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# National Register of Historic Places Multiple Property Documentation Form

This form is used for documenting multiple property groups relating to one or several historic contexts. See instructions in *How to Complete the Multiple Property Documentation Form* (National Register Bulletin 16B). Complete each item by entering the requested information. For additional space, use continuation sheets (Form 10-900-a). Use a typewriter, word processor, or computer to complete all items.

X New Submission ___ Amended Submission

## A. Name of Multiple Property Listing

Early Stone Arch Bridges of Somerset County, New Jersey

## B. Associated Historic Contexts

(Name each associated historic context, identifying theme, geographical area, and chronological period for each.)

Early Stone Arch Bridges of Somerset County, New Jersey, 1786-c. 1890

## C. Form Prepared by


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organization Cultural Resource Consulting Group date 7/23/92

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## D. Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this documentation form meets the National Register documentation standards and sets forth requirements for the listing of related properties consistent with the National Register criteria. This submission meets the procedural and professional requirements set forth in 36 CFR Part 60 and the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. (☐ See continuation sheet for additional comments.)

Signature and title of certifying official — Date 12/20/93

Assistant Commissioner for Natural & Historic Resources/DSHPO
State or Federal agency and bureau

I hereby certify that this multiple property documentation form has been approved by the National Register as a basis for evaluating related properties for listing in the National Register.

Signature of the Keeper — Date of Action

## Table of Contents for Written Narrative

Provide the following information on continuation sheets. Cite the letter and the title before each section of the narrative. Assign page numbers according to the instructions for continuation sheets in *How to Complete the Multiple Property Documentation Form* (National Register Bulletin 16B). Fill in page numbers for each section in the space below.

STATEMENT OF HISTORIC CONTEXTS: EARLY STONE ARCH BRIDGES OF SOMERSET COUNTY, NEW JERSEY, 1786-ca. 1890

1. Early American Stone Arch Bridges

The stone bridge was one of the first types of permanent bridges built in America. The vast majority of stone bridges were arched structures built with materials gathered or quarried nearby. Usually built by local masons, they were relatively small structures. Although stone arch bridges were the most common type of stone bridge, they were still extremely rare in the colonies. This was likely due to their expense and the time it took to build them. Little evidence of their construction in 17th-century America is known to exist. The oldest identified stone arch bridge in the United States that still carries a modern highway is the Frankford Avenue Bridge in Philadelphia. Its earliest section was built in 1697. More stone arch bridges are known to have been built in the 18th century, but documentary references offer little evidence of their form. By 1800 modest structures of crudely finished stones were being constructed in the Middle Atlantic states and in New England (Jackson 1988:18-19; Edwards 1959:34, 135; Condit 1968:32-33, 71-72; Commonwealth of Pennsylvania 1986:27.)

During the first half of the 19th century, stone bridge construction continued to flourish. Part of the impetus came during the canal era of the second quarter of the century. That era produced a significant number of aqueducts, bridges, and culverts, many of which were built entirely of stone. Railroads, especially in the 1850s, and again in the 1880s and 1890s, provided an impetus for the construction of a significant if modest number of stone arch bridges. In the late 19th and 20th centuries, metal and concrete bridges largely supplanted the stone arch bridge (Condit 1968:33; Plowden 1974:10-12, 29-32).

2. Early New Jersey Stone Arch Bridges

Stone arch bridge construction in New Jersey was apparently quite limited, as it was elsewhere in the country, until the last decade or two of the 18th century. Its greatest period of popularity appears to have run from the end of the 18th century to the middle of the 19th. It perhaps again regained some of its popularity in the late 19th and early 20th centuries. Even from the end of the 18th to the middle of the 19th century, few stone arch bridges were built, judging from the small number of recorded extant structures. Documentary sources, such as Somerset County's freeholder minutes, indicate that more stone arch bridges were built than

survive. However, this evidence also indicates that stone arch bridges were still far more rare than their frame, or stone and frame, counterparts (Kudless and Kudless 1977).

