end of the south/downstream side, a lamppost is set into the concrete partial pylon at the end/termination of the wingwall. Low voltage electrical lines for bridge and navigational lighting are encased in conduit below the sidewalks.

The bridge was constructed 1938, the superstructure built by the Mount Vernon Bridge Company of Mt. Vernon, Ohio and the substructure built by E.R. Mills. Camden P. Fortney, Sr was the consulting engineer/designer. Bronze plaques commemorating the original construction are located on the two concrete pedestals/pylons at the east end of the bridge.

Bridge Maintenance/Upgrades:

- In 1984 bridge rehabilitation work was completed by G. E. Ray Construction Company of South Charleston, WV. The work included replacement of the four-foot-wide sections of the deck adjacent to each main girder and along the expansion dam. The sidewalks, barriers, and asphalt wearing surface were also replaced. Plaques commemorating this rehab project are located on the pylons at the west end of the bridge.
- The earlier bridge lamp fixtures were replaced by 1993-94 and estimated to have been replaced ca. 1980.
- In 2008 colored/sequenced LED lighting was installed to light the river-facing girder/deck of the bridge; this project was largely funded by local philanthropists Ruth and John McGee (Craig 2009).
- In 2009 Wiseman Construction Co. replaced the backwall and expansion joint at the west abutment (Abut 1) and did some minor steel repair (Dominion Post 2009); all structural steel was cleaned and painted.
- The lamp fixtures were replaced again, estimated to have been completed ca. 2008-2010.
- The upstream concrete sidewalk was covered with asphalt overlay around 2015.

Bridge inspection reports, on file with WVDOH, were consulted for bridge description and maintenance history (WVDOH 1994, 2016, 2024). The original 1930s boulevard and bridge plans are on file with WVDOH; a sampling of the plan set is appended with this form)

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NAME: Kanawha Boulevard Bridge

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Statement of Significance:

This bridge spans Kanawha Boulevard over the Elk River (at the Kanawha River confluence) within the corporate limits of the City of Charleston in central Kanawha County. Kanawha County was established per Virginia Act of November 14, 1788 and took effect on October 1, 1789. The first county court convened on October 5, 1789. The county was formed from parts of Greenbrier and Montgomery counties and was named for the Kanawha River, itself purportedly named after a small Native American tribe that live along its upper banks (Atkinson 1876:80; Harper 2024; Hening 1823b: 670; WVH&AS 1902:76; Wintz 2015), The official county seat has always been in Charleston, which became West Virginia's state capital in 1870-75 and then continuously since 1885.

Kanawha County was initially divided into 10 townships – Big Sandy, Cabin Creek, Charleston, Elk, Jefferson, Loudon, Malden, Poca, Union, and Washington (US Census Bureau 1872; WV Dept of Free Schools 1868). On April 9, 1872 a new state constitution was ratified, and each county's townships were reestablished as magisterial districts. In Kanawha Co, the districts kept the same names as the townships (Rand McNally 1924; US Census Bureau 1883; White 1873a). Due to growth/annexations, the Charleston district – the Charleston corporate/city limits – is today divided into six smaller corporate entities – Charleston East Corp., Charleston West Corp., Charleston North Corp., Kanawha City Corp, Charleston South Annex Corp, and 15th Ward Corp. The subject bridge links Charleston East and Charleston West corps within the city limits.

Although the earliest white visitors are suspected to have come as early as the 1670s, the first credited settlement of the county was 1773 at Cedar Grove situated where Kelly's Creek enters Kanawha River. George Clendenin settled at present Charleston in 1788 (Harper 2024). **Charleston** was originally established per charter passed on Dec. 19, 1794, being called "Charlestown," and having been laid off on 40 acres of Clendenin's landholdings (Hening 1835:322). The future city is considered to have been named to honor George Clendenin's father, Charles. The name was changed to present form "Charleston" when it was incorporated as a town per Virginia act passed Jan 9, 1818 (VA 1818:160). A post office was established in Charleston in 1800, initially called the Kanawha Court House PO (AboutUSPS.com; postalhistory.com). A town charter amendment passed March 21, 1861 established mayoral elections and Charleston's first mayor was elected that year (VA 1861:174). Charleston was incorporated/chartered as a city in 1871, just after it entered its first stint as the WV state capital from 1870-75 (WV 1869:41; 1871:77). In 1875 the original WV capital – Wheeling – achieved that honor again until 1885 when Charleston became the capital again, a distinction that has lasted to the present (WV 1875:5; 1877:79-82).

By the 1870s-90s, the principal industries of the county were farming, lumbering, coal mining and salt manufacture, and the main crops were corn, wheat, oats, rye and tobacco (Maury & Fontaine 1876:384; USDA 1981:1). Transportation developments included: steamboats along Kanawha River and the James River & Kanawha Turnpike (to the Ohio River) in the 1820s-30s; Chesapeake & Ohio Railway in 1873 to the south side of Kanawha River and Kanawha & Michigan Railroad in 1880s-90s to the north side; and the Coal & Coke Railway and Kanawha & West Virginia Railroad along Elk River at the turn of the century. By the early 20th century larger industries were coming to Kanawha valley. "Attracted by abundant water, salt brines, coal, gas, and petroleum, the government [during WWI] built the explosives plant at Nitro and ordnance facilities in South Charleston, while small chemical firms located in the valley . . . [F]urther stimulated by World War II, large chemical complexes were developed . . ." (Harper 2024).

Early Kanawha Blvd – James River & Kanawha Tpk. Kanawha Boulevard in Charleston – at least the portion coming from the east along the Kanawha River and to near the Elk River confluence - follows the same/similar alignment as the historic James River & Kanawha Turnpike route. "The James River and Kanawha Turnpike began as a game trail that the Native Americans had followed for centuries. They used the trail to reach the Kanawha salt licks. Then the Europeans used the trail to cross the Appalachians. Colonel Andrew Lewis used the trail to reach the Battle of Point Pleasant in 1774 . . ." (Peyton 2024). An act of Virginia General Assembly passed in October 1785 provided for construction of a road from Lewisburg to Kanawha Falls [Hening 1823a:72]. The road was improved and by 1891 it provided a route to Kelly's Creek (Cedar Grove) – about 17 miles downstream of Kanawha Falls – a location of navigable waters on the Kanawha River (Peyton 2024).

Over time It was realized that a more reliable all-weather road was needed. On February 21, 1817 an Act of Virginia Assembly was passed incorporating the Grand Junction Turnpike Company for the building a road from

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Statement of Significance (cont'd):

Dunlap's Creek (Covington, VA) to Kanawha Falls (VA 1817:140). Efforts must have fallen through for the original company authorized to build because, on February 17, 1820, an act of Virginia Assembly was passed that authorized the James River Company to build the road (VA 1820:39-40). It was intended that the James River Canal, which started from Richmond, was to end and connect to the turnpike; however, the canal was built to Eagle Rock, VA and never finished to Covington (Alleghanyhistorical.org). Through Greenbrier and Fayette counties the road was built to the north side of the New and Kanawha rivers since it had better grades and required fewer bridges. The road was finished to Montgomery in 1824. An act of Virginia Assembly passed on February 26, 1829 authorized the extension of the road from Montgomery to the Big Sandy River, near the Ohio River confluence (VA 1829:45-46). This extension, completed in 1832, included crossing the Kanawha River at Charleston (Peyton 2024).

The James River and Kanawha Company was incorporated by Virginia Act of Assembly passed March 16, 1832 (VA 1832:73); this company succeeded the James River Company. However, in 1862 the Kanawha Board (created in 1858) was granted control of the turnpike (US Army Corps of Eng 1877:813; WV 1866a:37, 1866b:14-16). Later, the WV Legislature authorized that the interest of the State in all turnpikes and bridges be given to the several counties in which they lay (WV 1863:178). Then on February 27 & 28, 1867, the interests of the James River and Kanawha Turnpike were specifically transferred to the counties through which it passed (WV 1867:133, 169).

At Charleston, the James River and Kanawha Turnpike route required crossing the Kanawha River. An early ferry that crossed both the Kanawha and Elk rivers was chartered in 1794 by George Clendenin (Miller & Maxwell 1913:416). Ward's Ferry existed by 1809 and crossed the Kanawha between the mouth of Elk River and Ferry Branch (waterway). By 1820 two more Kanawha River ferries existed – Quarrier Ferry (later Goshorn Ferry), which crossed from the present Goshorn-Court street, and Wilson's Ferry, which crossed from the Capitol Street area; ferries at these general locations appear on an 1873 map of Charleston. There were also ferries that crossed the Elk River, close to the Kanawha (RE Harper 2007; Peyton 2024).

It was the mid-19th century before bridges over the Kanawha or Elk rivers in Charleston.

- The first Elk River bridge location within Charleston was built in 1852 to take Washington Street - earlier called Lovell Street - over the river; this suspension bridge required repairs ca. late 1860s due to damage sustained during the Civil War and then famously collapsed in 1904 (MyWVHome.com; US Senate 1886:50). Per general reviews of Newspaper.com and Google Books, a new truss bridge was built ca. 1906. The next bridge to be built at this location is the present Washington St Bridge, built 1972.
- The second Elk River span location was the Keystone Bridge, built in 1873 to take Virginia Street over the Elk River. This bridge was destroyed by an ice gorge in 1879 and the city had a new Virginia Street Bridge built in 1886 (*Engineering News* 1885; Miller & Maxwell 1913:46). Around 1907-08 the Virginia Street Bridge was replaced and the 1886 bridge was moved upstream to become the Spring Street Bridge (until late 1920s when it was replaced). (MyWVHome.com). The extant Virginia Street Bridge was built in 1991.
- Ohio Central Railroad truss span over the Elk River was built 1883 (Peyton 2010; US Senate 1886:50); an adjacent railroad truss bridge was built 1906. Both still exist, the latter still in active use (Dye & Kerr 2006).
- The first fixed crossing over the Kanawha River in Charleston was the original South Side Bridge, built in 1891. It was replaced with the present South Side Bridge, completed in 1936-37 (Cahal 2024)
- The C&O railroad steel truss bridge over the Kanawha River was built in 1907. Shortly after, a roadway for vehicular traffic was built off the side of this bridge for use by pedestrians and light vehicular traffic. The vehicular structure was removed after the Patrick Street Bridge was built and the main steel rail span still stands, abandoned by the 1990s (MyWVHome.com).
- A 35th Street bridge over the Kanawha River was not built/completed until 1915. The truss span was called the Kanawha City Bridge and was for vehicular and interurban rail use. It was built under the auspices of the Kanawha City Bridge Company with the superstructure contract reportedly went to American Bridge Co (*Black Diamond* 1914:75; *Railway Age Gazette* 1914:1171; WVGazetteemail.com). This bridge was replaced with the present 35th St Bridge (southbound traffic) and 36th Street Bridge (northbound traffic), both built in 1975.
- The Patrick Street Bridge, taking US 60 over Kanawha River, was not built until 1930. It replaced vehicular use of the nearby C&O Bridge. The Patrick St span was designed by State Road Commission engineers and built by the county court using Fort Pitt Bridge Works of Pittsburgh, PA (superstructure) and Atlantic Bridge Co of Greensboro, SC (substructure [CG 1930]).

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Statement of Significance (cont'd):

By the 1870s the James River & Kanawha Turnpike route within Charleston was part of "Kanawha Street" (White 1873b). According to historical accounts Kanawha Street (present Kanawha Blvd) was even earlier known as "Front Street", "First Street" and "Water Street" (hmdb.org; livingnewdeal.org).

Early Kanawha Blvd – Midland Trail (US 60). In 1913 the former James River & Kanawha Turnpike route was designated as part of the Midland Trail, one of the major east-to-west-coast transcontinental alignments projected to become part of a National Highway system (*Automobile Journal* 1919:52; Davis 1916:33; *Highway Magazine* 1926:18). The Midland Trail was officially designated US 60 in 1926 and the road was worked on and paved in the 1920s and 1930s (Peyton 2024; WV SRC 1941). "It [US 60] remained the primary east-west route through southern West Virginia until the completion of I-64 in 1988, when it became a secondary route for local traffic" (Peyton 2024). The portion of the Midland Trail from White Sulphur Springs, WV to Kenova, WV, including through Charleston, was designated as State Route 3 prior to becoming US 60 in the mid-1920s.

