NJ HISTORIC PRESERVATION PLAN

HISTORIC CONTEXT

8

Early Industrialization, Urbanization and Agricultural Development

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Overview

AGRICULTURE

The economy of New Jersey in the late 18th century was still largely agricultural. Increasing demand for suitable agricultural land frequently resulted in the division of large farmsteads into smaller units, often to accommodate the needs of second and third generation family members. Prior to 1820, farmland had been tilled largely with hand tools or by turning a shallow furrow with a plow. By the 1830s, new machinery and "experimental" techniques using various fertilizers, such as marl, and better conservation practices, including crop rotation, were being tried to salvage over-used and worn-out soil. The serious interest in making land more productive, as opposed to the earlier practice of finding new land, led to increased communication of ideas among farmers, as well as to the introduction of new plants and animal breeds.

As experimentation occurred in agriculture, special purpose mills were built for the production of such products as

- Cider,
- Snuff,
- Linseed oil,
- Gypsum for plaster,
- Pasteboard, and
- Fulled cloth.

Ethnic and regional differences in farming practices as well as culturally distinct "vernacular" architectural styles began to disappear. By the 1830s, some farmers were allocating portions of their land for peach and apple orchards. For the first time, horticultural nurseries where supplying shrubs and plants to a growing city market interested in landscaping city parks, cemeteries and open spaces. The rural population in New Jersey reached its peak by the mid-19th century.

EARLY INDUSTRY

The development of industry in New Jersey had a dramatic effect on settlement throughout this period. A very early industry centered around local sawmills, which supplied cut lumber to settlers using frame construction in their buildings. The first sawmills were not much more than a wooden shed covering a framed pit saw. Later sawmills operated with one or more vertical blades worked by a crank that revolved on the end of a horizontal axle attached to a water wheel. Commercial exploitation of New Jersey's woodlands continued for a long time where permanent clearance did not take place. This is especially true in the Pinelands of southern New Jersey, where large quantities of white cedar were shipped to New York, Philadelphia and to such places as the Caribbean.

Bog Iron

The exploitation of bog-iron and iron ore deposits became one of New Jersey's most important colonial industries, rivaling Pennsylvania as a producer of pig-iron by the late 18th century. ***Tinton Falls Ironworks,*** in Monmouth County, became the state's earliest iron producing facility in 1675 and coincided with the opening of magnetite and hematite mines in Morris, Bergen and Sussex counties. By the mid-1800s there were as many as 30 furnaces in operation in South Jersey. ***Batsto Village*** would eventually become the largest iron producing industrial community in the Pine Barrens. Other iron production facilities include Atsion, Andover, Long Pond, Speedwell, Ringwood and ***Oxford Furnace*** in Warren County, where several significant innovations in 19th century iron smelting technology were first utilized.

Fulling Mills

Another early industry in colonial New Jersey was the operation of water-powered fulling mills, which developed as an outgrowth of agrarian wool production and home weaving. Handwoven woolen cloth was not immediately suitable for the tailor's scissors until

it had been fulled, dyed, tented (spread on a frame to dry), napped, cropped with hand shears, and finally pressed.

The fulling process consisted of placing the cloth in a large trough of water and detergent — soap usually consisted of a fine non-plastic clay called "fuller's earth" or, in some cases, stale urine! The cloth was then pounded with large wooden mallets. This continuous pounding eventually shrank the cloth to half its original size and entangled the fibers to give it a "felted" appearance. After fulling, the cloth weave became extremely tight — increasing the fabric's longevity and resistance to weather. Fulling mills could process pieces of cloth measuring up to 17 yards long and 6 yards wide, far out pacing what could be processed in the home.

Between 1677 and 1780, 60 different fulling mills are known to have operated in New Jersey. In 1830, they reached their maximum number of 72, declining thereafter and replaced by woolen factories.

Tanning

Tanning was a trade that began shortly after the arrival of the early settlers in New Jersey. The first tanning was done by the farmers themselves, but specialization soon took place and tanning was established as a separate trade. The tanyard of the 18th century was made up of a number of oblong wooden boxes sunk into the earth near a stream for use as tanning vats. An early 19th century tannery in Gloucester County was described as containing a

- House;
- Outhouses;
- Vats and handlers;
- Limes;
- Pools and bates;
- A convenient shop; and
- Mill house.

