The present North Market Street bridge is believed to be the fifth bridge at this crossing. Authorized in 1762 by the Delaware General Assembly, the first Market Street bridge, a timber structure, was completed in 1764, replacing the previous ferry that had operated from a landing on French Street. The first bridge underwent numerous repairs, and in 1806, a company was formed to replace the deteriorated span with a stone arch bridge. That bridge was never built because local merchants and millers objected that the stone arch would restrict the waterway. The Levy Court continued to study various proposals for different bridges but took no action until 1809, when $4,000 was appropriated to construct a chain suspension bridge, which would not restrict the stream. Completed in 1810, the suspension bridge remained in use until 1822, when a freshet washed it away. A timber covered bridge was next constructed, the first in Delaware; however, it too was destroyed by a flood in 1839. Master bridge builder Lewis Wernwag constructed the next bridge, a covered timber truss-arch that remained in place until 1887 when a wrought-iron Pratt thru truss, fabricated by the New Jersey Steel and Iron Company, was erected in its place.

By the mid 1920s, the metal truss bridge was no longer adequate to the needs of increased automobile traffic. A traffic study conducted by the New Castle County Engineer revealed that 85 percent of the traffic on the bridge comprised passenger automobiles, and when combined with streetcar traffic was contributing to downtown traffic jams. Local businessmen looked forward to an improved crossing with greater capacity, which they believed would encourage economic growth. Specifications for the 1928 replacement bridge provided for a paved roadway of 60', accommodating double streetcar tracks, and two, 10'-wide sidewalks, more than doubling the capacity of the previous bridge. In order to maintain traffic during construction, the county required the contractor to complete the western side of the new bridge while traffic continued to use the previous metal truss bridge. When the western side was finished, the traffic was shifted to the completed portion while the old truss was removed and then the east side of the new bridge was constructed in its place.

The Market Street bridge is located in the Brandywine Village Historic District, historically significant for its collection of 18th- and 19th-century homes, mills, and artisans shops, concentrated on the north bank of the creek.

Old Capitol Trail over Red Clay Creek *(Marshallton Bridge)*

State Bridge NC-155
Marshallton, New Castle County
Designer/Builder: State Highway Department Bridge Division/George E. Shockley

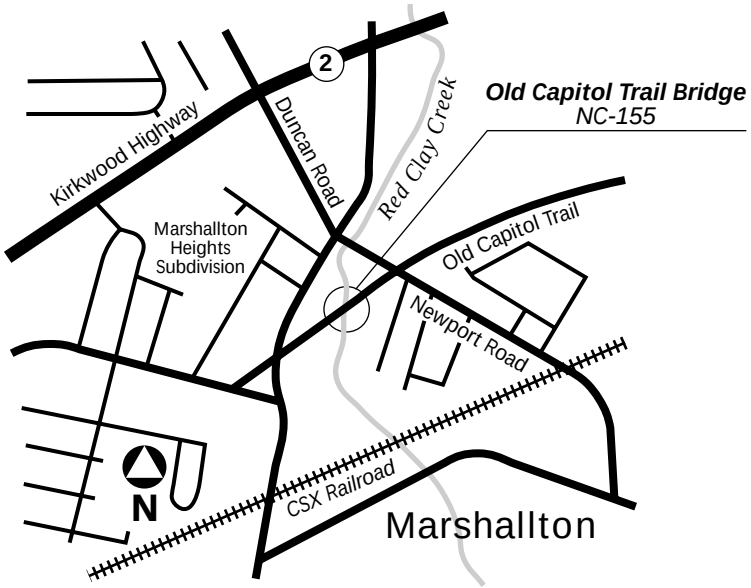
1931

The Marshallton bridge is a skewed, one-span, 119'-long, 24'-wide, built-up steel thru girder bridge. Finished with a segmental profile to the top, it is significant as an example of a common 20th-century bridge type with custom architectural detailing, documenting State Bridge Engineer Arthur G. Livingston's efforts to apply individual aesthetic treatments to many of the

