



Report

Ipswich Mills Dam Removal- Feasibility Study

Ipswich, Massachusetts

Cultural Resources Summary

Submitted to:

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Horsley Witten Group
90 Route 6A
Sandwich, Massachusetts 02563

This report provides a Cultural Resources Summary for the Ipswich Mills Dam Removal Feasibility Study (the Project). As part of the Project's Feasibility Study, the Massachusetts Division of Ecological Restoration (MA DER) requested a cultural resources narrative that includes a summary of what is known about the pre-and post-settlement history of the dam site using information from the Ipswich Historical Commission, the Massachusetts Historical Commission (MHC), and other sources. The report contains the following information: identification of historic properties and previously surveyed archaeological and architectural resources within and immediately adjacent to the feasibility study area; cultural context relating the pre-history and history of the dam site including former dams and their date(s) of construction; and recommendations concerning potential impacts to cultural resources or additional cultural resources survey efforts that may be needed if the Project proceeds into design and permitting.

The narrative serves two purposes: 1) provide information for the public; and 2) provide a foundation for future coordination between the dam owner, agencies, and the MHC, should the Project progress into design and permitting. The Public Archaeology Laboratory, Inc. (PAL) completed the cultural resources summary under contract with the Horsley Witten Group on behalf of MA DER.

Information Sources

MHC and PAL Repositories

PAL conducted a review of the Massachusetts Historical Commission's (MHC) *Inventory of the Historic and Archaeological Assets of the Commonwealth* (MHC Inventory) files to identify previously recorded cultural resources within and immediately adjacent to the feasibility study area. The online file review included historic properties (those that are listed or evaluated as eligible for listing in the National Register), resources that are included in the State Register, and surveyed properties that have not been evaluated for registration. Readily available cultural resource management (CRM) reports, town histories, and historic maps salient to the study area were also consulted. Pre-contact Native American settlement in the dam section of the Ipswich River drainage was researched using information contained in previous CRM reports and scholarly studies on file at PAL and the MHC.

Local Historical Research and Contacts

PAL reviewed historical documents and town maps available online through the Ipswich Historical Commission and/or Historical Society websites, to supplement existing dam histories (to be provided by the Project team) and assist in preparing the cultural resource summary for the Feasibility Study. PAL conducted research at the Ipswich Public Library Archives, which contains a wide selection of materials on local history including several hundred documents relating to the history of Ipswich from 1634 to 1985, postcards, and photographs.

PAL also reviewed the Ipswich Museum Collection of the Ipswich Museum (formerly the Ipswich Historical Society). The collection is housed in the Ipswich Room at the Public Library, and includes correspondence, deeds, genealogical notes, notebooks, diaries, account books, and other materials. The *Inventory of Archives Committee Materials*, a collection finding aid, was used to facilitate the site-specific research at the Ipswich Public Library Archives. PAL limited the local research to documents in these various collections that relate specifically to the dam and associated mill businesses.

PAL interviewed multiple local informants to identify research repositories and pertinent documents and to collect additional information concerning the history of the Ipswich Mills Dam. Gordon Harris, Town of Ipswich Historian, shared his research and writing concerning the history of the dam. Katherine Chaison, Curator of the Ipswich Museum, and John Stump, an Ipswich Museum volunteer and local historian, provided valuable insights into museum collections, and John Stump also shared his history of the dam site. Finally, PAL consulted with John Fiske of the Ipswich Historical Commission regarding local preservation restrictions and bylaws pertaining to historic properties including the Town's Demolition Delay Bylaw (Chapter XVI of Town of Ipswich Bylaws) and their potential application to the proposed removal of the Ipswich Mills Dam.

Cultural Context

Pre-Contact Period (12,500–300 B.P.)

Essex County including the Ipswich River drainage in northeastern Massachusetts has long been recognized as a core area of pre-contact land use and settlement. The record of occupation has been well documented, first by avocational archaeologists and more recently by professional archaeologists undertaking cultural resource management (CRM) surveys that have filled in some of the gaps in the archaeological record over the past twenty years. The large number of recorded sites and broad range of represented temporal periods in Essex County reflects the favorable environmental conditions that existed throughout the pre-contact period. Essex County has one of the highest densities of known **PaleoIndian Period** (12,500–10,000 years before present [B.P.]) sites in southern New England. The most extensive depositions have been recovered from the Bull Brook Site and Bull Brook II Site in Ipswich, the largest PaleoIndian deposition known in the region (Byers 1954, 1959; Grimes et al. 1984). Three hundred meters separate the two depositions that are located on a knoll, which separates the estuarine lower portions of the Egypt River and the Muddy Run. A saltwater marsh is located on three sides of this peninsula. Analysis of the artifact assemblages from both of these sites has revealed that the diverse tool classes are indistinguishable and that both are dominated by chert (Grimes et al. 1984). A fluted point was recovered on a farm

east of Bull Brook on the opposite bank of Muddy Run (19-ES-103) and another was discovered on top of North Ridge, a drumlin that overlooks Plum Island Sound (19-ES-294), both located in Ipswich. The Ipswich Cove Site located on the Heard House property off South Main Street may also contain evidence of a PaleoIndian component in the form of two possible channel flakes (Mailhot 2013).

