

# MHC Reconnaissance Survey Town Report

## NORTHBRIDGE

Report Date: 1984

Associated Regional Report: Central Massachusetts

**Reconnaissance Survey Town Reports**, produced for MHC's Statewide Reconnaissance Survey between 1979 and 1987, introduce the historical development of each of the Commonwealth's municipalities. Each report begins with an historic overview, a description of topography, and political boundaries. For the purposes of the survey, the historic period has been subdivided into seven periods: Contact (1500–1620), Plantation (1620–1675), Colonial (1675–1775), Federal (1775–1830), Early Industrial (1830–1870), Late Industrial (1870–1915), and Early Modern (1915–1940/55). Each report concludes with survey observations that evaluate the town's existing historic properties inventory and highlight significant historic buildings, settlement patterns, and present threats to these resources. A bibliography lists key secondary resources.

Town reports are designed for use together with a series of town maps that demarcate settlement patterns, transportation corridors and industrial sites for each historic period. These maps are in the form of color-coded, polyester overlays to the USGS topographic base map for each town on file and available for consultation at MHC. For further information on the organization and preparation of town reports, readers should contact MHC.

Users should keep in mind that these reports are now two decades or more old. The information they contain, including assessments of existing knowledge, planning recommendations, understanding of local development, and bibliographic references all date to the time they were written. In some cases, information on certain topics was not completed. No attempt has been made to update this information.

Electronic text was not available for digital capture, and as a result most of the reports have been scanned as PDF files. While all have been processed with optical character recognition, there will inevitably be some character recognition errors.

The activity that is the subject of the MHC Reconnaissance Survey Town Report has been financed in part with Federal funds from the National Park Service, U.S. Department of the Interior. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior. This program receives Federal financial assistance for identification and protection of historic properties. Under Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, and the Age Discrimination Act of 1975, as amended, the U.S. Department of the Interior prohibits discrimination on the basis of race, color, national origin, disability or age in its federally assisted programs. If you believe you have been discriminated against in any program, activity or facility as described above, or if you desire further information please write to: Office of Equal Opportunity, National Park Service, 1849 C Street, N.W., Washington, D.C., 20240.



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## MHC RECONNAISSANCE SURVEY REPORT

DATE: 1984

COMMUNITY: Northbridge

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### I. TOPOGRAPHY

The town of Northbridge is drained by the Blackstone River, which flows from north to south through the length of the town, and by two of its major tributaries, the Mumford and West rivers. The former enters from Sutton in the southwestern corner into Whitins Pond before flowing through Whitinsville and Linwood into Uxbridge, where it joins the Blackstone River. The West River travels approximately one mile through the southeastern corner of the town, also joining the Blackstone in Uxbridge.

The Mumford and Blackstone valleys, ranging in width up to 1.5 miles, formerly contained good intervale land. Composed of Merrimac sandy loam and Ondawa fine sandy loam, these rich, glacially-derived soils found on terraces and overflow lands are agriculturally important soils which were formerly under extensive cultivation.

Away from the river valleys, which cross the town at approximately 300 feet above sea level, hilly uneven land rises to more than 600 feet above sea level in the north and northeastern portions of the town. A high ridge, upon which is situated Northbridge Center, separates the Mumford and Blackstone valleys; to the east, a second parallel ridge separates the West River valley from the Blackstone. These hills are composed of Gloucester series soils which range from stony to fine sandy loam, and are best suited to pasture and mowing, but do yield moderate crops of grain and support small orchards. Several rock outcrops provided suitable granite for commercial quarrying and construction.

### II. POLITICAL BOUNDARIES

Part of original Mendon grant of 1667. Separated, as part of town of Uxbridge, 1727. Established as a district from part of Uxbridge, 1772. Made a town, 1775. Parts of Sutton annexed in 1780 and 1801. Part annexed to Sutton, 1831. Bounds with Sutton established, 1837. Part of Sutton annexed 1844. Bounds with Uxbridge established, and parts of both towns annexed to the other, 1856. Bounds with Uxbridge established, 1908.

### III. HISTORIC OVERVIEW

An industrial, residential, and agricultural community in the Blackstone River valley corridor, with possible native site at Mumford Falls. First European settlement in southeast ca. 1707 in peripheral area of Mendon. Mill and forge at Mumford Falls by 1727. Dispersed 18th century agricultural settlement, with 1774 meetinghouse center established south of the most densely settled uplands of northwest. 1809 textile mill at Mumford Falls only

third in Blackstone Valley above Pawtucket Falls. Subsequent 19th and early 20th century transformation of Mumford Falls area into a major industrial center, with expanded textile production, but in particular, as the result of the establishment and continued growth of the Whitin Machine Works. Whitinsville develops as a company town, with an evolving complex of worker residential areas, middle and high income homes, and an institutional and commercial center. Textile mill villages develop at three other major water power sites on the Blackstone canal/railroad corridor in the 19th century; all are owned by the Whitin family by 1870.

