

10. NAME(S) OF STRUCTURE

State Bridge Number 8F

11. PHOTOS (W/ FILM ROLL & FRAME NO.) AND SKETCH MAP OF LOCATION

17B:1-8



17B:3

Mack, Warren W. "A History of Motor Highways in Delaware", in Reed, Henry Clay, Delaware: A History of the First State, vol.2, pp.535-550 (NY: Lewis Historical Publishing Co., 1947).

Delaware State Program. Delaware State Highways; The Story of Roads in Delaware... [Newark, Delaware: Press of Kells, 1919].

Federal Writers' Project. Delaware: A Guide to the First State. (New York: Viking Press, 1938).

Hancock, Harold Bell. A History of Kent County, Delaware. (Dover, Del.: Dover Litho Printing Co., 1976).

Delaware State Archives. Kent County Road Records 1875-1940.

Delaware DOT records: Annual Reports; contract files.

Plans on file at Delaware DOT: Contract #24A

12. SOURCES

13. INVENTORIED BY:

AFFILIATION

DATE

P.A.C. Spero & Company with Kidde Consultants for Delaware DOT

April-November 1988

HABS/HAER INVENTORY

See "HABS/HAER Inventory Guidelines" before filling out this card.

1. NAME(S) OF STRUCTURE

State Bridge Number 8F

2. LOCATION

Road 10 over Murderkill River
Frederica, Kent County, Delaware

3. DATE(S) OF CONSTRUCTION

1920

4. USE (ORIGINAL/CURRENT)

Vehicular

5. RATING

SG

6. CONDITION

Fair: Deterioration of concrete in abutment and piers with exposed reinforcement.

State Highway Bridge 8F is a 135'-6" long concrete encased steel girder bridge comprising four spans. With clear spans of 26'-0", the two intermediate spans are 28'-6" long, and the two end spans are 29'-3" long. The superstructure consists of 10 steel I-beams, encased in concrete, supporting a concrete deck and capped with a concrete parapet. It is supported by concrete abutments, piers, and U-shaped concrete wing walls; the substructure rests on timber piles. The concrete parapet has a corbeled cap; it is divided into sections by wide concrete posts, mirroring the spans and wing walls and is slightly cantilevered creating an added horizontal element. The parapet between the posts consists of a panel decorated with scored horizontal rectangles in groups of three. The bridge is 32'-0" wide and carries two lanes of traffic and two shoulders.

Delaware Department of Transportation records state that Bridge 8F was built in 1920 under State Highway Department contract 24A. Another bridge, Bridge 8G, also was built under contract 24A; the design for both bridges is similar. Competitive bids for the project were received on July 21, 1920 and the contract for both bridges was awarded to James A. Hirons of Dover for \$84,572.50 approximately a month later. Hirons, in turn, sublet the contract for the Murderkill River Bridge (Bridge 8F) to S.S. Jones Contracting Corporation of New York City. Original drawings, dated October 1920, show the configuration of the bridge and the construction details. The beams encased in concrete are 20" I-beams weighing 65 pounds per linear foot. The bridge was designed for a 20 ton truck or 200 pounds per square foot live load.

Bridge 8F, comprising four spans, presents an uncommon variant of the concrete encased steel girder bridge type surveyed in Delaware. Constructed in 1920, it reflects the rapid expansion of Delaware's road network following the passage of the State Aid Road Law the previous year, which authorized counties to issue bonds to raise the matching share for state highway construction funding. Steel girder bridges were built prolifically across the United States from the late nineteenth century throughout the twentieth century. By the end of the nineteenth century, the girder bridge was established in all its forms: plate girders, I-beams and concrete encased I-beams. All steel girder types continued in use into the twentieth century, with span potential increasing from 100 feet in 1900 to 150 feet by 1930. Most steel girder bridges surveyed in Delaware were small, single spans.