Unlike the PaleoIndian Period, the **Early Archaic Period (10,000–8000 B.P.)** is not well represented in Essex County either by specific sites or find spots. At Bull Brook only two diagnostic bifurcate-base projectile points from this period were recovered. A single bifurcate-base projectile point was discovered at the Pine Swamp Site (19-ES-306) in Ipswich and at Eastern Point in Gloucester (MHC site files). The distribution and somewhat higher density of **Middle Archaic Period (8000–5000 B.P.)** sites indicates that a multisite seasonal settlement system was firmly established by this time. More than 35 sites are known from this time period in Essex County including the Bull Brook Site, which has yielded diagnostic Middle Archaic Neville-like projectile points. Site 19-ES-103, located along the banks of Muddy Run Brook in Ipswich, contained diagnostic Middle Archaic Stark-like projectile points. Johnson and Mahlstedt (1982) assigned a collection of 15 stemmed points, described as a cross between Neville-like and Neville-variant, to the Middle Archaic Period on the North Shore. At many sites, these hybrid points are the sole evidence of Middle Archaic activity in the Ipswich River drainage.

Land use patterns in the Ipswich River drainage during the **Late Archaic Period (5000–3000 B.P.)** appear to reflect population increases and environmental changes similar to those observed across New England during this period. Sites are present in almost all environmental niches, and the utilization of a wide variety of plant and animal resources is suggested by small, special-purpose sites found along the edges of streams, bogs, and kettle hole swamps. Evidence of fishing and shellfish collecting is visible in the archaeological record for this period. Artifacts dating to this period have been recovered from the Bull Brook Site as well as in the area located between it and Bull Brook II in Ipswich (Grimes et al. 1984). Bullen excavated the shell midden on Treadwell's Island (Site 19-ES-98) off the coast of Ipswich where the earliest deposition appeared to date to the Late Archaic Period (Bullen 1949; MHC site files). The assemblage from this site includes shell (oyster, clam, quahog and mussel) as well as Brewerton and Small Stem Tradition projectile points. The Ipswich Cove Site (19-ES-853) on the Heard House property yielded a single Neville Variant projectile point suggestive of a Late Archaic component (Mailhot 2013).

The period of transition between the Archaic and Woodland periods is not well defined. Sites that contain artifacts diagnostic of the **Transitional Archaic Period (3600–2500 B.P.)** and particularly the **Early Woodland Period (3000–2000 B.P.)** are few. Only two sites in Essex County have yielded more than a single diagnostic point from the Early Woodland Period and these are found in Salem and Danvers (Johnson and Mahlstedt 1982). A Meadowood projectile point, an Early Woodland Period diagnostic type, was recovered from 19-ES-103 near Muddy Run Brook in Ipswich. A lack of information for the **Middle Woodland Period (2000–1000 B.P.)** continues from earlier periods in terms of both known sites and artifacts contained in local collections. Site 19-ES-318 contained a possible Middle Woodland Period occupation located on the Egypt River in Ipswich based on the recovery of aboriginal ceramics and flakes. Sites that have yielded diagnostic

Late Woodland Period (1000–450 B.P.) Levanna projectile points include Treadwell’s Island and Eagle Hill both in Ipswich. Thin-bodied, shell-tempered ceramics found at the Sewer Site (19-ES-475) are also indicative of the Late Woodland Period and are found on many multicomponent sites and collections, but not in high numbers. The Ipswich Cove Site (19-ES-853) yielded stone tool and pottery artifacts dating from the Transitional through Early Woodland periods (Mailhot 2013).

During the **ProtoHistoric and Contact Period (450–300 B.P.)** 2Ipswich was inhabited by members of the Pawtucket group, which extended from the Saugus/Salem area north to the York, Maine area. This group is commonly referred to as the Agawams, most likely a sub-tribe of the Massachusetts under the leadership of the Penacooks (MHC 1985). Known sites from this time period are located in coastal areas of Ipswich particularly in the vicinity of the mouths of the Ipswich and Castle Neck rivers and on Treadwell’s Island (Site 19-ES-98). In the past this area may also have been the mouth of the Merrimack River, which would further increase ProtoHistoric and Contact Period settlement possibilities (MHC 1985).

Post-Contact Period (1620–Present)

3The first Europeans to obtain land rights in the Ipswich area were the owners of the Plymouth Company who established trading posts and fishing stations between the Charles and Merrimack rivers as early as 1620 during the **Plantation Period (1620–1675)**. In 1621 John Mason obtained land rights to the territory between the Namkeag and Merrimack rivers from the Plymouth Company. The first permanent colonial settlement was in 1633 when John Winthrop Jr. and 12 other men settled on the north side of the Ipswich River west of Jeffrey’s Neck. In 1634 a second group of about 100 settlers arrived and the General Court incorporated the Agawam area as Ipswich. Ipswich was settled as a centralized village around a meetinghouse, burial lot and green (MHC 1985).

The combined use of agriculture and husbandry were important aspects in the economic development of the early settlement at Ipswich. Fishing also became an important economic enterprise during the early settlement of Ipswich. Ipswich was located in a prime position for the exploitation of anadromous fish runs within larger rivers. Good wharf areas were provided in the Castle Neck area and Plum Island provided a good breakwater for harborage in the Ipswich and Eagle Hill rivers. The components of the economic base of Ipswich settlers that began during the seventeenth century continued to grow and flourish during the **Colonial Period (1675–1775)**. By 1700 most of the Ipswich workforce was engaged in various fishing activities. Numerous mills were also constructed on river drainages during this period.

Geography was perhaps the primary obstacle preventing Ipswich from developing into an important port town during the eighteenth century. The extensive coastal marsh necessitated building the town center far inland and the winding Ipswich River made it difficult for ships to reach the main settlement areas. Ipswich merchants did however own a small fleet of fishing and coasting trade vessels. Many of these vessels were built in Chebacco Parish, a part of Ipswich until Essex incorporated as a separate town in 1819. While the fishing and coastal trade continued to grow throughout the later Colonial Period and during the **Federal Period (1775-1830)**, foreign trade was

diminished by the Embargo of 1807-1808. By 1830 the Ipswich involvement in the West Indies trade had practically ceased and the distillery, lacking molasses, was forced to close (MHC 1985).