The large majority of New Jersey's extant and documentary stone arch bridges are road bridges. In the late 1820s and early 1830s some stone arch culverts, aqueducts, and bridges were built for the state's two major canals, the Delaware and Raritan Canal and the Morris Canal. The railroads also constructed stone arch bridges in the state in the latter half of the century.

The two earliest recorded, extant, dated stone arch bridges in the state are the Kingston Bridge, which crosses the Millstone River between Somerset and Mercer counties, and the Stony Brook Bridge, in Princeton Township, Mercer County. Its roadway supported by three arches, the Stony Brook Bridge was built in 1792 according to its date stone. The four-arched Kingston Bridge was built, according to its date stone, in 1798. The unusual expense in building these bridges is noted in the 1799 Somerset County freeholder minutes; both bridges were located within the original bounds of Somerset County (Kudless and Kudless 1977:148).

Other early extant New Jersey road bridges with date stones include the 1822 double-arched Opossum Road Bridge in Montgomery Township, Somerset County; the 1825 single-arched Cat Tail Brook Bridge in Hillsborough Township, Somerset County; and the 1860 triple-arched Miller Farmstead Old Turnpike Road Bridge in Mansfield and Lebanon Townships, Warren and Hunterdon Counties (McCabe 1976; Bertland 1987). Bonnie's Bridge, a single-arched structure in Cherry Hill Township, Camden County, is thought to have been built in the late 18th or early 19th century (Greenberg 1984). The Hope Bridge in Hope Township, Warren County, a single-arched structure, is thought to have been built early in the 19th century (Bertland 1976:154). And the Warrington Bridge in Knowlton Township, Warren County, which has an exceptional six arches, is thought to have been built during the second quarter of the 19th century (Bertland 1976:166; Karschner 1976).

Documentary evidence indicates that stone arch bridges were built in the state prior to the 1798 Kingston Bridge. For example, the freeholders of Somerset County ordered the construction of a 20-foot, single-arched, stone bridge in 1786, the first reference to a stone bridge in the county minutes, which do not begin until 1772 (Kudless and Kudless 1977:68). Whether there are earlier references to stone bridges in other documentary sources in the state has not been determined.

In northeastern Hunterdon County, across the Somerset County line, many of the small watercourses are spanned by stone arch bridges which appear to have been built late in the 19th and early in the 20th centuries. At least two of these bridges are dated: a single-arched, random rubble structure on Sawmill Road east of Mountainville, built in 1887; and a single-arched, random rubble structure that crosses the North Branch of Rockaway Creek on Mountain Road east of Mountainville, built in 1901. How widespread the construction of stone arch road bridges was in the state in the late 19th and early 20th century, particularly in its hilly northwestern counties, is not known.

Between 1825 and 1831 the Morris Canal was constructed in northern New Jersey, and between 1831 and 1834 the Delaware and Raritan Canal was constructed through central New Jersey, including Somerset County (Lee 1979:4; Gibson, Bauer, and Amon 1982). The locks and parts of the beds of these canals were built of stone and, where the canals had to cross stream beds, arched stone culverts, aqueducts, or bridges were constructed. Ephraim Beach, the engineer who built the Morris Canal, reported in 1835 that all of the canal's culverts and aqueducts were constructed of "stone masonry laid in water cement, except in cases where there was not sufficient space between the bottom of the canal to admit of stone arches...." Beach described the aqueduct at Little Falls, which carried the canal over the Passaic River, as a huge stone arch of 80-foot span. The canal's six dams were built of stone masonry as well and all 24 locks were made of stone laid in water cement (Kalata 1983:279). Unfortunately, the Morris Canal has been filled and destroyed and little of it is visible or survives. The Delaware and Raritan Canal, however, remains largely intact. It has at least 16 surviving stone arch culverts, in addition to other stone features such as its locks, parts of its bed and walls, and a number of canal houses (Gibson, Bauer, and Amon 1982).

Stone arch bridges were also constructed in New Jersey in the mid- and late 19th centuries by railroad companies. In Somerset County, for example, the Central Railroad of New Jersey built, in the community of North Branch Depot, a single-arched bridge in 1848 and a five-arch bridge in 1852 (DeLeuw, Cather and Co. 1991; Upper Raritan Watershed Association 1981:form 1805-41). The stone bridges built by the Pennsylvania Railroad during the two decades following 1887 included, in New Jersey, the 21-span bridge across the Raritan River at New Brunswick and the 18-span bridge across the Delaware at Trenton (Plowden 1974:31).