In its earliest version, it appears that the Midland Trail in Charleston followed Kanawha Street (future Kanawha Blvd) from the eastern city limit (Kanawha City vic.) to Capital St; after that, the route followed Virginia Street to Central Ave, then over the old C&O bridge (using the added auto road), and then westward along the south side of Kanawha River (Rand McNally & Co ca 1925). At this time, Kanawha Street was not improved north of Capitol Street, nor did it have an associated bridge over Elk River. Later, the US 60 route through Charleston would be altered to disband Kanawha Blvd and follow Washington St through the city to Patrick St and then take the Patrick St Bridge over the river. When the State Capitol complex was developed over Washington Street, it became necessary to revert to using the eastern portion of Kanawha Blvd (via Greenbrier Avenue).

The Kanawha Blvd & Bridge Project. As Charleston grew, its city streets became more heavily trafficked and congested. Some city streets were transitioned from 2-way to one-way by the mid-1920s to help relieve traffic congestion (CDM 1926). However, by the early/mid 1930s the city had its sights set on creating Kanawha Boulevard to provide further traffic relief as a more direct thoroughfare across the city. This project used the existing Kanawha Street alignment to create the boulevard from Patrick Street Bridge at the west end to Kanawha City Bridge (35th Street Bridge) at the east end. The boulevard consisted of four or five lanes of traffic, depending on location.

Below is a history of the 1930s Kanawha Boulevard project, as written by Billy Joe Peyton, Ph.D. (Peyton n.d.):

"As Charleston's population rose, so, too, did the number of vehicles on city streets. Increasing traffic clogged downtown and created gridlock, a situation made worse during shift change at the large factories located on either end of the city. A *Charleston Gazette* editorial of August 28, 1936, summed up the vexing problem:

For years our civic organizations have in vain sought a solution for a nasty, complicated local traffic situation, where a fast and solidly-growing city is hemmed in by two rivers, two railroads with many crossings, and the mountains, with 13 (yes, 13) state arterial highways centering here in a hub, pouring their daily increasing traffic load into our very doors, while we have sat complacently by and made no attempt at a sensible plan for avoiding the unnecessary parts of this city-bound swarm. It should seem wise to keep state traffic out of the middle of the city because, with our many crooked, narrow, dead-end streets, we will still always be hard pressed to take care of our own purely local situation.

In 1936, city leaders proposed a bold solution for Charleston's transportation woes. The grand plan called for a substantial upgrade of existing routes east and west of the city, and to connect them with a bypass that averted the most heavily congested city streets. It involved four separate projects. First would be construction of a cut-off route from Dunbar to Kanawha Two-mile Creek, where the heavily traveled Point Pleasant road (U.S. 35) entered the city. Planners felt it would yield immediate relief "for traffic all along Charleston, Washington, and even Lee, State, and Quarrier streets." Next would be a multi-lane bypass extending the length of the city along the north bank of Kanawha River. This massive public works project would necessitate

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Statement of Significance (cont'd):

removing all extant structures from the south (river) side of Kanawha Street, then depositing millions of tons of earthen fill for the 40-foot right-of-way and massive amounts of stone riprap to stabilize the riverbank. The third portion of the project involved a new bridge to carry the multi-lane bypass over Elk River. Finally, the connector would link to an upgraded segment of the Midland Trail (U.S. 60) east of Charleston. Collectively, these projects would create a continuous 14-mile, multi-lane boulevard from Malden on the east through Charleston to Dunbar on the west.

Whereas other major U.S. metropolitan areas had undertaken similar transportation projects to relieve major traffic problems, planning and implementing such a grandiose plan was unprecedented for the City Charleston and the region. A local group called the West Side Business Men's Association played a significant role in conceptualizing it, then combining various elements into one comprehensive project described as "breathtaking in its scope." Funding such an endeavor during the depths of the Great Depression would require a partnership between President Franklin Delano Roosevelt's Public Works Administration (PWA) which provided federal grants, and the City of Charleston which proposed a bond issue to make up the balance of the cost. Initial funds became available in August 1937, when FDR approved a \$450,000 PWA grant to construct a 500-foot bridge over Elk River at its mouth.

Charlestonians went to the polls on September 19, 1938, and overwhelmingly approved \$2,040,000 in low interest bonds to match PWA grants for five proposed New Deal projects. Residents overwhelmingly supported the expenditure of public funds for those initiatives that would permanently alter their city. The boulevard project won the vote by a 7 to 1 margin, and support for the other initiatives ran as high as 10 to 1.

Work on four-lane Kanawha Boulevard began in 1938 with the purchase of rights-of-way and demolition (or in a few cases, relocation) of structures along the riverbank. By June 1939, reports circulated that a shortfall in funds for property purchases might necessitate leaving the 13-story Union Building (built 1911 at 423 Kanawha Blvd. E) at the south end of Capitol Street. Officials determined that the structure would not create an overt safety hazard if the city did not obtain the specified 60-foot right-of-way since a similar situation existed where the route passed under the nearby South Side Bridge and ramp. Road width there measured about 48 feet, which was deemed ample for the intended four lanes of traffic. In the end, the landmark Union Building was spared and is now a defining feature of Charleston's skyline.

Requests for bids to erect the bridge over Elk River were delivered from the Public Works Administration regional office in Chicago in mid-December 1937, with bids being opened on January 6, 1938. The Mount Vernon Bridge Company of Mount Vernon, Ohio, won the contract to span the Elk at its mouth. Forty-five percent of the estimated cost of the structure would be paid through PWA grant funds. By March 1938, the city had acquired all rights-of-way for the bridge, except for the Dickinson parcel along Elk River (adjacent to the current Courtyard by Marriott motel). During construction, designer and consulting engineer C.P. Fortnoy [sic?] claimed the three-span continuous steel plate girder bridge to be longest continuous girder span in the world [CDM 1937]. Workers poured the first concrete in mid-April, and the center span was raised in August 1938." [The bridge was opened to traffic in November 1938 (CG 11/1/38, 11/2/38, 11/3/38).]

As the nation braced for a cataclysmic second world war in the fall of 1939, Charlestonians had much to celebrate. Residents witnessed the opening of the Art Deco Municipal Auditorium and paving of the final stretches of Kanawha Boulevard. Plans were also revealed for a new road between Charleston and Dunbar which was intended to eliminate a bottleneck at the historic circa 1840 historic stone bridge that still spans Kanawha Two-Mile Creek" (Peyton n.d).

Landscaped medians were included on the boulevard at the west end from around Delaware Ave and at the east end from around Morris Street. Along the river side of the boulevard, the 1930s project included concrete staircases along the route that provided pedestrian access down the riverbank to a concrete walkway closer to the water and distanced from the traffic.

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Statement of Significance (cont'd):

The New Deal. Initiated during the Great Depression, the Kanawha Boulevard project was one of several endeavors in Charleston that benefited from federal assistance via New Deal agencies established during the administration of President Franklin D. Roosevelt. These agencies helped keep Americans – individuals and businesses – employed during the hard financial times of the 1930s and included the Works Progress Administration, or WPA, and Public Works Administration, or PWA (Thomas 2024). The assistance helped build important and iconic infrastructure projects that, otherwise, may not have happened during the difficult economic climate. WPA projects in Charleston included: the existing South Side Bridge, completed in 1937; Thomas Jefferson High School (demolished); Woodrow Wilson School (demolished); and the Washington Manor and Littlepage Terrace Housing projects, both ca. 1939-40 developments now gone. PWA projects in the city included: the Kanawha Boulevard & Bridge project; existing Lee Street Bridge, built 1938-39; existing Municipal Auditorium, built 1939; and Fire Station No. 5 on Bridge Road (livingnewdeal.org).

City Beautiful Movement. Kanawha Boulevard, including the bridge, has been suggested a late example of the City Beautiful movement, a progressive philosophy that inspired urban reform and design in America from the 1890s through the early decades of the 1900s (Chambers n.d). The movement was largely influenced by the Chicago World's Fair of 1893. The Fair's Columbian Exposition "reminded America that a city must not only be a symbol of economic and industrial power also an aesthetic and inspiring environment for the inhabitants" (JohnCanningCo.com). The movement emphasized impressive architecture, maintenance of civic presence, geometric layouts, broad boulevards with sweeping views, and public green spaces. This was in contrast to post-Civil War city development to that point which tended to be spurred by the Industrial Revolution and the immediate needs of rapidly growing populations (i.e, tenement housing), which often led to chaotic and unsanitary urban conditions (JohnCanningCo.com; Library.Fiveable.me; Study.com). During the years after the Fair, cities across the US created plans for urban beautification. During the 1930s, the New Deal assistance helped later City Beautiful-esque efforts come to life (Savage n.d.).

The extant WV State Capitol, completed and dedicated in 1932, has been noted as a reflection of the City Beautiful movement, as well as the Kanawha Boulevard project (JohnCanningCo.com). The latter not only served a purpose in relieving traffic congestion but also created a pleasing linear corridor for both drivers and pedestrians and a spectacular, cohesive view of the Charleston cityscape from across the Kanawha River. The boulevard highlighted prominent architecture, including the recently built Capitol with its golden dome and well-touted Modern-style architecture of the period, such as the Riverview Terrace apartments and United Carbon Building, completed in 1938 and 1941, respectively (WVHistoryOnView.org). The Kanawha Boulevard project received national recognition; for example, the project was highlighted in a 1940s issues of the publication *The American City* (see magazine cover on page 33 of this form; *American City* 3/1940:103 & 9/1940:57).

Kanawha Boulevard Bridge.

Design Type. The Kanawha Boulevard Bridge is a three-span continuous steel plate deck girder structure. By the latter 19th and very early 20th centuries, plate (built-up) girder bridges were used mainly by railroads and when used for highway spans to overpass railroads. "By 1908, designs for plate girder highway bridges up to 109' span were appearing in engineering textbooks and steel fabricators including the American Bridge Company were offering pre-engineered standard production plate girder highway bridges in various lengths" (Casella 2008:3-4).

Many of the earliest steel plate girder highway spans tended to be through girder type. An early deck-type plate girder highway bridge was the Spring Avenue Bridge, built in 1894 to span Poestenkill River in Troy, NY; it had a 96-foot clear span length and supported buckle plate and concrete-type deck. "Deck bridges, where the roadway is carried on the top flanges, are usually more economical than a through bridge. . . Probably the greatest advantage of the deck design for highway bridges is their ability to be easily widened in many cases. . . Unlike a through bridge, a deck bridge provides an unobstructed view, creates less anxiety in the motorist in terms of feeling hemmed in, and allows greater speed and safety because the optical illusion of a narrowing roadway is almost entirely eliminated" (Casella 2008:4-5).

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Statement of Significance (cont'd):

The continuous steel plate deck girder highway bridge type was in its developmental phase starting around 1930 and by 1940 was used extensively in the US, including with the construction of several Class A monumental bridges. "Over the second half of the 20th century the continuous deck girder bridge became one of most widely used steel bridge types in the world" (Casella 2008:7).

"A continuous girder (or bridge) can be visualized as a single beam, supported at three or more points along its length. The structural advantage of the continuous girder over a simple span, which is supported only at its ends, results from the bending forces created in the beam over the piers, which counteract and reduce the bending forces in the center of the span. The practical advantages are economy of material, convenience of erection in that no falsework is required, and increased rigidity under traffic" (Cassella 2008:7). "Bridge engineers within state highway departments were chiefly responsible for the adoption of the continuous plate girder bridge form. The form was the most economical solution for most elevated and medium span highway bridge applications, and the economic depression demanded that new technologies that afforded economy along with safety be embraced" (Casella 2008:7).

The Kanawha Boulevard Bridge has deep steel plate girders with arched bottom flanges; the deepest parts of each girder are at the ends where they are "haunched" to meet a support (ie, abutment, pier). This steel bridge girder option existed by the 1890s. When used, such girders can be called/described as "haunched", "curved", "inclined", "variable depth", or "girders with flanges not parallel". "From the engineering standpoint, varying the depth of a girder makes more economical use of material by increasing or decreasing the depth of section of the girder to coincide with the stresses at various points along its length. However, curved flanges and web plates required additional and careful fabrication steps, the cost of which usually exceeded any savings in material cost. The higher fabrication costs might be justified for aesthetic reasons or other special conditions" (Casella 2008:6).