Glassmaking

An important industrial development in southern New Jersey in the 18th and 19th centuries was glass production. A glass blowing facility was located in Gloucester County as early as 1779. Glassmaking was a diverse operation and demanded a number of different operations and support structures. A Salem County operation was described in 1781 as a "manufactory consisting of all the necessary ovens for cooling the glass and drying wood etc. ... and two flattening ovens in separate houses, a Store-house, a Pothouse, a house fitted with tables for the cutting of glass, and at a considerable distance, ten houses for the workmen."

Boat-building

Early 19th century boat-building became a major south Jersey industry centered around the communities of Greenwich, Mauricetown, Millville and Bridgeton. The construction of traditional boat designs indigenous to New Jersey includes the Sea Bright Skiff, Barnegat Sneakbox and Garvey. Other common boat design constructed was the schooner, which would later play a critical role in New Jersey's late 19th and early 20th century oyster industry.

S.U.M. and the Great Falls of Paterson

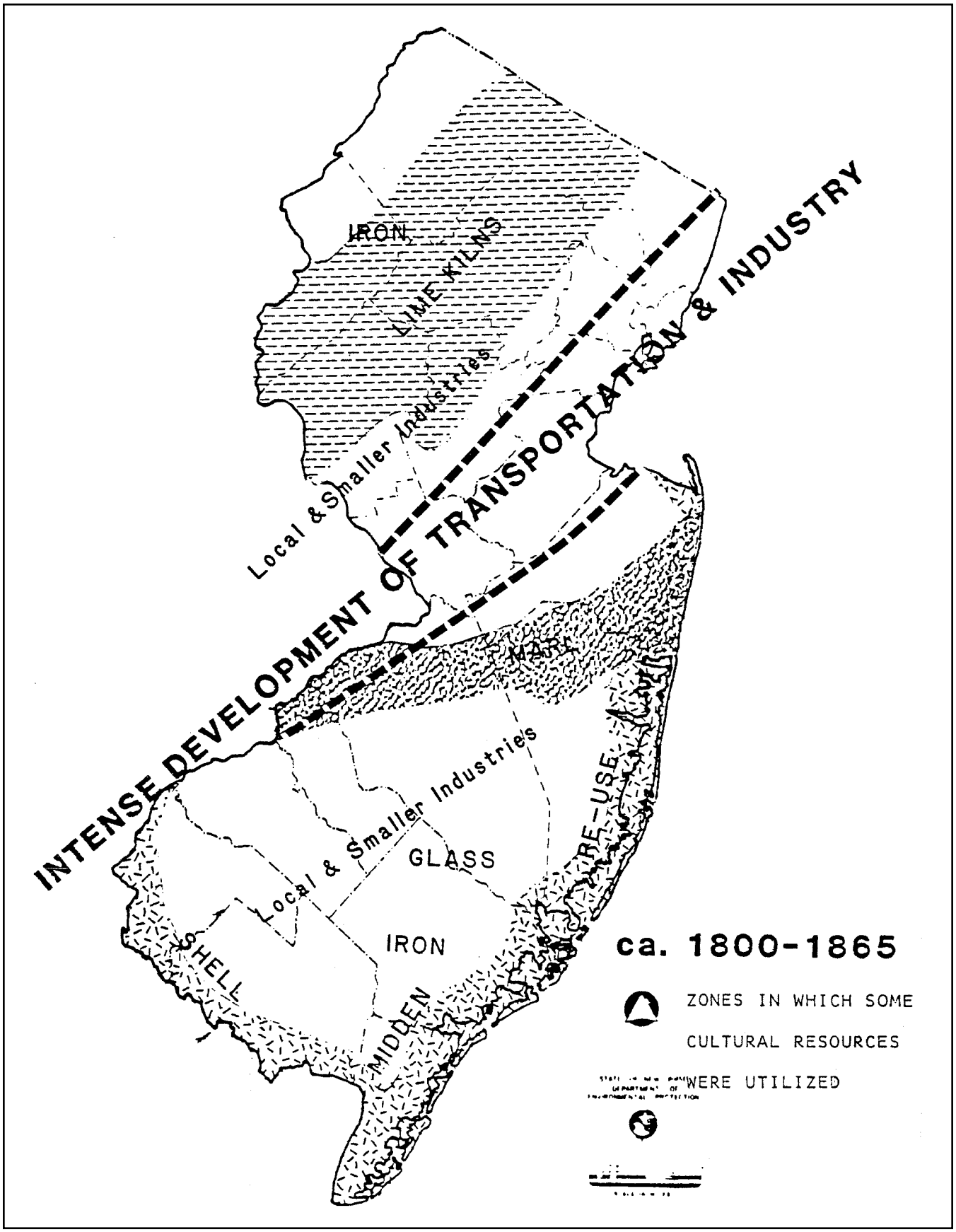
One of the State's earliest industrial communities in Paterson, where British mechanics first arrived to work for the Society for Useful Manufactures and by 1792 had harnessed the ***Great Falls*** on the Passaic River to power their manufacturing facilities. Newark would also become an important center for industrial development in the early 19th century.