3. Somerset County

a. Historical Background

Somerset County is located in the northern portion of central New Jersey. It lies almost entirely within the state's Piedmont region; only its northwestern corner lies outside of the Piedmont, in the New Jersey Highlands. The county has a gently undulating topography at its north and northeast that gradually flattens in the southeast. The Highlands region at its northwest, the Watchung ranges at its center and northeast, and the Sourland Mountains at its southwest constitute its steepest upgrades. It is primarily watered and drained by the Raritan River system, which includes the Raritan River and its North and South branches, and by the Millstone River. The Raritan and its branches pass through its center and northeast; the Millstone runs through its south central municipalities (Kirkham 1976:110; Schmidt 1973:15; Upper Raritan Watershed Association 1981:VI-1-2, V-1-2; Wacker 1975:5-6). These watercourses necessitated the construction of bridges, where roads or railroads had to span them, or culverts, where they had to be channelled beneath the Delaware and Raritan Canal.

Red shales and sandstones, which are typical of New Jersey's Piedmont, underlie the county (Upper Raritan Watershed Association 1981:V-1; Schmidt 1973:13). The county's stone bridges are primarily built of these argillaceous stones (also argillite and quartzite).

Somerset County was created in 1688. It was not divided into townships until the last half of the 18th century, which suggests that it was sparsely populated up to that time (Snyder 1969:12, 221-227). The first non-native settlers in the county were New Englanders, English, Scotch-Irish, Germans, and Dutch. (The term Dutch must be viewed broadly in the county, for the Dutch settlement included Dutch, Walloons, French Huguenots, and others). Also included in its early population were Africans, who were transported to the region as slaves. Despite this diversity of ethnic groups, the county quickly developed concentrations of these nationalities in fairly distinct areas. The Dutch and Germans generally tended to settle in the areas to the south of the Raritan River, though the Germans were far less numerous than the Dutch and more widely distributed. The New Englanders, English, and Scotch-Irish settled primarily in the northern sections of the county. The black population was concentrated in the south where the Dutch, who were often slaveholders, predominated. Most of the very limited stone construction in the county - of buildings as well as bridges - took place in its southern half, particularly to the southeast in Montgomery Township. Whether this was connected with the Dutch-settlement

ethnicity of the inhabitants there, or to the proximity of the stony Sourlands, is not known (Wacker 1975: 147, 174, 214, 413-414; Frakt 1967:12-14, 20).

In the early 1830s there was a large influx of Irish into the southern townships of the county. They had a significant influence on the stone architecture of the county, for they built the stone structures of the Delaware and Raritan Canal, including its stone arched culverts (Historic Sites Survey Team 1971; Gibson, Bauer, and Amon 1982:6).

Somerset County's development has always been closely connected to its transportation network. Each improvement in the network left its mark on the county and on its bridges. The county's 18th- and early 19th-century transportation network was dominated by roads and some traffic along watercourses. Horse-drawn wagons, as well as river sloops, transported both goods and people during this period, and stagecoaches became a prevalent means of travel. In 1825 steamboats began running from New Brunswick to New York, transporting goods from Somerset County and elsewhere. With the construction of the Delaware and Raritan Canal in the 1830s through the county, steamboats had another route to ply, transporting both goods and people. The railroads, however, soon took over most of the canal's business (Haussamen 1984:4-5). The 20th century has seen the railroad supplanted by the automobile, much as the canal was eclipsed by the railroad; in a sense, Somerset County's transportation network has come full circle, making roads once again the dominant method for the transportation of people and goods. Coupled with the county's rapidly increasing population, suburbanization, and proximity to expanding urban areas, the automobile and the truck have put an increasing burden upon the county's earliest stone arch bridges, its road bridges.

