

HISTORICAL DOCUMENTATION

**CARVER COTTON GIN COMPANY COMPLEX :
DAM AND RIVER RETAINING WALLS AND
BLACKSMITH SHOP AND HARDENING BUILDING**

East Bridgewater, Massachusetts

John J. Daly
Michelle H. Johnstone

Submitted to:

**United States Department of the Interior
Fish and Wildlife Service**
70 Commercial Street, Suite 300
Concord, NH 03301-5087

Submitted by:

The Public Archaeology Laboratory, Inc.
26 Main Street
Pawtucket, Rhode Island 02860



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HISTORICAL DOCUMENTATION
CARVER COTTON GIN COMPANY COMPLEX, DAM AND RIVER RETAINING WALLS

<u>Location:</u>	Satucket River, near intersection of Whitman and Plymouth Streets Carver Cotton Gin Company Complex, 15 Whitman Street East Bridgewater, Massachusetts USGS Whitman, MA, Quadrangle, 1977 Universal Transverse Mercator Coordinates:19.338415.4653879
<u>Date(s) of Construction:</u>	1890–1900
<u>Architect/Engineer:</u>	Unknown
<u>Present Owner:</u>	Valle Property, LLC
<u>Present Occupant:</u>	Not Applicable
<u>Present Use:</u>	Unused
<u>Significance:</u>	<p>The Carver Cotton Gin Company Dam and River Retaining Walls are important historical water power components of the Carver Cotton Gin Company complex (MHC No. EBR.10, see Appendix B), an historic factory significant for its contributions to East Bridgewater's economic development, for the unique connections it fostered between Massachusetts and the national cotton textile and cotton seed processing industries, and as a grouping of factory buildings and structures that was built for the purpose of manufacturing cotton gins and other machinery. Bridgewater native Eleazer Carver (1785–1866); a mechanic, inventor, and entrepreneur; founded the Carver Company in 1842–1846 to manufacture and sell his patent cotton gins. Carver and successive leaders steadily expanded the sales, product offerings, and physical plant of the company until it was the largest and most important manufacturing company in East Bridgewater and a national leader in cotton gins and other cotton processing equipment. The company is one of only four cotton gin manufacturers that operated historically in Massachusetts. The extant complex was built in multiple phases between 1872 and ca. 1960 and housed all phases of production until the closure of the Carver Co. in 1992. The larger manufacturing buildings in the complex are of typical late-nineteenth-century “loft” construction with flat or gable roofs, load-bearing brick walls, and fire-resistive wood framing on the interior. These factories feature regular ranks of large segmental arch windows, overhanging eaves and fascia boards, and arched door openings that demonstrate a Classical Revival Style influence. Other buildings and structures in the complex include store houses, a garage, an office, two bridges, and a dam. These display the functional attributes of their building types but are otherwise of undistinguished vernacular industrial design. The Carver Cotton Gin Company Dam was built 1890–1900 to replace an older dam and provide a reliable and increased source of water</p>

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power for machine tools and fire suppression in the complex (Daly 2016).

Project Information:

The Nature Conservancy (TNC) and its project partners, including the United States Department of the Interior, Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), and the Massachusetts Department of Fish and Game's Division of Ecological Restoration (MA DER), have undertaken the Carver Cotton Gin Dam Removal Project (the Project) in East Bridgewater, Massachusetts. The Carver Cotton Gin Dam was in poor condition and classified as an Unsafe, Significant Hazard dam. The Project's purpose was to mitigate the hazard presented by the structure and to provide river access and spawning habitat for river herring, alewife, and American eel, as part of a multi-partner effort to connect major tributaries of the Taunton River with the mainstem, Narragansett Bay, and the ocean. Removal of the Carver Cotton Gin Dam proceeded with federal funding provided by the Department of the Interior under the Disaster Relief Appropriations Act of 2014 and assistance from the USFWS, and the Project is therefore an undertaking subject to review under Section 106 of the National Historic Preservation Act of 1966 (NHPA) and its implementing regulations at 36 CFR Part 800. In accordance with the NHPA, the USFWS (acting as Lead Federal Agency for the undertaking) consulted with the Massachusetts Historical Commission (MHC)/Massachusetts State Historic Preservation Officer (MASHPO) and determined that the Carver Cotton Gin Dam contributed to the significance of the Carver Cotton Gin Company complex—a historic property—and that the Project would therefore result in an adverse effect under the NHPA. In order to mitigate the adverse effect, this Massachusetts state-level documentation of the property before and after Project activities was stipulated as part of a Memorandum of Agreement (MOA, Appendix C) among the USFWS, the MHC/MASHPO, the Massachusetts Board of Underwater Archaeological Resources (MBUAR), the NMFS, and TNC. The Public Archaeology Laboratory, Inc. (PAL) of Pawtucket, Rhode Island, was retained by the project partners to complete this documentation in accordance with MHC/MASHPO archival documentation standards.

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January 2018

PART I. DESCRIPTIVE INFORMATION

The Carver Cotton Gin Company Dam (the Dam) is a masonry structure located in East Bridgewater, about 2 river miles upstream (north¹) of the confluence of the Satucket River with the Town River in Bridgewater. The Dam is sited in a shallow riverbed about 120 feet (ft) downstream of the Plymouth Street Bridge (reconstructed 1971) over the Satucket River. The surrounding level terrain is built up with the Carver Cotton Gin Company complex along Whitman and Plymouth Streets (both part of MA Route 106), which in turn is surrounded by eighteenth- and nineteenth-century residences and farmsteads.

The Carver Cotton Gin Company complex is a dense group of 23 buildings, 3 structures, and 1 object with associated landscape features spanning the Satucket River on two level parcels (totaling approximately 9 acres) at the intersection of Whitman and Plymouth streets (see Appendix B for a complete description). Immediately adjacent to the Dam are the Blacksmith Shop and Hardening Building (see associated historical documentation) to the west and open circulation areas for the factory complex to the east. The Dam, whose flashboards are permanently removed (as of 2001) formerly impounded the river for a distance of approximately 1,000 ft upstream (north). The perimeter of the former impoundment area upstream of Plymouth Street is largely undeveloped woodland. The river channel immediately downstream of the Dam, and the impoundment between the Dam and bridge are entirely channelized by the River Retaining Walls, which are mortared rubblestone walls (described below) built by the Carver Cotton Gin Company (the Carver Co.).

The Dam is a run-of-the river, concrete and stone, gravity-type structure consisting of abutments, a spillway, and a sluiceway. The spillway was formerly flanked to the east by an earth berm dam section; this is now buried beneath fills behind the east dam abutment, or possibly demolished (see Historical Information below). The Blacksmith Shop and Hardening Building of the Carver Co. factory complex adjoin the Dam at its west end.

The dam's concrete spillway is 44 ft long, with a triangular cross section measuring 10 ft high (above the riverbed), 8 ft wide at the base, and 1 ft wide at the crest. The upstream face of the spillway has a compound slope, with a shallower pitch on the structure's lower half. The spillway possesses a rubblestone, cobble, and brick core (possibly the remnants of an earlier dam) encased within about 4–12 inches of poured concrete. Six cast-iron stanchions project from the flat crest and formerly supported wood flashboards and a wood and timber catwalk (now removed). A door from the Blacksmith Shop and Hardening Building and an iron ramp on the east river wall formerly provided access to the catwalk.

A poured concrete sluiceway (built or rehabilitated in 1969) is set near the west end of the spillway and surmounted by a painted, rolled steel frame. The gate opening is 5.5 ft wide and 10 ft high and formerly housed two vertical-lift gate leaves. The gate leaves and operating mechanisms were removed in 2001; the gate stems remain in place. The year "1969" is inscribed into the concrete of the gate frame. A 12-inch iron water line (function unknown) runs through the foundation of the gate frame and extends into the river channel downstream of the Dam.

The spillway abutments are 6–12-inch-thick poured concrete walls integrated into the river training walls. The dam is in poor condition, and a portion of the spillway is collapsing.

¹ The Satucket River flows from northeast to southwest at the Dam. For descriptive purposes, the Satucket River is assumed to flow north/south, with the river right being the west bank and river left being the east bank.

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A fragment of a poured concrete fish ladder (added 1920) approximately 10 by 15 ft in plan rises from the river bed immediately downstream of the dam. Other concrete work within the spillway may have been added at this time also. Water from the impoundment behind the dam was formerly diverted into a forebay, thence to a turbine in a wheel pit; all located beneath the Blacksmith Shop and Hardening Building (see associated historical documentation).

The River Retaining Walls (established in the 1840s, extended 1872, 1900–1912) are mortared rubblestone structures approximately 8 ft in height. These extend from the dam abutments approximately 400 ft downstream of the dam to support land-filled areas on either side that are employed as the sites of factory buildings and millyards. A tailrace exiting from beneath the Blacksmith Shop and Hardening Building passes through the west retaining wall approximately 60 ft downstream of the dam. The east retaining wall is topped with a poured concrete cap. Immediately downstream of the east abutment, the east retaining wall slopes down, indicating the former location of the earth berm portion of the dam. This portion of the retaining wall is partially collapsed. Several steel I-beams project from the face of the east wall near the top. These beams, now cut off, were part of an undocumented platform or building that spanned the river channel. Upstream of the dam, the two retaining walls flair out to create a wider impoundment/river channel. The east river wall bends northeast and terminates approximately 35 ft upstream of the dam at a sloped and rip-rapped embankment. The west river wall angles west and north under the Blacksmith Shop and Hardening Building as part of the building's foundation before transitioning into a concrete wall approximately 55 ft upstream of the dam.

PART II. HISTORICAL INFORMATION²

Exploitation of the Satucket River for water power at the site of the Carver Cotton Gin Company Dam began about 1724–1726 for purpose of sawmilling (see a complete history of the site in Appendix B). This was followed by several changes in ownership and various milling and manufacturing enterprises that culminated in the 1820s–1840s with a cotton textile mill and tack factory.

In 1842–1843, Bridgewater native Eleazer Carver (1785–1866) and his business partners Caleb S. Hunt and Franklin Dexter³ acquired the textile mill and tack factory and dam and water privilege. Carver had trained as a millwright in New England and then, after an itinerant period, settled around 1807 in the cotton farming and cotton gin⁴ manufacturing center of Natchez, Mississippi. Carver soon entered into the cotton gin trade, which was then a largely a craft enterprise. He sought to mechanize the gin manufacturing process and established a gin factory in Natchez in 1817.

² Unless otherwise cited, historical information is extracted and condensed from the Carver Cotton Gin Company Complex Area Form (MHC No. EBR.10), attached as Appendix B (Daly 2016). Refer to this appendix for a detailed site history.

³ Caleb Reed, John Reed, and Sampson Reed are listed as partners in some accounts of the business, but these names do not appear on the enabling legislation for the corporation.

⁴ Cotton gins are used to remove the seeds from and partially clean raw cotton after its removal from the cotton plant and occupy an important place in the processing of cotton into textiles. The invention of the first successful mechanical cotton gin is apocryphally attributed to famous American inventor Eli Whitney in 1793, although a number of people had invented mechanical gins. The introduction of the mechanical gin is widely credited with having a transformational effect on cotton farming, and, by extension, the textile industries of the eastern United States.

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About 1819, Carver established Carver, Washburn & Company, headquartered in Bridgewater, Massachusetts, then incorporated this firm as the Bridgewater Cotton Gin Manufacturing Company in 1825. His partners were Solomon Washburn, Seth Washburn, Abram Washburn, Artemas Hale, Abram Washburn Jr. (aka the second), and Nathaniel Washburn, and together they established a cotton gin factory (no longer extant) for manufacturing the "Carver Gin" on Summer Street in Bridgewater at the outlet of what is now Carver Pond. This was Massachusetts' first cotton gin factory and one of only four that operated historically in the state.⁵ Carver's company established an extensive network of sales agents across southern cotton-growing states and quickly formed a reputation that made the Carver cotton gin the standard in the industry. Carver's success was also attributable to his close study of early cotton gins and their problems, from which he was able to develop several important patents for gin components as well as machines for their manufacture.

Sometime in the late 1830s or early 1840s, there was a split (not described in historical accounts) between Carver and Albert Washburn that led to Carver's departure and his acquisition (with Hunt and Dexter) of the Dam site along with the cotton textile mill and tack factory. In 1846, Carver, Hunt, and Dexter incorporated as the E. Carver Company to manufacture cotton gins. During the 1840s, the gin factory's dam was at or near the location of the present Dam. Carver repeated the success of his first company, and he remained involved with its day-to-day affairs until his death in 1866.

The officers of the company reincorporated as the Carver Cotton Gin Company in 1871; however, a large fire destroyed the premises in 1872. The extant Carver Cotton Gin Company Factory was built in its place, and a new dam (the predecessor of the extant Dam) was apparently built just downstream of the older dam at this time. This dam structure consisted of a rubblestone spillway with wood sluiceways near both ends. At the west end of the dam was a wheel house (which probably contained a turbine by this date) connected to an engine room that powered the company's machinery. A portion of the West River Wall was established by this date and supported the wheel house. At the east end of the dam was a wood sawmill or shed atop the dam abutment. A fishway consisting of a long straight wood trough supported on timber posts and stacked stones ran downstream from the east end of the dam.

After the fire, the Carver Co. persisted as the leading manufacturer of cotton processing equipment and expanded into lines of machinery for shoes (over 40 types of machines), shingles, and boxes and paper products. The company entered into international markets, and customer demand led to multiple, frequent expansions of the company's physical plant, including the construction of the current Dam ca. 1890–ca. 1906. Based on historical photographs (reproduced below), the stone spillway of the older dam was partially disassembled, then encased in concrete. The west sluiceway was replaced with a concrete gate and the east sluiceway was entirely removed and replaced with an extension of the spillway. The sawmill or shed at the east end of the dam was demolished and an earth berm extension of the dam built in its place. The dam work coincided with the installation of a new turbine in the wheel house at the west end of the dam.

⁴ Carver's influence led to the establishment of two additional cotton gin factories in Bridgewater, making Bridgewater and East Bridgewater two of only three communities to manufacture cotton gins in the entire state of Massachusetts. The other two Bridgewater companies were Bates, Hyde & Co. (founded 1833, later the Eagle Cotton Gin Company) and the Southern Cotton Gin Company (founded ca. 1840). There had also been a short-lived cotton gin factory in Braintree in the 1820s (Lakwete 2003:92; Sampson, Davenport, & Co. 1867:479; 1874:354; Spence 2008:6,7).

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During the first third of the twentieth century, the success of the company continued, and further physical expansion was required. About 1900–1912, the east River Wall was constructed and the west River Wall extended downstream to allow for landfilling along the river and the construction of new factory buildings and ancillary structures. In 1920, the concrete spillway (now only partially extant) was installed at the Dam in an effort to restore alewife passage on the river. Installation of the fishway was in accordance with Chapter 365, Acts of 1904, which required dam owners to install suitable fishways at their own expense and keep them open at specified times, under penalty of a fine of \$50 per day for non-compliance (Cherau and Daly 2017:20). Small differences in the sluiceway and spillway as it appeared in ca. 1901–1906 and its current appearance show that additional, undocumented alterations have been made to the dam—these may have occurred in 1920 at the same time that the fishway was installed.

In 1938, the Murray Company of Texas (another manufacturer of cotton seed cleaning and separating machinery) bought the Carver Co. and Dam. The Murray Company retained the Carver name because of its strong market recognition, but ceased manufacture of the cotton gin to focus on the linter machine, which removed short (less than 1.5 inches) cotton fibers and machines for processing the seed hulls (used for stock feed and synthetic rubber production) and the seed kernel (used for soaps and cooking oils). Between the 1940s and 1960s, the steel beams were erected spanning the Satucket River channel and anchored into the River Retaining Walls for an unknown physical expansion.

In 1965, the Murray Company merged with the Rockwell Standard Corporation of Pittsburgh, Pennsylvania. In 1967, Rockwell merged with North American Aviation to form the North American Rockwell Corporation, headquartered in California. During this period, the dam is supposed to have continued to support manufacturing at the Carver Co. factory on a limited basis, providing some 50 horsepower to various machine tools. The date “1969” is inscribed on the dam’s sluiceway, indicating that the steel gate frame was likely added at this time, and the sluiceway’s concrete opening may have been modified as well.

In 1988, ownership of the dam passed to RBZP Realty Group, Inc., then to a series of banks, with Carver, Inc. leasing the property. The Carver Co. vacated the premises and relocated to Savannah, Georgia, in 1992. After this date, the Carver Co. factory complex in East Bridgewater was used by various light manufacturing and industrial tenants. Several of the buildings remained vacant. The dam was no longer used; its sluiceway was permanently opened and the impoundment drawn down in 2001 to comply an order from the Massachusetts Office of Dam Safety. At an unknown date after July 2002, the Dam's sluiceway gate leaf, flashboards and catwalk were removed (photograph dated July 2, 2002; East Bridgewater Public Library Collection).

PART III. SOURCES OF INFORMATION

Reports and Forms

Cherau Suzanne and John J. Daly

2017 Technical Memorandum: Carver Cotton Gin Dam Removal Project, East Bridgewater, Massachusetts. Prepared for the Massachusetts Division of Ecological Restoration, Boston Massachusetts. The Public Archaeology Laboratory, Inc. Pawtucket, RI.

Daly, John J.

2016 Carver Cotton Gin Company (EBR.10). Massachusetts Historical Commission Form A–Area. On file, Massachusetts Historical Commission, Boston, MA.

Archives and Special Collections

East Bridgewater Public Library

Var. Miscellaneous newspaper clippings, documents, and photographs in Carver Cotton Gin Vertical files; Miscellaneous pictures Box 7, Folder 4, 5, and 14; and Scrapbook Series Vol. 2. On file, East Bridgewater Public Library, East Bridgewater, MA.

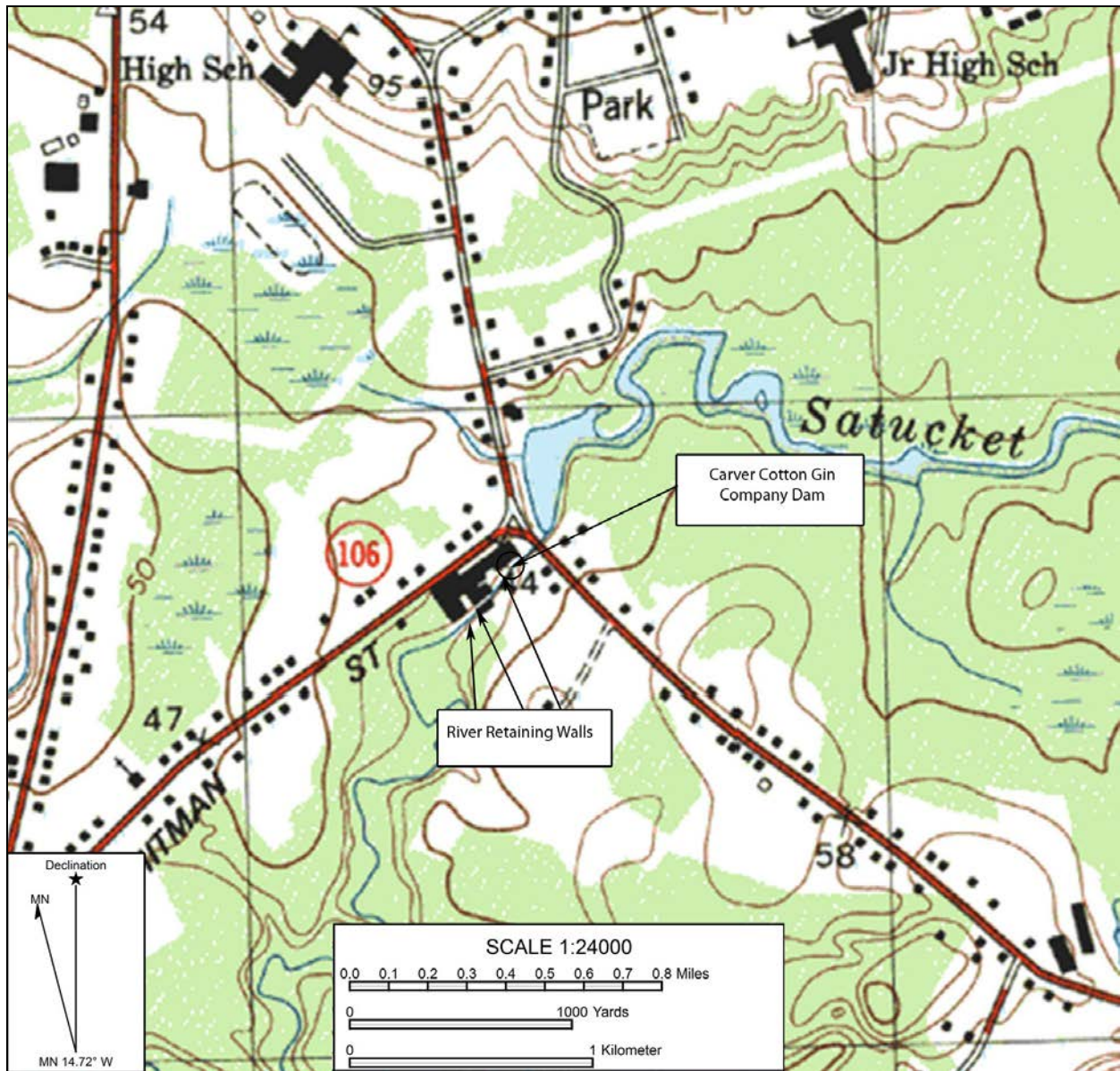
Old Bridgewater Historical Society

Var. Miscellaneous newspaper clippings and documents. On file, Old Bridgewater Historical Society, West Bridgewater, MA.

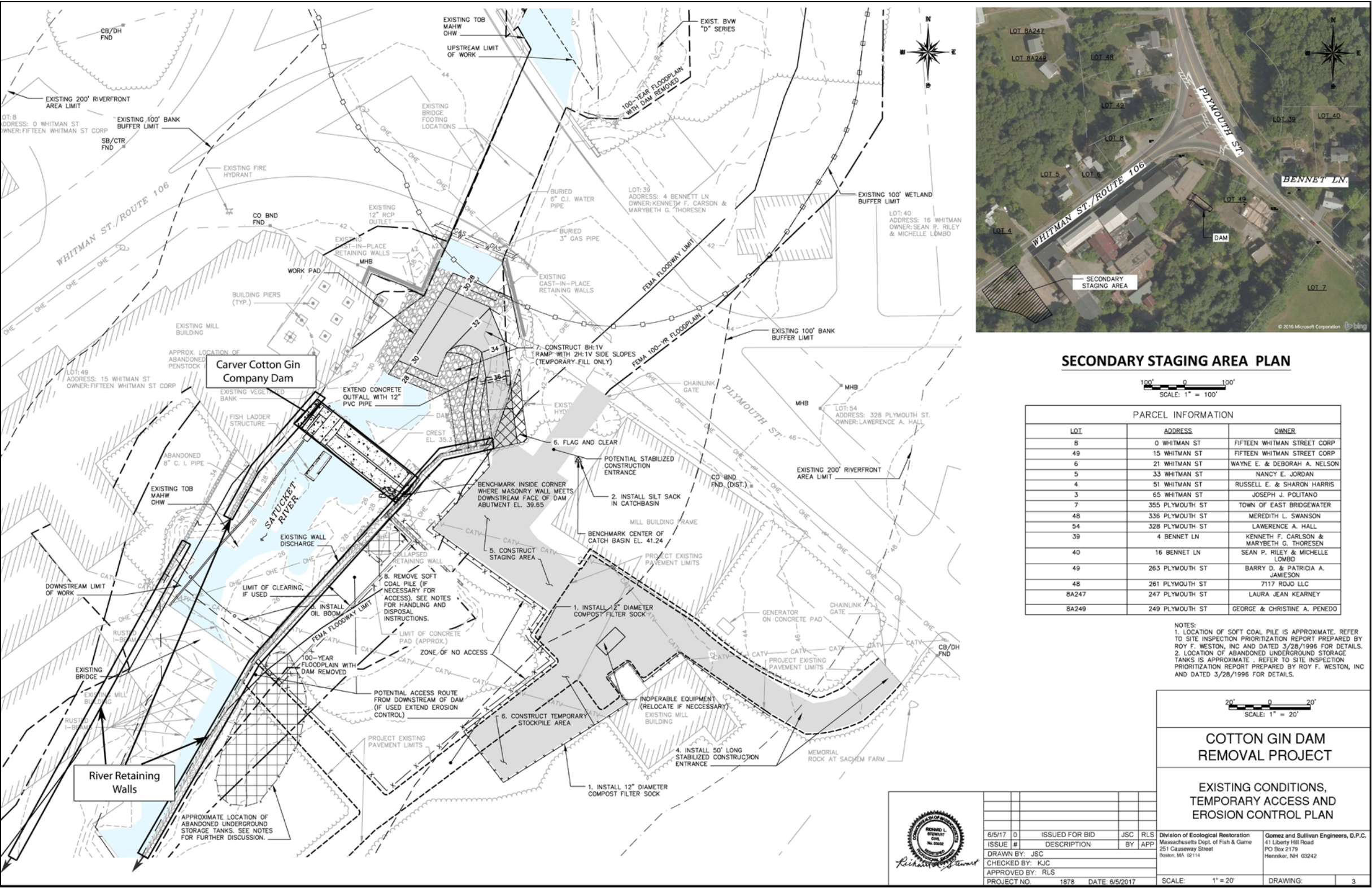
U-Store It Company

Var. Miscellaneous newspaper clippings and files. On file, U-Store It Company, East Bridgewater.

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USGS Massachusetts, 1:24,000 Whitman Quadrangle (1977) showing location of the Carver Cotton Gin Company Complex Dam and River Retaining Walls.



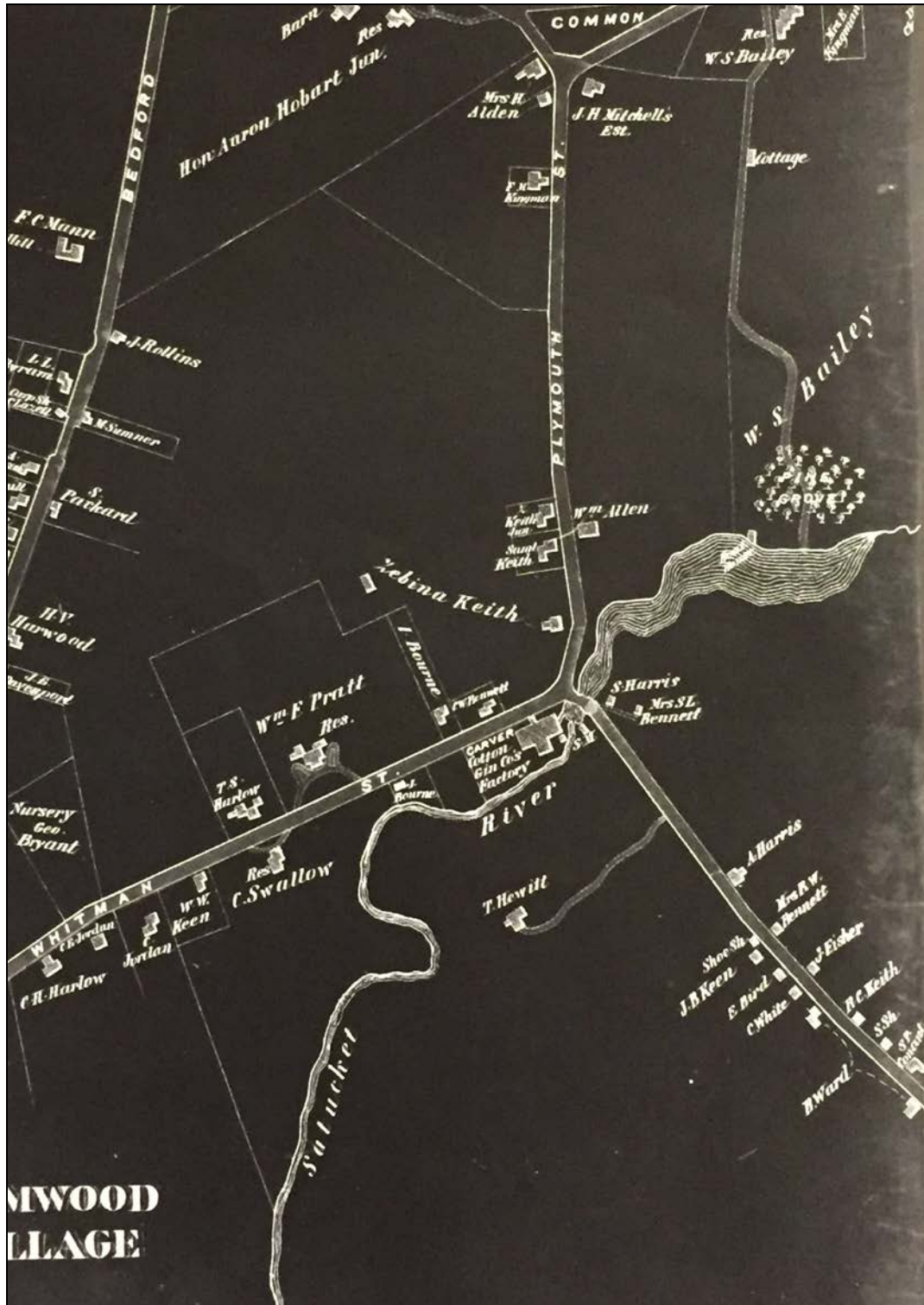
Carver Cotton Gin Dam Removal Project Site Plan showing location of Carver Cotton Gin Company Dam

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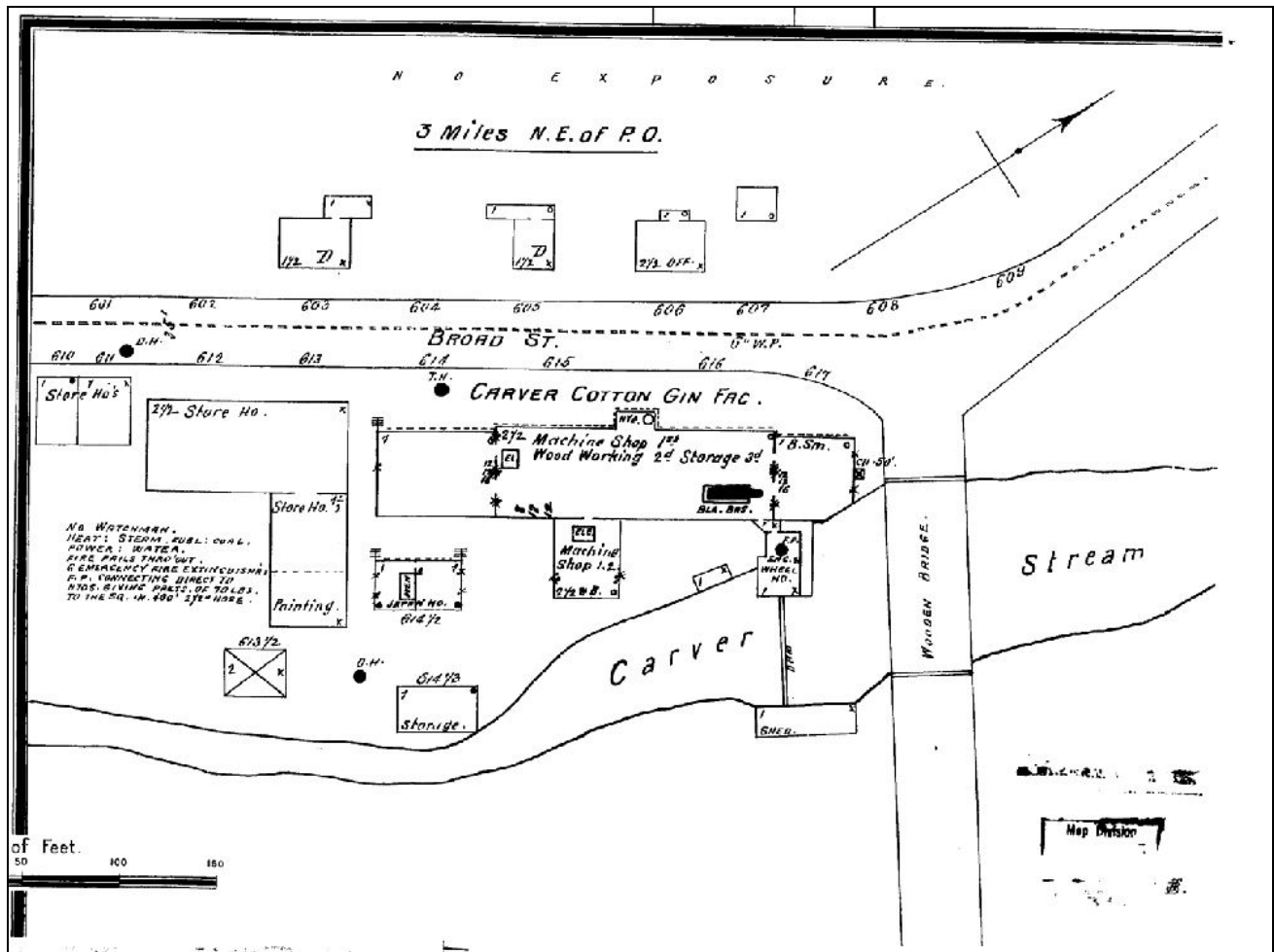
Detail from 1848 map of East Bridgewater showing Carver Cotton Gin Company and its impoundment, shortly after Carver acquired the site.

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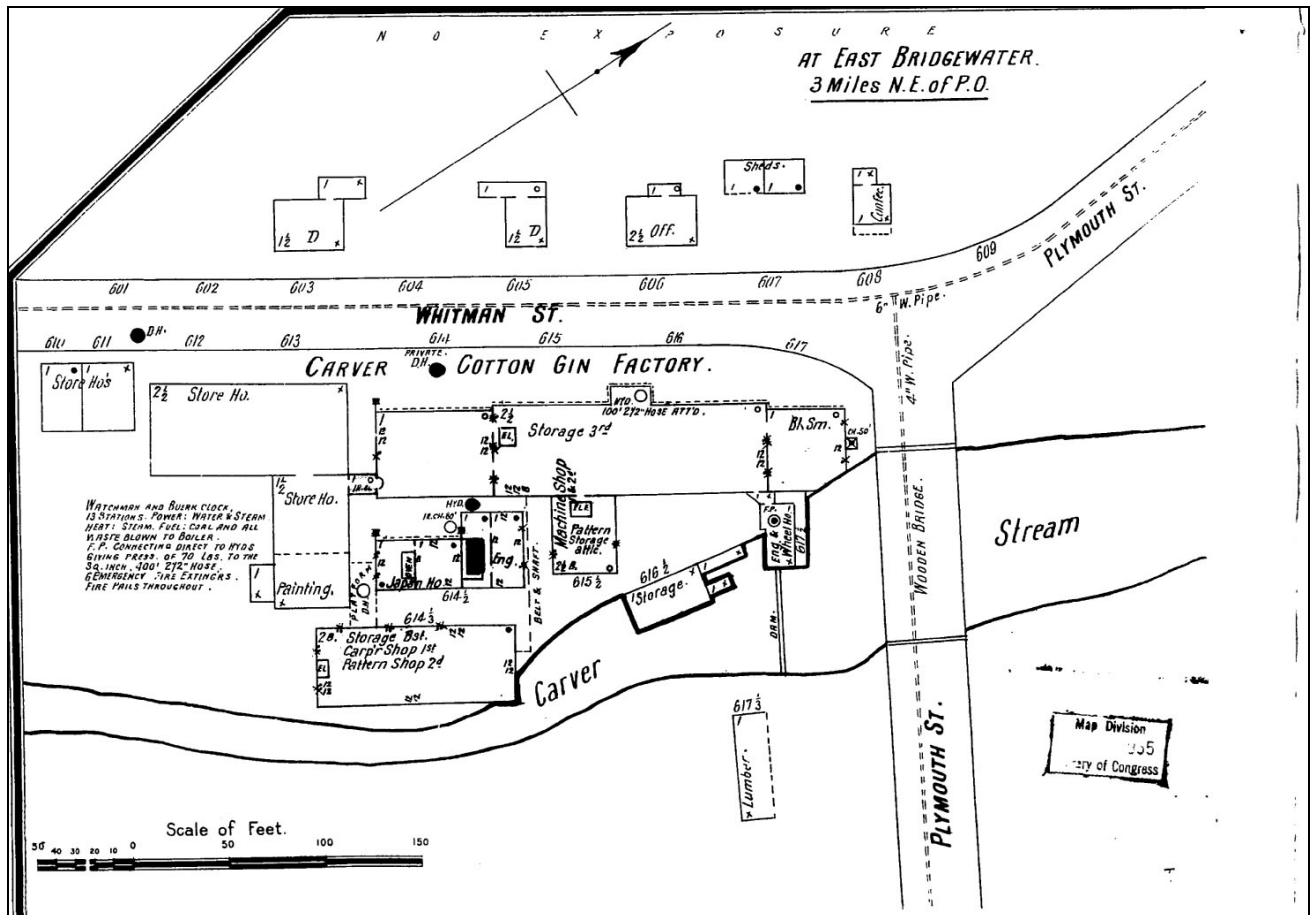
Detail from 1873 map of East Bridgewater showing arrangement of Carver Cotton Gin Company factory, sawmill, and dam after the 1872 fire (Beers 1872).