The first manufacturing in New Jersey was often conducted in small facilities rarely employing more than a few dozen individuals. By the 1860s, huge factories employing an aggregate work force of many thousands existed in

- Jersey City;
- Newark;
- Paterson;
- Trenton;

and in other less concentrated industrial locations where communities developed near

- Ironworks,
- Paper mills,
- Sawmills,
- Glass factories,
- Brick-making establishments, and
- Cotton mills.



MAP 1

ca. 1800-1865, zones in which some cultural resources were utilized. (Credit: NJHPO.)

TRANSPORTATION

The Industrial Revolution in New Jersey depended largely on the development of trans- portation systems. In the late 18th century, steamboats made their first appearance as a means to transport freight and passengers on New Jersey's navigable rivers. New Jersey's 18th century road system of private lanes, slightly larger local roads, and public "Great Roads" were supplemented by the construction of early 19th century turnpike systems. The existence of these routes had major effects on the locations of hundreds of inns and taverns and the growth of market towns. By the 1830s, New Jersey's canal and railroad systems created a transportation link between the two major urban centers of New York and Philadelphia, providing a network for the movement of raw materials and finished goods that eventually made New Jersey an industrial, commercial and agricultural power.

Canals

The first canal constructed in New Jersey was the Morris Canal, which operated from mid-1820s until World War I and was dismantled in the 1920s. The canal was the engineering marvel of its day, utilizing innovative technology including inclined planes powered by turbines. The second canal was the Delaware & Raritan, which operated from 1833 through 1933.

As with the turnpikes, the construction of canals, and railroads that were soon to follow, had a tremendous impact on the cultural landscape, creating small hamlets in the middle of agricultural country and doing much to further the growth of industrial centers like Trenton, New Brunswick, Newark and Jersey City.

