

United States Department of the Interior
National Park ServiceNational Register of Historic Places
Multiple Property Documentation FormNATIONAL
REGISTER

This form is for use in documenting multiple property groups relating to one or several historic contexts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. For additional space use continuation sheets (Form 10-900-a). Type all entries.

A. Name of Multiple Property ListingHistoric Mill-Related Resources of Liberty & Delaware Townships, Delaware County, Ohio**B. Associated Historic Contexts**Water-Powered Mills on the Olentangy River, c. 1804-1845Steam-Powered Mills on the Olentangy River, c. 1840-1896**C. Geographical Data**

The geographical area included in the historic context consists of Delaware and Liberty Townships within Delaware County

☐ See continuation sheet**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 for Planning and Evaluation.

Barbara Power

Signature of certifying official

7-17-91

Date

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.

Patrick Anders
Signature of the Keeper of the National Register10/3/91
Date

E. Statement of Historic Contexts

Discuss each historic context listed in Section B.

OVERVIEW

The following historic contexts will discuss the development of mill-related resources along the Olentangy River within Liberty and Delaware Townships, Delaware County, Ohio from c. 1804-1896. This geographical area is noteworthy as the location of the first white settlement and the first pioneer mill in Delaware County. Historic Context E.1. will describe the first mills built on the river powered by water from c. 1804-1845. Operated by farmers, these early structures processed grain and wood for local settlers functioning within an early settlement rural economy and were located on the owner's farm property. Historic Context E.2. will examine how technological innovations to mills in the form of steam power expanded operations and resulted in the construction of new mills or the enlargement of early mill structures from c. 1840-1896. The increased efficiency brought about with the introduction of steam power led to the development of new industries including paper and woolen production mills. The steam power period also saw the formation of mill "villages" which consisted of housing, a church, and general store for mill workers constructed by the mill owners. These later mill owners were industrial entrepreneurs, not local farmers who had owned the early water-powered mills. By 1896 the milling industry ended in Liberty and Delaware Townships due to a combination of financial losses through speculation and economic trends.

EARLY HISTORY OF PROJECT AREA

Delaware County is located near the geographical center of the State of Ohio. The Scioto River on the west side of the county and the Olentangy River in the east-central section are the principal drainage systems running north to south. The Olentangy River flows through low-lying alluvial soils near Delaware and rises above the streambed south of Stratford with banks dissected by ravines. These expose underlying rock strata including Ohio black shale and limestone. The rocky high banks of the Olentangy River made it a good site for construction of dams to control the river flow for early manufacturing purposes. (Source: Baskin, O.L., History of Delaware County, 1880, p. 166) The riverbed contained a series of small limestone quarries which were excavated for building materials. Many farm houses, barns, mills, and mill workers cottages were constructed using this local limestone.

Native American Settlement:

Before the arrival of white settlers to Delaware County, the area had been claimed by several historic native American tribes, among them the Iroquois

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(no known settlements), Delaware, Wyandot, and the Mingo. The latter established communities at the juncture of the Scioto and Olentangy Rivers and in present-day Delaware from c. 1765-1779. The Wyandots used the area for small seasonal hunting camps in the 1790s but left after the Treaty of Greenville opened Indian lands north of the Ohio River to white settlement (Source: Skinner, Shaune, "Phase I and II Cultural Resources Survey of the Proposed Willow Brook Christian Village, Delaware County, Ohio" p. 16)

Early Euro-American Settlement

White settlement in Delaware County was aided by the presence of a major north-south road which roughly followed the present U.S. Route 23. Reputedly an Indian trail during the pre-white settlement period, it became a supply route to Fort Meigs (near Perrysburg) during the War of 1812. In 1825 the road was chartered as the Columbus-Sandusky Turnpike. (Source: Baskin, p. 202). New settlers to Delaware and Liberty Townships migrated from states in the Mid-Atlantic, New England, and Virginia. Foreign countries were represented by settlers from Germany, England, Wales, and Ireland (see chart #1A-C).

Of the migrant population, the largest groups represented in the county were from the Mid-Atlantic states of Pennsylvania, New York, and New Jersey. The second largest migration came from the New England states of Connecticut and Vermont. The presence of large groups of settlers from the Mid-Atlantic and New England states is reflected in the building types found in rural Delaware and Liberty Townships. The Federal I-House was associated with Pennsylvania/German settlement, while the Greek Revival side hallway house can be found in areas settled by New England natives. Similarly the early barns associated with Mid-Atlantic settlers such as the English Three Bay and Switzer Forebay can be found in the project area.

The first settlement in Delaware County occurred in 1801 when Nathan Carpenter and Avery Powers arrived in Liberty Township from New York. Many early settlers acquired their land by purchasing land warrants from Revolutionary War veterans (Source: Baskin, p. 191). Delaware Township was first settled in 1807 and in the following year the town of Delaware was platted.

Historic Context E.1., Water-powered mills in Delaware and Liberty Township, c. 1804-1845.

IMPORTANCE OF MILLS TO EARLY SETTLEMENT

Water-powered mills played a vital role in the development of the local agricultural economy in every settlement. Farming, even in its earliest stages, was dependent upon market forces. (Source: Jones, Robert Leslie,

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History of Agriculture in Ohio to 1880. Kent State University Press, 1983, p.18) Far from being self-sufficient, a farmer depended upon grist mills to process raw materials cultivated on his farm. Mill owners were paid either in cash or received a percentage of the processed grain in return for the rendered service. (Source: Fleischmann, C.L., Trade, Manufacture, and Commerce in the United States of America, p. 153)

The necessity of mills was recognized by land companies in the eastern states selling acreage in the Northwest Territory to new settlers. In 1787 the Ohio Company offered special privileges, including free lots and land situated on a river conducive to milling, to farmers who would build a mill to serve the local farm population. (Garber, D.W., Waterwheels and Millstones: A History of Ohio Gristmills and Milling, Ohio Historical Society, 1970, p.9) The large number of grist and saw mills which were built on the Olentangy River corridor was a reflection of the local farmers' reluctance to travel a long distance to have his grain processed. Consequently, some mills were spaced three to four miles apart (Source: Garber, p.22).

The typical early mill owner was a farmer who learned the craft through an apprenticeship at an early age. Construction of mills required technical knowledge of their operations which could also be acquired through the aid of publications such as Oliver Evans' The Young Mill-Wright and Miller's Guide. Initially published in 1795, the book was printed through 15 editions by 1850 attesting to its usefulness (Source: Ibid., p.53). The early mill owner was usually a man of substantial income derived from farming who was able to buy land along a river with a suitable flow of water and able to invest in the construction of a mill as well as its machinery. Several early governors of Ohio owned and operated mills on their farms including Thomas Worthington, Jeremiah Morrow, Joseph Vance, and Mordecai Bartley (Source: Ibid., p.68).

The farms operated by mill owners in Delaware County reflected the agricultural practices common in the early to mid 19th century. Corn was the dominant crop followed by oats and wheat. Initially farms had few livestock, owing to the difficulty in transporting animals from the East over primitive roads. By 1860 two prominent mill owners, James Hinkle and George Bieber, had acquired small herds of swine and cattle (Source: Agriculture Census, 1860). The farm buildings associated with mill owners are typical of those found on prominent farms of the period. The most popular early house form was the I-House with Federal or Greek Revival detailing associated with affluent rural agricultural communities throughout the midwest. The barns on millowner farms consist of types preferred by settlers from Pennsylvania: the English Three Bay Barn (c. 1800-1920) and the Sweitzer Forebay Barn (c. 1830-1880).

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WATER-POWERED GRIST MILLS

The early water-powered grist mill was constructed to process grain, such as corn, wheat, and rye, for local farmers. The millstones used to grind the grain were arranged in pairs usually four feet in diameter. The millstones were expensive due to their size making it difficult to transport them over great distances. Consequently, many smaller mills operated with stone that was quarried locally. The most desirable type of mill stone was the "French burr," obtained from a quarry near Paris and made by joining quartz blocks with cement. Sources for millstones in America included quarries in Connecticut and Ohio (Reynolds, John, Windmills and Watermills, p.44). Many mills operating by the 1820s used burrstones brought by oxen-driven wagons from Redstone and Laurel Hill in Pennsylvania (Source: Garber, p.77). Improvements to the design of grist mills devised by Oliver Evans c. 1795 included an elevator with buckets to transport grain to the top of the building and a "descender" allowing the grain to drop at a controlled speed under its own weight (Reynolds, p.50).

The early water-powered mills derived their energy from falling water. The amount of water at a mill was thus linked to the head, or amount of water flowing downstream. The site of a mill included a dam that was built to aid or create a head. The level of power was variable since the amount of water coming down the stream was affected by rainfall and seasonal conditions. For example, a period of drought or sub-freezing temperatures could force a mill to shut down until conditions improved.

The type of waterwheel used in a mill was historically selected by determining the difference in the level of the incoming water and the existing water, or nominal head. A low head of water required the use of either an undershot or horizontal wheel. These impulse wheels depended on the force of rushing water which would power the mill by striking the blades, thus driving the wheel. Other mills had waterwheels that used gravity. Commonly called overshot or breast wheels, they functioned when the water fell into buckets making one side of the wheel heavier (see chart #2). Gravity would then drag the water weighted buckets down causing the wheel to rotate (Howard, Robert, "A Primer on Waterwheels," APT, Vol. XV, No. 3, 1983).

WATER-POWERED SAW MILLS

Much of Delaware County was covered by forests during the initial white settlement period (Source: Skinner, p.8). It is understandable, therefore, that saw mills would play an important role in the establishment of a community in the wilderness. Settlers relied upon saw mills to process lumber used to construct the first houses, commercial establishments, and churches.