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1896 insurance plan of the Carver Cotton Gin Company, showing the Dam immediately prior to reconstruction (Sanborn Map Company 1896).

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1901 insurance plan of the Carver Cotton Gin Company, showing the Dam immediately after reconstruction (Sanborn Map Company 1901).



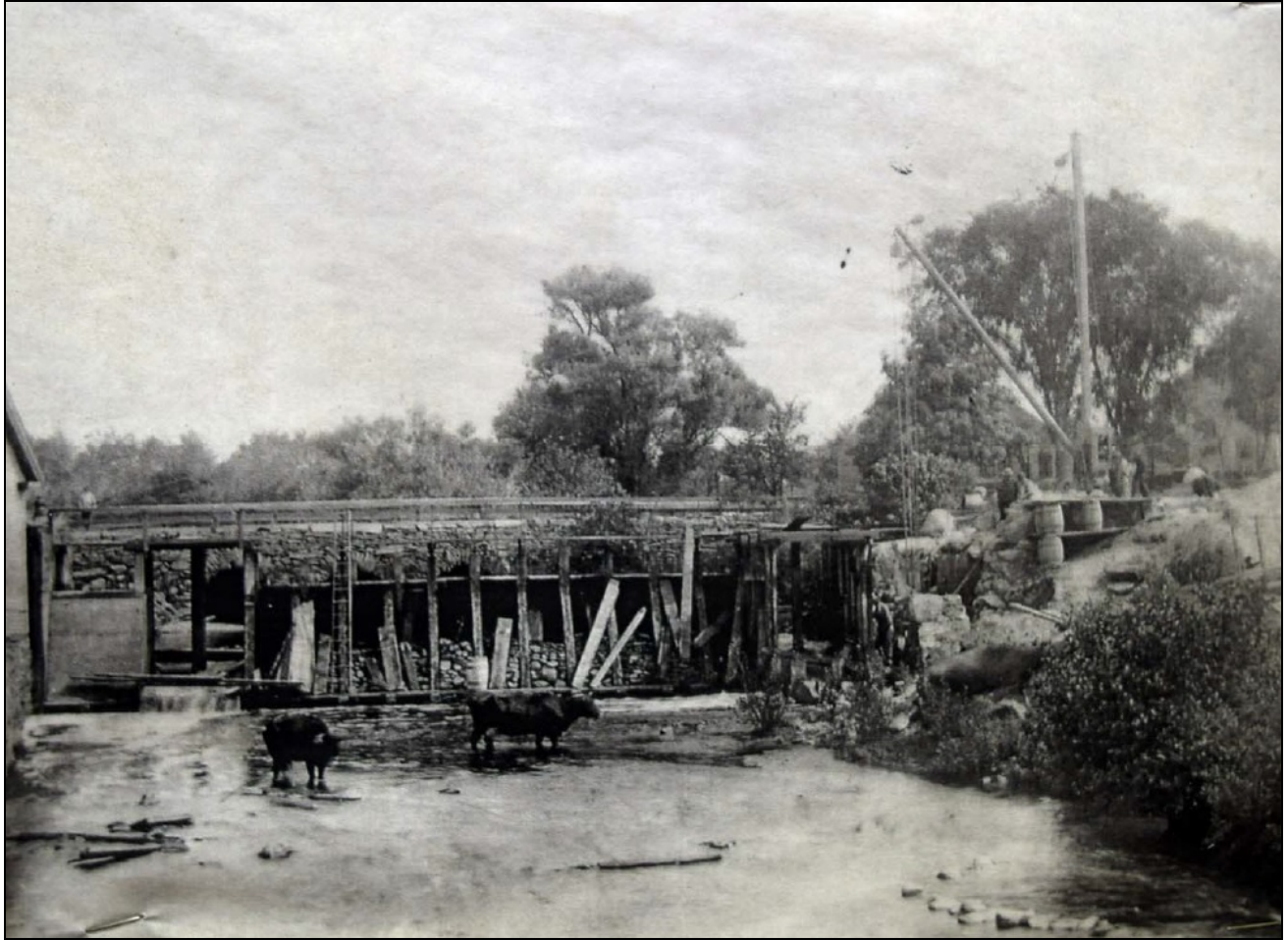
1887 "bird's-eye" view of the of the Carver Cotton Gin Company, looking southeast, with the Dam at far left (Bailey 1887).

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Pre-1890 photograph of the Carver Cotton Gin Company Dam, looking northeast (upstream) with shed or former sawmill and fish ladder at right (East Bridgewater Public Library collection).

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1890s photograph showing reconstruction of the Carver Cotton Gin Company Dam, looking northeast (upstream) (U-Store It company files).

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Photograph dating to between 1901 and 1906 showing Carver Cotton Gin Dam after rehabilitation, looking northeast (East Bridgewater Public Library collection).

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2002 photograph of the Carver Cotton Gin Dam, looking south (East Bridgewater Public Library collection).

INDEX TO PHOTOGRAPHS

Photographers: John J. Daly and Melissa Andrade
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Date: October 2017 & January 2018

Pre-construction views

1. Context view of the Carver Cotton Gin Dam (the Dam), looking south from Plymouth Street Bridge.
2. Context view of the Dam, looking west from the west bank of the Satucket River.
3. Context view of the Dam and westerly River Retaining Wall with tailrace, looking northwest from the North Bridge within the Carver Cotton Gin Company complex.
4. Context view of the Dam and easterly River Retaining Wall, looking northeast from the North Bridge within the Carver Cotton Gin Company complex.
5. General view of the upstream face of the Dam, looking southeast.
6. General view of the upstream face of the Dam, looking southwest.
7. General view of the Dam spillway and stanchions, looking west.
8. General view of the Dam, looking north.
9. General view of the Dam, looking northeast.
10. General view across top of Dam, looking east.
11. Detail of sluiceway and west abutment, looking northwest.
12. Detail of showing east abutment and collapsed spillway concrete facing and rubblestone core, looking north.
13. Fish ladder and westerly River Retaining Wall, looking southwest.
14. Easterly River Retaining Wall, looking southeast.

Post-construction views

15. View of the former Dam location, looking south from Plymouth Street Bridge (same view as Photo No. 1).
16. View of former Dam location, looking west from the west bank of the Satucket River (same view as Photo No. 2).
17. View of former Dam Location and westerly River Retaining Wall with tailrace, looking northwest from the North Bridge within the Carver Cotton Gin Company complex (same view as Photo No. 3).
18. View of former dam location and easterly River Retaining Wall, looking northeast from the North Bridge within the Carver Cotton Gin Company complex (same view as Photo No. 4).

**HISTORICAL DOCUMENTATION
CARVER COTTON GIN COMPANY COMPLEX,
BLACKSMITH SHOP AND HARDENING BUILDING**

<u>Location:</u>	Carver Cotton Gin Company Complex, 15 Whitman Street East Bridgewater, Massachusetts USGS Whitman Quadrangle, 1977 Universal Transverse Mercator Coordinates: 19.338412,4653773
<u>Date(s) of Construction:</u>	1909–1910
<u>Architect/Engineer:</u>	Unknown
<u>Present Owner:</u>	Valle Property, LLC
<u>Present Occupant:</u>	Not Applicable
<u>Present Use:</u>	Unused
<u>Significance:</u>	<p>The Carver Cotton Gin Company Blacksmith Shop and Hardening Building is an important historical component of the Carver Cotton Gin Company complex (MHC No. EBR.10, see Appendix B), an historic factory significant for its contributions to East Bridgewater's economic development, for the unique connections it fostered between Massachusetts and the national cotton textile and cotton seed processing industries, and as a grouping of factory buildings and structures that was built for the purpose of manufacturing cotton gins and other machinery. Bridgewater native Eleazer Carver (1785–1866); a mechanic, inventor, and entrepreneur; founded the Carver Company in 1842–1846 to manufacture and sell his patent cotton gins. Carver and successive leaders steadily expanded the sales, product offerings, and physical plant of the company until it was the largest and most important manufacturing company in East Bridgewater and a national leader in cotton gins and other cotton processing equipment. The company is one of only four cotton gin manufacturers that operated historically in Massachusetts. The extant complex was built in multiple phases between 1872 and ca. 1960 and hosted all phases of production until the closure of the Carver Co. in 1992. The larger manufacturing buildings in the complex are of typical late-nineteenth-century “loft” construction with flat or gable roofs, load-bearing brick walls, and fire-resistive wood framing on the interior. These factories feature regular ranks of large segmental arch windows, overhanging eaves and fascia boards, and arched door openings that demonstrate a Classical Revival Style influence. Other buildings and structures in the complex include store houses, a garage, an office, two bridges, and a dam. These display the functional attributes of their building types but are otherwise of undistinguished vernacular industrial design. The Blacksmith Shop and Hardening Building was built 1909–1910 to provide additional space for the treatment of metal castings used in machinery built by the factory. It</p>

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East Bridgewater, Massachusetts
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also enclosed the wheel pit and turbine that provided water power for the complex (Daly 2016).

Project Information:

The Nature Conservancy (TNC) and its project partners, including the United States Department of the Interior, Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), and the Massachusetts Department of Fish and Game's Division of Ecological Restoration (MA DER), have undertaken the Carver Cotton Gin Dam Removal Project (the Project) in East Bridgewater, Massachusetts. The Carver Cotton Gin Dam was in poor condition and classified as an Unsafe, Significant Hazard dam. The Project's purpose was to mitigate the hazard presented by the structure and to provide river access and spawning habitat for river herring, alewife, and American eel, as part of a multi-partner effort to connect major tributaries of the Taunton River with the mainstem, Narragansett Bay, and the ocean. Removal of the Carver Cotton Gin Dam proceeded with federal funding provided by the Department of the Interior under the Disaster Relief Appropriations Act of 2014 and assistance from the USFWS, and the Project is therefore an undertaking subject to review under Section 106 of the National Historic Preservation Act of 1966 (NHPA) and its implementing regulations at 36 CFR Part 800. In accordance with the NHPA, the USFWS (acting as Lead Federal Agency for the undertaking) consulted with the Massachusetts Historical Commission (MHC)/Massachusetts State Historic Preservation Officer (MASHPO) and determined that the Carver Cotton Gin Dam contributed to the significance of the Carver Cotton Gin Company complex—a historic property—and that the Project would therefore result in an adverse effect under the NHPA. In order to mitigate the adverse effect, this Massachusetts state-level documentation of the property before and after Project activities was stipulated as part of a Memorandum of Agreement (MOA, Appendix C) among the USFWS, the MHC/MASHPO, the Massachusetts Board of Underwater Archaeological Resources (MBUAR), the NMFS, and TNC. The Public Archaeology Laboratory, Inc. (PAL) of Pawtucket, Rhode Island, was retained by the project partners to complete this documentation in accordance with MHC/MASHPO archival documentation standards.

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BUILDING
East Bridgewater, Massachusetts
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PART I. DESCRIPTIVE INFORMATION

The Carver Cotton Gin Company Blacksmith Shop and Hardening Building is a brick masonry building located within the Carver Cotton Gin Factory complex in East Bridgewater (also historically known as Joppa), about 2 river miles upstream (north¹) of the confluence of the Satucket River with the Town River in Bridgewater. The Blacksmith Shop and Hardening Building is sited at the northeast corner of the factory complex, facing the intersection of Whitman and Plymouth Streets (both part of MA Route 106). The surrounding level terrain is built up with the factory complex, which in turn is surrounded by eighteenth- and nineteenth-century residences and farmsteads.

The Carver Cotton Gin Company complex is a dense group of 23 buildings, 3 structures, and 1 object with associated landscape features spanning the Satucket River on two level parcels (totaling approximately 9 acres) at the intersection of Whitman and Plymouth streets (see Appendix B for a complete description). Immediately adjacent to the Blacksmith Shop and Hardening Building are the original factory of the Carver Cotton Gin Company, and a second Blacksmith Shop, both to the west, and the Satucket River and the Carver Cotton Gin Company Dam (see associated historical documentation), to the east. The Satucket River channel is channelized, and the west River Retaining Wall also functions as the foundation of the Blacksmith Shop and Hardening Building. The Carver Cotton Gin Company Dam's west abutment is integrated into this River Retaining Wall.

The Blacksmith Shop & Hardening Building, built 1909-1910, is a Renaissance Revival Style, one-story, brick factory building with a walk-out basement level. The building is constructed with load-bearing masonry exterior walls and a bolted steel interior frame. Its ten-by-five-bay footprint is rectangular on the east and north sides; on the west and south sides the footprint is irregular to meet the walls of the adjoining Blacksmith Shop and the northeast corner of the Carver Cotton Gin Company Factory buildings, with which it shares party walls. A flat-roofed, one-bay-wide wing with a five-sided irregular footprint extends from the building across the north end of the Blacksmith Shop. The south end of the building spans the mill raceway and has a exposed brick basement atop the stone raceway and River Retaining Walls. The northeast quadrant of the building extends over the Dam impoundment.

The flat roof has a projecting box monitor running nearly its entire length, is clad in built-up tar and gravel, and terminates at ogee-profile crown molding with a corbelled cornice. Regularly spaced segmental arch window openings contain pairs of double-hung wood six-over-six windows with brick lintels and wood sills. The monitor window openings are filled with plywood. The walls terminate at a concrete and rubblestone water table. A doorway on the east wall opens onto the dam, and formerly provided access to now-missing a now-removed pedestrian bridge across the dam spillway. This entry contains a wood panel door with wood brickmolds and a segmental arch brick sill. A second doorway is centered on the south basement wall of the building and opens onto a small yard area. This entry features a pair of wood panel doors, each with four window lights, set within a brick segmental arch opening. The building interior is a single open work floor with exposed plank ceilings and floors, brick walls, and steel framing, all in poor condition.

¹ The Satucket River flows from northeast to southwest. For descriptive purposes, the Satucket River is assumed to flow north/south, with the river right being the west bank and river left being the east bank.

CARVER COTTON GIN COMPANY COMPLEX, BLACKSMITH SHOP AND HARDENING
BUILDING
East Bridgewater, Massachusetts
(Page 4)

As noted above, the northeast quadrant of the building is constructed over the dam impoundment, and ranks of poured concrete columns rising from the impoundment support this portion of the building. The columns rest on flared concrete piers and are topped with cast-iron or steel capitals. Concrete-encased steel beams run east-west between the columns and steel-reinforced concrete jack arches spring from these beams. The building's stone foundations form the west and south edges of the impoundment, and at the corner formed by these foundations is a former penstock intake, which is now sealed with poured concrete and abandoned. There is no access to the enclosed wheel pit area below the building, so the presence or absence of water power infrastructure such as a turbine cannot be confirmed. Water exits the wheel pit via a mortared rubblestone tailrace below the building, then rejoins the river at the terminus of the tailrace approximately 70 ft downstream of the dam.

PART II. HISTORICAL INFORMATION²

Exploitation of the Satucket River for water power at the site of the Carver Cotton Gin Company Dam began about 1724–1726 for purpose of sawmilling (see a complete history of the site in Appendix B). This was followed by several changes in ownership and various milling and manufacturing enterprises that culminated in the 1820s–1840s with a cotton textile mill and tack factory.

In 1842–1843, Bridgewater native Eleazer Carver (1785–1866) and his business partners Caleb S. Hunt and Franklin Dexter³ acquired the textile mill and tack factory and dam and water privilege. Carver had trained as a millwright in New England and then, after an itinerant period, settled around 1807 in the cotton farming and cotton gin⁴ manufacturing center of Natchez, Mississippi. Carver soon entered into the cotton gin trade, which was then a largely a craft enterprise. He sought to mechanize the gin manufacturing process and established a gin factory in Natchez in 1817.

About 1819, Carver established Carver, Washburn & Company, headquartered in Bridgewater, Massachusetts, then incorporated this firm as the Bridgewater Cotton Gin Manufacturing Company in 1825. His partners were Solomon Washburn, Seth Washburn, Abram Washburn, Artemas Hale, Abram Washburn Jr. (aka the second), and Nathaniel Washburn, and together they established a cotton gin factory (no longer extant) for manufacturing the "Carver Gin" on Summer Street in Bridgewater at the outlet of what is now Carver Pond. This was Massachusetts' first cotton gin factory and one of only four

² Unless otherwise cited, historical information is extracted and condensed from the Carver Cotton Gin Company Complex Area Form (MHC No. EBR.10), attached as Appendix B (Daly 2016). Refer to this appendix for a detailed site history.

³ Caleb Reed, John Reed, and Sampson Reed are listed as partners in some accounts of the business, but these names do not appear on the enabling legislation for the corporation.

⁴ Cotton gins are used to remove the seeds from and partially clean raw cotton after its removal from the cotton plant and occupy an important place in the processing of cotton into textiles. The invention of the first successful mechanical cotton gin is apocryphally attributed to famous American inventor Eli Whitney in 1793, although a number of people had invented mechanical gins. The introduction of the mechanical gin is widely credited with having a transformational effect on cotton farming, and, by extension, the textile industries of the eastern United States.

CARVER COTTON GIN COMPANY COMPLEX, BLACKSMITH SHOP AND HARDENING
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that operated historically in the state.⁵ Carver's company established an extensive network of sales agents across southern cotton-growing states and quickly formed a reputation that made the Carver cotton gin the standard in the industry. Carver's success was also attributable to his close study of early cotton gins and their problems, from which he was able to develop several important patents for gin components as well as machines for their manufacture.

Sometime in the late 1830s or early 1840s, there was a split (not described in historical accounts) between Carver and Albert Washburn that led to Carver's departure and his acquisition (with Hunt and Dexter) of the Dam site along with the cotton textile mill and tack factory. In 1846, Carver, Hunt, and Dexter incorporated as the E. Carver Company to manufacture cotton gins. Carver repeated the success of his first company, and he remained involved with its day-to-day affairs until his death in 1866.

The officers of the company reincorporated as the Carver Cotton Gin Company in 1871; however, a large fire destroyed the premises in 1872. The extant Carver Cotton Gin Company Factory was built in its place, and a new dam built at this time. An engine and wheel house (which probably contained a turbine by this date) to power the company's machinery were probably constructed at the future location of the Blacksmith Shop and Hardening Building at this time. The engine and wheelhouse are shown on an 1887 "bird's eye" view of the factory and labeled on an 1896 fire insurance map.

After the fire, the Carver Co. persisted as the leading manufacturer of cotton processing equipment and expanded into lines of machinery for shoes (over 40 types of machines), shingles, and boxes and paper products. The company entered into international markets, and customer demand led to multiple, frequent expansions of the company's physical plant. Ca. 1890–ca. 1906, a new turbine was installed in the engine and wheel house at the west end of the dam, and a wood storage building was erected immediately downstream of the that building on the west bank of the river. An historical photograph from the late nineteenth or early twentieth century shows that tailrace was established downstream of the engine and wheelhouse and that this tailrace was spanned by the wood storage building (undated photograph, East Bridgewater Public Library collection). The contemporaneous (1896 and 1901) fire insurance maps do not show the tailrace, however (Sanborn Map Company 1896, 1901).

During the first third of the twentieth century, the success of the company continued, and further physical expansion was required. In 1909–1910, the engine and wheel house and adjacent wood storage building were demolished and the Blacksmith Shop and Hardening Building built over the impoundment and raceway. Described as "a new steel frame addition to the plant" in a contemporaneous newspaper account, the new one-story building contained the smithy on the main work floor, had metal storage in the northwest wing, and hardening furnaces in the basement (*The Brockton Enterprise* 1909; Sanborn Map Company 1912). It is likely that the hardening furnaces were used to heat iron castings made elsewhere in the plant, these would then be quenched impart a hardened surface on the iron.

⁴ Carver's influence would spawn two additional cotton gin factories in Bridgewater, making Bridgewater and East Bridgewater two of only three communities to manufacture cotton gins in the entire state of Massachusetts. The other two Bridgewater companies were Bates, Hyde & Co. (founded 1833, later the Eagle Cotton Gin Company) and the Southern Cotton Gin Company (founded ca. 1840). There had also been a short-lived cotton gin factory in Braintree in the 1820s (Lakwete 2003:92; Sampson, Davenport, & Co. 1867:479; 1874:354; Spence 2008:6,7).

CARVER COTTON GIN COMPANY COMPLEX, BLACKSMITH SHOP AND HARDENING
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(Page 6)

In 1938, the Murray Company of Texas (another manufacturer of cotton seed cleaning and separating machinery) bought the Carver Co.. the Murray Company retained the Carver name because of its strong market recognition, but ceased manufacture of the cotton gin to focus on the linter machine, which removed short (less than 1.5 inches) cotton fibers and machines for processing the seed hulls (used for stock feed and synthetic rubber production) and the seed kernel (used for soaps and cooking oils). The company added a small steel addition (later removed at an unknown date) to the south end of the Blacksmith Shop and Hardening Building by 1943. Fire insurance maps indicate no change in the function of the building (Sanborn Map Company 1921, 1931, 1943).

In 1965, the Murray Company merged with the Rockwell Standard Corporation of Pittsburgh, Pennsylvania. In 1967, Rockwell merged with North American Aviation to form the North American Rockwell Corporation, headquartered in California. During this period, the turbine in the wheelpit below the Blacksmith Shop and Hardening Building is supposed to have continued to support manufacturing at the Carver Co. factory on a limited basis, providing some 50 horsepower to various machine tools.

In 1988, ownership of the Blacksmith Shop and Hardening Building, along with the rest of the factory complex, passed to RBZP Realty Group, Inc., then to a series of banks, with Carver, Inc. leasing the property. The Carver Co. vacated the premises and relocated to Savannah, Georgia, in 1992. After this date, the Carver Co. factory complex in East Bridgewater was used by various light manufacturing and industrial tenants. Several of the buildings remained vacant. The dam and waterpower infrastructure in the Blacksmith Shop and Hardening Building were no longer used—the dam impoundment having been permanently drawn down in 2001 to comply an order from the Massachusetts Office of Dam Safety.

PART III. SOURCES OF INFORMATION

Reports and Forms

Cherau Suzanne and John J. Daly

2017 Technical Memorandum: Carver Cotton Gin Dam Removal Project, East Bridgewater, Massachusetts. Prepared for the Massachusetts Division of Ecological Restoration, Boston Massachusetts. The Public Archaeology Laboratory, Inc. Pawtucket, RI.

Daly, John J.

2016 Carver Cotton Gin Company (EBR.10). Massachusetts Historical Commission Form A—Area. On file, Massachusetts Historical Commission, Boston, MA.

Published Works

The Brockton Enterprise

1909 Untitled. *The Brockton Enterprise*, November 13. Unpaginated newspaper clipping, on file, U-Store It company files, East Bridgewater, MA.

Sanborn Map Company

1896 *Insurance Maps of Bridgewater, Massachusetts: Carver Cotton Gin Factory Special, East Bridgewater*. Updated to 1943. Sanborn Map Company, New York, NY.

CARVER COTTON GIN COMPANY COMPLEX, BLACKSMITH SHOP AND HARDENING
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- 1901 *Insurance Maps of Bridgewater, Massachusetts: Carver Cotton Gin Factory Special, East Bridgewater.* Sanborn Map Company, New York, NY.
- 1912 *Insurance Maps of Bridgewater, Massachusetts: Carver Cotton Gin Factory Special, East Bridgewater.* Sanborn Map Company, New York, NY.
- 1921 *Insurance Maps of Bridgewater, Massachusetts: Carver Cotton Gin Factory Special, East Bridgewater.* Sanborn Map Company, New York, NY.
- 1931 *Insurance Maps of Bridgewater, Massachusetts: Carver Cotton Gin Factory Special, East Bridgewater.* Sanborn Map Company, New York, NY.
- 1943 *Insurance Maps of Bridgewater, Massachusetts: Carver Cotton Gin Factory Special, East Bridgewater.* 1931 map, updated to 1943. Sanborn Map Company, New York, NY.

Archives and Special Collections

East Bridgewater Public Library

Var. Miscellaneous newspaper clippings, documents, and photographs in Carver Cotton Gin Vertical files; Miscellaneous pictures Box 7, Folder 4, 5, and 14; and Scrapbook Series Vol. 2. On file, East Bridgewater Public Library, East Bridgewater, MA.

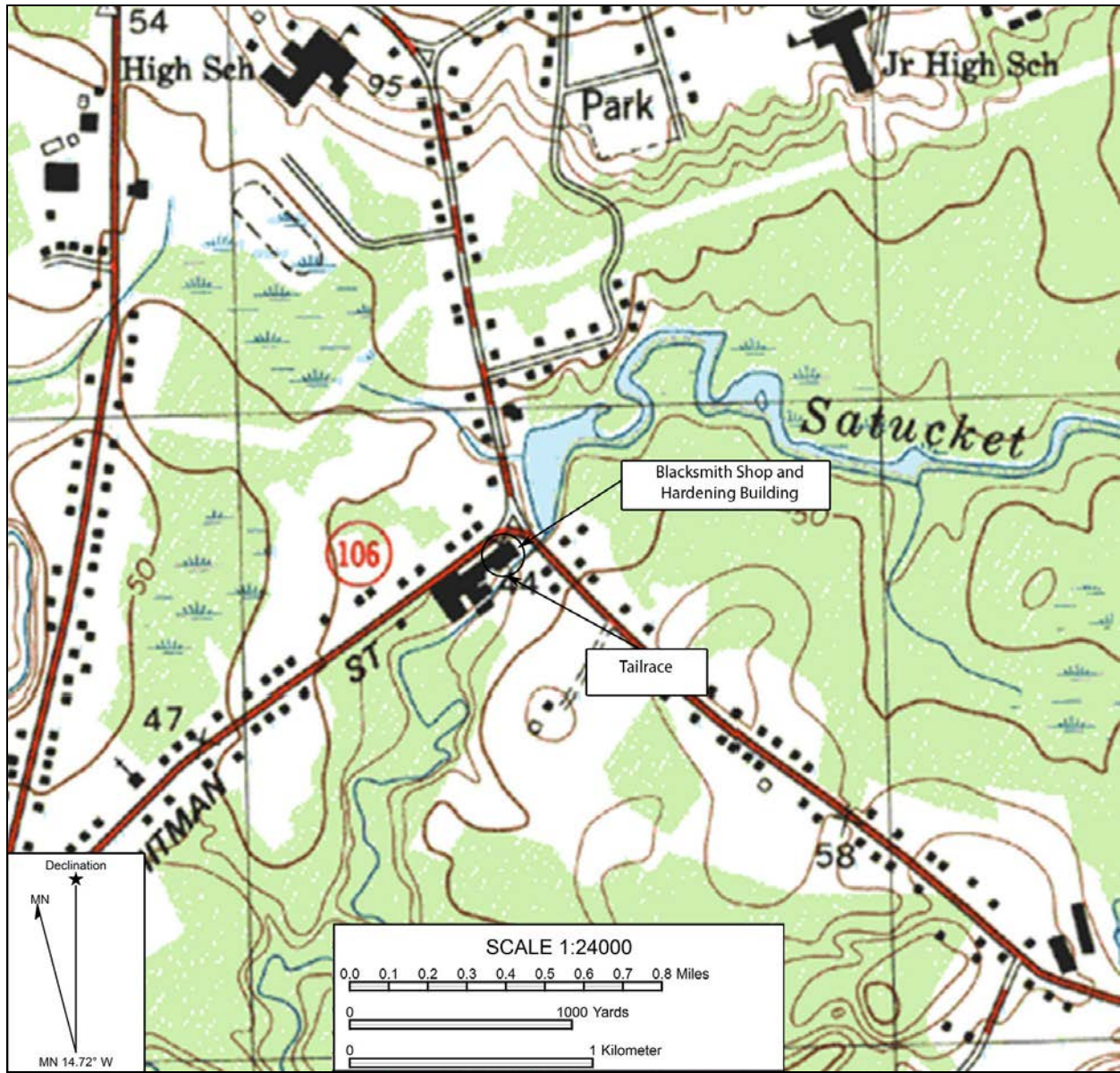
Old Bridgewater Historical Society

Var. Miscellaneous newspaper clippings and documents. On file, Old Bridgewater Historical Society, West Bridgewater, MA.

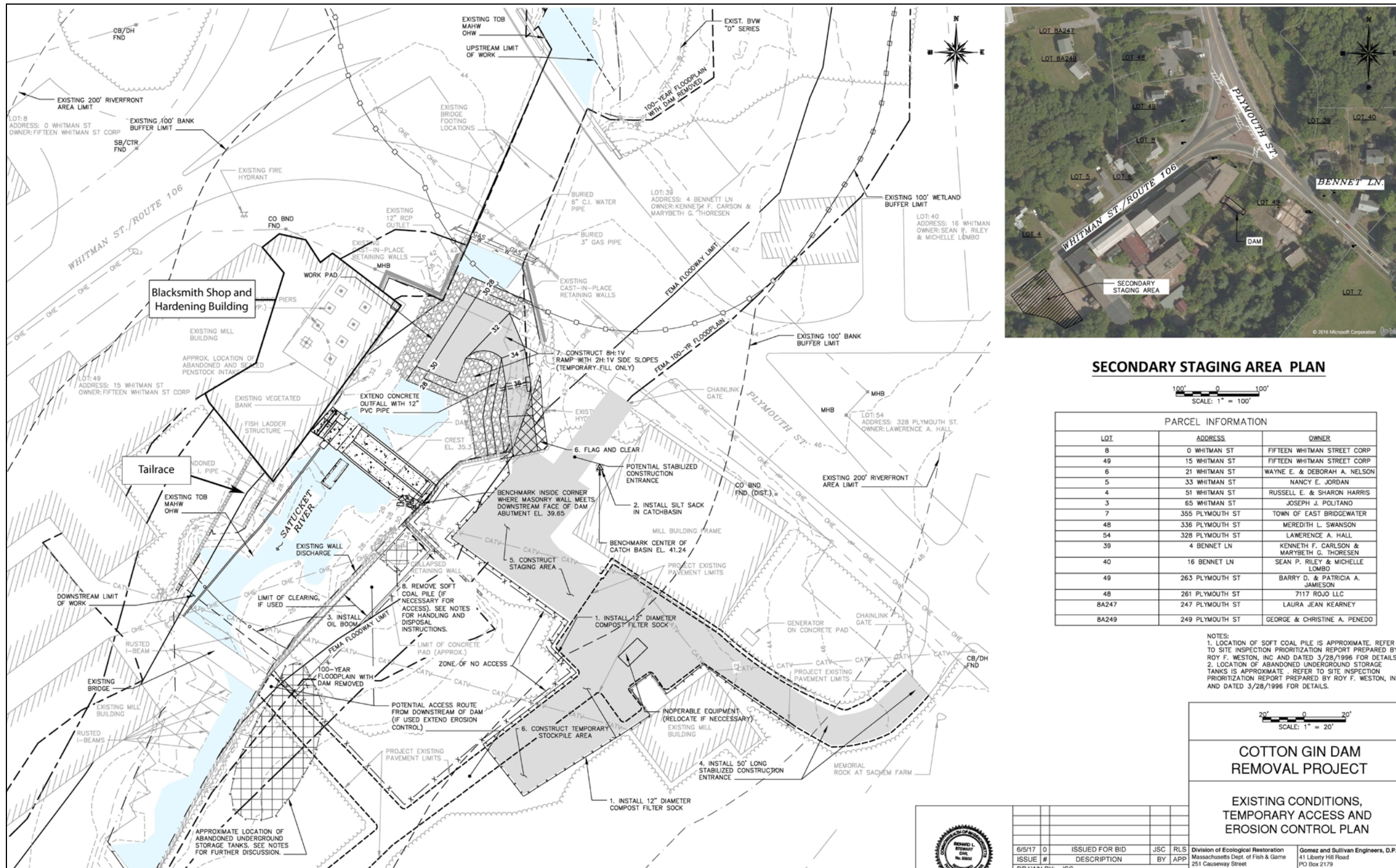
U-Store It Company

Var. Miscellaneous newspaper clippings and files. On file, U-Store It Company, East Bridgewater.

CARVER COTTON GIN COMPANY COMPLEX, BLACKSMITH SHOP AND HARDENING
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East Bridgewater, Massachusetts
(Page 8)

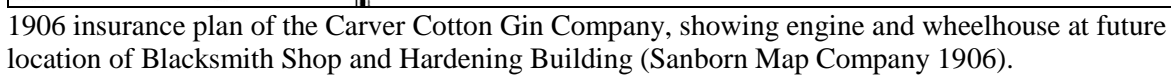


USGS Massachusetts, 1:24,000 Whitman Quadrangle (1977) showing location of the Carver Cotton Gin Company Complex Blacksmith Shop and Hardening Building.

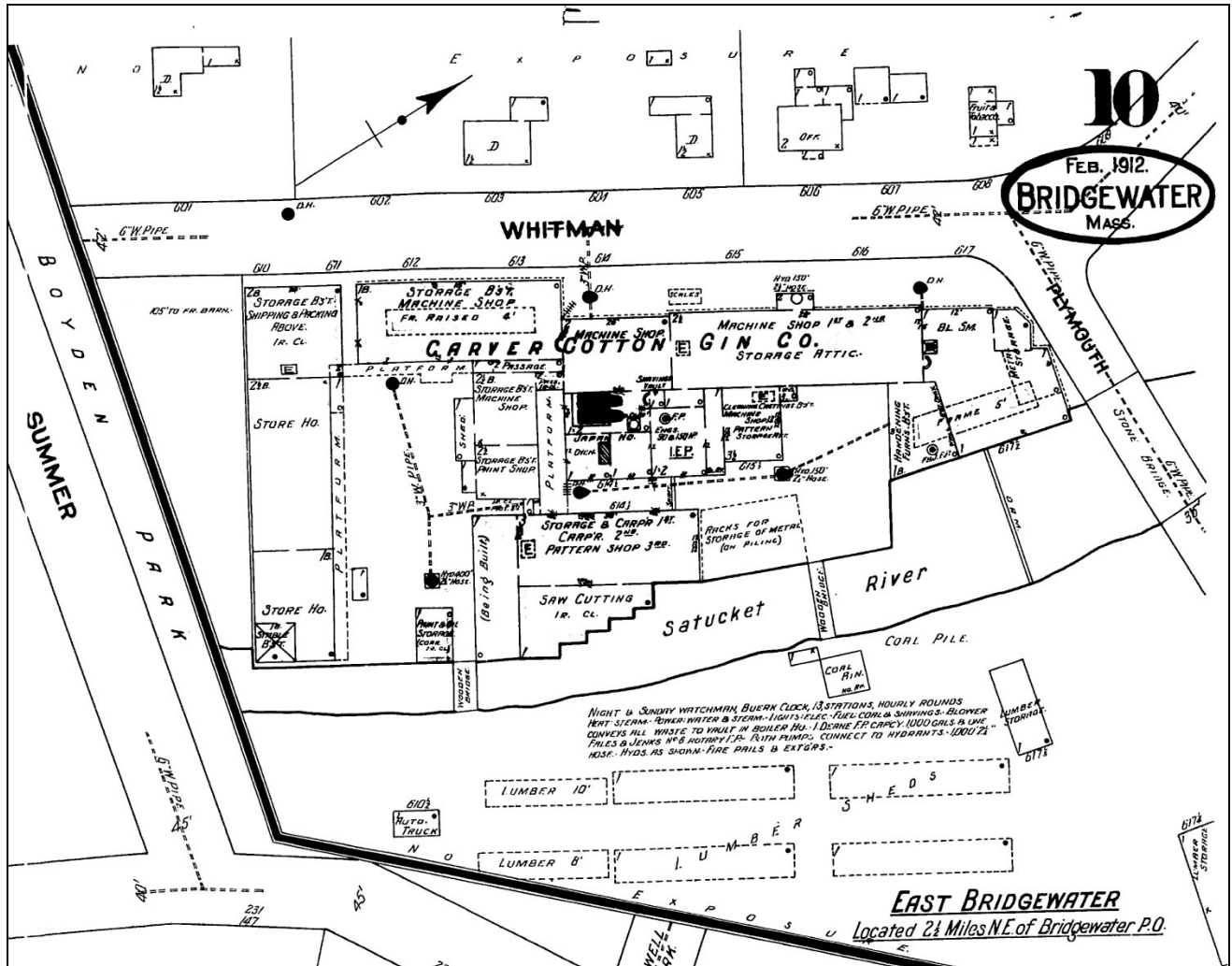


Carver Cotton Gin Dam Removal Project Site Plan showing location of Blacksmith Shop and Hardening Building.

