

## **INTERDEPARTMENTAL COMMUNICATION**

Acton Board of Health - Telephone 978-264-9634 - Fax 978-264-9630

October 29, 2004

**TO:** Don Johnson, Town Manager  
**FROM:** Doug Halley, Health Director  
**SUBJECT:** Pine Hawk Curatorial Display  
Community Preservation Plan Submittal

Attached with this memo please find a submittal for the Pine Hawk Curatorial Display to the Community Preservation Committee. Within the submittal you will find a Project Application Form, Narrative and Itemized Scope. In addition, a Management Abstract and Discussions and Conclusions of the Pine Hawk Archaeological Project is attached, as well as, back-up information on the supplies required to complete the proposed project. We are still working with the Public Archaeology Lab (PAL) to further define the project elements and sub-costs but have been given assurances that the project will not exceed the anticipated \$24,000 request.

## PROJECT APPLICATION FORM

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**Applicant:** Doug Halley **Submission Date:** 10/31/04  
**Applicant's Address, Phone Number and Email** **Purpose (Please select all that apply)**

472 Main Street, Acton, MA 01720  
(978) 264-9634  
dhalley@town.acton.ma.us

- Open Space
- Community Housing
- Historic Preservation
- Recreation

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**Town Committee (if applicable):** Board of Selectmen

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**Project Name:** Pine Hawk Curatorial Display

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**Project Location/ Address:** 472 Main Street, Acton, MA 01720

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**Amount Requested:** Not to Exceed \$24,000

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**Project Summary:** In the space below, provide a brief summary of the project.

During the course of design and construction of the Middle Fort Pond Brook Sewer Project the Town conducted archaeological investigations of areas the project would disturb. These investigations identified an area adjacent to the Assabet River, off Adams Street, which had archaeological potential. An intensive archaeological dig of this area brought to light artifacts showing Native American occupation on the site from 4,000 to 8,000 years ago. Numerous projectile points, stone tools, charcoal fragments and stone shards were recovered. These materials, being federally protected and controlled, are now in the guardianship of the Public Archaeology Lab (PAL) in Rhode Island.

Given the historical significance of these artifacts the Town is seeking to create a permanent display at the Town Hall where the artifacts can be viewed by residents and be protected in a protected environment.

Development of a climate and security controlled curatorial display on the Pine Hawk Site, using artifacts from the Pine Hawk Site, either on temporary loan or in Massachusetts Historical Commission approved custody. Consulting services will be provided by PAL. They will advise and assist the Town in acquiring the archaeological materials from the Pine Hawk Site and create/ develop a curatorial facility that would meet the standards of the Massachusetts Historical Commission.

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**Estimated Date for Commencement of Project:** January 1, 2005

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**Estimated Date for Completion of Project:** December 31, 2005

**Narrative**  
**Proposal for Additional Public Education Services**  
**Pine Hawk Curatorial Display**

During the planning phase of the Middle Fort Pond Brook sewer project the Town was required to investigate the possibility of archaeology artifacts within the project limits. This investigation revealed an extraordinary record of Native American habitation, uncovering a record extending back over 7,000 years. Acton is fortunate to have the "Pine Hawk" site, which is now recognized as one of the most significant Native American sites in New England.

Unfortunately the artifacts that were recovered from the Pine Hawk Site are remotely stored and maintained at the Public Archaeology Laboratory (PAL) in Rhode Island. PAL was the non-profit firm that conducted the archaeological dig and as a Federally Licensed Repository retained the artifacts at their Lab. At this location in Providence they are not accessible to Acton's citizen and students. Presentations in the past few months regarding the site have been extremely well received by students and adults with everyone expressing a strong interest in actually seeing the artifacts.

