3.0 HISTORIC RESOURCE SURVEY

3.1 Methods

3.1.1 Field Methods

The England House, an eighteenth century brick residence, was listed in the NRHP in 1972 under Criterion C as "a handsome example of an 18th century Millowner's home." In 1983, the NRHP nomination was amended and the boundary increased to include, in addition to the house, a related frame mill building known locally as Red Mill and two ancillary frame structures. All are located on the east side of Old Red Mill Road. In the course of scoping the sidewalk project, the question was raised whether a frame house located on the west side of Old Red Mill Road was related to the mill complex. In order to answer that question, Skelly and Loy's historian viewed the project area in December 2001. Exterior and interior 35 mm black and white photographs of the frame house were taken at that time, as were exterior photographs of the other historic buildings. Interviews were also conducted with Richard Field, owner of the England House, and with the tenants who rent the frame house. In April 2002, additional exterior as well as interior photographs of Red Mill were taken.

3.1.2 Background Research Methods

Following the initial fieldview, background research was undertaken to ascertain whether the frame house was related to the mill complex. Repositories consulted included the New Castle County Recorder of Deeds office and the Delaware Historical Society in Wilmington, the New Castle County Tax Assessment Office in New Castle, the University of Delaware's Morris Library in Newark, and the Delaware Public Archives in Dover. The research proved that the frame house, called the Wilson House, was related to the mill complex. As a result, Skelly and Loy recommended that the NRHP boundary should be amended to include the house. The Delaware SHPO agreed with the recommendation, but also requested a further amendment to the NRHP nomination form to include contextual

information on milling in New Castle County. Research on milling was conducted at the Morris Library and the Hagley Museum and Library in Greenville.

3.2 Historical Overview and Contexts

3.2.1 Milling in New Castle County

Gristmills were among the most important, and first established, industries in rural economies. Settlers of New Sweden erected gristmills prior to 1650. The number of gristmills greatly expanded following the 1655 seizure of New Sweden by the Dutch (Weslager 1970:52-58). Mill building accelerated at an even greater pace under the proprietorship of William Penn and his family (Weslager 1970:59). At least one mill was operating on a tributary of the Brandywine River in what is now Wilmington by 1687 (Pursell 1958:5).

New Castle County abounded in good mill seats located along fast-flowing streams that tumbled from the Piedmont down to Delaware's Coastal Plain. The county's fertile soil was ideal for growing grain, particularly wheat. New Castle County formed part of America's earliest "wheat belt," an area running from New York to Virginia. These Middle Atlantic colonies quickly gained a reputation as "America's Breadbasket" (Pursell 1958:4). Blessed with these advantages, gristmills (and other mill types) sprang up along the waters of the Brandywine, Red Clay, Mill, Pike, and White Clay creeks (Pursell 1958:1). New Castle County developed into one of the most important mill centers in the colonies. The county, by the early eighteenth century, was a major exporter of flour, with the chief markets in the West Indies, as well as fellow colonies and two provinces in Quebec (Kuhlmann 1929:20-22).

New Castle County's chief milling center was Wilmington, located between the Christina and Brandywine rivers. Mills appeared on the Brandywine as early as 1729, and considerable water power had developed by 1742. The Brandywine mills developed into merchant mills, or mills that produced large quantities of grain and feed (as well as other products) for export (Welsh 1956:5). "Well constructed mills" also developed along the Red Clay, White Clay, and other creeks (Welsh 1956:5). Some mills, particularly those on Red Clay Creek, were merchant mills like those on the Brandywine (Pursell 1958:6-7). Other

mills were custom mills, or mills that ground grains for local farmers, with mill owners generally receiving a portion of the flour or feed as payment. Merchant and custom mills differed only in size and purpose. The mills of New Castle County were described, in 1799, as "the most important industrial sources of wealth in the state" (Pursell 1958:1-2).