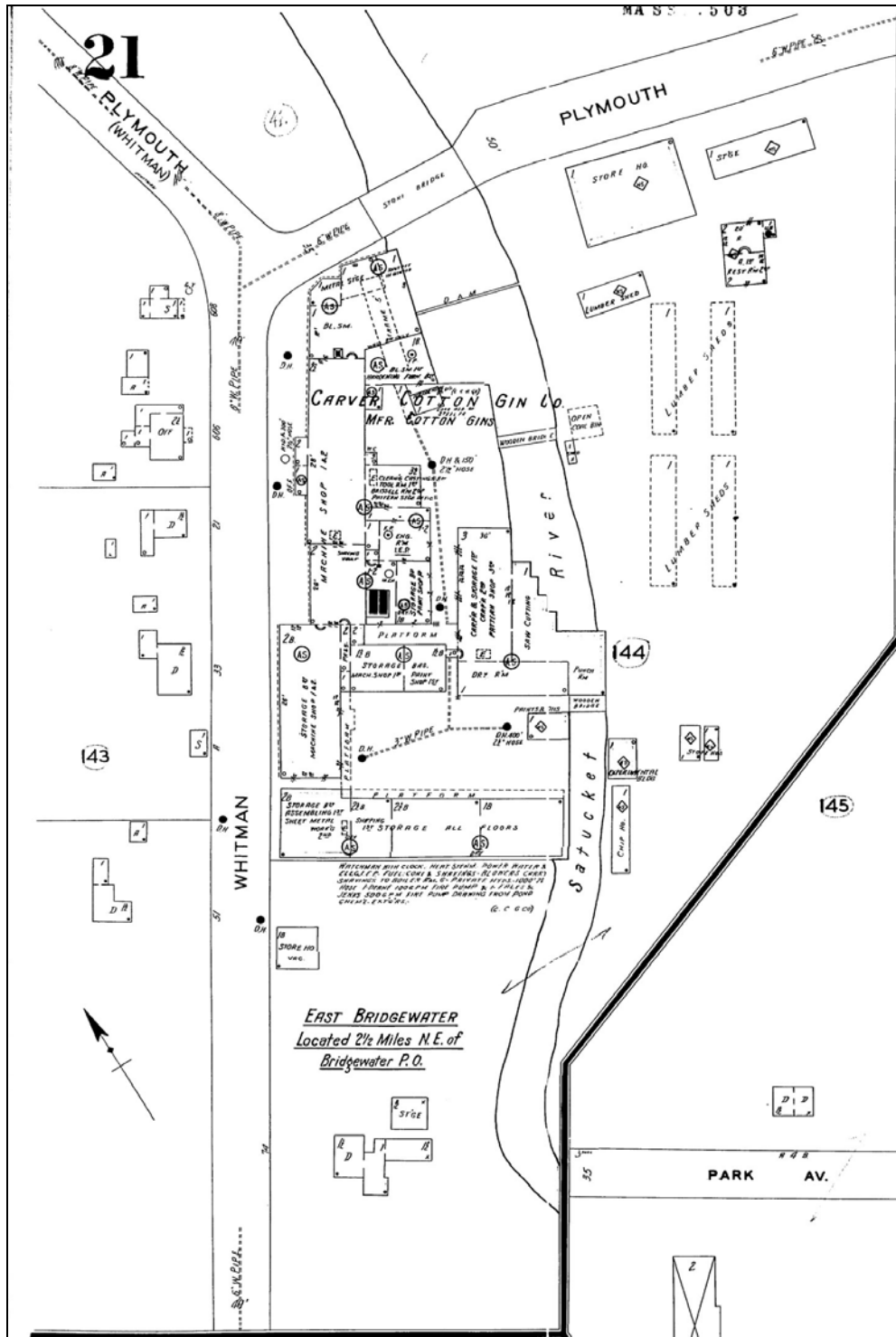
East Bridgewater, Massachusetts
(Page 10)



CARVER COTTON GIN COMPANY COMPLEX, BLACKSMITH SHOP AND HARDENING
BUILDING
East Bridgewater, Massachusetts
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CARVER COTTON GIN COMPANY COMPLEX, BLACKSMITH SHOP AND HARDENING
BUILDING
East Bridgewater, Massachusetts
(Page 12)



1943 insurance plan of the Carver Cotton Gin Company, showing Blacksmith Shop and Hardening Building and its small metal addition (Sanborn Map Company 1943).

CARVER COTTON GIN COMPANY COMPLEX, BLACKSMITH SHOP AND HARDENING
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East Bridgewater, Massachusetts
(Page 13)



1870s photograph of the Carver Cotton Gin Company complex, looking southeast from the intersection of Whitman and Plymouth streets. The original blacksmith shop is at left, and the Blacksmith Shop and Hardening will be added to its left (East Bridgewater Public Library collection).

CARVER COTTON GIN COMPANY COMPLEX, BLACKSMITH SHOP AND HARDENING
BUILDING
East Bridgewater, Massachusetts
(Page 14)



Circa 1900 photograph of the Carver Cotton Gin Company complex, looking west. The engine and wheel house at the future site of the Blacksmith Shop and Hardening Building is at far right, and the wood storage building over the tailrace is at center-right (East Bridgewater Public Library collection).

CARVER COTTON GIN COMPANY COMPLEX, BLACKSMITH SHOP AND HARDENING
BUILDING
East Bridgewater, Massachusetts
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1952 postcard photograph of the Carver Cotton Gin Company complex, looking southeast from the intersection of Whitman and Plymouth streets. The westerly portion of the Blacksmith Shop and Hardening Building is at far left (East Bridgewater Public Library collection).

INDEX TO PHOTOGRAPHS

Photographers: John J. Daly and Melissa Andrade
The Public Archaeology Laboratory, Inc.
26 Main Street
Pawtucket, Rhode Island

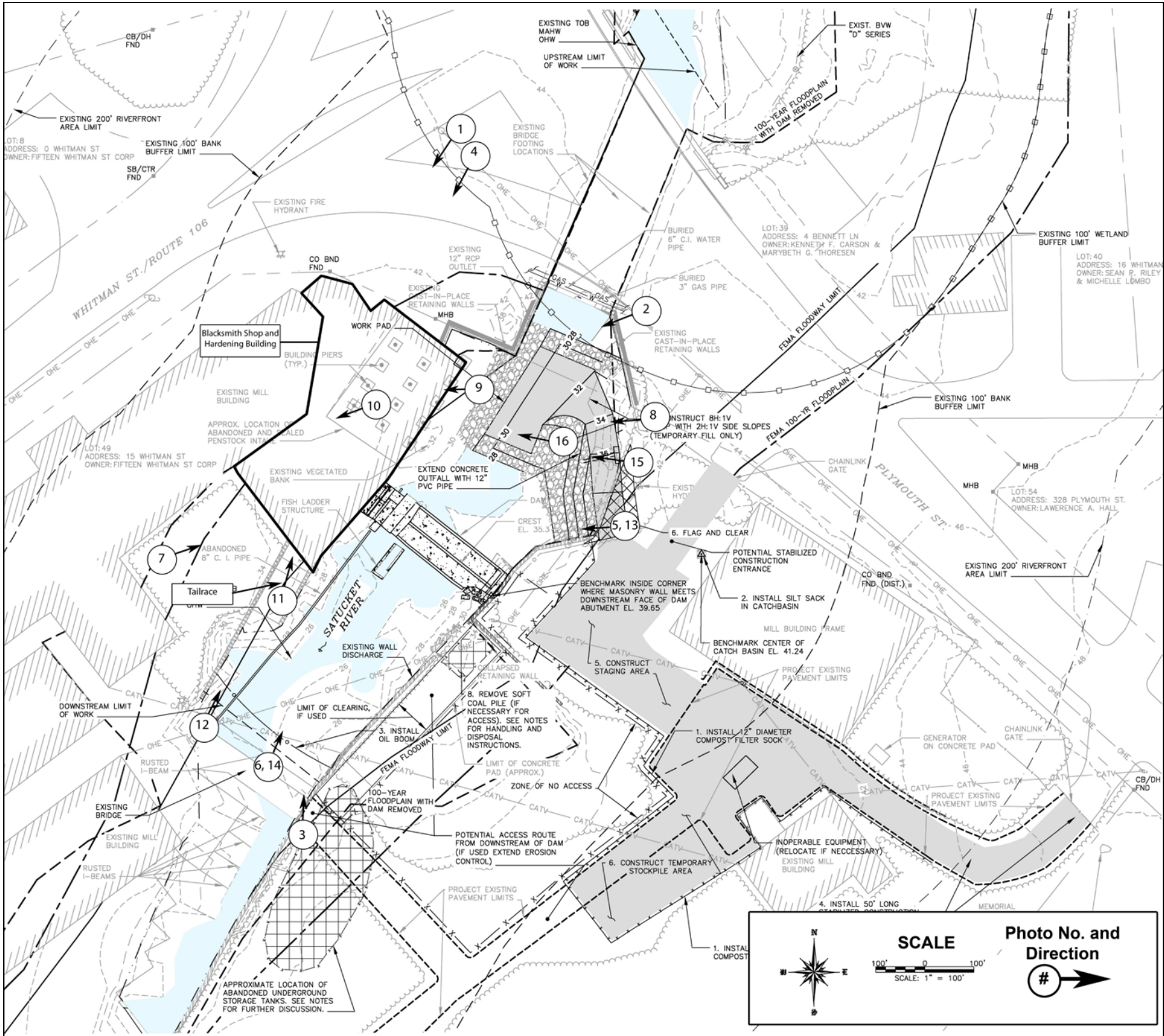
Date: October 2017 & January 2018

Pre-construction views

1. Context view of the Blacksmith Shop and Hardening Building, looking southeast from the intersection of Whitman and Plymouth streets.
2. Context view of the building, looking southwest from the Plymouth Street bridge.
3. Context view of the building, looking northwest from the east bank of the Satucket River within the Carver Cotton Gin Company complex.
4. General view of the north (left) and west (right) sides of the building, looking southeast.
5. General view of the east wall of the Blacksmith Shop and Hardening Building, looking west.
6. General view of the southeast corner of the building, looking northwest.
7. South wall of the building, looking north.
8. Monitor and wall detail, east wall of the building, looking southwest.
9. Detail of concrete columns and jack arches supporting northeast quadrant of the building (above the impoundment), looking southwest.
10. Detail of concrete column and blocked entrance to wheelpit in building foundation wall, looking southwest.
11. View of covered tailrace with blocked exit from wheelpit below the building, looking north (upstream).
12. Mouth of tailrace, looking north towards the Blacksmith Shop and Hardening Building.

Post-construction views

13. General view of building after removal of Carver Cotton Gin Company Dam, looking southwest (same view as Photo No. 5).
14. General view of building and tailrace after removal of Carver Cotton Gin Company Dam, looking northwest (same view as Photo No. 6).
15. View of Satucket River channel and impoundment after stabilization of columns under the Blacksmith Shop and Hardening Building, looking west.
16. Detail of columns under the building after stabilization, looking west.



CARVER COTTON GIN DAM AND RETAINING WALLS
APPENDIX A
PHOTOGRAPH REFERENCE SHEETS

CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 1)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 2)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 3)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 4)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 5)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 6)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 7)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 8)



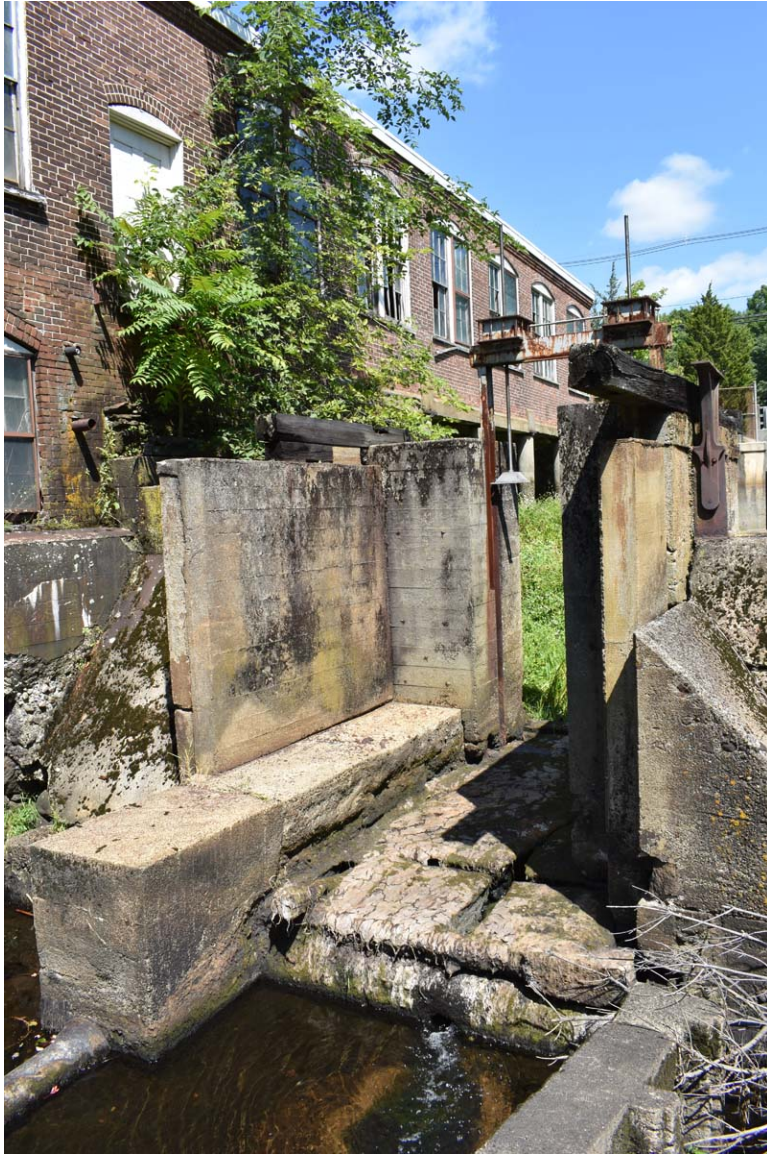
CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 9)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 10)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 11)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 12)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 13)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 14)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 15)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 16)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 17)



CARVER COTTON GIN DAM AND RIVER RETAINING WALLS
East Bridgewater, Massachusetts
(Photo 18)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
APPENDIX A
PHOTOGRAPH REFERENCE SHEETS

CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 1)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 2)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 3)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 4)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 5)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 6)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 7)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 8)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 9)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 10)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 11)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 12)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 13)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 14)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 15)



CARVER COTTON GIN BLACKSMITH SHOP AND HARDENING BUILDING
East Bridgewater, Massachusetts
(Photo 16)



APPENDIX B
MHC FORM A – CARVER COTTON GIN COMPANY

FORM A - AREA

Assessor's Sheets USGS Quad Area Letter Form Numbers in Area

40-49, 41-53

Whitman

EBR.10

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

Photograph



Town/City: East Bridgewater

Place (*neighborhood or village*): Formerly Joppa

Name of Area: Carver Cotton Gin Company

Present Use: Self storage facility

Construction Dates or Period: 1873–ca. 1980

Overall Condition: Fair

Major Intrusions and Alterations: See attached

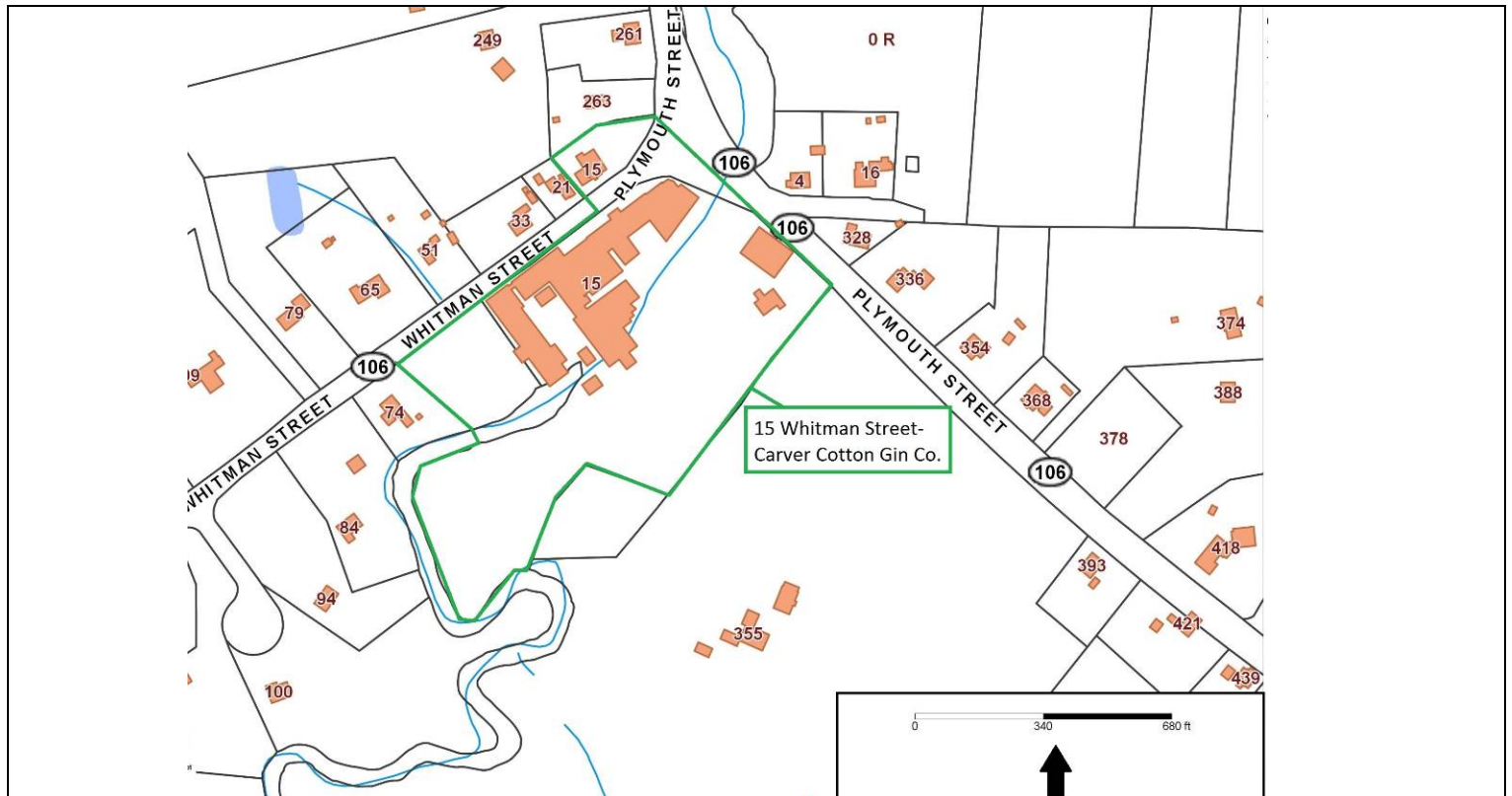
Acreage: 9.12

Recorded by: John J. Daly

Organization: The Public Archeology Laboratory, Inc.
(PAL), Pawtucket, RI

Date (*month/year*): August 2016

Locus Map



☐ see continuation sheet

INVENTORY FORM A CONTINUATION SHEET

EAST BRIDGEWATER

CARVER COTTON GIN CO.

MASSACHUSETTS HISTORICAL COMMISSION

Area Letter Form Nos.

220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

EBR.10

☒ Recommended for listing in the National Register of Historic Places.
If checked, you must attach a completed National Register Criteria Statement form.

ARCHITECTURAL DESCRIPTION

The Carver Cotton Gin Company factory complex (previously surveyed as MHC #EBR.10) at 15 Whitman Street is a dense group of 23 buildings, 3 structures, and 1 object with associated landscape features spanning the Satucket River on two level parcels at the intersection of Whitman and Plymouth streets. The surrounding neighborhood is residential in character, with residences dating to the eighteenth and nineteenth centuries on small suburban-type lots.¹ Many of the manufacturing buildings are connected with covered pedestrian bridges and open walkways or platforms; on the east² side of the river are three freestanding outbuildings. Also included is the former company office on the west side of Whitman Street (on the same assessor's parcel as the factory) and the Hobart Memorial on a traffic island within the public right-of-way at the intersection of Plymouth and Whitman streets (both designated as Massachusetts Route 106).

The primary factory buildings in the complex are of typical late-nineteenth-century "loft" construction with flat or gable roofs, load-bearing common brick walls, and fire-resistive wood framing on the interior. These factories feature regular ranks of large segmental arch windows, overhanging eaves and fascia boards, and arched door openings that demonstrate a Classical Revival Style influence; otherwise, the buildings are largely undistinguished architecturally, although ancillary buildings are noteworthy for their extensive use of stamped metal shingles for wall cladding. Five of the factory lofts and warehouses are connected along Whitman Street with a shallow setback to create a nearly continuous street wall. Ancillary buildings such as warehouses and garages in the complex employ a variety of vernacular industrial building forms and designs employing brick, steel, or concrete block construction. The Carver Cotton Gin Company Dam is located to the rear of the connected factory complex, below the complex's Blacksmith and Hardening Building. There are asphalt-paved driveways and courtyards throughout the complex, and two wood and steel bridges span the Satucket River, which is channelized within the complex and has buildings constructed atop portions of the channel walls. Portions of the buildings house self-storage units; the remainder are vacant. The condition of the buildings and structures ranges from fair to poor.

The following descriptions of resources within the complex begin with the original 1873 factory (located near the northwest corner of the complex) and its adjoining buildings, then move roughly clockwise through the complex on the east side of Whitman Street before moving to the individual non-manufacturing properties west of Whitman Street.

Individual Resources

The Carver Cotton Gin Co. Factory (1873) is the most architecturally prominent building within the factory complex and faces Whitman Street from its site between the Blacksmith Shop and Machine Shop Wing. This Classical Revival Style, two-story, three-by-thirteen-bay brick factory has a projecting cross-gabled stair tower with an entry at the front and a gabled rear ell. A small, two-bay-by-one-bay hipped roof office has been added (1912-1921) adjacent to the stair tower. The steep, asphalt-clad roof has beaded plank gable rakes and enclosed returns and plank soffits with beaded fascia. The stair tower entry consists of a pair of wood panel doors with wood windows and an arched transom light, all set within a plank door surround under a brick segmental arch. A second, identical entry is located three bays to the west. The regularly spaced segmental arch window openings contain pairs of double-hung sash sets, except in the ell, where there are only single windows with double-hung sash. Original windows (of which about 50 percent remain) consist of wood six-over-six windows; the replacement windows are vinyl inserts with the same light pattern. A single circular or rose window is set in the gable end of the stair tower. A square brick chimney is built against the building's north end wall. The factory interior consists of a single open work floor on the first and second levels. These rooms have exposed plank ceilings and

¹ These do not have strong associations with the Carver Cotton Gin Factory property, having been built by a variety of farmers, tradesmen, and other residents of East Bridgewater. The factory employed skilled machinists that lived in private residences in East Bridgewater and surrounding towns, rather than requiring company housing (Howland 1968:28).

² For descriptive purposes, Whitman Street and the Satucket River are assumed to run north-south, and Plymouth Street east-west.

floors braced with timber beams and brick walls. The stair tower retains its winding “dog-leg” stairway assembled from wood planks and beadboard with a knuckled gas pipe railing. The attic is fitted with wood storage shelves and racks for foundry patterns (many of which are still present) and machine parts. The building is in fair condition.

The Blacksmith Shop (1879-1885) is a one-story Renaissance Revival brick production shed joined to the north end of and sharing a party wall with Carver Cotton Gin Co. Factory. It has a trapezoidal footprint five bays long. The shallow-pitched gable roof is clad in built-up tar and gravel and has plank soffits, gable rakes, returns, and fascia moldings. The walls are pierced with segmental arched window openings (all covered with plywood) with brick lintels and wood sills. The building entry faces west towards Whitman Street and contains a pair of wood panel doors with wood sash windows and an arched plank door surround. A vertical frame of rolled steel I-beams, possibly for a now-missing hoist, is set in front of the door. Historical photos show that a ventilation cupola formerly rose above the ridgeline but has been removed. The interior contains a single open work floor, on which is set a sheet metal forge (no chimney is evident for this on the roof). The building is in poor condition.

Wrapping around the north and east sides of the Blacksmith Shop is the Blacksmith Shop & Hardening Building (1909-1910). This Renaissance Revival Style, one-story, brick factory has a ten-by-four-bay irregular footprint running along the east side of the Blacksmith Shop, and a flat-roofed one-bay-wide wing at the north end of that building. The south end of the building is above the mill raceway and has an enclosed brick basement atop the stone raceway walls. The building is constructed with load-bearing masonry exterior walls and a bolted steel interior frame. The flat roof has a projecting box monitor running nearly its entire length, is clad in built-up tar and gravel, and terminates at ogee-profile crown molding with a corbelled cornice. Regularly spaced segmental arch window openings contain pairs of double-hung wood six-over-six windows with brick lintels and wood sills. The monitor window openings have been filled with plywood. The walls terminate at a concrete and rubblestone water table. The northeast quadrant of the building extends over the complex's dam impoundment, where it is supported on poured concrete piers. A doorway on the east wall opens onto the dam, and formerly provided access to now-missing a now-removed pedestrian bridge across the dam spillway. This entry contains a wood panel door with wood brickmolds and a segmental arch brick sill. The building interior is a single open work floor with exposed plank ceilings and floors, brick walls, and steel framing, all in poor condition. There is no access to the enclosed wheel pit area below the building, so the presence or absence of water power infrastructure cannot be confirmed. The building is in poor condition.

The Machine Shop Wing (1887-1896) is a two-story Renaissance Revival factory with load-bearing masonry exterior walls and a timber frame. The six-bay-long rectangular building is set between the Carver Cotton Gin Co. Factory to the north and the Machine Shop—Printing Presses (described below) to the south, sharing party walls with both. It has a shallow-pitched “flat” gable roof clad in standing seam metal sheathing that terminates at box soffits with plank fascia. The brick walls are punctuated with regularly spaced segmental arch brick window openings, now all covered with plywood. A single entrance near the north end of the west wall and contains a pair of replacement steel slab doors with a plywood surround set within the historic segmental arch opening, and below an original divided light wood transom. The foundation is not visible. The interior retains single open work floors on each level and houses free-standing sheet metal storage units. The building has typical exposed plank ceilings and walls and timber framing. The building is in good condition.

Running along the east (rear) wall of the Machine Shop Wing and sandwiched between that building and the Japan House and Engine Room (described below) to the east is the Boiler Room (1901-1906). This flat-roofed brick building shares party walls with its neighbors to the east and west and could not be accessed. It appears to be in poor condition.

The Engine Room (1896-1901) and Japan House (1887-1896) were added to the rear of the Boiler room. They both front a narrow driveway to the east, across from the Carpenter and Pattern Shop (described below). A walkway (not accessible) raised on steel posts runs across and obscures the south end of the Japan House. The north end of the Engine Room faces across a narrow alley to the rear ell of the Carver Cotton Gin Co. Factory. Both the Engine Room and Japan House are one-story (with walk-out basements), flat-roofed mill lofts of typical brick construction with Renaissance Revival Style details. The soffit on the Japan House is open, with exposed rafter tails, the soffit of the Engine Room is enclosed in planks. Three entries (two on the Engine Room and one on the Japan House, open onto the driveway to the

east. Each of these contains a pair of wood panel doors with glass upper panels under an arched transom. The regularly spaced window openings have arched brick transoms, wood sills, and are covered with plywood. These two buildings are in fair to poor condition.

The Machine Shop-Printing Presses (1901, second floor added 1912-1921) fronts Whitman Street, shares a party wall with the Machine Shop to the north, and defines the southwest corner of the connected group that began with the Carver Cotton Gin Co. Factory. This two-story, four-by-eleven-bay building, has typical brick loft construction executed with Renaissance Revival details. The shallow-pitched gable roof is clad in standing seam metal sheathing, and has a projecting box monitor with wood sash windows (now covered with plywood). Ogee-profile crown molding runs along the shallow eaves. The brick walls are more architecturally elaborate than is typical in the complex, being divided into window bays by projecting, stepped brick pilasters and two rows of corbelled cornices. The bays contain pairs of six-over-six double-hung wood windows. These are set in wood plank surrounds with segmental-arched brick lintels and wood sills. All of the windows are covered with plywood except on the second floor of the east wall. The segmental arch basement window openings are filled with concrete masonry units (CMU). A single entrance faces west onto Whitman Street, and consists of a segmental arched brick loading bay that contains a pair of wood panel doors with wood sash windows. The open work floors of typical fire-resistive construction now contain free-standing sheet metal storage units. The building is in good condition.

A narrow alley (spanned by a wood-enclosed pedestrian bridge) separates the Machine Shop-Printing Presses from a connected group of three connected storage buildings that define the south side of the complex. Adjacent to Whitman Street and the Machine Shop-Printing Presses is the Shipping & Packing Building (1901-1906). This two-story, six-by-five-bay, wood framed loft is of early twentieth-century vernacular industrial design, with minimal Renaissance Revival Style details evident in the molding employed at the soffits. The building has a shallow-pitched "flat" gable roof clad in rubber roll roofing that terminates at ogee-profile crown molding along the gable rakes, and at open plank soffits with exposed beveled rafter tails covered with crown molding. Sheathing the walls are stamped metal shingles terminating at narrow sheet metal corners and a plank water table. The raised foundation is brick with window openings filled with CMU. The building's only entrance is at the northeast corner, facing north towards the complex's courtyard (discussed below). The entrance contains a two-leaf wood panel door with a plank surround. The interior has typical open work floors with exposed fire-resistive construction and now houses free-standing sheet metal storage units. The building is in good condition.

Adjoining the Shipping & Packing Building to the east is the Wood Store House (1890, moved 1901-1906). This seven-by-one-bay, two-story, timber frame warehouse is barn-like in character. An enclosed truck loading dock projects from its southeast corner and a shed-roofed elevator tower projects from its west gable wall. The steep side-gable roof is clad in asphalt shingles and has a boxed plank soffit, and plank fascia and gable returns. The south wall is clapboard with plank corner boards and string course, the west gable end has stamped metal shingle sheathing, the east gable end has asphalt shingle sheathing, and the north wall has vertical plank sheathing. The building is raised on brick piers, with the openings between the piers now filled with CMU. An entry on the south wall is enclosed under a shed-roofed extension of the loading dock and consists of a replacement steel door within a plank surround. Three loading bays are set in the north wall of the building and accessed from a wood plank truck loading dock in the courtyard. Each bay contains a pair of doors assembled from beaded planking and having fixed wood sash windows. Unevenly spaced fenestration on the second floor of the south wall is covered with plywood. On the north wall, the window openings contain 6-over-6 double-hung wood sash (covered with wood planks on the first floor). The historic open-plan storage areas of typical fire-resistive construction are now divided by stud and gypsum board partitions into storage units. The building is in good condition.

Attached to the east end of and sharing a party wall with the Wood Store House is the Store House Extension (1906-1912), a four-by-five-bay wood rectangular warehouse of vernacular industrial design. The one-story building is sited on the sloping west bank of the river and has a walk-out basement. It has a shallow-pitched side-gable roof clad in rubber roll roofing that terminates at open plank soffits with exposed beveled rafter tails. The vertical plank walls rest on brick piers with CMU infill between the piers. The regular fenestration consists of pairs windows in each bay, all covered with wood except on the east wall, where double-hung, one-over-one windows are visible. The building's two entrances face north

onto the courtyard. The first floor entrance is contained under an enclosed shed-roofed porch and consists of a boarded-up freight door. A basement entrance is set under the porch and consists of a wood panel vehicle door. The building is in fair condition.

At the rear of the factory complex is a third connected group of manufacturing buildings that back up to the west bank of the Satucket River. The western-most and oldest of these is the Carpenter & Pattern Shop (1900), located across the alley from the Engine Room and Japan House. This three-story, ten bay-by-four-bay brick mill loft is of typical brick and wood frame construction executed with Renaissance Revival details: a shallow-pitched "flat" gable roof with corbelled cornices, paired segmental arched window openings with six-over-six wood sash (mostly intact) and plank surrounds, and prominent brick pilasters. The foundation is mortared rubblestone. The building is in fair condition.

Running along the south end of the Carpenter & Pattern Shop is the Drying Room (1906-1912). This small one-story, one-by-eight-bay shed has a shallow pitched shed roof with exposed beveled rafter tails. Two angled monitors project from the roof. The west (end) wall is brick with a projecting coping, and the wood south wall is clad in stamped tin shingles. The other two walls are shared with adjoining buildings. All the window openings are covered, but appear designed for pairs of windows. The building is in poor condition.

Set within the corner formed by the Carpenter & Pattern Shop and the Drying Room is the Machine Shop & Saw Cutting Building (1901-1906). This one-story production shed has an irregular triangular footprint that steps back along its northeast wall to accommodate the river. The roof is flat, a row of box monitors having been removed at an unknown date, and terminates at open plank soffits and fascia boards. Only the northeast wall is visible, and this is clad in stamped tin shingles. Windows consist of pairs of six-over-six double-hung wood sash set in narrow plank surrounds. The building is in fair to poor condition.

Running along the east walls of the Drying Room and the Machine Shop & Saw Cutting Building is the Punch Room (1921-1931), which was erected across the river channel. The three-bay-by-five-bay, wood building's roof is dominated by a single, large, sawtooth monitor and terminates at open plank soffits and fascia boards. The monitor windows are covered. Walls are clad in stamped tin shingles and pierced by paired windows. The south wall's windows are covered with plywood; the north wall's windows are six-over-six double-hung wood sash. The building is in fair to poor condition.

Terminating the connected group of buildings on its east side is the Punch Room Store House (1971-1995). This two-level, Butler-type prefabricated storage building has a steel frame, a gable roof, and is entirely clad in corrugated steel. There are no windows. Many of the steel panels are missing. The door, set on the south wall, is boarded over. The building is in poor condition.

The three connected groupings of buildings thus far described form a large courtyard that opens on the rear (east) side onto the Satucket River. A wood plank and timber walkway and loading dock runs around the north, west, and east sides of the courtyard, connecting all the building groups. Three free-standing buildings are within this courtyard. At the courtyard's northwest corner is the Storage & Paint Shop (1879-1887). This barn-like wood store house has gable roof clad in stamped tin shingles, plank walls, and a mortared rubblestone foundation. Fenestration is irregular and all the openings are covered with plywood. A two-level pedestrian bridge clad in stamped tin shingles connects the building with the Carpenter & Pattern Shop, and a similar pedestrian bridge connects the building with the Machine-Shop-Printing Presses to the west. An elevated steel walkway runs between the building and the Japan House. The building is in poor, nearly ruinous, condition.

Directly south of the Storage & Paint Shop, at the west end of the courtyard, is the Concrete Block Store House (1943-1960). This one-story, two-by-four-bay storage building has an end-gable roof clad in asphalt shingle with two sheet metal vents at the ridge line, CMU walls, and a concrete foundation. A wood garage door is set in the south end of the building. The windows are covered with plywood. The building is in fair condition.

At the east end of the courtyard, adjacent to the river, is the Paint & Oil Shed (1901-1906). This is a single-story, end-gable Butler-type prefabricated storage building. It has a steel frame and is entirely clad in corrugated steel. There are no windows and the door, set on the west wall, is boarded over. The building is in fair condition.

Two bridges span the Satucket River to the rear of the connected buildings of the factory complex. Set between the Paint & Oil Shed is the South Bridge (1901-1906), and set to the northeast of the Carpenter & Pattern Shop is the North Bridge (1906-1912). These are small (less than 30-foot span) rolled steel girder deck bridges flanked by steel L-channel railings. The deck of the South Bridge is wood planking reinforced with steel plate, the deck of the North Bridge is poured concrete. The South Bridge is in poor condition; the North Bridge in fair condition.