The town retains 19th century agricultural landscapes in the functional upland farmsteads in the northwest, several landmark mills, a large number and variety of representative worker housing, and the institutional architecture of Whitinsville Center.

#### IV. CONTACT PERIOD (1500-1620)

##### A. Transportation Routes

Blackstone River corridor, with main routes north/south, and secondary Mumford River branches. Main parallel trails probably on highlands along east bank of Blackstone River (Providence Road, Quaker Street, Wolf Hill Road); and along highlands west of Blackstone River (Pollard Road, Hill Street). Possible loop around Mumford Falls-Goldtwaite Road, Prentice Road. Alternate trails north and south of Mumford River-Linwood Avenue, Fletcher Street. Possible alternate trails to western highlands Main Street and Douglas Road.

##### B. Settlement Pattern

The area now Northbridge served as an area for seasonal hunting and gathering from the larger base camp located to the south now in Uxbridge. The Mumford River to the east and the Blackstone through the center provided sites for fishing and agriculture and therefore were used more intensely than the area between them.

##### C. Subsistence Pattern

Fishing, particularly during anadromous fish runs in the Blackstone, of particular importance. Some agriculture on terraces, hunting in uplands.

##### D. Observations

The number of sites located during the Route 146 survey in Uxbridge, etc., indicates a density in this area far greater than has been predicted for inland locations.

#### V. PLANTATION PERIOD (1620-1675)

##### A. Transportation Routes

Contact period routes continue in use.

## B. Settlement Pattern

Some reduction in use by native population with influx of colonials to Mendon in the east, and the gathering together of Christian natives in the village of Waentuck, in Uxbridge to the south. No evidence of colonial settlement here during this period.

## C. Subsistence Pattern

Reduced seasonal use by native population from base camp to the south in Uxbridge for hunting and gathering, and primarily fishing and agriculture along the Blackstone River. Colonial use restricted to outlying fields from settlement in Mendon, for tillage, pasturage, and haylands.

# VI. COLONIAL PERIOD (1675-1775)

## A. Transportation Routes

Improvement of trail network as colonial roads proceeds, with focus south toward Uxbridge meetinghouse after ca. 1727. Hill Street and Quaker Street become main north-south routes and Fletcher Street is the way to Uxbridge Center.

## B. Population

In 1761, when still a part of Uxbridge, population equalled ca. 300 in 41 families. No further figures available until incorporation. The Quakers of Uxbridge built their first meetinghouse here in 1766.

## C. Settlement Pattern

In 1687, Native Americans in Natick, Punkapoge and Wamesit reassert their rights to land "in Nipmuck country," probably including parts of Northbridge. In 1692, additional grant of three square miles, the North Purchase, included this area.

First settlers in 1710s to area south of the Quaker meetinghouse in east of the Blackstone, beginning with Jacob Aldrich in 1707, and near present Whitinsville, with Seth Terry's mill in 1726. By 1736, there was enough settlement here to warrant a constable, in 1753 a tax collector, and in 1766 disagreement over meetinghouse location in Uxbridge brought independence into discussion. Established as district in 1771, as a town in 1786, with the addition of land from Sutton in 1780. With this addition, the hill near present Northbridge Center selected for meetinghouse location, closest to the geographical center.

## D. Economic Base

Primarily an agricultural community, though manufacturing was brought early to the town. By 1729, an iron works for wrought work was located in Whitinsville, and another in Northbridge

Center by the end of the period. The earliest grist and sawmills were located at Riverdale by 1740.

### E. Architecture

Residential: Little domestic architecture survives. Center chimney plan only extant house form.

Institutional: First Congregational Church erected 1774.

## VII. FEDERAL PERIOD (1775-1830)

### A. Transportation Routes

Colonial period roads remain in use. In 1824, the east-west Central Turnpike (Sutton Street) is incorporated, providing an alternate Boston-Hartford highway. Construction on the Blackstone Canal begins ca. 1825. The canal opens service by 1829. Providence Street (west of river) becomes main north-south highway.

### B. Population

Northbridge begins the period with a population of 481 and growth is moderate during this period, reaching 1,053 in 1830.