Wilmington and New Castle County's importance as a flour milling center continued into the nineteenth century. An 1819 statistical abstract noted that "the mills on Brandywine creek, and Redclay and Whiteclay (*sic*) creeks, manufacture half a million of bushels of flour annually, employing upwards of 600 workers" (Pursell 1958:9). A census released the following year noted that gristmills in New Castle County trailed only textiles in the market value of the finished products (Heite 2000:4). However, flour milling's relative standing in Delaware's economy had actually begun declining with the War of 1812. Faced with an embargo on British imports, existing millers and other entrepreneurs began manufacturing in greater number such items as cotton and woolen goods, iron, snuff, and spices. Existing gristmills, located on some of the best mill sites in New Castle County, were razed or had their machinery removed to make room for new equipment (Pursell 1958:10-11).

Flour milling remained a large source of revenue and employment in New Castle County through the Civil War. In the years following the war, gristmilling in New Castle County, particularly merchant milling, became threatened by competition from the Midwest. The vast expanses and rich soil of the Midwest proved ideal for grain growing. The development and completion of a transcontinental railroad system in the post-bellum years made rapid and large-scale shipment of grains and finished mill products possible and affordable. Flour mills no longer needed to be located close to the sources of production and distribution. Large-scale milling centers developed at railroad hubs or along the Great Lakes, in such cities as St. Louis, Milwaukee, Minneapolis-St. Paul, and Buffalo (Kuhlmann 1929:73-92).

Technological changes, collectively called the "New Process," also assisted the Midwest in its rise to primacy and market dominance. Midwest millers introduced the purifier, which used air blasts and moving sieves to more easily separate the wheat bran from the "middlings," a glutinous mass next to the husk. The middlings could then be ground into a high quality flour, significantly increasing the amount of flour yielded from the grain (Kuhlmann 1929:115-118). Midwest millers, borrowing a concept from European gristmills, also began replacing millstones with rollers. The rollers, initially made of