Agricultural production increased dramatically during the **Early Industrial Period (1830–1870)** despite the loss of almost 10,000 acres of farmland following the incorporation of Hamilton in 1792 and Essex in 1819. Large potato, vegetable, fruit and grain crops as well as an increased number of people employed on farms contributed to the growing agricultural economy. This expansion helped the economy overcome the virtual collapse of the fishing and coastal trade. Tonnage of ships registered in Ipswich fell from 2331 in 1830 to 428 in 1855 (MHC 1985). The manufacturing sector also developed despite the collapse of the lace industry in 1833 as former lace manufacturers turned to the manufacture of hosiery. Large stone or brick hosiery mills, including the Ipswich Woolen Mills (1863), were established during this period. Other manufacturing operations included a shoe factory (ca. 1836), 14 small shoe shops, two tanneries, three coopers and eight cabinetmakers shops (MHC 1985).

The number of farms and acres under tillage declined after 1875 during the **Late Industrial Period (1870–1915)** as farmers turned increasingly to dairying. Dairy farms required increased pasturage and agricultural production focused on providing increased amounts of livestock fodder (primarily corn) rather than grain for human consumption. The enlargement of the Ipswich Hosiery Mills and the introduction of modern weaving machinery resulted in dramatic growth in manufacturing during the period. Other important industrial activity in the last quarter of the nineteenth century was the factory production of shoes. By 1885 five shoe factories were in operation; auxiliary industries included nine blacksmith and machine shops and two box-making factories. During this period Plum Island beaches on Ipswich's coastline became an important attraction to summer tourists. A hotel and numerous summer cottages were built (MHC 1985).

With the closing of the Ipswich Mill Company in 1929 Ipswich became primarily a residential community, which has continued throughout the **Modern Period (1915–present)**. Single-family homes were built in large numbers within the central village and along the town's rural highways. Seasonal cottages were constructed on Jeffrey's Neck and Little Neck during this period. Agriculture continued to decline in the twentieth century with farming limited to southern Ipswich. A small industrial fringe emerged immediately north of the central village near Town Hill.

History of the Ipswich Mills Dam Site

A dam has existed Ipswich Mills Dam site (the site) since at least 1637, and possibly as early as 1635, making it the earliest water power privilege to be developed on the Ipswich River by English settlers. The first dam at the site was built by Richard Saltonstall, who obtained exclusive rights to the privilege, in order to power a grist mill. The dam was likely constructed of logs and stones and was located at a series of natural waterfalls on the Ipswich River known as Upper Falls that which were roughly 30 feet upstream of the present dam (Haley & Aldrich 2009; Harris 2015; Stump 2011; Waters 1905:77).

Richard Saltonstall (1610–1694) was the son of Sir Richard Saltonstall (1586-1661), First Assistant to Governor Winthrop of the Massachusetts Bay Colony and a Patentee of Connecticut. Saltonstall graduated from Emmanuel College in Cambridge, England, in 1627 and accompanied his father to New England in 1630. He settled permanently in Ipswich in 1635 and was involved as a deputy at the court in the town. Over the course of the remainder of his life, he regularly travelled between Ipswich and England, where he died in 1694 (Saltonstall 1897: 86-87).

Saltonstall's grist mill remained the only one on the Ipswich River until 1687. The vicinity of the dam had become a nexus of early industrial activity by the end of the 17th century and was known as "Mill Garden" (Waters 1905:329) due to the presence of fulling mills, sawmills, woolen mills, bark mills, dye houses, tanneries, and other establishments at this and nearby mill privileges, including the Lower Falls. In 1729, the Saltonstall family divested themselves of their financial interest in the site, selling their interest in the mills and dam to John Waite, a clothier, and Samuel Dutch, a bricklayer. At this point, the dam powered a grist mill and fulling mill, located near the southeast end of the grist mill, on the north bank of the Ipswich River and a sawmill, established by unknown persons, on the south bank of the river. Waite and Dutch sold their interests in the property a few years later and it changed hands several times before being acquired by Michael and Nathaniel Farley by 1755. The fulling mill likely "went out of use as the hand weaving in the weavers' shops all about the Town gave place to factories" (Waters 1905: 329-330). By 1792, Asa Andrews was operating the sawmill as well as a scythe mill on the south side of the river (Harris 2015; Stone 1930:414; Stump 2011; Waters 1905:329).

The industrial revolution ushered in the next significant phase of development at the Ipswich Mills Dam, shifting milling at the site away from small-scale production for the local market towards manufacturing. In the early 19th century, George Washington Heard (1793–1863)—a wealthy merchant in the China trade, his brother Augustine Heard (1785-1868), and their brother-in-law Joseph Farley became interested in establishing a lace industry in Ipswich. In 1822, the Heards and Farley convinced Benjamin Fewkes and George Warner to smuggle a lace machine (the first in the country) into Ipswich from England. Fewkes (1788–1869) and Warner were from Loughborough, England, and were skilled textile workers from mechanized hosiery knitting and lace weaving trades. In 1824, Joseph Farley and the Heard brothers opened the Boston & Ipswich Lace Company. The company produced lace until 1828, when it ceased operation, likely due to English trade interference and competition making the industry less profitable. English interference in the nascent American lace industry culminated in heavy English tariffs on thread exported to the United States, which most lace-manufacturing operations out of business by 1834. The three partners began a new venture by chartering the Ipswich Manufacturing Company to manufacture cotton cloth (Fewkes 1938:43-53; Hartmann 1996:13-15; Hurd 1888:638; Stone 1930:414).