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Oliver Evans' book, The Young Mill-Wright and Miller's Guide, published in 1795, describes a typical early water-powered saw mill that would be found in the American midwest (see illustration #3). The major components consisted of the following: a dam with a gate and sluiceway which lead the water to a planked penstock. The water would fall on to a flutter wheel. This wheel would drive the saw frame and move the carriage forward during each upward stroke of the saw. The carriage would be returned to its starting position by geared power from a tub wheel. A tailrace for wastewater completed the site. (Source: Old Mill News, Spring, 1988 and "A Reconstructed 18th Century Sawmill," Ohio Historic Preservation Office subject files)

EARLY WATER-POWERED MILLING OPERATIONS IN DELAWARE AND LIBERTY TOWNSHIP

Early water-powered saw and grist mills were prevalent in Delaware County during the initial years of settlement. The first mill in the county was constructed in 1804 by Nathan Carpenter along the Olentangy River in Liberty Township. It operated as a combination vertical saw/grist mill and, according to county histories, its production capacity was low. Carpenter was typical of the early mill owners in that he was a full-time farmer who probably was experienced with the operations of a mill. The burrs used in Carpenter's Mill were obtained by cutting out "large concretions, a geological formation that abounds in plentiful profusion in this section of the county." (History of Delaware County, Chicago: O.L. Baskin & Co., 1880, p. 422). The second grist mill in the county was constructed of logs on the west bank of the Olentangy River near the border of Liberty and Delaware Townships, c. 1807. It was started by John Beard who built a log cabin nearby.

On February 21, 1811, the Beard property, including the log grist mill, was purchased by Forrest Meeker, a native of Vermont. Meeker served in the War of 1812 with the Light Horse Company of the Ohio State Militia. This troop was employed as a raiding party and was called out for periods of service not exceeding 40 days. Meeker distinguished himself during the war and was awarded the rank of Colonel by the end of hostilities. During the war he maintained production of his mill grinding wheat for the army.

Like Nathan Carpenter and John Beard, Forrest Meeker was a mill owner who had derived his primary income from farming. He constructed a two story Federal style brick farmhouse between 1812-1820 on land near the mill. A large two story stone end bank barn was constructed in 1820. Meeker maintained the mill after the war and enlarged operations in 1829 to allow for wool production. In 1838 he sold the mill to Judges Hosea Williams and Caleb Howard but continued to farm full-time until his death on March 16, 1849 at the age of 80 years. Meeker was an enterprising and energetic man who became a leader within the community that was growing around his mill and farm. He donated land for the construction of a Methodist Episcopal Church in what was soon to be called Stratford and started a local school for the children.

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By 1820 there were three grist mills and five saw mills in Delaware County employing a total of 9 men at the saw mills (annual wage \$750) and 8 at the grist mills (annual wage \$1,865). Raw materials processed by the mills consisted of 1,975 saw logs and 6,492 bushels of grain. (Digest Accounts of Manufacturing Establishments in the United States and of their Manufactures, Washington: Gales & Seaton, 1823.) By c. 1840 there were ten water-powered saw and grist mills located on the Olentangy River in Delaware and Liberty Townships between the City of Delaware and at what is now Powell Road.

Historic Context E.2. Steam-powered mills in Delaware and Liberty Township, c. 1840-1896.

Historic Context E.2. will examine how technological innovations to mills in the form of steam power expanded operations and resulted in the construction of new mills or the enlargement of early mill structures from c. 1840-1896. The increased efficiency brought about with the introduction of steam power led to the development of new industries including paper and wool manufacturing mills. The steam power period also saw the formation of mill "villages" which consisted of housing, a church, and general store for mill workers, all of which were constructed by the mill owners. These later mill owners were industrial entrepreneurs, not local farmers who had owned the early water-powered mills. By 1896 the milling industry ended in Liberty and Delaware Townships due to a combination of financial losses through speculation and economic trends.

The 1840s marked a major transitional period in the history of milling as the waterwheel, which had been the primary power source for over 2,000 years, was rapidly being replaced by a new process, the steam turbine constructed of iron. The disadvantages of waterwheels included their large and cumbersome size, wood construction necessitating periodic replacement, and their inability to function in winter. By contrast, the steam turbines were smaller and easily transported from the foundry to the mill and tended to last longer due to low maintenance. Whereas a waterwheel could transfer approximately 60% of the available water-power to the mill machinery, the turbine was more efficient transferring 80-90%. (Source: Apps, Jerold, and Strong, Allen, Mills of Wisconsin and the Midwest, Madison, Tamarack Press, 1980, p. 26-28)

Turbines were encased in a vertical or horizontal shaft (see illustration #4). Water flowed through it developing velocity energy as impulses and reactions were set up between the flowing water and the passages. The two most common types of turbines in use by the 1840s were the reaction and impulse turbines. Reaction types completely filled with water which would then enter the shaft under pressure after a portion of its energy had been converted to velocity

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energy. Impulse turbines had to be partially filled with air. Water would enter under atmospheric pressure after all its energy had been converted to velocity energy. (Source: Becker, Carl M., "James Leffel: Double Turbine Water Wheel Inventor," Ohio History, Autumn, 1966, p.201)

INTRODUCTION OF INDUSTRIAL BUILDING TYPES

The introduction of steam turbines had an effect on the construction of mills after 1840. Obsolescence did not eliminate the wooden mill until almost the end of the 19th century. The nation's riverfronts, however, were transformed by incomparably larger fieldstone, brick, and granite industrial buildings. (Source: Rifkind, Carole, A History of American Architecture, p.260). Frame mills were susceptible to fires produced by sparks from overheated machinery. This was especially true in mills that utilized rags and pulp in the production process. Consequently, most mills built in the midwest after 1840 used brick or stone as the primary materials but retained thick wood plank floors dividing the interior. (Source: Breisch, Kenneth and Perrin, Noel, Mills and Factories of New England, New York: Henry N. Abrams, 1988, p.40) Other characteristics included multi-story configuration and a high window to wall ratio to maximize natural light.

In addition to providing greater security from fire, masonry was better equipped to sustain vibrations set up by machines in motion because of its greater density and weight. (Source: "The New Industrial Order: The Factory and The Factory Town," p.44) New masonry factories were built with a greater vertical emphasis so that machinery on each floor could be powered by a single vertical shaft. (Source: Breisch and Perrin, p.43) Segmented arched masonry window openings were characteristic of mid to late 19th century factory construction echoing the fashionable preference for Romantic architectural styles such as the Italianate (Source: Ibid, p.78) Arched doorways were also incorporated to provide greater loading access. (Rifkind, p.270)

STEAM-POWERED SAW AND GRIST MILLS

Beginning in the 1840s, innovations in American milling processes were having an impact on the development of that industry along the Olentangy River. Many water-powered saw and grist mills could not compete with steam driven mills. Some owners who could not afford to update their equipment were forced to shut down. Most early mills which continued to produce after 1845 were those which had been renovated with steam turbines. The saw and grist mill built by Nathan Carpenter in 1804 had changed ownership several times since 1830. It was known as the Foster Mills from 1837-1843 while it was owned by a Samuel Foster. From 1843-1847 it was operated by Elijah and Charles Gunn with

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William Jones under the name Gunn, Jones and Company. At this point the mill was converted from water-power to steam for the production of woolen goods, primarily blankets for a local market.

In c. 1834 a frame grist mill was constructed by Knapp and Glenn about a half mile north of the Carpenter Mill. Constructed as a water-powered mill, it combined grist and saw mill functions serving local farmers. The property was purchased c. 1845 by George Bieber, a native of Pennsylvania. The new mill owner settled on a section of land in Delaware Township purchased from Forrest Meeker in 1845 and constructed a farmhouse with agricultural outbuildings. This followed a pattern established by the first water-powered mill owners in the project area. Bieber's frame mill was operated using three employees through the 1880s. Its reliance on the river as its primary source of power, however, limited its production capacity. In 1865, George Bieber's son Henry took over principal ownership of the wood mill.

James Bieber, another son of George Bieber who entered the family milling business, recognized the advantages of steam power and made plans to replace the frame mill with a larger facility. He began construction of a massive five story limestone mill in 1873 which utilized a saw mill on the first floor. According to local histories published in the 1880s, Bieber's stone mill would, "be a first-class mill in every respect, the best, perhaps, in the county," with the addition of grist mill machinery.

STEAM-POWERED WOOLEN MILLS

The introduction of a woolen mill to the project area is an indication that local farmers were beginning to raise sheep, in addition to other livestock such as cattle and swine. Between 1830-1879, sheep raising became popular among Delaware County farmers. The number of sheep raised in the county surpassed the number hogs by the mid-19th century (Source: Rickey, Benjamin D. Company, Delaware County Historical Overviews, August, 1983) The grist and saw mill built in Liberty Township by Nathan Carpenter was converted to a woolen mill in c. 1843-1847 when it was purchased by Elijah and Charles Gunn with William Knapp. An apprentice who worked at the woolen mill from 1843-1847 was James Hinkle, the son of a local farmer who had migrated with his family from Pennsylvania.

The mill was later acquired by Hinkle, who had made his fortune in the California gold fields in 1852. According to county histories, he built a new limestone woolen mill as well as "a large and commodious stone house," (see illustration #5) nearby in 1857. (Source: Baskin, p.664) During the Civil War he received a contract to manufacture woolen blankets for the Union Army. According to the U.S. Census of Industrial Schedules dated 1870, the Hinkle Woolen Mill employed five males who were paid \$1200 for a year in

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wages. The number of men employed at the Hinkle mill indicates that this steam-powered mill was more complex than the early water-powered grist and saw mill which was run by one or two men.