The Congregational Society is formed in 1782 and locates in Northbridge Center, aligning like its neighbors with the Hopkinsian Mendon Association and experiencing several revivals. A Baptist society is present briefly, ca. 1774 to 1812, and other dissenters are present, if not allied with formal religious societies, including two to three families of Universalists early in the period, and several Methodists meeting in private homes and assigned to the New London, Connecticut circuit, at the end.

### C. Settlement Pattern

Northbridge Center (1774 meetinghouse) remains the institutional focus, with commercial activity probably north of the meetinghouse on Hill Street at the intersection with the old road from Sutton. A secondary institutional focus, on the east side of the river, is the Friends meetinghouse (1776 and 1804) at the corner of Church and Quaker Streets. Rockdale develops as a small manufacturing center after 1814, and by period's end becomes an important transportation juncture point, with Providence Road, Central Turnpike, and Blackstone Canal. Some period residential development is likely along Providence Street, with notable focus at the large, brick (hotel?) building at the Central Turnpike intersection. The principal location of industrial growth is at the Mumford River Falls south of the Center at what later becomes Whitinsville. Iron forge operations continue through the period south of the river. A cotton textile mill and four tenements are erected in 1809, and a brick mill is built at the forge site south of the river in 1826, with worker duplexes along Fletcher Street.

#### D. Economic Base

As Northbridge entered the 19th century, its economy was based on agriculture and the production of agricultural tools. Cattle raising and dairying were the major agricultural pursuits, providing meat, cheese, and butter for the market; yet, most farmers continued to practice mixed husbandry, raising fruit, grains, hay, and vegetables to feed themselves and their animals. In 1794, only two gristmills and one sawmill processed the town's grain and timber.

Ironworking was carried on in Northbridge from the early 18th century; a forge or foundry was located at Whitinsville as early as 1727, using local ores. Early owners and investors of the forge and ironworks included merchants and gentlemen from Boston and ironmasters from Uxbridge. A foundry was established in Northbridge Center by 1790, where hollowware and andirons were cast. After 1812, axes were manufactured and sold in the South, and boot and shoe tools were made for local use. At Whitinsville, where three forges and a triphammer were located, Paul Whitin manufactured large hoes through the 1820s, also sent South for use by slaves.

The textile industry, which was to be the leading economic force in the town until the mid 20th century, was begun in 1809 with the establishment of the Northbridge Cotton Manufacturing Company on the Mumford River at the site later occupied by the Whitin Machine Works.

The small, two-and-a-half-story wood framed spinning mill was the third cotton mill in the Blackstone Valley above Pawtucket. Financing was provided by Jonathan Adams of Providence, a former Northbridge resident and successful merchant, Paul Whitin and others from Northbridge, and three Earle brothers from Leicester, manufacturers of card clothing. Adams had been an investor in one of the important mills of the period, the Natick Manufacturing Co. of Warwick, Rhode Island, and brought several former Natick Mfg. Co. employees to Northbridge, among them the former agent, Charles Sabin, and William Howard, a machine worker who instructed Paul Whitin in the mysteries of textile machinery construction. Initially, yarn was spun in the mill and sold or put out to be hand woven, but by about 1816, power loom weaving had been introduced. The mill was operated by several different companies and partnerships until it was closed and removed in 1831. Cotton spinning was undertaken in the "Old Forge" by Paul Whitin and his father-in-law James Fletcher in 1816. In 1827 a new brick mill was erected on the site of the forge by the company of Paul Whitin and Sons. A third cotton mill was established in 1830 by Sylvanus Holbrook on the east bank of the Blackstone River in Riverdale and produced sheetings.

Woolen manufacturing was begun in 1814 at Rockdale by a company which consisted of the Earle brothers of Leicester, several prominent Worcester men, and a Northbridge man. Satinets were manufactured until 1837 under the ownership of Sylvanus Holbrook.

At Riverdale, a carding and fulling mill was erected in 1817 and later converted to the manufacture of satinets. In 1829, Sylvanus Holbrook owned the mill, which he rented for the manufacture of woolen hat bodies. By 1832, 24 men and 18 women were employed in the woolen industry, while 70 men and 75 women worked in the town's three cotton mills.

Shoemaking was a small but growing industry, begun about 1810. By 1832, 35 individuals and four firms produced 26,000 pairs of cheap brogans for slave wear, worth \$21,800.

#### E. Architecture

**Residential:** Few examples of period architecture appear to survive; those that do are primarily center chimney plans. Double chimney plans occur infrequently. Ca. 1809 worker housing (one-and-a-half-story duplexes) were built in Whitinsville. Late period worker housing (one-and-a-half to two-story, double chimney) built in Northbridge Center. Notable granite one-story worker housing in Northbridge Center. Three two-story, five-bay, brick workers' houses in Whitinsville.