The Ipswich Manufacturing Company was chartered with \$200,000 in capital in 1828 and was the first sizeable manufacturing corporation in Ipswich. The company expanded its cotton cloth production for several years, reaching 450,000 yards of cloth annually. Preparations for this new enterprise had begun in 1827, when Joseph Farley replaced the dam with a higher, more substantial stone dam. During the construction of the new dam, Farley was given permission to "fill up the town [ford]way, as a watering-place" (Felt 1834:101), which was located just below the dam

(Harris 2015; Waters 1917:636). The new mill for the Ipswich Manufacturing Company was constructed of stone between 1828 and 1829 and the dam and mill, identified as a ‘cotton factory,’ are indicated at the north bank of the river on the 1832 Anderson map of Ipswich (Figure 1) (Anderson 1832; Felt 1834:101; Harris 2015; Hartmann 1996:15; Stone 1930:414).

In 1830, 12-inch flashboards were added to the dam to increase the size of the impoundment. From the 1830s throughout 1850s, a regular series of compensations were made by Augustine Heard for flood damage due to the dam. By 1836, the Ipswich Manufacturing Company was encountering financial difficulties (Hartmann 1996:15; Stump 2011).

Along with the industrial development of the north bank of the Ipswich River, the earlier sawmill on the south bank of the river remained in operation, utilizing the waterpower of the dam. By the 1830s, the sawmill was under the operation of Benjamin Hoyt. In 1843, Hoyt signed a 10-year lease with the Ipswich Manufacturing Company that granted him the rights to build a new sawmill at the site of the old sawmill and to utilize waterpower at the site. Circa 1858, Hoyt’s sawmill building was purchased and moved several blocks away to 17 County Street, where it still stands today (Waters 1905:637; Harris 2015; Stump 2011).

Due to the financial difficulties faced by the Ipswich Manufacturing Company, the mill was sold to the Dane Manufacturing Company in 1846, which continued to produce coarse cotton cloth known as ‘drilling’ at the factory. The Heard family remained involved, with George W. Heard, serving as president of the new company. The Ipswich Mills Dam was not included in this purchase, remaining under the ownership of Augustine Heard. The Dane Manufacturing Company was still in operation at the site in 1856. By 1858, Heard had raised the flashboards on the dam from 12 to 18 inches, resulting in additional property damage up river from the dam and commensurate compensation from Heard (Figure 3) (Adams 1856:69; Harris 2015; Hartmann 1996:15; Harvard Business School 2011; Stump 2011; Walling 1856).

The Ipswich Mills site entered its next significant phase in 1868 when the property, presumably including the dam, was purchased by Amos A. Lawrence (1814–1886) for \$70,000 and renamed The Ipswich Mills Company, which produced hosiery and at one point became the “largest stocking mill in the country” (Stone 1930:414) and a significant player in Ipswich’s hosiery industry, which would have three companies employing 451 workers by 1880. Lawrence was heavily involved in the textile industry and was from a prominent family for which Lawrence, Massachusetts, was named. The Ipswich Mills complex expanded in size after ownership changed to the well-capitalized Lawrence family. By 1872, several new structures were present on the site, including the hosiery mill. In approximately 1880, the Ipswich Mills Dam may have been reconstructed based on technique used to cut the stone, size of the stones, and two maps showing different shaped dams. A footbridge was established atop the dam structure. By 1884, the Ipswich Mills property consisted of 9 buildings on the north bank of the Ipswich River, adjacent to the dam, known as the Ipswich Hosiery Mills (Figure 4). Between South Main Street and the south bank of the river below the dam, wood-frame buildings (unrelated to the Ipswich Mills) set on stone retaining walls and wood pilings lined the river. The area was known locally as “Little Venice” for its working class shops,

residences, and mill tenements (Beers 1872; Hartmann 1996:16; Sanborn 1887; Sanborn 1892; Sanborn 1897; Sanborn 1902; Stone 1930:414; Stump 2011; Walker 1884; Walling 1856).

The Ipswich Mills Dam was subject to unspecified repairs in 1908 according to Stump (2011), presumably to increase or improve the reliability of the available waterpower. The year 1908 was a time of great expansion at Ipswich Mills, with considerable construction at the mill site including the demolition of the 1829 stone mill to make way for a new knitting mill (Figure 2). The complex continued to grow as the company entered a period of peak prosperity. The knitting mill (no longer extant), was located immediately adjacent to the dam on the north bank of the Ipswich River. Ipswich Mills also owned two small wood buildings, possibly worker housing, adjacent to and upstream the dam on the south bank of the river. Ipswich Mills reached its peak in prosperity and productivity during WWI, with strong demand from European armies and rising domestic demand, and was the reportedly the largest hosiery manufacturer in the world from 1916 until 1919 (Harris 2015; Hartmann 1996:13-17, 21; Sanborn 1907; Sanborn 1916; Stump 2011; Walker 1910).

After WWI, Ipswich Mills experienced a rapid decline, with a 50% slowdown in production in late 1920 due to consumer demand for higher grade hosiery than the dated circular cotton stockings that were being produced. Ipswich Mills also faced increased competition, evidenced by the organization of the Hayward Hosiery Company in Ipswich in 1922. The Ipswich Mills Company ceased operation in 1928 and the machinery was sold to mills in Moscow, Russia (Hartmann 1996:21; Sanborn 1929; Stone 1930:414; Stump 2011).

