**PUBLIC RELEASE VERSION***

# *Initial Phase IA Cultural Resources Assessment for the Housatonic River - Rest of River Project*

**General Electric Company**
**Pittsfield, Massachusetts**

**April 3, 2008**

***specific locational information on archaeological sites has been removed**

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URS

# *Initial Phase IA Cultural Resources Assessment for the Housatonic River - Rest of River Project*

**prepared for**

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# 1.0 INTRODUCTION

URS Corporation (URS) has prepared this Initial Phase IA Cultural Resources Assessment (CRA) Report on behalf of General Electric Company (GE). The Initial Phase IA CRA was conducted to assess the potential for cultural, archaeological, and historical resources to exist in portions of the Housatonic River and its floodplain that could be impacted by implementation of corrective measures (remedial actions) selected by the United States Environmental Protection Agency (EPA) to address polychlorinated biphenyls (PCBs) in river sediments and floodplain soils in that area.

In February 2007, GE submitted to EPA a Corrective Measures Study (CMS) Proposal (ARCADIS BBL & QEA 2007) for the Rest of River portion of the Housatonic River, which begins at the confluence of the East and West Branches of the river (about two miles south of the GE facility in Pittsfield, MA) and flows generally south through western Massachusetts and Connecticut. In April 2007, EPA approved that proposal subject to numerous conditions, and it directed GE to submit a Supplement to provide additional information to address several of those conditions. Condition #3 of EPA's letter directed GE to submit a plan for conducting a Phase I Cultural Resource Evaluation as required for compliance with Section 106 of the National Historic Preservation Act (NHPA). A Phase I CRA work plan was developed and submitted to the EPA in May 2007, and EPA approved this plan with conditions on July 11, 2007.

GE has studied and evaluated numerous potential remedial alternatives in the CMS and set forth the results of its evaluations in the CMS Report, which is being submitted to EPA concurrently with this CRA Report. EPA will now review the CMS Report, and will ultimately select remedial actions for the Rest of River. At this stage of the process, however, no decision has been made regarding the need for or extent of any remedial actions for the river and the floodplain in the Rest of River area. Accordingly, the activities described in this CRA Report include a general identification of locations within the river and on the adjacent river banks and floodplain that contain or have the potential to contain archaeological or historic resources that could potentially be impacted by implementation of remedial actions to be selected by EPA for the Rest of River. The primary goals of this study were to:

- Provide background information on the environmental setting, prehistory, and history of the project area and region;
- Describe previous cultural resource studies (if any) and types of known archaeological and historic resources in the Area of Potential Effects (APE) established for the project;
- Provide a preliminary assessment of the potential of the APE, as well as specific areas within the APE, to contain as-yet-unidentified cultural resources; and
- Outline future steps that may be taken under Section 106 of the NHPA once the scope and extent of remediation for the Rest of River have been determined (assuming that some remedial actions will be required).

The Initial CRA was performed in a manner consistent with Section 106 of NHPA, the implementing regulations issued by the Advisory Council on Historic Preservation (ACHP) (36CFR800), and Massachusetts Historical Commission (MHC) guidelines (950CMR70.14)[1].

## 1.1 Background

GE's CMS Report presents the results of GE's detailed evaluation of several remedial alternatives to address PCBs within the Rest of River portion of the Housatonic River and its floodplain. The CMS was conducted pursuant to Special Condition II.E of a permit issued to GE by EPA under the corrective action provisions of the federal Resource Conservation and Recovery Act (RCRA) on July 18, 2000, and reissued on December 5, 2007 to extend its expiration date. This permit was issued as part of a comprehensive settlement embodied in the Consent Decree (CD) for the GE-Pittsfield/Housatonic River Site, which became effective on October 27, 2000. The CD details the terms of an agreement among GE, EPA, the Massachusetts Department of Environmental Protection (MDEP), the Connecticut Department of Environmental Protection (CDEP), and other federal, state, and local governmental entities relating to the cleanup of GE's facility in Pittsfield, Massachusetts, the Housatonic River downstream of GE's facility, and other adjacent and nearby areas. As defined in the CD, the Rest of River includes portions of the river's floodplain as well as the river proper.

EPA has divided the Rest of River area into various reaches, designated Reaches 5 through 16 (in downstream order). With EPA approval, all remediation alternatives evaluated in the CMS (apart from the no action alternative) include monitored natural recovery (MNR) for Reaches 9 through 16. Thus, active remediation alternatives (i.e., those involving sediment or soil removal or capping) have been evaluated only for Reaches 5 through 8 or various portions of some or all of those reaches. Correspondingly, the current investigations have encompassed only Reaches 5 through 8, which are shown in Figures 1 and 2 and described as follows:

- Reach 5 begins at the confluence of the East and West Branches and extends downstream approximately 10 miles to the head of Woods Pond). This section of the river is bordered by extensive floodplains, and has a meandering pattern with numerous oxbows.

- Reach 6 encompasses Woods Pond, a 60-acre impoundment that was formed by the construction of a dam in the late 1800s.

- Reach 7 extends from the Woods Pond Dam approximately 18 miles to the head of Rising Pond. This section contains a number of small dams and does not have as many wide floodplain areas as Reach 5. (With EPA approval, the only portions of the river in Reach 7 for which active remediation was evaluated (under some of the sediment remediation alternatives) are three small impoundments; the remainder of the channel in Reach 7 would be subject to MNR under all remedial alternatives.)

- Reach 8 encompasses Rising Pond, which is a long, narrow, in-stream 40-acre impoundment and the last dammed impoundment in Massachusetts.

[1] Specific locational information on archaeological sites has been removed from this version of the report. A separate version with site locations was filed with federal and state review agencies.

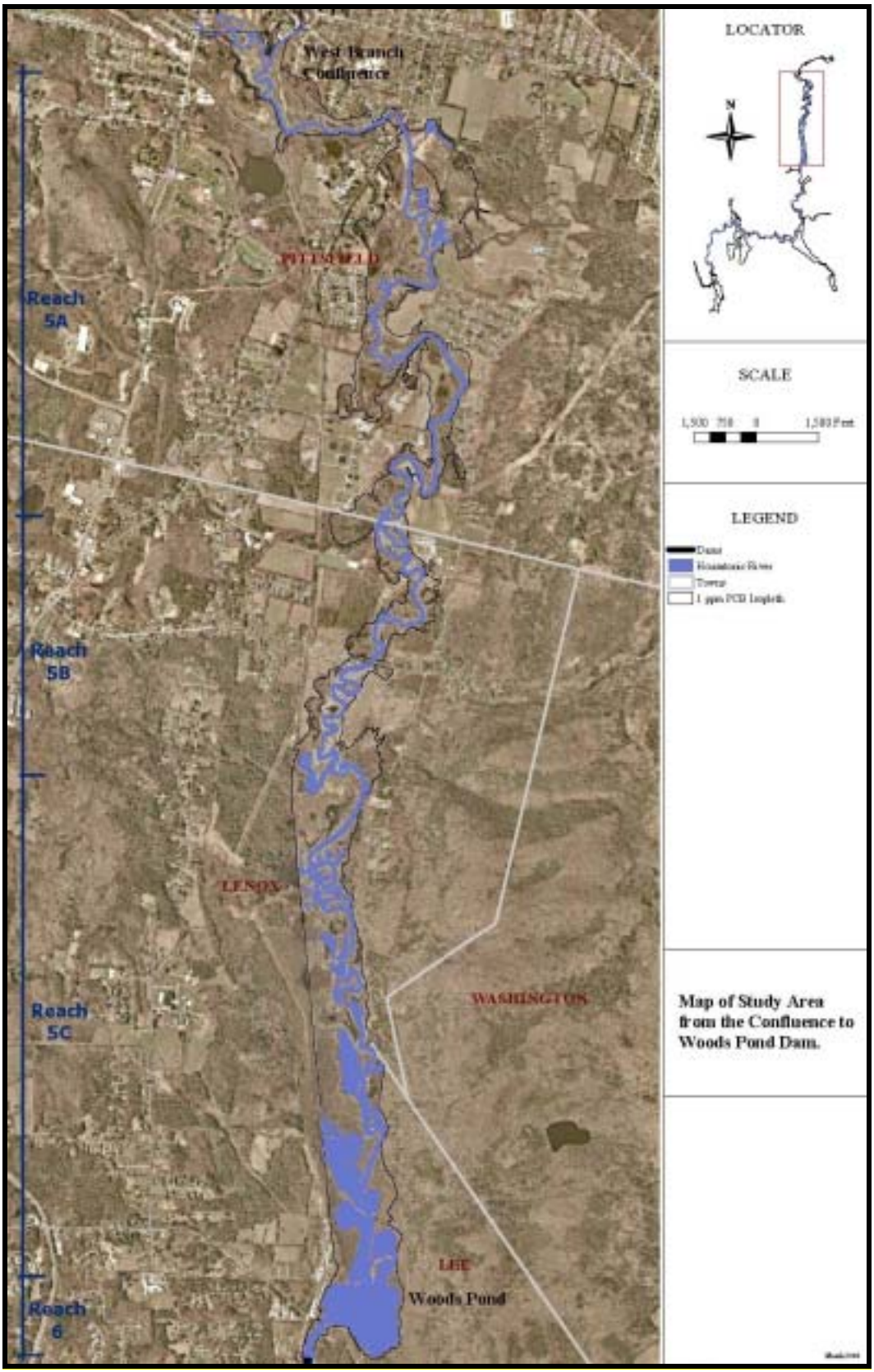



Figure 1. Location of Cultural Resources Study Area in River Reaches 5 and 6.

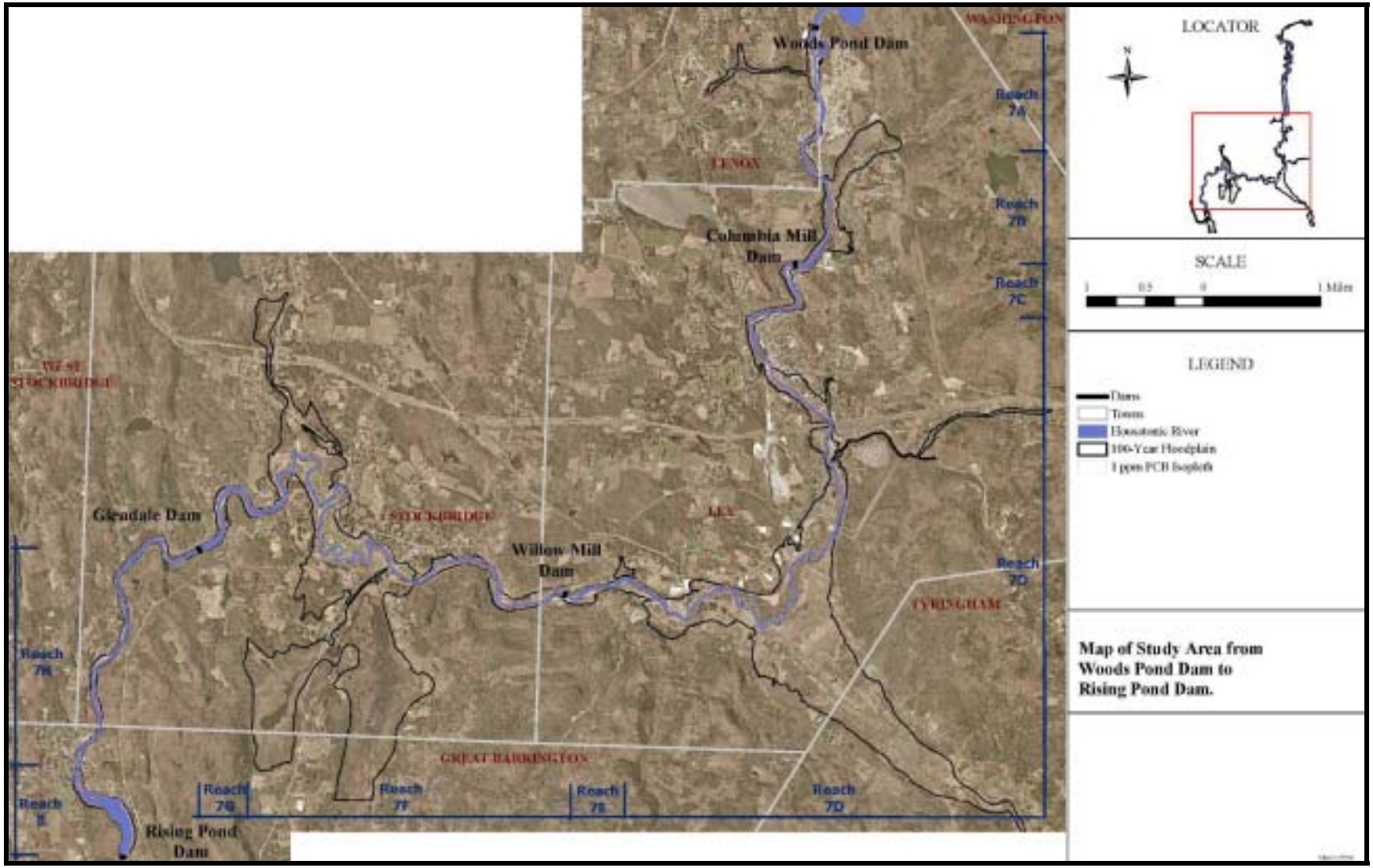



Figure 2. Location of Cultural Resources Study Area in River Reaches 7 and 8).

## 1.2 The Section 106 Regulatory Framework

Section 106 of NHPA of 1966, as amended (16 U.S.C. §§ 470 et seq.), provides that federal agencies must take into account the effects of their actions on any district, site, building, structure, or object listed in, or eligible for inclusion in, the National Register of Historic Places (NRHP). Implementing regulations for Section 106, promulgated by the ACHP, are contained in 36 C.F.R. Part 800. These regulations set out a process for conducting reviews and provide specific criteria for assessing the effects of federal undertakings on historic properties and identifying adverse effects on historic properties. (Under Section 106 of the NHPA and the implementing regulations, the term "historic properties" includes both archaeological sites and historic structures. This report frequently uses the term "cultural resources" to include both; it should be considered synonymous with the term "historic properties" as used in the NHPA and its regulations.) The general approach is to determine the Area of Potential Effects (APE), identify and collect information about the historic properties/cultural resources within this area and whether they are listed or eligible for the NRHP, and then assess the potential for the undertaking to impact these properties/resources (36 C.F.R. § 800.4[a]-[d]). The APE is the area "within which an undertaking may directly or indirectly cause changes in the character or use of the historic properties" (36 C.F.R. § 800.16[d]).

The effects of an undertaking on a cultural resource are predicted by evaluating the significant characteristics of the resource and the design and anticipated consequences of the undertaking. Effects on cultural resources listed in, or eligible for listing in, the NRHP are evaluated with regard to the Criteria of Adverse Effect, set forth in 36 C.F.R. § 800.5. Under these regulations, an adverse effect occurs "when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, setting, materials, workmanship, feeling, or association" (36 C.F.R. § 800.5[a][1]).

Cultural resource assessments are often divided into two general phases. Phase I is intended to identify archaeological sites and historic structures that may be affected by the proposed project. It can include both: (a) information-gathering, which consists of literature searches and an assessment of the archaeological sensitivity of the project area and the potential for historic structures (sometimes called Phase IA), and (b) once the parameters of potential impacts are better defined, field investigations designed to collect additional information about cultural resources in the project area (Phase IB). If, following completion of Phase I investigations, it is determined that the project will affect cultural resources and that such effects cannot be avoided, a Phase II investigation can be conducted to assess the eligibility of the identified resources for the NRHP. Phase II can consist of both additional background research and additional fieldwork.

## 1.3 Scope of Initial Phase IA CRA

Since the locations and types of remedial actions (if any) for the Rest of River have not yet been determined, this phase of the project has included the gathering of information based on literature searches, contact with knowledgeable individuals, and visual reconnaissance regarding

the presence or potential presence of archaeological sites and historic properties within the areas that could be affected by remediation activities.

For purposes of this phase of the project, the Archaeological APE includes the river, shoreline, and portions of the adjacent floodplain. For Reaches 5 and 6 (between the Confluence and Woods Pond Dam), the archaeological APE was defined as the area including the main river channel and backwater areas evaluated in the CMS sediment alternatives, plus the adjacent floodplain extending laterally to the 1 milligram per kilogram (mg/kg) PCB isopleth. For Reaches 7 and 8 (from Woods Pond Dam to Rising Pond Dam), the CRA Work Plan initially defined the archaeological APE as those floodplain areas containing PCBs. In its July 11, 2007 comments on the work plan, EPA indicated that the Archaeological APE for Reaches 7 and 8 should be defined as the 100-year floodplain. However, based on further evaluation during the course of the CMS, GE proposes a revised definition of the Archaeological APE for Reaches 7 and 8. Specifically, GE proposes that the Archaeological APE for these reaches consist of the main channel and impoundments, plus the adjacent floodplain area based on the 1 ppm isopleth previously developed by EPA, expanded to cover locations where human health exposure areas or farm areas evaluated in the CMS extend outside the 1 ppm isopleth but not beyond the 100-year floodplain. (It should be noted that this definition is conservative in that includes the main channel of Reach 7 even though no active remediation alternatives have been evaluated for that channel outside the impoundments.) The Archaeological APE, as defined above, is depicted in Figure 3 through Figure 6. The boundaries of this APE may be modified once the extent of remediation has been determined. In addition, the APE definition will be revisited if implementation of the remedy would require significant staging or other support areas outside of the currently defined APE limits.

The Historic Architectural APE was defined in the Work Plan as those historic properties that may be within the Archaeological APE or visible from areas involved in remediation. EPA's July 11, 2007 comments indicated that this APE should also include areas which might be indirectly impacted by factors such as noise, vibration from equipment, or vehicle movements associated with the remediation. However, since the locations and types of remedial actions for the Rest of River have not yet been selected, and there are numerous historic structures and properties in the general region from Pittsfield to Housatonic, it was determined to be impractical at this stage to further define the exact limits of the Historic Architectural APE or to present a comprehensive inventory of all historic structures in the area. Rather, this Initial Phase IA Report describes structural resources known to be directly associated with the Archaeological APE and summarizes the extent of known nearby historic structures. Once the remedial actions have been determined, this information can be used to refine the limits of the Historic Architectural APE and to identify the extent of any survey measures needed to further identify historic structures.

The Phase IA CRA has included a literature review and collection of background data on potential cultural resources, visual reconnaissance, compilation of the data, and an archaeological sensitivity assessment. These activities are described in the following subsections. Once the remedial actions for the Rest of River have been determined, additional cultural resource research activities will be conducted as necessary to complete the Section 106 process for this project, as discussed in Chapter 6 below.

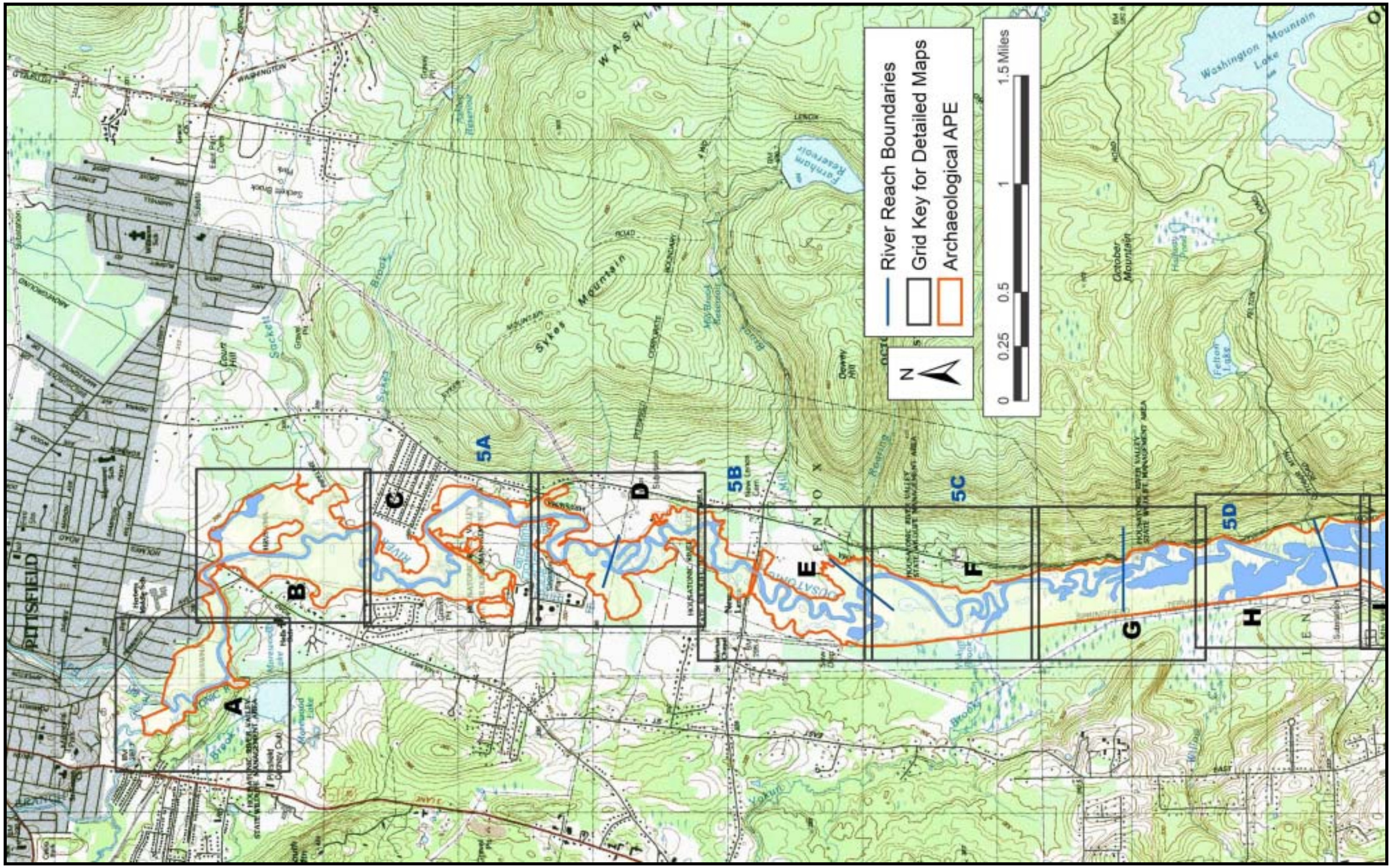



Figure 3. Archaeological Area of Potential Effect for the Housatonic Rest of River Project in Western Massachusetts – Map 1.