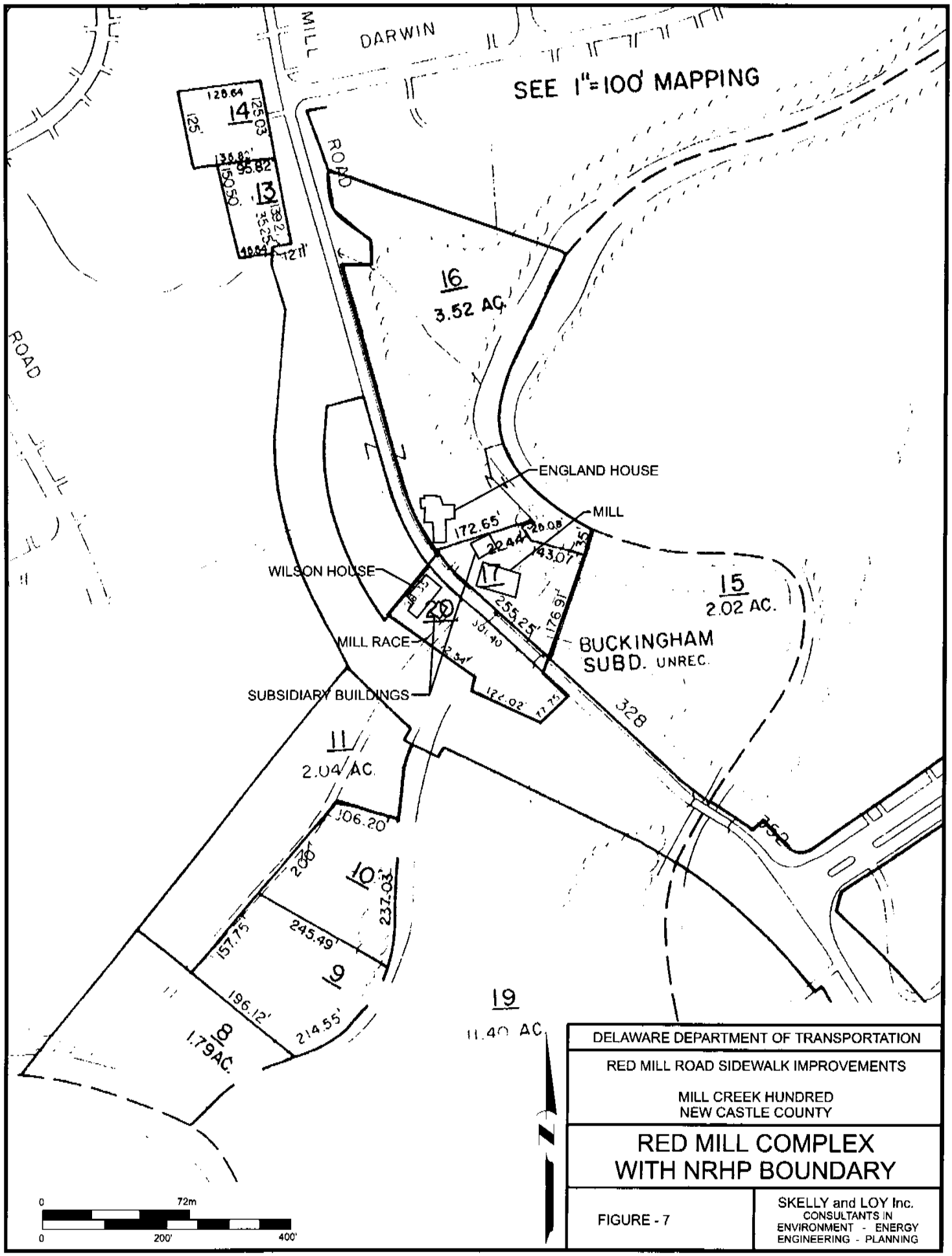
porcelain and then of chilled steel, did not crush the wheat husks the way millstones did, making the process of separating the middlings from the husks easier. Rollers also produced less heat than millstones, lessening discoloration in the flour, and required less space, power, and oversight to operate. Given the greater efficiency, rollers increased the flour yield from a given quantity of wheat (Kuhlmann 1929:122).

Concurrent with the opening of large-scale Midwest farms and the technological improvements in milling, inheritance divisions were shrinking the size of farms in Delaware, causing some farmers to abandon Delaware. The nature of farming in the First State also changed, with a movement away from grains and a greater emphasis on dairying and beef cattle. New Castle County, and particularly Wilmington, became much more industrial in nature, especially in the second half of the century (Herman *et al.* 1989:11-12, 15-16). With fewer farmers and farms growing grains, the need for gristmills, custom or merchant, shrank. Those that remained adopted tenets of the New Process in hopes of improving efficiency. The changes altered America's agricultural dynamic. The mantle of "America's Breadbasket" shifted from the Mid-Atlantic to the Midwest. New Castle County gristmills, once the most famous in America, shifted their emphasis to a more local and regional market.

3.2.2 The Red Mill Complex

The Red Mill complex consists of three major buildings – the England House, a brick residence; the England Mill, also known as Red Mill, a frame mill; and the Wilson House, a frame residence – as well as two subsidiary structures (Figure 7). The England House, Red Mill, and the subsidiary structures are all previously listed in the NRHP.