The Ipswich Mills complex sat empty until it was purchased by Ernest Currier for unknown uses in 1932 for \$13,000. The Ipswich Mills buildings and Dam were purchased by Sylvania Electronic Products, Inc. (Sylvania) in 1941, which produced products including “proximity fuses, military and commercial transformers as well as tungsten coils” (Stump 2011). During WWII, Sylvania participated in then-secret war work for the Navy, employing 1,200 workers to build proximity fuses that aided in the Allied victory. In the mid-1960s, the Ipswich Mills Dam was purportedly replaced by the Stephen A. Stickney Co. of Boxford, Massachusetts. In the 1970s, Sylvania demolished approximately 50% of the Ipswich Mills complex, including the machine shop and the knitting mill adjacent to the dam, which were demolished in 1973. The Town of Ipswich purchased the dam from GTE Sylvania in 1982. Osram Sylvania sold the remaining Ipswich Mills buildings to EBSCO Publishing in 1995, who rehabilitated the mills in 1996 and continue to utilize them currently (Harris 2015; Stump 2011). (Harris 2015; Hartmann 1996:13; Newton et al. 2001:22; Sanborn 1944; Stump 2011; Varrell 2006:76-77).

Known and Expected Cultural Resources

Archaeological Resources

There are over 60 recorded pre-contact sites along the Ipswich River and at its outlet in Ipswich Harbor. While most of these sites have been recorded on the basis of avocational collections many of which are housed at the Peabody Essex Museum in Salem, their presence indicates a long history of human occupation focused on the river’s estuarine resources including herring by both Native

American and early English settlers. A review of the state's inventory of archaeological records indicates two pre-contact Native American sites on the east side of the river within approximately 600 feet of the Ipswich Mills Dam between the river and County Street. No information other than location is recorded for the unnamed site MHC #19-ES-101, although artifacts recovered from this area are reportedly on file at the Peabody Essex Museum in Salem. The other site, MHC #19-ES-853, is known as the Ipswich Cove Archaeological Site, located on the Heard House (presently Ipswich Museum) property at 54 South Main Street. The site has been investigated by both avocational and professional archaeologists resulting in the recovery of over 300 pre-contact artifacts consisting of chipped and groundstone tools, pottery, and a possible lithic workshop. The site is multi-component, featuring artifacts from the Late Archaic, Transitional Archaic, Early Woodland, and possible PaleoIndian Period (Mailhot 2013; Mailhot and Donohue 2013).

In addition, there are six recorded post-contact archaeological sites in the same geographic area between the river and County Road within 600 feet of the Ipswich Mills Dam. All of the sites are related to residential (homestead) occupations dating from the seventeenth through twentieth centuries and associated with the earliest town settlement in the South Green Historic District (MHC #IPS.J) described in detail below for the historic resources. They were identified through archival research as part of a town-wide historical survey conducted by Boston University in the late 1970s (Starbuck et al. 1979). One of these sites, the Rachel Haffield Homestead Site (MHC #IPS-HA-52), is situated on the Samuel Dutch Homestead Property (MHC #IPS.26) that borders the east side of the dam between the river and the south side of South Main Street. In 1655 the town gave Widow Rachel Haffield a small lot near the mill dam on the Ipswich River on which she erected a dwelling. She later was one of only a few individuals in Ipswich to be brought to trial for witchcraft in 1692 and was acquitted the following year. The extant house on the lot was built ca. 1723 by Samuel Dutch, a mariner, who purchased the Haffield house lot and 2/3 interest in Nathaniel Saltonstall's sawmill standing on the south (east) side of the river and 2/3 interest in the dam. He sold his homestead along with mill and dam interests to John Treadwell, an innkeeper, in 1742, and it continued to change ownership through the nineteenth century. The remains of the seventeenth century dwelling may have been destroyed or incorporated into the Dutch House when it was built in 1723. The property is considered to have the potential to contain material cultural and structure remains dating to the seventeenth and eighteenth centuries (Savulis 1979 in MHC site files).

A review of historic town histories and town maps indicates that a sawmill was located on the south side of the dam between the extant houses at #41 and #45 South Main Street (MHC #IPS.26 and #IPS.31). The sawmill appears on both the 1795 and 1832 maps of Ipswich. As noted above in the dam site's history, the sawmill was in existence by ca. 1723 when Nathaniel Saltonstall sold his 2/3 interest in the mill and the dam to Samuel Dutch. The mill was near a ford way or footbridge for crossing the river in the early 1600s, but the ford way fell into disuse after the County Street bridge was built in 1647 when South Main Street from the dam north to the junction with Market Street was likely opened (Waters 1905). The sawmill remained in operation for over 100 when it was sold in 1836 along with the adjoining water way land to the Ipswich Manufacturing Co. that operated on the north side of the dam. A scythe mill may have operated in conjunction with the sawmill on the south side of the dam for a short period of time when it was owned by Asa Andrews from 1794 to

1813 (Stump 2011). In 1846 the water way from the bend in South Main Street west to the dam was closed by permission of the Town and County with provision for a public right-of-way and access by the neighboring landowners. The original sawmill was reportedly taken down and a new mill for veneer sawing was erected ca. 1843 by Benjamin Hoyt on the same site. The new mill at the dam site operated under the name “Hoyt’s Veneer Mill” until it was moved by James Wellington ca. 1858 to 17 County Street where it operated as “Perkins & Daniels Stocking Factory” in the upper story and by Wellington as a dwelling in the lower story (Waters 1905; Harris 2016).