Spanning the river channel at the north end of the complex is the Carver Cotton Gin Company Dam (1890-1900, poured concrete fish ladder added 1920, poured concrete sluiceway rebuilt 1969). This masonry structure is about 120 feet (ft) downstream of the Plymouth Street Bridge over the Satucket River, and formerly impounded the river for a distance of approximately 1,000 ft upstream (north) of the complex and outside the boundaries of the complex.³ The river channel immediately downstream of the dam, and the impoundment between the dam and bridge are entirely channelized by mortared rubblestone walls built by the Carver Co. The dam is a run-of-the river, concrete and stone, gravity-type structure consisting of abutments, a spillway, and a sluiceway. The spillway was formerly flanked to the east by an earth berm dam section; this is now buried beneath fills behind the east dam abutment. The Blacksmith and Hardening Building of the Carver Co. factory complex adjoins the dam at its west end. The dam's concrete spillway is 44 ft long, with a triangular cross section measuring 10 ft high (above the riverbed), 8 ft wide at the base, and 1 ft wide at the crest. It is constructed from a rubblestone and cobble core encased within at least 4 inches of concrete. Six cast-iron stanchions project from the flat crest and formerly supported wood flashboards and a wood and timber catwalk (now removed). A poured concrete sluiceway with its gates permanently removed is set near the west end of the spillway and surmounted by a painted rolled steel frame. The spillway abutments are 6–12-inch-thick concrete walls poured against the river training walls. The dam is in poor condition, and a portion of the spillway is collapsing. A fragment of a poured concrete fish ladder approximately 10 by 15 ft in plan rises from the river bed immediately downstream of the dam. Other concrete work within the spillway may have been added at this time also. Water from the impoundment behind the dam was formerly diverted into a forebay, thence to a turbine in a wheel pit; all located beneath the Blacksmith and Hardening Building. The penstock intake within the forebay is now sealed and abandoned and the turbine wheel pit could not be accessed for inspection. Water reenters the channelized river from the wheel pit approximately 70 ft downstream of the dam via a mortared rubblestone tailrace.

Three buildings remain on the eastern portion of the site across the Satucket River, a now heavily overgrown area where there were formerly a number of sheds and ancillary storage buildings. On the east bank of the river at the southeast corner of the complex is the Experimental Building (1912-1921). This end-gable, wood frame building rests on concrete piers and its east wall is directly atop the river retaining/training wall. The roof and walls are clad in corrugated steel, and the window openings are covered. Most of the window sash is missing, except for three six-over-six double hung units on the east wall. The entry door and an adjacent garage door on the north wall are boarded over and their door units are missing. The siding of the west wall is entirely missing. The interior of the building is unfinished and open to the roof rafters. Two line shafts with large pulley wheels are mounted to the ceiling beams. The building is in poor condition. At the north end of the property, adjacent to Plymouth Street are the Garage (1914) and Iron Store House (1912-1921). The Panel Brick, four-bay-by three-bay Garage faces west towards the Satucket River. It has a flat roof with a shallow brick parapet, brick walls, and a slab foundation. The garage openings have pre-cast concrete lintels; the northerly garage bay is filled with brick; the two other garage bays have modern aluminum roll doors. The southern bay has a wood panel personnel door set under a concrete lintel. The regularly-spaced window openings are filled with multi-light industrial steel sash. The building is in poor condition. The Iron Store House is a two-story, steel-framed storage building. All of the building's corrugated iron roof sheathing and siding has been removed.

Two resources are located on the west side of Whitman Street. The Hobart Memorial (1936) is sited on a traffic island at the intersection of Whitman and Plymouth streets. This oblong fieldstone supports a bronze plaque whose inscription reads: "In memory of Edward Hobart, 1866–1936. A loyal friend of the town of East Bridgewater and his fellow workmen in the Carver Cotton Gin Company."

³ Portions of the dam description are derived from previously published dam inspection reports (Gomez and Sullivan Engineers 2016; MacBroom 2007).

The Office (1887-1896, shed roof extension added 1906-1912) is located directly opposite the stair tower and main entry for the Carver Cotton Gin Co. Factory, with a shallow setback from Whitman Street. This three-by-three-bay wood frame building a one-bay-wide wing on the north end, a one-story shed roofed extension that wraps around the north and west (rear) walls of the building, and an enclosed entry porch under a shed roof. The jerkin head roof is clad in asphalt shingles, the walls are wrapped in vinyl clapboard and the first floor window openings are covered with plywood. Window openings on the second floor have pairs of one-over-one wood sash. Alterations to the building have removed architectural details on the building, which was Colonial Revival in character.

HISTORICAL NARRATIVE

Early History

The Carver Cotton Gin Co. dam and complex is located about 1,000 ft downstream (southwest) of what is reported to be the site of the first mill in East Bridgewater—a sawmill built and operated by Robert Latham (ca. 1623–1688), possibly as early as 1667 (Allen 1884:863). Robert Latham was also a farmer who owned 56 acres of land on the north and south sides of Plymouth Road, possibly including portions of the Carver Cotton Gin Company complex (Forbes and Friedberg 2006).

Robert Latham died *in testate* in 1688, and his property passed to his three sons: James (1659–1738/39), Joseph (1663–1705), and Chilton (1672–1751). Chilton acquired much of the land on the north side of the road, including the sawmill, while James settled on lands south of the road.⁴ Chilton sold his farm to his son Robert Latham (1711–1788, referred to hereinafter as the second Robert Latham) in 1748, while James's lands along the south side of Plymouth Street, were apparently transferred to Joseph Latham, the son of James. In 1749, Robert and James redrew their farm boundaries. Robert took at least 20 acres of land north of Plymouth Street and about 6 acres south of the street on the east bank of the Satucket River, of which a portion is now within the company complex. Joseph received about 25 acres that now constitutes the majority of current-day Sachem Rock Farm (east of the factory parcel) (Forbes and Friedberg 2006).

About 1724–1726, Isaac Harris, Captain (later Deacon) Thomas Whitman, and Jonathan Bass relocated Latham's sawmill downstream to a new site near the Plymouth Street Bridge over the Satucket River that was presumably at or near the current dam. A new dam was likely erected for the mill (Allen 1899:13). Thomas Whitman (1702–1788) owned land on the west bank of the river, opposite the second Robert Latham's land; and Whitman added a gristmill at the dam soon after the sawmill was moved (Allen 1884:864). It is not clear if this gristmill was on the east or west bank of the river, though Whitman's involvement would suggest that it was on the west bank. Captain Whitman seems to have gained exclusive ownership of the sawmill, which he retained until either 1762 or 1788; he transferred the gristmill to his son Amos Whitman (?–1791). After Amos Whitman's death in 1791, his brother Lieutenant Peter Whitman (?–1801) assumed proprietorship of both the sawmill and gristmill. At Peter Whitman's death in 1801, the mills passed to three of his daughters. The property was known under the Whitman's ownership as Whitman's Mills (Forbes and Friedberg 2006).

Ownership of the two mills and the dam and water privilege is unclear between 1801 and 1843. According to Allen (1884), the mills passed through the ownership of Arthur Harris, Benjamin Harris, Nahum Mitchell, Barzillai Allen, and others (Allen 1884:864). By about 1814 or 1815, the sawmill on the east side of the river was owned by a partnership that included Azor Harris (1789–1873) and Constant Hayward. In 1814, Silvanus Lazell, Nahum Mitchell, Alpheus Allen, and John M. Goodwin formed a new company for nail manufacturing, and erected a factory at the privilege in 1815, carrying on the business for about 10 years (Forbes and Friedberg 2006).

In 1827, two new manufacturing enterprises commenced at the privilege. Zebina Keit began tack manufacturing at a new building he added near the dam, supposedly on the east bank of the Satucket River (Crane 1829). Nathaniel Wheeler, Wallace Rust, and Allen Whitman acquired the land and mills on the west bank of the river, incorporated the East Bridgewater Manufacturing Company, and built a brick mill for cotton textile production near the current Carver Co. Dam (Hobart 1908). The East Bridgewater Manufacturing Company remained active until the early 1840s, then closed for

⁴ Joseph moved to Providence, Rhode Island, and sold his interest in the farm to James (Forbes and Friedberg 2006).

unknown reasons. The Keit family persisted in making tacks at the privilege until 1872, when a fire (discussed below) destroyed the entire mill complex (Allen 1884:864).

Carver Company Manufacturing, 1843–1992

The closure of the East Bridgewater Manufacturing Company provided an opportunity for Eleazer Carver (1785–1866), a Bridgewater native who sought to re-establish his successful cotton gin manufacturing business (Allen 1884:865). Carver had trained as a millwright, then moved briefly to Ohio and thence to Louisiana and Mississippi.⁵ He settled in Natchez, Mississippi, around 1807, which was then a center of cotton farming and cotton gin⁶ manufacture (Carver 1853). Carver put his mechanical skills to use repairing sugar mills, cotton gins, and cotton baling presses and gained familiarity with cotton plantation owners and economics of cotton farming. In this way, he entered into a career that would be built on the refinement of the mechanical cotton gin (Lakwete 2003:76, 78).

In the first decade of the nineteenth century, cotton gins were largely handmade by so-called gin-wrights, there being few mills or factories making the components required for the machines. During a down-turn in cotton production during the War of 1812 (1812–1815), Carver established a sawmill and other machinery to manufacture cotton gin parts. In 1817, he then established an expanded cotton-gin factory in Natchez called the “Temple of Industry” (Allen 1884:865; Carver 1853:383–384). This factory was operated in cooperation⁷ with Seth and Abram Washburn Sr. of Bridgewater. Carver was one of several mechanics and millwrights in southern cotton-producing states that were attempting to transition the cotton gin business from hand to machine production and were trying to expand their market share by making improvements to the gin

About 1819, Carver established Carver, Washburn & Company, headquartered in Bridgewater. In 1825, he incorporated this firm as the Bridgewater Cotton Gin Manufacturing Company “for the purpose of Manufacturing Cotton Gins and other manufacturing purposes” and began marketing his “Carver Gin” (Lakwete 2003:90). His partners were Solomon Washburn, Seth Washburn, Abram Washburn, Artemas Hale, Abram Washburn Jr. (aka the second), and Nathaniel Washburn (MGC 1826).⁸ The gin factory (no longer extant) was located on Summer Street in Bridgewater at the outlet to what is now Carver Pond. This was Massachusetts’ first cotton gin factory and one of only four that operated historically in the state.⁹ To market the cotton gins, Carver and his company established an extensive network of sales agents across five southern cotton-growing states, and he quickly formed a reputation that made his cotton gin the standard in the industry (Lakwete 2003:90-93). Carver’s success was also attributable to his close study of cotton gins and the problems inherent in early versions of this machine, from which he was able to develop several important patents. Foremost of these were a new grate for catching cotton seeds (patented 1838) and a new cylinder brush (patented 1845) (Allen 1884:865; E. Carver Company c. 1870). These both improved the flow of material through the gins and reduced clogging. He also obtained two patents for machines tools used for the manufacture of the saw component¹⁰ in cotton gins

⁵ This was Mississippi Territory at the time.

⁶ Cotton gins are used to remove the seeds from and partially clean raw cotton after its removal from the cotton plant and occupy an important place in the processing of cotton into textiles. The invention of the first successful mechanical cotton gin is apocryphally attributed to famous American inventor Eli Whitney in 1793, although a number of people had invented mechanical gins.⁶ The introduction of the mechanical gin is widely credited with having a transformational effect on cotton farming, and, by extension, the textile industries of the eastern United States.

⁷ According to Lakwete 2003 (p.78), the Washburns were financial partners; but according to Nutter 1977 (p. 7), the Washburns were manufacturing the iron components of the cotton gins in Bridgewater and the gins were assembled in the Natchez shop.

⁸ Bridgewater has an extensive iron working history, and Carver took advantage of extended networks of businessmen, iron workers, and machinists in the iron industry for his first two gin factories in Natchez and Bridgewater. Abram Washburn Sr. was trained as a blacksmith at the Bridgewater Iron Manufacturing Company. Carver, Washburn & Company’s second president, Artemas Hale, had been a Bridgewater Iron Company Agent and was also a lawyer (Lakwete 2003:90-91).⁸

⁹ Carver’s influence would spawn two additional cotton gin factories in Bridgewater, making Bridgewater and East Bridgewater two of only three communities to manufacture cotton gins in the entire state of Massachusetts. The other two Bridgewater companies were Bates, Hyde & Co. (founded 1833, later the Eagle Cotton Gin Company) and the Southern Cotton Gin Company (founded ca. 1840). There had also been a short-lived cotton gin factory in Braintree in the 1820s (Lakwete 2003:92; Sampson, Davenport, & Co. 1867:479; 1874:354; Spence 2008:6,7).

¹⁰ There were two primary types of gins in production at this time: roller gins with wire teeth, and saw gins employing circular saw blades. The wire teeth or saw blades were used to grab the cotton fibers and pull them away from the seeds (Lakwete 2003).

(Fleischmann 1853:382). According to company accounts, these improvements were designed to reduce maintenance for the gins and fire hazards. They were also intended to create a gin that worked more effectively with new hybrid cotton varieties then being introduced, which had fibers that clung more tenaciously to the seeds (Nutter 1977:10; Spence 2008:6).

Sometime in the late 1830s or early 1840s, there was a split between Carver and Albert Washburn, the exact nature of which is not described in the historical accounts (Nutter 1977:10; Spence 2008:6). In 1842–1843, Eleazer Carver and two new business partners, Caleb S. Hunt and Franklin Dexter¹¹, acquired the East Bridgewater Manufacturing Company's cotton mill and privilege (Allen 1884:864; Stone 1930:1200).¹² In 1846 the three men incorporated the E. Carver Company for the purpose of manufacturing cotton gins (MCG 1846). The E. Carver Company apparently let out some portions of the premises to the Keit's tack manufactory until 1872 (Beers 1873).¹³

The 1848 (Bates) map of East Bridgewater depicts "E. Carver and Company's Cotton Gin Manufactory" in what was presumably the former East Bridgewater Manufacturing Company mill. Two structures belonging to the Carver Co. are indicated schematically on the south side of the street—one east of the river and one west of the river, in an arrangement similar to the 1829 map. By this time, the mill pond extended south under the Plymouth Street bridge and the dam appeared to be at or close to its present location south of the bridge. Two structures were on the north side of Plymouth Street east of the river/mill pond, one unlabeled (closest to the river) and one dwelling belonging to "Mrs. Bennet".

The 1857 (Walling) map of East Bridgewater delineates a number of structures on both sides of the Satucket River/mill pond at its junction with Plymouth Street. Near the current dam location, south of Plymouth Street, a structure labeled "Carver Co. Cotton Gin Works" was west of the river and a "Saw Mill" was on the east side of the river.¹⁴ North of and upstream of the Plymouth Street Bridge, on the east side of the mill pond, were (from west to east): a "Blacksmith Shop" (closest to the mill pond), a dwelling belonging to "S. Harris", and a dwelling belonging to "Mrs. Bennett". On the west side of the mill pond, one structure labeled "Office" (no longer extant) was present.

Carver was able to repeat the success of his first cotton gin company in Bridgewater, apparently capitalizing on his brand recognition and patents (Allen 1884:866). In 1853, the government of India awarded him a prize of 2,500 rupees and presented the company with a gold medal in recognition of the excellence of his cotton gin. He continued his involvement in the company until almost the time of his death in 1866. Carver's death prompted a reorganization of his company and in 1871 the Carver Cotton Gin Company was incorporated. The de facto leader of the company after the death of Carver was its treasurer, Aaron Hobart (1816–1898) (Howland 1968:28; J. H. Beers & Co. 1912:7–8).¹⁵

In 1872, a large fire destroyed the premises, although it may have spared the sawmill on the east side of the river. The Carver Co.'s physical plant was immediately rebuilt by constructing the Carver Cotton Gin Company Factory (1873, 1912–1921) (Beers 1873). The 1873 (Beers) and 1879 (Walker) maps of East Bridgewater both depict this factory immediately after the fire and reconstruction. On the west side of the river is the extant factory building with a T-shaped plan, and headrace entering the building at its northerly end. A small outbuilding is located between the factory and the river (no longer extant). On the east bank of the river is a rectangular plan sawmill (labeled "S. M." on the 1871 map, no longer extant). According to an undated (post 1872) hand-drawn map in the Old Bridgewater Historical Society files, a new dam was built in 1872. This dam may have been located downstream of the previous dam, which appears to be shown as a line across the river channel just south of the bridge that is labeled "Whitman's Mills" (Allen 1884:864).

¹¹ Caleb Reed, John Reed, and Sampson Reed are listed as partners in some accounts of the business, but these names do not appear on the enabling legislation for the corporation (Allen 1884:864).

¹² Fire destroyed the Carver Mill in Bridgewater in 1854 and Carver's original company did not operate past this time (Spence 2008:6).

¹³ The East Bridgewater Manufacturing Company was dissolved in 1873 (MGC 1873: 696).

¹⁴ It is not known if this was Latham's saw mill that had been moved to this approximate location in the eighteenth century, or a later building.

¹⁵ Hobart was widely acknowledged to be the leader of the company, but he never rose above the title of treasurer, as recounted in his obituary. However, some historical accounts mistakenly describe him as president (*Brockton Enterprise* 1901; Stone 1930:1200).

After the fire, the Carver Co. persisted as the leading manufacturer of cotton processing equipment, and expanded into lines of machinery for shoes (over 40 types of machines), shingles, and boxes and paper products by developing its own patents and by acquiring the patents of others. Employment at the factory had risen to 100 workers by 1884–1885, and the company's machinery was sold across the country and exported to Europe, Australia, Asia, South America, and Mexico (International Publishing Co. 1885). In 1889, orders were so numerous that employees were working extended hours to keep up with demand (Anon. 1899).

The success of the company led to multiple, frequent expansions of its physical plant, including the construction of the current Carver Cotton Gin Company Dam. The primary activities hosted in the complex consisted of metal casting, machining, forging, and hardening; wood working (including pattern making for metal casting); painting; and packing and storage. As of 1885, the company had a 180-by-50-ft factory (built 1872) with power for its saw mills, blacksmith shop, and machine tools provided by a turbine (*The Brockton Weekly Gazetteer* 1880; International Publishing Co. 1885). The Blacksmith Shop (1879–1885) had been added to the north end of the factory as a one-story building with a louvered cupola (now removed). The Storage & Paint Shop (1879–1887) was added at this time. An 1887 (Bailey) “birds-eye” view of the mill shows the 1873 factory with an addition at its north end (labeled on an 1896 Sanborn insurance plan as a blacksmith shop), a cross-gabled wheel house and engine room (as labeled on the 1896 Sanborn, no longer extant) east of the factory adjacent to the dam, the dam itself, and the Storage & Paint Shop and a second storage shed south of the factory. Part of a building—possibly the sawmill shown on the 1873 and 1879 maps—is depicted at the east end of the dam. An 1890 newspaper article provided a detailed description of the plant and activities at this time. The factory building was of brick and measured 140 by 35 ft, the brick blacksmith shop measured 50 by 45 ft, and brick additions measured 90 by 43 ft. The machine shop—used for building shoe machinery, cotton cleaning machinery and printers' supplies (printing presses and paper cutters)—included 8 planers, 14 drilling machines, 9 upright drills, and 30 lathes (Anon. 1889). Above the machine shop was the wood working part of the factory where wood parts of the cotton and shoe machinery were made. A paint shop was located at the rear of the complex. All machinery was powered by water, and the shops were steam heated. At this time, demand was increasing for the company's shoe machinery (Anon. 1890b).

The 1896 insurance plan (Sanborn Map Co. 1896) provides information concerning new addition to the Carver Cotton Gin factory at this time. Added by 1896 to the factory complex were the two-story Machine Shop Wing (1887–1896) and a free-standing Japan House (1887–1896) and gable-roofed Wood Store House (1890, moved 1901–1906). On the west side of Whitman Street, the company built its Office (1887–1896). According to period accounts, the Store House, measuring 96 by 45 ft, was built to house cotton gins and other machinery not needed for immediate shipment (Anon 1890a). The dam is shown at its approximate current location, flanked by a 30–40 ft-long “shed” to the east (unknown if this is the sawmill shown on the 1873 and 1879 maps) and a wheel house and engine room to the west. Multiple store houses and unlabeled outbuildings (now demolished) were south of the dam and 1873 factory, including one directly atop the river bank about 30 ft downstream of the dam.

Photographs on file in the East Bridgewater Public Library and with the U-Store It Company appear to show the construction of the current Carver Cotton Gin Co. Dam or its immediate predecessor between 1890 and 1900. Prior to ca. 1890, the dam consisted of a rubblestone spillway with wood sluiceways near both ends, as well as a wood fishway. In the 1890s, the rubblestone spillway was dismantled to some degree and reassembled, and may have been fully encased in concrete. The sluiceway at the west end of the spillway was enlarged, and the spillway at the east end removed, along with the fishway. The dam work coincided with the installation of a new turbine in the wheel house at the west end of the dam (*The Brockton Enterprise* 1898).

The Carver Co.'s success persisted through the first third of the early twentieth century, and expansions to the factory complex continued apace, with multiple enlargements and new buildings to accommodate the company's expanding and shifting machine production (*The Brockton Enterprise* 1898, 1901). Printing presses were a growing product line, and necessitated the construction of the attached one-story Machine Shop–Printing Presses (1901, raised 1912–1921). A large new three-story factory loft—the Carpenter & Pattern Shop (1900)—was added to the rear of the factory (Sanborn Map Co. 1901). The Wood Storehouse appears to have been moved a short distance to its current location to make room for this building. Also added were new lumber sheds and storage buildings (no longer extant) along the river banks on both sides of the river.

The 1906 insurance plan (Sanborn Map Co. 1906) shows additional new buildings. A Boiler Room (1901–1906) was attached to the rear wall of the factory and machine shop. The Machine Shop & Saw Cutting Building (1901–1906), was attached to the rear of the Carpenter & Pattern Shop. The Shipping & Packing Building (1901–1906) was built at the west end of the relocated Wood Store House. Lesser additions included the metal Paint & Oil Shed (1901–1906) and the South Bridge (1901–1906), both at the rear of the complex.

The 1912 insurance plan (Sanborn Map Co. 1912) and newspaper accounts provide information concerning new construction between 1906 and 1914 (*The Brockton Enterprise* 1904, 1909, 1914). The new 100-by-40-ft Blacksmith Shop & Hardening Building (1909–1910) was added behind the Blacksmith Shop and directly atop the west bank and raceway, replacing the wheel house at this location (*The Brockton Enterprise* 1901). A one-story Drying Room (1906–1912) was added to the south end of the Carpenter & Pattern Shop. The Wood Store House was enlarged with a new one-story Store House Extension (1906–1912). Multiple new storage buildings and sheds and a coal bin (all no longer extant) were added on the east bank of the river, accessed by the new North Bridge (1906–1912) downstream of the dam. Also built on the east side of the river was the Garage (1914), which also contained an employee lounge on its second floor (Carver Cotton Gin Co. 1901).

In the period 1913–1931, the last major expansions to the complex were added. At the southeast corner of the complex, the metal clad Experimental Building (1912–1921) was built. A larger Iron Store House (1912–1921) was added along the Plymouth Street frontage, east of the river. The Punch Room (1921–1931) was connected to the back of the Machine Shop & Saw Cutting Building, spanning the Satucket River channel (Sanborn Map Company 1921, 1931). The second floor of the Machine Shop–Printing Presses was added during this period as well. In 1920, a concrete fishway (now only partially extant) was installed at the Carver Cotton Gin Company Dam in an effort to restore alewife passage on the river (Belding 1820). Small differences in the sluiceway and spillway as it appeared in ca. 1901–1906 and its current appearance show that additional, undocumented alterations have been made to the dam—these may have occurred in 1920 at the same time that the fishway was installed (Kennebec Reborn, Inc. 2012)

Just prior to the Great Depression, the Carver Cotton Gin Co. employed between 1,500 and 2,000 workers, had capital of \$900,000, and was the largest manufacturer in East Bridgewater, as well as the oldest cotton gin manufacturer in the world (Stone 1930:1201). In addition to cotton gins, the company was also producing cotton seed oil machinery, box board machines, and other equipment. The cotton linter (introduced in the 1880s) was an important innovation – this machine removed shorter (less than 1.5 inches) cotton fibers from the seed that formerly were wasted. These fibers were used in the cellulose and rayon industry, for car seat stuffing, and to produce nitrocellulose for gun cotton explosives. Delinting also permitted easier use of the cotton seeds. The Carver Co.'s linter was an outstanding success, capturing 95 percent of the American market. During the period ca. 1900–ca. 1935, the company's acknowledged leader was Aaron Hobart's son Edward Hobart (1866–1936). Edward had succeeded his father as treasurer ca. 1896 and was a successful and admired leader until his death in 1936. When he died, the company raised funds for the Hobart Memorial (1936), which it donated to the town and erected on the traffic circle (now a traffic island) at the intersection of Plymouth and Whitman streets (Anon. 1936).

The Great Depression led to a downturn in company fortunes during the 1930s. As orders for new machinery slowed, employment dropped to 350 workers in 1930, then to just 100 workers by 1936 (Stone 1930:1201). In 1938, the Murray Company of Texas bought the Carver Co., which by this date had halted production of cotton gins in favor of its linter and other types of cotton processing machines. Besides the linter, machines that produced marketable by-products from the cotton seeds were the most successful Carver Co. offerings (*The Brockton Enterprise* 1938). These included machines for processing seed hulls (used for stock feed and synthetic rubber production) and the seed kernel (used for soaps and cooking oils). The export market became more important, rising to account for more than 80 percent of company sales (Anon 1938; Howland 1968:28).

The Murray Company was a manufacturer of cotton seed cleaning and separating machinery with plants in Dallas, Atlanta, and Memphis and a workforce of 1,500 (Anon. n.d.). Founded around 1898, during the mid-twentieth century the company was engaged in an aggressive expansion and diversification program (*The Brockton Enterprise* 1938). The firm acquired steel fabrication, metal alloys casting, and air conditioning manufacturing companies, and, in 1948, would purchase the Boston Gear Works of Boston and Quincy. The Murray Company maintained the Carver Cotton Gin

Company name (later shortened to Carver, Inc.) because of its strong market recognition. Few changes were made to the physical infrastructure of the plant. The small Concrete Block Store House (1943–1960) was added behind the Machine Shop–Printing Presses. A series of steel beams supporting an unknown structure (now removed) was erected across about 150 ft of the river channel downstream of the dam (HistoricAerials.com 1960; Sanborn Map Company 1943).

In 1965, the Murray Company merged with the Rockwell Standard Corporation of Pittsburgh, Pennsylvania. In 1967, Rockwell merged with North American Aviation to for the North American Rockwell Corporation, headquartered in California. During this period, the dam is supposed to have continued to support manufacturing at the Carver Co. factory on a limited basis, providing some 50 horsepower to various machine tools (Howland 1968:28). The date “1969” is inscribed on the dam’s sluiceway, indicating that the steel gate frame was likely added at this time, and the sluiceway’s concrete opening may have been modified as well. The last new building, the Punch Room Store House (1971–1995), was added to the rear of the Punch Room on the east bank of the river (HistoricAerials.com 1971, 1995). Ownership of the parcel passed to RBZP Realty Group, Inc. in 1988, then to a series of banks, with Carver, Inc. leasing the property (Weston 1996:3–6).

Post-Manufacturing History, 1992–Present

The Carver Co. relocated to Savannah, Georgia, in 1992. After this date, the Carver Co. factory complex in East Bridgewater was used by various light manufacturing and industrial tenants. The entire property is now owned by Fifteen Whitman Street, doing business as U Store It (Town of East Bridgewater Assessor’s Office 2016). Several of the buildings are now vacant. The dam is no longer used; its sluiceway was permanently opened and the impoundment drawn down in 2001 to comply an order from the Massachusetts Office of Dam Safety (Kennebec Reborn, Inc. 2012).

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INVENTORY FORM A CONTINUATION SHEET

EAST BRIDGEWATER

CARVER COTTON GIN CO.

MASSACHUSETTS HISTORICAL COMMISSION

Area Letter Form Nos.

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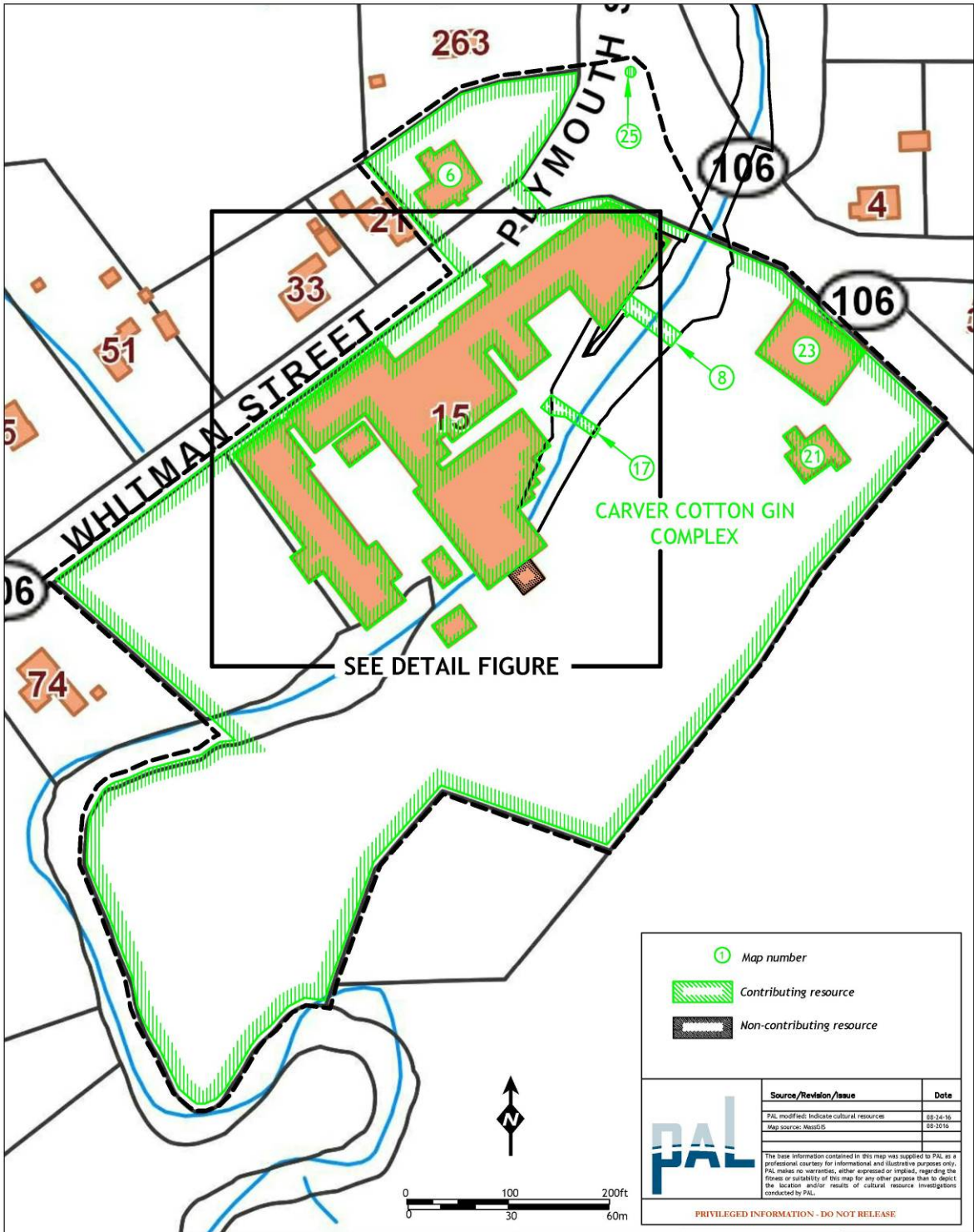
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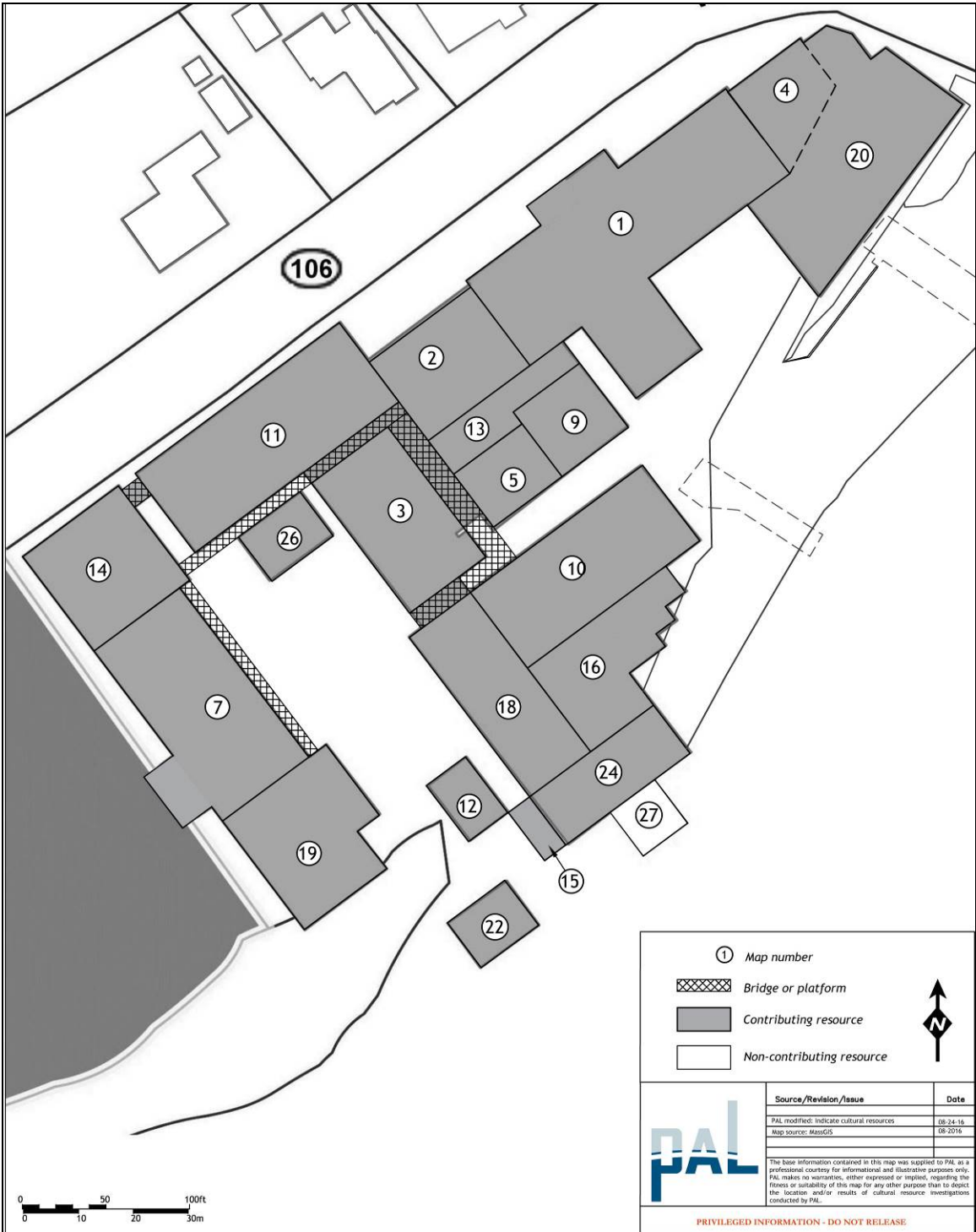
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**Carver Cotton Gin Company
 East Bridgewater, Massachusetts
 District Data Sheet**

Map No.	MHC No.	Assessor's No.	Historic Name/ Feature	Est. Date of Construction	Architectural Style/Type	Photo No.
1	EBR.10	40-49	Carver Cotton Gin Co. Factory	1873, office addition 1912–1921	Classical Revival Style	1, 3, 17
2		40-49	Machine Shop Wing	1887–1896	Classical Revival Style	1, 3
3		40-49	Storage & Paint Shop	1879–1887	Warehouse (no style)	11
4		40-49	Blacksmith Shop	1879–1885	Classical Revival Style	1, 17
5		40-49	Japan House	1887–1896	Classical Revival Style	4
6		40-49	Office	1887–1896, 1906–1912	Colonial Revival	18
7		40-49, 41–53	Wood Store House	1890, moved 1901–1906	Warehouse (no style)	5
8		40-49	Carver Cotton Gin Co. Dam	1890–91, 1920, 1969	Stone and concrete gravity type	2
9		40-49	Engine Room	1896–1901	Classical Revival Style	4
10		40-49	Carpenter & Pattern Shop	1900	Classical Revival Style	7
11		40-49	Machine Shop–Printing Presses	1901, raised 1 story 1912–1921	Classical Revival Style	1, 5
12		40-49	Paint & Oil Shed	1901–1906	Storage Shed (Butler-type)	13
13		40-49	Boiler Room	1901–1906	Classical Revival Style	N/A
14		40-49	Shipping & Packing Building	1901–1906	Warehouse (no style)	5
15		40-49	South Bridge	1901–1906	Steel stringer deck bridge	9
16		40-49	Machine Shop & Saw Cutting Building	1901–1906	No style	8
17		40-49	North Bridge	1906–1912	Steel stringer deck bridge	2
18		40-49	Drying Room	1906–1912	No Style	7, 9
19		40-49	Store House Extension	1906–1912	Warehouse (no style)	6
20		40-49	Blacksmith Shop & Hardening Building	1909–1910	Classical Revival Style	1, 2, 17
21		40-49	Garage	1914	Panel brick	15
22		40-49	Experimental Building	1912–1921	No style	14
23		40-49	Iron Store House	1912–1921	Storage Shed (Butler-type)	16
24		40-49	Punch Room	1921–1931	No style	8, 9
25		N/A (public ROW)	Hobart Memorial	1936	Fieldstone monument	17
26		40-49	Concrete Block Store House	1943–1960	Storage shed (no style)	12
27		40-49	Punch Room Store House	1971–1995	Storage Shed (Butler-type)	10



Plan of the Carver Cotton Gin Company showing resource numbers.