The England House, the original residence associated with the property, was built in stages. The original portion was built *ca.* 1726 by John England, the owner of a 600 acre tract on the north side of White Clay Creek near Muddy Run. He reputedly built the first gristmill and dam on the site. In 1747, his brother, Joseph, apparently added the second portion (Delaware State Historic Preservation Office 1972, 1983), either for his family or for the miller operating the mill. Joseph's son, Joseph, Jr., built the earliest extant portion of the existing mill, the lower portion, in 1789. The date is etched into the fieldstone foundation. The England family would hold onto the property until 1839, when it was sold



DELAWARE DEPARTMENT OF TRANSPORTATION

RED MILL ROAD SIDEWALK IMPROVEMENTS

MILL CREEK HUNDRED
NEW CASTLE COUNTY

RED MILL COMPLEX WITH NRHP BOUNDARY

FIGURE - 7

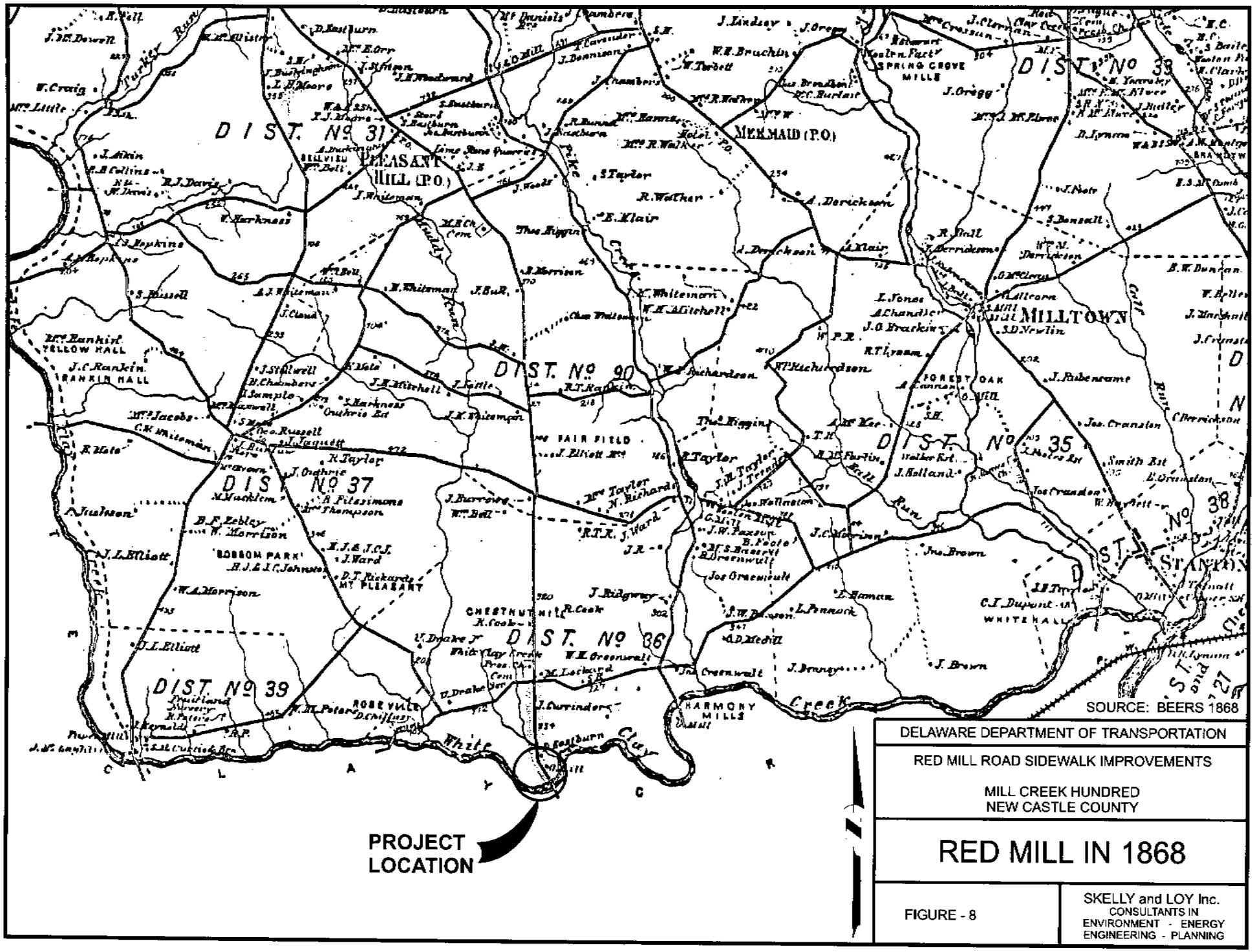
SKELLY and LOY Inc.
CONSULTANTS IN
ENVIRONMENT - ENERGY
ENGINEERING - PLANNING

to David Eastburn. The Eastburn family kept the house until 1972 (Delaware State Historic Preservation Office 1972, 1983).

