10. NAME(S) OF STRUCTURE

State Bridge Number 383

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

32B:1-8

32B:3A

12. SOURCES

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Spero, Paula A. C. A Survey and Photographic Inventory of Concrete and Masonry Arch Bridges in Virginia. (Charlottesville, Virginia: Virginia Highway & Transportation Research Council, 1984).

Delaware State Archives. New Castle County Levy Court Records. Specifications, Proposals, Contract and Bond files.

Delaware State Archives. New Castle County Road Commissioners Records, 1750-1940.

Delaware State Archives. New Castle County Engineer Records, 1920.

Delaware DOT: Structure Division files

Delaware DOT records: Photo Archives

Plans on file at Delaware DOT: Contract (None)

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 383

2. LOCATION
Road 413 over Scott Run
Jamisons Corner, New Castle County, Delaware

3. DATE(S) OF CONSTRUCTION
1910

4. USE (ORIGINAL/CURRENT)
Vehicular

5. RATING
CA

6. CONDITION
Good

7. DESCRIPTION

State Highway Bridge 383 is a single span filled, solid spandrel concrete arch bridge with a clear span of 12'0" and an arch rise of 4'-6". It carries one lane of traffic. The total horizontal clearance is 15'11". The substructure consists of concrete abutments with flared concrete wing walls. The arch is capped by a concrete parapet ornamented with incised rectangles.

8. HISTORICAL DATA

Delaware Department of Transportation records state that Bridge 383 was built in 1910. This is confirmed by a plaque on the bridge which states "Built for St. Georges Hundred. New Castle Co., James Wilson, Engineer, by Luten Bridge Co., York, PA. 1910". Original drawings are no longer available. Bridge 383, a solid spandrel arch, was designed by the Luten Bridge Company, the firm established by Daniel B. Luten, whose bridges found wide acceptance throughout the east and midwest in the early twentieth century. Luten, a 1894 civil engineering graduate from the University of Michigan, began patenting bridge designs in 1899. Luten's patents, totaling over 30, included his currently-recognized arch bridges, as well as numerous variations, such as a hinged arch and viaducts; systems of reinforcement; ingenious centering forms and methods; methods of bridge construction; and reinforced concrete beams. Luten's first bridge company was the National Bridge Company, established in 1902. A 1914 Luten publication stated that until 1905 the National Bridge Company did the contracting and constructing of its bridges, but after that it was involved only in engineering design and supervision. In 1907, a company catalog advertised a variety of earth filled arches reinforced with steel rods. By 1911, Luten had won national attention, and was singled out by bridge historian Henry Grattan Tyrell as a "designer and builder of many fine concrete bridges throughout America."

9. SIGNIFICANCE

Bridge 383 is one of four examples of Luten highway bridges in the present survey, and the earliest example known example of its type in Delaware. Characterized by the graceful arch and curved, inscribed solid parapets, this bridge type was described in Luten's company catalogs as "Highway Bridge of Plain Design", and represents a proprietary type designed by a nationally significant company. Other Luten bridges identified in Delaware include Bridge 337, constructed in 1912, Bridge 120 (1922), both in New Castle County, and Bridge 237, constructed in 1919 in Sussex County. All are Luten "plain" designs, similar to his patent number 852,970. This type of concrete arch was built widely as a proprietary type in the first quarter of the twentieth century. Variations in the Luten style arch and parapet detail soon developed and resulted in numerous, similar non-proprietary designs prepared by highway department staffs.