**Industrial:** Ca. 1809, development of Northbridge Cotton Manufacturing Company in a Whitinsville frame mill. Cotton and woolen mill at Northbridge (Rockdale).

### VIII. EARLY INDUSTRIAL PERIOD (1830-1870)

#### A. Transportation Routes

Providence and Worcester Railroad opens service along the Blackstone Valley corridor in 1847. Blackstone Canal ends operations in 1848.

#### B. Population

An increased rate of growth in the population accompanies the expansion of the town's manufacturing component. The population nearly quadruples from 1,053 in 1830 to 3,774 in 1870. As in other manufacturing towns, this growth can be seen in the shifting occupational figures: male employment in this area grows from 60 in 1820 to 305 in 1840, and to 812 in 1875. Agricultural employment grows initially with the population expansion, but quickly levels off at ca. 700 for the major part of the period. Migration of industrial workers, notably the Irish, begins and reaches 21% of the population by 1865. With this rapid growth comes an increase in the number of churches and denominations within the town. The major village of Whitinsville established an evangelical chapel and held masses by 1834; by 1870 the masses were held in their own church, St. Patrick's. The number of Methodists in this village expanded until a society was formed in 1850. To the north, the village of Rockdale formed a Congregational society in 1856.

Whitinsville established a Social Library in 1844. The town established a high school in 1865 and two years later abandoned the school district system.

### C. Settlement Pattern

Growth of industrial centers along the Blackstone and Mumford rivers, at Riverdale, Rockdale, Linwood, and most significantly, at Whitinsville. Importance of Northbridge Center diminishes, although some residential construction occurs, about the time of the building of the second meetinghouse, particularly on Hill Street between Fowler and Benson Road. Textile mill development occurs in the early 1830s and again in the 1850s in Riverdale and Rockdale. A small number of worker duplexes are built on both sides of the Blackstone near the Riverdale Mills. Rockdale is rebuilt after a major 1840s fire, with a granite mill (1856), and duplex and boarding houses across Providence Street, as well as on the south side of the old Turnpike east of the river. The brick Linwood mill is constructed in 1866, with worker duplexes east and south of the mill on both sides of Linwood Avenue, and the proprietor's residence north of the mill pond.

The most significant local development of the period, however, is the development of Whitinsville as the town's industrial, institutional, commercial, and residential center, with the development of the Whitin Machine Works complex, after the 1830s, and major plant additions in 1847 and 1864-67. A granite cotton mill is also located here in 1845. In conjunction with industrial expansion, worker housing districts are developed by the Whitins, mainly north and west of the industrial center, with rows of cottages, duplexes, and tenements on Forest, Central, High, Water, and Main Streets. Smaller numbers of duplexes are built east on Linwood Avenue and Fletcher Street. A middle income residential zone develops east of the mill area on Church Street, Linwood Avenue, and the east side of Hill Street. The high income (proprietors') residences are located both north (Hill Street) and south (Front Street) of the mill complex.

The Whitinsville Congregational Church is built in 1846 on Church Street near the Hill Street/Linwood Street intersection. The Roman Catholic church (1870) is built further east on Church Street at Cross Street.

### D. Economic Base

It was during this period that the Whitin family established itself as the major force in Northbridge's economy. The family eventually owned and operated the two principal industries in town--textile manufacturing and the manufacture of textile machinery. The Whitin brothers expanded their textile holdings in Northbridge and the surrounding towns by purchasing mills at bankruptcy sales. The first was the financially troubled Northbridge Cotton Manufacturing Company mill, acquired in 1831. In 1845 they built the stone mill in Whitinsville, and in 1849 they purchased the Crown and Eagle mills in North Uxbridge and the



water privilege at Linwood, where a mill was erected in 1865. The Whitin brothers acquired a mill at Riverdale and the burned-out mill and north privilege at Rockdale in 1856, which they promptly rebuilt. The Rockdale Mills, initially erected in 1814 and 1830, burned in 1840 and 1846, but were rebuilt by Sylvanus Holbrook. Another fire in 1851 destroyed the mills and a number of dwellings, and the site remained unused until the Whitins built a stone mill in 1856. In 1859 they bought the stone cotton mill in East Douglas, which they operated until 1861. By the start of the Civil War, they were one of the leading textile manufacturing families in the Blackstone Valley.

The manufacture of textile machinery was begun by John Whitin in the repair shop of the brick mill at Whitinsville. In 1831 he built and patented a picker, a machine that opened and cleaned the cotton and produced smooth sheets ready for carding. James Montgomery, the leading mill authority of the period, called it the best lap spreader built in the country. In 1834 they produced one machine per month; by 1839, 11 employees were making one machine per week, worth \$500 each.