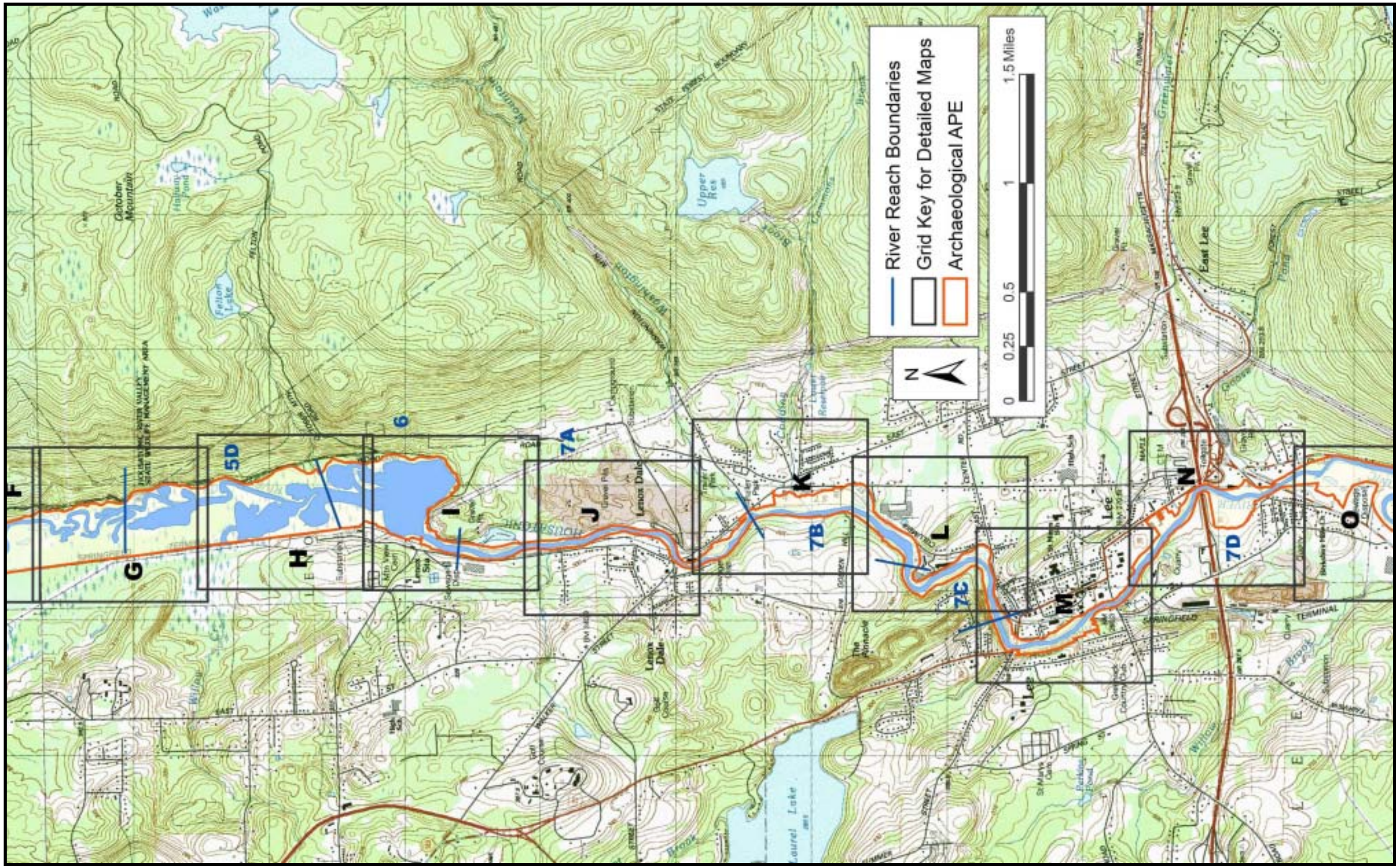



Figure 4. Archaeological Area of Potential Effect for the Housatonic Rest of River Project in Western Massachusetts – Map 2.

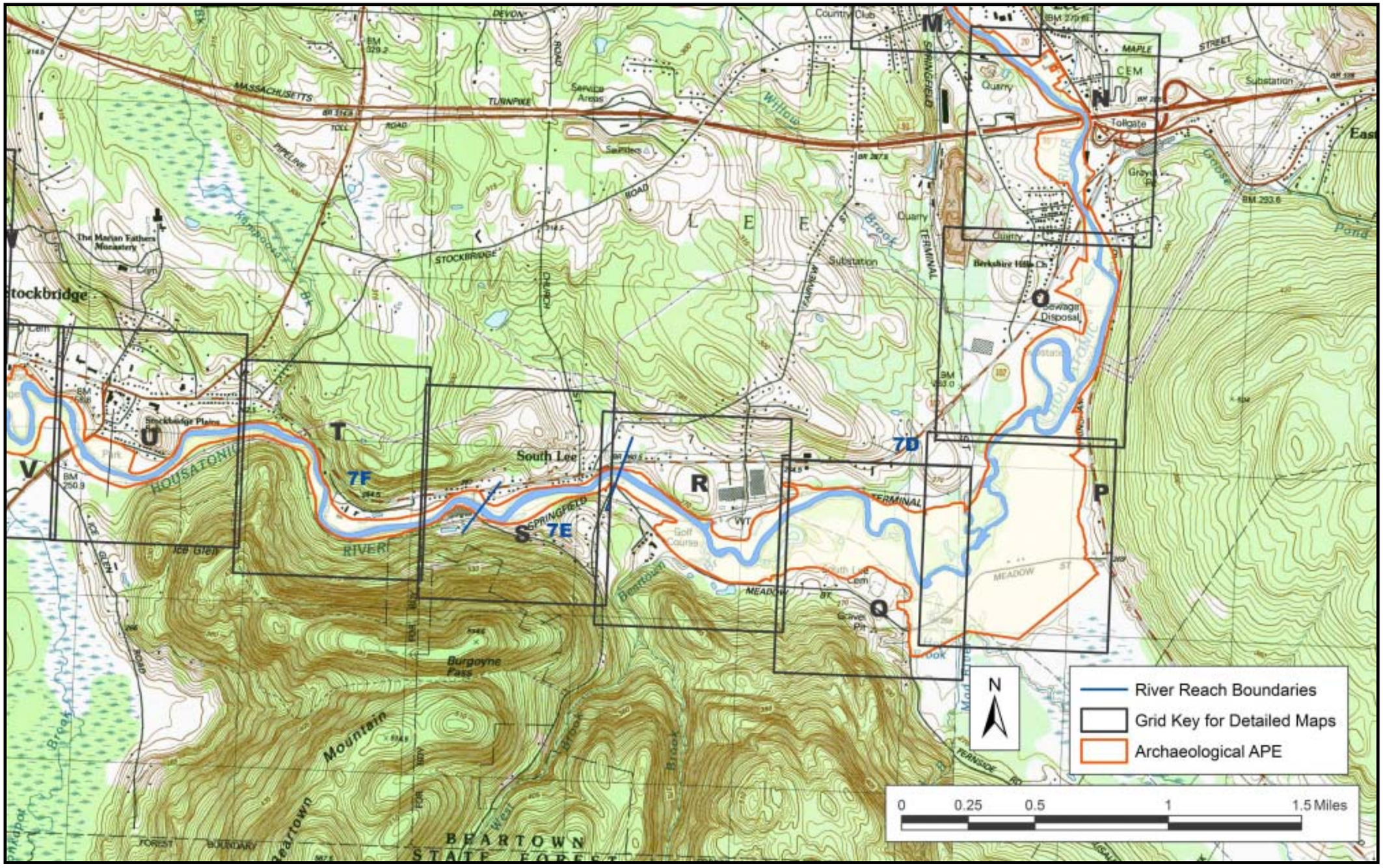
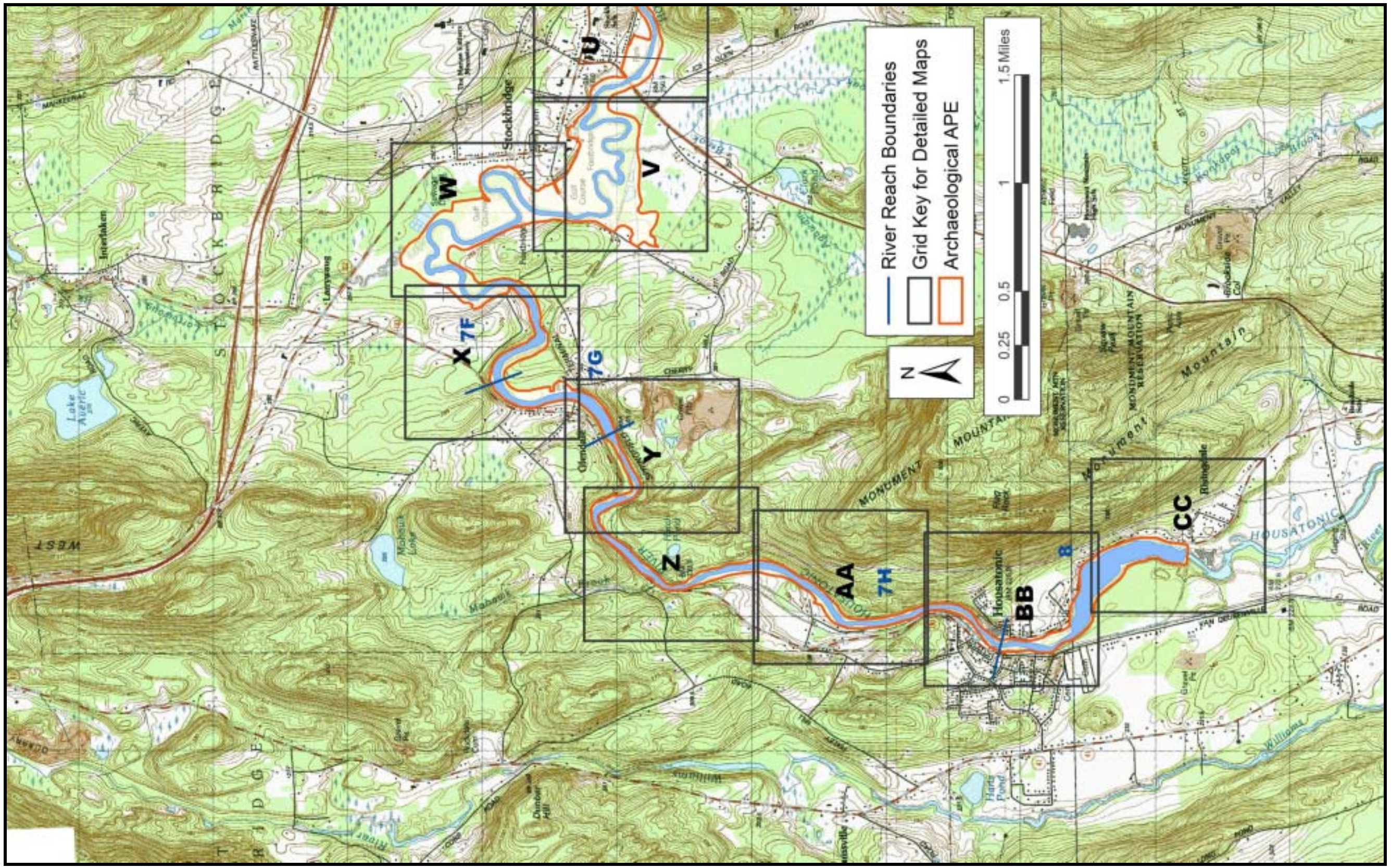



Figure 5. Archaeological Area of Potential Effect for the Housatonic Rest of River Project in Western Massachusetts – Map 3.


River Reach Boundaries
Grid Key for Detailed Maps
Archaeological APE
N
0 0.25 0.5 1 1.5 Miles
W
V
U
X
7F
7G
Y
Z
AA
7H
BB
8
CC
Stockbridge
Housatonic
Lake Averic
Mohawk Lake
Harts Pond
Dunbar Hill
Interlaken
Lanesborough
Glendale
Rising Rock
Rising Sun
Monument Mountain Reservation
Monument Mountain
Kentucky Brook
Brookside Col
Mohawk
Williams
Housatonic River
Monument Mountain Reservation
Stockbridge Bowl
Stockbridge Bowl Dam
Gulf Corner
Fountain Hill
Cherry Hill
Cemetery
Gravel Pit
Sewage Lagoon
Sewage Plant
Ski Area
Ski Jump
Golf Course
Cemetery
Gravel Pit
Cemetery
Gravel Pit
Cemetery
Gravel Pit

### 1.4 Literature Review and Collection of Background Data

Background literature review was conducted to: 1) develop historical and archaeological contexts for interpretation and evaluation of any archaeological sites or historic structures determined to be present within the APE; 2) review the results of previous archaeological and historical work within the APE and vicinity; 3) identify the locations of previously recorded cultural resources; and 4) develop a specific strategy for creating an archaeological sensitivity map. To begin, the following sources were reviewed for pertinent information relating to the project:

- Massachusetts Archives and Massachusetts Historical Commission, Boston, MA
- Massachusetts Board of Underwater Archaeological Resources, Boston, MA
- Berkshire County Historical Society, Pittsfield, MA
- The Berkshire Athenaeum – Pittsfield, MA
- Berkshire Museum – Pittsfield, MA
- Stockbridge Library, Stockbridge, MA
- Lee Library Association, Lee, MA
- Lenox Library Association, Lenox, MA

These and other sources were reviewed for information on the area's prehistory and history. Specific sources on the area's prehistory included reports, articles, papers, reports, and volumes on archaeological investigations within the region, as well as historic maps and atlases that delineate earlier landforms and drainage systems.

To obtain information on the area's history, published works on the history of the area were examined. Other sources consulted included unpublished monographs and reports, historical architecture files, documentary photographs, county atlases, and fire insurance maps. The focus of this background historical research was to reconstruct historic and modern land use within the APE, and identify the general locations of recorded historic structures, roads, rail lines, and districts. Various maps were examined, including historic topographic maps, current 7.5' USGS quadrangle maps; and geologic maps. Current and historic aerial photographs were reviewed to note natural and human-induced changes to river-associated landforms.

Based on the information collected, GIS-based "sensitivity maps" were developed showing areas of "low" "moderate" and "high" potential to contain archaeological sites. Multiple data categories were evaluated to assess the likelihood of archaeological resources being present in an area. Additional details of the sensitivity analysis are provided in Chapter 5.

Information on historic structural resources was compiled from multiple sources, including the Massachusetts Cultural Resource Information System (MACRIS) database maintained by the MHC, the NRHP listings, local libraries and archives, and historic maps.

Section 106 compliance also requires investigation of the potential location of Traditional Cultural Properties (TCPs). The traditional cultural significance of an historic property is derived from the role the property plays in a community's historically rooted beliefs, customs, and practices. As directed by EPA in its July 11, 2007 comments, known contacts for Native American Tribes in the area are listed in Appendix A and constitute potential sources for obtaining information about TCPs in the area. However, at EPA's request, the archaeologists conducting this Phase IA CRA have not contacted these individuals pending a determination by EPA as to the appropriate entity(ies) to make such contacts.

### 1.5 Visual Reconnaissance

Following the collection of the background information, archaeologists conducted an initial reconnaissance of the Archaeological APE, including inspection of the floodplain sections and examination of the river channel and banks from a small boat. On the river, the archaeologists slowly drifted downstream along the river banks (where river conditions allow), visually inspecting conditions and classifying the terrain. At frequent intervals, the team stopped the boat, and got out to conduct a limited pedestrian reconnaissance to obtain more detailed information on the terrain, soils, and vegetation. In addition, to further assess the potential for historic architectural resources in the APE, a reconnaissance (windshield) survey was conducted. Representative resources identified were photographed and mapped, but a comprehensive survey was not completed.

### 1.6 Data Compilation

The information collected in the background research and supplemented by the visual reconnaissance was organized in a database of known cultural resources. This database systematically records information on the age, affiliation, location, and resource type for every known cultural resource located in the APE. This database is linked to a master project GIS to facilitate later comparisons with the locations of remediation activities. In addition, following completion of the reconnaissance, the GIS-based archaeological sensitivity maps of the project's Archaeological APE were updated.

## 2.0 ENVIRONMENTAL SETTING

The study area is located in Berkshire County, Massachusetts, which is on the western edge of the State and is bordered by Connecticut (south), New York (west), and Vermont (north). The Housatonic River flows south through the Central Valley region, which lies between the Berkshire Plateau and the Taconic Mountains. The main stem of the river is formed by the confluence of the East and West Branches of the Housatonic River in Pittsfield, which is the northern boundary of the current project. The East Branch begins in Dalton and Hinsdale from headwater tributaries. The West Branch starts at Onota and Pontoosuc Lakes in Pittsfield and Lanesboro and is augmented by flows from the Southwest Branch. Below the Confluence, the river generally flows south through Berkshire County for approximately 10 miles to Woods Pond, the first significant impoundment. Downstream of Woods Pond, the river continues south through western Massachusetts and south/southeast through Connecticut before emptying into Long Island Sound at Stratford, Connecticut.

Woods Pond is an impoundment created in 1890. In 1989, a new dam was constructed approximately 200 feet downstream of the historic dam. Within the Rest of River project, the other current impoundments include dams at Columbia Mills in Lee, Willow Mill in South Lee, Glendale Dam in Glendale, and Rising Pond in Housatonic. Except for Rising Pond, the other impoundments are relatively small. Historically, there were several other dams in this portion of the Housatonic which have since been removed. These include a dam at Lenox Dale, two in Lee, two in Glendale, and a dam in Housatonic near the Stockbridge town line.

The project area encompasses a wide variety of land use patterns. Although broad areas of floodplain forest, meadows, and agricultural fields predominate by acreage, the project corridor also traverses developed areas of urban and industrial land use, particularly in Lee and in Housatonic. Within Stockbridge, a large section of the river borders the manicured landscape of the Stockbridge Golf Club.

At least 17 soil series are represented within the project boundaries. The most common soils in the study area are sandy loams, silt loams, and organic-rich mucks. The drier soils are typically deep, well-drained loamy soils derived from glacial outwash or from calcareous glacial till. Overwash of silt and fine sand into the floodplain is apparent in much of the low floodplain. Heavier soil particles, such as medium to coarse sands, remain within the channel and are the dominant soils of the riverbanks and bars.

## 3.0 CULTURAL CONTEXTS

A description of the cultural contexts provides a framework for discovering, investigating, evaluating, and managing all kinds of archeological sites and historic structures. It is designed to:

- Summarize the current state of knowledge about a type of resource or related categories of resources;
- Provide the basis for understanding expected resource types, their location, age, size, and their expected data classes within a given geographic area; and
- Provide the basis for evaluating the relative significance of resources of the same or similar type.

### 3.1 Previous Research in the Region

Most of the previous cultural resource research in the region has been associated with highway and pipeline projects, and most of these were concentrated in two zones: in Pittsfield near the north end of the current project, and along a narrow corridor in South Lee and Stockbridge.

In 1983, Dunn Geoscience conducted a Stage 1B Archaeological Survey for the realignment of Route 7 (Upper North Street) in Pittsfield, including examination of prehistoric site 19BK99, which was identified as a small Late Archaic hunting camp.

UMass Archaeological Services conducted site examinations of six archaeological sites (four prehistoric and two historic) in Pittsfield in 1988 in association with the Route 7 Bypass project (Bernesteian and Savulis 1988). That same year, the Boston University Office of Public Archaeology conducted a reconnaissance for six miles of corridor in Pittsfield for the Tennessee Gas Pipeline NOREX project (Jones and Seasholes 1988). This corridor crosses the current project APE near the south end of the Audubon Sanctuary, near the mouth of Sykes Brook. A subsequent survey in 1990 identified a prehistoric site (19BK185) east of the current APE.

In 1992, the Public Archaeology Laboratory surveyed a proposed GE/Altresco gas pipeline route in Pittsfield (Nassaney and Leveille 1992). This short pipeline route extended from the Altresco Plant on the northeast side of Pittsfield around the east and south sides of the city, crossing the Housatonic River alongside Holmes Road. Four prehistoric sites were identified. None are within the current project area, but one is located a short distance south of the APE (19BK181) and the other three (19BK183, 184, 185) are east of the project. Also in 1992, the State Archaeologist's office conducted a brief walkover survey of Melville's Arrowhead estate on Holmes Road (Simon 1992).

The Institute for Conservation Archaeology at Harvard prepared a Phase I Reconnaissance Study for proposed water pollution control projects in Lee (Mulholland et al. 1977). This study

highlighted the potential for historic sites relating to the factories and mills along the Housatonic and its tributaries, but no field studies were conducted.

In 1991 and 1992, a series of survey and site examination projects were conducted for Tennessee Gas Pipeline Company's Northeast Settlement Expansion Project. The northern end of Segment 2 extended northwest along the valley of Hop Brook and crossed the Housatonic River (and the current APE) between Lee and South Lee. Surveys and site examinations for Segment 2 were done by the BU Office of Public Archaeology (Jones 1992; Jones and Berkland 1992; McDermott and Macomber 1991; Macomber 1992; Macomber et al. 1992). These studies resulted in the identification of six prehistoric sites. Four of these sites are located within the current APE (19BK145, 19BK147, 19BK148, and 19BK156) and two more abut the south edge of the APE (19BK146 and 19BK157). These sites include multiple Late Archaic, Early Woodland, and Late Woodland components.

UMass Archaeological Services conducted the studies for Segment 7 of the Northeast Settlement pipeline project, which began at the end of Segment 2 north of the river near Church Street and extended northwest into New York (Holmes et al. 1992a, 1992b, 1992c). Relevant to the current project, the Segment 7 studies identified six sites along the pipeline route north of Stockbridge. Phase 3 data recovery excavations were conducted at two sites prior to construction (Johnson and Mulholland 1995). Those mitigation studies are the only extensive archaeological excavations that have taken place in the vicinity of the current project. They documented that the area around Kampoosa Bog has been occupied for over 6,000 years, with notable occupations relating to the Snook Kill/Atlantic tradition and the Late Woodland period (Johnson and Mulholland 1995:22).

The following sections summarize the prehistory and history of the general region around the project area. A more detailed discussion of this information is presented in Appendix B.

### 3.2 Paleoindian Period

Human occupation of northeastern North America began soon after the continental ice sheet began to recede northward, once again exposing land. Current evidence suggests that approximately 13,000 years before the present (B.P.), humans began moving into what is now New England. This first period of prehistory lasted until approximately 9,500 B.P. Archaeological sites dating to this time period are most commonly recognized by the presence of distinctive biface stone tools called fluted points. Because of extreme age and low population densities, Paleoindian sites are relatively rare and have often been disturbed by more recent natural events and human activities.

Although relatively few Paleoindian sites have been excavated in the Northeast, there have been documented discoveries in the general region near the Housatonic drainage. In 1977, the American Indian Archaeological Institute (AIAI) excavated a site known as 6LF21 on the Shepaug River in northwestern Connecticut (Moeller 1980), and this site produced a radiocarbon date of 10,190 RCY B.P. More recently, the Hidden Creek site in Mashantucket, Connecticut (Jones & Forrest 2003) has yield evidence of Paleoindian occupations. Most of the evidence for Paleo-Indian occupations in the region comes from isolated finds of the distinctive fluted points from scattered locations. Many finds appear to be associated with former postglacial lake basins (Lavin 1984). In particular, surveys by the AIAI near Robbins Swamp in northwestern

Connecticut have identified a number of Paleo-Indian sites around the margins of this rich ecological zone (Nicholas 1988).

### 3.3 Early Archaic Period

Prior to 1970, there was virtually no evidence of any Northeastern sites dating to the Early or Middle Archaic periods. In the last three decades, considerable information has been obtained to fill in that gap, but the picture is still incomplete. There are still relatively few excavated, radiocarbon dated Early Archaic sites in the Northeast. Most have been identified by the presence of projectile points analogous to dated types such as Palmer, Kirk, Charleston, MacCorkle, LeCroy, St. Albans, and Kanawha, which have been found in stratified Southeastern sites.

Archaeologists are beginning to be able to identify distinctive regional characteristics in the Early Archaic artifact forms and assemblage characteristics. Excavations in northwestern Connecticut around Robbins Swamp in the Upper Housatonic drainage just south of the Massachusetts border suggest that these early Holocene occupations tended to cluster in resource rich locales such as former glacial lake basins (Nicholas 1988). Approximately 35 Early Archaic components were identified along with a number of Paleoindian sites, suggesting early intensive exploitation of this extensive wetlands complex. Some of the Early Archaic sites were identified by the presence of diagnostic types such as Kirk, bifurcate, and Kanawha points, and others by the presence of distinctive scraper and graver forms. Early site/landform associations range from lake shoreline and upper river terraces to wetland margins and upland springs, and include large, multiple, early component sites, and small, single-component, special-activity sites (Nicholas 1988:271).

Nicholas has been a frequent and vocal proponent of the idea that early Holocene occupations in the Northeast were much more abundant than previously thought, and that they operated within an environment that was much more productive than originally described. He has identified former glacial lake basins as locations that are likely to have been established as resource rich mosaics within a changing and somewhat unpredictable early Holocene landscape (Nicholas 1981, 1983, 1987, 1988).

### 3.4 Middle Archaic Period

The Middle Archaic is associated with warmer and drier climatic conditions. By this period, modern floral communities were established and characterized by mast-producing hardwoods. Rivers stabilized during this time and wetland and lake areas were reduced in size. Hunting continued to be important, and fish may have become a more predictable resource.

Clear identification of the chronological position of Middle Archaic artifacts in the Northeast was not established until Dincauze reported on the excavations at the stratified Neville site on the Merrimack River in New Hampshire (Dincauze 1971, 1976). These excavations documented the existence of the Neville stemmed point type dating to between 7,800 and 7,000 B.P., and the Stark stemmed point type dating between about 7,600 and 6,400 B.P. (Dincauze 1976). The Neville and Stark point types are similar in style and age to the Stanly and Morrow Mountain

types that Coe (1964) defined earlier in the Southeast. In addition, the Merrimack point type was identified as dating to the end of the Middle Archaic period close to 6,000 B.P.