In the river near the dam, Nathaniel Rust and Samuel Hunt were permitted to construct a stone fish weir at “the Falls” as long as it did not “hinder the mill nor passage thereto.” The Upper Falls was a natural location in the river where “millions of herring, shad, salmon, and alewife swam upstream each year to their spawning grounds (Stump 2011). Town records indicate the weir had stone walls built down the stream that connected at a forty-five degree angle, where a cage built of hoops with twigs fastened to them was placed. The walls directed the fish down to the cage where they were reportedly collected in great numbers (Felt 1834:108). On the north side of the dam the documented seventeenth and early eighteenth century mills including a gristmill, fulling mill, and hemp mill opposite the river from the sawmill were all supplanted by the lace factory (Ipswich Manufacturing Co., later Ipswich Hosiery Mills) in the 1820s including the construction of a new stone dam (discussed above in the dam site’s history). However, the National Register nomination form for the Ipswich Mills Historic District ((MHC #IPS.I) indicates a high potential for pre-contact Native American and post-contact mill-related resources including legacy dams that may be deeply buried in fill deposits and river sediments on both sides of the current dam and north/west river shoreline (Hartman and Friedberg 1996).

Historic Resources

The Ipswich Mills Dam is not currently an historic property—it has not been listed or determined eligible for listing in the National Register of Historic Places (the National Register), and it is not included in the MHC’s Inventory. The Ipswich Mills Dam is immediately adjacent to, but not included within the bounds of two historic properties listed in the National Register and the State Register: the Ipswich Mills Historic District (MHC #IPS.I), listed 7/9/1996; and the South Green District (MHC #IPS.J), listed 9/17/1980 (Hartman and Friedberg 1996; Welden 1978).

The Ipswich Mills Historic District is a well preserved example of a hosiery manufacturing complex and related worker housing set within approximately 20 acres of land bounded by Union and Saltonstall streets on the north, following Estes and Kimball streets on the west, and bounded by the Ipswich River on the south and east. The historic district is significant for its associations with the Ipswich Mills and the collection of mill and residential buildings that make up the district provide an important visual narrative of the key industry in Ipswich’s manufacturing economy, as well as illustrating the broad patterns of New England industrial development and the role of immigrant groups therein. The buildings of the Ipswich Mills Hosiery Manufacturing Company (MHC #IPS.356), which contribute to the significance of the historic district, are located at the west end of the Ipswich Mills Dam. The dam, although it is historically associated with the operations of

the Ipswich Mills, is excluded from the historic district boundaries. The period of significance for the property extends from 1850 until 1946 (Hartman and Friedberg 1996).

The South Green Historic District is a collection of seventeenth, eighteenth, and nineteenth century homes, a Unitarian Church, and the South Green—a public common. The district encompasses approximately 17 acres bounded by Elm Street to the north, following Elm Street on the east, bounded by Saltonstall Creek on the south, and bounded by the Ipswich River on the west. South Green was established as common land in 1636 developed as a residential, religious, and educational center for the Ipswich community from that date until circa 1900. The property is significant because of its associations with the social development of Ipswich and for its collection of distinguished residential architecture. Ipswich Mills Dam abuts the northwest corner of the historic district, and does not appear to have any substantial associations with the development of that property. The period of significance for the South Green Historic District is not defined in the National Register documentation, but likely extends from 1636 until circa 1900 (Welden 1978). Two contributing resources to the South Green District—the Samuel Dutch House (MHC #IPS.26) and the Dr. Philomen Dean House (MHC #IPS.31)—are located immediately adjacent to the dam.

Management Recommendations

If the Project progresses into design and permitting, it may be subject to review under federal, state, and local legislation that provide protections for significant historical and archaeological properties.

The National Historic Preservation Act

Federal funding and/or permitting of the Project will trigger review under Section 106 of the National Historic Preservation Act (NHPA), as amended, and its implementing regulations (36 CFR 800). Section 106 requires that Federal agencies having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking shall “take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register [collectively termed historic properties].” As outlined in 36 CFR 800—Protection of Historic Properties, the process to meet this requirement (collectively termed the Section 106 Process) is consultative; involving the federal agency official, the Advisory Council for Historic Preservation (ACHP), the State Historic Preservation Officer (SHPO—in Massachusetts, the MHC), Tribal Historic Preservation Officers, local governments (typically in the form of a local Historical Commission such as the Ipswich Historical Commission), and other interested organizations and individuals (collectively, the consulting parties). There are four steps in the Section 106 Process: 1) initiate the process; 2) identify historic properties; 3) assess adverse effects; and 4) resolve adverse effects.

As detailed above, the Ipswich Mills Dam is not currently an historic property, nor does it contribute to the significance of any historic properties. If the Project proceeds within the Section 106 Process, then the historic property identification (step 2) as it relates to historic resources would likely consist of a survey of the Ipswich Mills Dam to determine if the structure is an historic property. The scope of such a survey effort would be subject to the recommendations of the SHPO/MHC. If the Ipswich Mills Dam is determined to be an historic property, then any

substantial alteration or wholesale removal of the structure that is unavoidable would likely result in a finding of adverse effect (step 3) that would need to be resolved.

Also, as described above, the dam is not recorded as an archaeological site, but there are a number of pre-contact and post-contact archaeological sites inventoried on the east side of the river within 600 feet of the dam and river shoreline. The river channel and the west and east shorelines and adjacent areas have been previously identified as possessing generally high sensitivity for known and previously undocumented archaeological resources including pre-contact Native American habitation sites and post-contact seventeenth through early twentieth-century residential and mill-related sites including legacy dams in the river channel sediments. If the Project proceeds within the Section 106 Process, similar to historic properties, there would most likely need to be an archaeological survey identification and evaluation effort (step 2), subject to review and recommendations by the SHPO/MHC. Any archaeological survey would need to be conducted under a State Archaeologist's permit issued by the MHC to ensure that the technical team has the appropriate qualifications and expertise, and that the scope of work (proposed archaeological survey research design, field methodology, and reporting standards) meets the regulatory and legislative needs of the Project. If any significant archaeological sites are identified, and avoidance of Project impacts is not deemed feasible, then similar to historic resources, there would be a finding of adverse effect (step 3) that would need to be resolved.