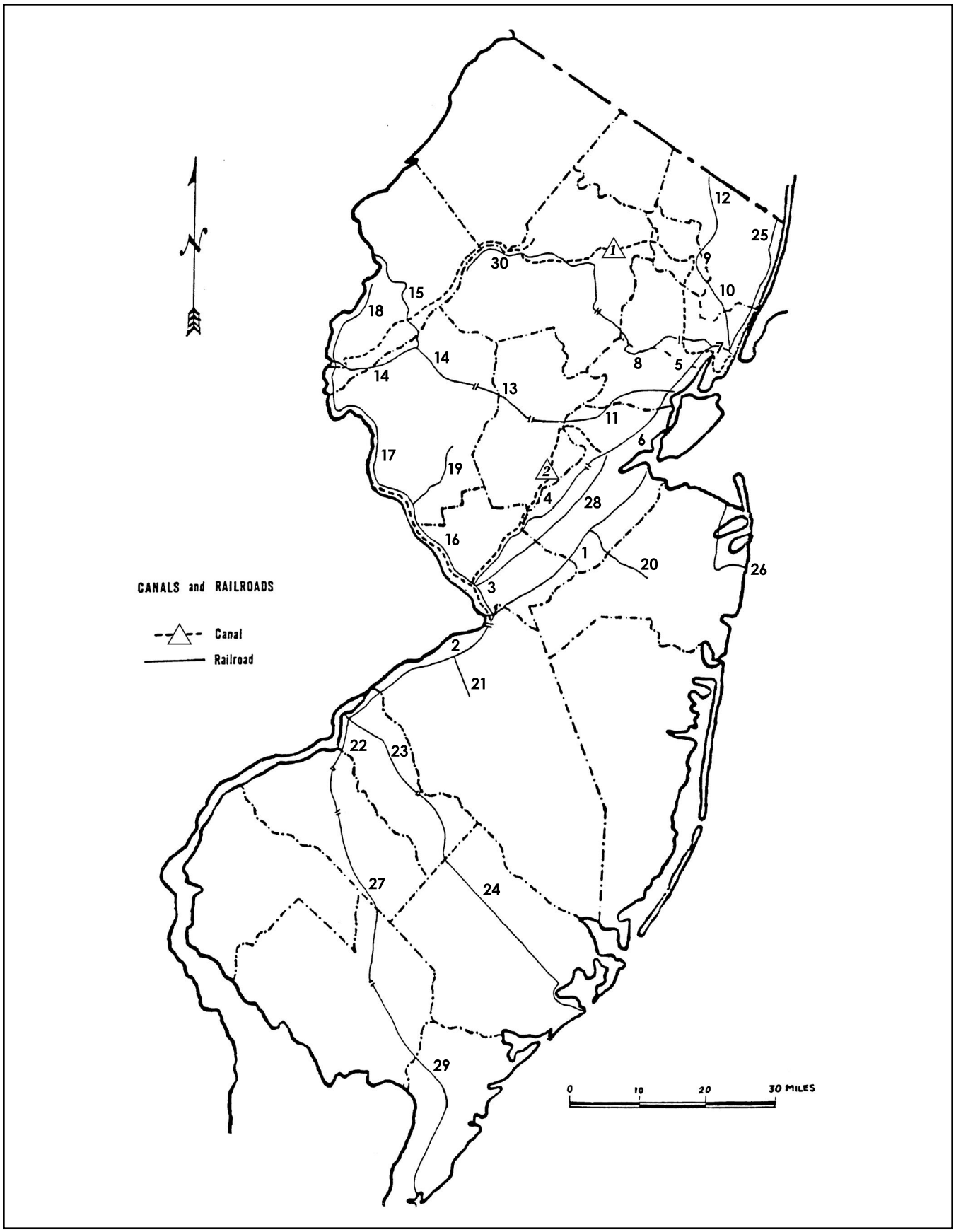
Railroads

Railroads in the western hemisphere effectively started in New Jersey. Two important innovations, the "T-rail" and wooden crossties, were developed on the first line to cross the state, the Camden and Amboy Railroad. These innovations were also used on the line between Bordentown and South Amboy via Hightstown in 1832. Numerous railroad, port, and canal "junction" towns became the locations for industrial and population growth.

Railroads had an overwhelming effect on the countryside.

- "Cut and Fill" engineering projects were constructed on an enormous scale,
- Valleys were spanned by huge causeways and bridges, and
- Long tunnels were built.

The railroads not only moved huge volumes of rock and soil for their own construction, they also provided a means for moving masses of material for industrial purposes, the least of which was coal.



MAP 2

Canals and Railroads (Credit: NJHPO; map markers updated 2024.)

KEY TO MAP 2

RAILROADS

No.	Railroad	Year(s)
1	Camden & Amboy, Section 1	1832-1833
2	Camden & Amboy, Section 2	1834
3	Camden & Amboy, Section 3	1838
4	Camden & Amboy, Section 4	1839
5	New Jersey	1835
6	New Jersey	1836
7	New Jersey	1834
8	New Jersey	1838
9	Paterson & Hudson	1832
10	Paterson & Hudson	1833
11	Elizabeth & Sayreville	1840s
12	Paterson & Ramapo	1848
13	Somerville & Easton	1848
14	Somerville & Easton (later, Central Railroad of New Jersey)	1852
15	Warren (Later, Delaware, Lackawanna & Western)	1856
16	Belvidere & Delaware (Camden & Amboy)	1851
17	Belvidere & Delaware (Camden & Amboy)	1854
18	Belvidere & Delaware (Camden & Amboy)	1855
19	Flemington	1854
20	Freehold & Jamesburg	1853
21	Burlington & Mount Holly	1849
22	West Jersey	1857
23	Camden & Atlantic	1853
24	Camden & Atlantic	1854
25	Northern Railroad of New Jersey (later, Erie)	1859
26	Delaware & Raritan Bay	1860
27	Millville & Glassboro	1860
28	Camden & Amboy Double Line (all Camden & Amboy, Pennsylvania railroad after 1871)	1865
29	Cape May & Millville	1863
30	Morris & Essex	1836

CANALS

No.	Canal	Year(s)
1	Morris	1829/1836
2	Delaware & Raritan	1834

Editor's note: For a comprehensive discussion of railroads and canals in New Jersey as of 1860, consult *Canals and Railroads of the Mid-Atlantic States, 1800-1865* by Christopher Baer, published by Regional Economic History Research Center. Eleutherian Mills-Hagley Foundation, Diamond Printing Company, Wilmington, Delaware, c.1981.

EDUCATION

In the early 19th century, there were two "colleges" in New Jersey which are now known as Princeton and Rutgers. There were no public schools and very few intermediate institutions. The introduction of widespread public education, often expressed in the "one-room schoolhouse" and the expansion of many private "academies" and "finishing schools," occurred by the mid-19th century. Hundreds of such schoolhouses were built in rural areas.