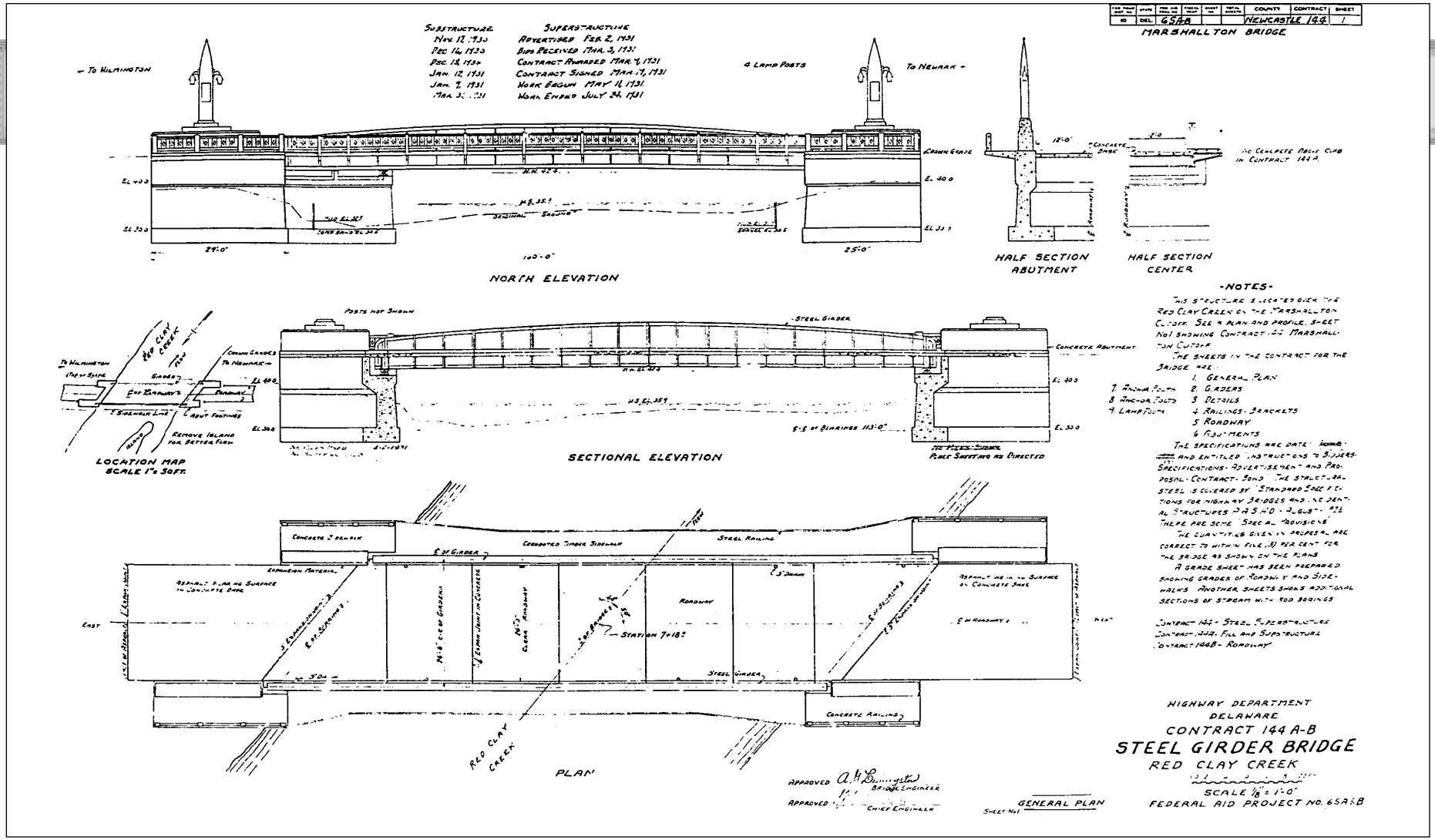
bridges on the state's highway system. Built in 1931, the bridge has two cantilevered sidewalks finished with decorative metal railings with diamond-shape cutouts. Concrete block end posts are topped by obelisks with stepped pedestals and copper luminaires. The bridge is supported on concrete abutments with wingwalls.

The Marshallton bridge was highlighted in the State Highway Department's *Annual Report* (1931), which stated that "through careful attention to details in its design this bridge presents an unusually pleasing appearance and with its approaches eliminates the traffic congestion and hazards which formerly existing on account of the narrow and winding route through town." The bridge was constructed as part of a 1930-31 road relocation project called the "Marshallton Cutoff." The cutoff bypassed the former state route, which was carried over Red Clay Creek on a 1919 Warren pony truss bridge (non-extant) located several hundred feet upstream of the present bridge. Road relocations were a common feature of the state highway department's efforts to improve the state highway system to meet the demands of increasing automotive traffic from the 1920s to the 1950s, and this project, like many others, was assisted by federal-aid funds.

The department opened the cutoff and bridge at a formal celebration held on November 21, 1931. A newspaper item called the bridge "one of the finest structures of its kind in the county, the light standards adding much to its beauty." The concrete obelisks



The 1931 Marshallton bridge (State Bridge NC-155).



Elevation, section, and plan from the 1930 drawings for the Marshallton bridge prepared by the Delaware State Highway Department's Bridge Division.

marking the portals supported "Venetian" pendant lanterns on cast-bronze "Commonwealth" brackets, supplied by the Westinghouse Electric & Manufacturing Company.

DelDOT contract records indicate that the substructure was built by D. E. O'Connell & Sons of Ridley Park, Pennsylvania, and the superstructure was done by George E. Shockley of Rehoboth, Delaware. The total cost of the bridge was $32,300. Shop drawings and bills of material document that the structural steel was furnished by the Shoemaker Bridge Company of Pottstown, Pennsylvania, and the decorative steel railing by the Bauman Iron Works of Reading. In 1982, some rivets, mostly on the bottom flanges and floorbeam connections, were replaced by high-strength bolts. The original concrete slab deck has been replaced by a steel deck pan and concrete deck.

Ease and speed of erection is a favorable construction feature of steel girder bridges. Photographs show the Marshallton bridge's prefabricated steel girders arriving via a nearby railroad (a), and then after being trucked to the bridge site, positioned by a crane (b). After connecting the floor-beams and placing the deck, workers apply the finishing touches, such as the pylons and luminaires (c). The completed bridge opened in July 1931, a mere five months after the contract had been awarded in March (d).

Road 46 over Deep Creek

State Bridge S-239
Old Furnace, Sussex County
Designer/Builder: State Highway Department Bridge Division/Continental Contracting Corp.

1932

The Road 46 bridge is a one-span, 40'-long, 31'-wide, encased steel multi girder bridge built in 1932. The bridge is finished by paneled concrete parapets with corbeled coping, and it is supported on concrete abutments with wingwalls topped by plain concrete parapets. The bridge is significant as a well-preserved example of the standard design, encased steel multi girder bridges built in numbers by the state highway department during the 1920s and 1930s.

The bridge was built as part of a state highway department project to pave and realign Road 46 between Gum Crossroads