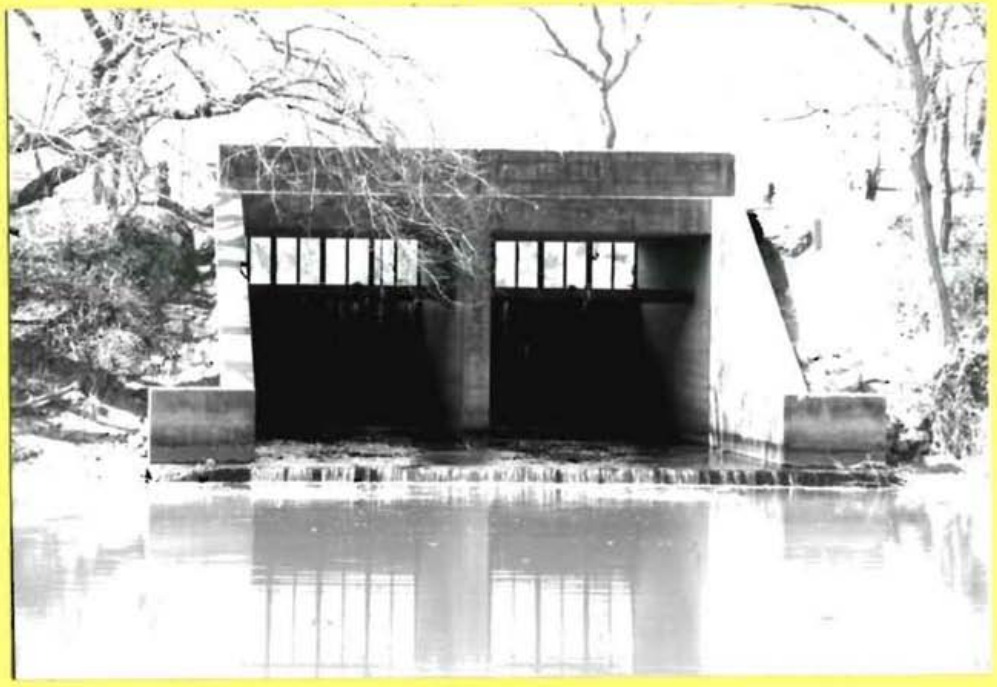
10. NAME(S) OF STRUCTURE
State Bridge Number 504

11. PHOTOS (W/ FILM ROLL & FRAME NO.) AND SKETCH MAP OF LOCATION
31B:13-22



31B:14A

12. SOURCES

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).
Delaware State Archives. State of Delaware, New Castle County Levy Court, Specifications, Proposals, Contract and Bond. ms., State Archives, Dover, DE.

Delaware State Archives. New Castle County Road Commissioners Papers, various years 1750-1940, ms. State Archives, Dover, Delaware.
Delaware DOT records: Annual Reports; contract files.
Plans on file at Delaware DOT: Contract #672, 672A

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 504

2. LOCATION

Road 442 over Silver Lake Spillway
Middletown, New Castle County, Delaware

3. DATE(S) OF CONSTRUCTION

1939

4. USE (ORIGINAL/CURRENT)

Vehicular

5. RATING

CS

6. CONDITION

Good

7. DESCRIPTION

State Highway Bridge 504 is a double span concrete slab bridge measuring 25'-6", and incorporating a water control structure. It carries two lanes of traffic on a 24'-0" wide deck. The substructure consists of concrete abutments with concrete wing walls. The wing walls on the east elevation are straight, those on the west are flared and end with straight extensions. The parapet is concrete and constructed out of two separate pieces. It is decorated with four incised rectangles and a corbeled cap on the outsides only. The spillway for Silver Lake is located on the west elevation.

8. HISTORICAL DATA

Delaware Department of Transportation records indicate that this structure was built in 1939 under State Highway Department contract 672; original drawings dated January 1939 document its configuration and construction details. Notes on these drawings indicate that the bridge was designed while A.G. Livingston was Bridge Engineer for the Delaware State Highway Department, and the constructed by E.F. Hammond of Delmar, Delaware under Contract #672. The contract for $12,927.70 was executed on May 23, 1939. Taylor-Davis, Inc. of Philadelphia provided the reinforcing steel, and Maryland Steel Products Company furnished the structural steel. Maryland Culvert and Pipe Company provided the gates and piping. The gate lifts were Hardesty handlift type, and were attached to wooden gates. Bridge 504 apparently assumed the water-control functions of the adjacent structure (#407), whose weir was removed and flood gates rendered inoperative at the time #504 was constructed. The construction contract included provisions for the removal of the weir. Heavy rain had caused washouts in August 1934 and July 1938 immediately south of Bridge 407; the new structure offered greater capacity for flood control. The bridge is designed for a 20 ton truck load.

9. SIGNIFICANCE

State Bridge 504 is a two span example of a concrete slab bridge built during the 1935-1942 period of rapid highway expansion, exhibiting parapet detailing of the simplest type. In addition to this, it is an example of a New Castle County highway structure which incorporates both a bridge and a water flow control structure. This dual-purpose type of structure was found predominantly in Kent and Sussex counties; these bridges serve as examples of creative design solutions to unusual site conditions, reflecting a specialized engineering response to the water management necessities of lower Delaware. Delaware DOT photographic archives for New Castle County bridges in the 1920s illustrated a number of examples of the type at that time. There are a few extant examples from the historic periods surveyed in the state.