The Neville and Stark types have proved to be relatively common throughout New England. Dincauze and Mulholland (1977) have presented a synthetic model of Middle Archaic settlement for southern New England. They suggest that site types of this period involve large-group occupations that maximize proximity to a variety of seasonal resources, as evidenced by the tool assemblages and recovered faunal materials at these sites. An increase in the number of sites in aquatic resource environments is noted, and these sites are frequently located at falls or rapids where anadromous fish comprised an important seasonal resource (Dincauze 1976). The accumulated data for the Middle Archaic period in the Northeast suggest that, during this period, the prehistoric inhabitants were forming themselves into distinct bands and were settling into defined territories. These bands were establishing base camps and were occupying a greater variety of special-purpose sites in a carefully planned seasonal round (Snow 1980:183).

### 3.5 Late/Terminal Archaic Period

Archaeologists recognize the Late Archaic period as one in which the numbers and types of sites increase dramatically—what Snow (1980:187) describes as the Late Archaic "florescence." Based on his early work in New York, Ritchie recognized two major Late Archaic trajectories, the Lamoka and the Laurentian, which overlap in both time and space. Both are also represented in New England, but in different distributions.

Following Tuck's (1978) definition of the Lamoka/Sylvan/Squibnocket complexes of central and southern New York and New England as the "Mast Forest Archaic", Snow (1980:226) proposed that the Laurentian complex and related assemblages in northern New England and the St. Lawrence drainage be designated as the "Lake Forest Archaic." As Snow describes them, these two complexes coexisted at times during which each was more common within a particular geographic region. This scheme supposes that there was a "marginal belt of tension between the two coeval zones that persisted throughout the Late Archaic" (Snow 1980:227).

Although Snow (1980) suggests that the Lake Forest Archaic sites are primarily a northern New England manifestation, and only appear in sparse numbers in western Massachusetts and Connecticut between 5,500 and 4,500 B.P., Pfeiffer (1984) has compiled evidence that the Lake Forest Archaic in southern New England is a widespread tradition firmly dated to the period between 5,000 and 4,200 B.P. Pfeiffer notes that "the Late Archaic period also witnessed an increase in the importance of gathering activities, the employment of storage, and an expanded duration of settlement" (1984:85).

In addition to the Lake Forest Archaic assemblages, southern New England also has widespread and long-term evidence of Snow's Mast Forest tradition—what other researchers have often called the "Narrow-Stemmed" or "Narrow-Point" traditions. Although some researchers have proposed that the Laurentian, or Lake Forest, tradition coexisted with the Narrow Point tradition (Ritchie 1969; Dincauze 1968, 1974, 1975; Snow 1980), others (McBride 1984a:247-248) consider the Lake Forest (Laurentian, Golet phase) as temporally distinct from the Mast Forest (Narrow Point, Tinkham phase).

Mast Forest Archaic sites are numerous and occur in a “wide variety of local settings” (Snow 1980:230). The settlement system likely consisted of “central based wandering” by highly territorial groups (Dincauze 1974:48, 1975:25; Snow 1980; McBride 1984a, 1984b:65). Population aggregations occurred along major drainages and interior wetlands, with movement between habitation sites prescribed by seasonal availability of resources (Dincauze 1974:48, 1975:25; McBride 1984a, 1984b:65; Snow 1980).

The end of the Archaic has also been commonly called the “Transitional” in reference to its presumed transitional status between the Archaic and Woodland periods. Since research continues to indicate that there is actually a great deal of cultural and biological continuity between the Archaic and the Woodland periods, Snow (1980:235) has suggested that the label “Terminal Archaic” is more appropriate.

As Snow defines it, the hallmark of the early part of the Terminal Archaic in eastern and southern New York is the Susquehanna tradition of broad stemmed projectile points and their associated assemblages. These points include a number of regional varieties, including the Genesee, Perkiomen, Snook Kill, and Susquehanna Broad types in New York and Atlantic/Wayland points in Massachusetts. This Susquehanna tradition of broad stemmed projectile points is analogous to Coe's (1964) Savannah River type from the southeastern United States. Characteristics of the Susquehanna Tradition include a riverine adaptation and a predilection for the fine-grained lithic resources of the Piedmont province including rhyolite, felsite, argillite, and slate (Dincauze 1975:27; Turnbaugh 1975:54). The latter portion of the Terminal Archaic period is marked by the appearance of narrow, tapered Orient Fishtail projectile points.

### 3.6 Early and Middle Woodland Period

Early Woodland cultures in southern New England and eastern New York show considerable variation from the patterns seen in central and western New York. Sites in the latter region show much greater participation in widespread trade networks that extended from the Gulf of Mexico to the Great Lakes. Exotic seashells, distinctive types of stone, and native metals such as copper and lead moved between the far-flung reaches of the network. This trade network was also associated with an elaborate mortuary ceremonialism that included burying many of the exotic traded items in graves with the dead. The presumed core of this system was the Adena tradition of the Ohio River drainage, to which numerous elaborate sites with well stocked graves have been attributed.

Evidence of the Adena tradition is more limited in the Early Woodland Meadowood tradition of southern New England. In addition to Meadowood projectile points, Adena, Rossville, and Lagoon points and Vinette I ceramics are also associated with this time period. Rossville and Lagoon points are particularly common on Early Woodland sites in the coastal areas of southern New England and Long Island Sound.

Narrow points are commonly assigned to the Late Archaic period; however, Swigart (1974) has dated points of this type in the Housatonic drainage to 2,700-2,500 B.P., which would place them in the Early Woodland period. Furthermore, Lavin, McBride, and others have suggested that the

Narrow Point technological tradition may have even continued into Contact and historic periods (McBride 1984a:105; Lavin 1984).

Just as the Early Woodland Meadowood phase is associated with the Ohio Valley Adena network, Middle Woodland sites appear to have been associated to some degree with the Middle Woodland Hopewell interaction sphere. However, exotic trade items from the Hopewell network are less common in southern New England and eastern New York than they are in the west (Snow 1980:287).

### 3.7 Late Woodland Period

Following the apparent decline in settlement activity during the Early Woodland and the early part of the Middle Woodland period in the Northeast, the next millennium witnessed an intensification of subsistence and settlement patterns that culminated in the relatively sedentary villages of agriculturalists encountered by the first European explorers. This span of time has been traditionally designated by archaeologists as the latter portion of the Middle Woodland period from 1,650 B.P. to 1,000 B.P. and the Late Woodland period from 1,000 B.P. to substantive contact with Europeans. This report will break from tradition somewhat and will end the Middle Woodland at about 1,200 B.P (A.D. 750).

A division between Middle and Late Woodland at this point in time correlates with the widespread appearance of maize in the archaeological record throughout much of the eastern United States. Snow (1980:261) has previously suggested that the Kipp Island and Hunters Home phases reflect the increasing isolation of the Northeast from the rest of the Eastern Woodlands. Interestingly, this is also a period in which the Hudson drainage shows increasing linkages with southern New England. These linkages include increasing amounts of chert moving into the Housatonic and Connecticut River drainages, as well as “New York” ceramic traditions extending east into the upper Housatonic drainage (e.g., see Lavin and Miroff 1992, and Lavin, Miroff and Gudrian 1992-1993).

By the Late Woodland period, the archaeological antecedents of historically recognized Native American groups can be recognized. North, central, and western New York were occupied by groups believed to be ancestral to the Iroquois; in these areas, large, nucleated, semipermanent sedentary villages developed. In contrast, eastern New York and western New England were occupied by smaller, somewhat less permanent settlements ancestral to the Algonkians (Late Woodland settlement patterns in both areas were still more sedentary than in previous periods).

Late Woodland sites are recognized by a series of distinctive incised and collared ceramic types and by triangular projectile points. The larger Levanna point type was most common early in the period and was later accompanied by the smaller Madison type.

### 3.8 Contact/Native American Historic Period Context

The chronological end of the Late Woodland period is about 350 B.P (A.D. 1600), but it varies by region, depending on the timing of European exploration and settlement. The next two centuries are often referred to as the Contact Period, and in southern New England the term

"Final Woodland" is preferred by some. Both labels refer to the phase when Native lifestyles were radically changed by factors such as war, disease, trade, and acculturation.

At the time of European contact in the early seventeenth century, the upper Hudson and Housatonic valleys were occupied by the Mahican[2] horticulturalists and fishermen culturally affiliated with their Algonkian neighbors to the east in New England. Some ethnohistoric data indicate they lived in stockaded hilltop villages containing three to 16 elongated wigwam longhouses (Snow 1980:88). In addition to these villages, "when at fishing or hunting stations, the Mahican probably lived in single-family wigwams" (Snow 1980:88).

For many years, the Mahican occupied a pivotal position both culturally and geographically in the conflicts between the Iroquois Confederacy and the Algonkian tribes of New England (Brasser 1978). At one point the Mahican occupied lands on both sides of the upper Hudson River, but they lost control of the area on the west side of the river in 1628 as a result of warfare with the Iroquois. In the 1660s, they were forced to abandon almost all of the Hudson Valley and many of them clustered with other related western New England Algonkians in settlements along the upper Housatonic River in western Massachusetts.

### 3.9 Settlement and Revolutionary War Era

The lower Housatonic was settled in the 1640s, but it took almost a hundred years for permanent settlements to expand north into what is now Berkshire County, Massachusetts. In 1733, Sheffield was the first town in the county to be incorporated, followed by Stockbridge in 1739, Great Barrington in 1742, and Pittsfield in 1753. Lee and Lenox incorporated a decade or two later.

In 1734, John Sergeant initiated a mission amongst the Mahican, who at the time were living in two communities along the Housatonic – one they called Skatehook (in Sheffield) and the other Wnahktukook (at what is now Stockbridge). To consolidate the settlements, the Massachusetts legislature established a six-square-mile township for the Mahican, and as Field (1829:239) reports, "the design was to include the fine alluvial grounds at Wnahktukook , already cleared and cultivated to some extent, where a party of the Indians then lived . . . "

By the 1780s, the Mahican had lost control over most of their land, and most of the tribe moved west into Oneida County, New York, and in the 19th century eventually into Wisconsin. The Mahican joined Munsee refugees on a jointly held reservation in Wisconsin, where the two tribes remain together today under the name "Stockbridge-Munsee Band of Mohican Indians."

By the Revolutionary War era in the late 18th century, Euro-American settlements were well established in all towns of the project area. Forests were being cleared and small farms dotted both the valleys and the hillsides. Many of the suitable water power locations had small grist

[2] Dunn (1994:8) notes that many alternate spellings of "Mahican" have been used over the years, including Mohican, Mahikan, and Mahiecan, but they are not to be confused with the Mohegan of Connecticut. Mahican is the most common form used by the seventeenth century Dutch who were first in contact with the Hudson Valley group.

mills, saw mills, and furnaces established at them, such as at Lenox Furnace (Lenox Dale), Lee, and South Lee.

### 3.10 From the Revolution into the Nineteenth Century

After peace was established between the US and England, settlement of the region expanded dramatically. Settlers took advantage of the agricultural potential of the valley and its transportation corridor, and industrial development at prime mill sites along the river and its tributaries soon followed.

For the first several decades of the nineteenth century, wagons and stages were the only effective means of transporting goods and people, as the shallow depths and multiple rapids along the upper Housatonic were not conducive to large scale, reliable boat transport both upstream and downstream along the river. This situation changed with the creation of railroad links with New York and New England in the 1840s.

Throughout the nineteenth century, the project area witnessed an intensification of industrial development along the river. The number, size, and variety of mills all increased, with woolen and cotton mills, paper mills, turning factories, and iron and glass furnaces being built in Lee, South Lee, Glendale, and Housatonic (additional industry was located in Pittsfield upstream from the project area). By end of the century, paper mills came to dominate the industries along the river. As industry was expanding in the Berkshires, agriculture was declining throughout the nineteenth century due to soil exhaustion and western competition.

In addition to transporting industrial products to wide markets, the railroad also made the region easily accessible to New York City, and wealthy families from began vacationing in the Berkshires and eventually many built homes there. In 1845, Samuel Gray Ward came from Boston to Stockbridge to turn an older house into a relatively palatial structure, Highwood, which is recognized as the first of dozens of mansions, quaintly called “cottages,” which were erected there and in Lenox and, to a lesser degree, in Great Barrington. In addition, artists began flocking here and by mid-century, the tradition of a Berkshire cultural center had taken hold.

### 3.11 Twentieth Century

Industrial development that had begun in the nineteenth century expanded even more in the twentieth century. Electronics plants were constructed in the region, and paper mills continued to flourish in Lee and Housatonic. Stanley Electric Manufacturing Company was acquired by General Electric in 1903, and the operation produced small-scale transformers, flat irons, electric fans and small motors. For the better part of the 20th century, Pittsfield was inextricably linked to GE, which at one point provided jobs for 75 percent of Pittsfield’s workforce. Pittsfield’s population in 1930 had grown to more than 50,000, and industrial expansion related to World War II swelled the population even further, as munitions and plastics were also produced. By the 1950s, GE was building the largest transformers in the world, but the transformer operation closed down in 1986.

The era known as the Gilded Age continued up to World War I, and wealthy outsiders continued to vacation and build mansions in the Berkshires (by 1900, there were over 75 in Lenox), providing substantial employment opportunities for many local people. However, the imposition of the federal income tax in 1913 marked a turning point in the construction of new mansions (NPS 2002:73). Over the next few decades, many were converted to other uses such as seminaries, schools, offices, or museums. At the same time, the coming of the automobile opened up new opportunities for middle class tourism in the Berkshires that continue today.

## 4.0 ARCHAEOLOGICAL SENSITIVITY MODELS

In its review of the Phase I CRA Work Plan, the MHC suggested, in a letter dated September 27, 2007, that predictive modeling efforts prepared by the Public Archaeology Laboratory for the Deerfield River Valley (Glover et al. 1994) would provide a useful framework for the Housatonic River project, in combination with analysis of regionally specific data sets.

For prehistoric sites, Glover et al. (1994:15) note that a number of studies "have repeatedly shown that certain environmental and topographical settings are strongly associated with the presence of prehistoric sites." In summary, they state that "prehistoric sites are most frequently associated with well-drained soils in close proximity to zones of high natural resource potential such as wetlands and river valleys"; and they also note that "documented ground disturbances within a given area detract from the likelihood for prehistoric resources to remain" (1994:17). Glover et al. identified the following variables for their prehistoric sites sensitivity model:

**High Potential**

- water source within 150 m
- well drained sandy soils
- level to fairly level topography (0 – 3%)
- none to minimal disturbance
- known sites in the immediate area

**Moderate Potential**

- water source within 150 to 300 m
- well drained to fairly well drained, sandy to cobbley soils
- moderate slopes (3 – 8%)
- minimal to moderate disturbance
- known sites in the vicinity

**Low Potential**

- water source greater than 300 m
- poorly drained soils
- steep slopes (> 8%)
- moderate to extensive disturbance
- no known sites in the vicinity

To operationalize a model for the Housatonic River project, a GIS approach was used to display and manipulate environmental and cultural data sources. Data layers for soil types, slope, land use, and the location of known archaeological sites were downloaded and/or created, and the

parameters identified above were delineated and then reviewed. After analysis of the preliminary results of the modeling effort, it became clear that the environmental setting of the Archaeological APE is a distinctive subset of the range of environments in Berkshire County. Specifically, almost all of the APE consists of relatively level terrain in close proximity to a water source (which constitute two of the high potential factors identified by Glover et al.). As a result, the drainage characteristics of the soil, the level of disturbance, and the proximity to known sites became the key distinguishing variables for this particular project area. The results of this exercise are presented in Figure 7 through Figure 35, which depict the configuration of zones of high, medium, and low potential to contain archaeological sites as polygons shaded green, yellow, and red overlain on recent color aerial photographs of the project area.

For historic period archaeological sites, Glover et al (1994:19) suggest that such sites are most likely to be located in "areas within 150 m of freshwater, adjacent to waterpower sources, within 100 m of major transportation networks, and/or within 1000 m of a settlement concentration." For the Housatonic River study area, most of these factors are redundant – i.e., all areas that are within 150 m of water, or adjacent to waterpower sources, or within 1000 m of a settlement are also within 100 m of a major transportation network. The model can therefore be operationalized most effectively by mapping those areas within 100 m of major historic transportation networks. To identify historic sensitivity zones, the configuration of the transportation network was derived primarily from the 1876 historic map series, which represent the most comprehensive historic maps that are also accurate enough to clearly geo-reference with the modern landscape. The 1876 maps also encompass the vast majority of 18$^{th}$ and early 19$^{th}$ century transportation networks. Selected features from early 20$^{th}$ century USGS topographic maps were also added to the model to capture additional late 19$^{th}$/early 20$^{th}$ century elements not represented by the 1876 maps. In addition, areas of river channel known or suspected to have a high intensity of historic activity (based on historic maps and background research) were highlighted. This includes areas such as the concentrations of mills and dams in Lenox Dale, Lee, South Lee, Glendale, and Housatonic). This historic information is presented on the same set of aerial photographs as the prehistoric modeling results.

This sensitivity assessment is useful for evaluating the relative archaeological potential of large areas for early project planning purposes, but it is acknowledged that location-specific criteria will still need to be reviewed to make final determinations concerning the need for systematic field surveys in a given area. For example, specific structure locations depicted on historic maps need to be reviewed, and visual evidence of past land use and disturbances assessed. In addition, the sensitivity model will require validation through field sampling as the project progresses.

Figure 7. Archaeological Sensitivity Map, Sheet A.

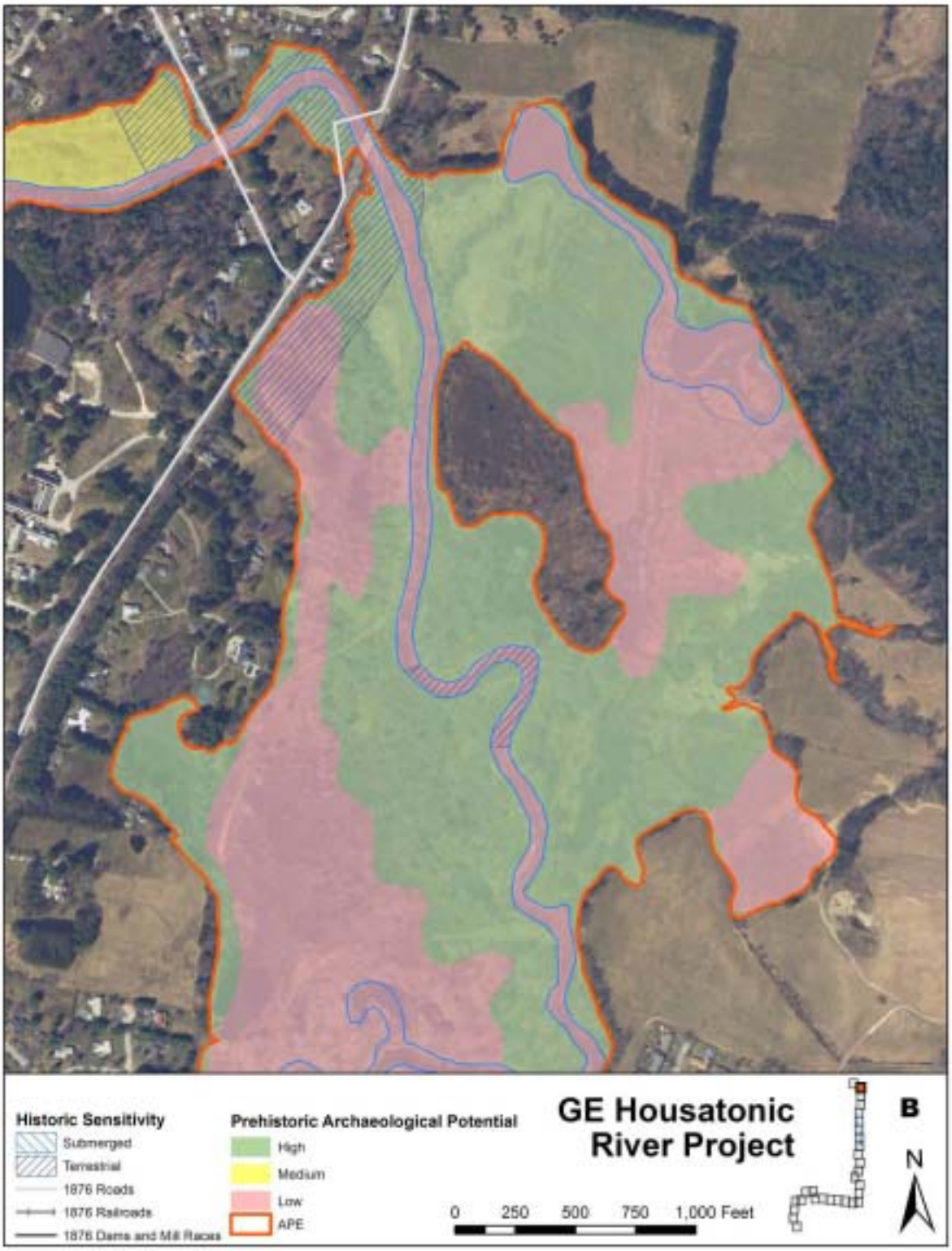



Figure 8. Archaeological Sensitivity Map, Sheet B.

Figure 9. Archaeological Sensitivity Map, Sheet C.

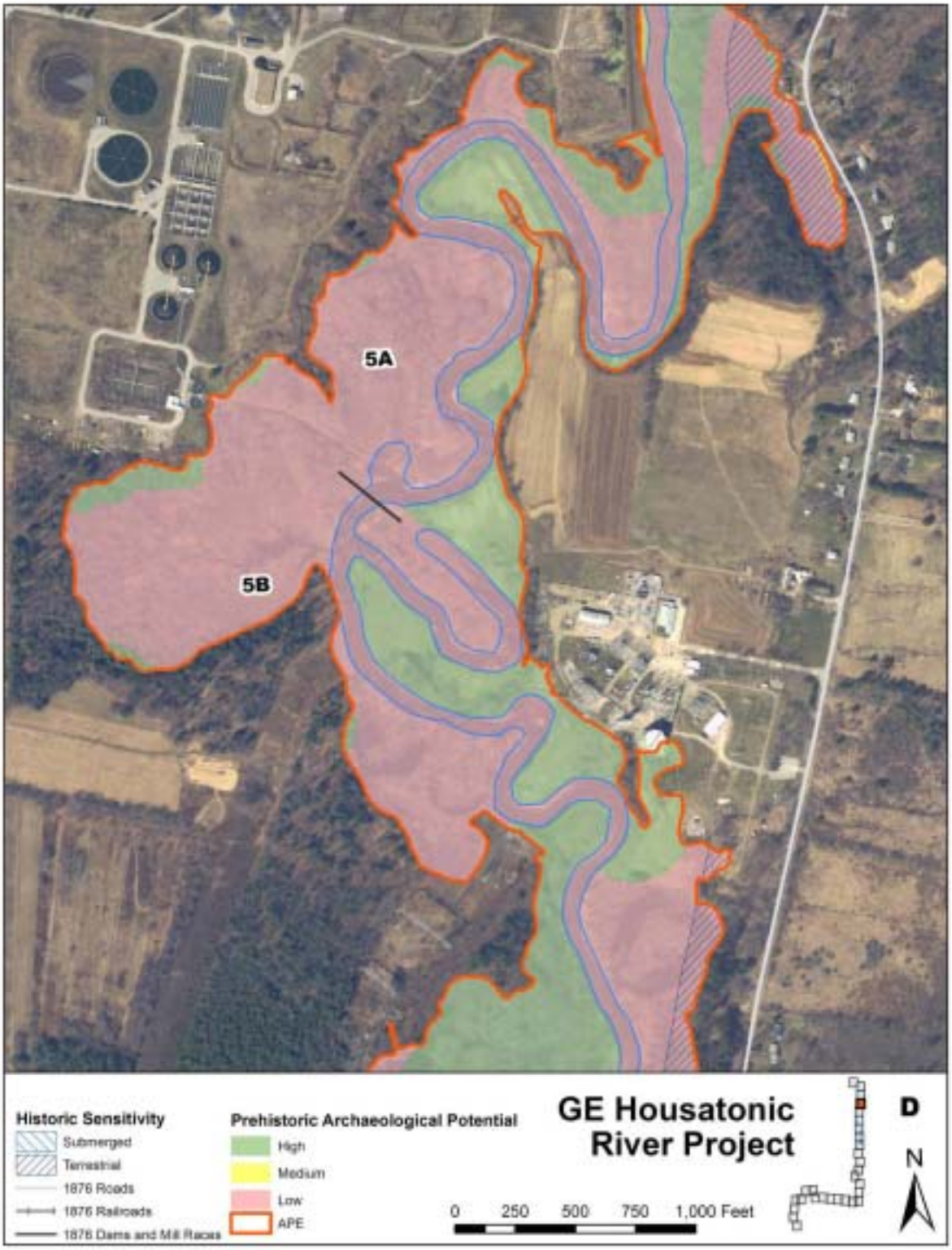



Figure 10. Archaeological Sensitivity Map, Sheet D.