Detail plan of Carver Cotton Gin Company showing resource numbers within the manufacturing complex.

INVENTORY FORM A CONTINUATION SHEET

EAST BRIDGEWATER

CARVER COTTON GIN CO.

MASSACHUSETTS HISTORICAL COMMISSION

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Photo 2. Carver Cotton Gin Co. Dam and Blacksmith Shop & Hardening Building, looking south.



Photo 3. Carver Cotton Gin Co. Factory and Machine Shop Wing, looking northeast.

INVENTORY FORM A CONTINUATION SHEET

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Photo 4. Japan House and Engine Room, looking northeast.



Photo 5. Machine Shop—Printing Presses (left), Shipping and Packing Building (center), and Wood Store House (right), looking northeast.

INVENTORY FORM A CONTINUATION SHEET

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Photo 6. Store House Extension, looking north.



Photo 7. Carpenter & Pattern Shop with Drying Room in front, looking north.

INVENTORY FORM A CONTINUATION SHEET

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Photo 8. Machine Shop & Saw Cutting Building and Punch Room, looking south.



Photo 9. Drying Room (left), Punch Room (center rear), and South Bridge (right), looking east.

INVENTORY FORM A CONTINUATION SHEET

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Photo 10. Punch Room Store House, looking northeast.



Photo 11. Storage & Paint Shop, looking northeast.

INVENTORY FORM A CONTINUATION SHEET

EAST BRIDGEWATER

CARVER COTTON GIN CO.

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Photo 12. Concrete Block Store House, looking north.



Photo 13. Pain & Oil Shed, looking southeast.

INVENTORY FORM A CONTINUATION SHEET

EAST BRIDGEWATER

CARVER COTTON GIN CO.

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EBR.10



Photo 14. Experimental Building, looking south.

INVENTORY FORM A CONTINUATION SHEET

EAST BRIDGEWATER

CARVER COTTON GIN CO.

MASSACHUSETTS HISTORICAL COMMISSION

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EBR.10



Photo 15. Garage, looking east.



Photo 16. Iron Store House, looking northeast.

INVENTORY FORM A CONTINUATION SHEET

EAST BRIDGEWATER

CARVER COTTON GIN CO.

MASSACHUSETTS HISTORICAL COMMISSION

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EBR.10



Photo 17. Hobart Memorial (on traffic island), Blacksmith Shop (center), and Carver Cotton Gin Factory (right), looking southeast.

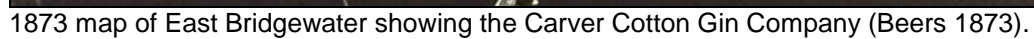


Photo 18. Office, looking southwest.

CARVER COTTON GIN Co.

Area Letter Form Nos.

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INVENTORY FORM A CONTINUATION SHEET

EAST BRIDGEWATER

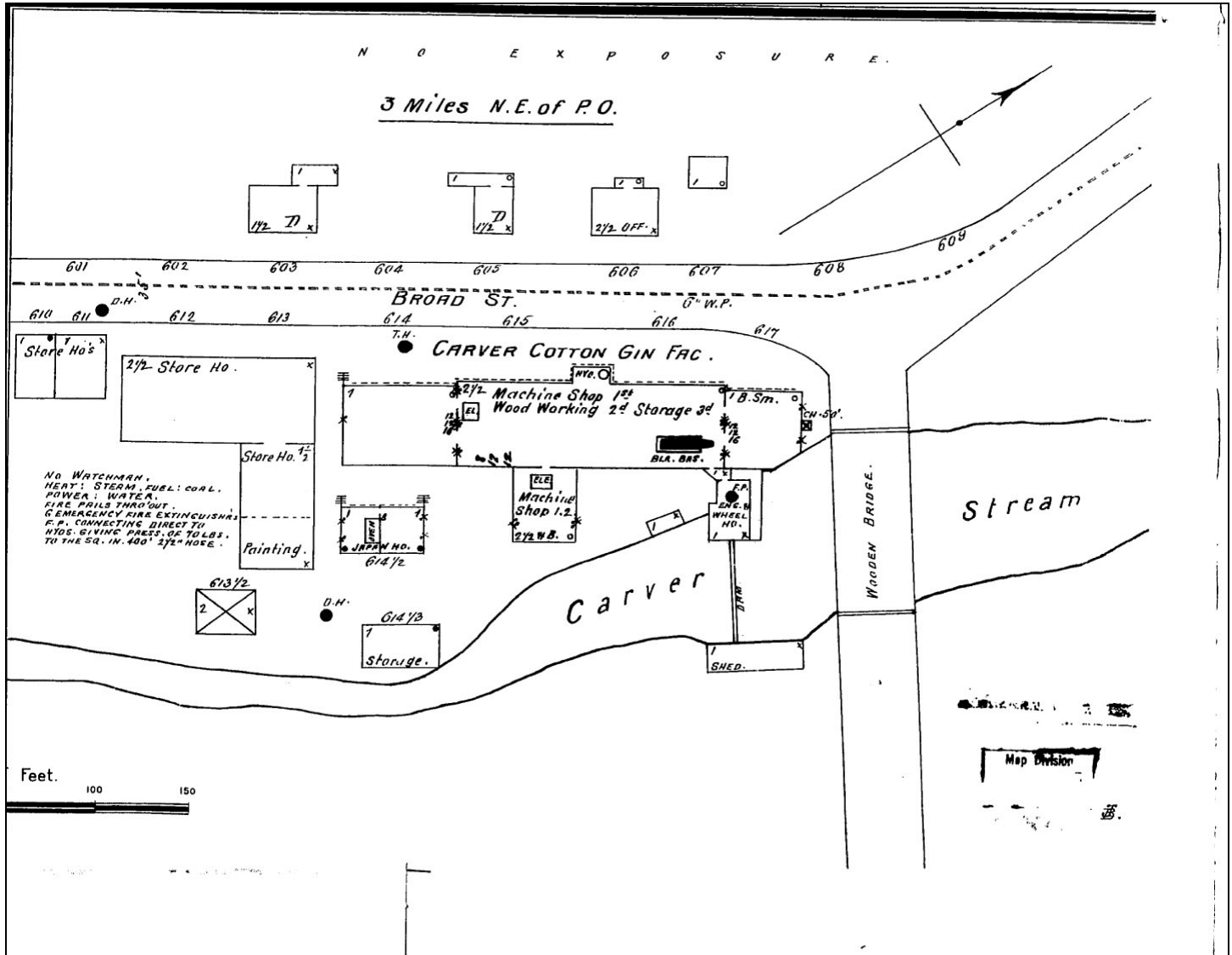
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MASSACHUSETTS HISTORICAL COMMISSION

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220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

EBR.10

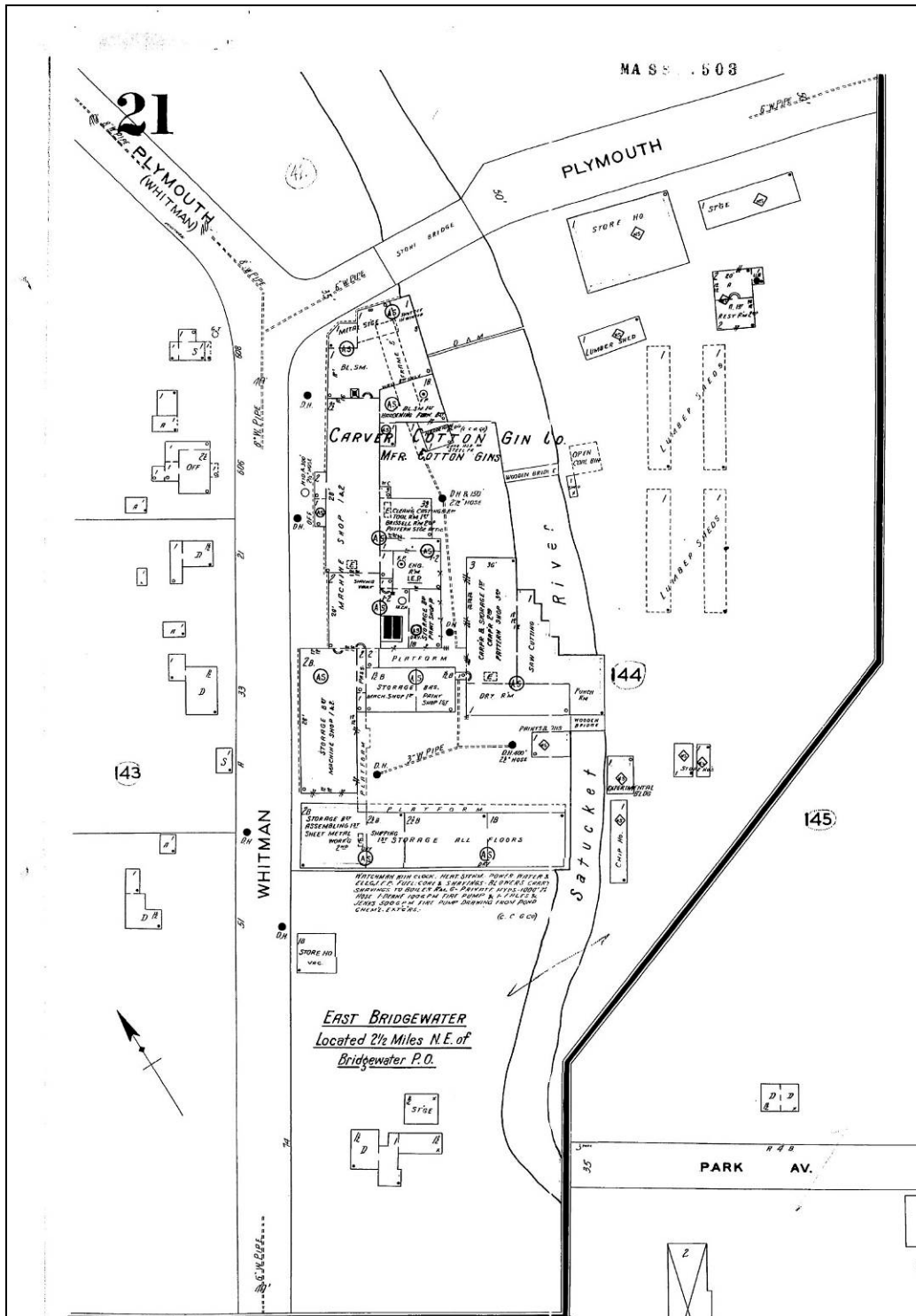


Insurance plan of the Carver Cotton Gin Company in 1896 (Sanborn Map Company 1896)

CARVER COTTON GIN Co.

Area Letter Form Nos.

EBR.10



INVENTORY FORM A CONTINUATION SHEET

EAST BRIDGEWATER

CARVER COTTON GIN CO.

MASSACHUSETTS HISTORICAL COMMISSION

Area Letter Form Nos.

220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

	EBR.10
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Photograph of the Carver Cotton Gin Company factory around 1873–1887, looking northeast from Whitman Street (East Bridgewater Public Library collections).

INVENTORY FORM A CONTINUATION SHEET

EAST BRIDGEWATER

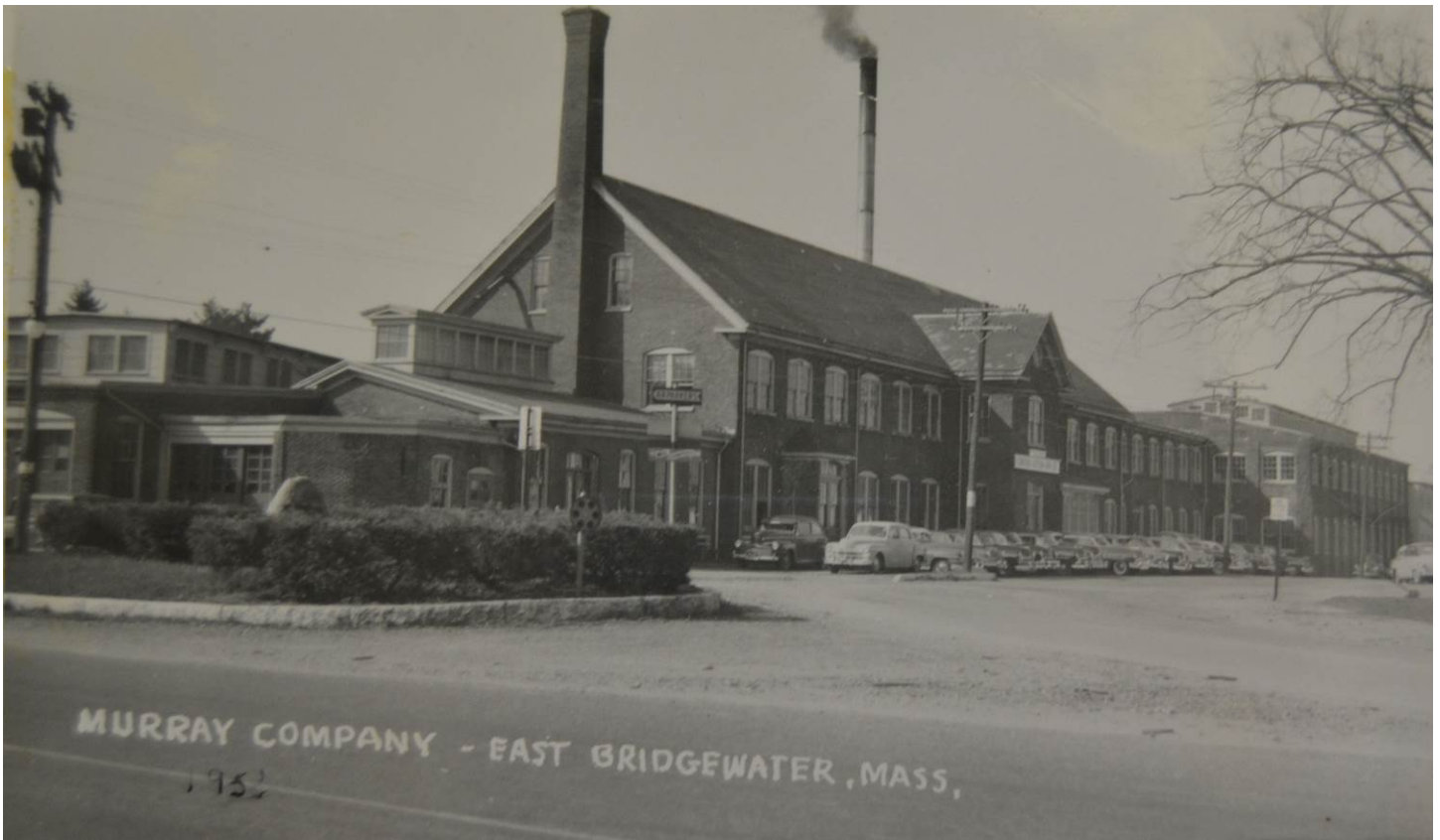
CARVER COTTON GIN CO.

MASSACHUSETTS HISTORICAL COMMISSION

Area Letter Form Nos.

220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

EBR.10



Postcard photograph of the Carver Cotton Gin Company around 1952, looking southeast from the intersection of Whitman Street and Plymouth Street (East Bridgewater Public Library collections).

	EBR.10
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National Register of Historic Places Criteria Statement Form

Check all that apply:

- ☐ Individually eligible ☐ Eligible **only** in a historic district
☐ Contributing to a potential historic district ☒ Potential historic district

Criteria: ☒ **A** ☐ **B** ☒ **C** ☐ **D**

Criteria Considerations: ☐ **A** ☐ **B** ☐ **C** ☐ **D** ☐ **E** ☐ **F** ☐ **G**

Statement of Significance by John J. Daly, PAL

The criteria that are checked in the above sections must be justified here.

The Carver Cotton Gin Company complex is recommended to be eligible for listing in the National Register under Criteria A and C at the local level. The property is significant under Criterion A in the areas of commerce and industry for its significant contributions to East Bridgewater's economic development and, through its manufacture of cotton processing machinery, the unique connections it fostered between Massachusetts and the national cotton textile and cotton seed processing industries. Bridgewater native Eleazer Carver (1785–1866); a mechanic, inventor, and entrepreneur; founded the Carver Co. in 1842–1846 to manufacture and sell his patent cotton gins. Carver and successive leaders steadily expanded the sales, product offerings, and physical plant of the company until it was the largest and most important manufacturing company in East Bridgewater and a national leader in cotton gins and other cotton processing equipment. The company is one of only four cotton gin manufacturers that operated historically in Massachusetts. The property is significant under Criterion C in the area of architecture and engineering. It represents a significant and distinguishable grouping of factory buildings developed over a 90-year period for the purpose of manufacturing cotton gins and other machinery. The extant complex was built in multiple phases between 1872 and ca. 1960 and hosted all phases of production until the closure of the Carver Co. in 1992. The larger manufacturing buildings in the complex are of typical late-nineteenth-century "loft" construction with flat or gable roofs, load-bearing brick walls, and fire-resistive wood framing on the interior. These factories feature regular ranks of large segmental arch windows, overhanging eaves and fascia boards, and arched door openings that demonstrate a Classical Revival Style influence. Other building and structures in the complex include store houses, a garage, an office, two bridges, and a dam. These display the functional attributes of their building types but are otherwise of undistinguished vernacular industrial design. Buildings within the complex range in condition from good to poor condition, but retain integrity.

The Carver Cotton Gin Company complex is not directly associated with Eleazer Carver because all of the extant resources post-date his death. Therefore, the property possesses no significance under Criterion B.

APPENDIX C
MEMORANDUM OF AGREEMENT

**MEMORANDUM OF AGREEMENT
AMONG THE
U.S. FISH AND WILDLIFE SERVICE,
THE MASSACHUSETTS HISTORICAL COMMISSION,
MASSACHUSETTS BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES,
THE NATIONAL MARINE FISHERIES SERVICE,
AND
THE NATURE CONSERVANCY
FOR THE CARVER COTTON GIN DAM REMOVAL PROJECT
IN EAST BRIDGEWATER, MASSACHUSETTS**

WHEREAS, The Nature Conservancy (TNC), the project proponent, is proposing the Carver Cotton Gin Dam Removal Project in East Bridgewater, Massachusetts, consisting of removal of the dam, installation of a stone riffle in the dam's place, sediment disposal in the former mill headrace and tailrace, protection of the adjacent mill building foundation and retaining walls, and installation of scour protection underneath Massachusetts Route 106 Bridge immediately upstream of the dam, to restore a free-flowing riverine system for migratory and resident fish passage ("the undertaking") as shown on the plan attached as Exhibit 1; and

WHEREAS, the Department of the Interior will provide federal funding from the Disaster Relief Appropriations Act of 2014 to the undertaking and the U.S. Fish and Wildlife Service (USFWS) is providing staff time for the Project, thereby making the Project an undertaking subject to review under Section 106 of the National Historic Preservation Act (NHPA), 54 U.S.C. § 306108, and its implementing regulations, 36 CFR § 800; and

WHEREAS, the USFWS has determined the Area of Potential Effect (APE) to include an approximately 9-acre area encompassing the Carver Cotton Gin Company factory complex with associated landscape features spanning both sides of the Satucket River; and

WHEREAS, the USFWS has consulted with the Massachusetts Historical Commission (MHC) the office of the Massachusetts State Historic Preservation officer (SHPO) pursuant to applicable regulations found in 36 CFR Part 800 implementing Section 106 of the National Historic Preservation Act (54 U.S.C. 470f) and has provided documentation titled *Phase I Cultural Resources Survey, Updated to 75 Percent Design, Carver Cotton Gin Dam Removal Project, East Bridgewater, Massachusetts* required by 36 CFR § 800.11 and meeting the Secretary of Interior's *Standards and Guidance for the Implementation of the Federal Standards Entitled Archaeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines (48 FR 44742, September 29, 1983) 1999 rev. 2003*; and

WHEREAS, the USFWS in consultation with the SHPO has determined the Carver Cotton Gin Factory complex (MHC #EBR.10), including the Carver Cotton Gin Company Dam property is eligible for listing in the National Register of Historic Places; and

WHEREAS, the USFWS has determined in consultation with the MHC in SHPO correspondence dated September 28, 2016 that the undertaking will have an adverse effect on the National Register-eligible Carver Cotton Gin Company Complex (MHC #EBR.10); and

WHEREAS, the USFWS has invited the Advisory Council on Historic Preservation (ACHP) to participate in the consultation process in correspondence dated March 24, 2017 and the ACHP has elected not to participate; and

WHEREAS, the USFWS has invited the U.S. Army Corps of Engineers (USACE) to participate in the consultation process in correspondence dated March 7, 2017 and the USACE has elected to participate in this consultation; and

WHEREAS, the National Marine Fisheries Service (NMFS) is providing funding for the undertaking and is a signatory of this Memorandum of Agreement (MOA); and

WHEREAS, the USFWS has solicited input from the Mashpee Wampanoag Tribe (Tribe) to participate in this Section 106 Consultation process in correspondence dated September 15, 2016 and March 6, 2017, and the Tribe's Historic Preservation Department has elected to participate in this consultation; and

WHEREAS, the USFWS has solicited input from the Wampanoag Tribe of Gay Head (THPO) to participate in this Section 106 Consultation process in correspondence dated September 15, 2016 and March 6, 2017, and the Tribe has elected to participate in this consultation; and

WHEREAS, the USFWS has solicited input from the Narragansett Indian Tribe (THPO) to participate in this Section 106 Consultation process in correspondence dated September 15, 2016, and received no response; and

WHEREAS, the USFWS has consulted with the Massachusetts Board of Underwater Archaeological Resources (MBUAR) and invited the MBUAR to be a signatory of this MOA and MBUAR has accepted; and

WHEREAS, the USFWS has invited the East Bridgewater Historical Commission to participate in this Section 106 Consultation process and comment on this MOA and they have elected to participate in this consultation; and

NOW THEREFORE, the USFWS, the MHC, the MBUAR, the NMFS, and TNC agree that the Project undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties:

Stipulations

The USFWS and TNC shall ensure that the following measures are implemented:

I. Documentation

- A. On behalf of the USFWS and TNC, a 36 CFR 61 qualified architectural/industrial historian will prepare archival historical and photographic documentation of resources contributing to the significance of the Carver Cotton Gin Company Complex (MHC #EBR.10) that will be directly impacted by the proposed undertaking: the Carver Cotton Gin Dam and river retaining walls, the Blacksmith Shop and Hardening Building, and the headrace and tailrace below and adjacent to the Blacksmith Shop and Hardening Building. Photographic documentation will occur prior to any construction-related activities or the removal of the dam spillway and will show the resources in their setting within the Carver Cotton Gin Company Complex; general views of the resources; and important architectural and engineering details. Additional post-construction photographs will be taken that show the appearance of the Carver Cotton Gin Company Complex resources (or their former locations). Photographic documentation shall consist of high-resolution digital photographs captured and printed according to the MHC Photographic Documentation Technical Requirements for Digital Images, keyed to an existing conditions project plan where applicable. Written recordation shall consist of narrative text describing the physical characteristics and history and development of the mill site based upon information included in current MHC Inventory Form (MHC #EBR.10) and any additional research conducted in the planning stages of the project. The narrative will be accompanied by copies of appropriate historical maps and photographs. All written recordation shall be printed on archival paper and all photographic and written documentation housed in an archival box.
- B. An original archival copy of the documentation shall be provided to the Town of East Bridgewater, for curation by the East Bridgewater Historical Commission, or East Bridgewater Public Library and Historical Society. A copy of the transmittal documents to the Town of East Bridgewater and a non-archival paper copy of the archival documentation shall be submitted to the MHC.

II. Interpretation

- A. The USFWS and TNC, with the assistance of a 36 CFR 61 qualified architectural/industrial historian, and in consultation with the MHC and the East Bridgewater Historical Commission, will prepare interpretive materials that disseminate information about the Carver Cotton Gin Dam and mill complex to the interested public. Draft interpretive text and plan and specifications showing the proposed design and location of a brass plaque or marker shall be submitted to the signatories and invited signatories for review and comment. The final interpretive text and plan shall take into account signatory and invited signatory comments on the draft text, design, and plan. The deadline for completing the interpretive materials shall be two (2) years from the date of execution of this MOA. This deadline may be extended if mutually agreeable between the USFWS and the MHC.

III. Archaeological Monitoring

- A. The USFWS and TNC, with the assistance of a 36 CFR 61 qualified archaeologist, will monitor the removal of the dam and fish ladder structures and excavation of riverbed materials in the high sensitivity in-river work areas under archaeological field investigation permits issued by the Massachusetts State Archaeologist (950 CMR 70) and Massachusetts Board of Underwater Archaeological Resources (312 CMR 2). The monitoring effort will include the recordation of any buried remains of eighteenth and nineteenth century mill structures and legacy dams and Native American resources. Digital photographs and sketch/measured drawings will be taken or prepared by the archaeologist as safety considerations allow.
- B. The USFWS and TNC will notify the Mashpee Wampanoag Tribe and Wampanoag Tribe of Gay Head at least fourteen (14) calendar days prior to the start of the construction and excavation of river sediments and dam. Cultural Resource Monitors from the Tribe will also be allowed access to the Project site to observe construction.
- C. A technical report will be prepared by the archaeologist and submitted by USFWS to the MHC and MBUAR describing the results of the archaeological monitoring efforts that meets the state permitting standards of the MHC and MBUAR guidelines for archaeological investigations (950 CMR 70.14 and (312 CMR 2).
- D. The report will be submitted to, and reviewed and approved by the MHC and MBUAR. The USFWS will consider all comments for incorporation into the final report. If comments are not received within 30 calendar days of submission, it will be assumed that the report is complete and acceptable to MHC and MBUAR.
- E. Two bound original copies of the technical report describing the results of archaeological monitoring that incorporates MHC and MBUAR comments on the draft report, and a CD with the technical report abstract and bibliographic citation, shall be submitted to the MHC. MHC archaeological site form(s) for any identified archaeological resources shall be prepared and submitted to the MHC as necessary. Copies of the final technical report shall be provided by USFWS to the other signatories upon request.

IV. Post Review Discoveries

- A. The USFWS and TNC shall notify MHC, MBUAR, and appropriate invited signatories and/or interested parties, if previously unidentified historic properties, including archaeological resources, are discovered during construction activities. Consultation among the signatories and invited signatories shall proceed pursuant to 36 CFR 800.13 and the USFWS, MHC, and MBUAR shall apply the National Register criteria of eligibility (36 CFR 60) and treat the resources consistent with

the Massachusetts Board of Underwater Archaeological Resources Policy
Guidance for the Discovery of Unanticipated Archaeological Resources.

V. Dispute Resolution

- A. Should any signatory to this Agreement object within thirty (30) days to any actions proposed or carried out pursuant to this MOA, the USFWS shall consult with the signatory to resolve the objection. If the USFWS determines that the objection cannot be resolved, the USFWS shall forward all documentation relevant to the dispute to the ACHP. Within thirty (30) days after receipt of all pertinent documentation, the ACHP will either:
1. Provide the USFWS with recommendations which the USFWS will take into account in reaching a final decision regarding the dispute; or
 2. Notify the USFWS that it will comment pursuant to 36 CFR 800.6(b), and proceed to comment. Any recommendations or comment provided by the ACHP will be understood to pertain only to the subject of the dispute; the USFWS responsibility to carry out all actions under the MOA that are not subject of the dispute will remain unchanged.
- B. If at any time during the implementation of the measures stipulated in this MOA, an objection should be raised by an interested member of the public or consulting parties, the USFWS will consult with the other parties to this MOA to determine the appropriate response.

VI. Duration

- A. This MOA will expire if its terms are not carried out within three (3) years from the date of its execution. Prior to such time, the USFWS may consult with the other signatories to reconsider the terms of this MOA and amend it in accordance with Stipulation VIII below.

VII. Limitations and Assurances

- A. This MOA is not a fiscal or fund obligating document and no funds are transferred hereunder. The USFWS will ensure Project partners gain best professional cost estimates for all activities proposed in this undertaking. The USFWS agrees not to proceed with the undertaking until the project partners have obtained adequate funding, based on best professional estimates, to fulfill the obligations under this MOA.

VIII. Amendments

- A. This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

IX. Termination

- A. If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other party in attempt to develop an amendment per the stipulation in Section VIII, above. If, within thirty (30) days (or another time period agreed to by both signatories), an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.
- B. In the event the MOA is terminated, the USFWS will either execute an MOA with signatories pursuant to 36 CFR 800.6 (c), or request a written response from the ACHP under 36 CFR 800.7 (a).

Execution of this MOA by the USFWS and MHC, and its subsequent filing with the ACHP, and implementation of its terms evidences that the USFWS has afforded the ACHP an opportunity to comment on the Carver Cotton Gin Dam Removal Project, and that USFWS has taken into account the effects of the undertaking on historic properties.

SIGNATORY PAGE

**MEMORANDUM OF AGREEMENT
AMONG THE
U.S. FISH AND WILDLIFE SERVICE,
THE MASSACHUSETTS HISTORICAL COMMISSION,
MASSACHUSETTS BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES,
THE NATIONAL MARINE FISHERIES SERVICE,
AND
THE NATURE CONSERVANCY
FOR THE CARVER COTTON GIN DAM REMOVAL PROJECT
IN EAST BRIDGEWATER, MASSACHUSETTS**

U.S. FISH AND WILDLIFE SERVICE

By: Paul D. Phifer
Paul Phifer, Assistant Regional Director, Regional Ecological Services Program

Date: 7/10/17

SIGNATORY PAGE

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AMONG THE
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THE NATIONAL MARINE FISHERIES SERVICE,
AND
THE NATURE CONSERVANCY
FOR THE CARVER COTTON GIN DAM REMOVAL PROJECT
IN EAST BRIDGEWATER, MASSACHUSETTS**

MASSACHUSETTS HISTORICAL COMMISSION

By: Brona Simon

Brona Simon, Executive Director, State Historic Preservation Officer, State Archaeologist

Date: 7/31/17

SIGNATORY PAGE

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AMONG THE
U.S. FISH AND WILDLIFE SERVICE,
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MASSACHUSETTS BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES,
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AND
THE NATURE CONSERVANCY
FOR THE CARVER COTTON GIN DAM REMOVAL PROJECT
IN EAST BRIDGEWATER, MASSACHUSETTS**

**MASSACHUSETTS BOARD OF UNDERWATER ARCHAEOLOGICAL
RESOURCES**

By: _____

Victor T. Mastone, Director

Date: 07/18/2017

SIGNATORY PAGE

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AMONG THE
U.S. FISH AND WILDLIFE SERVICE,
THE MASSACHUSETTS HISTORICAL COMMISSION,
MASSACHUSETTS BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES,
THE NATIONAL MARINE FISHERIES SERVICE,
AND
THE NATURE CONSERVANCY
FOR THE CARVER COTTON GIN DAM REMOVAL PROJECT
IN EAST BRIDGEWATER, MASSACHUSETTS**

NATIONAL MARINE FISHERIES SERVICE

By: 
Patricia Montanio, Director, Office of Habitat Conservation

Date: 7/20/2017

SIGNATORY PAGE

**MEMORANDUM OF AGREEMENT
AMONG THE
U.S. FISH AND WILDLIFE SERVICE,
THE MASSACHUSETTS HISTORICAL COMMISSION,
MASSACHUSETTS BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES,
THE NATIONAL MARINE FISHERIES SERVICE,
AND
THE NATURE CONSERVANCY
FOR THE CARVER COTTON GIN DAM REMOVAL PROJECT
IN EAST BRIDGEWATER, MASSACHUSETTS**

THE NATURE CONSERVANCY (INVITED SIGNATORY)

By: Alison A Bowden
Alison Bowden, Director, Rivers, Coasts & Oceans

Date: July 13, 2017

SIGNATORY PAGE

**MEMORANDUM OF AGREEMENT
AMONG THE
U.S. FISH AND WILDLIFE SERVICE,
THE MASSACHUSETTS HISTORICAL COMMISSION,
MASSACHUSETTS BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES,
THE NATIONAL MARINE FISHERIES SERVICE,
AND
THE NATURE CONSERVANCY
FOR THE CARVER COTTON GIN DAM REMOVAL PROJECT
IN EAST BRIDGEWATER, MASSACHUSETTS**

MASHPEE WAMPANOAG TRIBE (CONCURRING PARTY)

By:  Date: Aug. 16, 2017
Ramona Peters, Tribal Historic Preservation Officer

EXHIBIT 1

Plan of the Undertaking

EAST BRIDGEWATER, MA

COTTON GIN DAM REMOVAL

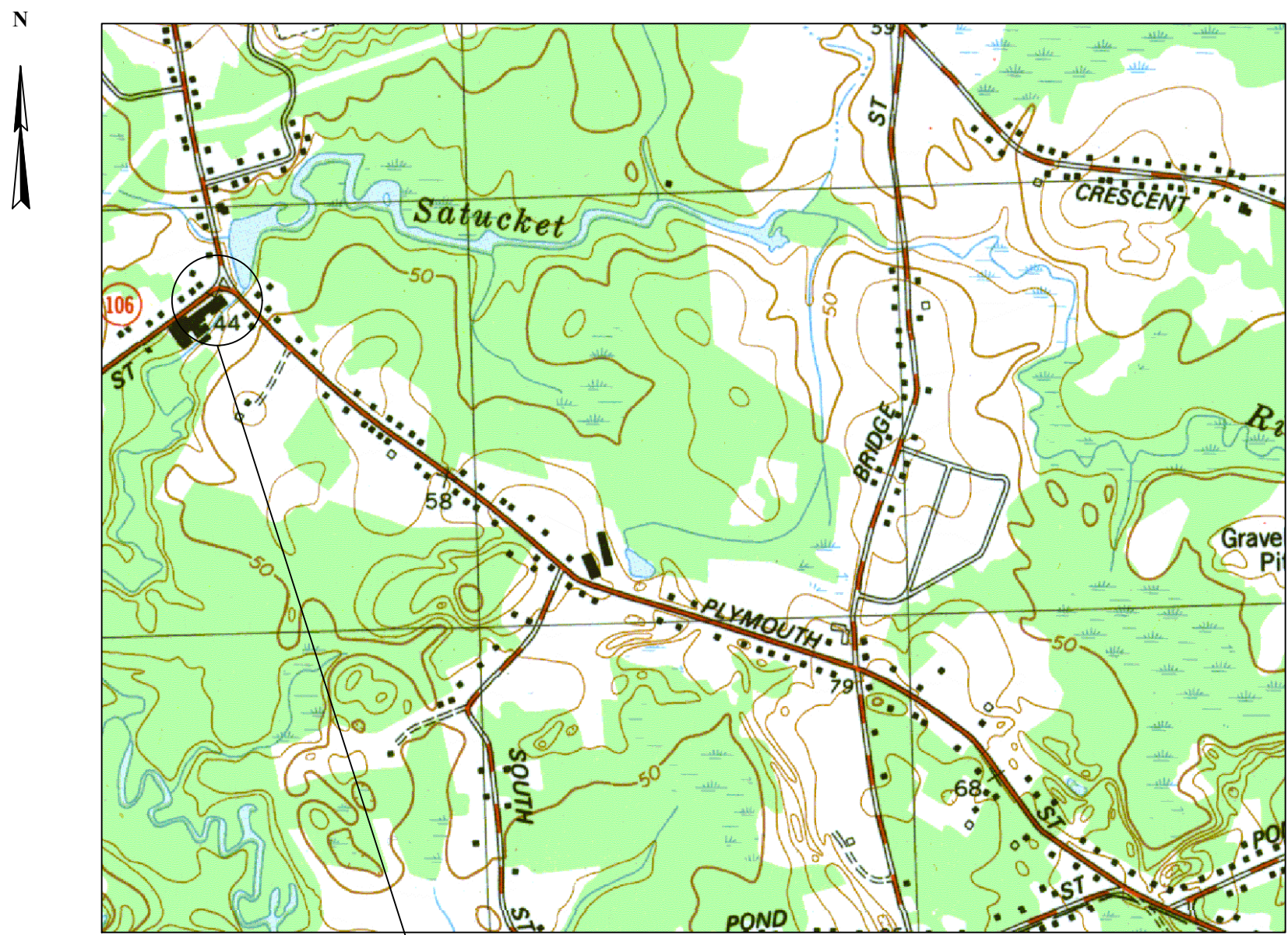
DIVISION OF ECOLOGICAL RESTORATION
MASSACHUSETTS DEPT. OF FISH & GAME
251 CAUSEWAY STREET
BOSTON, MA 02114

FINAL DRAWINGS - ISSUED FOR BID

DRAWING NO.	TITLE
1	COVER SHEET
2	NOTES AND LEGEND
3	EXISTING CONDITIONS, TEMPORARY ACCESS AND EROSION CONTROL PLAN
4	OVERALL NATURAL RESOURCE IMPACT PLAN
5	UPSTREAM NATURAL RESOURCE IMPACT PLAN
6	WATER CONTROL AND BRIDGE COUNTERMEASURE PLAN - PHASES I AND II
7	WATER CONTROL AND CONSTRUCTED RIFFLE PLAN - PHASES III AND IV
8	PROPOSED PLAN AND PROFILE
9	EXISTING DAM PROFILE AND ABUTMENT SECTIONS
10	PROPOSED REMOVED DAM PROFILE AND ABUTMENT SECTIONS
11	CONSTRUCTION DETAILS
12	EROSION CONTROL DETAILS
13	TRAFFIC MANAGEMENT PLAN

DIG-SAFE
CONTRACTOR SHALL CALL DIG-SAFE CALL CENTER AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO STARTING ANY EXCAVATION. SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS ARE NOT TO BE INCLUDED IN THE REQUIRED 72 HOUR NOTICE.

ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO THE ENGINEER WITHOUT DELAY. THE COPYRIGHTS TO ALL DESIGNS AND DRAWINGS ARE THE PROPERTY OF GOMEZ AND SULLIVAN ENGINEERS, DPC. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY GOMEZ AND SULLIVAN, DPC IS FORBIDDEN.



SOURCE: USGS

Project Site



SOURCE: BING

COTTON GIN DAM REMOVAL PROJECT

COVER SHEET



6/5/17	0	ISSUED FOR BID	JSC	RLS
ISSUE	#	DESCRIPTION	BY	APP
DRAWN BY: JSC				
CHECKED BY: KJC				
APPROVED BY: RLS				
PROJECT NO.		1878	DATE: 6/5/2017	

Division of Ecological Restoration
Massachusetts Dept. of Fish & Game
251 Causeway Street
Boston, MA 02114

Gomez and Sullivan Engineers, D.P.C.
41 Liberty Hill Road
PO Box 2179
Henniker, NH 03242

SCALE: NONE

DRAWING:

1



PROJECT PARTNERS:
THE NATURE CONSERVANCY
MASSACHUSETTS DIVISION OF ECOLOGICAL RESTORATION
NOAA RESTORATION CENTER
US FISH AND WILDLIFE FOUNDATION
NATIONAL FISH AND WILDLIFE FOUNDATION
MASSACHUSETTS DAM AND SEAWALL REPAIR OR REMOVAL PROGRAM
ATLANTIC COASTAL FISH HABITAT PARTNERSHIP
TOWN OF EAST BRIDGEWATER

1. PROJECT CONSISTS OF CONSTRUCTING A SCOUR COUNTERMEASURE AT THE ROUTE 106 BRIDGE (BRIDGE NO. E-1-12), REMOVING THE CARVER COTTON GIN DAM IN THE SATUCKET RIVER, AND CONSTRUCTING A ROCK RIFFLE.
2. THE COTTON GIN DAM CONSISTS OF A RUBBLE FILL CORE WITH A CONCRETE OVERLAY, AND IS APPROXIMATELY 75 FEET LONG AND 15 FEET HIGH.
3. THE WORK CONSISTS OF COMPLETE REMOVAL OF THE DAM EXCEPT FOR A PORTION AT THE RIGHT ABUTMENT WHERE THE DAM IS INTEGRAL WITH THE ADJACENT BUILDING FOUNDATION AND A PORTION AT THE LEFT ABUTMENT.
4. STAGING AND ACCESS TO THE WORK AREA WILL BE AT THE EAST SIDE OF THE RIVER.
5. PROJECT IS LOCATED AT 15 WHITMAN STREET, EAST BRIDGEWATER, MA 02114, TAX PARCEL 40-9-0.

1. HORIZONTAL DATUM: NAD 1983 STATE PLANE MASSACHUSETTS MAINLAND (FT).
2. VERTICAL DATUM: NAVD 88. CONTOUR INTERVAL: 2 FT.
3. TOPOGRAPHY DERIVED FROM LIDAR TERRAIN DATA OBTAINED IN 2011 (VERTICAL ACCURACY APPROX. 1 FT; AVAILABLE FROM MASSGIS).
4. EXISTING STRUCTURE ELEVATIONS & TOPOGRAPHY SUPPLEMENTED WITH SURVEY DATA COLLECTED BY GOMEZ AND SULLIVAN ENGINEERS ON SEPTEMBER AND NOVEMBER 2014 USING AN RTK GPS AND TOTAL STATION (ACCURACY APPROX. 0.1 FT HORIZONTALLY AND 0.2 FT VERTICALLY).
5. WETLAND BOUNDARIES DELINEATED BY BRUCE GRIFFIN, CERTIFIED PROFESSIONAL WETLAND SCIENTIST (CERTIFICATION NUMBER 001754), FROM NEW ENGLAND ENVIRONMENTAL, INC. IN NOVEMBER 2014. OTHER REGULATED RESOURCE AREA BOUNDARIES OBTAINED FROM MASSGIS OR DELINEATED ACCORDING TO MASSACHUSETTS REGULATIONS.
6. THE PROPERTY LINES AND RIGHT OF WAYS DEPICTED ARE FROM PROPERTY LINE PLAN PREPARED BY HORSLEY WITTEN GROUP INC, DATED DECEMBER 29, 2016.
7. A GEOPHYSICAL SURVEY WAS PERFORMED IN THE VICINITY OF THE ROUTE 106 BRIDGE ON JUNE 24 AND 25, 2015 BY HAGAR GEOSCIENCE, INC. REFER TO THE REPORT DATED AUGUST 13, 2015 FOR DETAILS.
8. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM VISIBLE FIELD SURVEY INFORMATION. THE ENGINEER OR SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE ENGINEER OR SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED THOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE ENGINEER OR SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING UNDERGROUND UTILITY CHECKS IN ACCORDANCE WITH MASSACHUSETTS STATE REGULATIONS. CONTRACTOR SHALL NOTIFY DIG SAFE MASSACHUSETTS AT 811 OR 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION. SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS ARE NOT TO BE INCLUDED IN THE REQUIRED 72 HOUR NOTICE.
9. CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF EXCAVATION.
10. CONTRACTOR SHALL PAY FOR AND OBTAIN ALL RELEVANT CONSTRUCTION PERMITS PRIOR TO THE START OF CONSTRUCTION AND COMPLY WITH ALL CONDITIONS CONTAINED IN RELEVANT PERMITS.
11. THE CONTRACTOR SHALL INSTALL PROPOSED EROSION CONTROL DEVICES PRIOR TO CONSTRUCTION ACTIVITY AND SHALL BE RESPONSIBLE FOR THEIR MAINTENANCE, REPOSITIONING AND REMOVAL.
12. CONTRACTOR SHALL NOT DISTURB ANY MAPPED DOCUMENTED OR POTENTIAL ARCHEOLOGICAL FEATURES DURING CONSTRUCTION.
13. HAZARDOUS MATERIALS EXIST ON THE PROPERTY TO THE SOUTH OF THE PROJECT AREA. ASBESTOS ON THE CREST OF THE DAM MUST BE REMOVED AND PROPERLY DISPOSED. REFER TO THE SITE INSPECTION PRIORITIZATION REPORT PREPARED BY ROY F. WESTON, INC. IN MARCH 28, 1996 FOR DETAILS.

1. CONTRACTOR SHALL IMPLEMENT TRAFFIC CONTROL. TRAFFIC MANAGEMENT PLAN PREPARED IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND MASSDOT TRAFFIC CONTROL STANDARDS IS INCLUDED.

1. SITE SHALL BE KEPT WELL ORGANIZED, SIGNED, AND FREE OF WASTE MATERIALS, DEBRIS, AND RUBBISH AT ALL TIMES. GOOD HOUSEKEEPING PRACTICES SHALL BE MAINTAINED ON A CONTINUOUS BASIS FROM WORK SITE TO WORK SITE. DISPOSAL OF ANY WASTE MATERIALS ON THE CONSTRUCTION SITE IS PROHIBITED.
2. SANITARY, WASTE DISPOSAL, AND EMPLOYEE FACILITIES SHALL BE PROVIDED BY CONTRACTOR.
3. ALL WATER RESOURCES (E.G., GROUND AND SURFACE WATERS), INCLUDING ALL DRAINS AND CATCH BASINS, SHALL BE PROTECTED FROM LEACHING AND/OR RUN-OFF OF CHEMICAL POLLUTANTS, SOLID WASTES, AND CONSTRUCTION SITE DEBRIS. ALL CATCH BASINS SHALL BE MAINTAINED FREE FLOWING.
4. ALL COMBUSTIBLE WASTE MATERIALS SHALL BE PLACED IN COVERED METAL CONTAINERS AND PROMPTLY DISPOSED OF IN AN APPROVED MANNER AT AN APPROVED WASTE DISPOSAL FACILITY.
5. STORAGE AND/OR USE OF CHEMICALS, FUELS, OILS, GREASES, BITUMINOUS MATERIALS, SOLIDS, WASTE WASHINGS, AND CEMENT SHALL BE HANDLED APPROPRIATELY AS TO PREVENT LEACHING OR SURFACE RUNOFF INTO PUBLIC WATERS OR DRAINS. ALL AUTHORITY APPROVED STORAGE AREAS FOR THESE MATERIALS MUST BE DIKED.
6. ALL ROADWAYS SHALL BE MAINTAINED FREE OF DEBRIS. STABILIZED CONSTRUCTION ENTRANCES SHALL BE CONSTRUCTED TO CAPTURE DEBRIS FROM WHEELS OF CONSTRUCTION VEHICLES. VEHICLES SHALL BE INSPECTED AT ENTRANCES BEFORE TURNING ONTO THE ROADWAY AND EXCESS DEBRIS SHALL BE REMOVED.
7. IDLING OF CONSTRUCTION EQUIPMENT SHALL BE LIMITED TO MINIMIZE EMISSIONS AT THE SITE.

1. **DEFINITION:** THE STABILIZATION OF TEMPORARY CONSTRUCTION ACCESS ROUTES, ON-SITE VEHICLE TRANSPORTATION ROUTES, AND CONSTRUCTION PARKING AREAS.
2. **PURPOSE:** TO CONTROL EROSION ON TEMPORARY CONSTRUCTION ROUTES AND PARKING AREAS.

3. CONDITION WHERE PRACTICE APPLIES: ALL TRAFFIC ROUTES AND PARKING AREAS FOR TEMPORARY USE BY CONSTRUCTION TRAFFIC.
4. DESIGN CRITERIA: CONSTRUCTION ROADS SHOULD BE LOCATED TO REDUCE EROSION POTENTIAL, MINIMIZE IMPACT ON EXISTING SITE RESOURCES, AND MAINTAIN OPERATIONS IN A SAFE MANNER. HIGHLY ERODIBLE SOILS, WET OR ROCKY AREAS, AND STEEP SLOPES SHOULD BE AVOIDED. ROADS SHOULD BE ROUTED WHERE SEASONAL WATER TABLES ARE DEEPER THAN 18 INCHES. SURFACE RUNOFF AND CONTROL SHOULD BE IN ACCORDANCE WITH OTHER STANDARDS.
5. ROAD GRADE: A MAXIMUM GRADE OF 12% IS RECOMMENDED, ALTHOUGH GRADES UP TO 15% ARE ACCEPTABLE FOR SHORT DISTANCES.
6. ROAD WIDTH: 14 FT (9 FT MINIMUM) FOR ONE-WAY TRAFFIC.
7. SIDE SLOPE OF ROAD EMBANKMENT: 2:1 OR FLATTER.
8. COMPOSITION: USE A 6-INCH LAYER OF MASSDOT APPROVED GRAVEL SUB-BASE M2.01.3 OR EQUIVALENT. WITH GEOTEXTILE FABRIC MIRAFI HP270 WOVEN OR APPROVED EQUAL UNDERLAID.
9. MAINTENANCE: ACCESS ROUTES AND PARKING AREAS SHALL BE INSPECTED PERIODICALLY FOR CONDITION OF SURFACE AND TOPDRESSED WITH NEW GRAVEL AS NEEDED.

1. ALL WORK SHALL BE CONDUCTED IN ACCORDANCE WITH THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION EROSION AND SEDIMENTATION CONTROL GUIDELINES AND APPLICABLE NPDES STANDARDS.
2. ALL APPLICABLE SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL OR STREAM DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
3. ALL DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN FOURTEEN (14) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING WITH AN APPROVED NATIVE SEED MIXTURE. MULCH, WATER AND ANCHOR AS NECESSARY TO ESTABLISH GRASS AND PREVENT LOSS TO WIND OR EROSION. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS SHALL BE MULCHED WITH SMALL GRAIN STRAW AT A RATE OF TWO (2) TONS PER ACRE IN ACCORDANCE WITH STATE STANDARDS.
4. PERMANENT VEGETATION SHALL BE SEEDING WITH AN APPROVED NATIVE SEED MIXTURE ON ALL EXPOSED AREAS IMMEDIATELY AFTER FINAL GRADING. MULCH SHALL BE USED AS NECESSARY FOR PROTECTION UNTIL SEEDING IS ESTABLISHED.
5. ANY ADDITIONAL AREAS SUBJECT TO EROSION (E.G. MATERIAL STOCKPILES) SHALL RECEIVE A TEMPORARY SEEDING WITH AN APPROVED NATIVE SEED MIXTURE, IN COMBINATION WITH STRAW MULCH, AT A RATE OF TWO (2) TONS PER ACRE IN ACCORDANCE WITH STATE STANDARDS.
6. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE SHALL BE SPRINKLED WITH WATER UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED, OR MULCH SHALL BE APPLIED IN ACCORDANCE WITH STATE STANDARDS FOR EROSION CONTROL.
7. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
8. STOCKPILE AND STAGING LOCATIONS DETERMINED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF WORK. ALL SOIL STOCKPILES SHALL BE TEMPORARILY STABILIZED IN ACCORDANCE WITH NOTE #3 AND PROTECTED BY COMPOST SOCKS ON THE DOWNHILL SIDES.
9. THE CONTRACTOR SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE, AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION AND THAT HAVE NOT BEEN FINALLY STABILIZED, STABILIZATION PRACTICES, STRUCTURAL PRACTICES, AND OTHER CONTROLS AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS AFTER THE END OF ANY STORM THAT PRODUCES AT LEAST 0.5 INCHES OF RAINFALL AT THE SITE. WHERE SITES HAVE BEEN FINALLY STABILIZED, SUCH INSPECTION SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH UNTIL FINAL COMPLETION. CRITICAL AREAS AND AREAS WHERE VEHICLES EXIT THE SITE SHALL BE INSPECTED DAILY.

1. DURING THE ANTICIPATED CONSTRUCTION PERIOD (JULY 1 TO AUGUST 31), THE MEDIAN FLOW IN THE RIVER AT THE PROJECT IS 11 CUBIC FEET PER SECOND (CFS), AND A FLOW OF 42 CFS IS EXCEEDED 10% OF THE TIME. FROM SEPTEMBER 1 TO OCTOBER 30 THE MEDIAN FLOW IN THE RIVER AT THE PROJECT IS 17 CFS AND A FLOW OF 53 CFS IS EXCEEDED 10% OF THE TIME.
2. SEE CONSTRUCTION SEQUENCE PHASES I THROUGH IV FOR WATER CONTROL PHASING.
3. SANDBAGS (SUPER SACKS OR SIMILAR) SHALL BE USED TO DIVERT FLOW AND PROTECT THE WORK AREA.
4. CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT DAMAGE TO WORK OR EQUIPMENT BY HIGH WATER OR STORMS. AT ALL TIMES, THE CONTRACTOR SHALL HAVE THE MATERIALS AND EQUIPMENT ON-SITE TO STABILIZE ANY WORK IN PROGRESS AT THE ROUTE 106 BRIDGE.
5. DURING FLOODS THAT EQUAL OR EXCEED THE 1-YEAR STORM, FLOWS WILL BE ALLOWED TO PASS THROUGH BOTH OPENINGS IN THE ROUTE 106 BRIDGE. SUPER SACKS SHALL ONLY DEWATER THE CONSTRUCTION SITE DURING TYPICAL FLOWS.
6. CONTINUOUS WATER WATER FLOW SHALL BE MAINTAINED THROUGH THE PROJECT SITE FROM SEPTEMBER 1 TO OCTOBER 31 FOR CATADROMOUS EEL PASSAGE

1. INSTALL VIBRATION MONITORING EQUIPMENT AS NECESSARY ONE WEEK PRIOR TO CONSTRUCTION FOR CALIBRATION PURPOSES. VIBRATION MONITORING SHALL CONTINUE THROUGHOUT CONSTRUCTION UNTIL THE PROJECT IS DEEMED COMPLETE BY THE OWNER'S REPRESENTATIVE.
2. INSTALL 12" DIAMETER COMPOST FILTER SOCK.
3. INSTALL SILT SACKS IN CATCHBASINS.
4. INSTALL OIL BOOM AT THE DOWNSTREAM LIMIT OF WORK UPSTREAM OF THE PEDESTRIAN BRIDGE.
5. INSTALL TEMPORARY CONSTRUCTION ENTRANCE AND ANY ADDITIONAL EROSION CONTROLS THAT MAY BE ADDED AT THE DISCRETION OF OWNER'S REPRESENTATIVE.
6. CONSTRUCT GRAVEL STAGING AREA.
7. FLAG LIMITS OF CLEARING, TO BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO ANY TREE OR VEGETATION REMOVAL. CLEAR AND GRUB ALONG APPROVED ACCESS ROUTES.
8. CONSTRUCT TEMPORARY STOCKPILE AREA.

1. PLACE 3' HIGH SUPER SACKS OR APPROVED EQUAL FOR WATER DIVERSION.
2. INSTALL SUMP PITS UPSTREAM AND DOWNSTREAM OF THE BRIDGE AS SHOWN ON THE PLANS. WATER COLLECTED BY THE SUMP PITS TO BE DISCHARGED DIRECTLY INTO THE DIVERSION CHANNEL.
3. EXCAVATE RIVERBED MATERIAL WITHIN THE EASTERN BRIDGE OPENING AND CONSTRUCT THE SCOUR COUNTERMEASURE. EXCAVATION SHALL NOT EXTEND BELOW THE BOTTOM OF BRIDGE FOOTINGS. INSTALLATION SHALL BE PERFORMED IN SECTIONS NO GREATER THAN 15' LONG SUCH THAT THE BRIDGE FOOTINGS REMAIN BURIED ADJACENT TO WORKING SECTION. MULTIPLE SECTIONS MAY BE CONSTRUCTED CONCURRENTLY WITH A MINIMUM OF 15' BETWEEN SECTIONS REMAINING BURIED. SCOUR COUNTERMEASURE SHALL BE CONSTRUCTED IN 12-INCH LIFTS ABOVE FILTER LAYER AND FINE MATERIAL SHALL BE USED TO CHOKE EACH LIFT PRIOR TO PLACEMENT OF THE SUBSEQUENT LIFT. THE CONTRACTOR SHALL WASH THE FINE MATERIAL INTO THE LIFT OF COARSE MATERIAL WITH A SUFFICIENT QUANTITY OF WATER.
4. EMBED BOULDERS 1/2 OF THEIR RESPECTIVE DIAMETER ALONG THE WALLS OF THE EAST BRIDGE OPENING.

1. INSTALL TEMPORARY CULVERTS AT THE WORKING PAD AREA AND RELOCATE WATER DIVERSION FEATURES TO DIVERT FLOW TO THE EASTERN BRIDGE OPENING WITH COMPLETED EROSION COUNTERMEASURE.
2. INSTALL WESTERN PORTION OF THE WORK PAD.
2. INSTALL SUMP PITS UPSTREAM AND DOWNSTREAM OF THE BRIDGE AS SHOWN ON THE PLANS. WATER COLLECTED BY THE SUMP PITS TO BE DISCHARGED DIRECTLY INTO THE DIVERSION CHANNEL.
3. CONSTRUCT THE SCOUR COUNTERMEASURE IN THE WESTERN BRIDGE OPENING SIMILAR TO THE DESCRIPTION IN PHASE I NOTE 3 ABOVE.
4. REMOVE THE WESTERN PORTION OF THE WORKING PAD.
4. EMBED BOULDERS 1/2 OF THEIR RESPECTIVE DIAMETER ALONG THE WALLS OF THE WEST BRIDGE OPENING

1. INSTALL WATER DIVERSION FEATURES TO DIVERT FLOW THROUGH THE WESTERN BRIDGE OPENING.
2. EXCAVATE RIVERBED MATERIAL AND CONSTRUCT THE ROCK RIFFLE UPSTREAM OF THE DAM. THE MAIN CHANNEL SHALL BE ESTABLISHED NEAR THE CENTER OF THE RIVER CHANNEL. ROCK RIFFLE SHALL BE CONSTRUCTED IN 12-INCH LIFTS ABOVE FILTER LAYER AND FINE MATERIAL SHALL BE USED TO CHOKE EACH LIFT PRIOR TO PLACEMENT OF THE SUBSEQUENT LIFT. THE CONTRACTOR SHALL WASH THE FINE MATERIAL INTO THE LIFT OF COARSE MATERIAL WITH A SUFFICIENT QUANTITY OF WATER. CONTRACTOR SHALL PLACE FOUR FOOT BOULDERS IN THE ROCK RIFFLE AS DIRECTED BY THE OWNER'S REPRESENTATIVE. EXCAVATION WITHIN TEN FEET OF ANY RETAINING WALL SHALL NOT EXTEND MORE THAN TEN FEET ALONG THE WALL; CONTRACTOR SHALL IMMEDIATELY BACKFILL ALL EXCAVATIONS ALONG RETAINING WALLS.
3. DEMOLISH THE FULL VERTICAL EXTENT OF THE MIDDLE PORTION OF THE COTTON GIN DAM, AS SHOWN ON DRAWINGS. REMOVE THE CONCRETE AND MOVE/REUSE THE RUBBLE FILL (SEE STEPS 4 AND 5).
4. USE RUBBLE FILL FROM THE DAM (MAXIMUM SIZE = 2') TO FILL IN WASHED OUT PORTION OF DAM AND UNDERMINED PORTION OF LEFT RETAINING WALL. PLACE IN MAXIMUM 12 INCH LIFTS AND INJECT WITH GROUT. NO REMNANT CONCRETE SHALL REMAIN AT THE SITE.
5. USE RUBBLE FILL FROM THE DAM TO STABILIZE THE LEFT RETAINING WALL UPSTREAM AND DOWNSTREAM OF THE DAM, AS SHOWN ON THE DRAWINGS. PLACE A 2 FOOT THICK LAYER OF NEW STONE ($D_{50}=1.0'$) OVER THE RUBBLE FILL TO THE SPECIFIED GRADE. THE RUBBLE FILL AND NEW STONE SHALL BE PLACED IN MAXIMUM 12 INCH LIFTS AND CHOKED WITH FINE MATERIAL.
6. DEMOLISH THE FULL VERTICAL EXTENT OF THE LEFT PORTION OF COTTON GIN DAM, TO THE EXTENTS SHOWN ON THE DRAWINGS. REMOVE THE CONCRETE; THE RUBBLE FILL TO REMAIN IN PLACE. CHOKE THE RUBBLE FILL WITH FINE MATERIAL. PLACE A 2 FOOT THICK LAYER OF NEW STONE ($D_{50}=1.0'$) OVER THE RUBBLE FILL TO THE SPECIFIED GRADE. THE NEW STONE SHALL BE PLACED IN MAXIMUM 12 INCH LIFTS AND CHOKED WITH FINE MATERIAL.
7. INSTALL WATER DIVERSION FEATURES TO DIVERT FLOW DOWNSTREAM OF THE DAM.
8. REMOVE FISH LADDER REMNANTS.
9. CONSTRUCT ROCK RIFFLE DOWNSTREAM OF THE DAM. CONSTRUCTION METHODOLOGY DESCRIBED IN NOT 2 ABOVE SHALL BE APPLIED. NO GEOTEXTILE SHALL BE INSTALLED IN THE MAIN CHANNEL DURING ROCK RIFFLE CONSTRUCTION.
10. CONSTRUCT RESTING POOL.
11. APPLY 4" OF SEDIMENT TO DISTURBED AREAS AND AREAS ABOVE EL. 30' AT THE LEFT ABUTMENT, AS SHOWN ON THE DRAWINGS. APPLY APPROVED NATIVE SOIL SEED MIXTURE. PROTECT SLOPES STEEPER THAN 3H:1V WITH EROSION CONTROL BLANKET.

1. INSTALL AND RELOCATE WATER DIVERSION FEATURES TO DIVERT FLOW OF THE SATUCKET RIVER THROUGH THE EASTERN BRIDGE OPENING AND LOW FLOW CHANNEL CONSTRUCTED IN PHASE III.
2. REMOVE THE REMAINING WESTERN (RIGHT) PORTION OF THE COTTON GIN DAM, AS SHOWN ON THE DRAWINGS.
3. REMOVE ABANDONED PIPE DOWNSTREAM OF THE DAM. CUT AND PERMANENTLY SEAL THE PIPE AT THE DOWNSTREAM LIMIT OF THE PROJECT WITH MASONRY PLUG OR EQUIVALENT. PERMANENTLY SEAL THE PIPE WITHIN THE DAM BY FILLING IT WITH GROUT.
4. PLACE A 2-FOOT-THICK LAYER OF NEW STONE ($D_{50} = 1.0'$) OVER THE REMAINING PORTION OF DAM, TO THE SPECIFIED GRADE. THE NEW STONE SHALL BE PLACED IN MAXIMUM 12-INCH LIFTS AND CHOKED WITH FINE MATERIAL.
5. INSTALL 2 FT THICK (MINIMUM) RIPRAP LAYER AROUND MILL BUILDING PIER FOOTINGS AS INDICATED. HEAVY EQUIPMENT SHALL NOT BE OPERATED IN AREAS WHERE THE MILL BUILDING IS OVERHEAD.
6. EXCAVATE RIVERBED MATERIAL AND CONSTRUCT THE WESTERN PORTION OF THE ROCK RIFFLE SIMILAR TO THE DESCRIPTION IN NOTE 2 IN PHASE III ABOVE.
7. APPLY 4" OF SEDIMENT TO DISTURBED AREAS AND APPLY APPROVED NATIVE SEED MIXTURE.

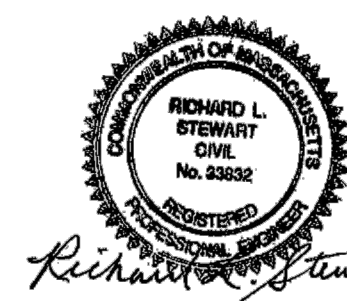
ROAD	
TAX PARCEL BOUNDARIES	
TREE LINE	
TOP OF BANK (TOB)	
MEAN ANNUAL HIGH WATER (MAHW)	
ORDINARY HIGH WATER (OHW)	
BORDERING VEGETATED WETLAND (BVW)	
100' BANK BUFFER	
200' RIVERFRONT AREA LIMIT	
100-YR FLOODPLAIN	
100-YR FLOODPLAIN WITH DAM REMOVED	
FLOODWAY	
RETAINING WALL	
OVERHEAD ELECTRICAL LINES	
OVERHEAD CATV LINES	
UNDERGROUND GAS PIPE	
UNDERGROUND WATER PIPE	
COMPOST FILTER SOCK	
OIL BOOM	
EXISTING CONTOUR	
PROPOSED CONTOUR	
CONCRETE	
BUILDING	
RIPRAP (D ₃₀ = 12")	
RIPRAP (D ₃₀ = 9")	
GRAVEL ACCESS SURFACE	
CLEARING EXTENTS	
REMOVAL EXTENTS	
SEDIMENT AND SEED	
SEDIMENT DISPOSAL AREA	
DISTURBED AREA	
ACCESS ROUTE	
TEMPORARY FILL	

1. REMOVE ANY SUPER SACKS FROM THE SITE.
2. REMOVE CRUSHED STONE, STONE FILL AND GEOTEXTILE FABRIC AT THE ACCESS RAMP AND CONSTRUCTION ENTRANCE.
3. REPAIR PAVED DRIVEWAY, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE, IF NECESSARY.
4. REMOVE EROSION CONTROL AND OTHER CONTAINMENT MEASURES ONLY AFTER ALL AREAS ARE STABILIZED WITH VEGETATIVE COVER TO THE SATISFACTION OF OWNER'S REPRESENTATIVE.
5. ANY DISTURBED AREAS WILL BE LOAMED AND SEEDED WITH AN APPROVED NATIVE SEED MIXTURE.

NOTES AND LEGEND

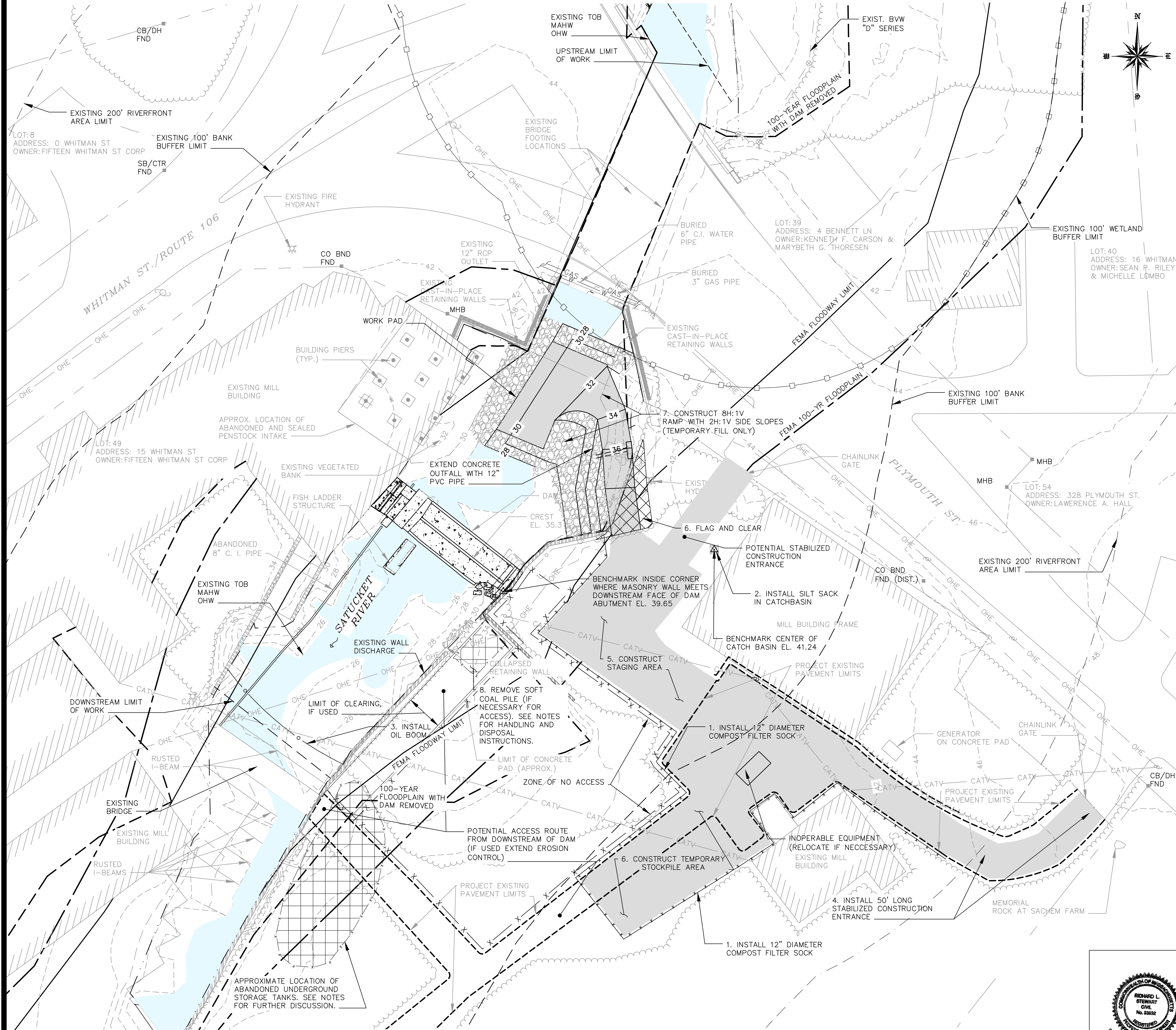
Division of Ecological Restoration Massachusetts Dept. of Fish & Game 251 Causeway Street Boston, MA 02114	Gomez and Sullivan Engineers, D.P.C. 41 Liberty Hill Road PO Box 2179 Henniker, NH 03242
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SCALE: NONE	DRAWING:	2
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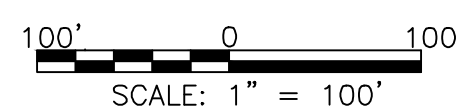


6/5/17	0	ISSUED FOR BID	JSC	RLS	
ISSUE #		DESCRIPTION	BY	APP	
DRAWN BY: JSC					
CHECKED BY: KJC					
APPROVED BY: RLS					
PROJECT NO.		1878	DATE: 6/5/2017		

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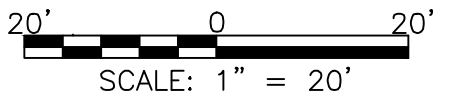


SECONDARY STAGING AREA PLAN



PARCEL INFORMATION		
LOT	ADDRESS	OWNER
8	0 WHITMAN ST	FIFTEEN WHITMAN STREET CORP
49	15 WHITMAN ST	FIFTEEN WHITMAN STREET CORP
6	21 WHITMAN ST	WAYNE E. & DEBORAH A. NELSON
5	33 WHITMAN ST	NANCY E. JORDAN
4	51 WHITMAN ST	RUSSELL E. & SHARON HARRIS
3	65 WHITMAN ST	JOSEPH J. POLITANO
7	355 PLYMOUTH ST	TOWN OF EAST BRIDGEWATER
48	336 PLYMOUTH ST	MEREDITH L. SWANSON
54	328 PLYMOUTH ST	LAWRENCE A. HALL
39	4 BENNET LN	KENNETH F. CARLSON & MARYBETH G. THORESEN
40	16 BENNET LN	SEAN P. RILEY & MICHELLE LOMBO
49	263 PLYMOUTH ST	BARRY D. & PATRICIA A. JAMIESON
48	261 PLYMOUTH ST	7117 ROJO LLC
8A247	247 PLYMOUTH ST	LAURA JEAN KEARNEY
8A249	249 PLYMOUTH ST	GEORGE & CHRISTINE A. PENEDO

NOTES:
1. LOCATION OF SOFT COAL PILE IS APPROXIMATE. REFER TO SITE INSPECTION PRIORITIZATION REPORT PREPARED BY ROY F. WESTON, INC AND DATED 3/28/1996 FOR DETAILS.
2. LOCATION OF ABANDONED UNDERGROUND STORAGE TANKS IS APPROXIMATE. REFER TO SITE INSPECTION PRIORITIZATION REPORT PREPARED BY ROY F. WESTON, INC AND DATED 3/28/1996 FOR DETAILS.