The construction by the county of expensive stone road bridges during the late 18th and early 19th centuries reflected its economic and population growth. The county's population more than quintupled during the 18th century; between 1726 (the earliest census figure) and 1790 alone it climbed from 2,271 to 12,296 (Wacker 1975:413-415). This growth is also reflected in the construction in the 1830s and the mid-19th century of stone culverts and bridges by the Delaware and Raritan Canal and the Central Railroad.

The construction of the Delaware and Raritan Canal and the development of railroads in Somerset County took place almost concurrently, although the railroads proved to be much more successful than the canal and ultimately drove it out of business. The canal was chartered in 1830, as was the Camden and Amboy Railroad Company, and these became a joint company in 1831. Despite two cholera epidemics - which took the lives of many of its Irish builders -

and its time-consuming stone construction, the canal was built in four years. Approximately 15 of its 44 miles cut through the county. The canal was closed in 1933. The state of New Jersey took it over shortly thereafter, utilizing its water supply and, in 1970, designating it a state park. Still the most significant and substantial piece of stone construction in the county, the canal is the source of the majority of the county's stone bridges, or culverts. It is listed on the National Register (Haussamen 1984:6; Historic Sites Survey Team 1971; Snell 1881:109).

Five major rail lines were established in Somerset County in the 19th century (Research & Archaeological Management 1989c:32-34). The first major railroad to enter the county, and the most influential in its history, was the Central Railroad of New Jersey. Operating as the Elizabethtown and Somerville Railroad Company, it first extended into the county in 1840 when it reached Bound Brook (Haussamen 1984:1, 134; Lane 1939:384-385; Snell 1881:110-112). The mid-19th century, single-arched and five-arched stone railroad bridges in the community of North Branch Depot were both built by the Central.

Well into the 20th century the county was primarily agricultural. From virtually the beginning of its settlement, its farmers had produced agricultural yields sufficiently high to allow them to sell their surplus to local markets (Research & Archaeological Management 1989c:36-38). These products, along with people and with goods from outside of the county, passed over the stone bridges and culverts of its roads, canal, and railroads. The late 18th- or early 19th-century stone bridge in the community of Bridgepoint in Montgomery Township is clearly connected with agricultural activity; it is located next to an early gristmill, at a location which had supported mills prior to 1801 (Brecknell 1976:18).

b. Stone Arch Bridges

In Somerset County, as elsewhere in New Jersey, few stone arch bridges were built in the late 18th and early 19th centuries. The first reference to a stone arch bridge in the county minutes appears in 1786, when the freeholders ordered the construction of a 20-foot, single-arched, stone bridge (Kudless and Kudless 1977:68). (Because of fire and other losses, the county minutes from earlier than 1772 do not survive and it is not known whether any stone bridges were built prior to that time (Kudless and Kudless 1977:II).) A small number of stone arch road bridges are mentioned in the minutes and fewer yet survive. More common, according to the minutes, was the construction of timber, or stone and timber, bridges. The construction of the Delaware and Raritan Canal led to the building of a number of stone arch

culverts in the county in the early 1830s, and the Central Railroad of New Jersey constructed a few stone bridges in the 1840s and 1850s.

The construction, repair, or inspection of bridges is mentioned on almost every page of the freeholder minutes between 1772 and 1822; over 130 are mentioned by name. Bridges were perhaps the county's major expense. Although the material of every bridge was not identified, the vast majority of those with identified materials were built at least in part of wood. With the exception of the small number of stone arch bridges discussed below, stone was used almost exclusively only for pillars and abutments.

The small number of stone bridges built in Somerset County was due at least in part to their expense. This expense is explicitly mentioned in the freeholder minutes. For example, in 1781 the freeholders ordered a bridge built at Millstone with stone abutments and three stone piers "Provided always, and it further agree.[d], that If ye Managers Shall find that the Getting of Stone from the Quary of John Vanderveer is attended at too Great an Expence, in the Case they are Directed to Build Said Bridge of Timber" (Kudless and Kudless 1977:34). In 1799 the freeholders petitioned the state legislature for money to help defray the costs of building the stone arch bridges at Stony Brook and Kingston (Kudless and Kudless 1977:148).