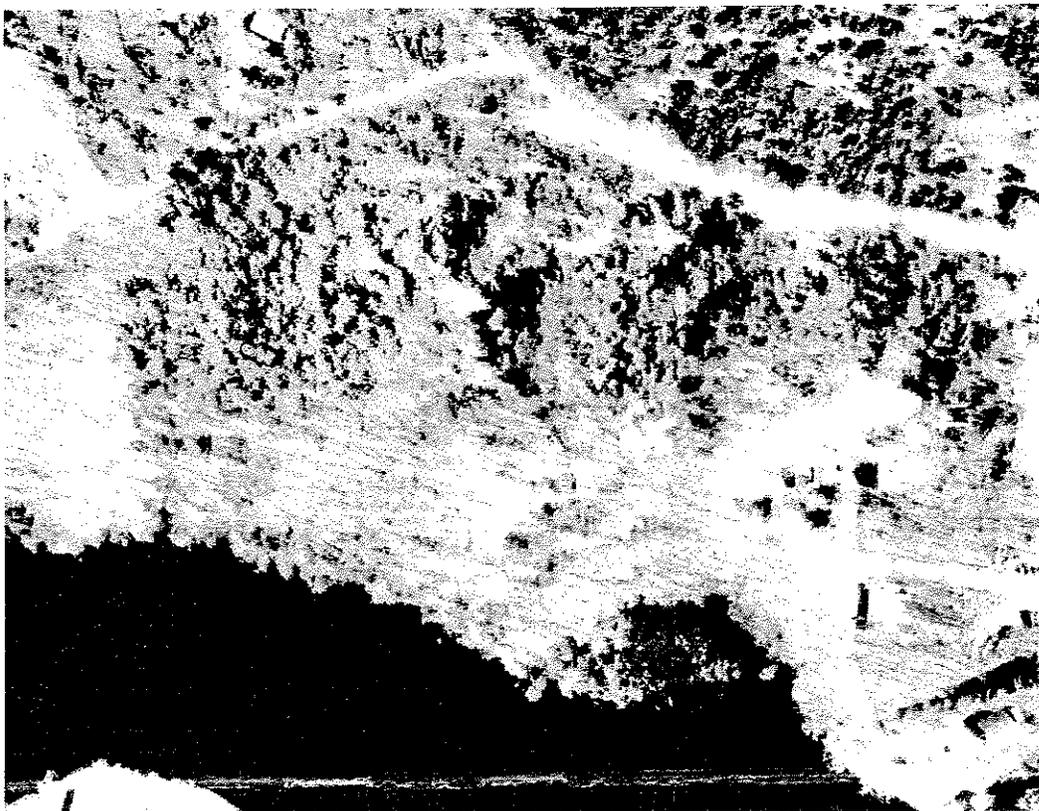
Based on this response it is clear that the presence of the Native American artifacts within Acton is desired and beneficial. Their availability will expand the opportunity to communicate the results of the data recovery program on the Pine Hawk Site, increase public awareness of cultural resources in Acton and initiate the establishment of a town-wide museum or curation facility for all eras of the Town's archaeological and historical past.

In order to take advantage of this opportunity it is proposed that the Town develop a limited curation facility to display artifacts on loan from PAL to the Town at the Town Hall or Memorial Library. In this proposal PAL would assist the Town in obtaining MHC approval to make a loan of the Pine Hawk Site materials to the Town, design a climate controlled secure display and construct the display at the chosen location.

The cultural materials from the Pine Hawk Site that were recovered by PAL were done so under a State Archaeologist's permit. Any transfer of archaeological material and supporting documentation from PAL to the Town will require the approval of MHC and the State Archaeologist. To take possession of the Pine Hawk Site collection, the Town would need to demonstrate that it could provide a repository that meets MHC standards for secure, long-term curation of archaeological materials and supporting documentation. In addition to storing the archaeological materials from the Pine Hawk Site, the curatorial facility could potentially also serve as a repository or museum for other artifacts and items of historic value that are in the Town's possession.

This project will preserve historic resources previously unknown and unidentified. The display of the artifacts will enhance the social, cultural and historical resources and their diversity by exposing the inhabitants of Acton today to the culture and people that inhabited this area 4,000 to 8,000 years ago. The development of the community in the past 200 years has likely threatened, disturbed or destroyed the historical evidence of the past occupations of this area. It is likely that resources similar to the artifacts found will continue to be lost as the Town develops further.

Display of these artifacts can be vital in reminding the community of the value in protecting artifacts yet to be found.