Although plate girder bridge construction was common by the 1930s, the type's use in long spans was considered advanced technology at that time (Maxwell 1990). By the latter 1930s there was quick turnover in exhibiting the longest continuous plate deck girder span. A sampling of this phenomenon within the US is exemplified in the list of haunched continuous plater girder spans below:

- Figueroa Street Viaduct, built 1936-37, spans Figueroa St in Los Angeles over Los Angeles River. It includes a 200-foot central span. At the time it was built it was touted as the longest or one of the longest steel girder spans in the US (LivingNewDeal.org; Napoli 2003).
- Capital Memorial Bridge, built 1937, spans Capital Avenue over the Kentucky River in Frankfort, Kentucky; it has a 200-foot main span. This bridge also won the "most beautiful bridge of the year award" in its class from the American Institute of Steel Construction (Casella 2008:8; NJDOT 2003:19, 27).
- Topeka Boulevard Bridge, dedicated on August 27, 1938, spanned Topeka Boulevard over the Kansas River in Topeka, KS. It had a 217-foot central span. This bridge has been replaced (Maxwell 1990:3; NJDOT 2003:19)
- **Kanawha Boulevard Bridge, opened to traffic Nov 1938 has a 250-ft main span (NJDOT 2003:15, 19).**
- Edison Bridge, also completed 1938-40, spans State Rt 9 over the Raritan River in Perth Amboy-South Amboy, NJ; it also has a 250-foot main span. This span was later rehabbed and switched from a two-girder system to five-girder system using girders of less depth (NJDOT 2003:15,19).
- Main Avenue Bridge in Cleveland, OH, completed May 1938 to October 1939, includes a plate girder span of 271 feet at its Lakefront ramp (Maxwell 2009:3; NJDOT 2003:19-20).
- Charter Oak Bridge, completed in 1941, takes Wilbur Cross Hwy (US 5/Rt 15) over the Connecticut River at Hartford, CT; it had a 300-foot center span (NJDOT 2003:20). This bridge has been replaced.
- New Jersey Turnpike bridges over the Passaic & Hackensack rivers, both built 1951, each were built with 375-foot main spans (NJDOT 2003:21).
- Q-Bridge, built in 1958, spans the CT Turnpike (I-95) over the Quinnipiac River at New Haven, CT. It had a 378-foot center span (ENG-TIPS.com; NJDIT 2003:22). This bridge has been replaced.
- American Rapids Bridge, built 1959, spans 1st Street over Niagara River at Niagara Falls, NY. It has a 450-foot main span (ENG-TIPS.com; Mead & Hunt 1999).

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Statement of Significance (cont'd):

The nearby Quarrier Street Bridge (originally known as the Brown-Randolph Bridge) over Elk River, built 1955-56 by American Bridge Company, is also a continuous steel plate girder deck span; the builder was found per perusal of 1955 Charleston newspapers on NewspaperArchive.com. Quarrier Street Bridge's main/longest span is only 230 feet in comparison with the subject bridge's 250-foot main span; the two bridges are about 0.15 miles (765 ft) from each other, with the existing Virginia Street bridge between them.

Engineer: Camden Page (C. P.) Fortney, Sr. Fortney graduated from WVU in 1907 with a degree in engineering and then served during WWI. From 1919 until 1933 he served as the first Chairman, aka Commissioner, of the WV State Road Commission. He later had his own engineering office located in the Union Building on Kanawha Blvd. He provided plans for the 1930s Patrick Street Bridge and South Side Bridge. In 1935, he was appointed the City of Charleston consulting engineer for all federal public works projects within the city, such as the Kanawha Blvd project and the Municipal Auditorium (*CDM* 1935; *CG* 1935; *Highway Builder* 1923:30; *WV* 1926:125).

Builder (Superstructure): Mount Vernon Bridge Company. The subject bridge's superstructure was built by Mount Vernon Bridge Company (*CG* 1/1938; 7/24/1938; 9/1938). "About 1871-1880 John Braddock established the Mount Vernon Bridge Works in Mount Vernon, Ohio. . . With about thirty employees, the firm specialized in small highway bridges. In 1886, the company erected a larger plant. The expense of this plant combined with problems in constructing a three-span bridge across the Potomac River caused financial problems for the firm. The Panic of 1893 and the subsequent recession exacerbated the firm's fiscal difficulties, forcing the company to close in 1894. The plant stood idle until September of 1897 when James Westwater purchased the plant and received a new charter for the Mount Vernon Bridge Company. The company was incorporated in October 1900 . . ." (Carver 2008:190).

"The Mount Vernon Bridge Company erected many significant projects in the twentieth century. These include bridges across the Ohio River at Madison, Indiana, at Pomeroy, Ohio, and across the Mississippi and the Missouri Rivers. In 1940 the firm built (at that time) the world's longest double leaf bascule lift bridge in Lorain, Ohio, and in Louisiana it built the three longest simple spans in America. Between 1940 and 1955, the company won seven awards from the American Institute of Steel Construction. After the mid-1950s, the company went through several owners until the mid-1960s when the Cooper-Bessemer Corporation, now known as the Cooper Industries-Energy Services Group, purchased it" (Carver 2008:190).

Per the 2015 WV Statewide Historic Bridge Survey (KCI et al 2015), extant highway bridges by Mt. Vernon Bridge Co. in the state include the subject bridge, Lee Street Bridge (WV BARS# 20A769; SHPO KA-5539), and the New Martinsville Bridge (BARS# 52A007; SHPO BB-0220) – all determined NRHP-eligible. Lee Street Bridge is a steel arch through truss, built in 1939 via funding provided by PWA and for the representation of its design type in WV. The New Martinsville Bridge, built 1959-61, is a three-span through Cantilever Warren truss with 715-foot main span; the bridge is considered eligible for association with Flood Control context and for innovative design (cantilever).

Builder (Substructure): Epes Randolph Mills (E R Mills) built the substructure (abutments/piers) of the subject bridge (*CG* 1/1938;.6/1938; 7/30/1938). Mills was born in 1891 in Indiana. By time he was about 8 years old his family had moved to Covington, Kentucky. By his mid/late 1910s he was working as a salesman for Oregonia Bridge Company of Lebanon, Ohio (McDermitt 1923). By the early 1920s E. R. Mills had his own bridge contracting firm, mainly located in Kentucky, and appears to have focused on projects in Kentucky and West Virginia (FamilySearch.org). Mills was regionally known for his work constructing bridges, including the following WV bridges: the Buffalo Creek Bridge in Marion County and the St Albans-Nitro Bridge, both of which no longer exist. Bridges that still exist for which E.R Mills built the superstructure are: Levibar Bridge (WV BARS# 07A017); Capon Bridge (BARS# 14A054); Big Wana Truss (BARS# 31A002); Upper Tract Bridge (BARS# 36A113); Cairo Pony Truss (BARS# 43A152); and Tennerton Truss (BARS# 49A023) – all but the first bridge (Levibar) have been determined NRHP-eligible. The above are more impressive examples of Mills' work than the subject bridge for which he was responsible for the substructure only.

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Statement of Significance (cont'd):

Evaluation

NRHP Criterion A. The Kanawha Boulevard Bridge was built as part of the overall Kanawha Boulevard and Bridge improvement project of the 1930s-40s. The boulevard was a huge project to ease traffic congestion and provided a beautiful corridor with the city as its backdrop. The boulevard, including the bridge, seem to have represented a convergence late City Beautiful movement inspiration and New Deal era PWA-funding success. The project commanded much attention by and for the City of Charleston. The bridge was a source of pride for the ground-breaking engineering technology it represented within a national and world context of that time. Due to its connection with the New Deal era and with ground-breaking engineering technology of the period, the Kanawha Boulevard Bridge meets NRHP Criterion A.

NRHP Criterion B. Camden Page (C. P.) Fortney, Sr. was specifically appointed by the City of Charleston to serve as consulting engineer for several New Deal era public works projects, including for the Kanawha Boulevard Bridge. Prior to his city service, Fortney studied engineering at WVU and served in engineering capacities in the military and for the State as WV as its first highway commissioner. Due to its connection with Fortney, a local engineer and notable force in early 20th century Charleston development, this span meets NRHP Criterion B.

NRHP Criterion C. The extant Kanawha Boulevard Bridge is an important representation of technological advancements in continuous steel plate girder design and construction. At the time it was built and completed, it included one of the longest continuous steel girder spans in the US. The haunched design of its plate girders was a common detail for the long spans. The substructure represents typical design and construction methods of the period, although it does include Modern/Art Deco detailing. The haunched deep girders and substructure detailing contribute to an aesthetic befitting of the overall grandeur of the 1930s-40s Kanawha Boulevard project. The only significant aesthetic alteration to the bridge is the upgrading of the lamppost luminaires over the years. The extant luminaires related to the bridge and entire boulevard represent an aesthetic agreed upon by the City several years and do not represent distractions to the overall integrity of the bridge. The bridge's superstructure was built by the Mount Vernon Bridge Company on Mt. Vernon, OH, a prolific contractor of many bridges in the US during the early- and mid-20th century. The bridge's substructure was built by E. R. Mills, a regional contractor; although Mills' work includes bridge superstructures that are more notable, his collaboration on the subject New Deal era bridge is noteworthy. Due to the above, this span meets NRHP Criterion C.

The narrow concrete access staircases on the embankments near the west abutment wingwalls of the bridge appear to be later structures representing typical utilitarian construction design, materials, and methods. The staircases *do not* contribute to the significance of the bridge.

NRHP Criterion D. This span is not likely to have important information that will contribute to our understanding of human history or prehistory. Construction appears to have utilized commonly known techniques, tools and materials for the period built. The potential for information is minimal and, therefore, this span does not meet NRHP Criterion D.

Summary: The Kanawha Boulevard Bridge is eligible for NRHP-listing under criteria A, B, and C.

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WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



Kanawha Blvd Bridge – North/Upstream Elevation. View SW, taken from west end of Virginia St Bridge (WVDOH 3-13-2025).



North/Upstream Elevation. View WNW, taken from Courtyard Hotel property (WVDOH 3-13-2025).

**WEST VIRGINIA HISTORIC PROPERTY FORM
CONTINUATION SHEET**

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



North/Upstream Elevation & Underside of Main Span. View NW. (WVDOH 3-13-2025)



North/Upstream Elevation & Underside of Main Span. View SSE, taken from west bank of Elk River, at Union Square office complex. (WVDOH 3-13-2025)

**WEST VIRGINIA HISTORIC PROPERTY FORM
CONTINUATION SHEET**

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



North/Upstream Elevation & Underside of Main Span. View SSE, taken from west bank of Elk River, at Union Square office complex. (WVDOH 3-13-2025)



South/Downstream Elev. View NW, taken from east bank/confluence of Elk & Kanawha rivers (WVDOH 3-13-2025).

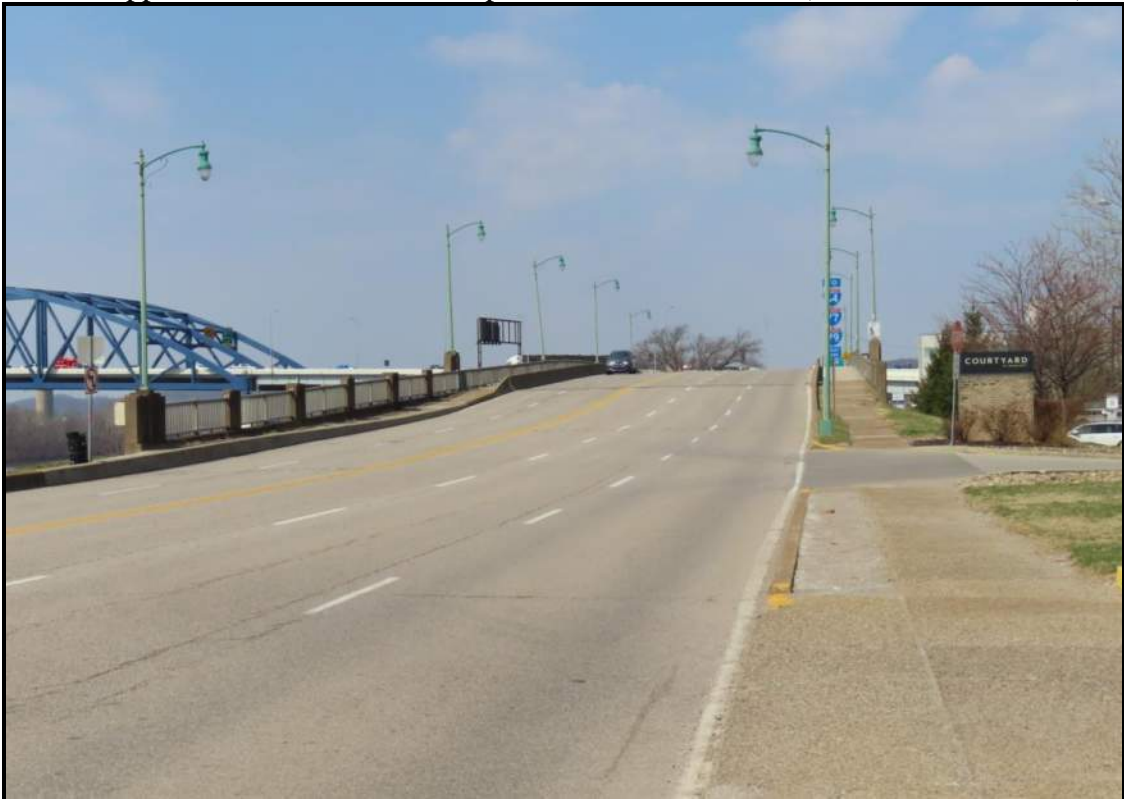
**WEST VIRGINIA HISTORIC PROPERTY FORM
CONTINUATION SHEET**

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



East Approach, taken from north/upstream side. View NW (WVDOH 3-13-2025)



East Approach, taken from north/upstream side. View NW (WVDOH 3-13-2025)

**WEST VIRGINIA HISTORIC PROPERTY FORM
CONTINUATION SHEET**

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



East Approach. View NW, taken from south/downstream side (WVDOH 3-13-2025)



West Approach. View Se, taken from north/upstream side (WVDOH 3-13-2025)

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



East Abutment. View SE (WVDOH 3-13-2025)



Typical Abutment Pylon. This is the pylon at the south/downstream side of the east abutment.
View E (WVDOH 3-13-2025)

**WEST VIRGINIA HISTORIC PROPERTY FORM
CONTINUATION SHEET**

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



Return-type Wingwall at West Abutment, south/downstream side. View SE (WVDOH 3-13-2025)



Return-type Wingwall at East Abutment, south/downstream side. View NW (WVDOH 3-13-2025)

**WEST VIRGINIA HISTORIC PROPERTY FORM
CONTINUATION SHEET**

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



Return-type Wingwall at East Abutment, north/upstream side. View WNW (WVDOH 3-13-2025).