In the minutes the freeholders ordered numerous bridges to be built partly of timber and partly of stone. For example, in 1781 the freeholders ordered a bridge built across the "New Shannick River" with "Stone Abuttments and one Stone Piller and the Sleepers Not to Exceed thirty foot." If the shorter sleepers from the predecessor bridge were found to be sound, the bridge was to be built with two pillars rather than one (Kudless and Kudless 1977:35). In 1786 the freeholders ordered a bridge built across the Lamington River "with one Stone pillar in the Channel, and two good Butmans to Consist of Sound White Oak Timber..." (Kudless and Kudless 1977:67). And in 1795 they ordered that the "Shanneck bridge" be rebuilt, "the butmans and pillars to be of stone, and to be raised one foot higher than the old bridge was. The sleepers, bearers, and plank to be of white oak, the plank to be two and a half inches thick..." (Kudless and Kudless 1977:109).

The freeholder minutes between 1772 and 1822 refer to ten or eleven stone bridges in the county, all specifically called arch bridges and all apparently road bridges. The first three mentions were in the late 18th century: the 1786 single-arched bridge, the extant 1792 Stony Brook Bridge, and the extant 1798 Kingston Bridge (Kudless and Kudless 1977:68, 92, 126-127). The fourth mentioned bridge, which may have also dated from the 18th century, no

longer survives. A stone arch bridge in Bound Brook, it was repaired in 1806 and again in 1818 (Kudless and Kudless 1977:210, 290).

The greatest period of stone arch bridge building in the 50 years covered by the transcribed minutes occurred between 1819 and 1822. In 1819 the freeholders of Franklin and Montgomery Townships were directed to inspect two arched bridges under construction (Kudless and Kudless 1977:294). In 1820 the freeholders of Montgomery were ordered to inspect an arch bridge that was "too low." This was probably one of the bridges mentioned in 1819 (Kudless and Kudless 1977:303). Also in 1820 two freeholders of Franklin and Montgomery were ordered to direct repairs of a stone arch bridge (Kudless and Kudless 1977:300). In 1821 an arch bridge was ordered built over the Raritan River near Somerville to replace a chain bridge (Kudless and Kudless 1977:307, 309). High water and ice damage caused an estimated $4,740 to county bridges in early 1822 (Kudless and Kudless 1977:314). This may have led to orders in August of that year for the repair of an arch bridge on the application of a Hillsborough Township freeholder and for the rebuilding "by Stone Arch" of a damaged bridge in Montgomery (Kudless and Kudless 1977:314).

It is not clear which, if any, of the county's surviving stone arch road bridges - the Kingston Bridge excepted - are included in the list above. The National Register-listed, single-arch Cat Tail Brook Bridge is not one of them; it has a date stone of 1825. One or more of the five stone arch bridges extant in Montgomery Township may be included in the minutes, but are not possible to identify. One, the double-arch Opossum Road Bridge which crosses Bedens Brook north of the Georgetown and Franklin Turnpike, has a marker dated 1822. Whether it is the damaged bridge ordered rebuilt in that year is not known.

The other four Montgomery bridges are: the triple-arched Bridgepoint Bridge in the Bridgepoint Historic District; the double-arched and open span Rock Brook Bridge; the single-arched Bedens Road Bridge, which crosses a branch of Bedens Brook just east of Province Line Road; and a single-arch bridge with a brick liner at Township Line Road just west of River Road. They are not dated and, with the exception of the Rock Brook Bridge, it is not known when they were built. The triple-arched bridge appears to date from the end of the 18th or the early 19th century. The single-arched bridges may well date from as late as the final quarter of the 19th century. The Rock Brook Bridge was constructed in 1825, its builder H. Hageman. Following a "tremendous rain" in 1891, one of its three arches was replaced with a flat span (Somerset Messenger-Gazette 1931).