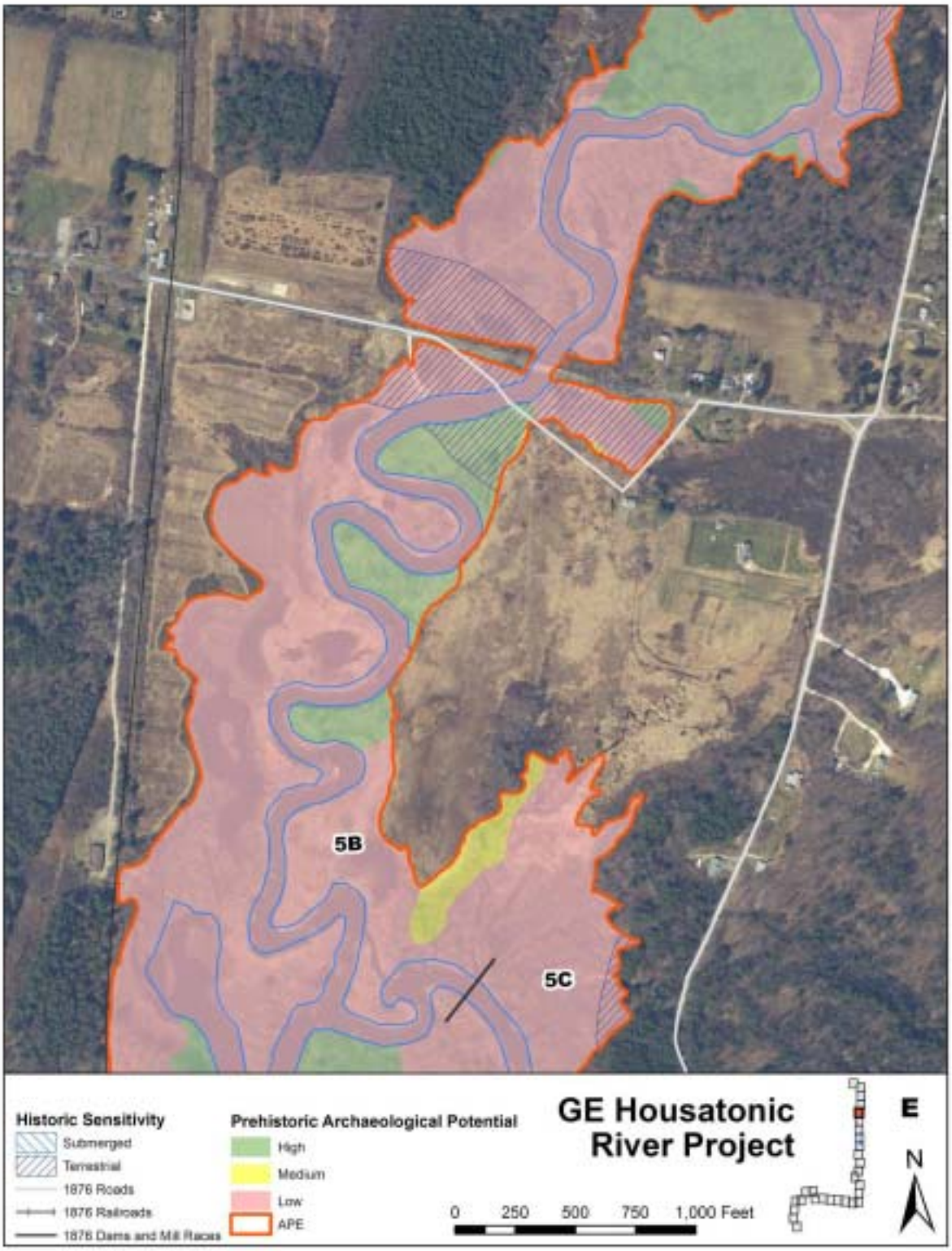



Figure 11. Archaeological Sensitivity Map, Sheet E.

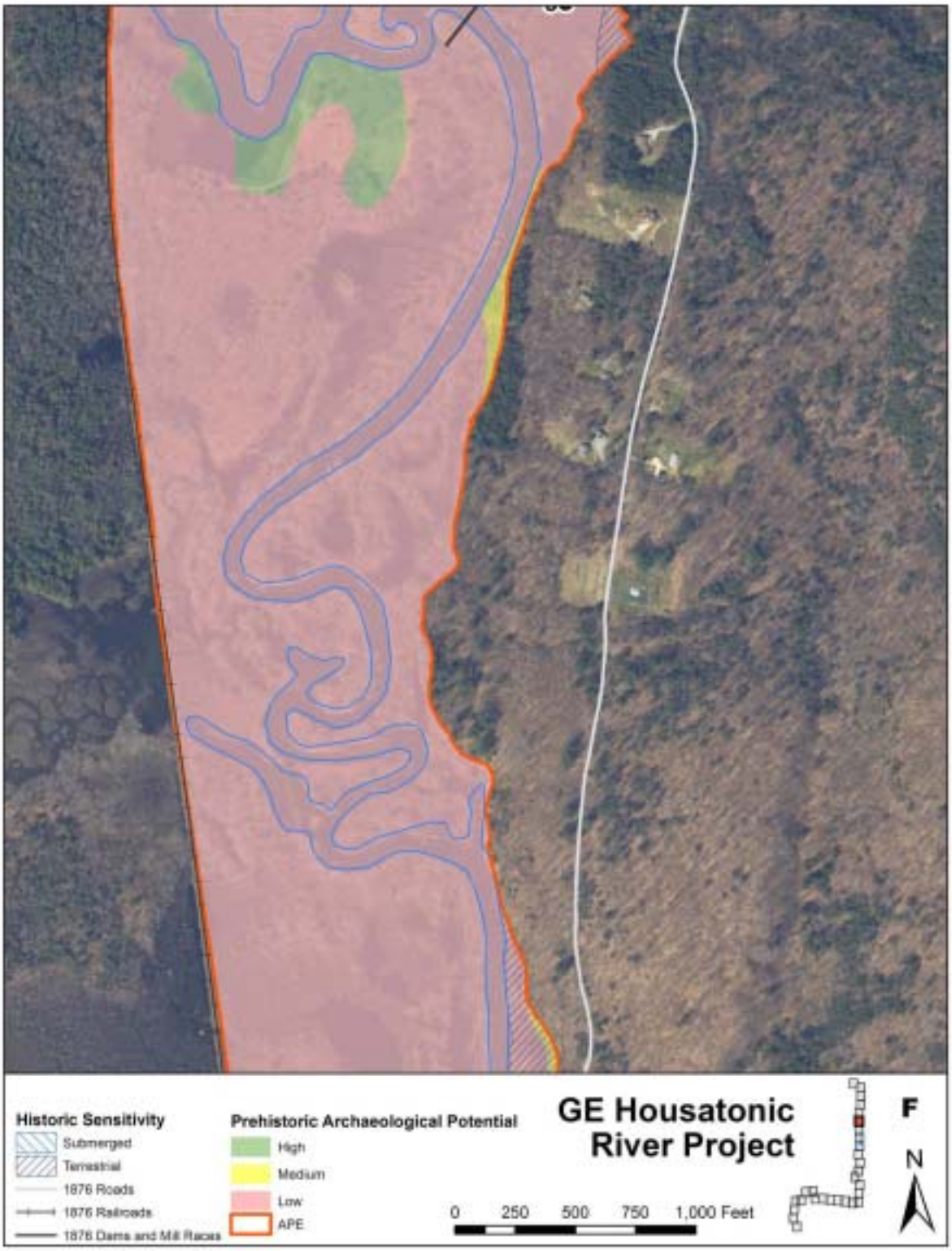



Figure 12. Archaeological Sensitivity Map, Sheet F.

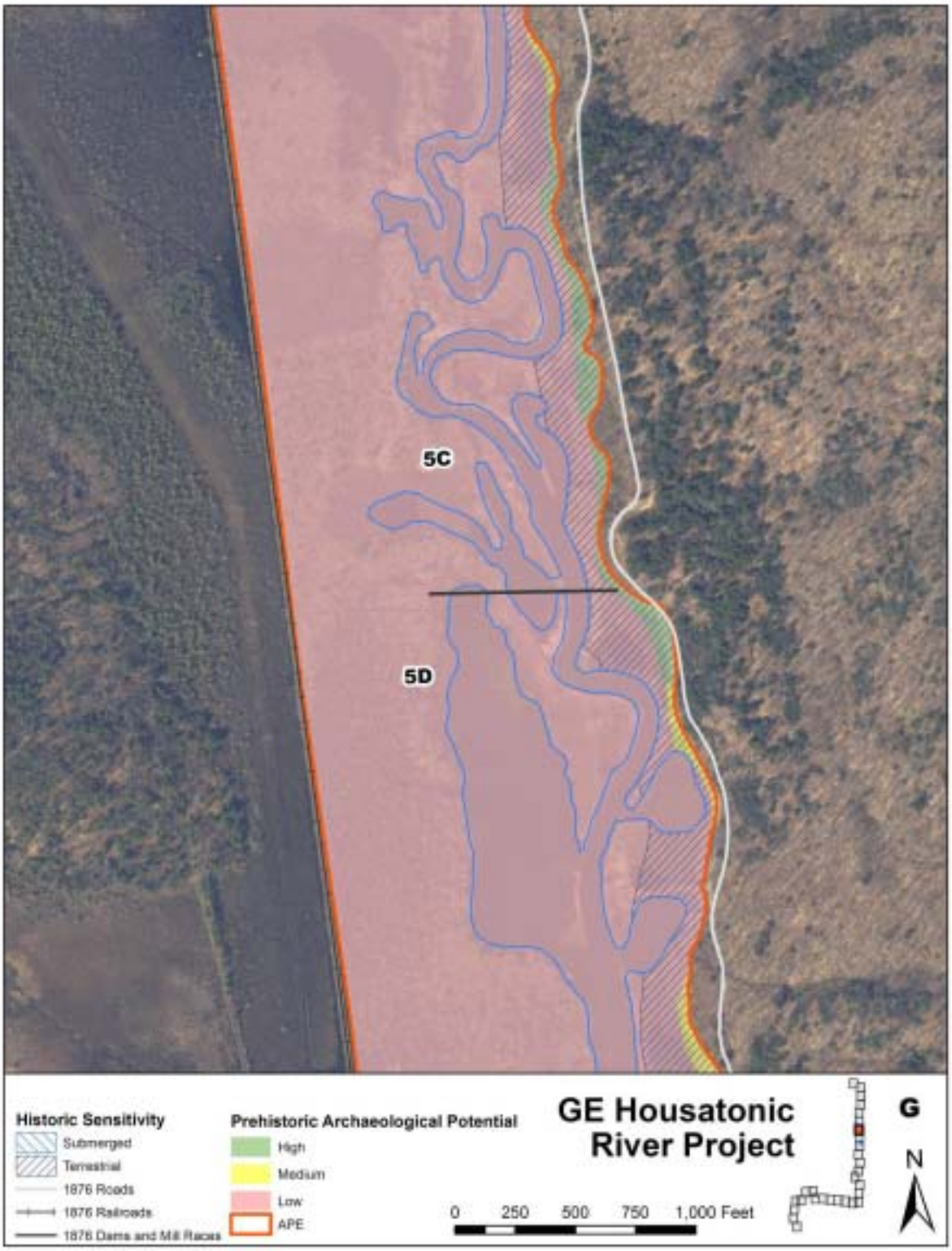



Figure 13. Archaeological Sensitivity Map, Sheet G.

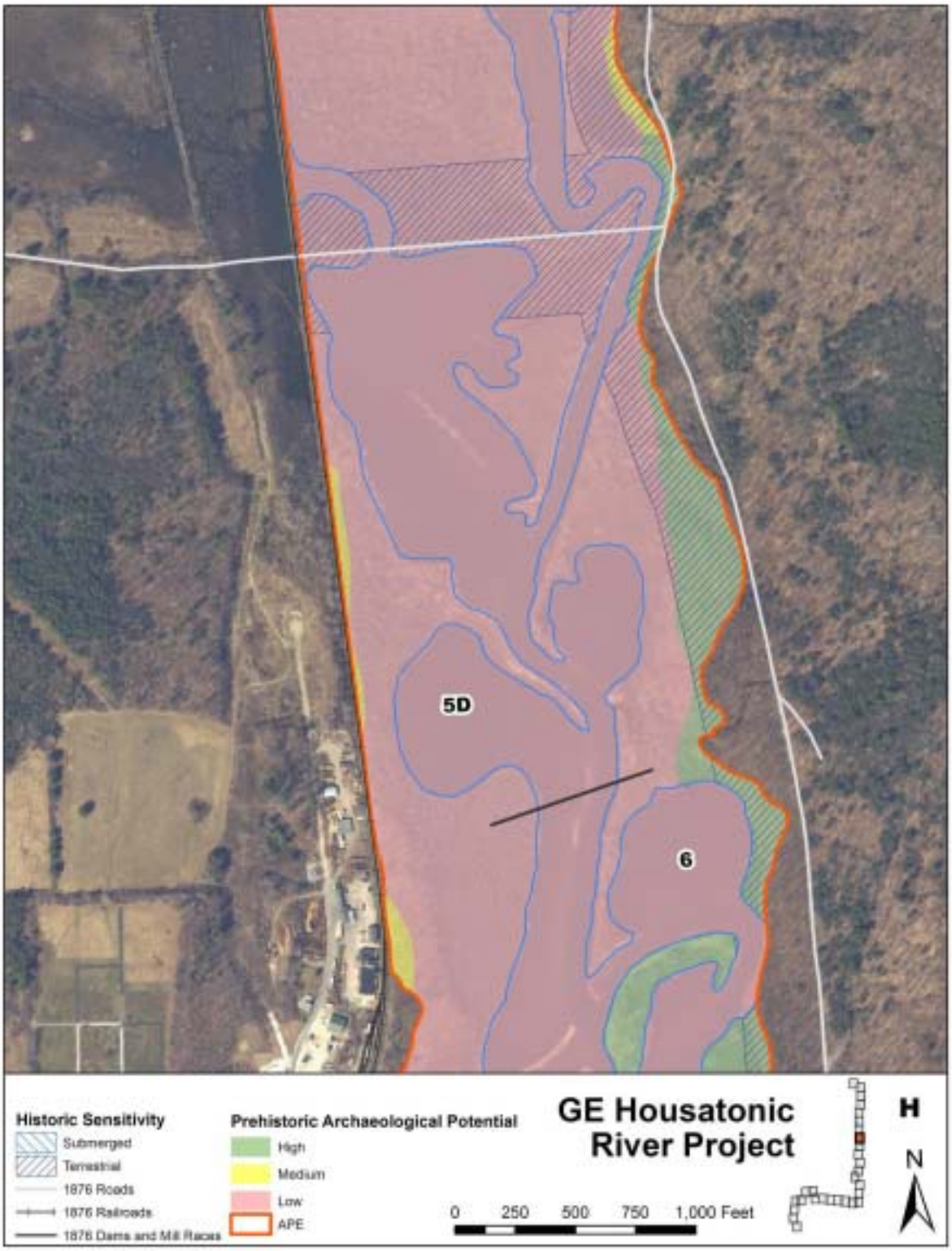
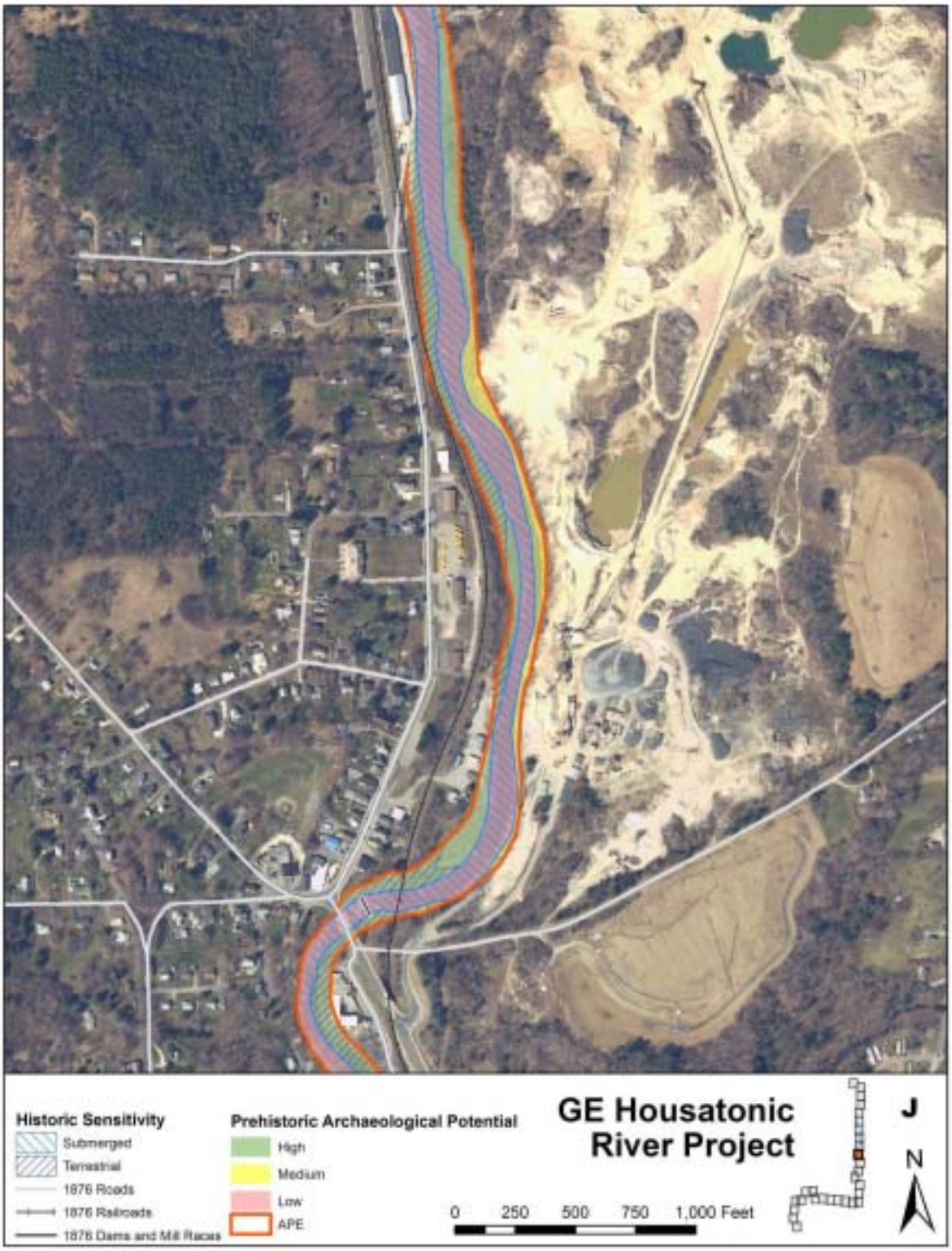



Figure 14. Archaeological Sensitivity Map, Sheet H.

Figure 15. Archaeological Sensitivity Map, Sheet I.

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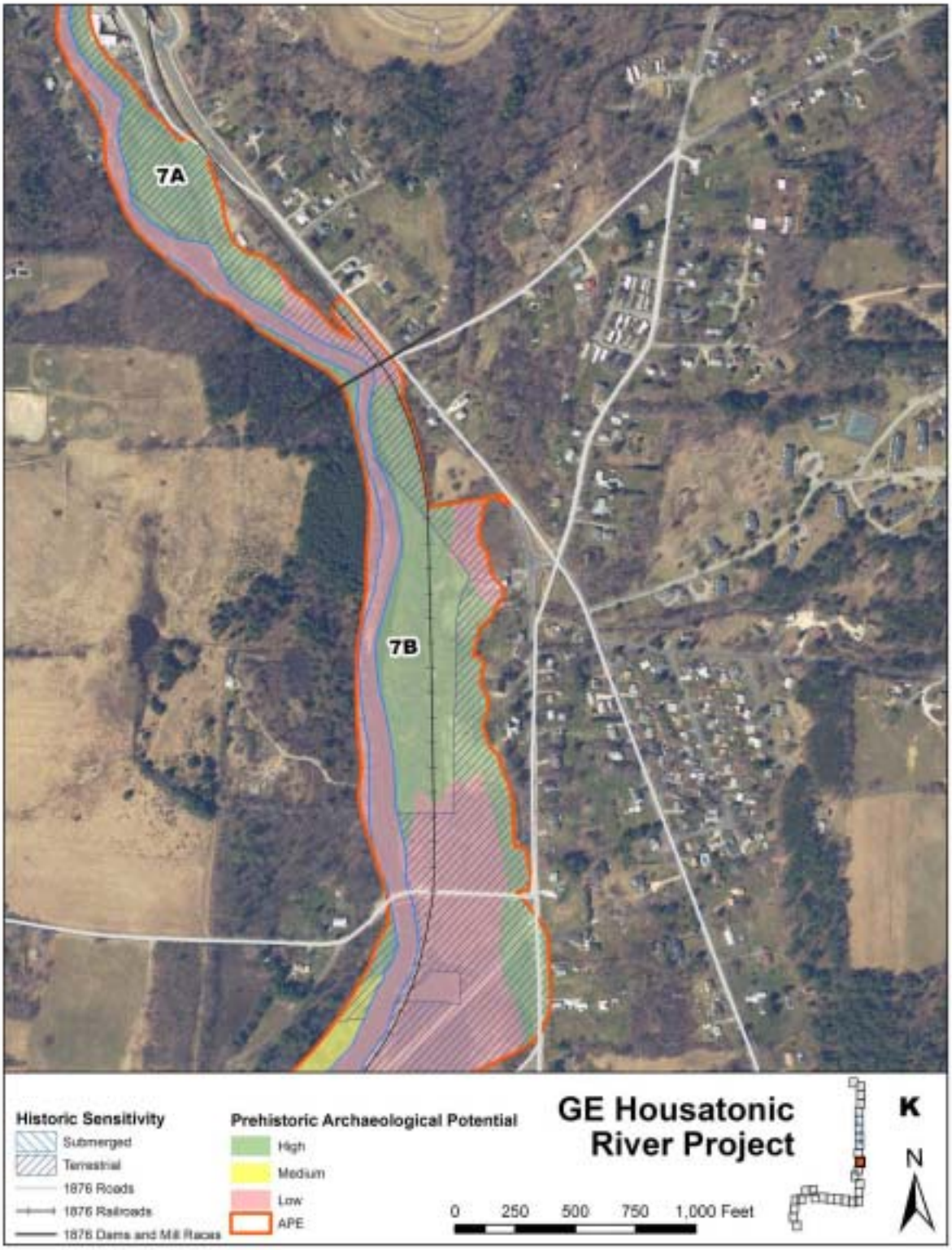


Figure 17. Archaeological Sensitivity Map, Sheet K.

Figure 18. Archaeological Sensitivity Map, Sheet L.

Figure 19. Archaeological Sensitivity Map, Sheet M.

Figure 20. Archaeological Sensitivity Map, Sheet N.

Figure 21. Archaeological Sensitivity Map, Sheet O.