The resolution of adverse effects (step 4) for dam removals including both above- and belowground cultural resources is typically accomplished by minimizing or mitigating the adverse effects. The resolution measures are typically formalized through a Memorandum of Agreement (MOA) developed by and executed among the consulting parties. Minimization of the effects is accomplished through a modification of the Project design (where technically feasible) in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties* (36 CFR 68). Mitigation on dam removal projects in Massachusetts is usually accomplished by producing a permanent record of the historic property through archival photographic and written documentation for aboveground resources, and through data recovery and/or construction monitoring for archaeological resources. Elements of a historic property may also be left in place, salvaged and reused in a sensitive fashion, or donated to a museum. Finally, a public interpretive component such as a wayside panel, internet site, or brochure is often included in dam removal mitigation work.

Massachusetts General Laws

If state funding and/or permitting is utilized and/or permitting through the Massachusetts Environmental Policy Act (MEPA) is needed, the Project will be subject to review under Massachusetts General Laws (MGL), Chapter 9, sections 26-27C (950 CMR 70/71) and MEPA (301 CMR.11). Both 301 CMR.11 and 950 CMR 70/71 provide for the protection of historic properties listed in the National Register or State Register of Historic Places, accomplished through a consultative review process similar to the Section 106 Process. Where both Section 106 and 950 CMR 70/71/301 CMR.11 are applicable, the two review processes are typically coordinated at the same time to facilitate the agency consultations.

General By-laws of the Town of Ipswich

General By-laws of the Town of Ipswich include two provisions protecting historic properties (Town of Ipswich 2016). At present, neither provision would appear to apply to the removal of the Ipswich Mills Dam, although consultation with the Ipswich Historical Commission will be required to determine this with certainty (John Fiske, Ipswich Historical Commission; personal communication with John Daly, PAL; April 28, 2016).

Chapter XVI—Procedure for Delaying the Demolition of Historically or Architecturally Significant Buildings allows the Ipswich Historical Commission to prohibit demolition of significant buildings over 75 years of age for a 1-year period. For purposes of this Chapter, buildings are defined as “any combination of materials, whether portable or fixed, having a roof, the purpose of which is the shelter of persons, animals, property, or processes.” (Town of Ipswich 2015:9). The Ipswich Mills Dam would not appear to meet the definition of a “building” (Town of Ipswich 2016:110).

Chapter XXII—Architectural Preservation District establishes an Architectural Preservation District (APD) within which an Architectural Preservation District Commission (APDC) exercises review of proposed alterations to buildings and their settings. The Ipswich Mills Dam (as well as the Ipswich Mills Historic District) is not within the boundaries of the APD and the Project is therefore not subject to APDC review (Town of Ipswich 2014, 2016:143).

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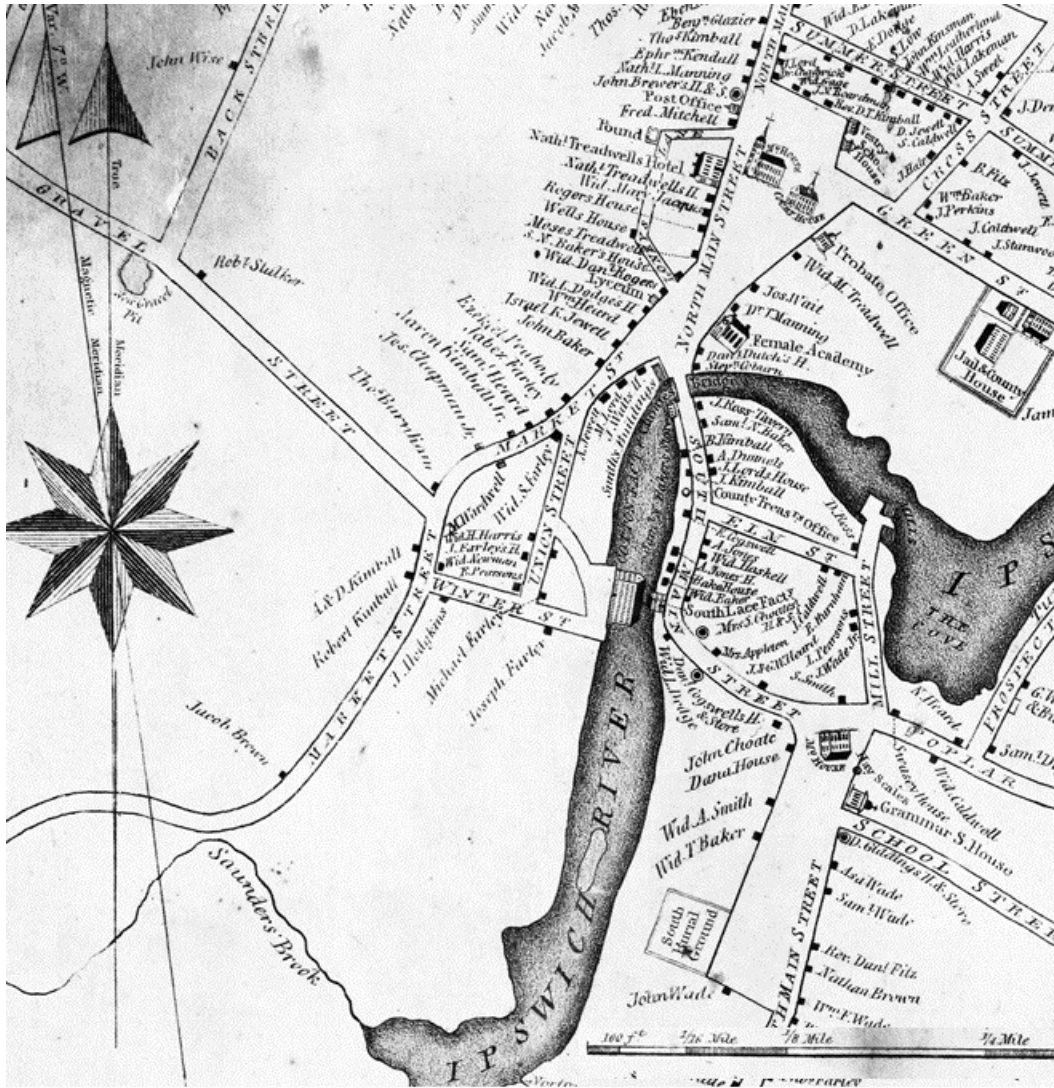