The canal era of the second quarter of the 19th century came to Somerset County between 1831 and 1834 with the construction of the Delaware and Raritan Canal. This led to another brief boom in stone bridge construction in the county. The canal had to cross a number of watercourses which were diverted through culverts. Of its at least 16 surviving stone arch culverts, 12 are in Somerset County. Most if not all of these culverts, which allow small streams to pass beneath the canal, are now under water. Most of these culverts are apparently single-arch structures. However, a three-arched culvert was built to divert the Six Mile Run under the canal in the community of Blackwells Mills in Franklin Township. About a mile and a half to the south, another three-arched culvert was built to divert the Ten Mile Run beneath the canal. Culverts at the border of South Bound Brook and Franklin, and at Mile Run in Franklin, have two arches. The National Register-listed canal is maintained as a water source and a state park, and its culverts and other features remain largely intact (Historic Sites Survey Team 1971; Gibson, Bauer, and Amon 1982).

The railroad brought additional stone arch bridges to the county in the 1840s and 1850s. Two such bridges survive near the community of North Branch Depot in Branchburg Township. A single-arched, brick-lined bridge was built by the Central Railroad of New Jersey over Dumont Creek in 1848. Just to the east, over the North Branch of the Raritan, the Central built a massive five-arched, coursed-ashlar bridge in 1852.

c. Stone Construction

Stone has never been a popular building material in Somerset County. Almost all residences, from the earliest to the present, were built of frame. Even chimneys were built of brick rather than stone. Stone was only used extensively in the 18th and 19th centuries for foundations. A small number of the county's oldest structures - houses dating from the early to mid 18th century - are of stone. Most of these houses were apparently built by Dutch-settlement farmers. They include the Jacob Ten Eyck House in Branchburg, thought to have been built between 1725 and 1733; the circa 1752 Dirick-Gulick House in the community of Zion in Montgomery, and the nearby Hendrik Stryker House, probably built around the same time (Research & Archaeological Management 1989c:71). Some, however, like the 1752 Johannes Mellick House in Bedminster, were built by Germans (Research & Archaeological Management 1989c:78).

These stone houses, as well as a modest number of small outbuildings, were located throughout the county. However, the largest number of stone structures - whether house,

outbuilding, or stone wall - are located in Montgomery Township (Research & Archaeological Management 1989c:262-274). Six stone houses still stand in the township: the Dirick-Gulick and Stryker Houses; the circa 1765 Richard Stout House; a dated 1817 one-room house; the dated 1846 W. Burroughs House; and the stuccoed J. Weart House. Stone also forms the dated 1808 former Mountain Schoolhouse. Stone outbuildings, most notably springhouses and wellhouses, are also found in the township - in small numbers but more than elsewhere - as well as dry-laid stone walls. Most of the outbuildings, as well as the walls and houses, are located in or near the rocky Sourlands. All of these stone buildings are built of local stone, laid roughly and randomly.

Any connection between the stone bridges and Dutch building practices is tenuous, even though most of the county's stone structures are found in Dutch-settlement areas. They are more clearly connected to proximity of stone. Five of the seven surviving stone arch road bridges in the county are located in Montgomery Township, in or near the Sourlands; a sixth, the Cat Tail Brook Bridge in Hillsborough, is also located in the Sourlands. The other stone bridges in the county - the railroad bridges and the canal culverts - likely have little or no connection with local ethnic building traditions or even necessarily with the availability of local stone, for they were built by well-financed outsiders.

ASSOCIATED PROPERTY TYPES

I. Name of Property Type Stone Arch Bridges

II. Description

Late 18th- and 19th-century stone bridges in Somerset County are of stone-arched construction. Ranging from one to five arches, they are found at roads, railroads, and the Delaware and Raritan Canal. They are primarily built of local argillaceous stones. The road bridges and canal bridges are built of random rubble, the canal bridges generally more finely constructed. The earlier road bridges are built out of larger, rougher stones than the ones that appear to have been built late in the 19th century. These latter bridges are built of shallower, large, rectangular stones. The most finely built of the county's bridges are those of the Central Railroad of New Jersey, which are of coursed-ashlar construction. All of the county's bridges are more functional than ornate, almost entirely lacking in decorative elements.