East Abutment. View SE (WVDOH 3-13-2025)

**WEST VIRGINIA HISTORIC PROPERTY FORM
CONTINUATION SHEET**

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



Superstructure - East Span, Underside of Deck. View SE (WVDOH 3-13-2025)



Substructure – Typ. Pier. View is of East Pier. View NW (WVDOH 3-13-2025)

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



Substructure – Typ. Pier. View is of East Pier. View N (WVDOH 3-13-2025)



Superstructure – Main/Center Span, Underside of Deck. View NW (WVDOH 3-13-2025)

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



Pylon at East End, South/Downstream Side. Includes original 1930s plaques.
View W (WVDOH 3-13-2025)



Pylon at East End, North/Upstream Side. Includes original 1930s plaques.
View NNW (WVDOH 3-13-2025)

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



Plaques on both East End Pylons (WVDOH 3-13-2025)



Pylon at West End, South/Downstream Side. Includes a 1980s plaque.
View W (WVDOH 3-13-2025)

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



Pylon at West End, North/Upstream Side. Includes a 1980s plaque. View SE (WVDOH 3-13-2025)



Plaque on both West End Pylons (WVDOH 3-13-2025)

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



Typ. Partial Pylon at Ends of Return Wingwalls. Example is the South/Downstream East Partial Pylon. View WNW (WVDOH 3-13-2025)



Manufacturer's tag at Base of Lamppost (Fluted Pole) on Bridge (WVDOH 3-13-2025)



Typ. Concrete Railing Post. Example is at the South/Downstream East End. View WNW (WVDOH 3-13-2025)



End of Railing at North/Upstream Side, West End; at Union Square Office Complex Entry (formerly Columbia Ave). View SE (WVDOH 3-13-2025).

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



Typ. Staircase to River Walkway, located about 30 east of the south/downstream east wingwall. View SW (WVDOH 3-13-2025)



Typical River Walkway. View NW, from staircase (top photo) toward bridge (WVDOH 3-13-2025).



River Walkway, termination at bridge wingwall at east wingwall of bridge.
View SE (WVDOH 3-13-2025). The same riverwalk termination occurs at the west wingwall as well.

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



APE 1 – Stepped Feature 1 – This feature is at the lower left corner of this image. It is not very wide but appears to be a stairway access between grades at west abutment (downstream side). It appears to be unrelated to the original bridge construction. It perhaps is a utilitarian access installed for bridge inspections/maintenance.



APE 1 – Stepped Feature 2 – this feature has is of the same design as Stepped Feature 1 above and appears unrelated to the original bridge construction. It is located off the Union Square parking lot (formerly Columbia Ave), and provides access to the lower grade at the west abutment (upstream side).

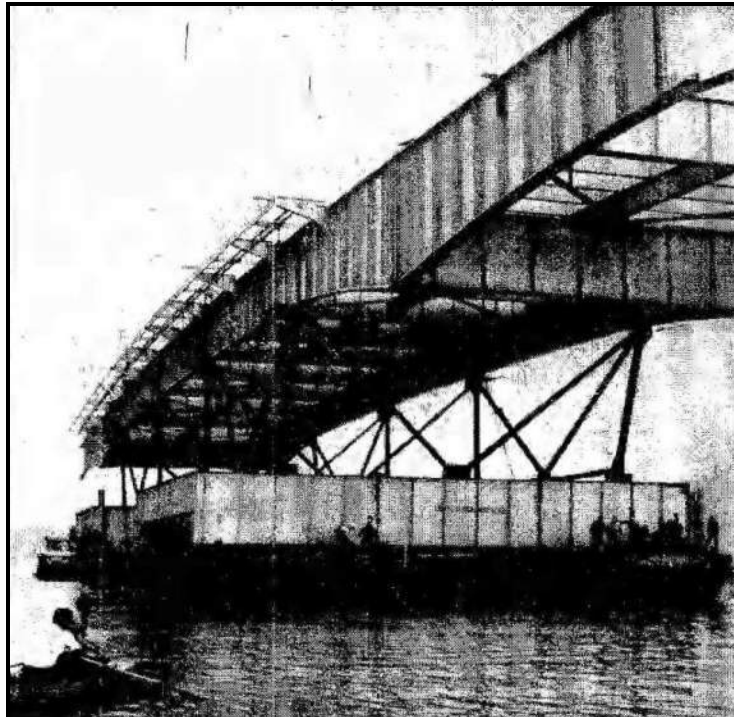
**WEST VIRGINIA HISTORIC PROPERTY FORM
CONTINUATION SHEET**

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



View of the Elk River-Kanawha River confluence. The bridge in the photo an early Virginia Street span. This photo is suggest to have been taken ca. 1907, before the Virginia St span was replaced with a truss bridge and before the Kanawha Boulevard and Bridge existed at this location. Image from <https://www.mywvhome.com/1900s/photo25.htm>, a website copyrighted in 2013 by J. Waters (viewed 3/2025).

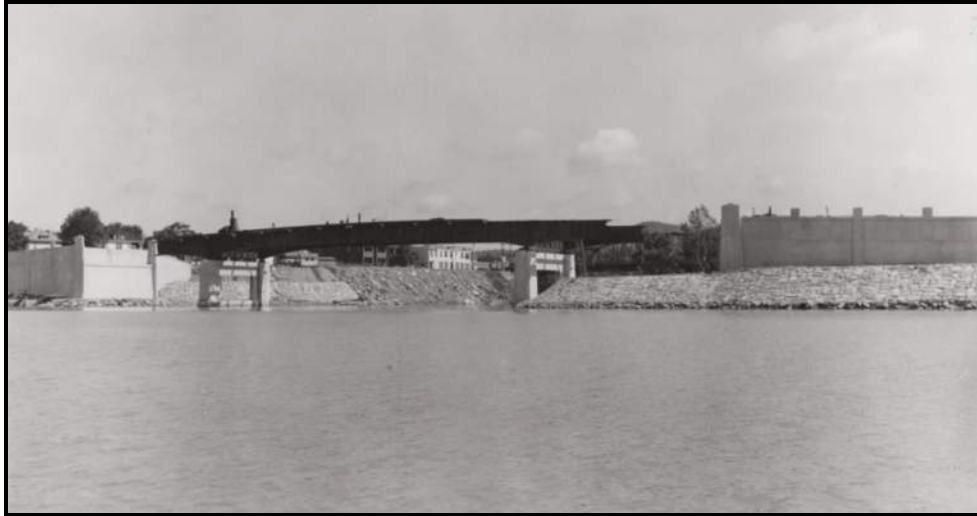


The main span of Kanawha Boulevard Bridge being floated into place on August 12, 1938
(*Charleston Gazette*, 8-13-1938, p1, col 2-4)

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



Main Span Steel set in place, ca. August 1938.

<https://livingnewdeal.org/sites/kanawha-boulevard-bridge-charleston-wv/> (viewed March 2025).



View of North/Upstream side of Bridge, ca. 1939. Taken from West End of Bridge, on former Columbia Blvd, now the entrance to the Union Square Office complex. Image depicts the original light fixtures on the bridge.

<https://livingnewdeal.org/sites/kanawha-boulevard-bridge-charleston-wv/#lg=1&slide=2> (viewed March 2025)

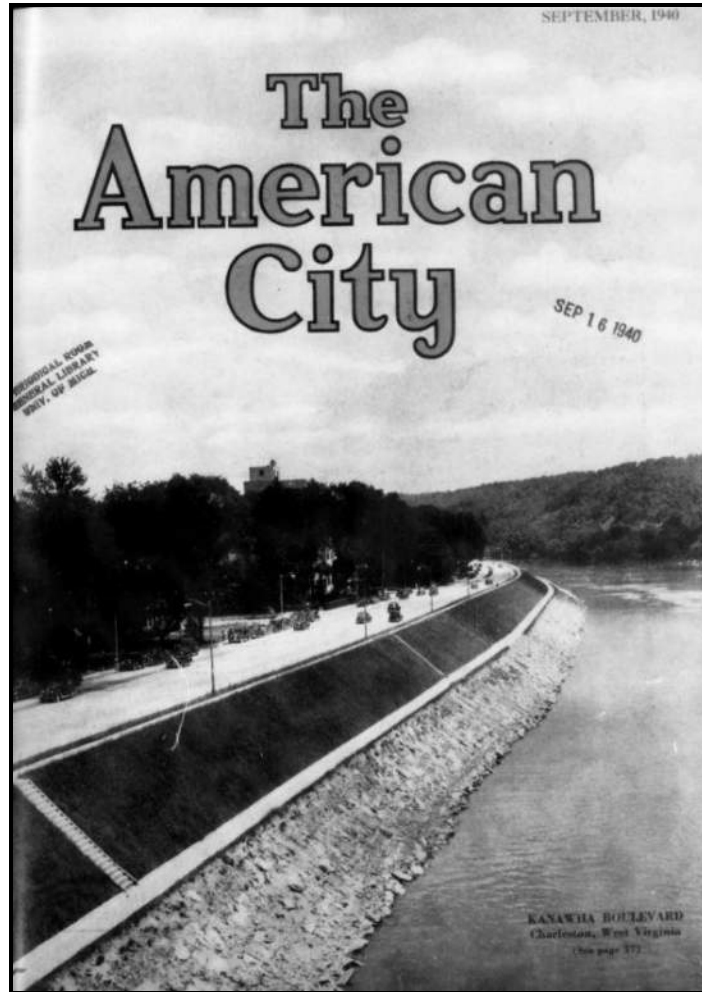


1994 Image of Bridge. Lampposts include light fixtures (luminaire, arms/braces) estimated to have been installed ca. 1980. These fixtures were replaced with the current lamps/arms ca. 2008-10. (Image from 1994 WVDOH bridge inspection report)

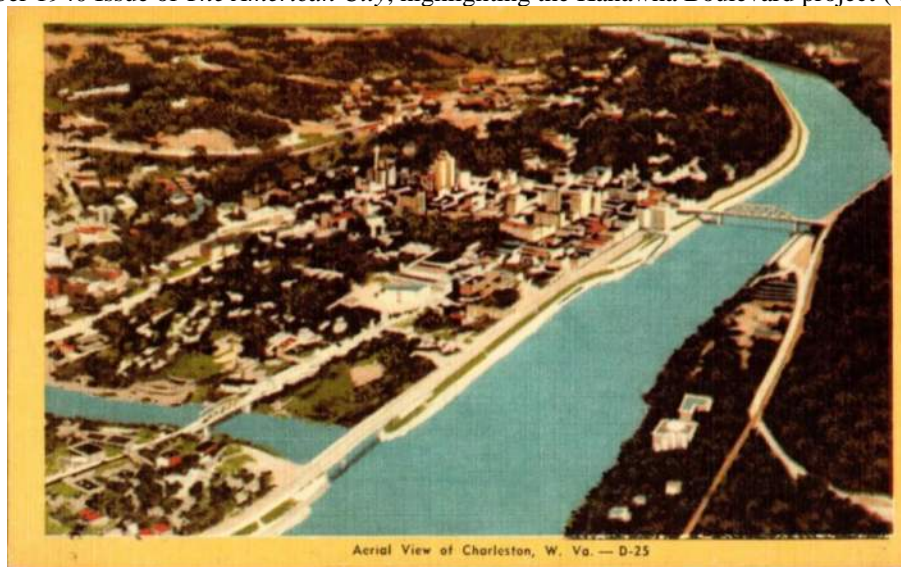
**WEST VIRGINIA HISTORIC PROPERTY FORM
CONTINUATION SHEET**

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



Cover of the September 1940 Issue of *The American City*, highlighting the Kanawha Boulevard project (Vol. 55, Issue 9; cover).