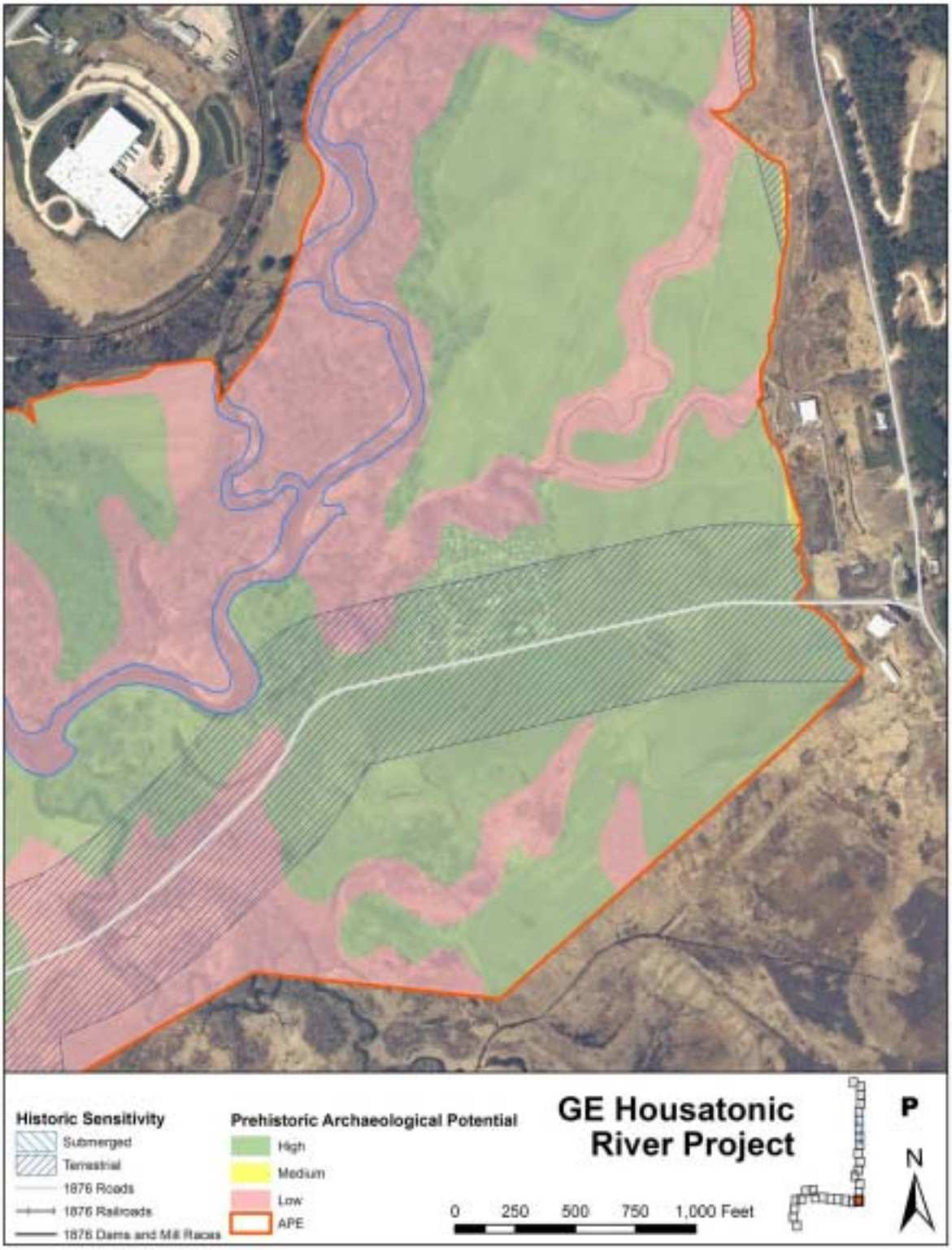


Figure 22. Archaeological Sensitivity Map, Sheet P.

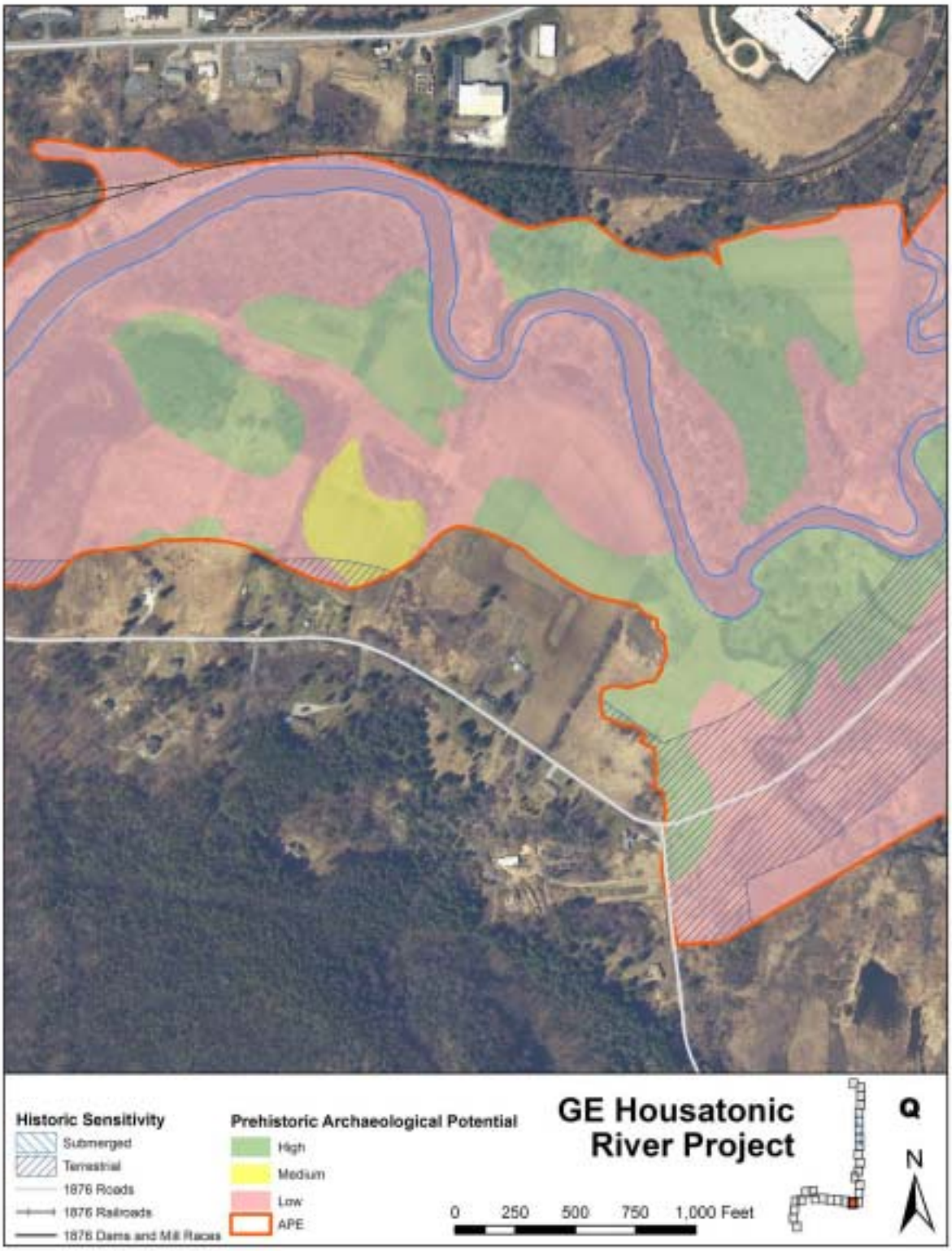


Figure 23. Archaeological Sensitivity Map, Sheet Q.

Figure 24. Archaeological Sensitivity Map, Sheet R.

Figure 25. Archaeological Sensitivity Map, Sheet S.

Figure 26. Archaeological Sensitivity Map, Sheet T.

Figure 27. Archaeological Sensitivity Map, Sheet U.

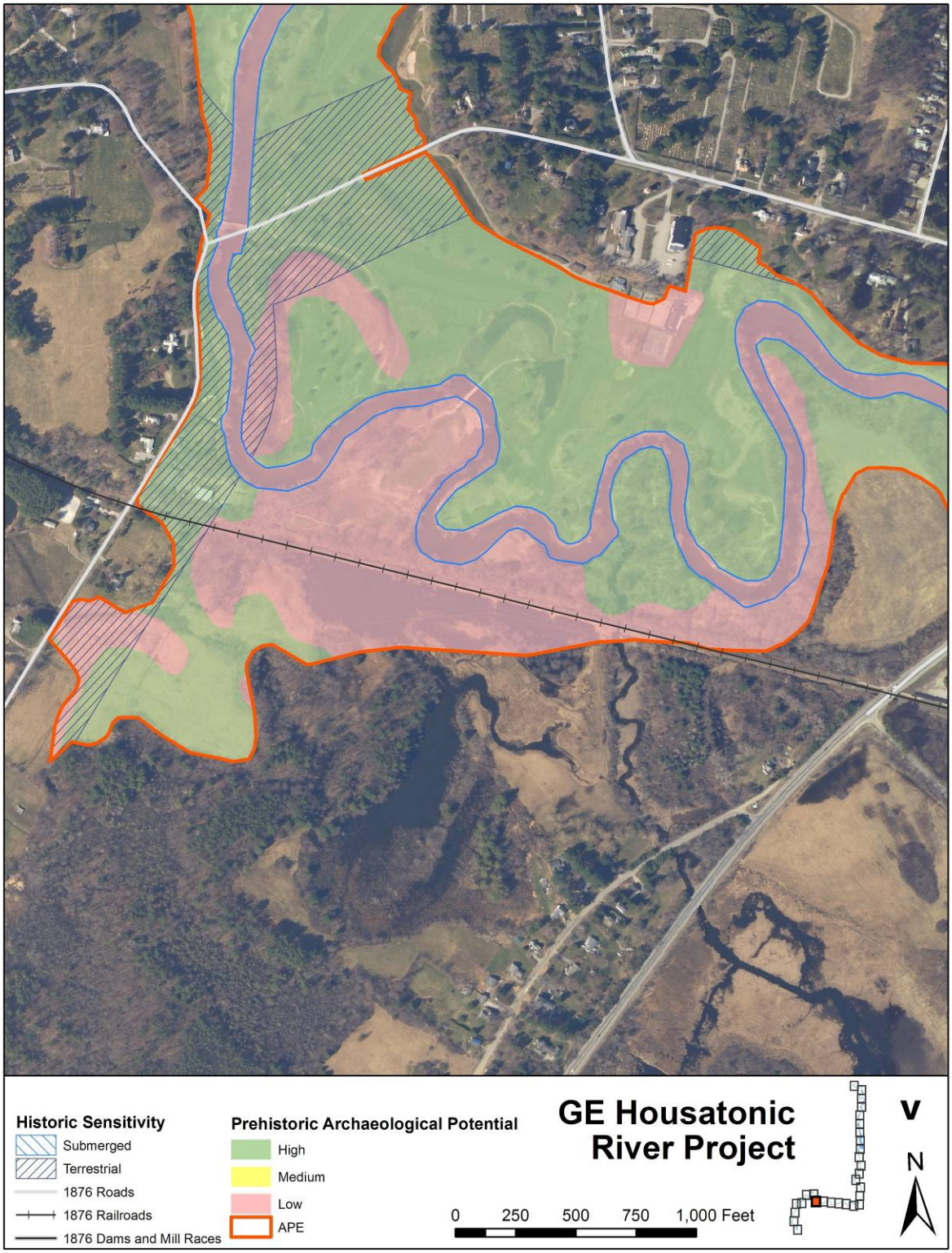


Figure 28. Archaeological Sensitivity Map, Sheet V.

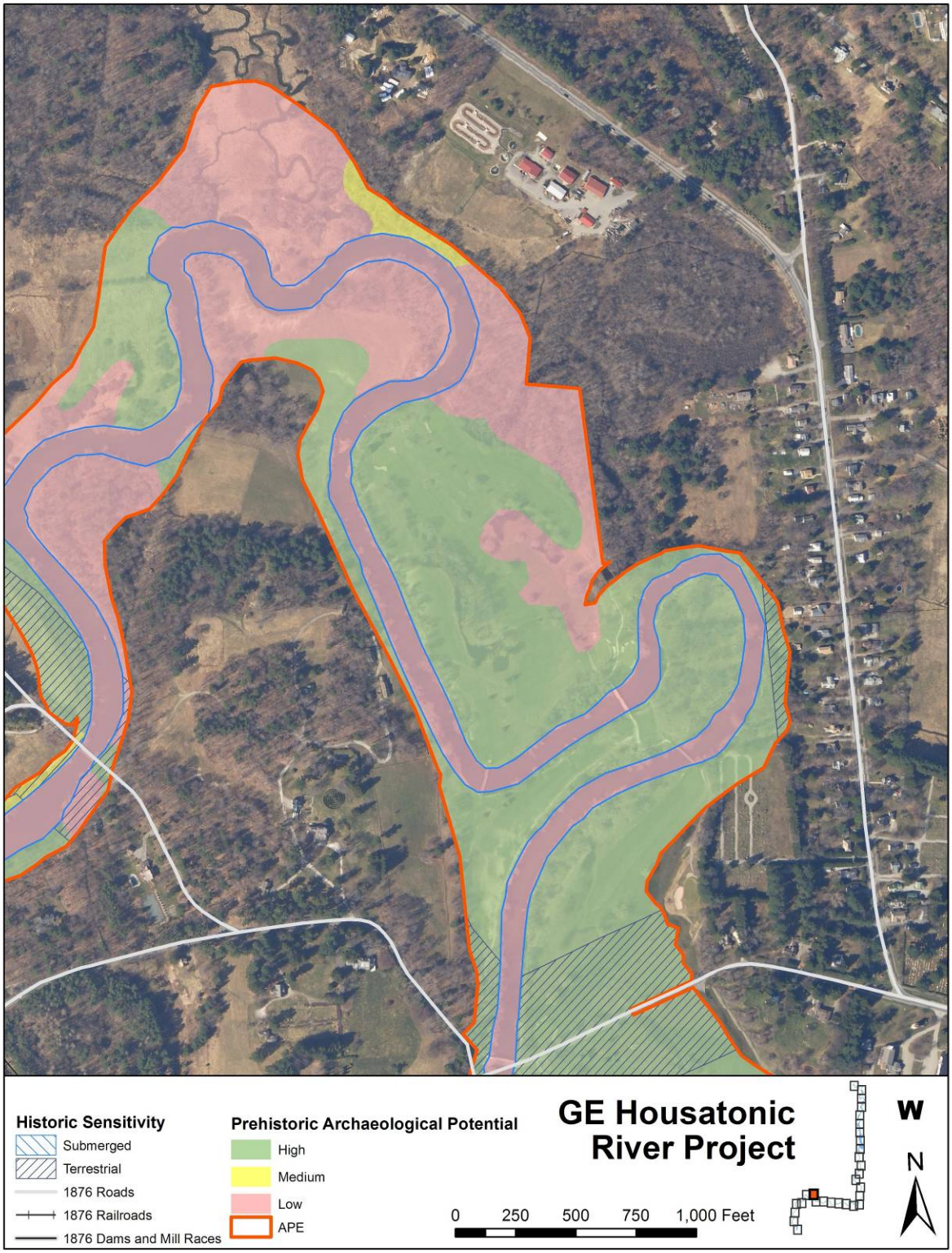


Figure 29. Archaeological Sensitivity Map, Sheet W.

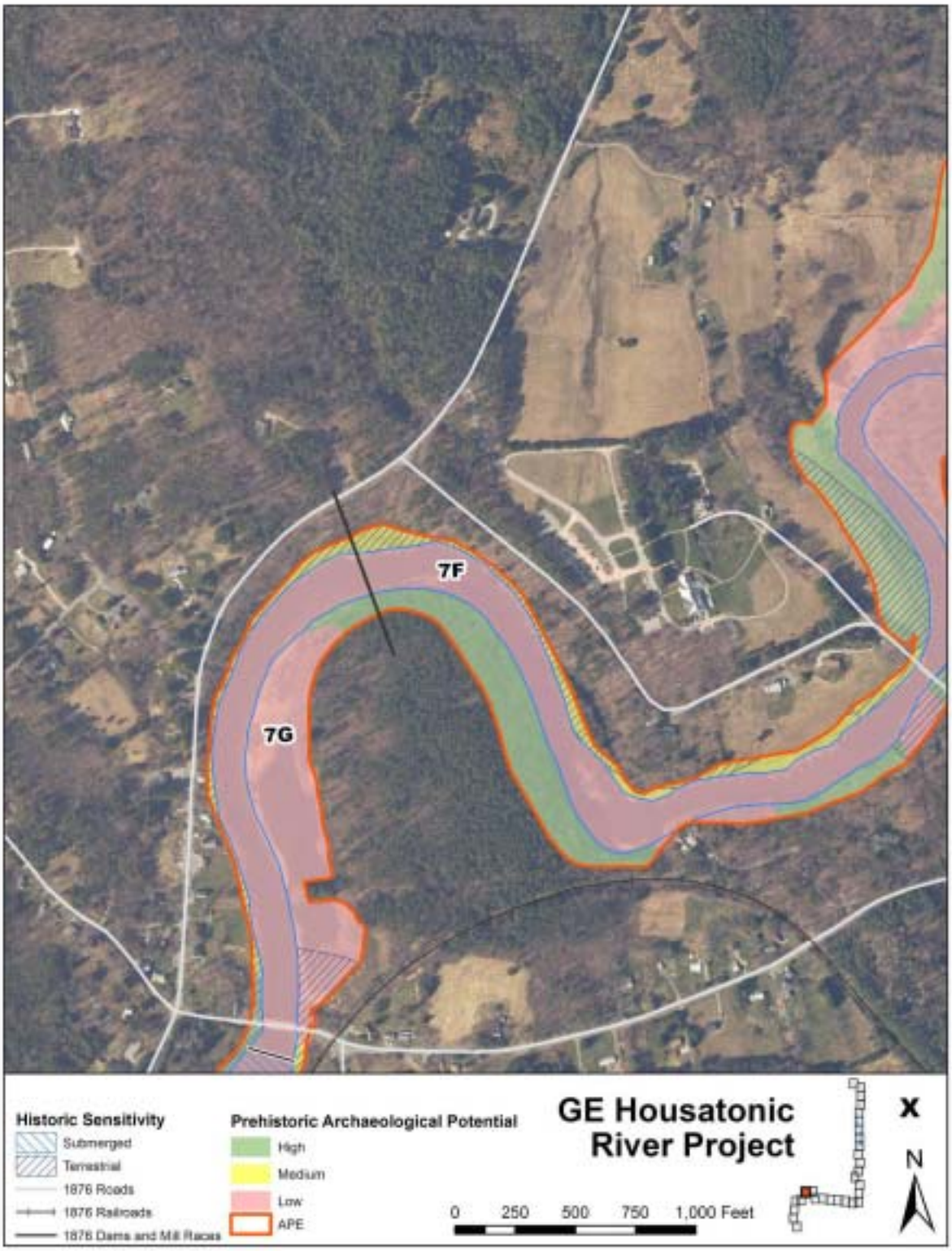


Figure 30. Archaeological Sensitivity Map, Sheet X.

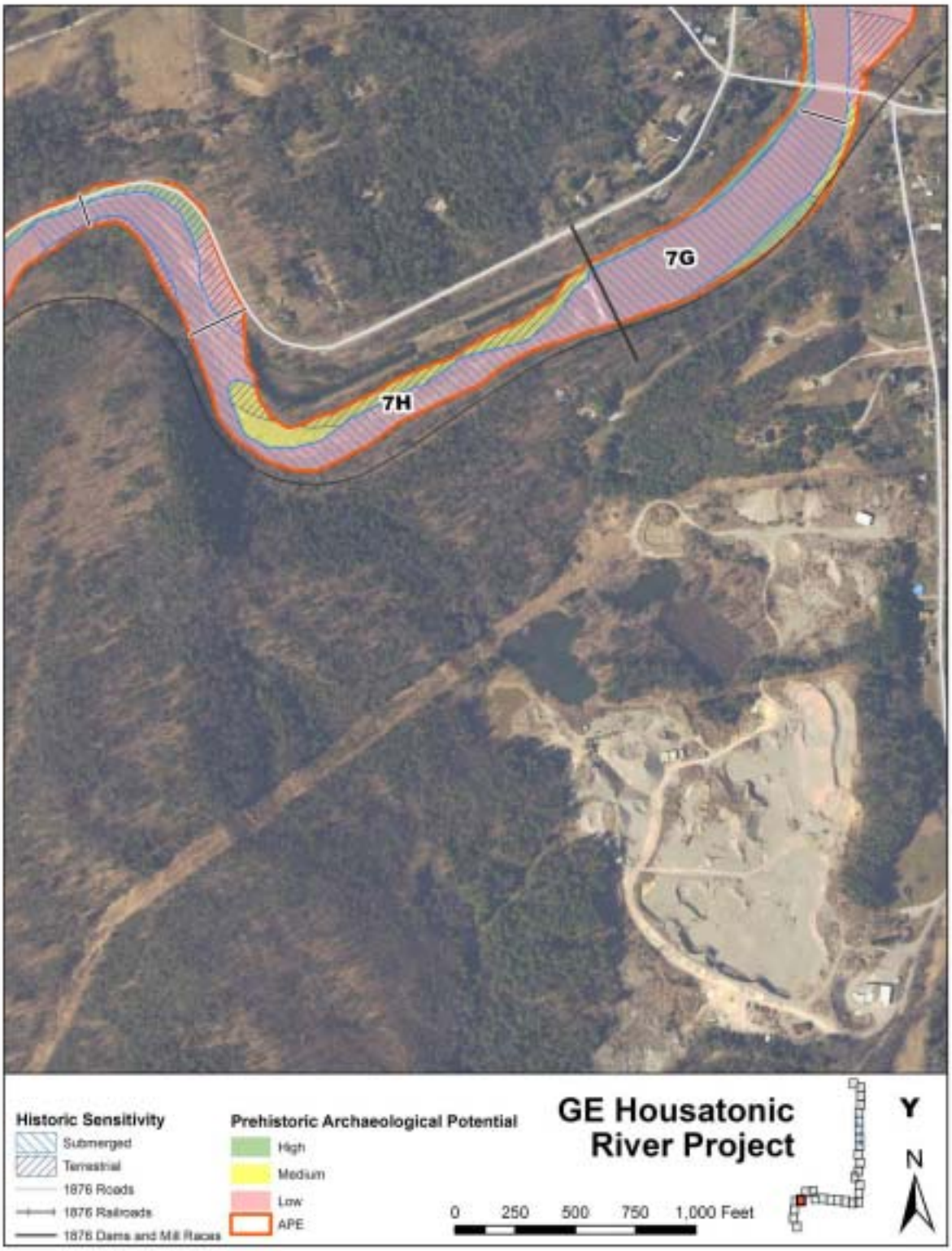


Figure 31. Archaeological Sensitivity Map, Sheet Y.

Figure 32. Archaeological Sensitivity Map, Sheet Z.