David Eastburn sold Red Mill, the mill seat, water power, and 17 acres of land in 1870 to Joseph Oliver and Charles Allen (New Castle County Deeds 1870a:F-9/61). Oliver and Allen sold the mill in the same year to Rathnell Wilson of Philadelphia (New Castle County Deeds 1870b:Y-9/201).

Once David Eastburn separated the mill tract from the rest of the property, subsequent millers needed a place to live. Rathnell Wilson apparently began construction of the frame Wilson House in 1876. This date is etched into the plaster of the basement wall. It is not clear whether the house was completed in 1876. Wilson's tax assessment for 1873-1877 lists only the 17 acres and the frame mill (New Castle County Tax Assessments 1877). His 1877-1881 tax assessment includes the land, mill, and the frame house (New Castle County Tax Assessments 1881). The Wilson House also appears on an 1881 map of New Castle County (G.M. Hopkins & Company 1881), but not one from 1868 (Beers 1868). The 1881 atlas and a subsequent atlas (Baist 1893) incorrectly attribute the house to David Eastburn (Figures 8, 9, and 10). The house became the home of all subsequent operators of Red Mill.

In 1876, Rathnell Wilson sold the house, mill, and 17 acre parcel to Edward R. Wilson of White Clay Creek Hundred for $5,500 (New Castle County Deeds 1876:T-10/341). Wilson held the property until 1881, when it was purchased by Thomas W. Jones (New Castle County Deeds 1881:X-11/201). Jones built the taller section of the mill and retrofitted the building with rollers and a water turbine (Scharf 1888:924). The house subsequently had a variety of owners, including the grandson of the England House's David Eastburn. Frank H. Buckingham, a miller, purchased the property in 1925 (New Castle County Deeds 1925:N-33/157). The Buckingham family would operate the mill until about 1965 (Dr. Field, personal communication 2001). They would own the house and mill until 1991, when the present owner acquired the property (New Castle County Deeds 1991:1165/32).