John Whitin continued to expand his machine works through the period. When the stone cotton mill in Whitinsville was built in 1845, the machine works occupied the entire brick mill. By this time, the line of machines was expanded to include cards, railway heads, spinning frames, looms, and machinery for ring spinnings and 93 men were employed. In 1847 a new two-story shop, 102 x 306 feet, was built on the north side of the Mumford River. The boom in cotton mill construction in eastern Connecticut and the Providence area provided much work for the shop, as most of the machines put into these mills during the 1840s and 1850s were produced in Whitinsville. By 1855, employment rose to 300 and sales to \$300,000. Machinery was also sold in 21 of the 33 states, as well as in Canada and Mexico. However, little Whitin machinery was sold to Boston area mills.

The Whitin Machine Works experienced another boom period between 1864 and 1869, after John Whitin sold the Holyoke Machine Shop in Holyoke, Mass. and consolidated his operations in Whitinsville. This decision to concentrate the works in Whitinsville had a tremendous impact on the village; by 1868, the machine shop was doubled in size, the number of company-owned houses increased from about 50 to more than 125, with 200 new family units built, and the workforce nearly doubled with an influx of Irish. Whitin expended nearly \$500,000 on the shop and village during this expansion. The construction of so much company-owned housing and paternalistic care for its employees for which the company was known became a matter of necessity, due to the difficulty in maintaining a stable and skilled work force. Not surprisingly, Whitin's employees were very loyal to the company.

By 1855, only two of the five cotton mills once active in Northbridge remained, one in Whitinsville and one in Riverdale, but they produced a pre-Civil War high of 2.7 million yards of sheeting worth \$162,000 and employed 155 men and 105 women. The

number of mills had increased to four by 1870, as the Rockdale mill was rebuilt in 1858, the Riverdale mill expanded in 1865, and the Linwood mill built in 1865. By 1875, Northbridge was fourth in the county in the number of cotton spindles (33,792) and in the number of looms (704). Two hundred and eleven men and 294 women were employed in the production of \$418,000 worth of cloth.

Other industries were established or expanded in Northbridge with the success of the Whitin enterprises. Boot and shoe making and leather tanning and currying peaked in total employment and production during the 1850s, concentrated in Northbridge Center. In 1855, 120 men and 40 women produced 43,000 pairs of boots and 57,000 pairs of shoes worth \$120,000. Two leather shops curried \$20,000 worth of hides, but the tanning and currying of leather was discontinued by 1868. By the end of the Civil War, 86 men and 6 women were employed in two factories which produced only 42,000 pairs of boots and 1,800 pairs of shoes, but their value had increased to \$125,000.

Iron working continued outside of the Whitin Machine Works. In 1852 a stone mill was built in Riverdale by Sylvanus Holbrook to manufacture scythes by machinery, the first use of machines to make scythes in the world. During the Civil War, bayonets were produced by machine for the Union Army. In 1865, the works were taken over by the Whitin brothers and cotton manufacturing replaced scythes and bayonets.

Lumber and woodworking increased as the village expanded. During the 1850s, 765,000 feet of boards and 3,700 cords of wood were cut. A box maker for the boot and shoe industry and the machine works, a cabinetmaker, a wagon shop, wheelshop, and coffin maker also appeared during the 1850s and 1860s.

Granite quarrying, begun in the late 1820s when Northbridge stone was used to build the locks on the Blackstone Canal and was shipped on the Canal, continued into mid-century. In 1854, Plummer's Quarry was opened and provided stone for the Rockdale mill. As many as 75 men were employed and several hundred railroad car loads of stone were shipped annually. Additional quarries were opened in 1865 and 1870.

The growth of the town in the decades before the Civil War made a bank of discount and deposit necessary, and in 1865, the Whitinsville National Bank was established. Various members of the Whitin family served as president of the bank through the 19th century.

Agricultural production during the pre-Civil War years was at a peak during the 1850s, when more acreage was under cultivation with hay, potatoes, corn and grain than at any time before. Dairying was not yet the major activity, though nearly 20,000 gallons of whole milk, 9,000 lbs. of butter, and 2,000 lbs. of cheese were sold in 1855. Yet, the production of corn, potatoes, and hay exceeded the dairy in value. By 1865, only hay production and beef, pork and veal sales were greater, as the value of dairy

goods increased despite the slight decline in production. By 1875, the quantity of whole milk sold increased by a factor of five, hay acreage increased, and orcharding and poultry farming grew. Total value of agricultural goods in 1875 was \$84,000. The increase in dairying led to a decline in the amount of cattle grown for meat; beef sales fell from 77,000 lbs. to less than 12,000 lbs. by 1875.