The mill was in active operation for six months of the year, possibly an indication that production levels were falling, and processed 2,400 pounds of domestic wool at a value of \$2,500, creating 2,000 yards of fabric. Capacity of the mill averaged 200 pounds per day of operation. (Source: U.S. Census, Schedule 4., Products of Industry, Delaware County, 1870)

PAPER MILLING ON THE OLENTANGY RIVER

The increased efficiency and production capacity brought about through the introduction of the steam turbine made it possible for the introduction of paper manufacturing along the Olentangy River. Papermaking was first practiced by the Chinese as early as A.D. 105 by processing silk scraps. The first paper mill in America was constructed in Germantown, Pennsylvania in 1690 by William Rittenhouse. Paper manufacturing centers were established in New England in the late 1700s through the early part of the 19th century. Later they were located in the midwest where there was an abundance of water, raw materials, a labor pool, and transportation routes. The Olentangy River, which had featured a plethora of primitive pioneer saw and grist mills, represented an ideal location for an entrepreneur seeking to establish a paper company.

The introduction of paper milling represented a change in the relationship of the milling industry to local agriculture. Grist, saw and woolen mills were linked to the rural economy because they processed local agricultural products as commodities. Paper mills, by contrast, were not constructed because of a local demand for the product. The identity of the paper mill owners further reinforces the shift away from an industry tied to agriculture. Unlike the grist, saw, and woolen mill owners who were also farmers, the paper mills were started by businessmen who had established themselves in professions such as law or commerce.

In 1838 the Meeker mill property was purchased by Judge Hosea Williams and Judge Caleb Howard, and converted to paper production. Williams, a native of Massachusetts, distinguished himself serving in a variety of offices, including that of county commissioner, Common Pleas Court Judge, President of the Delaware County Bank, and as a board member of the Cleveland, Columbus, and Cincinnati Railroad. Hiram Andrews, a later partner in the company, was a director of the Sandusky and Delaware Railroad and established a mercantile business. Norman Dewey Perry purchased a partnership in 1850 after having served as the company superintendent.

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The mill was renovated to produce paper and re-opened on October 1, 1839. In October 1840 a fire destroyed the interior of the paper mill. Williams and Howard rebuilt it and operations were resumed three months later. At that point the mill had the capacity of producing 1/2 ton of paper per day.

In September 1844, Hiram G. Andrews purchased an interest in the paper mill from Caleb Howard. In 1847 Norman Dewey Perry, a native of Connecticut who had been associated with the paper mill industry in Canada, was hired as the superintendent. In c. 1850, paper production was expanded when a grist mill, located on the property, was converted to paper production.

On February 27, 1857 both mills were destroyed by fire at a loss of \$25,000. They were replaced with two limestone buildings utilizing steam power at a cost of \$30,000. In 1860 the water supply for paper production was enhanced when a 210 foot artesian well was dug.

During the 1860s the paper mills were run by Hiram G. Andrews and Norman Dewey Perry, who had purchased a partial ownership of the company in 1850. According to the U.S. Census Industrial Schedules for 1870, the Andrews and Perry mills employed 25 males and 12 females. Total wages paid out to workers during the 12 month working year amounted to \$20,000. Principal products at the mills were book paper (225 tons produced at a value of \$58,500) and wrapping paper (120 tons produced at a value of \$10,800). One of the largest customers at that time was the State of Ohio. In 1862 the mill received a contract to print paper for the state at 8 cents per pound. In 1865 the state rate rose to 31 cents per pound. The company business increased and other major contracts were sought including the Iowa State Government. (Source: "Memoirs of Norman Dewey Perry," p. xxi) A page from an 1865 mill accounts ledger indicates that major products included paper bags and McGuffey readers. (Source: Pabst, Anna Smith, "Berlin Township and Delaware County History," 1958, p.42)

Straw and rags were the raw materials used in paper production. The former had been introduced in the 1830s as a source for the manufacture of rough textured paper products such as wrapping paper. After 1870 wood pulp was also a common ingredient. Book or printing paper was made using rags and cotton cloth. Strands of fiber would be placed on wire screens suspended in water. The liquid would be drained and the fibers woven together to form a mat which was pressed by machines to form sheets. (Source: "Pulp and Paper Production," Wisconsin Cultural Resources Management Plan, Vol. 11, Section 6-1)

Pulp and rags were hauled to the Andrews and Perry mills by wagons drawn by teams of horses or mules. The mills would open at midnight on Sunday and operated continuously until midnight on the following Saturday. Each mill was supervised by two engineers and two foremen. There were two shifts of 12

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hours each starting at noon to midnight and midnight to noon. Rags were sorted and fed into cutting machines by female workers. The next step in the process was to boil the rags in a lime bleach solution for several hours. Male workers were responsible for this often dangerous task which accounted for many injuries and several deaths during the company's existence. The rags were taken to a finishing room where they were fed into a machine that beat them. This process prepared the fibers for the forming machines where they were made into paper, then folded for shipment.

DEVELOPMENT OF A MILLING VILLAGE

The steam-powered mill period also witnessed the formation of mill "villages" which consisted of housing, a company store, and a church for mill workers, all of which were constructed by the paper mill company owners. With the introduction of the paper milling industry to the Olentangy River corridor in 1839, more workers were needed at the Andrews and Perry Company to operate what was a more sophisticated facility than the pioneer water-powered grist and saw mills. Even the Hinkle Woolen Mill which used steam turbines was a comparatively small mill employing only five men. It became apparent to the paper mill owners that housing was necessary to attract a steady pool of employees, leading to the creation of a mill "village."

The development of "company towns" in America can be traced to New England where the river valleys were dominated by textile and paper factories by 1830. In general, these towns consisted of: "small hamlets clustered around a single individually owned mill. The size of the community was determined by the size of the mill, the size of the mill by the amount of water power available. Moreover, in their labor practices the mill owners . . . were inclined to follow the British method of hiring entire families. The workers houses that they built, therefore, were designed for single family occupancy. For the most part, they were small cottages, openly spaced, and situated in pleasant rural surroundings . . . Architecturally, they were minimal structures, providing only the most essential space for family living. On the other hand, they were soundly built and handsomely proportioned and a few even displayed modest ornamental features . . . applied to cornices and window and door surrounds." (Source: "The New Industrial Order: The Factory and the Factory Town," p.56-57)

While the housing units were typically uniform in design and construction, their placement was dependent upon the location of the mill. The mill was constructed first where it could most efficiently use the water source. The cottages were grouped nearby but independent of the position and orientation of the mill. (Source: ibid, p.58) Boarding houses were built to rent to unmarried workers, and occasionally to families, and located near the cottages and the mill. Most mill companies operated their own general stores and provided schools and churches for their workers.

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The development of mill villages reflected the owner's desire to counter a bias, especially in rural areas, against industrialization. By cultivating a public perception of benevolent mill companies with a paternal interest in the welfare of employees, the owners avoided comparisons to the "sordid, vicious, and degraded," conditions which characterized the British factory system. (Source: Lankton, Larry D., "Harnessed Water Power Spawns First Great Industrial City," Civil Engineering, October 1977, p. 89-90)

The mill workers housing developed by Williams and Howard resembled early New England factory housing on a smaller scale. The workers cottages were designed as single family residences and were situated on lots near the paper mill. The houses had adequate green space between them which contributed to a feeling of a rural setting. The 17 houses were constructed of limestone with solid walls and displayed modest ornamentation such as cornices and simple porch posts. The floorplans generally consisted of hall and parlor (2 rooms with an attic sleeping area), single pen (1 room with an attic), saddlebag (2 rooms separated by a central chimney), and side hallway (3 rooms with a side stairway and second floor).

The formation of the mill workers village on the Olentangy River corridor occurred shortly after Hosea Williams and Caleb Howard purchased the Meeker Mill property in 1838. They began to construct small limestone cottages and a large frame structure for single laborers. A limestone tavern annex built c. 1833 by Jonathan Crist near the Meeker Mill that had catered to local farmers and travelers was also used as a boarding house for the mill workers. On July 4, 1841 the growing mill town was named Stratford (on Olentangy) by John Hoyt, the first paper mill superintendent, in a literary allusion to William Shakespeare's Stratford on Avon. (Source: Forry, David, "History of Stratford Methodist Church, p.2) The following year Hosea Williams and his new partner, Hiram Andrews, constructed a limestone Methodist Church for the community. It was built on farmland donated by Forrest Meeker, the retired mill owner, who subsequently became a founding member of the congregation.

As the village grew it became necessary to file for legal incorporation with the state. In 1850, Williams and Andrews had the town surveyed according to a plan consisting of 17 lots each containing 50-79 parcels located on the west bank of the Olentangy River. Lot one commenced with the paper mills and advanced numerically up the river toward the county seat of Delaware. (Source: Ibid., p. 6-7)

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THE DECLINE OF THE MILLING INDUSTRY

Paper Milling

The fortune of the paper mill company began to decline when James Andrews inherited his father's interest in the company in 1866. He and his partners invested heavily in the start up of a paper store in Columbus; however, the investment was lost when the price of paper fell rapidly in the next few years. Heavy losses forced Andrews and Perry to sell the company in 1875 to Chauncey Hills (a son-in-law of Hosea Williams) who operated the business with several members of his family as the Hills Paper Company. Norman Dewey Perry stayed with the new owners as their company superintendent until his retirement from the paper business in 1877.

The U.S. Census Industrial Schedules for Delaware County in 1880 provide some information on the operations of the Hills Paper Company. It produced paper nine months out of the year, possibly indicating a decline in the market, and employed 15 males, 8 females, and 4 children. Average daily wages consisted of \$3.50 for a superintendent, \$1.25 for a machine repairman, \$1.50 for a machine tender, \$1.25 for a rag engineer, \$1.25 for a loft foreman, \$1.37 for a finishing room man, and \$1.00 for what was described as an "ordinary laborer," presumably women and children. The mill was powered by three steam turbines with ranges of 20-100 horsepower and used three boilers. Raw materials processed for paper consisted of 164 tons of rags, 63 tons of old paper, 22 tons of manilla stock, and 50 tons of straw. Total production was listed as 200 tons of printing (book) paper and 60 tons of wrapping paper for a total value of \$27,918.