SOURCE: BEERS 1868

DELAWARE DEPARTMENT OF TRANSPORTATION

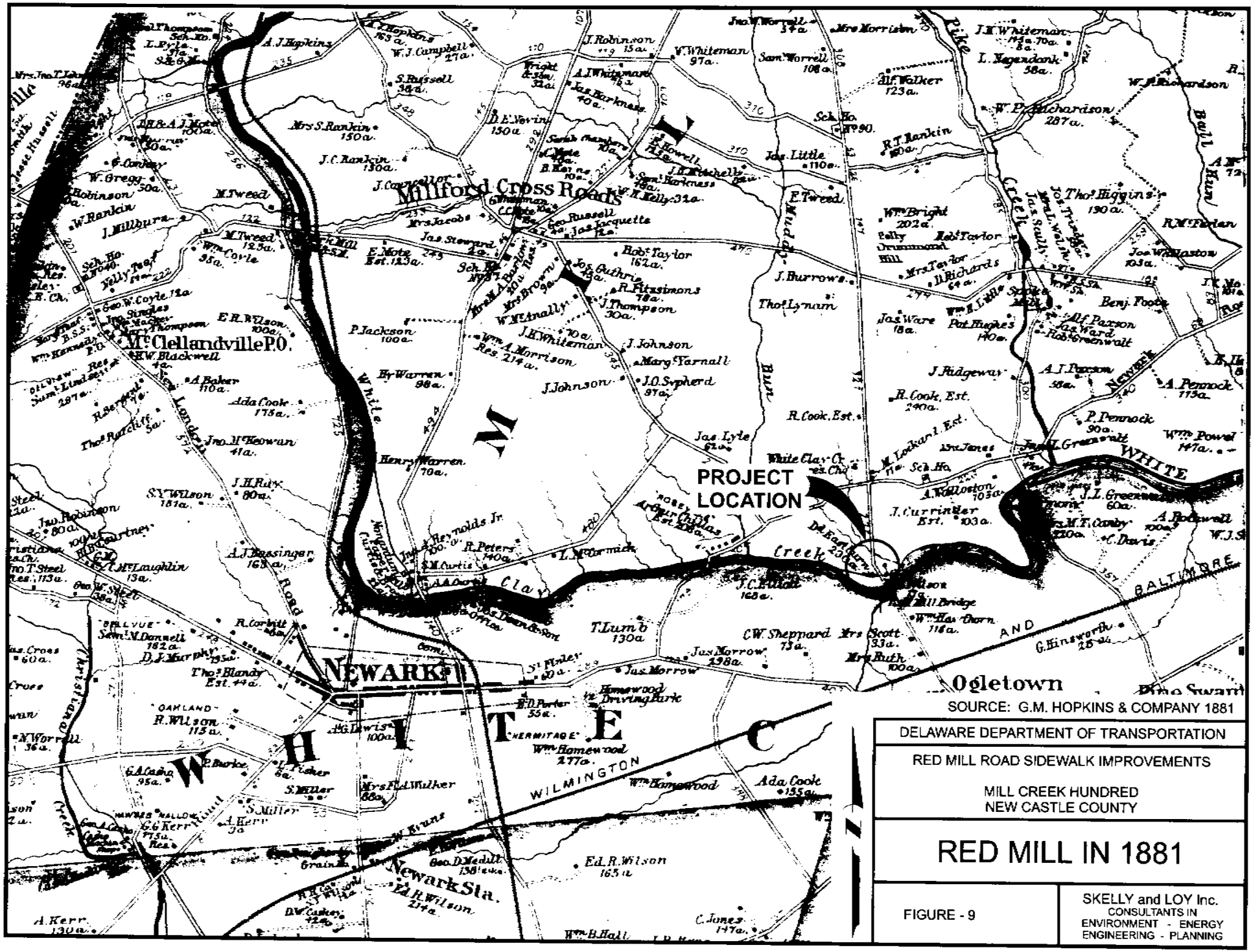
RED MILL ROAD SIDEWALK IMPROVEMENTS

MILL CREEK HUNDRED
NEW CASTLE COUNTY

RED MILL IN 1868

FIGURE - 8

SKELLY and LOY Inc.
CONSULTANTS IN
ENVIRONMENT - ENERGY
ENGINEERING - PLANNING



SOURCE: G.M. HOPKINS & COMPANY 1881

DELAWARE DEPARTMENT OF TRANSPORTATION

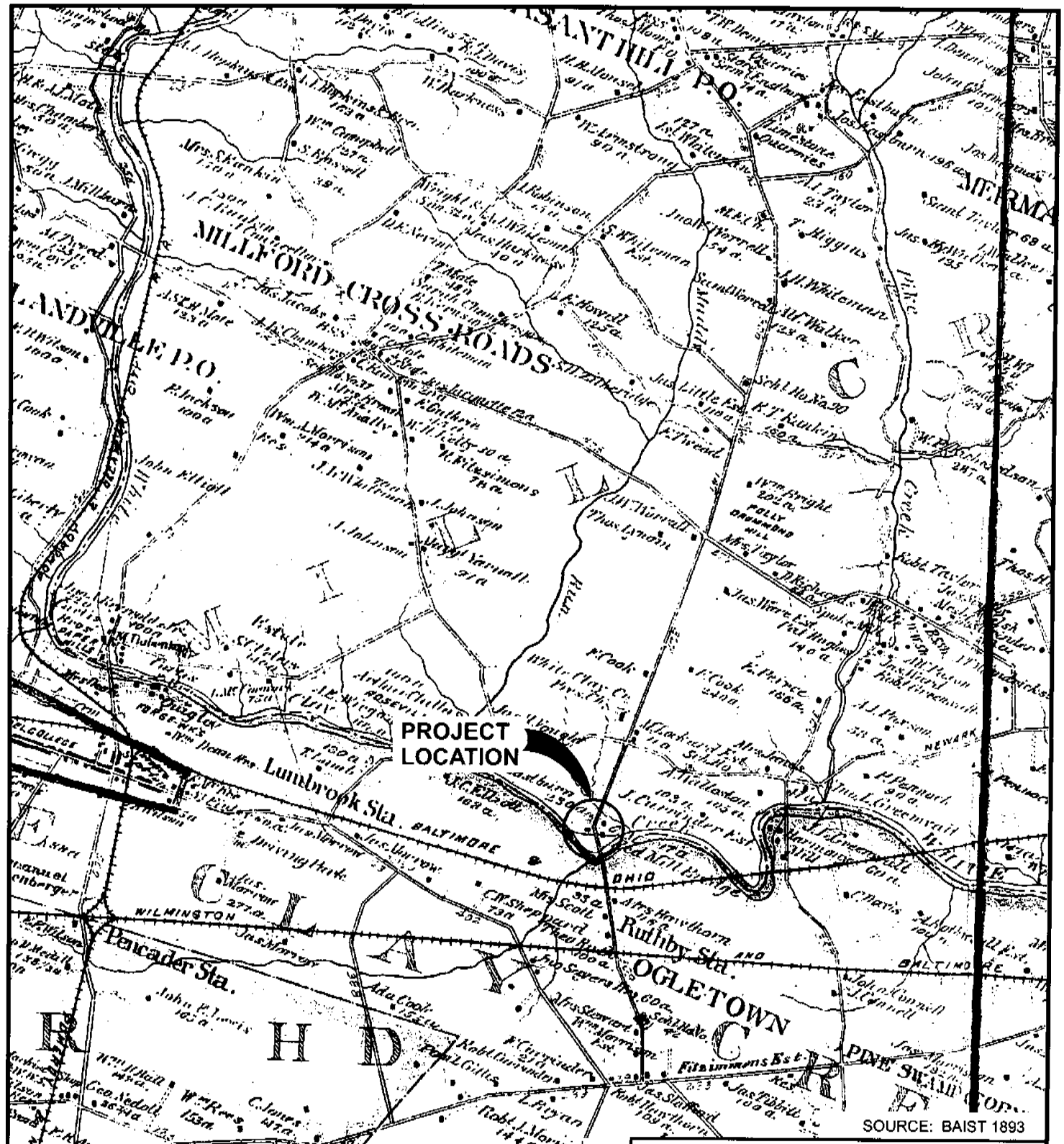
RED MILL ROAD SIDEWALK IMPROVEMENTS

MILL CREEK HUNDRED
NEW CASTLE COUNTY

RED MILL IN 1881

FIGURE - 9

SKELLY and LOY Inc.
CONSULTANTS IN
ENVIRONMENT - ENERGY
ENGINEERING - PLANNING



DELAWARE DEPARTMENT OF TRANSPORTATION

RED MILL ROAD SIDEWALK IMPROVEMENTS

MILL CREEK HUNDRED
NEW CASTLE COUNTY

RED MILL IN 1893

FIGURE - 10

SKELLY and LOY Inc.
CONSULTANTS IN
ENVIRONMENT - ENERGY
ENGINEERING - PLANNING

3.2.3 Red Mill in Operation

The record indicates that throughout its history, Red Mill operated at times as a merchant mill and at times as a custom mill. The first concrete reference to Red Mill is an 1804 New Castle County tax assessment, which lists Joseph England, III as proprietor of "one merchant mill and one saw mill" (quoted in Heite 2000:3). The reference to England's mill as a merchant mill indicates that England was selling flour for export.