### E. Architecture

**Residential:** Rise of gable end Greek Revival and Italiante detailed houses. Also, advent of significant worker housing consisting of primarily one-and-a-half- to two-story double chimney duplexes, fourplexes, and six-plexes. Whitinsville and Northbridge (Rockdale) retain significant percentages of period worker housing. Edward Lamb of Worcester designed homes for mill owners as well as some worker housing on High, Central, Water, and Forest Streets (1860s).

**Institutional:** Congregational Church in Northbridge Center, ca. 1837.

**Commercial:** Two-story, double-pile, end chimney brick hotel (1830s) with fanlight doorway and gable on hip roof, in Northbridge (Rockdale).

**Industrial:** Stone mill built at Whitinsville in 1845. Brick mill with battered piers in Northbridge from latter portion of period.

## IX. LATE INDUSTRIAL PERIOD (1870-1915)

### A. Transportation Routes

The existing road and rail system continues in use. In the 1890s, an electric freight railroad connector links Whitinsville to the Providence and Worcester depot at Linwood. By the 1900s the town is served by the regional electric streetcar system, with north-south service on Providence Street, and lines to Whitinsville on Church Street and Linwood Avenue.

### B. Population

Expansion in industrial employment continued to spur population growth, nearly tripling during this period. The figure in 1870 was 3,774, and by 1915 had reached 9,254. Manufacturing employment continued to dominate and took over an even larger proportion of male occupations, reaching 78% in 1915. The proportion of foreign-born in the population grew significantly during this period, from 21% in 1865 to 36% ten years later, reaching its highest figure of 41% in 1895. Irish immigration remained important, but by 1905, the French-Canadian-born outnumbered them. Other groups, though smaller, made an important impact on the town, including the Dutch, in cattle raising, and Armenians employed in the Whitin Machine Works, and later as small shop owners. Still more denominations grew up to accommodate

these numbers: a second French-Canadian dominated Catholic parish was established in Rockdale in 1889, building St. Peter's Church three years later. In Whitinsville, the Northern Irish and Scots population formed a Presbyterian church in 1871. The Congregational church in Rockdale dissolved into the center parish.

The Social Library became free and public in 1874, and the Lyceum sponsored annual free lectures.

### C. Settlement Pattern

Continued expansion of Whitinsville as the town's social and economic focus, with further development also occurring at the secondary centers of Rockdale and Linwood. Little expansion at Riverside after major 1889 mill fire. Residential expansion at Linwood, with duplex housing cluster east of Providence Road. Continued textile expansion at Rockdale (1870, 1893, 1895). Worker housing is built (primarily duplex) on old Turnpike Road, Providence Road, Quaker Street, and west of the railroad on Railroad Street. Overseer's housing further west on Sutton Street.

In Whitinsville, further plant expansion occurs in 1900 at Whitin Machine Works, together with the creation of 400 new dwelling units ("New Village"), northeast of the industrial complex, beyond Arcade Pond. Worker residences are primarily in four- to six-unit wooden tenement rows, with a number of duplexes, and two boarding houses. Before 1900, period worker housing development took place east of Arcade Pond on High, Maple, and Oak Streets. The mixed single and multi-family, middle class, residential area continues to expand east on streets parallel to Church Street (Cottage and Prospect), while the high income residences remain at the edge of the built-up area, with some new construction on the north side of Linwood Avenue. Institutional structures are located in the middle class residential zone, with a focus developing at the Hill/Church/Main Street intersection, with town hall (1872), new Congregational Church (1898), Savings Bank (1905), High School (1906), and Library (1912). Outside this central area, building includes the new St. Patrick's Catholic Church (1898), Methodist Church (1898, rebuilt after fire in 1911), Presbyterian Church (1914), and two schools (1878, 1890).

### D. Economic Base

The textile industry continued to dominate the economy of Northbridge through the period, as the Whitin Machine Works and Paul Whitin Mfg. Co. cotton mills in Rockdale, Riverdale, Linwood, and Whitinsville were the major employers and together accounted for 80% to 90% of the total value of manufactured goods. The industry repeatedly fluctuated between depression and record prosperity during the years from the Civil War to World War I. Depressions occurred in 1874-79, 1883-87, 1893-94, 1897-98, and 1913-14, followed by boom periods, each more profitable than the last.

The construction of a street railway line between Worcester and Northbridge in the 1890s completed the absorption of Northbridge into the Worcester economic sphere, already well underway by the 1880s. The result of this was to stunt the growth of the commercial sector in Northbridge, as shoppers came to rely on the large stores in Worcester.