Ca. 1940 Postcard. Highlights Kanawha Blvd. Found on Ebay

<https://www.ebay.com/itm/156099812665?itmmeta=01JPQTKY271AW8H6ETH5H0Q0H7&hash=item2458461d39>
(Viewed March 19, 2025)

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Kanawha Boulevard Bridge

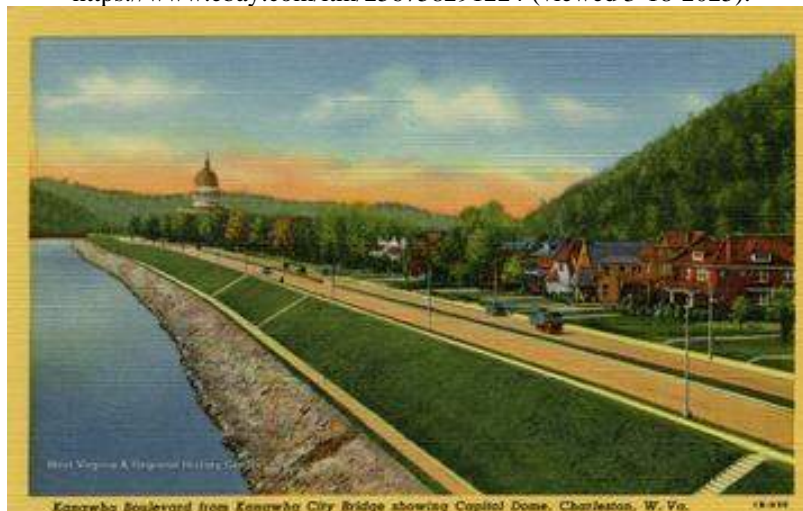
SITE#: KA-5540_Rev01



Ca. 1943 Postcard. Kanawha Boulevard and Bridge, viewed from across the Kanawha River.
<https://wvhistoryonview.org/catalog/042760> (viewed March 2025)



Ca 1940s Postcard. Kanawha Blvd, showing United Carbon Bldg (completed 1941) & Riverview Terrace Apts. (1938).
<https://www.ebay.com/itm/256758291224> (viewed 3-18-2025).

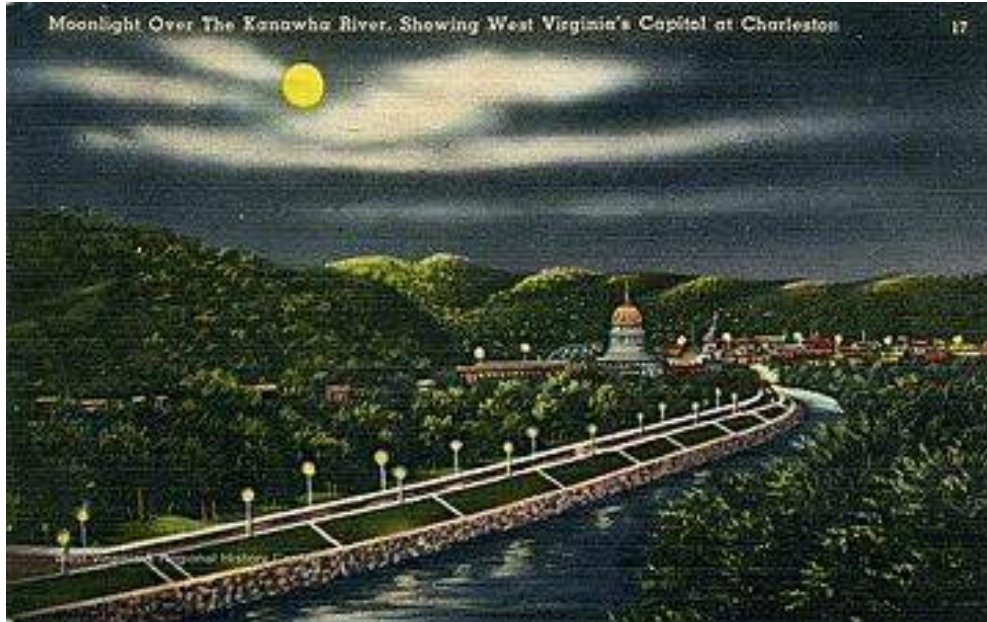


Ca. 1940 Postcard. Kanawha Blvd, from 35th Street (Kanawha City), looking West.
<https://wvhistoryonview.org/catalog/042711> (view March 2025)

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Kanawha Boulevard Bridge

SITE#: KA-5540_Rev01



Ca. 1949 Postcard. Idealized view of Kanawha Boulevard a night. View from across Kanawha River, looking eastward toward Capitol Building. <https://wvhistoryonview.org/catalog/042769> (viewed March 2025)



Ca. 1945 Photograph with Elk River and Kanawha River junction at center, with Kanawha Boulevard and Bridge along the north back of that latter waterway. <https://wvhistoryonview.org/catalog/005437> (Viewed March 2025)

NATIONAL REGISTER EVALUATION INFORMATION

National Register Determination Eligible Reason Not Evaluated

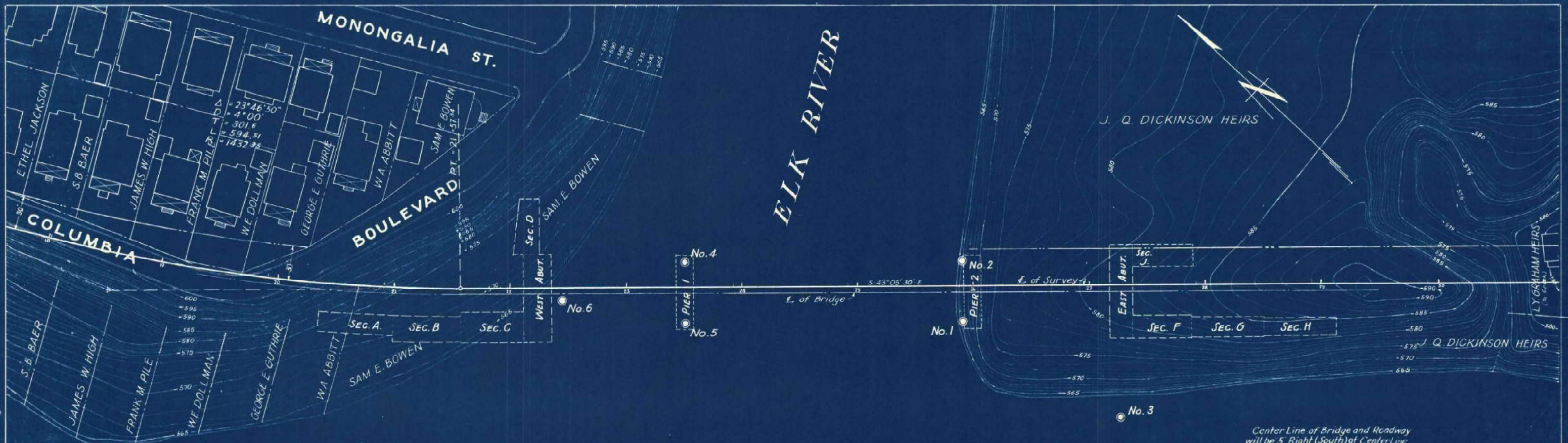
National Register Determination Date 2013

This bridge has a significant association with a historic transportation system, program, event, trend, or policy identified through contextual research and survey activities. Although this bridge has undergone alterations, it still retains the historic integrity necessary to convey its historic significance and, therefore, is eligible for the National Register under Criterion A.

This bridge is not eligible for the National Register under Criterion C as it does not illustrate the evolution or transition of a bridge type or an important variation in design, fabrication, or construction of a bridge type. Additionally, it is not a distinguishable representation of a master's work and does not possess high artistic value as identified through contextual research.

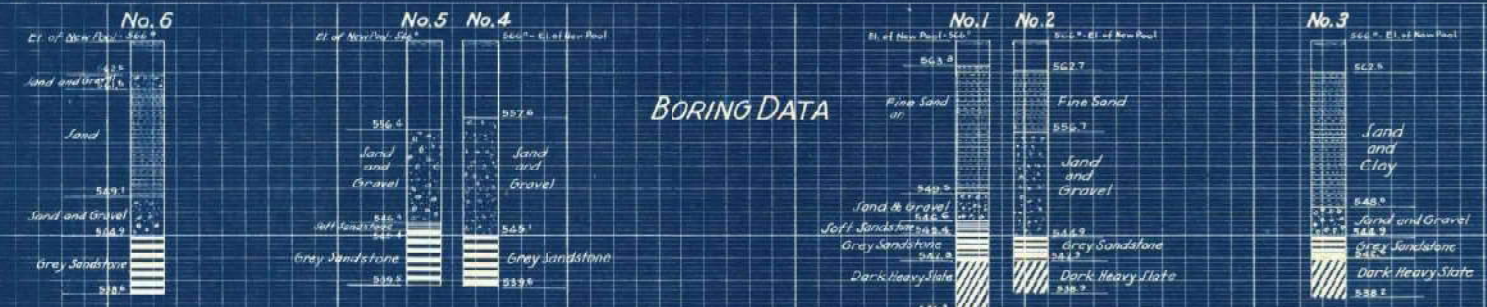
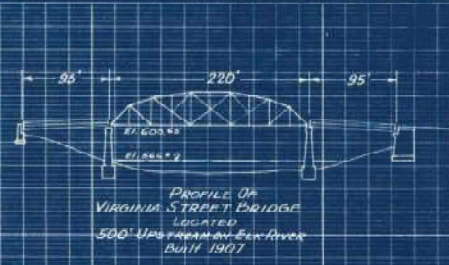


West Virginia Historic Bridge Inventory Form
Form Prepared By Mead & Hunt and KCI
Form Preparation Date 2013