Little is known of the later history of the paper company. By 1885 the Sanborn Fire Insurance Company map listed the firm under the name Glass-Edsell Paper Company as a producer of printing and wrapping paper (see illustration #6). By 1890 the wrapping mill had ceased operations while the larger printing paper mill had been renamed the Delaware Paper Company listing straw paper as its chief product. Subsequent Sanborn Insurance maps indicate the Delaware Paper Company closed in 1896 (see illustrations #7-9). In 1901 the two mills were sold to the Columbus, Delaware, and Marion Railway for \$2,700. The former printing paper mill was converted into a power plant and the smaller wrapping paper mill was demolished. In 1927 the building was destroyed by fire and the railway company went bankrupt in 1933. Two limestone foundations can be seen on the Olentangy River west bank as well as the remnants of the old millrace.

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Historic Mill-Related Resources of Liberty & Delaware Township, Delaware County, Ohio

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Woolen Milling

The Hinkle Woolen Mill closed in the late 1880s for undocumented reasons. A likely theory for its demise is the local mill was unable to compete with the larger textile factories producing cheaper products in New England, a documented cause for the disappearance of most woolen mills in Ohio by 1900. (Source: Garber, p.33)

The mill and adjacent stone T-plan house remained in the Hinkle family until 1900 when Philemon B. Hinkle, a guardian of James Wesley Hinkle, filed a petition in the Delaware County Common Pleas Court requesting a partition of the property. It was sold at a Sheriff's sale in 1900 for \$560. The ruins of the Woolen mill are still evident even though the roof, top floor, and interior are gone. A small section of the east wall was blocked off for use as a garage/storage space. The Hinkle House, although somewhat altered, still stands on its original site next to the mill.

Bieber Saw and Grist Mills

The massive steam-powered limestone saw mill constructed by James Bieber beginning in 1873 was never completed. Bieber's investment capital was diminished by a period of inflation shortly after the project began. The saw mill ceased production in 1890. The wood water-powered mill associated with his father George Bieber was demolished c. 1890. The massive ruins of James Bieber's limestone saw mill are still visible from Chapman Road. That property is now owned by the Ohio Department of Natural Resources. Although the roof, windows, doors, and interior features have deteriorated, the structure is still clearly recognizable as a 19th century mill.

The decline of the early milling industry on the Olentangy River in Liberty and Delaware Townships resulted from the evolution of new industrial processes which made the early water-powered mills obsolete and ill-equipped to compete with larger facilities utilizing steam as a power source. The introduction of steam turbines made it possible for a mill owner to supplement the river as a source of power. At the same time, steam-power released future owners from the need to build a factory on the river. Steam-powered mills began to decline in the 1870s due to a variety of economic factors. Some owners, such as James Bieber, enlarged his operations during a period of financial panic in 1873 and failed to capitalize on his initial investment. Owners of small woolen mills, such as James Hinkle, could not compete with larger facilities in New England manufacturing cheaper products. The Stratford Paper Mill Company, with its many fires which occurred under each successive owner, was a costly industry to maintain. It too began to decline in the 1870s when its

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Historic Mill-Related Resources of Liberty & Delaware Townships, Delaware County, Ohio

Section number E Page 15

owners lost money through financial speculation. When it closed in 1896, the paper company had ceased manufacturing printing paper, which at one time had been its largest product, relying solely on wrapping paper to generate income.

REMAINING HISTORIC MILLING RESOURCES

The mill village of Stratford containing 29 properties when the paper company was at the height of its production in 1866. These consisted of the two paper mills, a church and parsonage, a blacksmith shop, a wagon maker, a company store, business office, a school, Norman Dewey Perry's property, 17 workers cottages, the limestone boarding house, the George Bieber farm (later owned by Henry Bieber), and the Forrest Meeker farm (also acquired by the Bieber family at that point). The demise of the milling industry brought about changes to the community between 1900 to the present time. The two paper mills were acquired by the Columbus, Delaware, and Marion Railway Company. The wrapping mill was demolished and the printing paper mill converted to a power house. Interurban car barns were constructed and later a gas station appeared near the paper company site. These later structures have since been demolished, as has the former paper mill. Several workers cottages were demolished while others have been altered with siding, new windows, gutted interiors, and large additions. The limestone boarding house survives as a single family residence. The farm houses owned by Forrest Meeker and George Bieber survive as does the Norman Dewey Perry House. Five workers cottages have been identified that retain their limestone walls, window configuration, ornamentation, and floorplans.

F. Associated Property Types

I. Name of Property Type _____

II. Description

III. Significance

IV. Registration Requirements

☒ See continuation sheet

☒ See continuation sheet for additional property types

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National Register of Historic Places Continuation Sheet

Historic Mill-Related Resources of Liberty & Delaware Townships, Delaware County, Ohio

Section number F Page 2

Historic Mill Resources of Liberty and Delaware Township, Delaware County,
c. 1804-1896

F. ASSOCIATED PROPERTY TYPES

I. Name: Steam-powered mill ruins

II. Description: Steam mills were found along the Olentangy River in Liberty and Delaware Townships from c. 1860-1896. Constructed of limestone, the mills typically were four to five stories tall with walls three feet thick and a tall smokestack. Other physical characteristics included flat and arched windows, millrace openings, and monumental scale and massing. All steam mills were located on the river bank and included a millrace.

III. Significance:

Criterion A

Steam-powered mills represent the second phase in the development of the milling industry replacing the first water-powered mills typically found in early settlements. Steam-powered mills were larger more sophisticated structures that were not dependent upon the quality of the water currents. This permitted the expansion of production capacity and a consistent output on a year-around basis. From c. 1840 on, many water-powered mills were updated with steam turbines when the waterwheel needed to be replaced. Mills constructed after 1840 were outfitted with steam turbines. Steam-power mill ruins are eligible under Industry as the primary area of significance.

Steam-powered mill ruin-related archaeological properties are contributing properties under Criterion A if they enhance the relationship between steam-powered mill ruins and the development of the milling industry by providing tangible physical evidence of that industry. It is not necessary for these archaeological properties to address Criterion D simply because they are archaeological in nature. Their primary contribution lies in providing physical linkage or association to the industry, not in shedding new light on the industry. If the archaeological properties under consideration are strongly associated with the development of the steam-powered milling industry, are relatively intact (have good "visibility"), and retain the ability to be interpreted (have good "focus"), they are contributing properties.

Criterion D

Where subsequent construction/development has not occurred, or where subsequent construction/development has not destroyed the artifacts, structural remains, and other cultural features related to the milling

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Historic Mill-Related Resources of Liberty & Delaware Townships, Delaware County, Ohio

Section number F Page 3

industry (retaining relatively good visibility and focus), mill ruin-related archaeological properties have the potential to contain information contributing to our understanding of the origin, development, and decline of the milling industry in this portion of the Olentangy River corridor, particularly the changes in its technological, economic, and social aspects brought to the Village of Stratford and its labor force. Within the historic context, this information is considered important. The primary area of significance would be Archaeology: Historic - Non-Aboriginal, with sub-areas being Commerce, Economics, Engineering, Industry, and Social History.

IV. Registration Requirements: Steam-powered mill ruins are significant for their association with the development of the milling industry on the Olentangy River from c. 1840-1896. In order for a steam-powered mill ruin to be eligible for the National Register under Criterion A, it must be associated with the milling industry from c. 1840-1896. It must retain the physical characteristics which define the property type which consist of: limestone walls, monumental scale and massing, a millrace, and arched windows. It must be located on its original river site. Integrity of setting, location, and the property's historical association with the milling industry are essential registration requirements along with the property's ability to communicate the feeling or essence of a mid-to-late 19th century mill.

To demonstrate potential, the archaeological properties associated with historic mill-related resources must retain substantial intact deposits of artifacts, structural remains, and other cultural features that contain critical information and sufficient integrity as measured by their visibility and focus. For example, the components of a steam-powered mill - mill foundation, millrace, turbine pit, task-related work areas (i.e., raw material and finished product activity areas, waste disposal areas, transportation links) etc. - should be present (visibility), and the relationships of these components generally articulated to each other (focus).

F.2. Mill owners houses and farms

II. Description: Mill owners houses and farms are associated with two distinct periods of industrial mill development on the Olentangy River. These building types reflect the rural built environment of Delaware and Liberty Township. Surveys of the study area reveal that houses built during the water-powered milling period, c. 1804-1845, were brick or stone 1-Houses with a central hall plan, symmetrical five bay, two story facades with a rear ell, and a gabled roofline with the ridge running parallel to the road. Some Federal embellishments are apparent including Flemish bond brick work, delicate classical detailing, multi-paned rectangular transoms, 6/6 windows, and flat stone lintels. Greek Revival features apparent consist of columns or pilasters with Doric or Ionic orders, 6/6 windows, cornice returns and wide entablatures, and 6/6 windows. Elements indicating Greek Revival influence

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Historic Mill-Related Resources of Liberty & Delaware Townships, Delaware County, Ohio

Section number F Page 4

include flat stone lintels and a moderate roof pitch. An early mill owners property contained agricultural outbuildings including stone end livestock and grain barns. The two barn types apparent are English Three Bay and the Sweitzer Forebay. Mill owners barns are constructed of limestone and wood, sometimes built into a small hill.

Houses built by mill owners during the steam-powered period, c. 1840-1896, feature vernacular forms, Greek Revival or Gothic Revival stylistic details. Floorplans are either side hallway or T-plan configurations with limestone, wood, or brick used as the exterior materials. All roofs are gabled. When Greek Revival details are present they consist of Doric or Ionic columns or pilasters, cornice returns with wide entablatures, 6/6 windows, and trabeated entrances. Gothic Revival details consist of a steeply pitched front gabled roof and label hoodmolds that surround the windows. Outbuildings of properties associated with steam-powered mill owners should be considered historic resources that contribute to the properties ability to convey it's integrity of setting, feeling, and association.