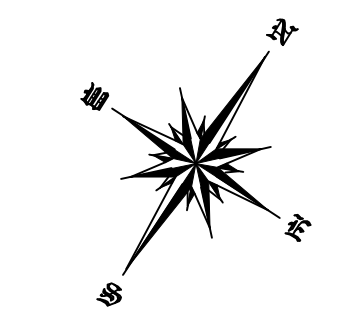
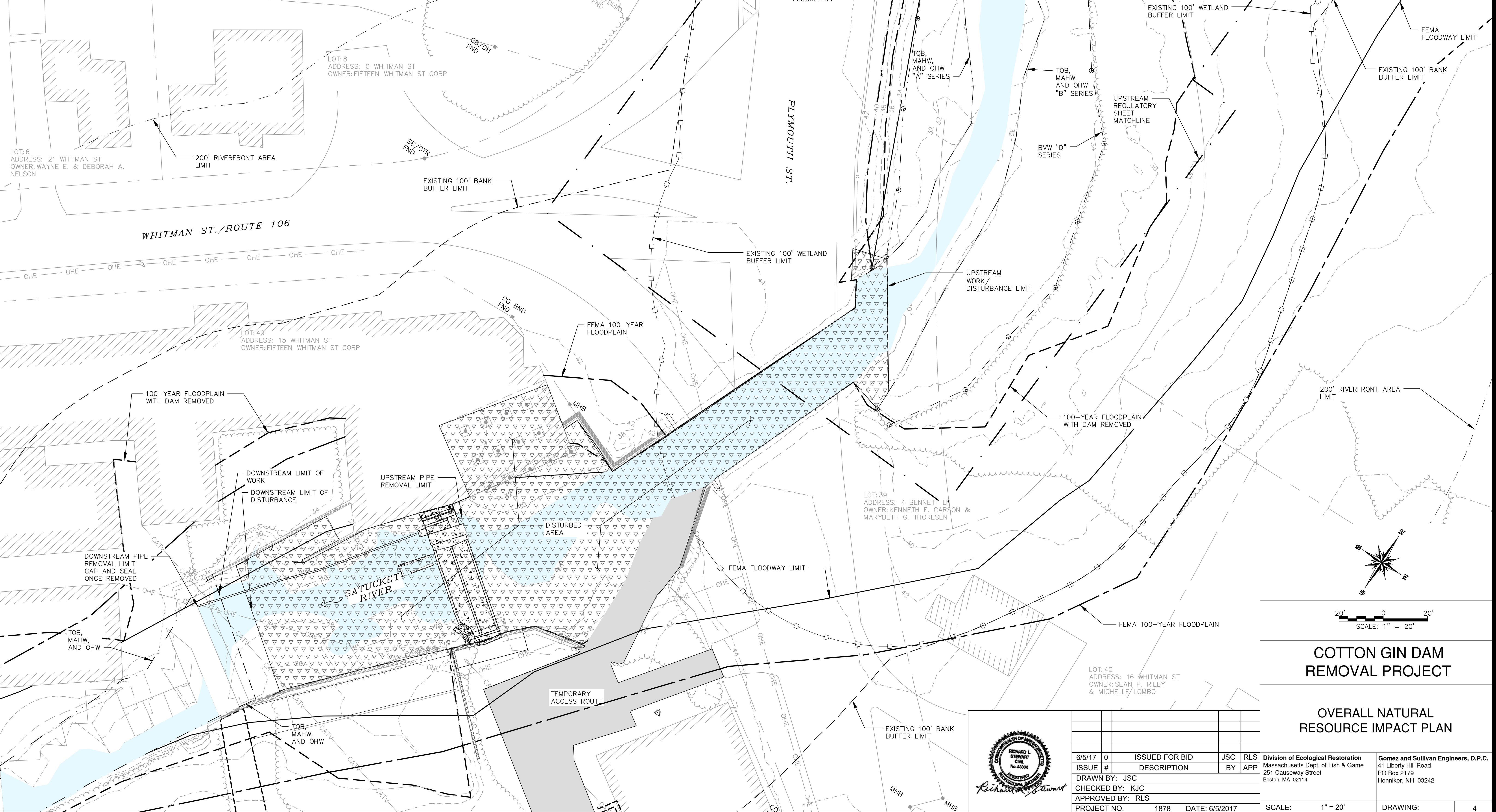
COTTON GIN DAM REMOVAL PROJECT

EXISTING CONDITIONS, TEMPORARY ACCESS AND EROSION CONTROL PLAN

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ISSUE #		DESCRIPTION	BY	APP		
DRAWN BY:	JSC					
CHECKED BY:	KJC					
APPROVED BY:	RLS					
PROJECT NO.	1878	DATE:	6/5/2017		SCALE:	1" = 20'
					DRAWING:	3

TOWN OF EAST BRIDGEWATER
RESOURCE AREA IMPACTS

RESOURCE	AREA (SQUARE FEET, SF)			TEMPORARY (SF)	PERMANENT (SF)
	EXISTING	CHANGE	TOTAL		
BANK (FT)	1,745	0	1,745	744	0
BORDERING VEGETATED WETLANDS	18,610	0	18,610	0	0
ISOLATED VEGETATED WETLANDS	0	0	0	N/A	N/A
LAND UNDER WATER/OHW/MAHW	34,905	0	34,905	16,323	0
BORDERING LAND SUBJECT TO FLOODING	N/A	-836,854	N/A	N/A	836,854
ISOLATED LAND SUBJECT TO FLOODING	0	0	0	N/A	N/A
RIVERFRONT AREA	341,289	0	341,289	~25,000	0
FISH RUNS (LF)	N/A	95	N/A	95	0



20' 0 20'
SCALE: 1" = 20'

COTTON GIN DAM
REMOVAL PROJECT

OVERALL NATURAL
RESOURCE IMPACT PLAN



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Massachusetts Dept. of Fish & Game
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Boston, MA 02114

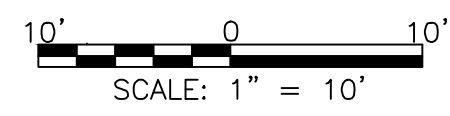
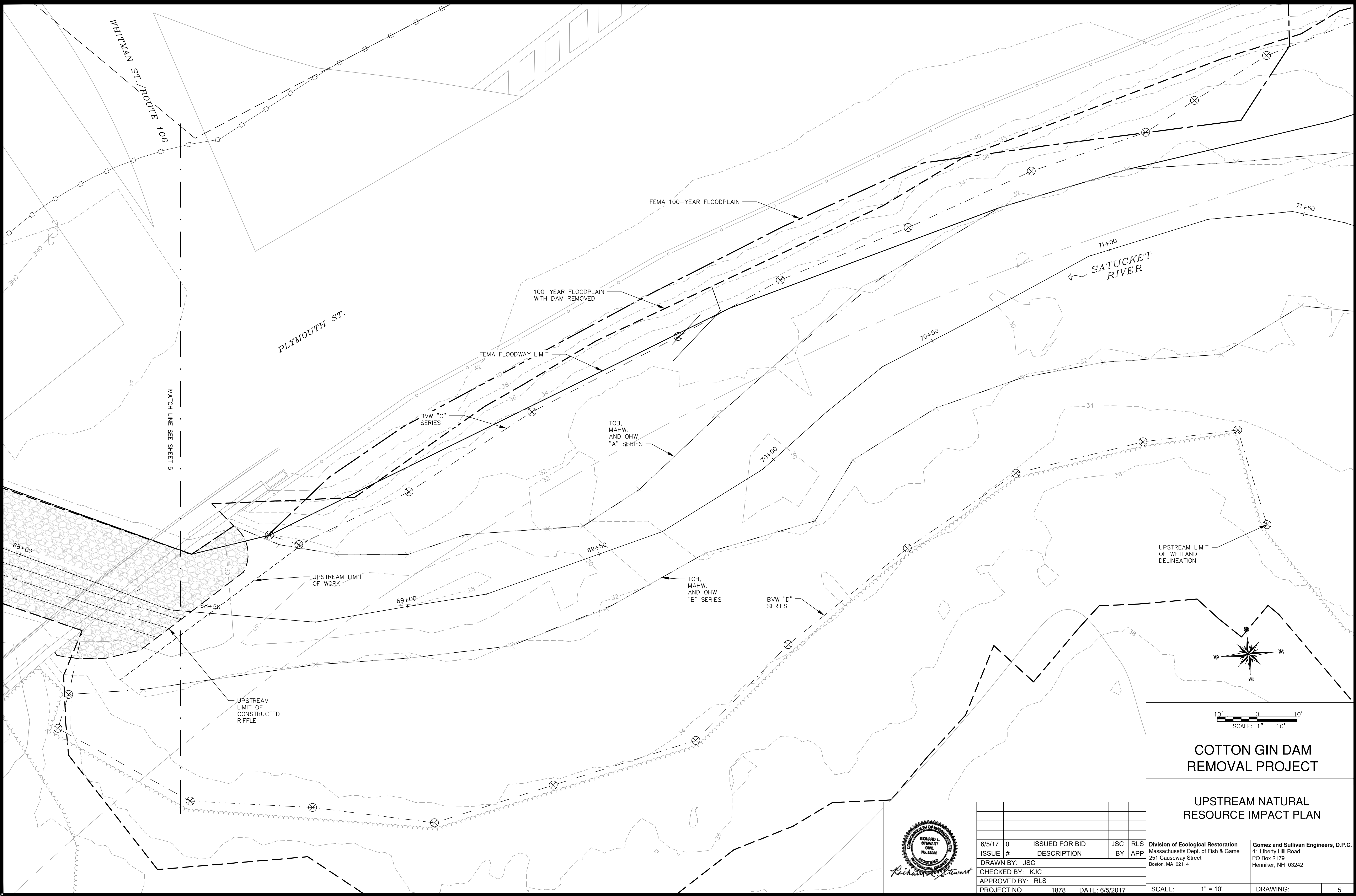
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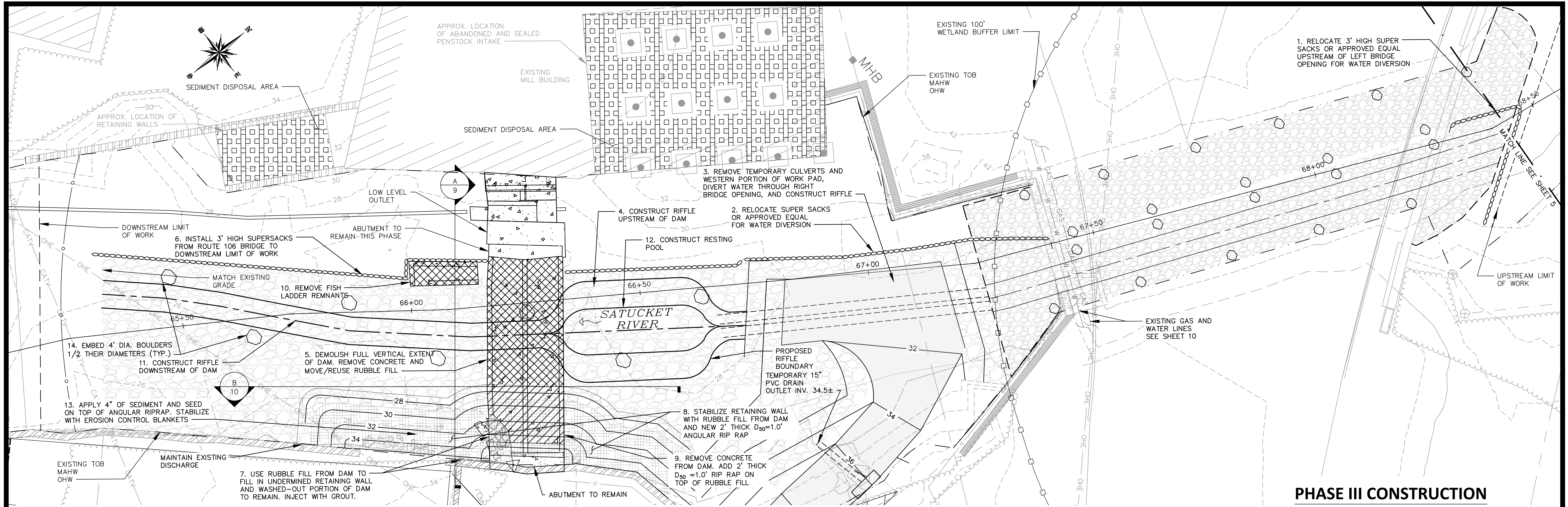
COTTON GIN DAM
REMOVAL PROJECT

UPSTREAM NATURAL
RESOURCE IMPACT PLAN

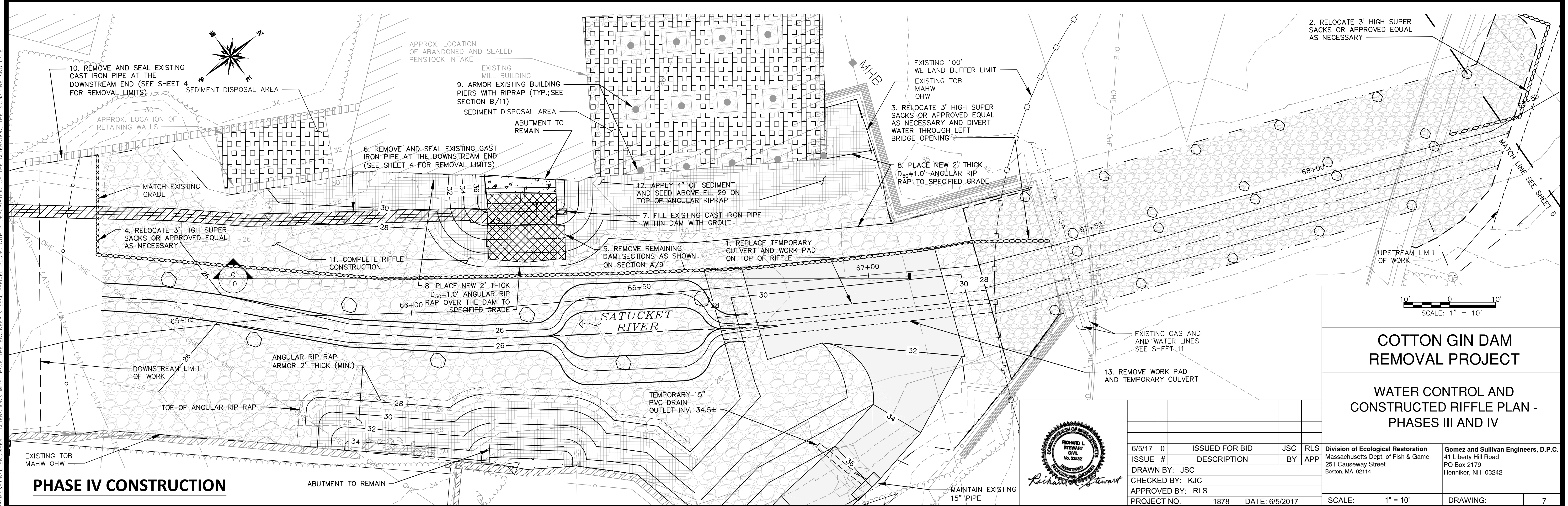


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SCALE: 1" = 10'		DRAWING:	5



PHASE III CONSTRUCTION



PHASE IV CONSTRUCTION

COTTON GIN DAM
REMOVAL PROJECT

WATER CONTROL AND
CONSTRUCTED RIFFLE PLAN -
PHASES III AND IV

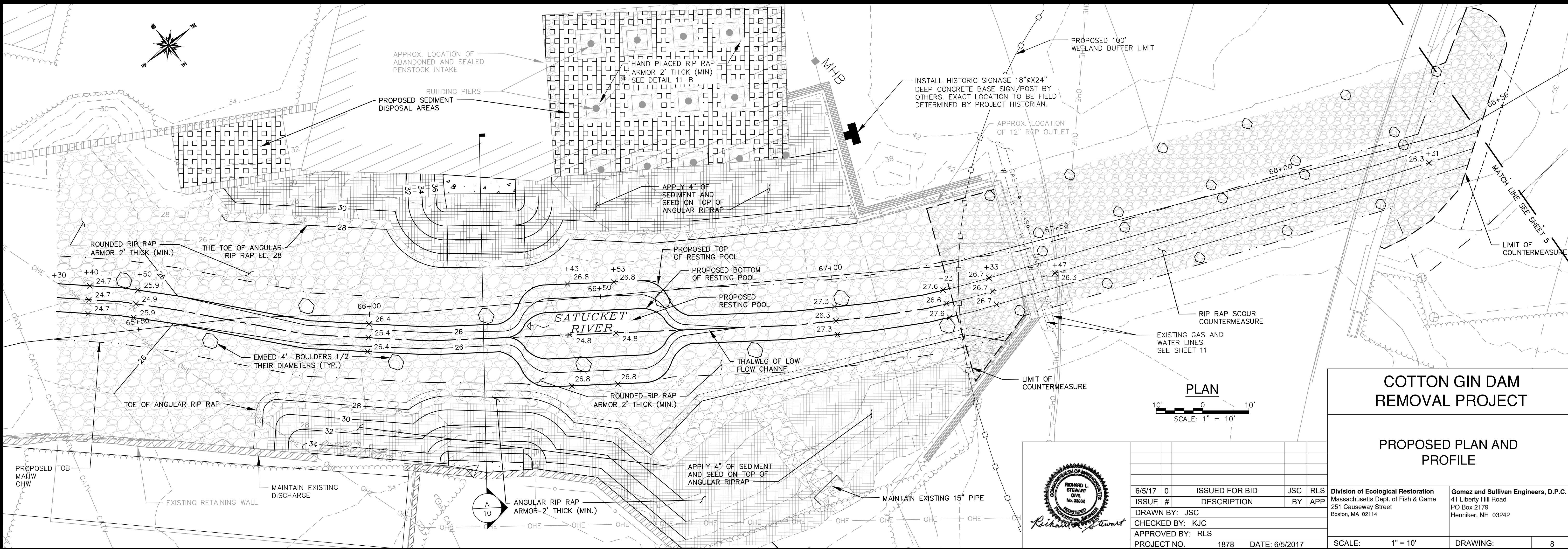
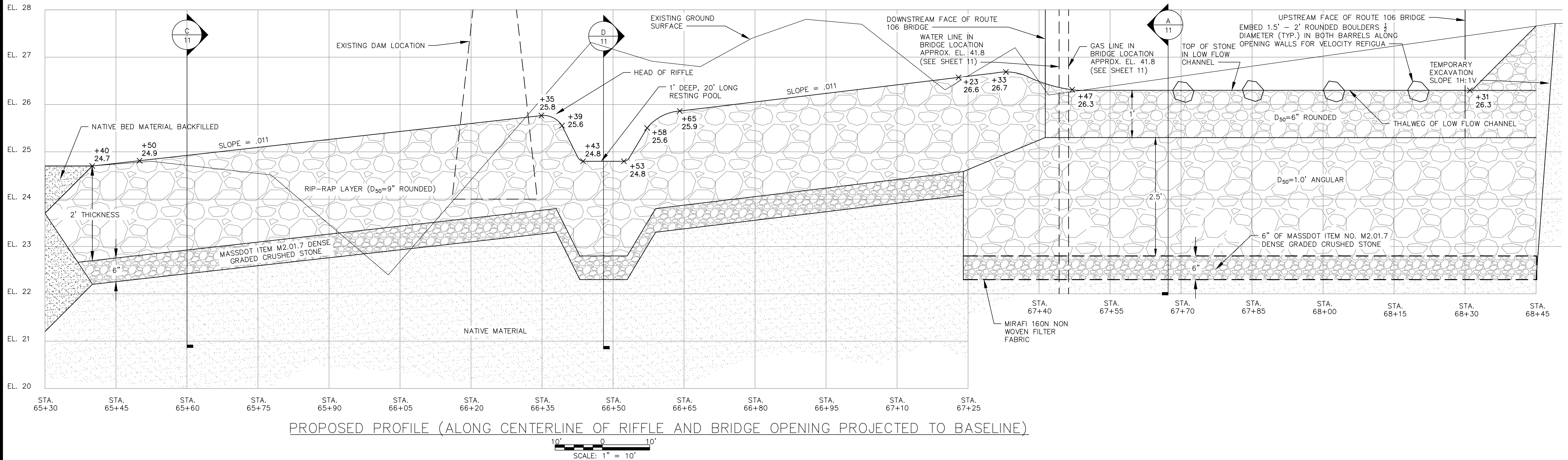
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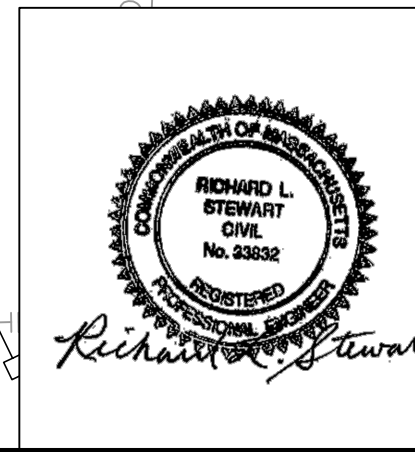
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SCALE: 1" = 10'

DRAWING: 7



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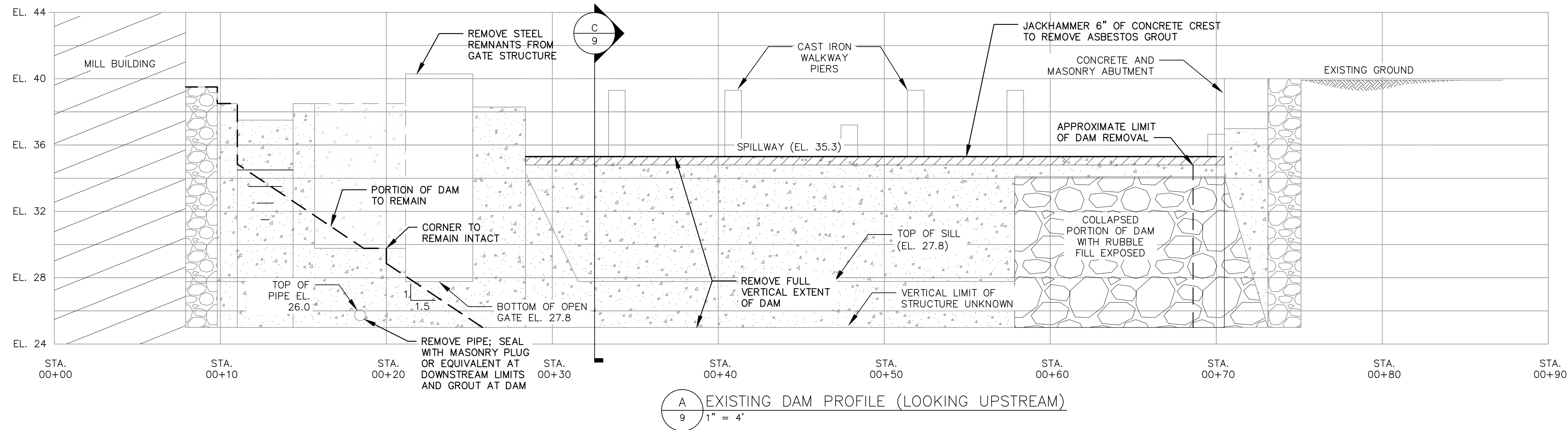


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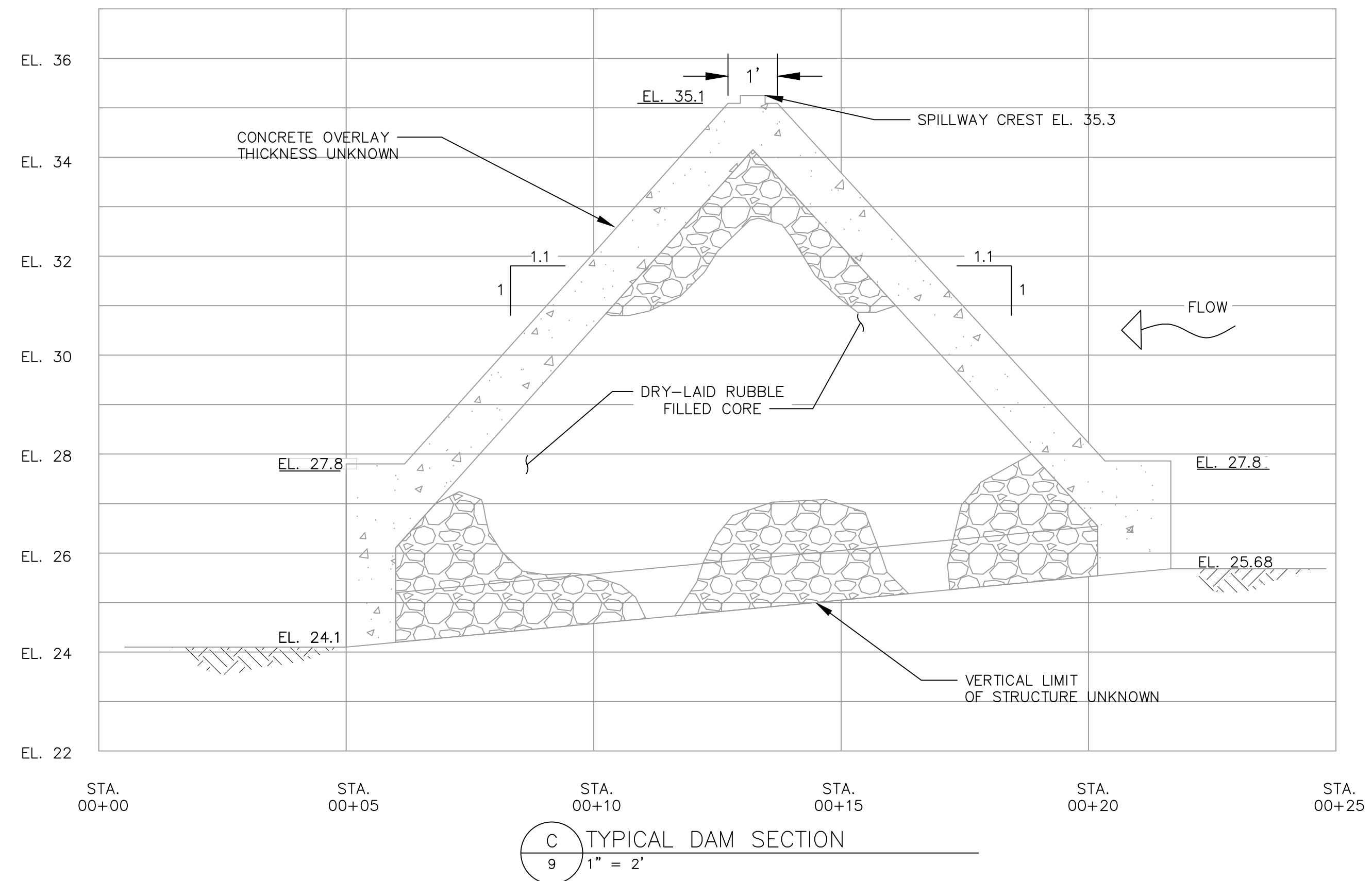
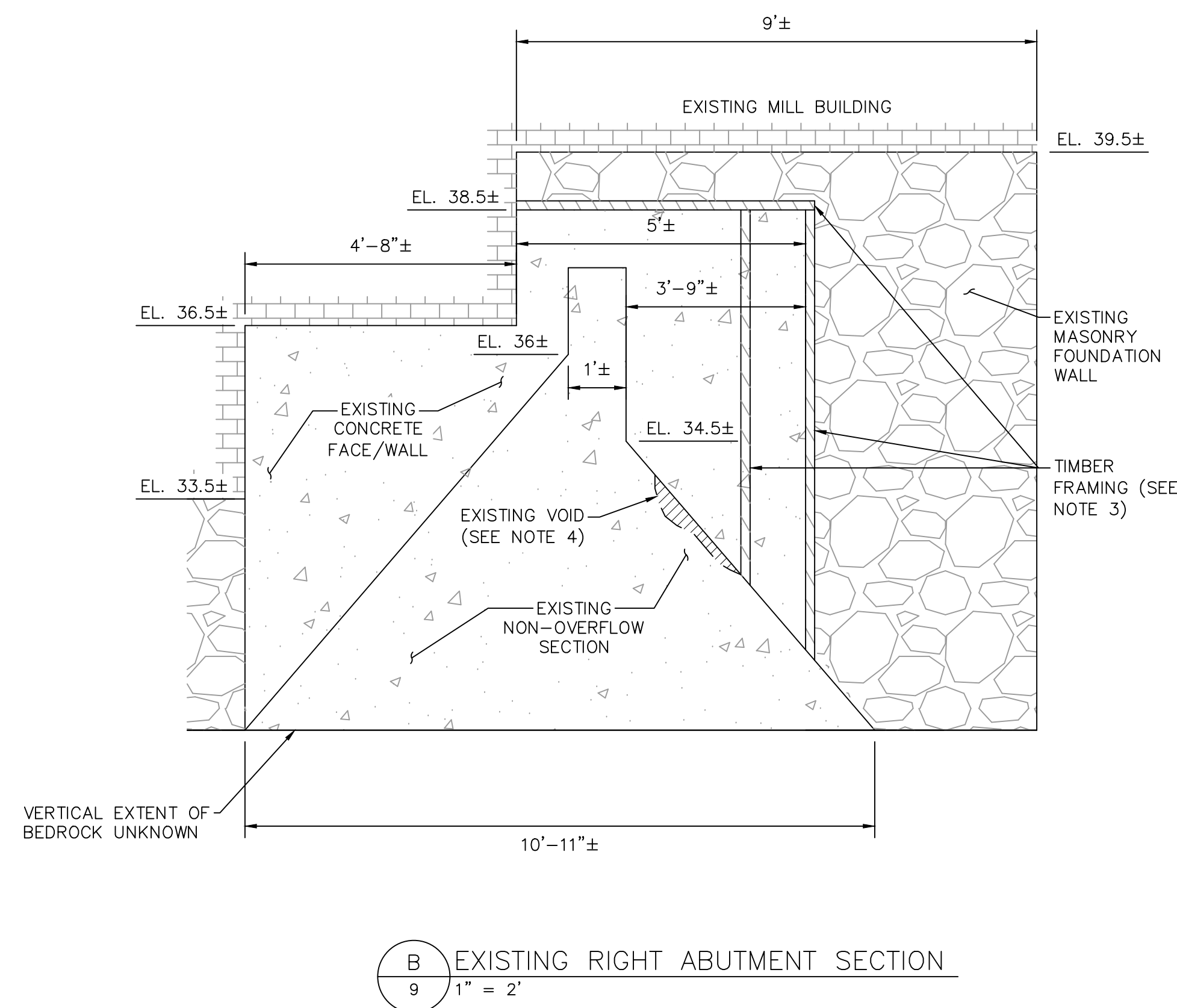
COTTON GIN DAM REMOVAL PROJECT

PROPOSED PLAN AND PROFILE

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SCALE: 1" = 10'	DRAWING: 8



- NOTES**
1. GEOMETRY AND EMBEDMENT DEPTHS OF STRUCTURES ARE BASED ON LIMITED INFORMATION AND ARE INTENDED TO BE SHOWN SCHEMATICALLY. THE CONTRACTOR SHALL CONFIRM ACTUAL DIMENSIONS IN THE FIELD.
 2. BASED ON GPR SURVEY OF THE DAM, TOP OF WEATHERED BEDROCK IS ANTICIPATED TO BE AT APPROX. EL. 17', AND TOP OF COMPETENT BEDROCK IS ANTICIPATED TO BE AT APPROX. EL. 11. REFER TO HAGER GEOSCIENCE, INC. AUGUST 13, 2015 REPORT FOR DETAILS.
 3. REMOVE EXISTING TIMBER FRAMING AND REPLACE WITH GROUT.
 4. GROUT IN THE VOID BETWEEN THE NON-OVERFLOW SECTION AND CONCRETE FACED ABUTMENT.