Figure 1. 1832 Plan of Ipswich Village, showing location of the Old Stone Mill (Anderson 1832).

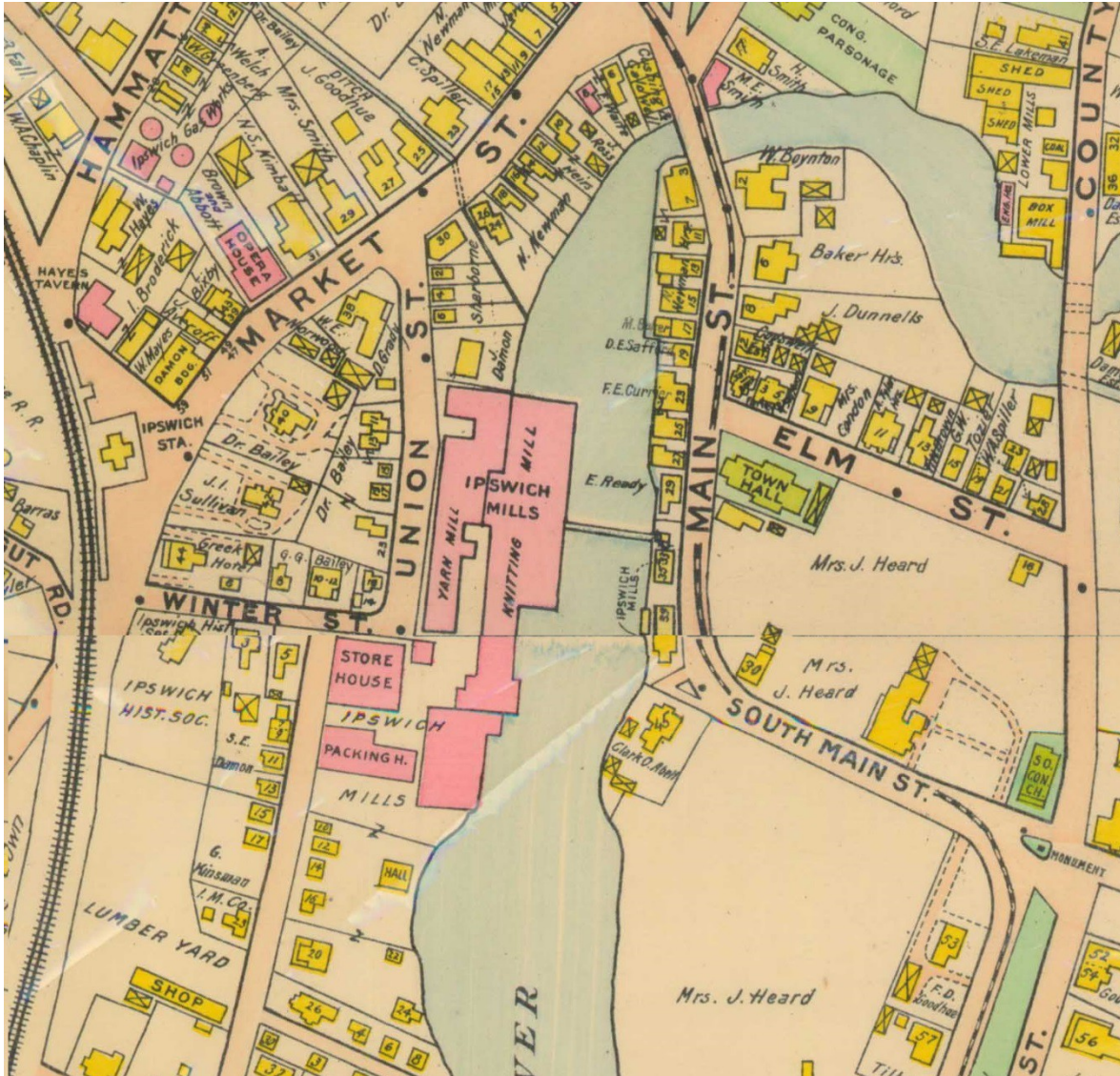


Figure 2. 1910 Map of Ipswich, showing the Ipswich Mills Complex and Dam (Walker 1910).



Figure 3. Ca. 1867 photograph of Ipswich Mills Dam, showing “foot-bridge” and “water-way” (Waters 1917:678).



Figure 4. Ca. 1896 photograph of the Ipswich Mills Dam, looking south (upstream) towards dam (Courtesy Ipswich Public Library, Ipswich, MA).⁵