The oldest stone bridges in the county are five arched road bridges. The earliest of these is the Kingston Bridge, which crosses the Millstone River between Somerset and Mercer Counties at the Lincoln Highway. A four-arched structure, it was built, according to its date stone, in 1798. It is listed in the National Register as part of the Kingston Mill and Delaware and Raritan Canal historic districts. The 1822 Opossum Road Bridge, which crosses Bedens Brook north of the Georgetown and Franklin Turnpike in Montgomery Township, is a double-arched bridge. The 1825 Cat Tail Brook Bridge in Hillsborough Township has a single arch. Two other bridges, both in Montgomery Township, are similar in appearance to these three dated bridges: the triple-arched Bridgepoint Bridge, likely built in the late 18th or early 19th century and the Rock Brook Bridge, erected in 1825 (Somerset Messenger-Gazette 1931).

Two single-arched road bridges, both in Montgomery Township, appear to date from the last, rather than the first, quarter of the 19th century. The Bedens Road Bridge is constructed of shallower rectangular blocks of stone than those discussed above and Bedens Road was not surveyed until 1872 (Somerset County Road Returns, Book C, p. 242). It was therefore likely built after that date. The Township Line Road Bridge is similar in form to the Bedens Road Bridge, although it has lost its parapet walls. Built of large stones, many of which are rounded, it has a brick liner at its single arch. It also appears to have been built late in the century.

The county's canal and railroad bridges are more finely constructed than the road bridges. The canal's culverts are built of larger, squarer stones than the road bridges, more regularly laid. Twelve culverts channel small streams under the canal in the county, most of them apparently single-arched structures. At least two, however, have three arches - one at Six Mile and one at Ten Mile Run in Franklin Township - and at least two have three arches - one at the border of South Bound Brook and Franklin, and one in Franklin at Mile Run. All of these bridges were built between 1831 and 1834.

The two finest stone bridges in the county - constructed of heavy rusticated stones laid in regular courses - were built by the Central Railroad of New Jersey in the mid-19th century in the town of North Branch Depot in Branchburg Township. A brick-lined single-arched bridge was built by the Central in 1848 contemporaneously with the extension of the rail line to White House, New Jersey. A massive, coursed-ashlar, five-arched bridge built of large rusticated stones across the North Branch of the Raritan was constructed by the Central in 1852. It is the largest and finest stone bridge in the county (DeLeuw, Cather and Co. 1991; Upper Raritan Watershed Association 1981:form 1805-41).

All of the county's stone bridges have been adapted for modern use, particularly the road bridges, which are the most heavily trafficked. Two of the road bridges - the Rock Brook Bridge and the Township Line Road Bridge - do not have parapet walls, but rather modern guardrails. The Rock Brook Bridge also had one of its three arches replaced by a flat span following a storm in 1891 (Somerset Messenger-Gazette 1931). All of the road bridges have metal guardrails at their approaches and asphalt roadways, and all have been remortared in places with modern cement-based mortar. Most of these changes were the result of regular maintenance of functional structures, and all of the county's bridges retain their integrity.

## III. Significance

Somerset County's early stone bridges are significant under National Register Criterion A for their engineering, for they represent a type, period, and method of construction. They are rare survivors of a rare form. Few stone bridges were built in the county, and few are known to have been built in the state, during the late 18th and 19th centuries. Few of those bridges survive. The county's surviving stone bridges are representative of those built elsewhere in the county and the state. They are stone arch bridges, ranging from one to five arches. They were primarily built of local materials, presumably mostly by local masons.

The county's bridges represent three major bridge uses - they support roads, railroads, and a canal. The plainly finished road bridges were erected with one, two, three, and four arches. They were built from the late 18th to the late 19th century, the major period of stone arch bridge construction in the county and the state. The road bridges represent the first major stage of growth of the county's transportation network, the development of roads with reliable watercourse crossings. The canal culverts represent the second key component of the county's developing early transportation network, the 1831-1834 Delaware and Raritan Canal. They also remain the largest surviving number of stone culverts of any county in the state, at the state's only surviving major canal. The railroad bridges stand as the third major element of the county's early transportation network. Built by outside money, as were the canal culverts, they are the most finely crafted of the county's surviving stone bridges. One of them, which has five arches, is the largest stone bridge in the county. The bridges range from the plainly but neatly built, random rubble road bridges, to the more finely laid canal culverts, to the coursed-ashlar railroad bridges.