The several boom periods experienced by the Whitin Machine Works, by this time the leading force in Northbridge and quickly becoming one of the leading textile machinery manufacturers in the world, reflected the changing geography and nature of the textile industry. The first post-Civil War boom of 1870-74 was a result of the tremendous expansion and retooling of textile mills in the Rhode Island and Fall River areas during those years. Ninety percent of the company's sales were within a 50-mile radius of Whitinsville, with gross sales exceeding \$1 million annually. At the peak in 1873, 680 men were employed. This growth came to an end in 1875; that year, only 250 men were employed as a depression set in and orders fell off drastically. However, the paternalism of the Whitins insured employment to all workers through the hardest period. It was during this time that John Whitin hired and personally paid unemployed workers to clear fields at his farm and build walls. The "Great Wall" at Castle Hill Farm, six feet high and six feet wide, was built by these men around a 100-acre field.

The rise of the Southern textile industry fueled the next burst of growth at the Whitin Machine Works. Between 1880 and 1893, interrupted only by one rather severe depression between 1883-87, sales to Southern mills reached \$500,000 annually. In 1885, at the bottom of the depression, production fell off by nearly two thirds from the 1875 level of \$900,000 before rising again to record figures in the late 1880s and early 1890s. Another industry-wide depression ended the period of prosperity in 1893; by the late 1890s, prosperity returned and a new expansion occurred in Whitinsville. Shop #4 was erected in 1899, adding 600 employees for a total of 1,800. Four hundred new dwellings were erected in New Village, raising the total number of company-owned dwellings to 700. This growth was a result of the development of a new combing machine for a higher quality of cotton yarn, a new New England specialization after the Southern mills proved they could produce coarser cotton goods more cheaply. Many machines were sold to New Bedford mills, where many new combed cotton mills were then being erected. The Whitin Machine Works were so successful with their comber that they drove foreign competitors from the U. S. market by 1910. As many as 4/5 of the combers sold in the U. S. during this period were from the Whitin Machine Works. In 1909, Shop #5 was built and the company purchased the Providence Machine Works, moving their tools and equipment to Whitinsville.

Cotton cloth manufacturing was carried on in the four mills owned by the Whitin brothers: Rockdale, Riverdale, Whitinsville, and Linwood. Like the machine works, these mills also experienced boom and depression periods. The high quality goods produced in

the mills were in part due to the trials there of the latest and most improved machinery produced by the Whitin Machine Works. Nevertheless, the depression of the mid 1890s took its toll. Work time was reduced the Riverdale Mill, which suffered a fire in 1889, was sold to a New York syndicate in 1894 and called the Riverdale Woolen Co. They rebuilt the old mill, built a new addition, and employed 300 operatives in the manufacture of shoddy and fabric. During the depression, major additions were made to the Whitinsville and Linwood mills, increasing their capabilities. By 1905, the value of goods produced in Northbridge exceeded \$4 million, most of it in textile machinery and cotton and woolen cloth.

In 1875, a patent was obtained by the master mechanic of the Whitinsville Cotton Co. and the owner's son, Arthur Whitin, for the manufacture of special tools for making rings. They began manufacturing spinning rings in the brick mill under the name of Whitinsville Spinning Ring Co., employing 50 men. Their entire production was sold to the Whitin Machine Works.

Among the other industries in Northbridge during this period was the manufacture of boots and shoes. Concentrated in Northbridge Center during the 1850s and 1860s, only one factory remained there after 1870. Nearly 160 persons were employed in the highly mechanized Keith Factory before the firm and the industry disappeared in the late 1880s. The manufacture of men's and women's clothing eventually occupied eight shops during the 1880s and 1890s. Granite quarrying was also carried on successfully in several quarries until the early 20th century.

Northbridge farms maintained their vitality through the period, losing little ground. Although farm acreage did fall by one third between 1885 and 1905, the number of acres devoted to hay, crops, and permanent pasture actually increased, a result of increased dairying. By 1905, 300,000 gallons of milk and 16,000 lbs. of butter were sold annually. Also important were meat, poultry, and vegetables, each contributing more than \$11,000 to the \$229,000 value of agricultural goods in 1905.

#### E. Architecture

**Residential:** Development continues in mill villages with construction of more traditional worker housing, much of which survives. New Village begun in 1900. Hill Street fashionable residential section.