The 1820 industrial census is, unfortunately, incomplete, and provides no information on Red Mill and limited information on industries in Mill Creek Hundred. The McLane Report, an 1832 survey of American manufacturers, noted that of the 20 New Castle County gristmills that reported founding dates, 15 were established after 1820. The other five were older mills occupying prime mill seats. Five gristmills were located along White Clay Creek. Two were specifically referred to as merchant mills. The other four, including Red Mill, were called gristmills, implying that they were custom mills (Heite 2000:4, 7).

David Eastburn, who purchased the England property in 1839, apparently leased Red Mill. He does not appear as a proprietor of a gristmill in the 1850 or 1860 industrial censuses of Delaware (Bureau of the Census 1850, 1860). In 1870, as noted above, Eastburn sold the mill and a 17 acre tract of land to Joseph Oliver and Charles Allen. According to Scharf (1888:924), Oliver and Allen operated the mill until it was sold to Edward R. Wilson. Oliver and Allen appear in the 1870 industrial census as the proprietors of a gristmill in Mill Creek Hundred, presumably Red Mill. One of four flour and feed mills in Mill Creek Hundred, Red Mill apparently operated as both a custom and a merchant mill, using an 18 horsepower waterwheel to power one set of Burr millstones. Red Mill employed one hand, who was paid $300 per year. The mill ground wheat, other grain, and grist into flour and feed, and had a total capacity of 20 barrels per day (Bureau of the Census 1870).

Deed records indicate that Edward R. Wilson purchased the mill tract in 1876 and sold it to Thomas Jones in 1881. Neither name is present in the 1880 industrial census, indicating again that the mill was probably leased (Bureau of the Census 1880).

From its founding until Jones's ownership, the mill was powered by a waterwheel. According to one source, the wheel was an undershot wheel (Works Progress

Administration 1938:454). According to Scharf (1888:924), in 1887 Jones replaced the waterwheel with a more efficient water turbine and adopted the purifier and rollers of the New Process, in order to increase efficiency. Reputedly, the changes doubled horsepower and capacity (Scharf 1888:924; Works Progress Administration 1938:454). The taller portion of the mill building, which sits directly over the millrace, dates from this period. The turbine, although no longer connected to the milling equipment, is still present in the millrace.

Red Mill today contains bolters and a purifier from the late nineteenth century. A roller is present in the building, but it is no longer in place. A pair of millstones and the metal mill crane are located in the 1789 section of the building. It is not known from when they date.

According to oral histories, the last millers, the Buckingham family, operated Red Mill as a custom mill for 40 years, between 1925 and *ca.* 1965. The Buckinghams ground corn, oats, and wheat on a limited schedule (Dr. Field, personal communication 2001).

3.3 NRHP Eligibility of the Wilson House

The Wilson House is clearly related to the operation of Red Mill. It was the residence of Red Mill's millers from *ca.* 1876 until *ca.* 1965, when the last miller retired. Because it is an integral part of the complex, the NRHP boundary should be amended to include the house. The recommended NRHP boundary consists of the two tax parcels containing the England House, Red Mill, the subsidiary buildings, and the Wilson House, as shown on Figure 7 (L. Robert Kimball 1995). It also ensures that the millrace is also included within the boundary. The boundary includes a noncontributing resource, a former barn/granary that has been altered for use as a residence. The use of tax parcels as NRHP boundaries is consistent with the guidance contained in *National Register Bulletin 21: Defining Boundaries for National Register Properties* (National Park Service 1995). The boundary contains all resources that contribute to the significance of the Red Mill Complex. An amended NRHP Nomination Form for the England House and Mill is included in this report as Appendix B.