III. Significance:

Criterion A: Early mill owners houses constructed during the water-powered milling period are eligible under Industry as an area of significance. Associated with the productive life of an early mill owner, the house and farm is the only intact remnant of the period as no water-powered mills are intact. The first mill owners were able to invest in a mill because they had derived their income from farming. As farmers and mill owners, they occupied an important position within the local agricultural economy because other farmers depend upon the mill to process their crops for market. Mill owners houses associated with the steam-powered period are eligible under Industry because they are associated with the industrial development of local mills. If a mill owners house is identified within the "mill village" it reinforces the concept of the industrial centered built environment and is eligible under Community Planning and Development.

Criterion B: Both categories of mill workers houses and farms are eligible under Industry as an area of significance because a mill owner constructed the house and lived in it during the years he was associated with the mill. If a mill structure associated with the owner is intact, a comparison will be made to the owners house to determine the level of association and contribution of significant individuals.

Criterion C: The houses are significant because they reflect an important example of building practices associated with the context and the distinctive characteristic of a building type or style. The I-House with Federal or Greek Revival detailing was associated with affluent rural agricultural communities throughout the midwest. The barns on the farms are important as intact

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Historic Mill-Related Resources of Liberty & Delaware Townships, Delaware County, Ohio

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examples of the English Three Bay and Sweltzer Forebay types constructed by settlers from the eastern states in the early to mid 19th century. These building types and architectural styles reflect the built environment of Liberty and Delaware Townships during the historic context period.

IV. Registration Requirements: Mill owners houses and farms relate to the historic context because they were built and lived in by mill owners who operated mills along the Olentangy River during c. 1804-1896. To possess integrity required for Criterion A, a house and farm must be located on its original site with historic setback intact. The original building materials must be clearly evident as well as roof configuration, original proportions, and fenestration pattern. Early mill owners houses should retain enough of their original agricultural outbuildings to convey the farm function associated with the property. To be eligible for Criterion B, the integrity requirements are the same as above. Integrity requirements for Criterion C include the presence of the original building materials and architectural stylistic elements. A critical component to integrity for Criteria A, B, and C is the setting of each property which is characterized by a rural environment with proximity to a river with undeveloped river banks and a mill village. This setting conveys both milling contexts of Stratford.

F.3. Mill workers cottages

II. Description: Mill worker cottages are associated with the development of the milling industry on the Olentangy River. Surveys of the study area reveal that worker houses from the steam-powered milling period were constructed between c. 1840-1896 using locally quarried undressed limestone and wood. Windows were usually double hung rectangular shaped in configurations of 2/2, 6/6, 9/6 or 8/12 and highlighted by plain stone lintels. Other typical physical characteristics include the overall small shape and massing, gabled roof lines, plank flooring, simple paneled doors and woodwork, and lack of ornamentation.

III. Significance:

Criterion A

Mill workers cottages constructed during the steam-powered milling period, c. 1840-1896, are eligible under Industry and Community Planning and Development as areas of significance because they were integral to the development of the milling villages.

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Criterion C

The workers houses are also significant as they reflect the distinctive characteristics of a building type. Built for paper mill workers in a rural setting near the mill using rubble limestone as well as wood, these cottages have common design and construction elements.

IV. Registration Requirements: This property type relates to the historic context because workers cottages were built by the paper mill company between c. 1840-1896. To possess integrity required for Criterion A, a cottage must be located on its original site with historic setback intact. The original building materials must be clearly evident as well as roof configuration, original proportions, and fenestration pattern. Integrity requirements for Criterion C include the presence of original building materials and floorplan.

A critical component for Criteria A and C is the element of setting conveyed through setback and open spacing between buildings which convey the rural nature of a milling village.

F.4. Boarding House

II. Description: A Boarding House is a property type associated with the development of steam-powered mills on the Olentangy River, c. 1840-1896. Surveys of the study area reveal that the following physical characteristics were present: its rectangular shape, coursed rubble limestone walls, a gabled roof with simple wood cornice and returns, and rectangular 9/6 windows. Interior floors are 4" plank and a stairwell leading to the second floor is a double kite winder.

III. Significance:

Criterion A

The boarding house property type constructed during the steam-powered milling period, c. 1840-1896, is eligible under Industry and Community Planning and Development as areas of significance because it served mill workers who were employed by the milling industry from c. 1840-1896 and associated with the development of the milling village.

Criterion C

The boarding house property type is also significant as it reflects the distinctive characteristics of housing for multiple mill workers. Used as living quarters for mill workers in a rural setting near the river and mill, the boarding house is visually associated with the workers cottages through the use of rubble limestone and wood as primary building materials and a lack of architectural embellishments.

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IV. Registration requirements: This property type relates to the historic context because the boarding house was used by the milling company to house unmarried mill workers between c. 1840-1896. To possess integrity required for Criterion A, a boarding house must be located on its original site with historic setback intact. The original building materials must be clearly evident as well as roof configuration, original proportions, and fenestration pattern. Integrity requirements for Criterion C include the presence of the original building materials and floorplan. A critical component for Criteria A and C is the open setting of the property which conveys the rural nature of a milling village.

F.5. Stone Church

II. Description: A Methodist-Episcopal Church is associated with the development of steam-powered mills on the Olentangy River and is an integral element to the milling village. Physical characteristics include limestone walls that measure 5 foot thick at the base, rectangular window openings with semi-circular arches, a gabled roof topped by a frame steeple, and a king truss roof framing system.

III. Significance:

Criterion A:

The stone church was financed by the paper mill owners for use by their employees from c. 1845-1896. The church is eligible under Industry as the primary area of significance for its historical association with the pattern of local industrial development. It meets Criteria Consideration A, Religious Properties, because the resource is significant for its community planning and development, and association with industry, not its religious function.

IV. Registration requirements: This property relates to the historic context because the stone church was constructed by the paper mill owners on land donated by a former mill owner to serve the spiritual needs of the mill workers. To possess the integrity required for Criterion A, a stone church associated with the milling industry must be located on its original site with historic setback. Physical features that must remain consist of its overall shape and massing, gabled roof line and steeple, limestone walls must be clearly evident, the king truss roof framing system, and window arches. A critical component of Criterion A is the open setting of the property which conveys the rural nature of the milling village.

G. Summary of Identification and Evaluation Methods

Discuss the methods used in developing the multiple property listing.

☒ See continuation sheet

H. Major Bibliographical References

☒ See continuation sheet

Primary location of additional documentation:

- ☒ State historic preservation office
☐ Other State agency
☐ Federal agency

- ☐ Local government
☐ University
☐ Other

Specify repository: _____

I. Form Prepared By

name/title See continuation sheet

organization _____

street & number _____

city or town _____

date May 7, 1991

telephone _____

state _____

zip code _____

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National Park Service**

**National Register of Historic Places
Continuation Sheet**

Historic Mill-Related Resources of Liberty & Delaware Townships, Delaware County, Ohio

Section number G Page 1

G. SUMMARY OF IDENTIFICATION AND EVALUATION METHODS

The historic theme of this project is the evolution of milling technology from water power to steam power as it was experienced in Delaware County from c. 1804-1896. The two associated historic contexts were derived from an understanding of the two major industrial technologies present during the period of significance, namely water and steam power. The two historic contexts were developed by consulting histories of industry in the United States of America, and descriptions of 19th century milling processes. The geographical area for the project was chosen because the Olentangy River in Delaware and Liberty Townships was the first waterway in the county chosen for mill sites. By 1860 the river corridor contained one of the highest concentrations of mill structures in Delaware County. It is the only known area on the river to experience the conversion from agricultural to industrial milling where structures associated with this development are still visible and relatively intact. Historical sources consulted were county histories, atlases, census records, and industrial schedules. Other sources included Ohio Historic Inventory forms, Ohio Archaeological Inventory forms, survey reports, site visits to the project area, and National Register nominations on file for mill-related properties already listed in Ohio.

Property types associated with the historic contexts were derived from their function as mill-related resources. Properties were chosen because they met integrity requirements which were in turn based on knowledge of existing conditions.

HISTORIC MILL-RELATED RESOURCES OF LIBERTY + DELAWARE TOWNSHIPS, DELAWARE CO. OHIO

Source: Wilhelm, H.G.H. The Origin & Distribution of Settlement Groups, Chas, 1850

Source: Wilhelm, H.G.H. The Origin & Distribution of Settlement Groups, Chas, 1850

Chart 1-B

HISTORIC MILL-RELATED RESOURCES OF
LIBERTY + DELAWARE TOWNSHIPS, DELAWARE CO, OHIO

DELAWARE	South								West										All
Townsh.	AL	GA	KY	NC	SC	TN	VA	Total	AP	IL	IN	IA	IA	MI	MS	MO	WI	Total	Migrants
BERKSHIRE			5			1	42	48		2		5		1				8	573
BERLIN			2				36	38											382
BROWN			3				77	80											404
CONCORD			2			1	130	133				1						1	414
DELAWARE			12	1			82	95		2				1		2		5	977
GENOA			4				135	139		3				1				4	520
HARLAM			1				46	47				1		1				2	319
KINGSTON			7				51	58											277
LIBERTY			2				31	33											252
MARLBORO			1				12	13											171
ORANGE							25	25				4						4	299
OXFORD							46	46		1		5						6	212
PORTER							53	53											322
RADNOR							20	20						1				1	192
SCIOTO			5	1		3	61	70				2						2	286
THOMPSON			1			1	27	29						3				3	191
TRENTON			3				27	30		1								1	356
TROY			3		1		44	48											152
Total			51	2	1	6	945	1005		9		18		8		2		37	6299

Source: Population Manuscript Schedules, 1850.