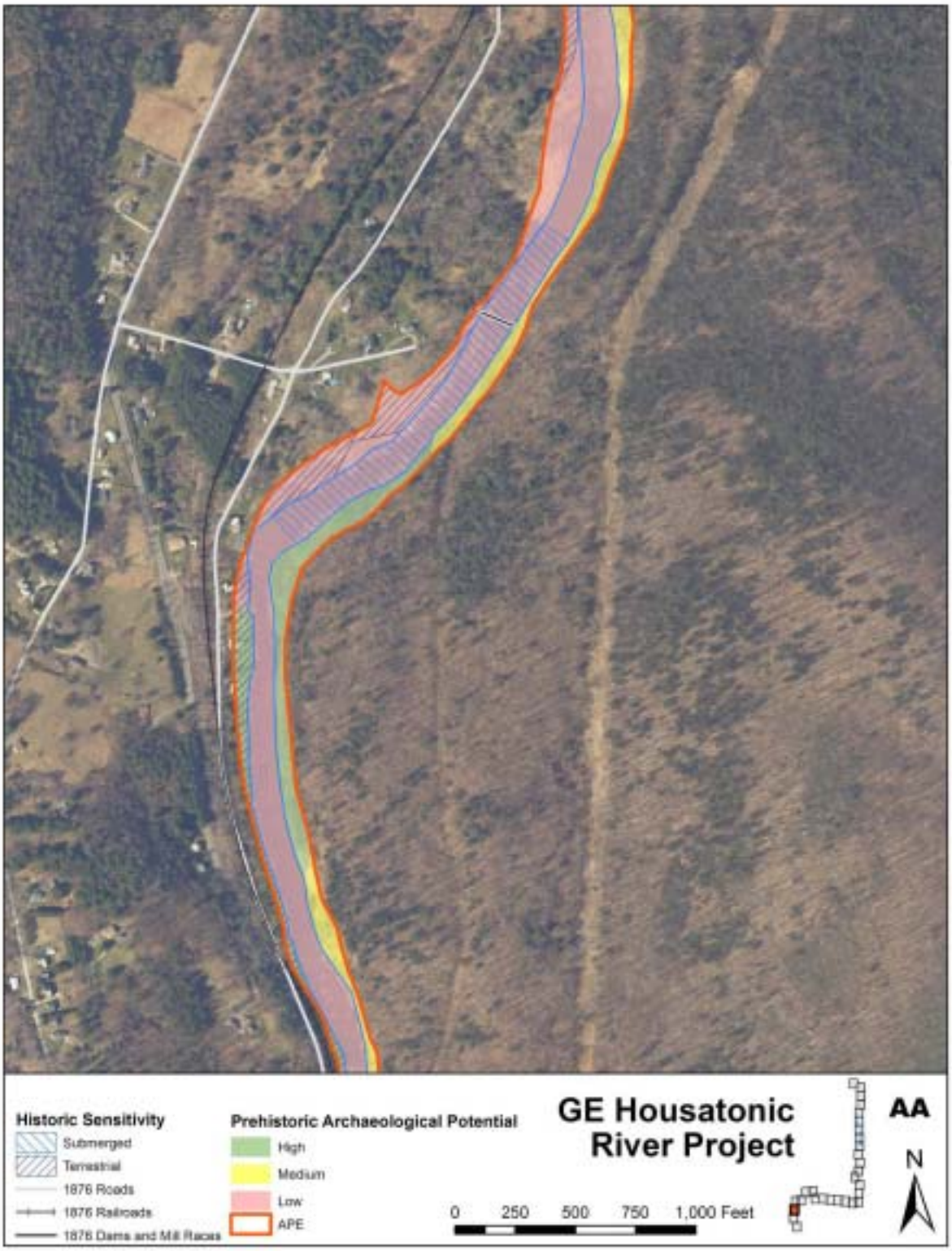


Figure 33. Archaeological Sensitivity Map, Sheet AA.

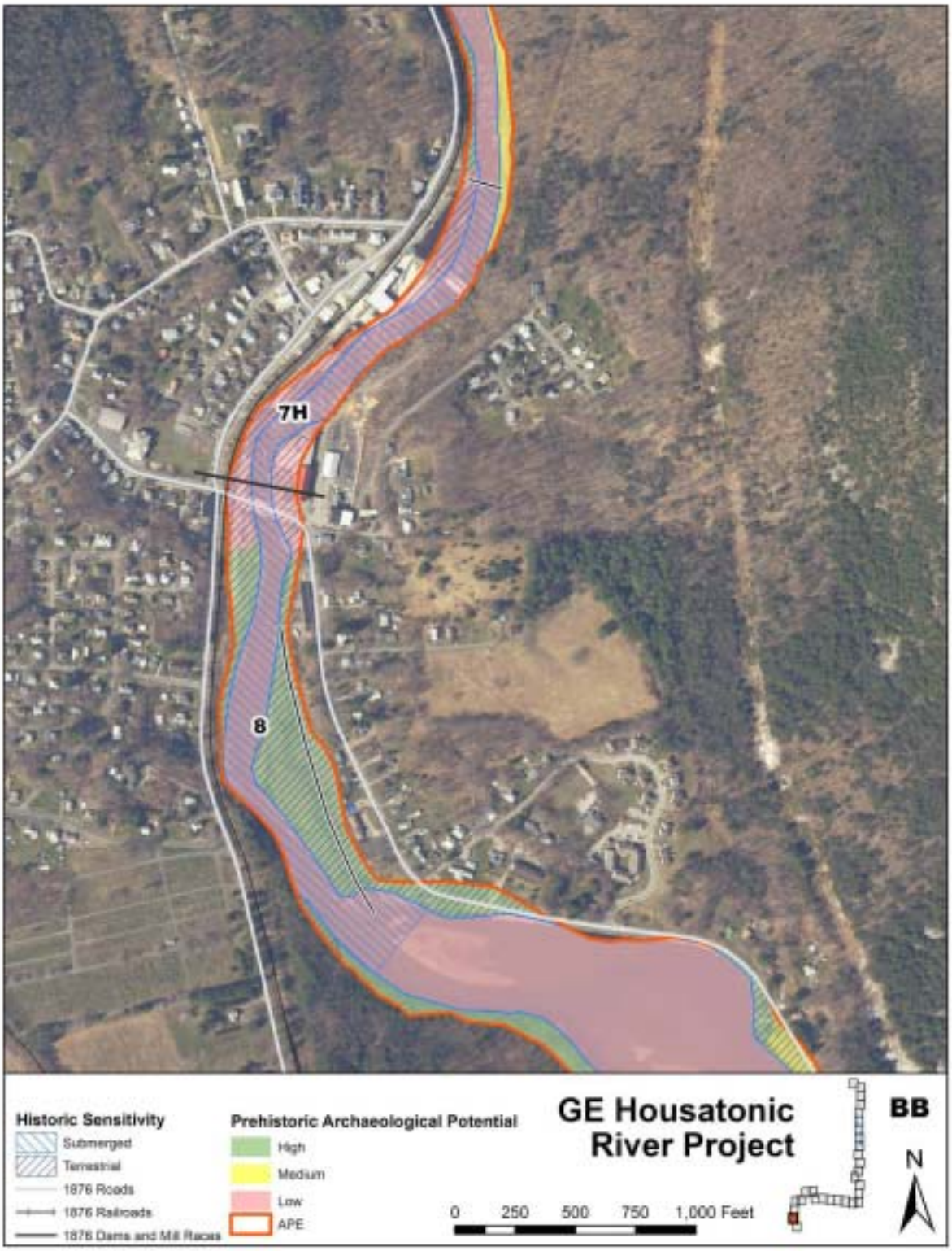


Figure 34. Archaeological Sensitivity Map, Sheet BB.

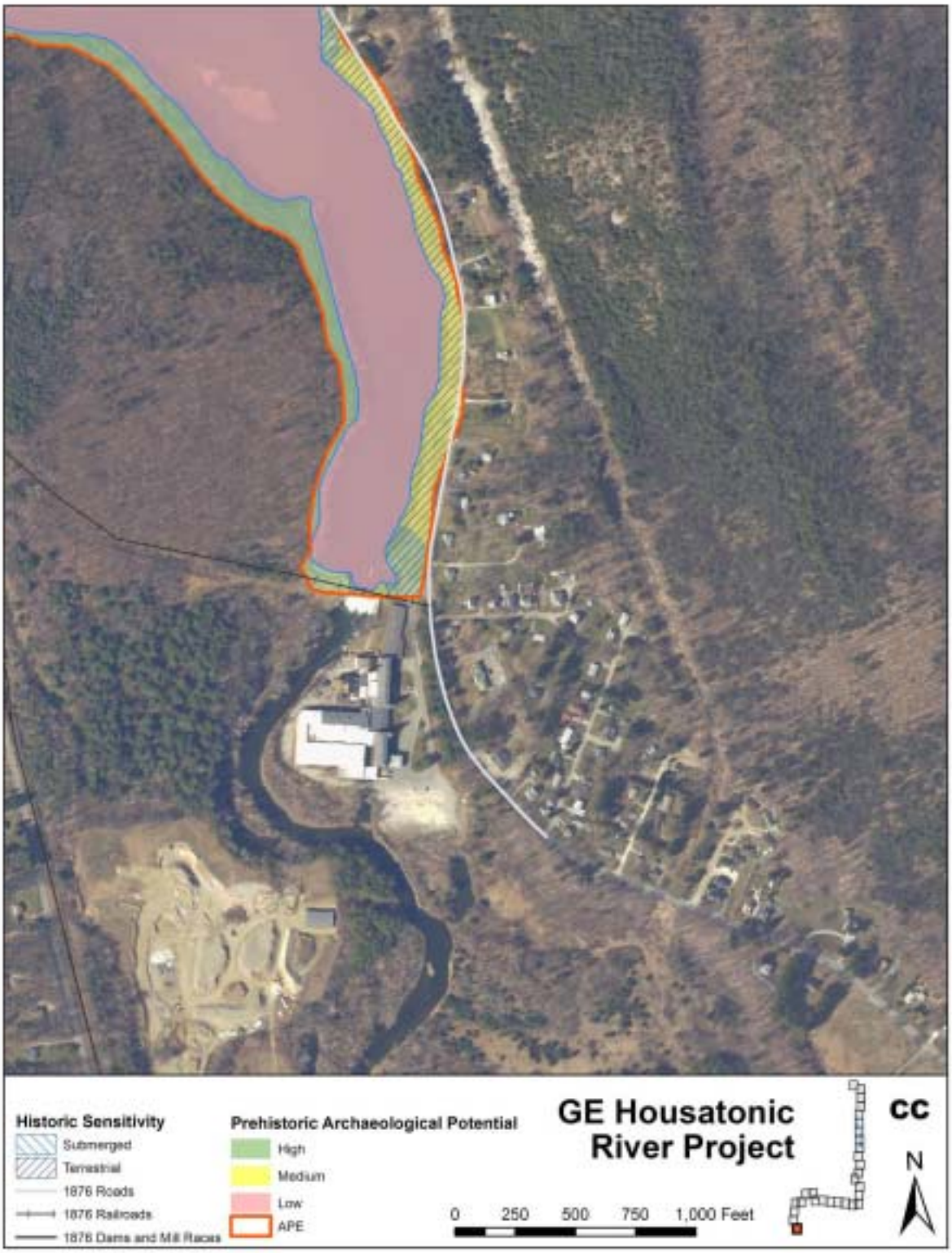


Figure 35. Archaeological Sensitivity Map, Sheet CC.

# 5.0 SUMMARY OF CULTURAL RESOURCE ISSUES BY REACH

## 5.1 Reach 5 (Confluence to Head of Woods Pond)

### 5.1.1 Reach 5 Terrestrial & Submerged Archaeological Resources

#### 5.1.1.1 Reach 5 Prehistoric Sites

The floodplain from the north end of the project (Reaches 5A and 5B) down to the New Lenox Road has many areas of high potential for containing Native American archaeological sites (see Figure 7 through Figure 9). There are extensive, well-drained floodplain terraces, and the background data document numerous previously recorded sites in the area and in similar settings. The area around the confluence of the West and East Branches and the confluence of the Housatonic with Sackett Brook has one of the highest densities of previously recorded prehistoric sites in the region. For example, within a mile upstream of the confluence on the West Branch (but out of the APE), there are six recorded prehistoric sites, and two sites are located just south of the APE.

Within the APE there are two recorded prehistoric sites (19BK166 and 19BK167) in the general area known as Canoe Meadows where Sackett Brook meets the Housatonic River. The exact location of these sites is unknown because they are recorded based on secondary reports of artifact finds and historic maps rather than from systematic archaeological surveys. 19BK166 is based on reports that Oliver Wendell Holmes "often found arrowheads on his acres"(Towle 1984:3) and on a 1783 map that depicts an "Indian Burial" on the Wendell property at Canoe Meadows on the west side of the river. On the east side of the river, site 19BK167 is located somewhere on the Audubon Canoe Meadows Sanctuary. This site record is also based on reports of past landowners finding artifacts. Also related to this location is site 19BK13. This is another site that was recorded with general locational information – in this case from multiple 19$^{th}$ century published town history accounts that describe a Native American settlement at the confluence of Sackett Brook and the Housatonic River (Bush 1839; Smith 1869).

From New Lenox Road down to the head of Woods Pond in Reach 5C (see Figure 11 through Figure 15), the project traverses a long section of low, wet poorly drained floodplain where the channel has meandered extensively. There are intermittent spots of higher, drier soils, but they are much more limited in extent than in Reaches 5A and 5B.

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Figure 36.

Figure 37.  Floodplain Fields at Audubon Canoe Meadows Sanctuary, View East from River.

#### 5.1.1.2 Reach 5 Historic Sites

There are no recorded historic period archaeological sites in the APE, and overall the areas of historic site sensitivity are limited due to the location of Reach 5 on the margins of the main area of historic settlement in Pittsfield and Lenox. Exceptions to this include an area around the Holmes Road crossing, which is an old road that has been in this general alignment since the late 18th century and a small area around the New Lenox Road crossing. This crossing is located near an historic settlement cluster, and bridge abutments from an older road crossing are located in the APE just south of the current bridge (Figure 38). Further south, in Reach 5C, the alignment of a 19th century road crosses the wetlands north of Woods Pond (see Figure 14). There is no road there now, but the road bed is visible on aerial photos.

The river channel itself is of more limited concern in this stretch, but the preliminary reconnaissance did observe two rock mounds at the edge of the channel. These could be historic features or possibly remnants of Native American fish weirs and should be investigated further. However, Reach 5 does not have the concentration of dams and mills seen in areas further downstream in Reach 7.

Figure 38. Stone Abutments for Former New Lenox Road Crossing, View East.

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Figure 39.

#### 5.1.2 Reach 5 Historic Structures

Much of Reach 5 is situated in broad stretches of vegetated floodplain located at some distance from areas of historic settlement. However, one key area of historic structures concentration is located along Holmes Road south of where it crosses the river. The estate of Oliver Wendell Holmes (see Figure 8) is located on a hill overlooking the floodplain, and the campus of Miss Hall's School is located across the road from the Holmes property. In addition, Herman Melville's Arrowhead is located a short distance south on a hillside that overlooks the Housatonic floodplain. Moving south through Reach 5, the project area encounters a small cluster of older houses near the New Lenox Road crossing before continuing through a long section north of Woods Pond that is near very few residences. East New Lenox Road and Woodland Road parallel the east side of the APE in Reach 5 and may contain scattered historic structures.

### 5.2 Reach 6 (Woods Pond)

#### 5.2.1 Reach 6 Terrestrial & Submerged Archaeological Resources

##### 5.2.1.1 Reach 6 Prehistoric Sites

There are no recorded prehistoric sites in or near the Reach 6 APE, but the eastern and southern margins of Woods Pond are relatively level and well drained and have high potential for

containing prehistoric archaeological sites. Woods Pond is a shallow, man-made impoundment, and there may be submerged landforms with high potential for containing prehistoric sites adjacent to the course of the former river channels still visible in the pond.

#### 5.2.1.2 Reach 6 Historic Sites

There are no recorded historic sites in or near the Reach 6 APE, but the eastern and southern margins of Woods Pond have some historic sensitivity due to the proximity of a 19th century road. The current pedestrian bridge over the river at the outlet of Woods Pond is located at historic crossing, and the remnants of the late 19th century dam are located a short distance downstream (Figure 40). Both sides of the river from the bridge to the dam should be considered the have a high potential for historic sites.

### 5.2.2 Reach 6 Historic Structures

The crossroads of Lenox Station is situated near the south end of Woods Pond, and the NRHP-listed Lenox Train Station (Figure 41) is located there just west of the pond.

Figure 40. Dam/Bridge Remnants Just North of Current Woods Pond Dam, View West.

Figure 41. Train Depot, Lenox Station, View North.

## 5.3 Reach 7 (Woods Pond Dam to Rising Pond)

As discussed above, this entire reach has conservatively been included in the Archaeological APE. However, it should be kept in mind that, apart from the impoundments in this reach, the river channel has not been evaluated for active remediation under any of the sediment remedial alternatives. Accordingly, it is highly unlikely that the Rest of River remediation would affect any cultural resources within or adjacent to the sections of that channel outside the impoundments.

### 5.3.1 Reach 7 Terrestrial & Submerged Archaeological Resources

#### 5.3.1.1 Reach 7 Prehistoric Sites

From Woods Pond Dam to the Columbia Mill dam, the river is situated in a narrower channel with limited floodplain. Reaches 7A and 7B have narrow strips of high potential terrain, primarily along the east side of the river (see Figure 15 through Figure 17). Reaches 7C and the upper end of Reach 7D through Lee to the Massachusetts Turnpike (see Figure 18 through Figure 20) also have narrow strips of prehistoric high potential. Although these areas are small in extent their location adjacent to former rapids in the river would have been prime spots for prehistoric fishing encampments.

Between the Turnpike and South Lee (see Figure 20 through Figure 24), the valley widens out again, and there are extensive stretches of elevated, well-drained floodplain terraces have high

potential for containing sites. A concentration of recorded sites is located in this region. Four of these sites are located within the APE (19BK145, 19BK147, 19BK148, and 19BK156) and two more abut the south edge of the APE (19BK146 and 19BK157). All include multiple Late Archaic, Early Woodland, and Late Woodland components (Jones and Berkland 1992; Macomber et al 1992). Site 19BK146 was recommended as eligible for the NRHP (Macomber 1992:32).

Between South Lee and Stockbridge (Reach 7E and the upper part of Reach 7F – see Figure 25 and Figure 26), the valley narrows and the areas of high prehistoric potential are smaller. One location of particularly high potential is at the confluence with Kampoosa Brook, which enters the Housatonic on the north side just east of Stockbridge (see Figure 26). The brook drains an extensive upland wetland complex north of Stockbridge outside the current APE where a number of NRHP-eligible prehistoric sites have been documented (Johnson and Mulholland 1995)

Starting at the first pedestrian footbridge in Stockbridge and extending downstream to the Glendale North Road bridge (see Figure 27 through Figure 29), Reach 7F traverses an area of broad, well-drained floodplain with extensive areas of high potential for Native American sites of both the prehistoric and historic periods. Stockbridge was founded as a mission village for Native Americans in the 18th century, and many recorded archaeological sites are located in the area.

From Glendale to Rising Pond (Reaches 7G and 7H), the river runs through a steep-sided narrow valley with almost no floodplain (see Figure 30 through Figure 34). As with the similar section in Lee, although these areas are small in extent their location adjacent to former rapids in the river would have been prime spots for prehistoric fishing encampments. Recorded site 19BK-124 in Housatonic marks the general location of 19$^{th}$ century finds of ground stone tools.

*figure removed from this version*

Figure 42.

*figure removed from this version*

Figure 43.

#### 5.3.1.2 Reach 7 Historic Sites

From Woods Pond Dam to the Mass Turnpike, the river is in a narrower channel with limited floodplain. This section has numerous dam remnants and was the location of extensive 19th century industrial resources such as mills and iron and glass furnaces. In Reach 7A, the Valley Mill was located on the east bank of the river just downstream from Woods Pond Dam (see Figure 15), and an extensive complex of industrial facilities was located in Lenox Dale, which was earlier known as Lenox Furnace (see Figure 16). Iron smelting began here along the river in the late 18th century, and in 1853, glass works were built alongside the iron furnaces. After the furnaces declined in the late 19th century, Smith Paper Company bought one of the buildings on east bank of the river just below the Mill Street bridge and converted it into the Niagara paper mill in 1903, which is still standing. The Centennial Mill was located a short distance downstream on the east bank but has since been removed. A local history source reports that the dam at Lenox Dale was removed in 1969 (Cahalen 1993:2), but the remnants of this timber crib structure are still visible in the channel. Another published local history source notes that, as of 1967, remnants of machinery from the glass works were sometimes still visible in the river at Lenox Dale (Corcoran 1967:4). Based on these multiple data sources, the river channel in Lenoxdale should be considered to have a high potential for submerged historic resources.

Moving south into Reach 7C, the Columbia paper mill and associated dam (still existing) was built at a sharp bend in the river just north of Lee. The village of Lee has had an extensive complex of industrial facilities along the river starting at the south end of Reach 7C (see Figure 19) and continuing into the northern portion of Reach 7D through to the south end of the village (see Figure 20). In the early 19th century, both sides of the river were lined with a variety of small mills and factories of various kinds, including woolen mills, a powder mill, and furniture shops. In the mid-19th century, ownership of many of these operations was consolidated and the sites were converted primarily to paper mills. This includes the Eagle Mill complex at the north side of the village (part of which is still standing) and the large Housatonic Mill, which was located on the east side of the river near the intersection of Railroad Street and Main Street. At least two dams were located in this section of river, and a canal was dug along the east bank of the river that extended from the Center Street bridge down past the Housatonic Mill and emptied back into the river just below Park Street. The banks of the river and the river channel itself (Figure 45) should be considered to have a high potential for buried and submerged historic resources in this section.

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Figure 44.

Figure 45.  Location of Former Dam South of W. Center Street in Lee, View South.

The broad section of floodplain between Lee and South Lee has more limited potential for historic sites as there was no water powered industry and sparser settlement. However, Reach 7E and the upper part of Reach 7F traverse an area of historic settlement and industry in South Lee (see Figure 25). A grist mill and a furnace were established here in the late 18th century, and in 1806 a paper mill was added to the complex along with a fulling mill (Smith 1978:7). Similar to what happened in Lee later in the 19th century, the complex of small mills was torn down and consolidated, and the large brick Willow paper mill that still stands was built in 1876. Upstream from what is now called the Willow Dam, the north side of the river is lined with late 18th and early 19th century residences as far as the Meadow Street bridge.

Except for the areas near historic road crossings, the rest of Reach 7E through Stockbridge has more limited areas of sensitivity for historic Euroamerican archaeological sites. However, as noted previously, the Stockbridge area has a high sensitivity for Native American sites relating to the 18th century Missionary village settlement.

In the lower part of Reach 7G and the upper part of 7H, the community of Glendale has potential for historic sites along the banks and in the channel relating to 19th century mills and a hydroelectric facility (see Figure 31). The existing Glendale Hydroelectric plant is listed on the NRHP, and in the mid to late 19th century, there was another dam located just downstream from the Glendale Middle Road bridge. The Glendale Woolen Mills were located here on the west bank of the river, and the train depot was on the east bank. At the sharp bend in the river just below the current hydroelectric plant, the Callender Paper Mill was located on the east bank of the river, and a bridge connected it to what is today Route 183.

Further downstream in Reach 7H, but still in the Town of Stockbridge, another locus of industrial activity was situated on the river at what is today called Furnace Road and Apple Street, east of Route 183 (see Figure 33). In the early 19th century, an Iron Furnace was located here, and this was later replaced by mills associated with the Monument Mills downstream in Housatonic. A dam and small impoundment existed here into the early 20th century.

Reach 7H continues downstream to the Park Street Bridge in Housatonic. This stretch of river from the Stockbridge line to the bridge is lined with the remnants of the Monument Mills complex, which was incorporated in 1850, and it contains three main mill buildings, two dam sites, and associated facilities (see Figure 34).

### 5.3.2 Reach 7 Historic Structures

In Reach 7, the river traverses an extensive section of historic paper mills, starting at Lenox Dale and continuing all the way to Housatonic. At Lenox Dale (see Figure 16) is the early 20th century Niagara Mill (Figure 46), and between Lenox Dale and Lee there are a number of early 19th century houses along Columbia Street adjacent to the east side of the river. The Golden Hill Bridge was listed on the NRHP, but it has recently been replaced by a new structure. In Lee, some of the buildings of the Eagle Mill complex (Figure 47) still stand on the east side of the river, and the project abuts the NRHP-listed Lower Main Street Historic District (see Figure 19).

In South Lee (see Figure 25), there is an extensive NRHP historic district lining Pleasant Street (Rte 102) along the north side of the river (Figure 48), and the historic Willow Mill (Figure 49) is located on the south side of the river. Moving west and south along the river, the village of Stockbridge along the north side of the river (see Figure 27 and Figure 28) encompasses multiple NRHP-listed historic districts (Figure 50) of 18th, 19th, and early 20th century houses, and historic estates are situated on the hillside across the river. The small hamlet of Glendale also has a number of historic houses (Figure 51) along the river, and the Glendale Power house (Figure 52) is listed on the NRHP (see Figure 31). At the south end of Reach 7, the village of Housatonic (see Figure 34) has multiple historic mill buildings, including the Monument Mills complex (Figure 53) flanking the river.

Figure 46. Niagara Mill, Lenox Dale, View South.

Figure 47. Eagle Mills, Lee, View North/Northeast from Rte. 20 Bridge.

Figure 48. Merrill Inn, South Lee, View South.

Figure 49. Willow Mill, South Lee, View South.

Figure 50. Streetscape, Main Street, Stockbridge, View West.

Figure 51. Frame House, Glendale, View Southeast.

Figure 52. Glendale Power Station, Glendale, View Southeast.

Figure 53. Monument Mills, Housatonic, View North from Route 183 Bridge.