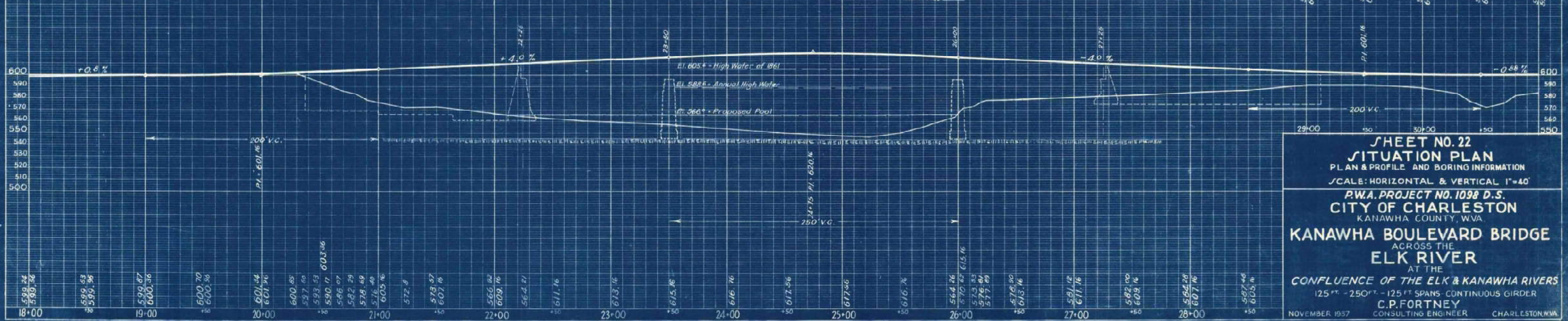


GREAT KANAWHA RIVER

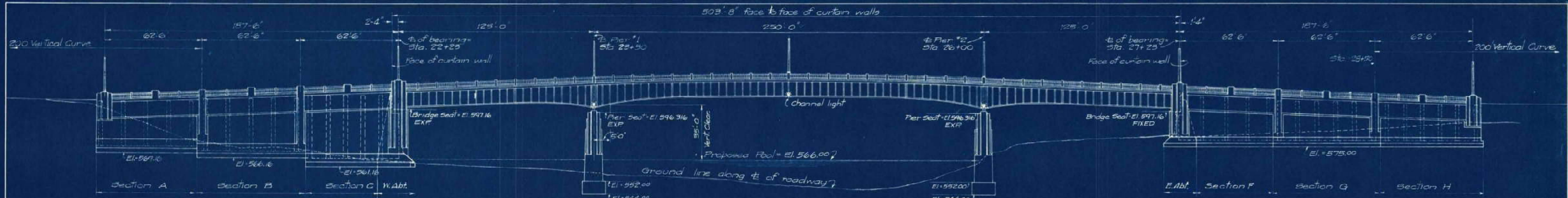
58.0 Miles to Junction with Ohio River



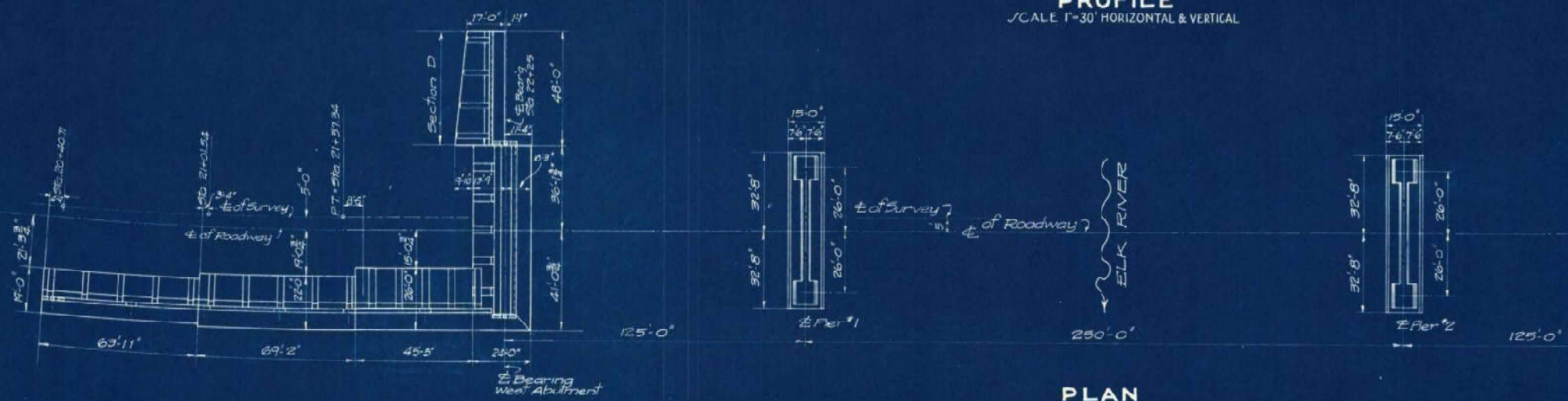
SHIPPING POINT: CHARLESTON
VIA NEW YORK CENTRAL R.R.
CHESAPEAKE & OHIO R.R.
BALTIMORE & OHIO R.R.
VIA WATERWAY - OHIO & KANAWHA RIVERS



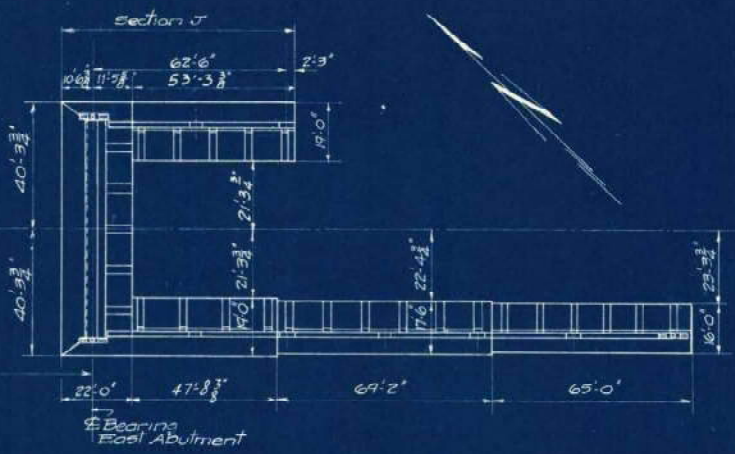
SHEET NO. 22
SITUATION PLAN
 PLAN & PROFILE AND BORING INFORMATION
 SCALE: HORIZONTAL & VERTICAL 1"=40'
 R.W.A. PROJECT NO. 1098 D.S.
CITY OF CHARLESTON
 KANAWHA COUNTY, W.VA.
KANAWHA BOULEVARD BRIDGE
 ACROSS THE
ELK RIVER
 AT THE
CONFLUENCE OF THE ELK & KANAWHA RIVERS
 125 FT. - 250 FT. - 125 FT. SPANS - CONTINUOUS GIRDER
C.P. FORTNEY
 CONSULTING ENGINEER CHARLESTON, W.VA.
 NOVEMBER, 1937



PROFILE
SCALE 1"=30' HORIZONTAL & VERTICAL



PLAN
SCALE 1"=30'



INDEX OF QUANTITIES

SHEET NO	SECTION	EXCAVATION			PILING		CONCRETE		REINF. BARS Lbs	WATER PROOF Sq. Yds
		Cubic Yds Dry	Cubic Yds Wet	Rock	Lineal Ft. Steel	Lineal Ft. Conc.	Cubic Yds Class A	Cubic Yds Class B		
26 and 27	West Abut.	100.	300.	0	3185.	3500.	950.	0	80,000	688.
28	Section A	250.	0	0	1965.	2168.	430.	0	38,400.	392.
29	Section B	200.	0	0	2436.	2700.	600.	0	56,000.	505.
30 and 27	Section C	50.	150.	0	1911.	2100.	650.	0	47,200.	580.
31	Section D	300.	0	0	1238.	1330.	350.	0	31,500.	432.
32	Pier #1	0	650.	36.	0	0	580.	300.	28,900.	0
32	Pier #2	85	1000.	36.	0	0	580.	300.	28,900.	0
34	East Abut.	550.	0	0	4416.	5103.	650.	0	56,000.	545.
35	Section F	320.	0	0	1920.	2048.	325.	0	31,000.	304.
36	Section G	450.	0	0	2500.	2835.	410.	0	53,700.	358.
37	Section H	460.	0	0	1600.	1827.	340.	0	29,600.	292.
38	Section J	300.	0	0	2080.	2205.	360.	0	29,500.	347.
TOTALS		3065	2100	72	25311	25816	6185	600.	490,700	2443.

GENERAL NOTES

Plans for falsework must be submitted to the District Engineer, U.S. Engineer Office, Huntington, West Virginia, before any work is started. (Regulations of the War Department)

In order that the approach fills may be constructed by the contractor under Schedule A, abutments and wing walls must be completed in accordance with Progress Chart.

Concrete for precast or cast in place piles (if concrete piles are used), shall be Class A.

Concrete in the piers shall be Class A concrete above the tops of footings and Class B concrete below.

Concrete in abutments and wing walls adjacent to the abutments shall be Class A.

Forms for exposed concrete surfaces shall be lined with pressed wood sheets, "Masonite" or equal, as specified in paragraph 268.

Reinforcing bars shall be made from new billet steel, structural or intermediate grade, or from rail steel, as specified in paragraphs 462 and 463.

The portion of abutments and wing walls above the tops of footings exposed to the fill shall be waterproofed according to specifications, paragraphs 285 and 290.

All concrete for the piers, abutments and wing walls shall be placed with the aid of a mechanical vibrating equipment in accordance with the specifications, par. 264.

Four-inch drains shall be placed thru the abutments and wing walls in all spaces between counterforts and on each side of each counterfort. Drains are to be placed at the ground line.

Prepared filler called for on the plans shall be similar to "Corey Elastic Rubber Expansion Joint", "Servicized Cementstone Expansion Joint" or Translode Expansion Joint" in accordance with the specifications, paragraph 485 and shall be approved by the Engineer. Prepared filler shall be included in unit price bid for Class A concrete.

Copper flashing to be included in unit price bid for Class A concrete.

ESTIMATE OF QUANTITIES SCHEDULE B-SUBSTRUCTURE

ITEM NO	NAME OF ITEM	QUANTITY	
12	Preliminary Work		Lump Sum
13	Dry Excavation	3065	Cubic Yds
14	Wet Excavation	2100	Cubic Yds
15	Rock Excavation	72	Cubic Yds
16	Piling (Steel)	23311	Lineal Ft.
16 alternate	Piling (Concrete)	25816	Lineal Ft.
17	Class A Concrete	6185	Cubic Yds
18	Class B Concrete	600.	Cubic Yds
19	Reinforcing Bars	490,700.	Pounds
20 alternate	Reinforcing Bars (Rail Steel)	490,700.	Pounds
20	Waterproofing	4,443	Square Yds
21	Mooring Rings	3	Each
22	River Gauge	33	Lineal Ft.

FLASHING



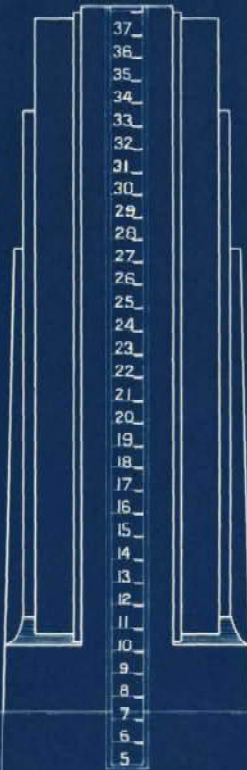
SHEET NO. 23
GENERAL PLAN & ELEVATION
NOTES - SUBSTRUCTURE - QUANTITIES

P.W.A. PROJECT NO. 1098 D.S.
CITY OF CHARLESTON
KANAWHA COUNTY, W.VA.

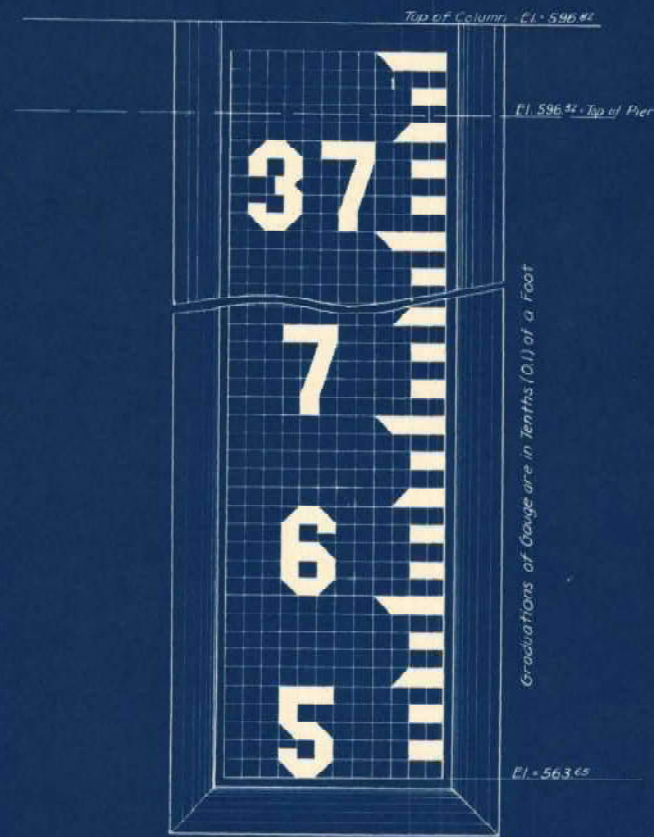
KANAWHA BOULEVARD BRIDGE
ACROSS THE
ELK RIVER
AT THE
CONFLUENCE OF THE ELK & KANAWHA RIVERS
125 FT. - 250 FT. - 125 FT SPANS CONTINUOUS GIRDER

C.P. FORTNEY
CONSULTING ENGINEER
CHARLESTON, W.VA.