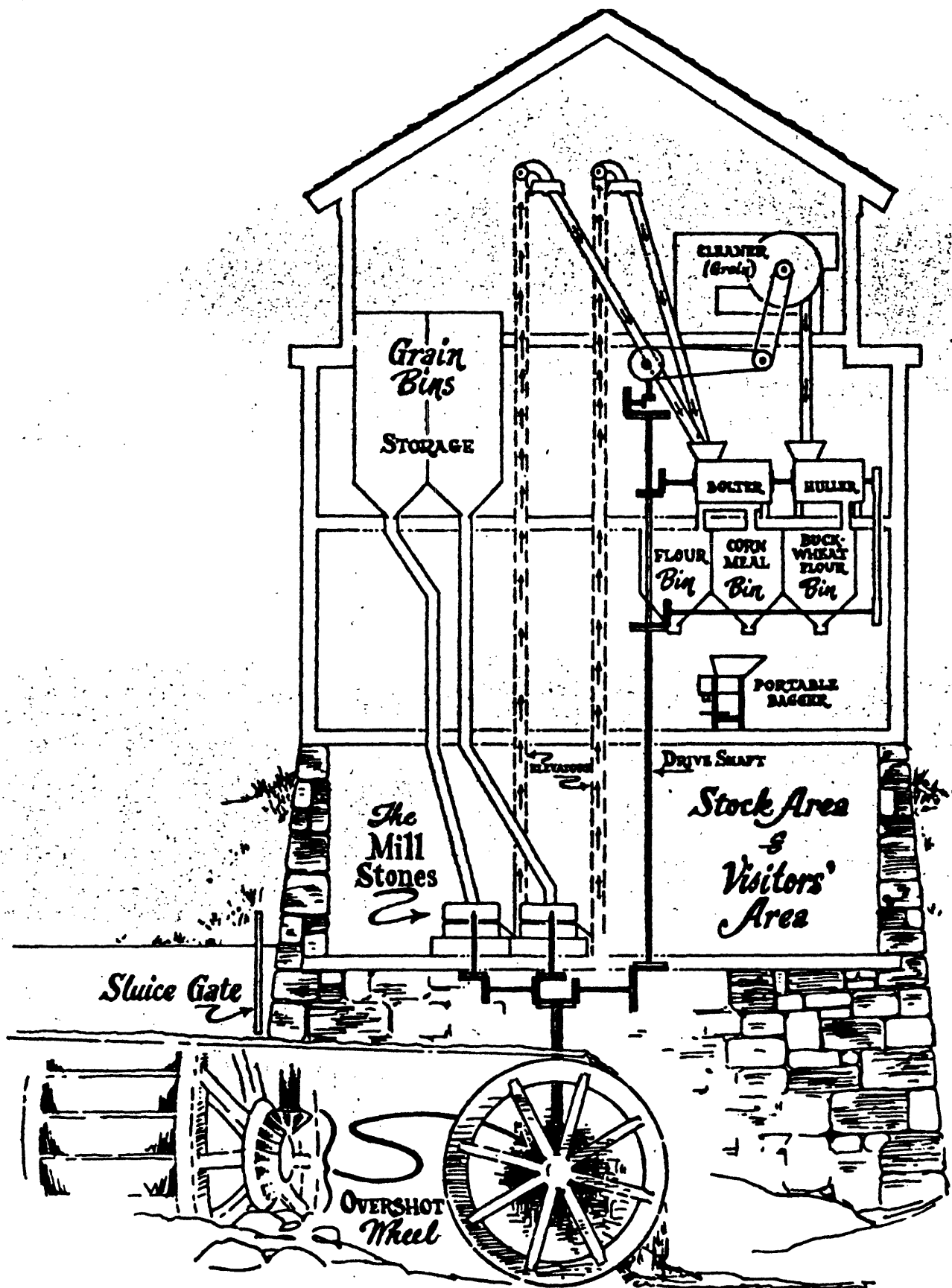
Source: Wilhelm, H.G.H. The Origin and Distribution of Settlement Groups, Ohio, 1850

HISTORIC MILL-RELATED RESOURCES OF
LIBERTY + DELAWARE TOWNSHIPS, DELAWARE

Delaware 1850										
Townships	Canada	England	France	Germany	Ireland	Scotland	Switz.	Wales	Other	Total
Berkshire	4	13			2	1		2		22
Berlin	2	7		1	37			3		50
Brown	1			2	21		1	3		28
Concord	3	11	6	10	16			3		49
Delaware	12	61	11	105	6		5	73	1	274
Genoa	1	4		6	2					13
Harlem	1	2		2	5					10
Kingston	2	1	3	1	4	1				10
Liberty				3	1			2		8
Marlboro		1		20	4				1	26
Orange		8	1		124			2		135
Oxford	8	2		9	18			14		51
Porter		21		11	8					40
Radnor	3	8		2	1			243		257
Scioto	9	5	1		8		1	3		27
Thompson	4	2		6	3		1	7		23
Trenton		3			2	3	1			9
Troy	12				10	4		25		51
Total	62	149	22	178	272	9	9	380	2	1083

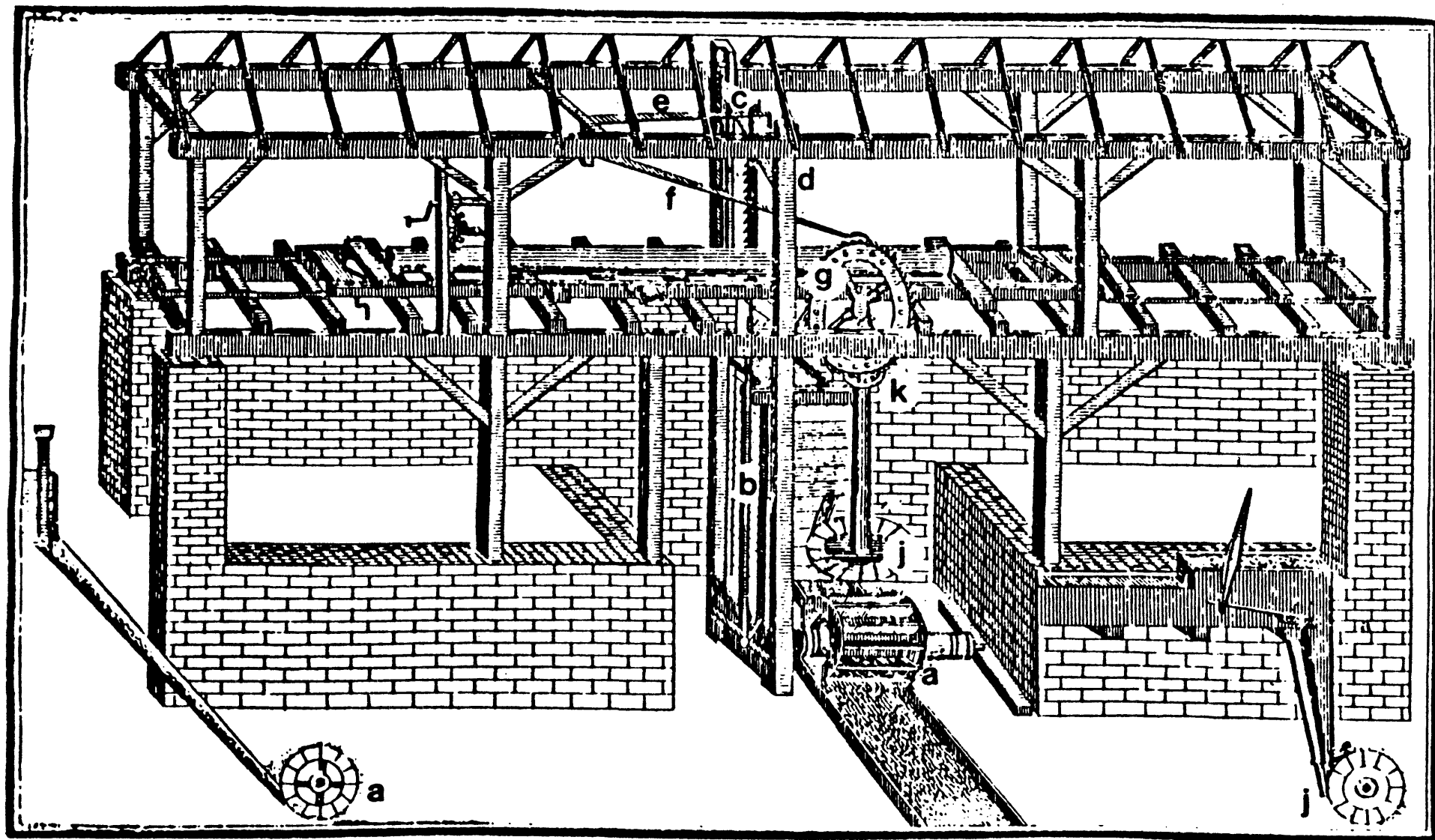
Source: Population Manuscript Schedules, 1850.