## 5.4 Reach 8 (Rising Pond)

### 5.4.1 Reach 8 Terrestrial & Submerged Archaeological Resources

#### 5.4.1.1 Reach 8 Prehistoric Sites

Reach 8, the Rising Pond impoundment, extends from the Park Street bridge to the Rising Pond dam. There are no recorded prehistoric sites in this section, but the sensitivity model indicates that the west shore of the pond has high potential for containing such sites.

#### 5.4.1.2 Reach 8 Historic Sites

In the upper section of Reach 8, within the village of Housatonic (see Figure 34), the Owen Paper Company had a complex of mill buildings and other structures along the river beginning as early as 1856. The Owen buildings were spread along a canal dug along the east bank of the river. South of the village, H.D. Cone built what is now the Rising Paper Mill in 1876.

### 5.4.2 Reach 8 Historic Structures

The Rising Paper Mill mentioned has been listed on the NRHP since 1975 (Figure 54). It is located at the south end of Rising Pond, just south of the end of Reach 8 (see Figure 35). In addition, a number of potentially historic houses are located along Park Street along the east side of Rising Pond.

Figure 54.  Rising Paper Mill, Housatonic, View South.

## 6.0 NEXT STEPS

This initial Phase IA CRA Report has summarized the background information obtained and sensitivity modeling completed to date. Additional data will be needed to complete the Phase I cultural resources investigations. Such data needs will depend on the scope and locations of the remedial actions for the Rest of River, since additional Phase I investigations, particularly field investigations, will be focused on areas that would be subject to or affected by those remedial actions. Depending on the extent and locations of those remedial actions, such further investigations and evaluations may be necessary to:

- refine and field test the sensitivity models;
- determine whether archaeological or historic resources are actually present in areas of high potential that are targeted for remediation;
- evaluate whether any archaeological or historic resources present are potentially significant (i.e., potentially eligible for the NRHP); and
- determine whether the remediation could have an adverse effect on any such potentially significant resources.

Once remedial actions for the Rest of River have been finalized a supplemental work plan for additional investigations and evaluations will be prepared and submitted to EPA for approval on a schedule to be determined in consultation with EPA. Areas that may require additional investigation, depending on the nature of potential impacts, include:

- Floodplains or unprotected riverbank areas with known cultural resources;
- Floodplains or unprotected riverbank areas with high potential but no recorded resources;
- River channel areas with high potential; and
- Areas of known or suspected historic structures within a Historic Architecture APE.

It is possible that, after the remedial actions for the Rest of River are known, additional Phase IA investigations may be necessary to further refine the information presented in this report, focused on the areas that would be subject to or affected by the remedial actions. Those additional Phase IA investigations may also include consultation with contacts for Native American Tribes (see Appendix A) regarding the potential locations of TCPs.

Once Phase IA has been completed, it is anticipated that a Phase IB cultural resources survey will be conducted, which may include terrestrial and underwater archaeological investigations and potentially an architectural survey, as necessary to determine the extent to which potentially significant cultural resources may be impacted by the remedial actions. These activities would best be conducted during the remedial design phase so that they can integrate the survey data together with information from the remedial design. These activities will be documented in a Phase IB Cultural Resources Survey Report, which will follow state and federal guidelines for a

Phase IB survey report. That report will also assess whether areas containing potentially significant cultural resources can be avoided in the remediation program consistent with the overall goal of that program. If the resources cannot be avoided, the report will evaluate, to the extent possible with the available data, whether the resources in question meet the criteria for eligibility for the NRHP. If additional data or other information are needed to complete these evaluations, the Survey Report will propose the collection of such additional data or information.

Ultimately, if such additional investigations and evaluations indicate that the remediation would result in an adverse effect on potentially significant archaeological or historic resources and that such effects cannot be avoided, then a further, Phase II work plan may be necessary in the future to evaluate whether the archaeological or historic resources in question in fact meet the criteria for eligibility for the NRHP.

The schedule for these steps will be coordinated with EPA following finalization of the remedial actions for the Rest of River.

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## APPENDIX A

## NATIVE AMERICAN TRIBES FOR CONSULTATION

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# APPENDIX B

# DETAILED CULTURAL CONTEXTS

This appendix provides a more detailed synthesis of current information available concerning the prehistory and history of the general region around the project area. These cultural contexts provide a basis for understanding and evaluating any individual archaeological resources that are associated with portions of the project area.

## B.1 Paleoindian Period

Human occupation of northeastern North America began soon after the continental ice sheet began to recede northward, once again exposing land. Although there are indications of earlier arrivals further south, the best current evidence suggests that approximately 13,000 years before the present (B.P.), humans began moving into what is now New England. This first period of prehistory is called the Paleoindian period; it lasted until approximately 9,500 B.P. Archaeological sites dating to this time period are most commonly recognized by the presence of distinctive biface stone tools called fluted points. Because of extreme age and low population densities, Paleoindian sites are relatively rare and have often been disturbed by more recent natural events and human activities.

Although relatively few Paleoindian sites have been excavated in the Northeast, there have been documented discoveries in the general region near the Housatonic drainage. In 1977, the American Indian Archaeological Institute (AIAI) excavated a site known as 6LF21 on the Shepaug River in northwestern Connecticut (Moeller 1980), and this site produced a radiocarbon date of 10,190 RCY B.P. More recently, the Hidden Creek site in Mashantucket, Connecticut (Jones & Forrest 2003) has yield evidence of Paleoindian occupations.

Most of the evidence for Paleo-Indian occupations in the region comes from isolated finds of the distinctive fluted points from scattered locations. Many finds appear to be associated with former postglacial lake basins (Lavin 1984). In particular, surveys by the AIAI near Robbins Swamp in northwestern Connecticut have identified a number of Paleo-Indian sites around the margins of this rich ecological zone (Nicholas 1988). This area of extensive wetlands is located along the Housatonic River in Canaan, Connecticut just south of the Massachusetts border.

Traditionally, archaeologists described the Paleoindians as small nomadic bands of hunters pursuing big game (such as mammoths) as they wandered across a tundra landscape. The excavation of additional sites from this time period during the last three decades has added information suggesting that these early inhabitants were more sedentary and less reliant on big game hunting than once thought. In addition, advances in paleoenvironmental reconstruction have demonstrated that the postglacial flora and fauna were less homogenous and more productive than once believed. Although this reinterpretation is sometimes seen as an insight of modern archaeology, Funk (1976:221) notes that:

It is wise to recall Ritchie's (1956; 1957:7) admonition that, in addition to large game, Early Man must have used every food resource available to him and that in some environmental situations his subsistence pattern might best be described as “foraging.” This would apply to edible plants as well as small animals.

## B.2 Early Archaic Period

Current evidence suggests that the youngest fluted point sites date to no later than approximately 9,500 years ago (Gramly and Funk 1990). The next segment of the prehistoric cultural sequence is called the Early Archaic period. Prior to 1970, there was virtually no evidence of any Northeastern sites dating to the Early or Middle Archaic periods. In the last three decades, considerable information has been obtained to fill in that gap, but the picture is still incomplete.

There are still relatively few excavated, radiocarbon dated Early Archaic sites in the Northeast. Most have been identified by the presence of projectile points analogous to dated types such as Palmer, Kirk, Charleston, MacCorkle, LeCroy, St. Albans, and Kanawha, which have been found in stratified Southeastern sites. In New York, the best Early Archaic information to date comes from several assemblages in the upper Susquehanna Valley that Funk and his associates have excavated and dated (Funk 1979, 1993; Funk and Wellman 1984). A series of stratified floodplain sites near the village of Wells Bridge produced a sequence of radiocarbon dates ranging from 7,000 B.P. to as early as 9,600 B.P. Most of the dates fall in the seventh and eighth millennia. A variety of early projectile points were recovered, including Kirk and Kanawha analogs and Neville/Stanly stemmed types. While many of the projectile points could be associated with established Southeastern types, a number appear to represent distinctive regional varieties (Funk 1993:182).

In the upper Delaware Valley, excavations at the Shawnee-Minisink site in northeastern Pennsylvania revealed a stratified sequence of Paleoindian and Early Archaic components (McNett 1985). The Paleoindian component contained fluted points and radiocarbon dates averaging 10,700 B.P. and there were at least two different Early Archaic horizons stratified above the Paleoindian occupation. The deepest, labeled the "early Early Archaic" horizon, produced a distinctive corner notched projectile point that the excavators named the "Kline" type. The Kline points closely resemble the St. Charles type, which Justice (1987:57) describes as a common Early Archaic style of the Midwest. The second Early Archaic component at Shawnee-Minisink contained LeCroy, Kanawha, and Kirk-like points.

Another complex of presumably early sites has been identified in northwestern Connecticut around Robbins Swamp in the Upper Housatonic drainage just south of the Massachusetts border (Nicholas 1988). Approximately 35 Early Archaic components were identified along with a number of Paleoindian sites, suggesting early intensive exploitation of this extensive wetlands complex. Some of the Early Archaic sites were identified by the presence of diagnostic types such as Kirk, bifurcate, and Kanawha points, and others by the presence of distinctive scraper and graver forms. Early site/landform associations range from lake shoreline and upper river terraces to wetland margins and upland springs, and include large, multiple, early component sites, and small, single-component, special-activity sites (Nicholas 1988:271).

Nicholas has been a frequent and vocal proponent of the idea that early Holocene occupations in the Northeast were much more abundant than previously thought, and that they operated within an environment that was much more productive than originally described. He has identified former glacial lake basins as locations that are likely to have been established as resource rich mosaics within a changing and somewhat unpredictable early Holocene landscape (Nicholas 1981, 1983, 1987, 1988). Robbins Swamp is one such basin, and Nicholas notes that there are numerous others across the Northeast.

The assembled data reinforce the view that occupations dating to the Early Archaic period in the Northeast are much more common than once thought. In addition, while links with southeastern traditions are obvious, enough northeastern Early Archaic components have been identified that we are beginning to be able to identify distinctive regional characteristics in the artifact forms and assemblage characteristics.

### B.3 Middle Archaic Period

The Middle Archaic is associated with warmer and drier climatic conditions. By this period, modern floral communities were established and characterized by mast-producing hardwoods. Rivers stabilized during this time and wetland and lake areas were reduced in size. Hunting continued to be important, and fish may have become a more predictable resource.

Just as more information has been uncovered on Early Archaic sites in the recent past, knowledge of the Middle Archaic period in the Northeast has expanded even more dramatically. Although projectile points similar to southeastern Middle Archaic types had been found in isolated contexts throughout the Northeast, clear identification of the chronological position of the northern analogs was not established until Dincauze reported on the excavations at the stratified Neville site on the Merrimack River in New Hampshire (Dincauze 1971, 1976).

These excavations documented the existence of the Neville stemmed point type dating to between 7,800 and 7,000 B.P., and the Stark stemmed point type dating between about 7,600 and 6,400 B.P. (Dincauze 1976). In addition, the Merrimack point type was identified as dating to the end of the Middle Archaic period close to 6,000 B.P. The Neville and Stark point types are similar in style and age to the Stanly and Morrow Mountain types that Coe (1964) defined earlier in the Southeast, but the Merrimack type appears to be more spatially restricted.

After publication of the Neville Site research, sites and isolated finds associated with these Middle Archaic complexes were increasingly recognized and reported throughout the Northeast. The Neville and Stark types have proved to be relatively common throughout New England. Dincauze and Mulholland (1977) have presented a synthetic model of Middle Archaic settlement for southern New England. They suggest that site types of this period involve large-group occupations that maximize proximity to a variety of seasonal resources, as evidenced by the tool assemblages and recovered faunal materials at these sites. An increase in the number of sites in aquatic resource environments is noted, and these sites are frequently located at falls or rapids where anadromous fish comprised an important seasonal resource (Dincauze 1976). Dincauze indicates that a variety of other activities typically occur, including lithic raw material procurement, tool manufacture, and tool maintenance. Potential feature types at such sites include hearths, pits, reused middens, and caches.

Lavin and Russell (1985) recovered Middle Archaic Neville points (along with Narrow Point forms) from the lowest levels at the Burwell-Karako site in Shelton, and in western Connecticut, Thompson (1973) reported a Neville component at the Hopkins site on Lake Waramaug in Litchfield County. Swigart (1974) excavated a large Neville component at site 6LF70, also in Litchfield County and located on a high terrace of the Housatonic River.

The accumulated data for the Middle Archaic period in the Northeast suggest that, during this period, the prehistoric inhabitants were forming themselves into distinct bands and were settling into defined territories. These bands were establishing base camps and were occupying a greater variety of special-purpose sites in a carefully planned seasonal round (Snow 1980:183). Evidence for the first use of coastal resources such as shellfish beds appears during this period. Several new tool types were developed during this period, including woodworking tools such as gouges and axes, and large groundstone semi-lunar knives commonly known by the Eskimo name, "ulu".

The adaptive strategy employed during this period is generally perceived as a diffuse adaptation, oriented towards generalized hunting and gathering and the seasonal exploitation of resources (Dincauze and Mulholland 1977:441; McBride 1984a:96, 238). According to Dincauze (1974:45) the preference of riverine, lacustrine, and bog settings during the Middle Archaic suggests an orientation towards the exploitation of anadromous fish runs in the spring and eastern flyway bird migrations during the spring and fall. Shellfish were also exploited during this period (Brennan 1974); however, intensive exploitation of this resource did not occur until the Late Archaic period (Snow 1980:178-182).

### B.4 Late/Terminal Archaic Period

Prior to the 1960s, Late Archaic sites were virtually the only Archaic period sites recognized in the Northeast. William Ritchie's work at sites like Lamoka Lake in New York had produced his seminal definition of an "Archaic" stage of culture in North American prehistory (Ritchie 1932, 1936), but no earlier complexes were known.

Throughout the Northeast, archaeologists now recognize the Late Archaic period as one in which the numbers and types of sites increase dramatically—what Snow (1980:187) describes as the Late Archaic "florescence." Unlike the earlier time periods, interpreters of Late Archaic assemblages have to contend with a sometimes confusing and complex array of data. Based on his work in New York, Ritchie recognized two major Late Archaic trajectories, the Lamoka and the Laurentian, which overlap in both time and space. Both trajectories are also represented in southern New England.

The Laurentian was originally defined by Ritchie as an extensive cultural continuum spread throughout northeastern North America:

> . . . with its major area of development and diffusion within southeastern Ontario, southern Quebec, northern New England, and northern New York. Its most diagnostic traits, occurring in considerable morphological variety, comprise the gouge; adze; plummet; ground slate points and knives, including the semi-lunar form of ulu, which occurs also in chipped stone, simple forms of the bannerstone, a variety of chipped-stone projectile points, mainly broad-bladed and side-notched forms; and the barbed bone point [1969:79]. . . .

Although Ritchie believed that Lamoka was the oldest Late Archaic tradition, more recent research has documented that Laurentian manifestations appeared as early as the last centuries of the sixth millennium B.P. Initially, the Laurentian was subdivided into three phases—

Vergennes, Brewerton, and Vosburg—based on projectile point morphology and, to some degree, chronology. These phases extend from about 5,500 to 4,300 B.P. (Funk 1988:36). Subsequently, the discovery of Otter Creek and Brewerton Side Notched projectile points dating to the fifth and early sixth millennia B.P. led Funk to posit a "Proto-Laurentian" assemblage composed of "broad side notched points with ground bases and notches generally resembling Otter Creek and Brewerton side notched points" (Funk 1988:29), along with "biface knives, a variety of unifacial end and side scrapers, and common forms of 'rough stone' tools such as hammerstones and pitted stones"(Funk 1991:9). Absent from this assemblage are the groundstone tools found in true Laurentian assemblages. Funk has labeled this Proto-Laurentian manifestation the South Hill phase (Funk 1988).

In his 1988 review of the Laurentian concept, Funk notes that assemblages labeled "South Hill," "Vergennes," and "Brewerton" manifest substantial spatial overlap as well as some degree of chronological overlap. He places South Hill at 6,200-5,400 B.P., Vergennes at 5,500-4,900 B.P., and Brewerton at 5,100-4,500 B.P, and explicitly states that these divisions blur together and cannot be considered as sharply bounded units (Funk 1988:36). In a more recent discussion, Funk (1991) placed the South Hill phase between approximately 6,200 and 5,500 B.P., based on five radiocarbon dates from four sites with relatively good association between diagnostic artifacts and dated samples (McCulley, Shafer, Clark, and Sylvan Lake Rockshelter). These dates range from 5,670 B.P. to 6,290 B.P. If dates from Hudson River shell midden sites (Brennan 1977) are included, the limits of the phase extend more recently in time.

Funk and others (Tuck 1977:37) suggest that the Proto-Laurentian assemblages are "closely allied with Middle Archaic complexes of the Southeast and Midwest, chiefly identified by Raddatz, Modoc Side Notched, Big Sandy, and other large, notched points similar to the Otter Creek type" (Funk 1991:9). They suggest that groups of people actually moved into the Northeast, bringing their familiar tool types with them, or alternatively, that a successful adaptation involving the use of these types of tools gradually spread from a homeland in the Midwest or Southeast into the Northeast during the earliest part of the Late Archaic period.

Ritchie's "Lamoka People" (1980:43) occupations date to as early as 4,500 B.P. in New York and to as late as ca. 3,700 B.P. Although Ritchie originally asserted that the Lamoka phase began before the Laurentian, more current evidence supports Funk's (1976, 1993) assessment that early Laurentian components predate the appearance of narrow point traditions, particularly in eastern New York.

What Ritchie first defined as the Lamoka culture in the Finger Lakes region has been shown to be associated with a horizon of small narrow stemmed projectile points that extends across southern New England, and includes such types as Sylvan and Wading River points from the Hudson Valley and southeastern New York, and the Squibnocket complex from southern New England.

Following Tuck's (1978) definition of the Lamoka/Sylvan/Squibnocket complexes of central and southern New York and New England as the "Mast Forest Archaic", Snow (1980:226) proposed that we designate the Laurentian complex and related assemblages in northern New England and the St. Lawrence drainage as the "Lake Forest Archaic". As Snow describes them, these two complexes coexisted at times during which each was more common within a particular

geographic region. This scheme supposes that there was a “marginal belt of tension between the two coeval zones that persisted throughout the Late Archaic” (Snow 1980:227). Lake Forest Archaic sites are found primarily north of the Mast Forest Archaic manifestations; however, Laurentian expressions are also present in the lower Hudson Valley and Connecticut (Pfeiffer 1984; Funk 1988:28).

Although Snow (1980) suggests that the Lake Forest Archaic sites are primarily a northern New England manifestation, and only appear in sparse numbers in western Massachusetts and Connecticut between 5,500 and 4,500 B.P., Pfeiffer (1984) has compiled evidence that the Lake Forest Archaic in southern New England is a widespread tradition firmly dated to the period between 5,000 and 4,200 B.P. Pfeiffer notes that “the Late Archaic period also witnessed an increase in the importance of gathering activities, the employment of storage, and an expanded duration of settlement” (1984:85).

McBride (1984a) has designated those elements of the Lake Forest (Laurentian) tradition which occur in southern New England (notably Brewerton and Vosburg projectile point styles) as the Golet phase, which he considers to be a regional variation. Brewerton and Vosburg points are widespread in the artifact assemblages for western Connecticut (Swigart 1974:10) and are well represented throughout the state of Connecticut (Pfeiffer 1984:74).

McBride believes that populations associated with the Lake Forest tradition likely consisted of small mobile bands exploiting a broad range of ecozones and resources (McBride 1984a:249, 252; McBride and Dewar 1981:48). He describes Brewerton sites as being evenly distributed between riverine and non-riverine areas, with a dispersed settlement pattern and limited evidence of seasonal aggregations. If aggregations did occur, he feels it is likely that either the groups were small, or did not remain for long periods of time (McBride 1984a:252).

Pfeiffer (1984:76-77), however, contends that the Lake Forest inhabitants may have been sedentary and perhaps territorialistic. This assertion is based on evidence that he collected from a Lake Forest component at the Bliss site in Old Lyme, Connecticut where structural outlines, compact living floors, and elaborate mortuary ceremonialism were associated with an artifact assemblage containing many of the traits included on Ritchie's (1980) attribute list for the Laurentian tradition.

Pfeiffer suggests that subsistence during the Lake Forest Archaic was based on a specialized or focal adaptive strategy, consisting primarily of year-round hunting, with fishing and plant gathering occasionally contributing to the diet (1984:77). This adaptive strategy is more likely to be selected by populations interested in high quantities of resources, and generally will not occur unless the primary resource, such as that available in a deer-turkey biome, is highly dependable (Snow 1980:15, 151).

In addition to the Lake Forest Archaic assemblages, southern New England also has widespread and long-term evidence of Snow's Mast Forest tradition—what other researchers have often called the “Narrow-Stemmed” or “Narrow-Point” traditions.

Although some researchers have proposed that the Laurentian, or Lake Forest, tradition coexisted with the Narrow Point tradition (Ritchie 1969; Dincauze 1968, 1974, 1975; Snow 1980), others

(McBride 1984a:247-248) consider the Lake Forest (Laurentian, Golet phase) as temporally distinct from the Mast Forest (Narrow Point, Tinkham phase).

Mast Forest Archaic sites are numerous and occur in a "wide variety of local settings" (Snow 1980:230). The settlement system likely consisted of "central based wandering" by highly territorial groups (Dincauze 1974:48, 1975:25; Snow 1980; McBride 1984a, 1984b:65). Population aggregations occurred along major drainages and interior wetlands, with movement between habitation sites prescribed by seasonal availability of resources (Dincauze 1974:48, 1975:25; McBride 1984a, 1984b:65; Snow 1980).

Mast Forest site distributions for the Connecticut River valley suggests an increase in frequency and size for sites utilized as base camps, seasonal camps, and special purpose camps during the Late Archaic period (McBride and Dewar 1981:48). Swigart (1977:70) has noticed a similar proliferation of sites in the upper Housatonic drainage. With populations aggregating near riverine areas or large interior wetlands, the base and seasonal camps were augmented by temporary and task-specific campsites associated with a wide range of exploitation of a variety of micro-environments, especially the upland/highland areas which were intensively used by small mobile groups (McBride 1984a:262; McBride and Dewar 1989:48; Swigart 1977:70).

The subsistence base of the Mast Forest tradition probably consisted of a generalized, or diffuse adaptation (Dincauze 1974, 1975; McBride 1984a). Although a major source of food for the Mast Forest Archaic was white-tailed deer, this was supplemented by a broad range of vegetal foods, particularly nuts, and a broad range of finfish and shellfish resources. Evidence of technological innovations such as weirs and nets first appear in the Late Archaic.

Coffin (1947) identified several such structures along the lower Housatonic River. Although he was unable to date these weirs, the construction techniques he describes are consistent with those dated to the Late Archaic period (cf. Pfeiffer 1983; Dincauze 1973:37; Johnston and Cassavoy 1978). In addition to the weirs in western Connecticut, Pfeiffer (1983) has excavated a weir structure associated with a Brewerton component on Bashan Lake in eastern Connecticut. Several other similar structures in the Northeast and Canada have also been dated to the Late Archaic period. The Boylston Street weir in Boston yielded radiocarbon ages extending from 4,450-4,860 B.P., and has been attributed by Dincauze (1973:37) to the Squibnocket complex of the Narrow Point tradition. A system of weirs has also been identified at Atherley Narrows in Ontario, at least two of which can be assigned to the Late Archaic period based on four radiocarbon ages extending from 4,375-4,560 B.P. (Johnston and Cassavoy 1978).

Narrow points are commonly assigned to the Late Archaic period; however, Swigart (1974) has dated points of this type in the Housatonic drainage to 2,700-2,500 B.P., which would place them in the Early Woodland period. Furthermore, Lavin, McBride, and others have suggested that the Narrow Point technological tradition may have even continued into Contact and historic periods (McBride 1984a:105; Lavin 1984:Figure 2). Evidence from the Connecticut River drainage of Connecticut indicates that the narrow-stemmed points traditionally associated with the Late Archaic continue to be found well into the Woodland period.

Based on their excavations at the Fastener Site in Shelton, Lavin and Salwen (1983:40) suggest that this phenomenon extends into the lower Housatonic River Valley as well. As Funk

(1984:134) points out, this contrasts with the well-established sequence from New York, where the narrow-stemmed traditions clearly do not extend beyond the end of the Late Archaic. Raber and Wiegand's excavations at the Hoosgow III site in Newtown produced a narrow-point (Wading River) occupation associated with a Late Archaic radiocarbon date of 3,980 ± 90 B.P. They conclude that "the persistence of the narrow-point types beyond the Late Archaic has yet to be conclusively demonstrated in southwestern Connecticut" (Raber & Wiegand 1990:11).