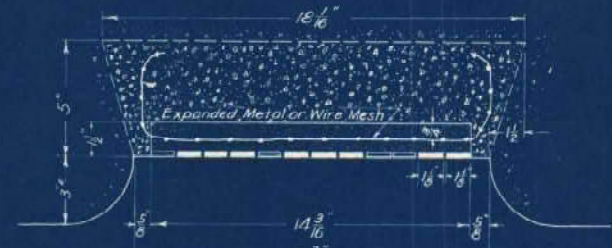
NOVEMBER 1937



**END ELEVATION
WEST (NO. 1) PIER LOOKING SOUTH
SHOWING
RIVER GAUGE**
SCALE 1/4"=1'



ELEVATION OF GAUGE
SCALE 2"=1'



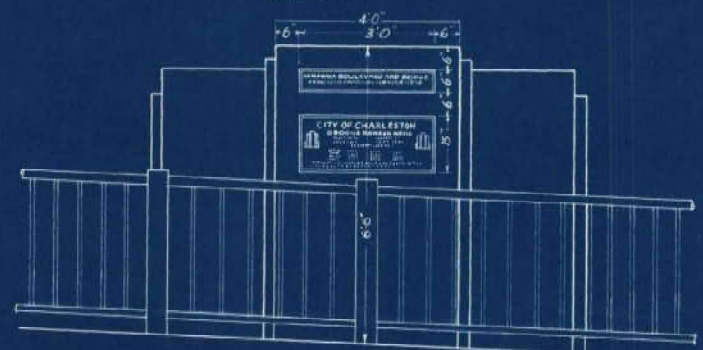
GAUGE CROSS SECTION (ENLARGED)
SCALE 3"=1'
ITEM 22 SCHEDULE B

NOTE:
Materials for the River Gauge shall be provided by the contractor of Schedule B and set by him as follows.
To prepare for setting, figure sheets as received from the manufacturer are to be placed in an accurate mold on a glass plate and backed with cement mortar about 1/2" thick. Mortar to be one part cement and one part sand, graded from fine to coarse with 12 1/2% of water, and reinforced with expanded metal or wire fabric. Reinforcing shall extend beyond both edges about 6" to form anchorages in concrete as shown. After final set, molds are to be removed and panels immersed in water for a period of 8 days. Tile for gauge may be backed in convenient lengths of even feet, preferably 3 ft. sections. In setting, care should be taken to prevent accumulative error.
Gauge to be made of ceramic mosaic tile 1 1/8" x 1 1/8" x 1/4". Ground to be plain white and figures blue. Tile to be assembled by pasting on sheets of paper in panels of one foot length.
Tile to be equal to that manufactured by Hagan McGruder Co., of 647 S. 3rd Street, Louisville, Ky.

KANAWHA BOULEVARD AND BRIDGE
FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS
PROJECT NUMBER W.VA. 1098 D.S.

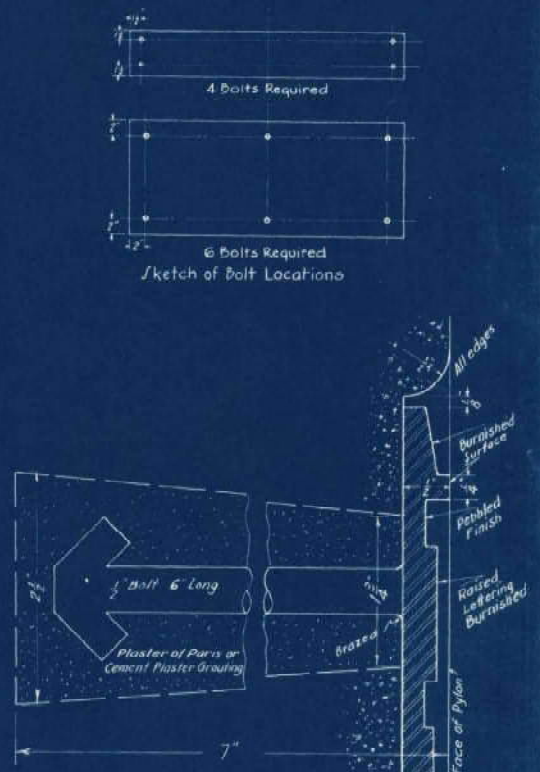
CITY OF CHARLESTON
D. BOONE DAWSON - MAYOR
M. R. MATHEWS - MANAGER JOHN D. PRICE - TREASURER
PHILIP H. HILL - SOLICITOR H. L. CAMPBELL - ENGINEER
C. P. FORTNEY - CONSULTING ENGINEER
CITIZENS COMMITTEE
JOHN R. CORK - JAMES MARTIN A. J. HUMPHREYS
J. EUSTACE CHILTON - PUBLIC RELATIONS
COUNCIL MEN
FRANK J. BLAIR J. ROY EDWARDS JOHN T. MOORE DR. H. H. SMALLRIDGE
GEORGE BYERS ALEX. P. GATES G. BLAINE NICHOLSON ROBERT S. SPILMAN, JR.
JAMES G. CARPER F. C. GROFF R. C. O'CONNOR GEO. E. SUTHERLAND
CHAS. C. CHANCEY CLEBURN HORN ROY H. DIEBSON OTIS A. VANDINE
CARL L. DAVIS HARRY L. MATHEWS N. S. POFFENBARGER CHAS. A. WICKERTSHEIM
R. A. MCKEE S. J. RICHARD
S. CLYDE JARRETT - CLERK
KANAWHA BOULEVARD BRIDGE AND BOULEVARD FROM DELAWARE AVENUE TO COURT STREET BUILT WITH FUNDS FROM THE \$550,000. BOND ISSUE OF DECEMBER 29, 1936 AND A FEDERAL P.W.A. GRANT OF \$450,000.

ITEM NO 32 SCHEDULE C
BRONZE NAME PLATES
SCALE 1"=4"



NAME PLATES LOCATION

NOTE:
Bronze name plates shall be furnished by the Contractor of Schedule C and set in place by Contractor for Schedule B. 4 Plates, i.e. 2 of each will be required and shall be placed on each of the Pylons of the East Abutment.
Printed proofs of plates shall be submitted and approved before casting any plate.

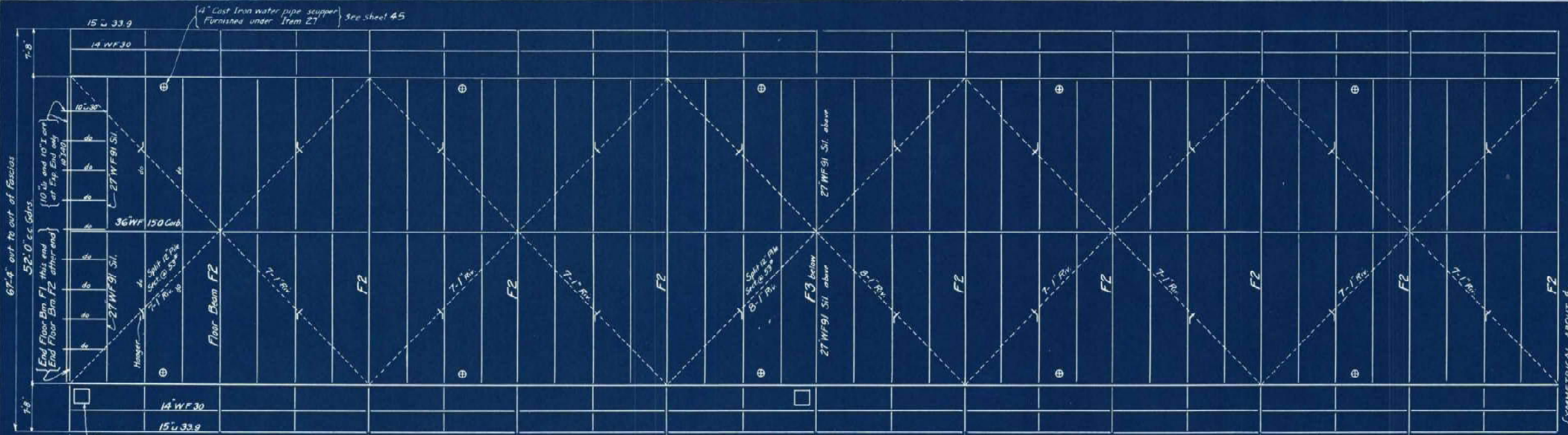


MOUNTING DETAIL
If possible, Plates are to be in place when concrete Pylon is poured. Otherwise above method is to be followed.

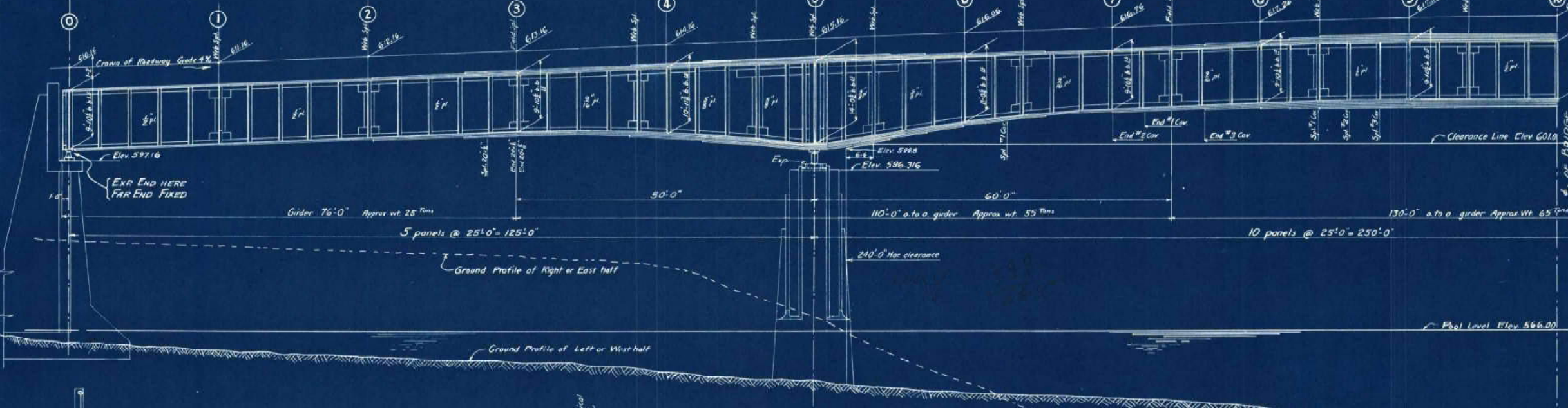
ABC
ROMAN CLASSIC

All letters in the name plate to be of Roman Classic. Alphabets of the size and arrangements as shown. Face of lettering to have satin burrinish finish and all outlines of letters to be clean and sharp.

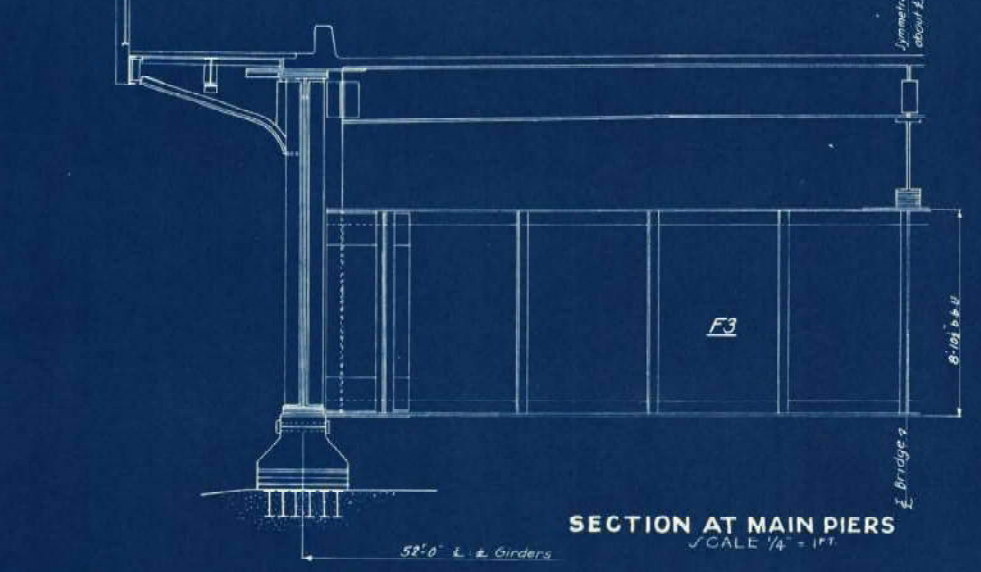
SHEET NO. 33
RIVER GAUGE & NAME PLATES
SCALE AS SHOWN
P.W.A. PROJECT NO. 1098 D.S.
CITY OF CHARLESTON
KANAWHA COUNTY, W.VA.
KANAWHA BOULEVARD BRIDGE
ACROSS THE
ELK RIVER
AT THE
CONFLUENCE OF THE ELK & KANAWHA RIVERS
125 FT. - 250 FT. - 125 FT. SPANS - CONTINUOUS GIRDER
C. P. FORTNEY
CONSULTING ENGINEER
NOVEMBER 1937 CHARLESTON, W.VA.