Source: Wilhelm, H.G.H. The Origin and Distribution of Settlement Groups, Chic, 1850



GRIST MILL

HISTORIC MILL-RELATED RESOURCES OF LIBERTY + DELAWARE
TOWNSHIPS, DELAWARE CO, OHIO

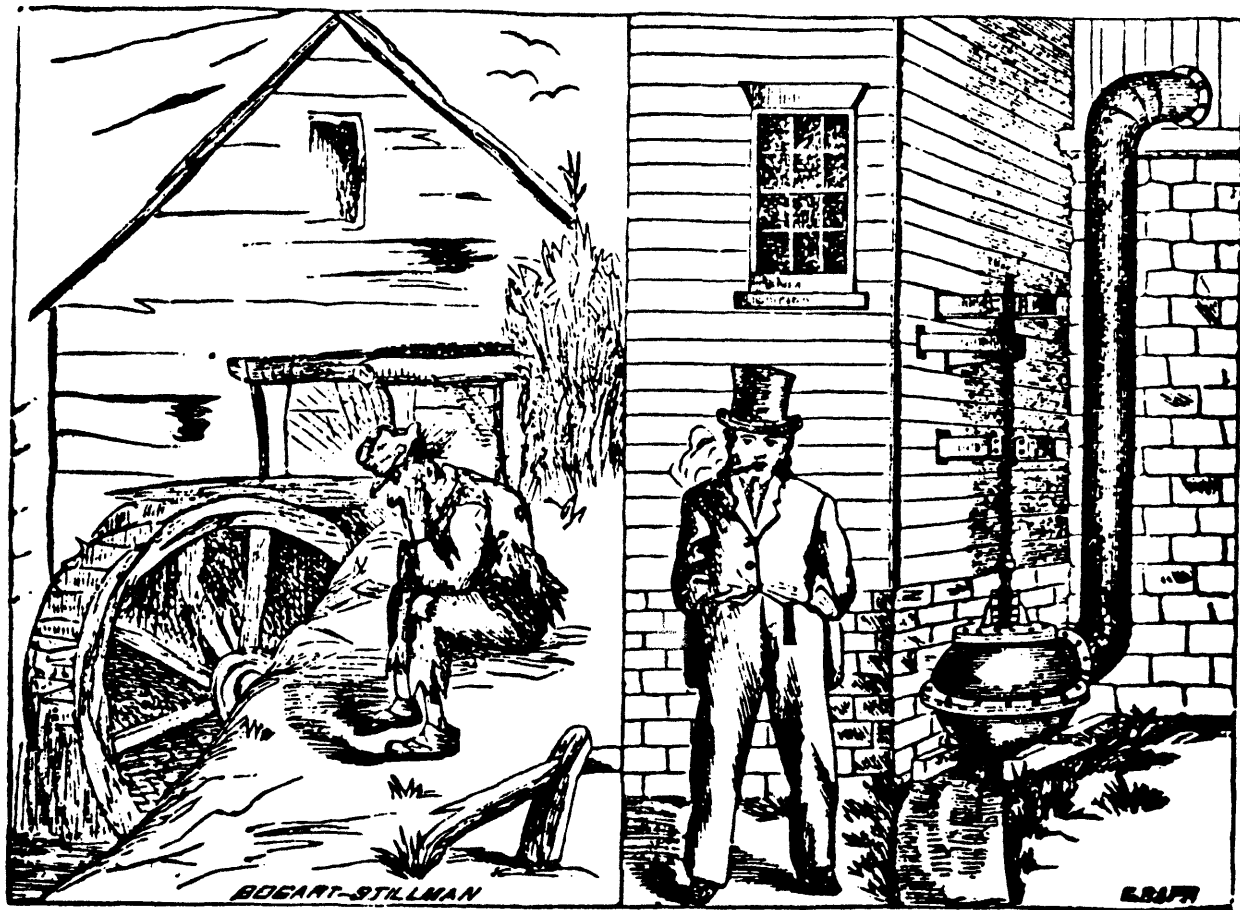


SAW MILL (c. 1850)

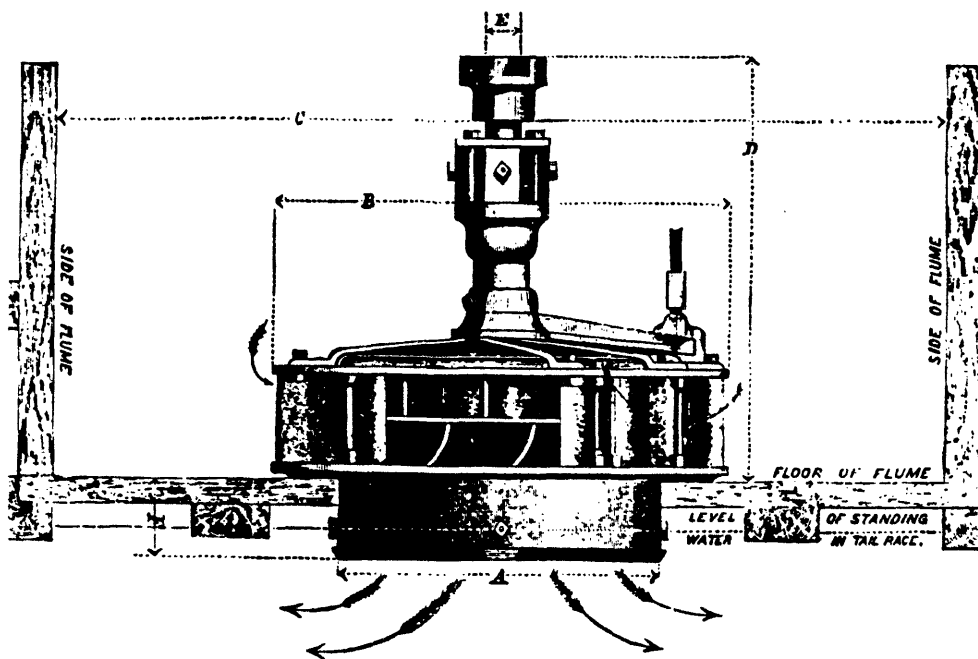
MACHINERY COMPONENTS:

- a) flutter wheel and crank
- b) pitman with pitman iron
- c) saw frame
- d) fender posts
- e) lever arm
- f) feed pole

- g) rack wheel
- h) carriage and rails
- j) tub wheel
- k) lantern pinion with bridge tree



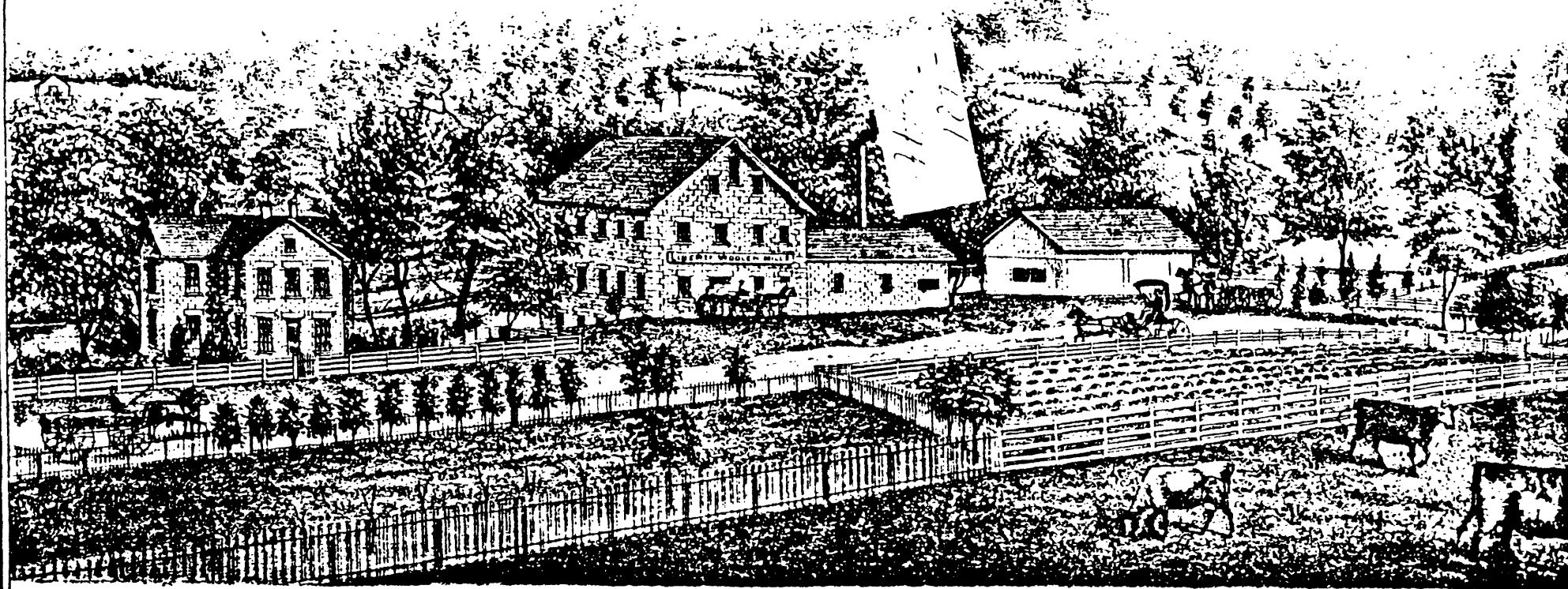
AN INSTRUCTIVE CONTRAST.



PIT BELOW THE WHEEL

The pit under the wheel should not be less than 30 inches deep below end of cylinder, and 3 to 4 feet deep for large wheels.

P. 36



RES. & WOOLEN MILLS OF JAMES HINKLE.
(SEC. 4) LIBERTY TP., DELAWARE CO., O. C. 1866

Beers, F.W. Illustrated Atlas of Delaware County, 1866 Illustration # 5
HISTORIC MILL-RELATED RESOURCES OF LIBERTY + DELAWARE TOWNSHIPS, DELAWARE CO., OHIO

ILLUSTRATION #6

STRATFORD
DELAWARE CO, OH
1866

HISTORIC MILL-RELATED RESOURCES OF LIBERTY & DELAWARE
TOWNSHIPS, DELAWARE CO, OHIO

STRATFORD

Delaware T^l

Scale, 20 Rods to an Inch

N.D. Perry
M.P. Parsonage
School
R. Shelly
J. Col. Menk
R. Reidman
W. Tuller
A. J. Clark
A. D. Vought
Fire Engine
Z. L. Blinn
Grocery
W. S.
M. C. Sigfried
H. Blinn
J. Sigfried
A. & P.
N. M. Fisher
Paper Mill
A. & P.
The Shop
A. & P.
Store
N. Riser
Paper Mill
Andrew R. Perry

16	17
15	18
14	19
13	20

INDEPENDENCE

12	21
11	22
10	23
9	24

CENTRAL

1	25
2	26
3	27
4	28

5	29
6	30
7	31
8	32

J. A. Stark
R. S. Starkwell
J. Tiller
Atkinson
H. Ruler & Bro.
W. L. Landerberg

STRATFORD ADVERTISING DIRECTORY.