SUMMARY

The typical New Jersey landscape of the late 18th and early 19th century consisted primarily of very small towns in a predominantly rural setting with the average family living on a farm separated by fields from the next farm family.

Architectural Styles and Development

Common architectural styles favored the symmetrical trends of the Federal Period and would later be influenced primarily by Greek Revival architecture in residential, religious and public buildings. The last officially recognized group of Delaware Indians sold their community at ***"Brotherton"*** and moved out of state, although a few scattered people of aboriginal stock would remain.

Rural to Urban Shift

By the 1850s, New Jersey had started to become more urban than rural. The ancestry and origin of the population changed substantially during this period. At the end of the 18th century, the people of New Jersey were primarily Anglo-American stock with large minorities that had German, Dutch or Scottish backgrounds. By the 1850-60s, substantial European immigration had already occurred, starting with the Irish in the 1820s through 1840s, and followed by northern Germans, many from cities rather than farms, in the mid-19th century. The nature of population density was shifting from very diffuse to more urban and concentrated.

Selected Properties

Associated with Context #8 and Categorized by Property Type

1. RESIDENTIAL

Residential examples include a continuation of popular vernacular forms and floorplans, often detailed with decorative elements borrowed from higher architectural styles of the period. Federal Period architecture is common early in this context and is later supplemented by Greek Revival, and to a lesser degree Early Gothic and Romanesque Revival styles. The residential property type is the largest property category for this context and represents approximately 60% of all Context #8 properties listed in the Registers.

A. ***Collings-Knight House*** — Collingswood, Camden County.
B. ***Hunter-Lawrence House*** — Deptford Township, Gloucester County.
C. ***Barrow Mansion*** — Jersey City, Hudson County.
D. ***Douglass House*** — Trenton City, Mercer county.
E. ***Gristmiller's House*** — Cranbury Township, Middlesex Co.
F. ***Shippen Manor*** — Oxford Township, Warren County.

2. AGRICULTURAL

Agricultural examples primarily include farmsteads that represent the agricultural history of the community or region. These properties usually contain a residential dwelling, often vernacular in appearance; and a number of ancillary structures associated with the operation of the farmstead, including barns, smokehouses, corn cribs, stables, etc. Agricultural examples represent approximately 5% of all Context #8 properties listed in the Registers.

A. ***Croft Farm*** — Cherry Hill Township, Camden County.
B. ***Longstreet Farm*** — Holmdel Township, Monmouth County.

3. COMMERCIAL

The commercial property type category includes hotels, inns, taverns, restaurants, commercial districts, etc., and are considered rare for this time period. Commercial properties represent less than 3% of all Context #8 properties registered.

A. ***Deserted Village of Feltville*** — Berkley Heights Township, Union County.

4. INDUSTRIAL

This property category includes industrial properties that represent the history of industrial processing and/or manufacturing and includes such facilities as sawmills, grist mills, plaster mills, linseed oil mills, iron furnace locations, etc. Industrial facilities represent approximately 4% of all Context #8 properties listed in the Registers.

A. ***Allaire Village Bakery*** — Wall Township, Monmouth County.
B. ***Long Pond Iron Works*** — West Milford Township, Passaic County.
C. ***Batso Village*** — Washington Township, Burlington County.

5. GOVERNMENT

This property category includes public facilities such as courthouses, post offices, city halls, prisons/jails, etc. Examples are uncommon for this time period and represent only 2% of all Context #8 properties listed in the Registers.

A. ***Ocean County Courthouse*** — Dover Township, Ocean County.

6. EDUCATION

Education facilities include buildings associated with colleges and/or universities, libraries, schoolhouses, etc. Educational facilities with strong integrity are very uncommon from this time period and represent only 3% of all listed Context #8 properties.

A. ***Newton Union Schoolhouse*** — Haddon Township, Camden County.
B. ***Classical School (The Academy)*** — Bernards Township, Somerset County.

7. RELIGIOUS

Religious properties make-up the second most common property type from this period and represent 18% of all listed Context #8 properties. Examples include churches; church related structures such as residences and schools; and cemeteries.

A. ***Dutch Reformed Church & Green*** — Hackensack City, Bergen County.
B. ***"Old Swedes" Church, Swedesboro*** — Gloucester County.
C. ***St. James Episcopal Church*** — Edison Township, Middlesex County.
D. ***Christ Church*** — New Brunswick City, Middlesex County.
E. ***First Presbyterian Church*** — Springfield Township, Union County.