The road bridges are representative of local engineering, stone-laying, and design, for they were almost certainly built by local masons. The nature of their masonry suggests a possible shift in the way stone was laid in the county from the beginning to the end of the 19th century. Built of local stone, the road bridges are among the few surviving stone structures of any type built in county in the 18th and 19th centuries and are therefore significant as examples of that method of construction. The railroad bridges and canal culverts are more finely built structures, the coursed-ashlar railroad bridges being particularly noteworthy. They represent the bridge-building and stone-laying methods of professional, non-local masons and engineers.

## IV. Registration Requirements

The Somerset County stone arch bridges which survive today are in only a fair state of preservation; consequently, registration requirements should reflect their history of modification and repair. To qualify for registration, Somerset County stone bridges must meet the following requirements:

1) The bridge must have been erected within the period of significance (1786-ca. 1890).

2) The original stonemasonry of the arches, the associated spandrel and headwalls, and the abutments must be intact; however:

a) if multiple arches are present, only a majority of them must remain

b) the bridge may have been widened on one side, provided that the arch or arches were extended in kind and the new spandrels, headwall, and abutments replicate the original

c) original parapet walls need not survive; they may have been replaced with modern guardrails or rebuilt with modern capping

d) repointing is acceptable, as are areas of masonry construction, provided that rebuilt areas match the original in stone color, size, and coursing; repointing need not match the original.

Because of their similarities and rarity, the same requirements should be applied to all bridges, whether road, railroad, or canal (the canal culverts are already listed on the Register as part of the Delaware and Raritan Canal).

GEOGRAPHICAL DATA

Boundaries of Somerset County, New Jersey

SUMMARY OF IDENTIFICATION AND EVALUATION METHODS

The multiple property listing of stone bridges in Somerset County, New Jersey, grew out of an architectural inventory of Somerset County directed by Marvin A. Brown, with the assistance of Andrew Cole, Karen Lang, and other staff members of the Cultural Resource Consulting Group (CRCG) - formerly Research & Archaeological Management, Inc. - of Highland Park, New Jersey. The inventory was conducted in two phases. The first phase, which lasted five months in 1988, covered ten of the county's municipalities. The second phase, which lasted eight months, covered the remaining eleven municipalities. Both phases were partially funded through two NPS Historic Preservation Survey and Planning Grants to Somerset County, administered by the Office of New Jersey Heritage. During the survey every road in the county was driven, and all identified significant structures were mapped, photographed, and inventoried. Following the fieldwork, brief histories and architectural histories of the county and of each of its municipalities were written, and recommendations of eligibility to the National Register were made. The multi-volume report of the survey is on file with the Office of New Jersey Heritage in Trenton. This report, particularly its histories and architectural histories, was used extensively in preparing this multiple property form and the accompanying individual nomination forms.

Among the inventory's recommendations was one that the early stone bridges of Montgomery Township be nominated to the Register as part of a multiple property listing. Somerset County decided to fund the preparation of such a multiple property listing and accompanying individual nomination forms, and CRCG was awarded the project. It was determined in the course of preparing the multiple property documentation form that the listing should be expanded to cover the entire county rather than just Montgomery Township. This was because there are so few stone bridges surviving in the county and because a broader multiple property form will be more useful if further individual nominations are pursued; not every stone bridge in the county that might be eligible to the Register is being nominated at this time.

To complete the multiple property documentation form and the individual nominations, the Office of New Jersey Heritage was visited to gather information on other recorded stone bridges in the state, particularly those already listed on the Register. General bridge histories, and histories of New Jersey's canals, were also consulted, along with general Somerset County histories. Local historians in the county, particularly in Montgomery Township, where the three individually nominated bridges are located, were contacted.

Additional fieldwork was also conducted. The county's stone bridges were revisited. (The Delaware and Raritan Canal culverts could only be viewed to a limited extent, because of the height of the waters they span; they are also already listed on the Register.) The Rock Brook Bridge, the Bedens Road Bridge, and the Opossum Road Bridge were studied in detail so that individual Register nominations for them (submitted with this multiple property nomination) could be completed. They were further photographed, researched, and inventoried, and were measured as well.

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