Andrew R. Perry, Treasurer of Stratford Paper Mills
A. D. Vought, Foreman in
A. J. Clark, Blacksmithing
J. Hedrick, Wagon Maker

P. B.
cc 1866

HISTORIC MILL-RELATED RESOURCES OF LIBERTY & DELAWARE TOWNSHIPS
DELAWARE COUNTY, OHIO

STRATFORD
M.E. CHURCH
25th Street
MILL SITE
LIGHT CO. CO.

STRATFORD
TURNPIKE

THE DELAWARE PAPER CO.

HEADQUARTERS OF THE

Power Ho. of

COLUMBUS DELAWARE & NORTHERN TRACTION CO.



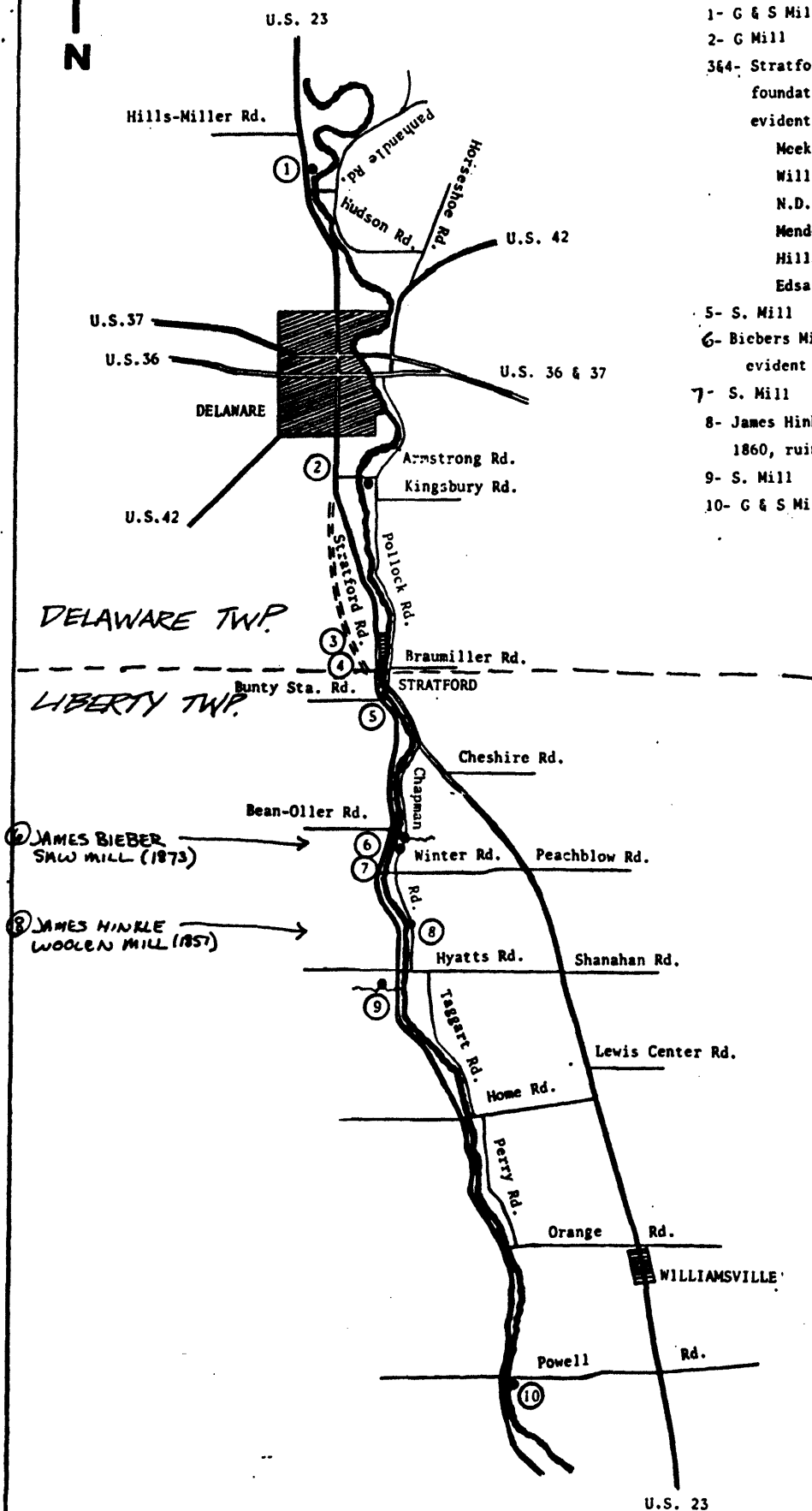
At Stratford 2 1/2 Miles S. of C. & N. Hall.
Delaware, O.

Aug. 1901
DELAWARE
OHIO.

Olentangy
River.

N O E X P O S U R E .

HISTORIC MILL-RELATED RESOURCES OF LIBERTY + DELAWARE TOWNSHIPS, DELAWARE COUNTY, OHIO



MILL DESCRIPTIONS

- 1- G & S Mill
- 2- G Mill
- 3-4- Stratford Mills (Built in 1811, foundation and millrace still evident in 1990), owners:
Meeker 1811
Williams & Howard 1838
N.D. Perry 1849
Mendenhall 1871
Hills Paper Mill 1875
Edsall, Mills, Randall 1882
- 5- S. Mill
- 6- Biebers Mill (Built in 1873, ruins evident in 1990)
- 7- S. Mill
- 8- James Hinkle Woolen Mill (Built in 1860, ruins evident in 1990)
- 9- S. Mill
- 10- G & S Mill

⑥ JAMES BIEBER
SAW MILL (1873)

⑧ JAMES HINKLE
WOOLEN MILL (1857)

OLD MILLS ALONG
THE OLENTANGY RIV
Delaware, Ohio
A. Ten Eyck

ABBREVIATIONS

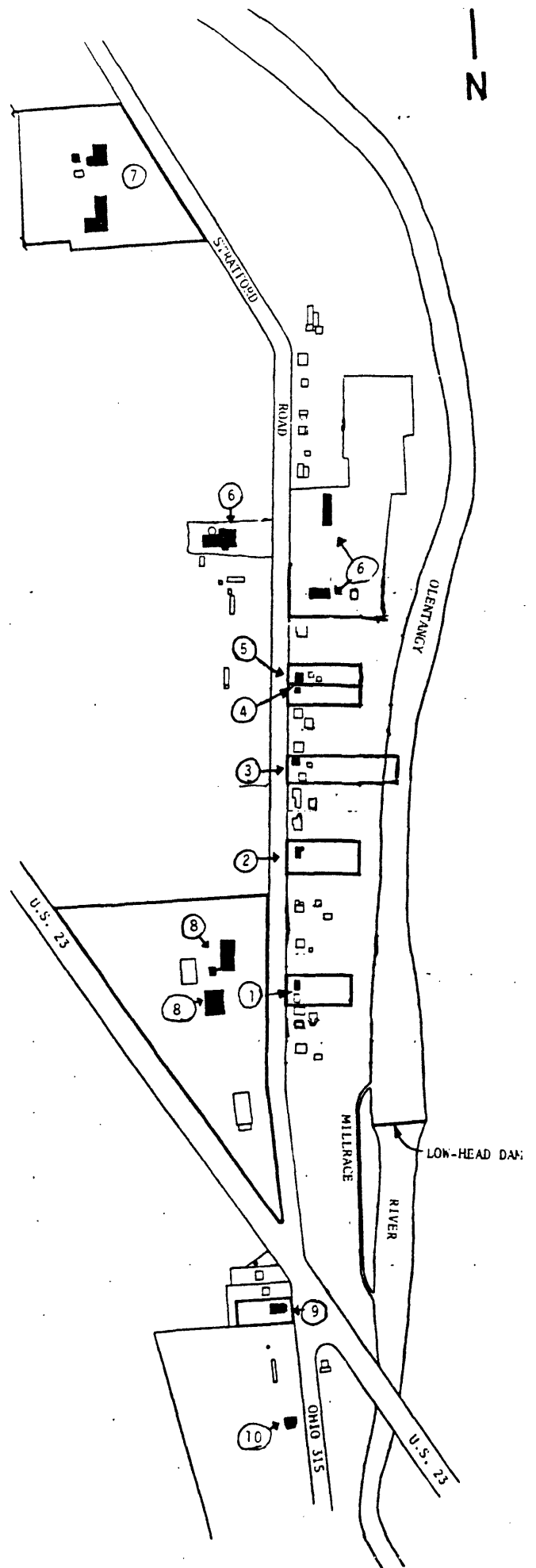
- G = Grist Mill
S = Saw Mill
G&S = Grist and Saw Mill

HISTORIC MILL-RELATED PROPERTIES
STRATFORD, DELAWARE COUNTY, OHIO

- 1) Mill worker House #1
- 2) Mill worker House #2
- 3) Mill worker House #3
- 4) Mill worker House #4
- 5) Mill worker House #5
- 6) Norman D. Perry House & Farm
- 7) George Bieber House and Farm
- 8) Forrest Meeker House and Farm
- 9) Stratford Methodist Episcopal Church
- 10) Mill worker Boarding House

Contributing properties: ■

Non-contributing properties: □



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