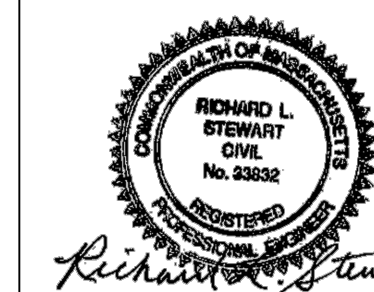


C
9
1" = 2'

B
9
1" = 2'

COTTON GIN DAM REMOVAL PROJECT

EXISTING DAM PROFILE AND ABUTMENT SECTIONS



6/5/17	0	ISSUED FOR BID	JSC	RLS
ISSUE	#	DESCRIPTION	BY	APP
DRAWN BY: JSC				
CHECKED BY: KJC				
APPROVED BY: RLS				
PROJECT NO. 1878 DATE: 6/5/2017				

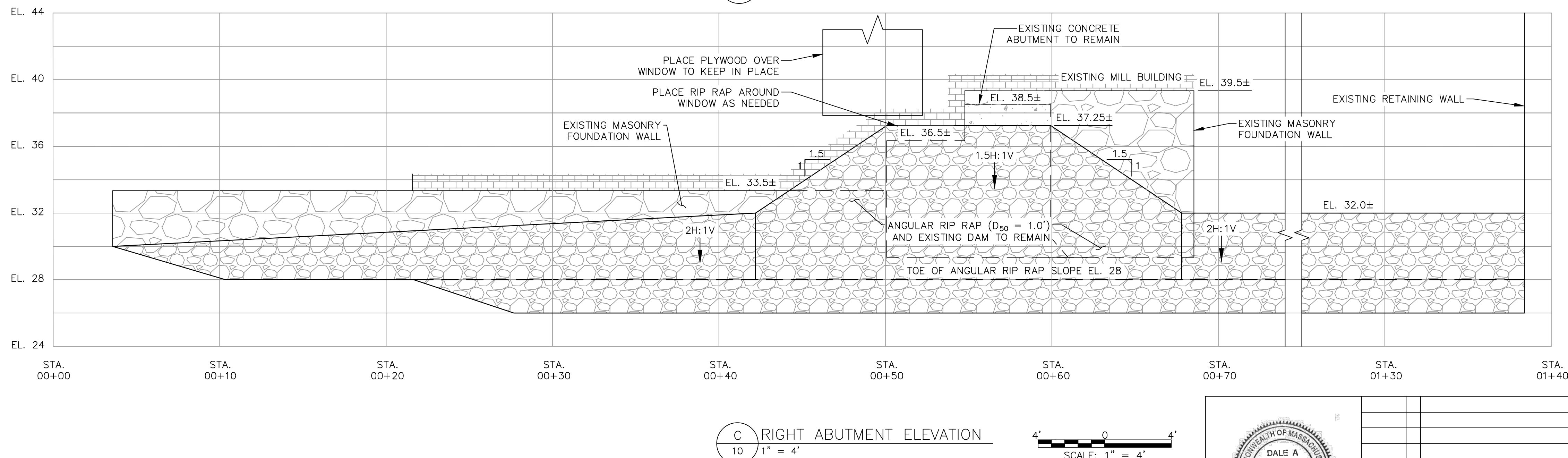
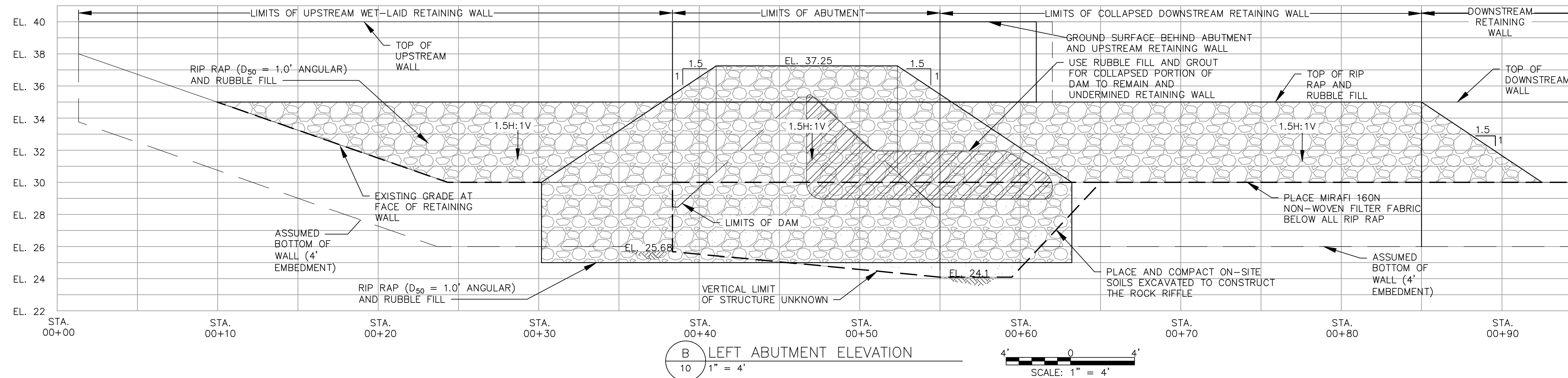
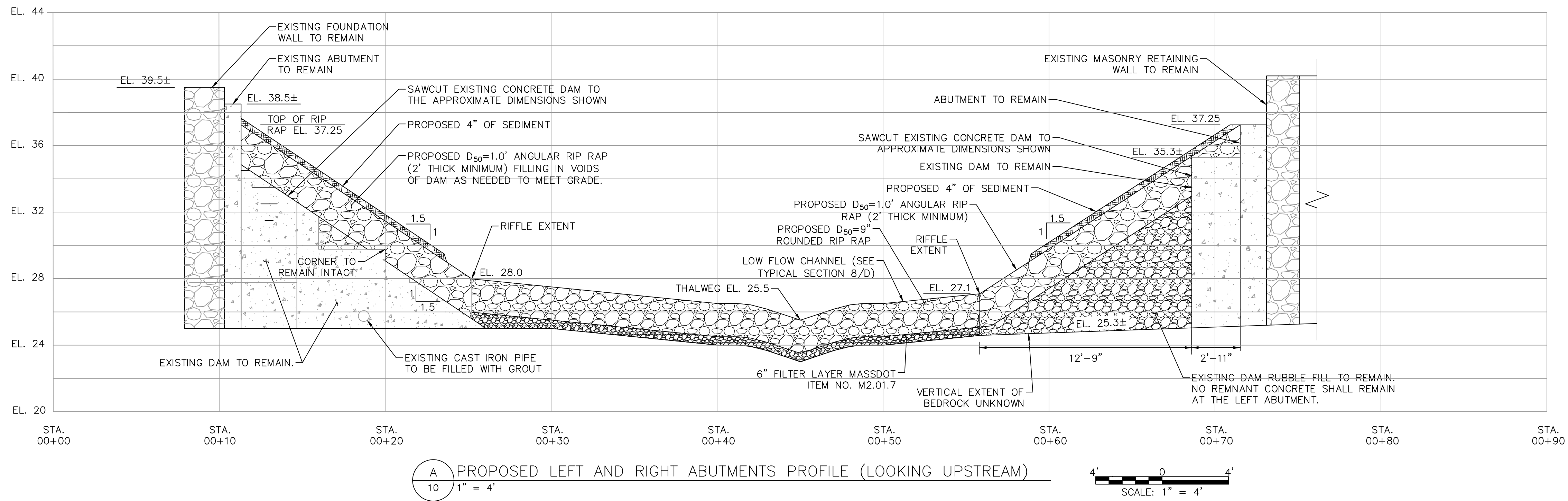
Division of Ecological Restoration
Massachusetts Dept. of Fish & Game
251 Causeway Street
Boston, MA 02114

Gomez and Sullivan Engineers, D.P.C.
41 Liberty Hill Road
PO Box 2179
Hemiker, NH 03242

SCALE: AS NOTED

DRAWING: 9

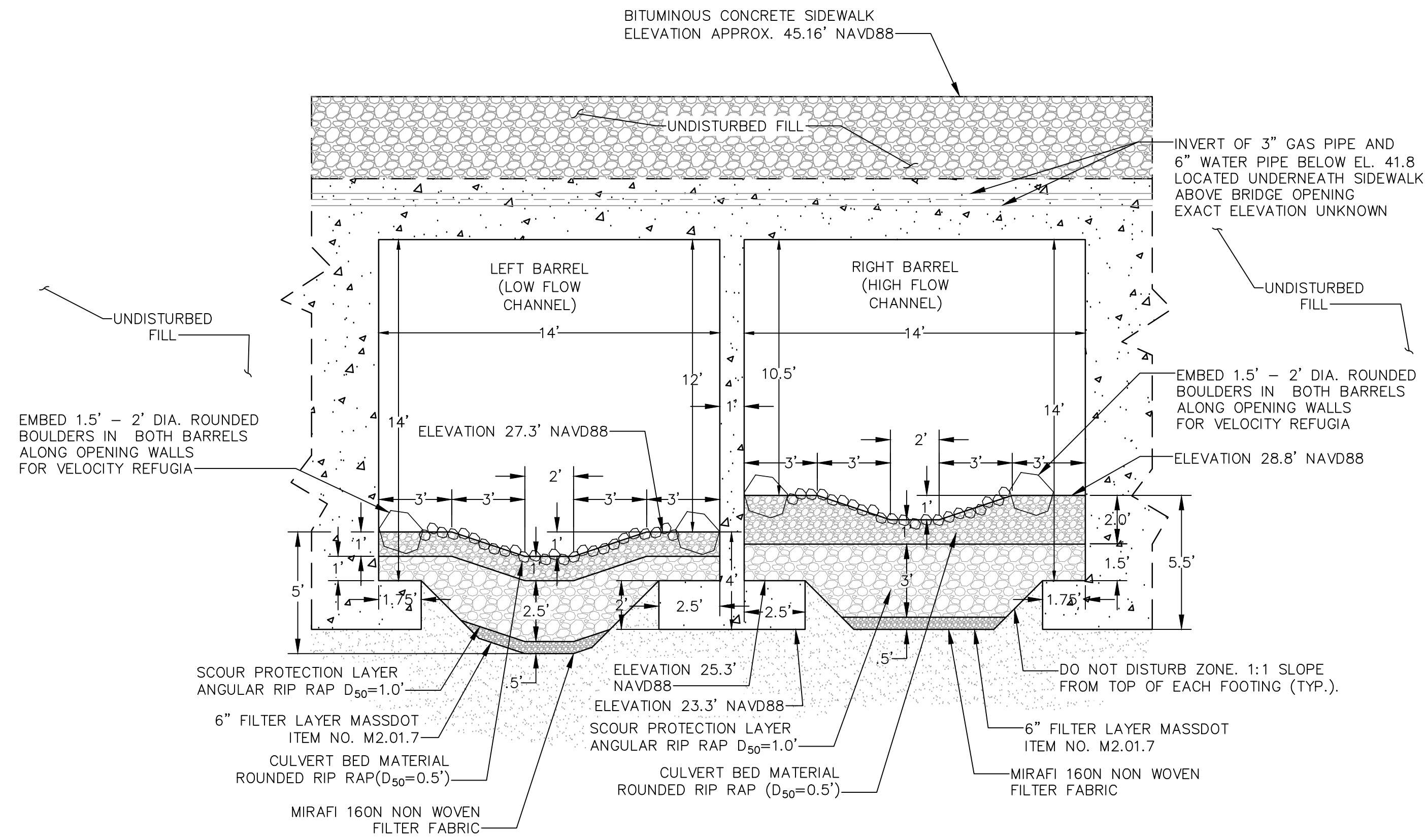
IT IS A VIOLATION OF THE LAW FOR ANY PERSON TO ALTER THIS DRAWING IN ANYWAY UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. ALTERATIONS MUST HAVE THE ENGINEER'S SEAL AFFIXED ALONG WITH A DESCRIPTION OF THE ALTERATION, THE SIGNATURE AND DATE.



6/5/17	0	ISSUED FOR BID	JSC	DAG
ISSUE #		DESCRIPTION	BY	APP
DRAWN BY: JSC				
CHECKED BY: KJC				
APPROVED BY: DAG				
PROJECT NO. 1878 DATE: 6/5/2017				

COTTON GIN DAM REMOVAL PROJECT			
PROPOSED REMOVED DAM PROFILE AND ABUTMENT SECTIONS			
Division of Ecological Restoration Massachusetts Dept. of Fish & Game 251 Causeway Street Boston, MA 02114		Gomez and Sullivan Engineers, D.P.C. 41 Liberty Hill Road PO Box 2179 Henniker, NH 03242	
SCALE: AS NOTED		DRAWING:	10

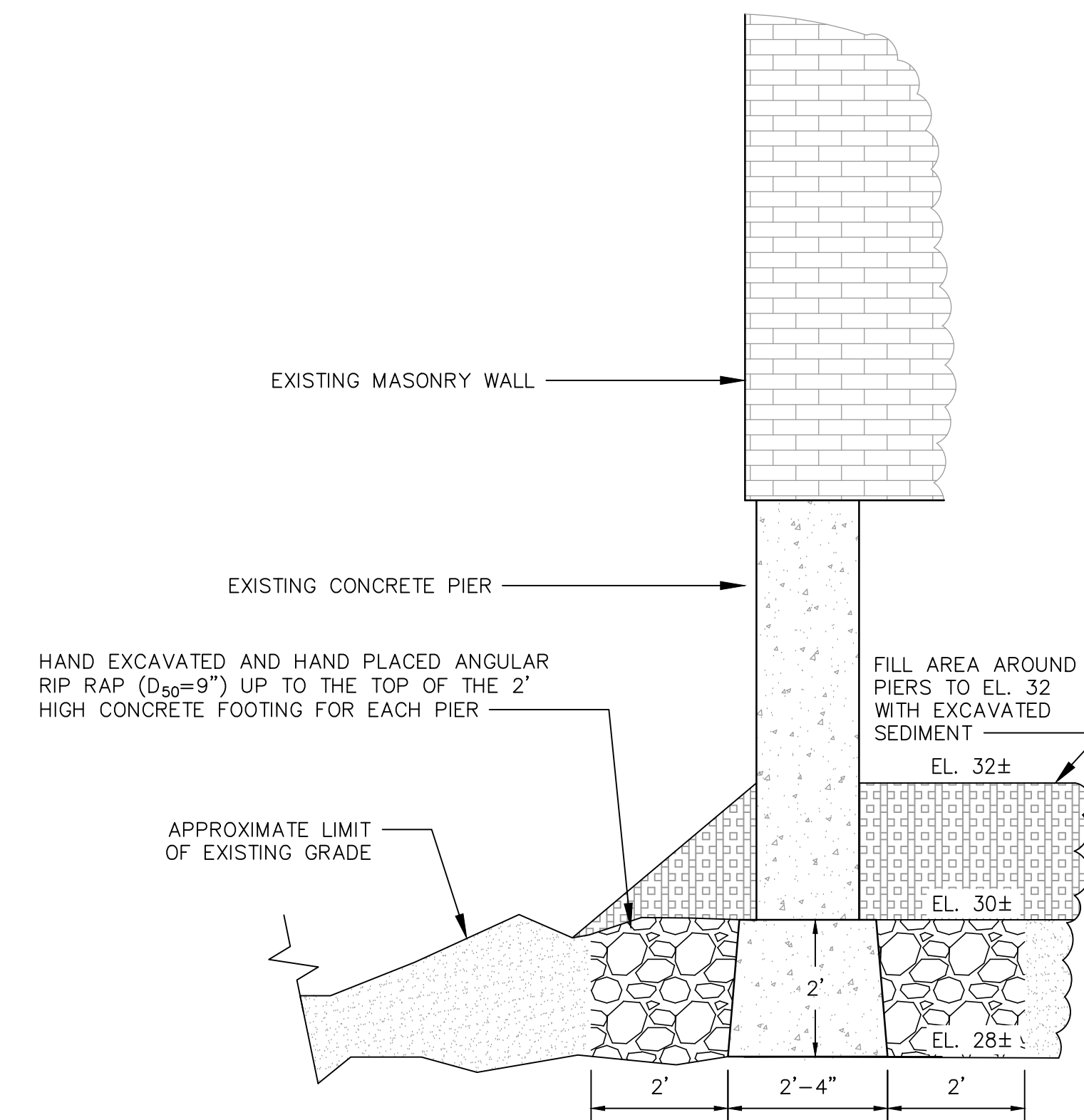
IT IS A VIOLATION OF THE LAW FOR ANY PERSON TO ALTER THIS DRAWING IN ANYWAY UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. ALTERATIONS MUST HAVE THE ENGINEER'S SEAL AFFIXED ALONG WITH A DESCRIPTION OF THE ALTERATION, THE SIGNATURE AND DATE.



- DESIGN NOTES:
1. CULVERT BED MATERIAL IS SIZED BASED ON NEAR-BRIDGE SHEAR STRESSES AND THE ROSEN GRAIN SIZE VERSUS CRITICAL SHEAR STRESS FIGURES FOR THE 100-YEAR FLOW EVENT.
 2. THE COUNTERMEASURE WILL EXTEND 15 FEET UPSTREAM AND DOWNSTREAM OF THE BRIDGE.

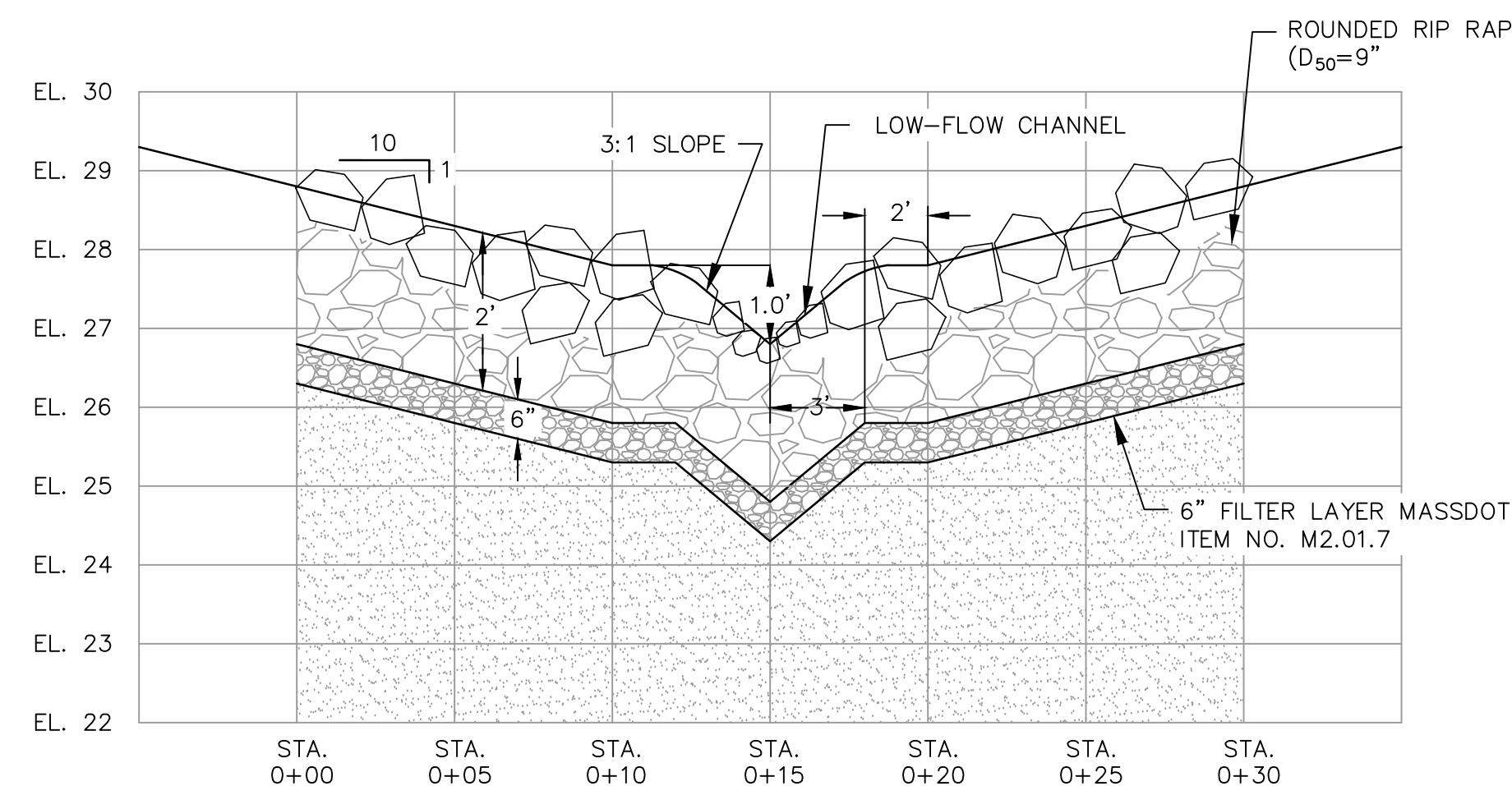
A
11
1" = 4'

BRIDGE SECTION — LOOKING DOWNSTREAM



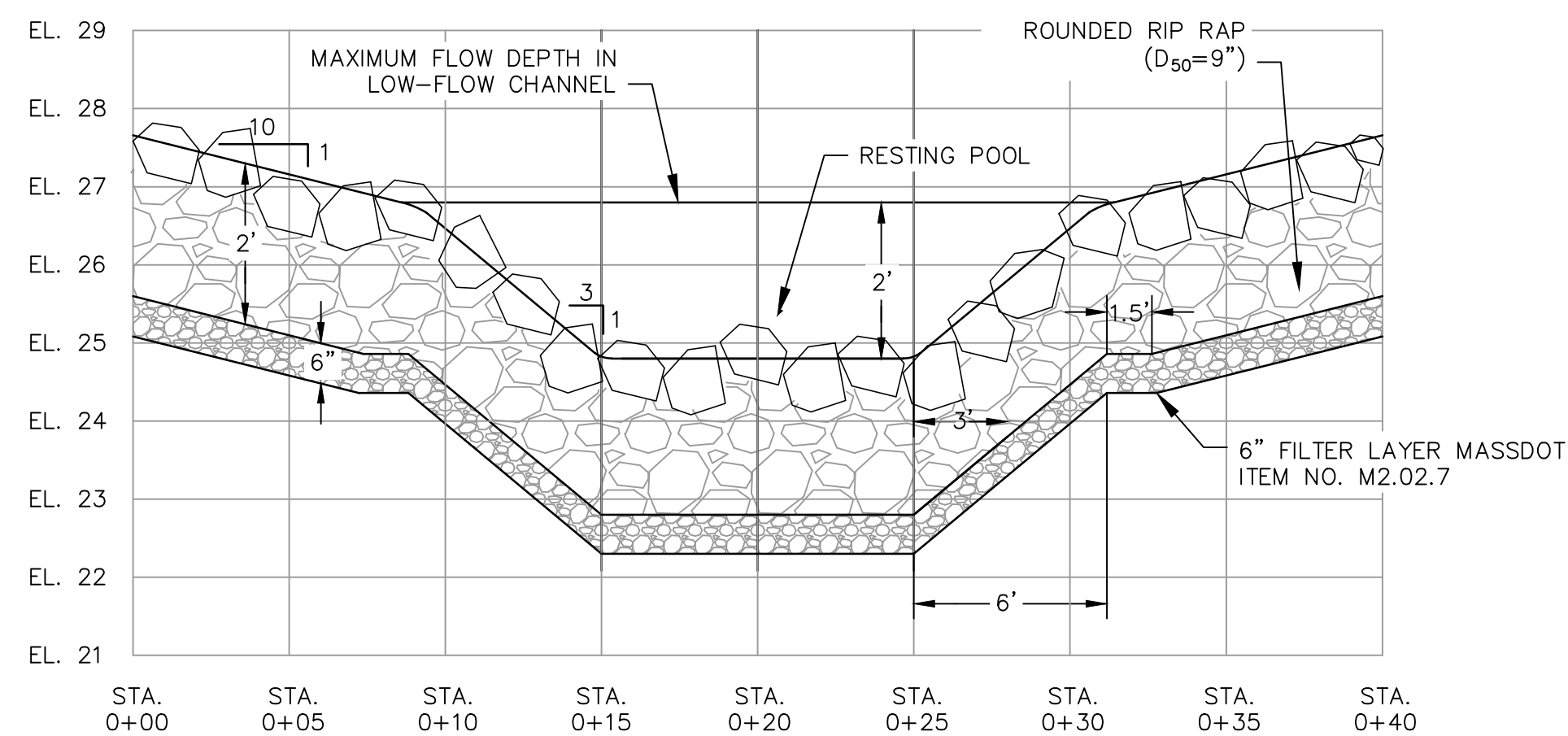
B
11
N.T.S.

BUILDING PIER ARMOR DETAIL



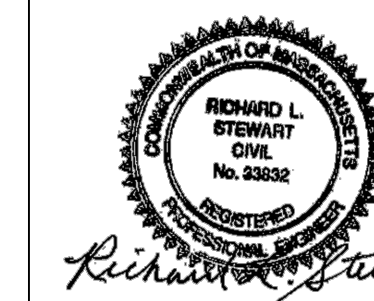
C
11
HORIZONTAL SCALE: 1"=5' VERTICAL SCALE: 1"=2'

LOW FLOW CHANNEL TYPICAL SECTION



D
11
HORIZONTAL SCALE: 1"=5' VERTICAL SCALE: 1"=2'

RESTING POOL TYPICAL SECTION



ISSUE #	DESCRIPTION	BY	APP
6/5/17 0	ISSUED FOR BID	JSC	RLS
DRAWN BY:	JSC		
CHECKED BY:	KJC		
APPROVED BY:	RLS		
PROJECT NO.	1878	DATE:	6/5/2017

COTTON GIN DAM REMOVAL PROJECT

CONSTRUCTION DETAILS

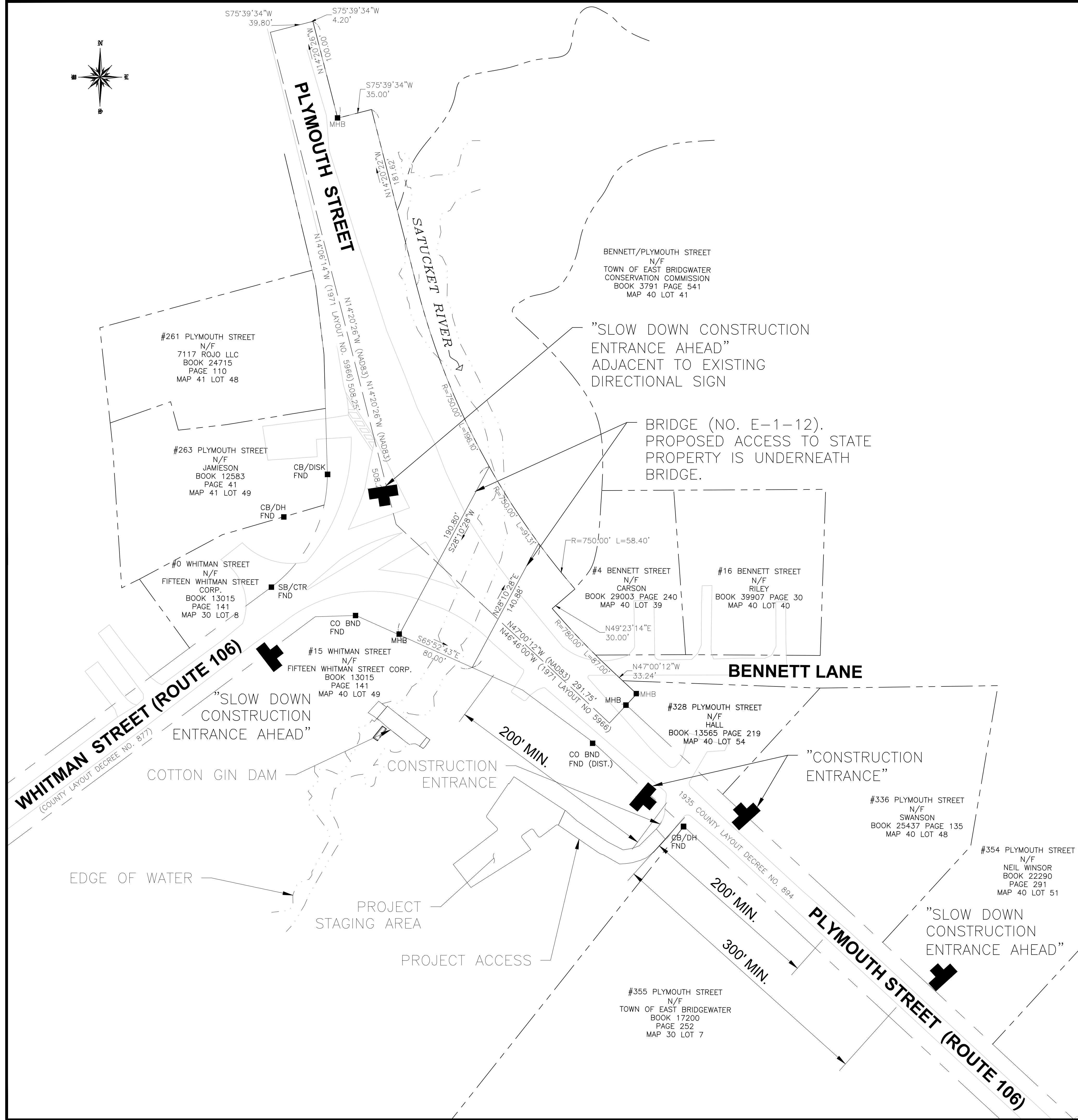
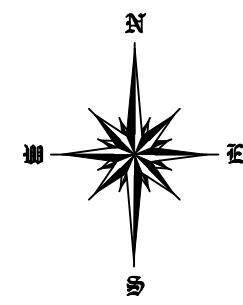
Division of Ecological Restoration
Massachusetts Dept. of Fish & Game
251 Causeway Street
Boston, MA 02114

Gomez and Sullivan Engineers, D.P.C.
41 Liberty Hill Road
PO Box 2179
Henriker, NH 03242

SCALE: NONE

DRAWING: 11





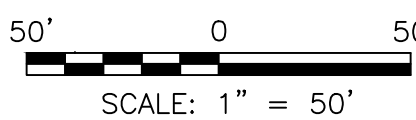
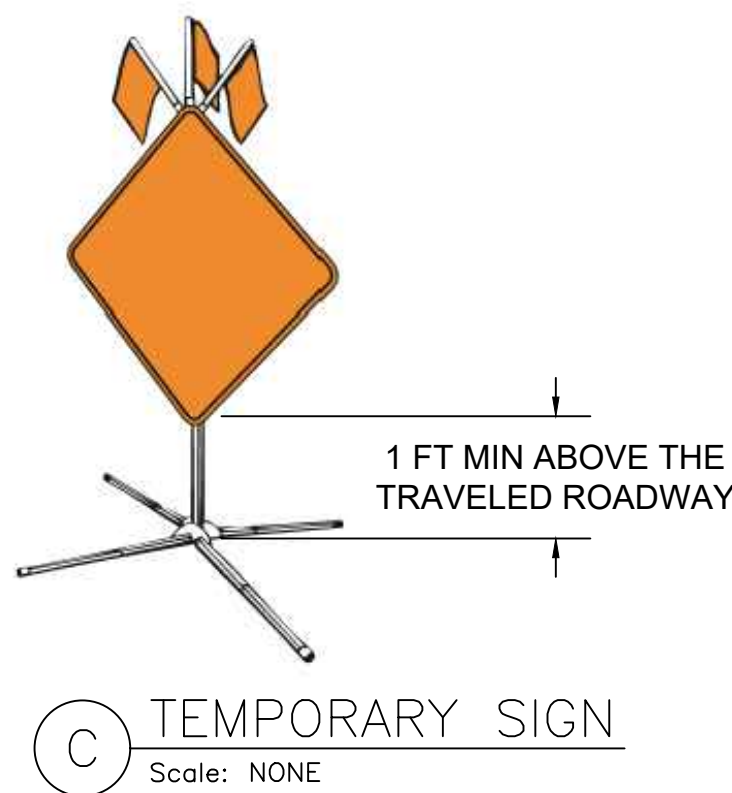
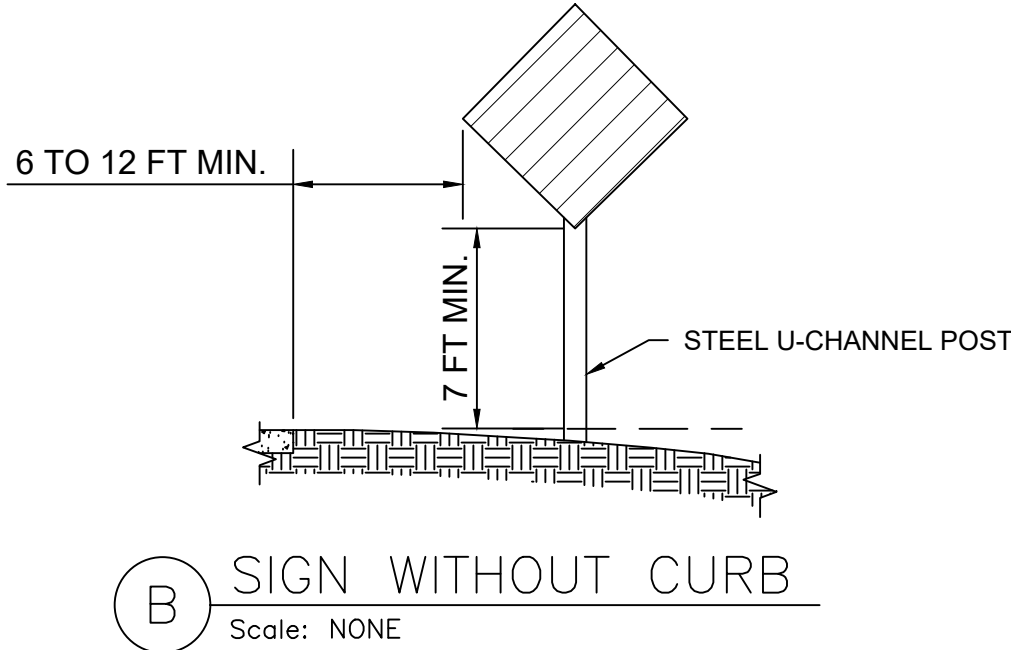
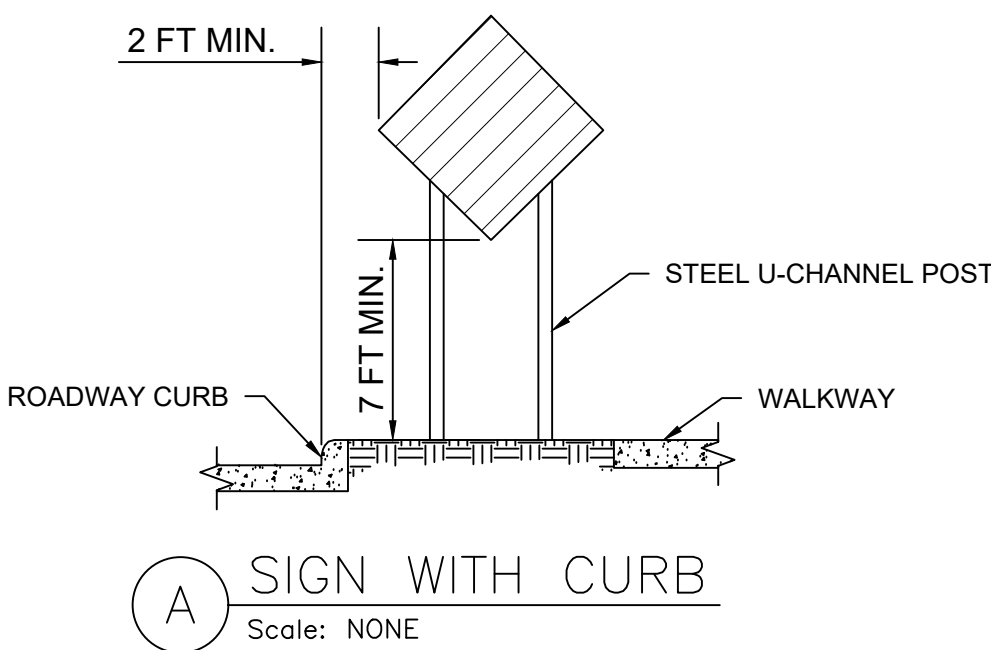


LEGEND

- RIGHT OF WAY BOUNDARY
- PROPOSED TEMPORARY CONSTRUCTION SIGN LOCATION

SIGN LEGEND

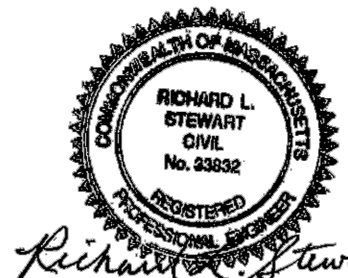
-  "SLOW DOWN CONSTRUCTION ENTRANCE AHEAD" (36" X 36")
-  "CONSTRUCTION ENTRANCE" (36" X 36")



- NOTES:
1. POSTED SPEED IS 25MPH ON EACH ROAD SHOWN.
 2. SIGN SUPPORTS SHALL BE CRASHWORTHY.
 3. SIGNS SHOULD BE PROPERLY MAINTAINED FOR CLEANLINESS, VISIBILITY, AND CORRECT POSITIONING.
 4. SIGNS THAT HAVE LOST SIGNIFICANT LEGIBILITY SHOULD BE PROMPTLY REPLACED.

COTTON GIN DAM
REMOVAL PROJECT

TRAFFIC MANAGEMENT
PLAN



6/5/17	0	ISSUED FOR BID	JSC	RLS
ISSUE #		DESCRIPTION	BY	APP
DRAWN BY: JSC				
CHECKED BY: KJC				
APPROVED BY: RLS				
PROJECT NO. 1878 DATE: 6/5/2017				

Division of Ecological Restoration Massachusetts Dept. of Fish & Game 251 Causeway Street Boston, MA 02114		Gomez and Sullivan Engineers, D.P.C. 41 Liberty Hill Road PO Box 2179 Henniker, NH 03242	
SCALE: 1" = 50'		DRAWING:	
		13	

APPENDIX D
MHC PHOTO SUBMISSION FORM AND PHOTO LOG

Massachusetts Historical Commission Photo Submission Form

Please submit one form for each group of digital images

About your digital files:

Camera Used (make, model): Nikon D3300

Resolution of original image capture (camera setting including resolution and file format):

Pixel Dimensions: 68.7M, 6,000 pixels x 4,000 pixels; Document Size: 20"x13.333" jpeg; Resolution: 300 pixels per inch

File name(s) (attach additional sheets if necessary) check here ☒ to refer to attached photo log:

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<hr/>	<hr/>
<hr/>	<hr/>

About your prints:

Printer make and model: Epson SuperColor P800

Paper: brand & type (i.e., Epson Premium Glossy Photo)

Epson Borderless Premium Glossy Photo Paper

Ink: Epson Ultrachrome HD Pigmented Inks

Signature: (By signing below you agree that the information provided here is true and accurate.)

Signature: _____ Date: _____

Massachusetts Historical Commission Photo Submission Form

Please submit one form for each group of digital images

About your digital files:

Camera Used (make, model): Nikon D3400

Resolution of original image capture (camera setting including resolution and file format):

Pixel Dimensions: 6,000 pixels x 4,000 pixels; Resolution: 300 pixels per inch

File name(s) (attach additional sheets if necessary) check here ☒ to refer to attached photo log:

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About your prints:

Printer make and model: Epson SureColor P800

Paper: brand & type (i.e., Epson Premium Glossy Photo)

Epson Borderless Premium Glossy Photo Paper

Ink: Epson Ultrachrome HD Pigmented Inks

Signature: (By signing below you agree that the information provided here is true and accurate.)

Signature: _____ Date: _____

PHOTOGRAPH LOG

CARVER COTTON GIN COMPANY COMPLEX

Location: Satucket River, near intersection of Whitman and Plymouth Streets
15 Whitman Street
East Bridgewater, Massachusetts

Photographer: John J. Daly
PAL
26 Main Street
Pawtucket, Rhode Island

Date: August 2017 and January 2018

Carver Cotton Gin Company Dam and River Retaining Walls

MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyDamandRiverRetainingWalls_1
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyDamandRiverRetainingWalls_2
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyDamandRiverRetainingWalls_3
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyDamandRiverRetainingWalls_4
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyDamandRiverRetainingWalls_5
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyDamandRiverRetainingWalls_6
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyDamandRiverRetainingWalls_7
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyDamandRiverRetainingWalls_8
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyDamandRiverRetainingWalls_9
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyDamandRiverRetainingWalls_10
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyDamandRiverRetainingWalls_11
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MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyDamandRiverRetainingWalls_17
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyDamandRiverRetainingWalls_18

Carver Cotton Gin Company Blacksmith Shop and Hardening Building

MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyBlacksmithShopandHardeningBuilding_1
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyBlacksmithShopandHardeningBuilding_2
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyBlacksmithShopandHardeningBuilding_3
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyBlacksmithShopandHardeningBuilding_4
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MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyBlacksmithShopandHardeningBuilding_6
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyBlacksmithShopandHardeningBuilding_7
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyBlacksmithShopandHardeningBuilding_8
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyBlacksmithShopandHardeningBuilding_9
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MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyBlacksmithShopandHardeningBuilding_15
MA_EastBridgewater(PlymouthCty)_CarverCottonGinCompanyBlacksmithShopandHardeningBuilding_16