For the Laurentian tradition of the Late Archaic period, Brewerton and Vosburg points are made exclusively of cherts in the Hudson drainage, and the common use of cherts also extends into the Housatonic drainage. In general, Laurentian-related Late Archaic components from across the Northeast display a preference for moderate to high quality lithic materials. Evidence of exchange in materials such as native copper and seashells is seen for the first time in this tradition. Extensive movement of distant non-local lithics is not evident, but people of the Laurentian tradition appear to have made an effort to obtain good quality materials.

In contrast, components from the Narrow Point tradition of the Late Archaic convey an impression of relatively insular regional relationships. Over a decade ago, Snow (1980:230) concluded that the narrow-stemmed point traditions of central and southern New England show "a rather parochial use of raw materials, [with] communities often using only those materials immediately available within local stream drainages".

Data from the Iroquois Pipeline project confirmed that trend. In the lower Housatonic drainage, the Narrow Point sites contained very little chert (or any other high quality lithics) (Cassedy 1992). More chert was used in the upper Housatonic relative to the lower portion of the drainage, but still far less than at any other period in prehistory. This is also the only phase in which Hudson drainage sites show any appreciable use of quartz.

The end of the Archaic has also been commonly called the "Transitional" in reference to its presumed transitional status between the Archaic and Woodland periods. Since research continues to indicate that there is actually a great deal of cultural and biological continuity between the Archaic and the Woodland periods, Snow (1980:235) has suggested that the label "Terminal Archaic" is more appropriate.

As Snow defines it, the hallmark of the early part of the Terminal Archaic in eastern and southern New York is the Susquehanna tradition of broad stemmed projectile points and their associated assemblages. These points include a number of regional varieties, including the Genesee, Perkiomen, Snook Kill, and Susquehanna Broad types in New York. This Susquehanna tradition of broad stemmed projectile points is analogous to Coe's (1964) Savannah River type from the southeastern United States. Characteristics of the Susquehanna Tradition include a riverine adaptation and a predilection for the fine-grained lithic resources of the Piedmont province including rhyolite, felsite, argillite, and slate (Dincauze 1975:27; Turnbaugh 1975:54).

The latter portion of the Terminal Archaic period is marked by the appearance of narrow, tapered Orient Fishtail projectile points. Named for the type locations at Orient Point on eastern Long Island, Orient Fishtail points are most common on Long Island, in the Hudson Valley, and in southern New England (Ritchie 1971).

Another hallmark of the Terminal Archaic is the appearance of steatite (soapstone) cooking vessels towards the end of the Susquehanna tradition (which continued throughout the Orient tradition). These large steatite vessels suggest that "the people who made, traded, and used [them] had reached a point in the evolution of their settlement and subsistence systems where the use of heavy cooking vessels was advantageous" (Snow 1980:240). This implies that these people lived in more sedentary settlements, utilizing foodstuffs that required long processing with heat.

In the Terminal Archaic, between approximately 4,000 and 3,000 BP, there is evidence that both the Hudson and Housatonic drainages established links with a wider area. In this period, cherts are again more common in the Housatonic drainage, and rhyolite is observed in both the Hudson and Housatonic drainages (albeit in low frequencies). In the subsequent Early Woodland period of western and central New York and in the St. Lawrence drainage, trade networks established in the Terminal Archaic expanded in both breadth and intensity. Raw materials, artifact styles, and socio-religious ideas traveled along the major trade routes. The presumed core of this system was the Adena tradition of the Ohio River drainage. This web of exchange continued to strengthen during the early portion of the Middle Woodland period, and is usually referred to as the Hopewell Interaction Sphere.

During the Terminal Archaic period there was a major shift in base camp settlement from interior wetlands to large river drainages (Lavin 1988:105; McBride 1984a; Pagoulatos 1988, 1990). Some researchers have attributed this settlement shift to a northward population movement by cultural groups from the Susquehanna drainage of Pennsylvania; the Susquehanna groups were adapted to a specialized environmental domain of riverine and estuarine locales (Dincauze 1974, 1975; Ritchie 1980; Turnbaugh 1975:54).

Other factors which may have been responsible for this shift in settlement pattern correlate to a change in regional environmental conditions which occurred during this period. Significant climatic shifts caused changes in biotic environments, including the distribution of plants, animals, and other resources, and may ultimately have influenced changes in the settlement and subsistence patterns of resident populations (Custer 1984:35). Considering that the latter part of the thermal maximum, or warm, dry period corresponds to the Terminal Archaic period (Lavin 1988:106, 114; Custer 1984:33), Lavin has suggested that a possible reason for the peak in floodplain settlements during the Terminal Archaic period could be related to shrinking of interior wetlands (1988:106, 114). The shift in settlements from inland wetlands to riverine zones coincides with an inferred economic shift from a diffuse adaptation in the interior to a focal adaptation in the floodplain locales. Population groups adapted to a riverine focus maintained a strong reliance on aquatic resources.

### B.5 Early Woodland Period

The Early Woodland period in eastern New York is represented by the Meadowood phase, with its distinctive, thin, side notched projectile points and the first widespread appearance of ceramic vessels. This pottery, which has been given the type name Vinette I, appears on some Terminal Archaic sites, but did not become common until the Meadowood phase. The presence of pottery has long been one of the key defining attributes to separate sites of the Woodland period from those of the Archaic, in the absence of radiocarbon dates or chronologically distinctive stone

artifacts. In addition to Meadowood projectile points, Adena, Rossville, and Lagoon points are also associated with this time period. Rossville and Lagoon points are particularly common on Early Woodland sites in the coastal areas of southern New England and Long Island Sound.

Early Woodland cultures in eastern New York and southern New England show considerable variation from the patterns seen in central and western New York. Sites in the latter region show much greater participation in widespread trade networks that extended from the Gulf of Mexico to the Great Lakes. Exotic seashells, distinctive types of stone, and native metals such as copper and lead moved between the far-flung reaches of the network. This trade network was also associated with an elaborate mortuary ceremonialism that included burying many of the exotic traded items in graves with the dead. The presumed core of this system was the Adena tradition of the Ohio River drainage, to which numerous elaborate sites with well stocked graves have been attributed. In New York, Ritchie gave the name "Middlesex" to this complex. While Ritchie (1969:201) saw it as an Early Woodland culture distinct from Meadowood, Snow (1980:264) suggested that Middlesex burial complexes represent an Adena ideological subsystem grafted onto indigenous Meadowood populations. More recently, Heckenberger et al. (1990:138-141) have noted that many Northeastern Middlesex burial sites actually predate classic Adena in Ohio, and they suggest that the Early Woodland manifestations in this region represent a complex interplay of traditions.

Adena/Middlesex-related burial sites have also been found as far east as New England and the Maritime Provinces, where they appear to be most common in the St. Lawrence and Connecticut River drainages. Cemetery sites near Lake Champlain and in New Brunswick have yielded a wide variety of objects associated with this complex, such as blocked-end smoking pipes, copper and shell ornaments, and stone tools from distant sources such as Indiana, Ohio, Ontario, and Quebec. Throughout the Northeast, Early Woodland habitation sites are generally less common than the cemetery sites, and this has presented a skewed picture of the prehistoric lifestyles for this period.

Just as the Early Woodland Meadowood phase is associated with the Ohio Valley Adena network, Middle Woodland sites appear to have been associated to some degree with the Middle Woodland Hopewell interaction sphere. However, exotic trade items from the Hopewell network are less common in southern New England and eastern New York than they are in the west (Snow 1980:287). Funk (1976:310) goes so far as to state that "Middle Woodland groups in the Hudson Valley convey an impression of drabness or impoverishment, when compared with manifestations in central, northern, and western New York."

Early and Middle Woodland sites in the Hudson and Housatonic drainages exhibit a local focus almost as introverted as that seen previously in the Narrow Point Late Archaic tradition (Cassedy 1992). The main evidence of interaction with outside regions are low frequencies of projectile points and cache blades made of apparently distant materials, such as Meadowood points of western Onondaga chert, and Jack's Reef points of nonlocal cherts and Pennsylvania Jasper (e.g., Luedtke 1987, Strauss 1992). Recent work by Tryon and Philpotts (1997) in southeastern Connecticut and Kaeser on Long Island (2006) suggest that argillite materials from the Middle Atlantic region were also being exchanged during the Middle Woodland period as well. Several Adena-like burials associated with red ochre, copper beads, boatstones, and a blocked-end tube pipe have been reported from two sites from East Windsor and Glastonbury in the lower

Connecticut River Valley (Cooke and Jordan 1972; Cooke 1989). A third possible Adena-like burial was reported by Nadeau and Bellantoni (2004) from the mouth of the Housatonic at Milford; it lacked the Midwestern artifacts and red ochre, however.

### B.6 Late Woodland Period

Following the apparent decline in settlement activity during the Early Woodland and the early part of the Middle Woodland period in the Northeast, the next millennium witnessed an intensification of subsistence and settlement patterns that culminated in the relatively sedentary villages of agriculturalists encountered by the first European explorers. This span of time has been traditionally designated by archaeologists as the latter portion of the Middle Woodland period from 1,650 B.P. to 1,000 B.P. and the Late Woodland period from 1,000 B.P. to substantive contact with Europeans. This report will break from tradition somewhat and will end the Middle Woodland at about 1,200 B.P (A.D. 750).

Given the accumulating evidence of early horticulture and village life in the Susquehanna and Hudson drainages ca. A.D. 800-1,000, we should probably include these components with the beginning of the Late Woodland rather than the end of the Middle Woodland. McBride's (1984) chronology for the lower Connecticut River valley recognizes the earlier termination of Middle Woodland manifestations, and in the Upper Delaware Fischler and French (1991) define a "terminal Middle Woodland" phase that ends at AD 900. For Ontario, researchers have recently concluded that "Princess Point is not, in fact, a Middle Woodland culture at all, but should be considered to be early Late Woodland, or at least 'Transitional' Woodland" (Crawford and Smith 1996:789). Based on their recovery of multiple maize fragments from several sites in Ontario, Crawford and Smith conclude that "Princess Point people were at least incipient horticulturalists by A.D. 800, . . . and as early as the sixth century" (1996:787). A division between Middle and Late Woodland at about AD 800-900 correlates with the widespread appearance of maize in the archaeological record throughout much of the eastern United States.

The chronological end of the Late Woodland period is about 350 B.P (A.D. 1600), but it varies by region, depending on the timing of European exploration and settlement. The next two centuries are often referred to as the Contact Period, and in southern New England the term "Final Woodland" has been coined by some. Both labels refer to this final phase of Native American occupation when Native lifestyles were radically changed by factors such as war, disease, trade, and acculturation.

Snow (1980:261) has previously suggested that the Kipp Island and Hunters Home phases reflect the increasing isolation of the Northeast from the rest of the Eastern Woodlands. Interestingly, this is also a period in which the Hudson drainage shows increasing linkages with southern New England. These linkages include increasing amounts of chert moving into the Housatonic and Connecticut River drainages, as well as "New York" ceramic traditions extending east into the upper Housatonic (e.g., see Lavin and Miroff 1992, and Lavin, Miroff and Gudrian 1992-1993).

By the Late Woodland period, the archaeological antecedents of historically recognized Native American groups can be recognized. North, central, and western New York and the Mohawk Valley were occupied by groups believed to be ancestral to the Iroquois; in these areas, large, nucleated, semipermanent sedentary villages developed. In contrast, the Hudson Valley of

eastern New York (and New England) was occupied by smaller, somewhat less permanent settlements ancestral to the Algonkians (Late Woodland settlement patterns in both areas were still more sedentary than in previous periods).

Except in the colder portions of northern New England, horticulture came to contribute an important part of the aboriginal diet in the Northeast and was integral to both Iroquoian and Algonkian social systems. Archaeologically, the Owasco tradition and the subsequent Iroquois tradition developed into the historic Iroquois confederacy in much of New York, but the upper Hudson and Housatonic valleys were occupied by the Algonkian-speaking Mahican.

Late Woodland and Contact period sites are recognized by a series of distinctive incised and collared ceramic types and by triangular projectile points. The larger Levanna point type was most common early in the period and was later accompanied by the smaller Madison type. In the late Middle Woodland and Late Woodland periods of the Hudson drainage, only local lithic materials were used, but in the Housatonic drainage, these periods witnessed an increase in the amount of chert being imported into the drainage. However, the chert -- and jasper from the Mid-Atlantic region -- is virtually the only non-local lithic material in the Housatonic drainage in these later periods. During this time frame, the central Connecticut Windsor ceramic tradition covered an area as far west as the lower Housatonic drainage, while the Point Peninsula and later Owasco ceramic traditions of New York extended eastward into the upper Housatonic.

### B.7 Contact/Native American Historic Period Context

At the time of European contact in the early seventeenth century, the upper Hudson and Housatonic valleys were occupied by the Mahican[3] , horticulturalists and fishermen culturally affiliated with their Algonkian neighbors to the east in New England. Some ethnohistoric data indicate they lived in stockaded hilltop villages containing three to 16 elongated wigwam longhouses (Snow 1980:88). In addition to these villages, “when at fishing or hunting stations, the Mahican probably lived in single-family wigwams” (Snow 1980:88). Their material culture—particularly the pottery—resembled that of the Mohawks, despite linguistic discontinuities between the two groups. Although Brumbach's (1975) comparison of ceramics from the Mohawk and Hudson drainages failed to distinguish between what were known to be distinct ethnic groups, Snow (1980:321) notes that comparison of the entire cultural systems can identify clear differences.

Bender and Curtin (1990:4) have questioned whether the Mahican actually lived in stockaded villages prior to European intrusion. They point out that none have been identified archaeologically, and the identification of stockaded settlements in the ethnohistoric literature may result from the Dutch use of “boilerplate” cartographic conventions on seventeenth-century maps of the region. Bender and Curtin suggest that small “hamlets” of multifamily dwellings were likely the most common precontact Mahican settlement (1991:5).

[3] Dunn (1994:8) notes that many alternate spellings of “Mahican” have been used over the years, including Mohican, Mahikan, and Mahiecan, but they are not to be confused with the Mohegan of Connecticut. Mahican is the most common form used by the seventeenth century Dutch who were first in contact with the Hudson Valley group.

For many years, the Mahican occupied a pivotal position both culturally and geographically in the conflicts between the Iroquois Confederacy and the Algonkian tribes of New England (Brasser 1978). At one point the Mahican occupied lands on both sides of the upper Hudson River, but they lost control of the area on the west side of the river in 1628 as a result of warfare with the Iroquois. In the 1660s, they were forced to abandon almost all of the Hudson Valley and many of them clustered with other related western New England Algonkians in settlements along the upper Housatonic River in western Massachusetts. While many of the Mahican ended up at the refugee community at Stockbridge, Massachusetts, a number of groups also retreated west up Catskill Creek into the Catskill Mountains and merged with Munsee groups on the upper Susquehanna River (Brasser 1978:206). The next century witnessed a series of relocations for the Mahican survivors – first to central New York, and then on to Indiana and Wisconsin. The Mahican eventually joined Munsee refugees on a jointly held reservation in Wisconsin, where the two tribes remain together today under the name "Stockbridge-Munsee Band of Mohican Indians".

Various 17th and early 18th century deeds show that many Mahican asserted ownership of lands along the upper Housatonic in northwestern Connecticut and in Massachusetts (Binzen 1997; Dunn 1994:61). During the mid-18th century Moravian missionaries of the United Brethren, a Protestant evangelical sect, lived among the Native Americans at Shekomeko, a Mahican village near present Pine Plains, New York, at the Schaghticoke Tribe's main village in Kent, Connecticut, and at the Mahican village of Wechquadnach in Sharon, Connecticut. Their diaries, letters, and other writings depict a strong web of interrelationships among the members of these villages, and also with the Mahican village at Stockbridge and with the Pootatuck peoples living in Woodbury/Southbury (Cassedy & Lavin 2007). The basis for the relationships varied from kin-based duties/visits, religious meetings, and mutual economic and political concerns. Baptismal lists indicated a good deal of intermarriage among the villages. Missionaries also noted the similarity in the Algonquin languages spoken by the villagers, who were able to understand one another.

### B.8 Settlement and Revolutionary War Era

The Berkshire region was settled by Europeans relatively late compared with the rest of Massachusetts and the Hudson Valley of New York, due to its geographic isolation, its location at the interface between Dutch and the English colonies, and its vulnerability to French raids from Canada during the late 17$^{th}$ and early 18$^{th}$ century wars.

A.D. 1609 was a momentous year marking expanding European awareness of the interior rivers and lands located inland from the coasts of Northeastern North America. The interior transportation corridor formed by Lake Champlain and the Hudson River valley were explored from both ends. In July of that year, Samuel de Champlain ventured south from the St. Lawrence River along the lake that now bears his name. Two months later, Henry Hudson sailed up the river that now bears his name and anchored just south of what is now Albany.

By 1614, the Dutch has established a fortified trading post on an island in the river near Albany, and this land became known as New Netherland in 1621. New Netherlands was taken over by the English in 1664, and despite the continuing presence of a large Dutch population, Beverwyck was renamed as Albany.

The European settlement of Connecticut coast began in the early seventeenth century, soon after Adrien Block made his pioneering exploration up the Connecticut River in 1614. The lower Housatonic was settled in the 1640s, but it took almost a hundred years for permanent settlements to expand north into what is now Berkshire County, Massachusetts. In 1733, Sheffield was the first town in the county to be incorporated, followed by Stockbridge in 1739, Great Barrington in 1742, and Pittsfield in 1753. Lee and Lenox incorporated a decade or two later. Some initial settlements occurred before the incorporation dates, but these illustrate the general chronological trend. For example, the first lots were cleared in Pittsfield in 1743, but permanent settlements did not take hold for over a decade, and the first settler in Lee was in 1760.

Dunn (2000:44) notes that the succession of colonial wars and uncertainty about colonial jurisdiction slowed English settlement and preserved for the Mahican the interior lands east of the Hudson and along the upper Housatonic River where the New York, Massachusetts, and Connecticut borders now meet.

In 1734, John Sergeant initiated a mission amongst the Mahicans, who at the time were living in two communities along the Housatonic – one they called Skatehook (in Sheffield) and the other Wnahktukook at what is now Stockbridge. To consolidate the settlements, the Massachusetts legislature established a six-square-mile township for the Mahican, and as Field (1829:239) reports, "the design was to include the fine alluvial grounds at Wnahktukook , already cleared and cultivated to some extent, where a party of the Indians then lived . . . "

At first, Stockbridge was mainly a Native American town, but over time, the percentage of Europeans increased and the influence of the missionaries decreased. By the 1780s, the Mahicans had lost control over most of their land, and most of the tribe moved west into Oneida County, New York, and in the 19th century eventually into Wisconsin. The Mahican joined Munsee refugees on a jointly held reservation in Wisconsin, where the two tribes remain together today under the name "Stockbridge-Munsee Band of Mohican Indians".

Between the 1680s and the 1760s, the settlements in the region were periodically disturbed by inter-colonial fighting between the French in Canada and the British colonies to the south (Starbuck 1999). During this time span, there were four separate recognized periods of warfare, with a three decade period of relative calm between 1713 and 1744. Finally, the end of the French and Indian War in 1763 and France's loss of Canada removed the final barriers to settlement.

By the Revolutionary War era in the late 18th century, settlements were well established in all towns of the project area. Many of the suitable water power locations had small grist mills, saw mills, and furnaces established at them, such as at Lenox Furnace (Lenox Dale), Lee, and South Lee, but most of the local industries were conducted on a limited scale.

### B.9 From the Revolution into the Nineteenth Century

After peace was established between the US and England, Euro-American settlement of the region expanded dramatically. Birdsall (1959:19) notes that the population of Berkshire County rose from a few thousand in 1761 to over 30,000 in 1790. Settlers took advantage of the

agricultural potential of the valley and its transportation corridor, and industrial expansion at prime mill sites along the river and its tributaries soon followed.

Even with the river nearby, cost effective transportation of agricultural products, industrial supplies, and finished goods was not readily available. Initially, a system of turnpikes was developed, such as the Hartford and Albany Turnpike, which ran through Lee by 1800, and the 16th Turnpike connected the region to West Springfield in 1803. For the first several decades of the nineteenth century, wagons and stages were the only effective means of transporting goods and people, as the shallow depths and multiple rapids along the upper Housatonic were not conducive to large scale, reliable boat transport upstream or downstream along the river. Numerous small impoundments were scattered along the river, and no system of locks was ever created to facilitate water transport.

This situation changed with the creation of railroad links to New York and New England in the 1840s. The first railroad train entered Pittsfield in 1841, and a year later the Western Railroad was completed, and trains ran from Albany to Boston. That same year another rail line was completed from Bridgeport, Connecticut as far north as the village of Housatonic in Great Barrington. That line was completed to West Stockbridge in 1843, and soon after the remainder of the line continuing up the Housatonic River through Stockbridge and Lee to Pittsfield was completed in 1849.

Throughout the nineteenth century, the project area witnessed an intensification of industrial development along the river. The number, size, and variety of mills all increased, with woolen and cotton mills, paper mills, turning factories, and iron and glass furnaces being built in Lee, South Lee, Glendale, and Housatonic (additional industry was located in Pittsfield upstream from the project area).

During the 1820's paper making began to expand, and by 1840 the town of Lee produced more paper than any town in America (NPS 2002:69). As demand outstripped the supply of paper made from linen rags, paper makers turned to wood pulp as a replacement. The use of wood pulp in the paper industry started in the Berkshires. By end of the century, paper mills came to dominate the industries along the river. As industry was expanding in the Berkshires, agriculture was declining throughout the nineteenth century due to soil exhaustion and western competition.

In addition to transporting industrial products to wide markets, the railroad also made the region easily accessible to New York City, and wealthy families from began vacationing in the Berkshires and eventually many built homes there. In 1845, Samuel Gray Ward came from Boston to Stockbridge to turn an older house into a relatively palatial structure, Highwood, which is recognized as the first of dozens of mansions, quaintly called "cottages," which were erected there and in Lenox and, to a lesser degree, in Great Barrington. Built by the tycoons of industry, railroads and the law, they flourished for half a century into the early 20th century.

In addition, artists began flocking here and by mid-century, the tradition of a Berkshire cultural center had taken hold. Notable natives and summer residents in the arts and letters include: William Cullen Bryant, Catherine Sedgwick, Herman Melville, Nathaniel Hawthorne, Oliver Wendell Holmes, Sr., Edith Wharton, Henry Wadsworth Longfellow, and Daniel Chester French, among many.

## B.10 Twentieth Century

Industrial development that had begun in the nineteenth century expanded even more in the twentieth century. Electronics plants were constructed in the region, and paper mills continued to flourish in Lee and Housatonic. A former Westinghouse employee named William Stanley established a laboratory in Great Barrington and first successfully demonstrated an alternating current transformer there in 1886 (NPS 2002:70). Four years later, Stanly established a plant in Pittsfield to manufacture transformers. Stanley Electric Manufacturing Company was acquired by General Electric in 1903, and the operation produced small-scale transformers, flat irons, electric fans and small motors. For the better part of the 20th century, Pittsfield was inextricably linked to GE, which at one point provided jobs for 75 percent of Pittsfield's workforce. Pittsfield's population in 1930 had grown to more than 50,000, and industrial expansion related to World War II would swell the population even further, as munitions and plastics were also produced. By the 1950s, GE was building the largest transformers in the world, but the transformer operation closed down in 1986.

The era known as the Gilded Age continued up to World War I, and wealthy outsiders continued to vacation and build mansions in the Berkshires (by 1900, there were over 75 in Lenox), providing substantial employment opportunities for many natives. However, the imposition of the federal income tax in 1913 marked a turning point in the construction of new mansions (NPS 2002:73). Over the next few decades, many were converted to other uses such as seminaries, schools, offices, or museums. At the same time, the coming of the automobile opened up new opportunities for middle class tourism in the Berkshires that continue today.

In the 1930s, music lovers began sponsoring symphonic concerts in the summer months. In 1937, the Boston Symphony Orchestra began offering concerts at its new summer home, the Tanglewood estate between Lenox and Stockbridge. In the succeeding decades, Tanglewood has become famous as one of the world's leading music festivals, and other summer arts festivals, featuring theater, music and modern dance have been attracted to the area.