**Institutional:** Village Congregational church by Shipley, Ruten and Coolidge built in Wilkinsville, 1898 (original Second Congregational church of 1846 burned). 1870 St. Patrick's Roman Catholic church razed in 1898 for construction of yellow brick, Venetian Gothic edifice by Charles D. Maginnes. Craftsman influenced Congregational church built in center village. Methodist church constructed of random coursed granite in late Gothic style by Edwin T. Chapin of Worcester, 1911. United

Presbyterian Church of 1881 razed for Chapin's 1914 yellow brick design. St. Peter's Roman Catholic, Byzantine, Northbridge, 1913.

Fuller and Delano of Worcester designed 1878 Clarke School in Whitinsville. Original high school built ca. 1870 in Whitinsville by Hartwell and Richardson, now Aldrich School. New high school built in 1906 (Peabody and Stearns) is a one-and-a-half-story Colonial Revival structure.

Town hall erected between 1872-76 is a two-story, seven-bay brick structure with Colonial Revival tendencies.

One-story, brick Colonial Revival social library designed by R. Clapston Sturgis (Boston), 1912-13.

Commercial: Church Street in Whitinsville begins to develop during the 1890s as town's commercial district and retains several turn-of-the-century brick structures. The Odd Fellows Hall of 1898 is a three-story, frame block.

Industrial: Expansion of mill complex continues at Whitinsville.

## X. EARLY MODERN PERIOD (1915-1940)

### A. Transportation Routes

By the 1920s, roads are improved as automobile highways, and electric streetcar service is abandoned. Providence Street (Route 122) becomes the principal north-south route, with secondary connectors to Whitinsville (Church Street, Linwood Avenue).

### B. Population

Population figures continue to reflect fluctuation with overall growth from 9,254 in 1915 to 10,242 in 1940; period high was reached at 10,577 in 1935. Foreign population continued to consist primarily of French Canadians, with many Dutch, Armenian, Polish and Northern Irish citizens. The proportion of foreign-born within the population dropped to 24.9% in 1940. Craft and manufacturing occupations continued to dominate in the town's male employment.

### C. Settlement Pattern

Residential development continues to the early part of the period in Rockdale and Whitinsville. In Rockdale worker housing construction takes place in the McBride Street area, with four double three-deckers (1916), and several four- to six-unit tenement rows. In Whitinsville, 50 worker dwelling units are added to the New Village area, and in 1921-22, 100 dwelling units are added at the eastern edge of the built-up area, south of Church Street toward Plummer's Corner. By the mid 1920s, the Whitin Company is managing over 1,000 dwelling units in Whitinsville. Other developments include a community gymnasium (1924) on Main Street and an executive golf course and country

club (1924) on Fletcher Road. Some small-scale commercial block development occurs on Church Street (1925-30).

#### D. Economic Base

Following World War I, the industries of Northbridge continued to prosper. The early 1920s were a boom period for the Whitin Machine Works; a new shop was built in 1920 and 150 new homes were added to New Village between 1921 and 1923. In 1920, the town's production reached \$17,996,000. But a depression in the textile industry followed, and lasted from 1923 to 1933. By 1932 employment at the machine works fell below 1,100, down by nearly one-half from that of the boom years in the previous decade. The mainstay for the machine works during the moderate prosperity that returned in the mid 1930s had shifted from new machinery to the replacement of parts and repair of older machines. Not until the final years of the decade did the new product development undertaken in 1927 begin to bring returns, as the Whitin Machine Works began to turn out machinery for materials other than cotton, such as wool, worsted, silk, rayon, asbestos, and twisted paper.

The 1923 textile depression forced the closing of the Whitinsville Cotton Co. The mill was purchased by the Whitin Machine Works and used as a warehouse. The Rockdale Mill continued to function as a trial ground for new machinery from the Whitin Machine Works and as a result produced a variety of goods. The Riverdale Mill, sold and converted to wool manufacturing before World War I, was converted to the manufacture of surface coated paper, and employed 150 operatives.

Agriculture in the town lost some ground, as suburbanization and reforestation engrossed more farmland. Dairying, poultry-raising, and market gardening remained the major activities.

#### E. Architecture

A major development of the period appears to be along Hill Street in Whitinsville, which retains numerous high style Colonial Revival dwellings situated on spacious grounds. Area east of Whitinsville (Plummer's Woods), now Plummer's Corner, developed and retains some two stuccoed duplexes. Construction continued at New Village; development considered model community housing. Bungalows occur in Linwood.

**Commercial:** Development along Church Street continued during the early years of the period.

**Industrial:** Construction/expansion continued at Wilkinsville through the 1950s.

### XI. SURVEY OBSERVATIONS

Inventory is very poor. It deals solely with Wilkinsville and ignores villages of Northbridge and Riverdale entirely.