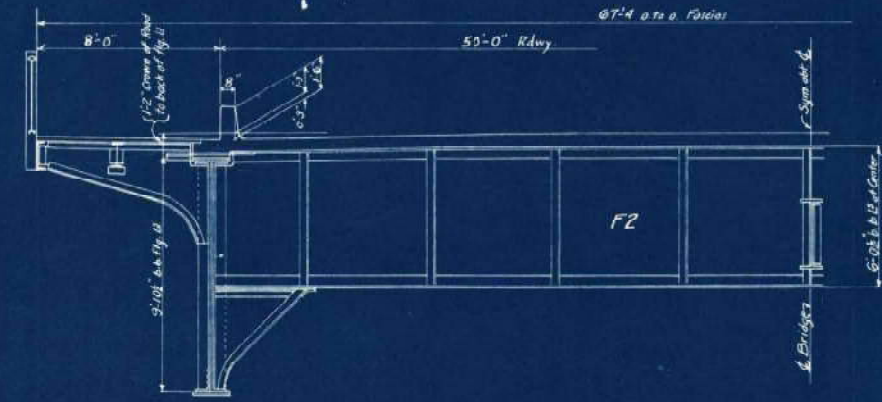
HALF PLAN



ELEVATION
LOOKING UPSTREAM
SCALE 1/16" = 1'



SECTION AT MAIN PIERS
SCALE 1/4" = 1'



TYPICAL CROSS SECTION
SCALE 1/4" = 1'

GENERAL NOTES

CAPACITY Class AA, Five lanes H20 Highway Loading, Two 8'-0" sidewalks and provision for utilities. See Drawing No. 44

TYPE Three span plate girder structure, continuous over four supports, using two main longitudinal supporting girders.

FACILITIES 50'-0" clear roadway, crowned 3" to parabolic curve. Two 8'-0" clear walkways. Provision for longitudinal movement in floor one end only. Ladders and manholes for access to all piers as shown on sheet No. 45.

MATERIAL All copper bearing steel. Silicon used in the 350 linear feet of main girders between points 3, for the transverse joists spaced 6'-3" longitudinally, and for parts of the main rocker bearings on the piers at points 5. Carbon steel for all other portions, except for the cast steel shoes on the abutments and the aluminum hand railing. See specifications for material designation. In general all parts not otherwise noted on plans are to be structural carbon bridge steel.

WORKMANSHIP Must equal best general modern bridge shop practice for reamed work and in detail as per specifications.

ERECTION Contractors may use any method they may elect subject to the approval of the engineer and the requirements of the War Department, but must incorporate certain requirements concerning adjusting bearings and weighing reactions as described in specifications.

**SUPERSTRUCTURE - SCHEDULE C
TABLE OF QUANTITIES**

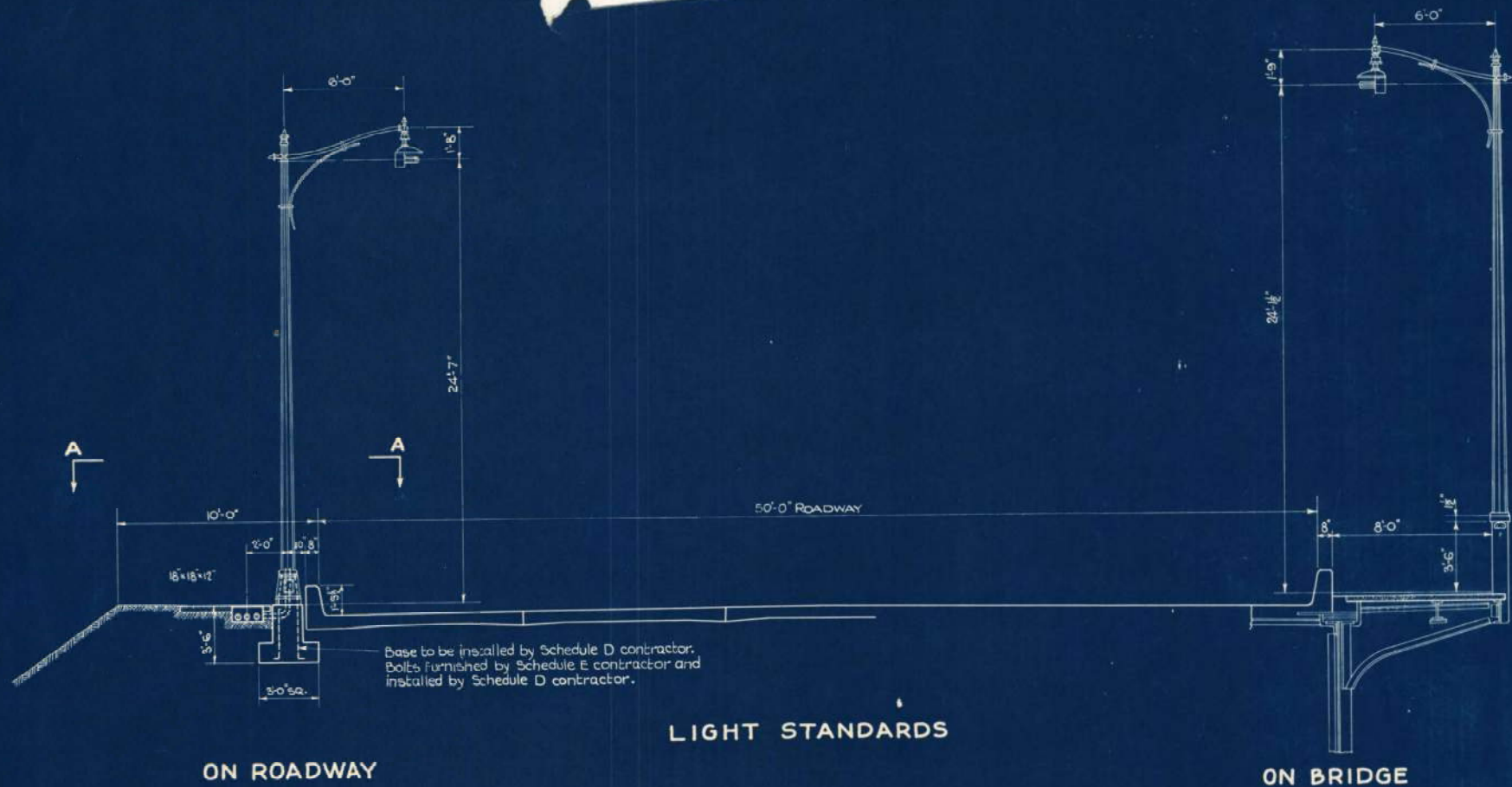
ITEM NO.	DESCRIPTION OF ITEM	QUANTITIES
24	Class A Concrete in Abutment Curtain Wall	15 Cu Yds.
25	Reinforced Concrete Curbs	125 Cu Yds.
26	Reinforcing Bars in Curb & Gutter	4,900 #
27	Steel Grid - Roadway Deck including Cast Iron Drains	26,000 #/ft.
28	" " 2" Sidewalk	8,000 #/ft.
29	Asphalt wearing surface 1 1/2" Thick	24,000 #/ft.
31	Total Structural Steel (includes Silicon Carbon Cast SH & Sheet SH)	1,850,000 # *
32	Bronze Name Plates	4
33	Material Concrete Fill for Roadway & Sidewalk Steel Grid included in Grid	300 Cu Yds.

* Note. Anchor bolts, Grillage and Tie-down Anchorage are to be furnished by the steel contractor in advance and are to be set by the masonry contractor. Hand rail, Light Posts, wiring etc. are not in this contract.

SUPERSTRUCTURE - INDEX OF SHEETS

Sheet No.	Contents
43	General Plan and Elevation
44	Stress Sheet
45	Typical Cross Section Details
46	Cross Section at Main Piers
47	Cross Section at Expansion End
48	Cross Section at Fixed End
49	General Detail, Main Girders
50	General Detail, Main Girders
51	Hand Railing

SHEET NO. 43
GENERAL PLAN AND ELEVATION
 SUPERSTRUCTURE
 SCALE AS SHOWN
P.W.A. PROJECT NO. 1098 D.S.
CITY OF CHARLESTON
 KANAWHA COUNTY, W.VA.
KANAWHA BOULEVARD BRIDGE
 ACROSS THE
ELK RIVER
 AT THE
CONFLUENCE OF THE ELK & KANAWHA RIVERS
 125' - 250' - 125' SPANS - CONTINUOUS GIRDER
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 NOVEMBER 1937 CONSULTING ENGINEER CHARLESTON W.VA.

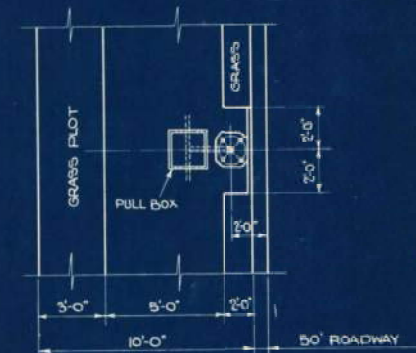


ON ROADWAY

LIGHT STANDARDS

ON BRIDGE

Base to be installed by Schedule D contractor.
Bolts furnished by Schedule E contractor and
installed by Schedule D contractor.



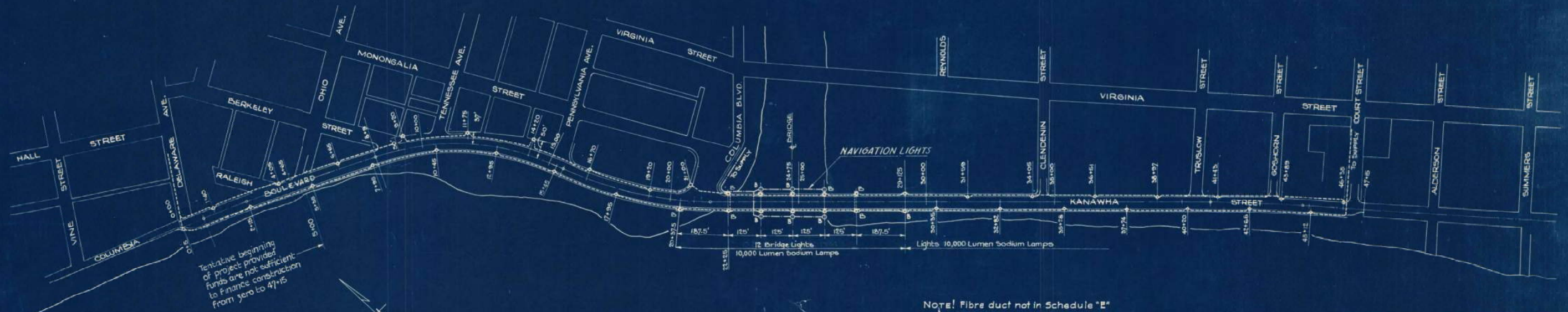
PLAN A-A



PULL BOX-Item 65-Schedule 'D'
Cast Iron Pull Box for lighting circuits
placed in sidewalk at each lighting post.
Waterproof cover held in place by two screws
All material 1/2" Cast Iron, conforming to the
specifications for grey cast iron, A.S.T.M. 1905
and addition thereto

**APPROXIMATE QUANTITIES OF MAJOR ITEMS
ITEM 67-SCHEDULE E**

- 44 SODIUM LUMINAIRES
 - 44 10,000 LUMEN SODIUM LAMPS
 - 44 THREE-WALL VACUUM FLASKS
 - 32 FLUTED STEEL SHAFT STANDARDS FOR ROADWAY
 - 12 " " " " BRIDGE
 - 2 PELLET-TYPE LIGHTNING ARRESTERS
 - 1 PHOTOELECTRIC RELAY
 - 4 PIER LAMPS
 - 2 CHANNEL MARKERS
- 6-Mounted on Concrete Pylons.
 1- Section A- Sheet No.28.
 2-West Abutment-Sheets Nos.26&27.
 2-East " " Sheet No.34.
 1- Section M- Sheet No.37.



LAYOUT
SCALE 1"=200'

NOTE! Fibre duct not in Schedule "E"

LEGEND

- WIRING DIAGRAM
- SERIES CIRCUIT ROWS - 10,500'
- MULTIPLE CIRCUIT
- NAVIGATION LIGHTING - 1,000'

**SHEET NO.59
ELECTRICAL LAYOUT
LIGHTS ON BRIDGE & BOULEVARD
SCALE AS SHOWN**

**P.W.A. PROJECT NO. 1098 D.S.
CITY OF CHARLESTON
KANAWHA COUNTY, W.VA.
KANAWHA BOULEVARD BRIDGE
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