Pine Hawk Site  
North of the Assabet River and South of the intersection of Adams and High Streets

## Itemized Project Scope Pine Hawk Curatorial Display

### Pre-Project Publicity

Public Presentation/ lecture (videotape)	<u>\$500.00</u>
Subtotal	\$500.00

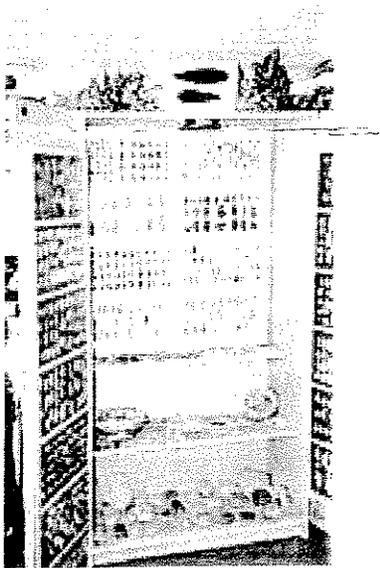
### Technical Advice

Massachusetts Historical Commission Request (60 hrs.)	\$4,500.00
Evaluate Other Historic Resources for Display (10 hrs.)	\$750.00
Design of Curatorial Display (50 hrs.)	\$3,750.00
Preparation and Placement of Artifacts (20 hrs.)	<u>\$1,500.00</u>
Subtotal	\$10,500.00

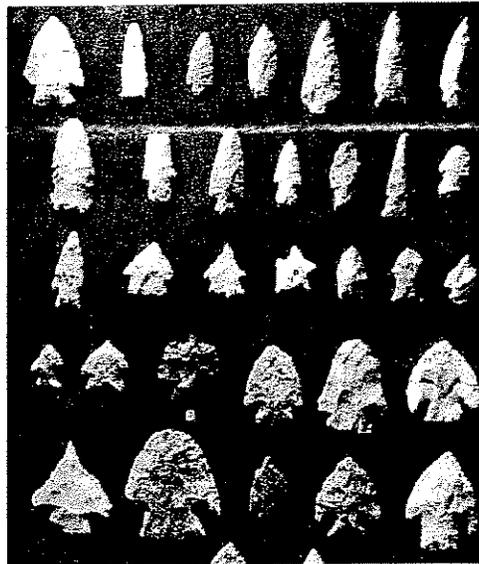
### Construction Materials and Work

Curatorial Display Case Components	\$7,000.00
Construction of Curatorial Display	\$3,000.00
Artifact Display Materials	<u>\$3,000.00</u>
Subtotal	\$13,000.00

<b>Total</b>	<b>\$24,000.00</b>
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**Artifact Display Case**



**Artifact Display**

## Detail Description of Itemized Project Scope

The Pine Hawk Curatorial Display project is set up into three different segments; pre-project publicity, technical advice, construction materials and work. Each of these segments will enhance the social, cultural and historical resources and their diversity by exposing today's citizens to the culture and people that inhabited this area 4,000 to 8,000 years ago.

The first segment of the project, pre-project publicity, is the one element that may not fall under the funding requirements of CPA. However, it has been submitted so that a determination can be made as to its appropriateness under the CPA guidelines. As was noted in the Professional Archaeology Lab's (PAL) discussion and conclusions "*the public education program developed from it (Pine Hawk Site) can also serve as the impetus for community-based efforts to identify and preserve cultural resources in Acton*".

They went on further to state "*the archaeological investigations at the Pine Hawk Site represented the first professional archaeological excavation of a prehistoric site in the town of Acton. Few prehistoric sites have been recorded in Acton and the section of the Assabet River between West Concord and Maynard. The town of Acton is likely to contain numerous, as yet unidentified prehistoric sites, particularly along the network of streams and wetlands that flow into the Assabet River*". Public awareness through this lecture will help raise awareness and engender support for the necessity of assessing development sites for their archaeological potential before these historical resources can be lost.

The lecture will be conducted by the consultant, detailing the findings of the archaeological investigations at Pine Hawk. The lecture with question/answer interaction between the consultant and the attendees will be video taped and edited by the consultant. The final product will be placed in the curatorial display and will be made accessible to the public by a monitor and DVD player.

The second segment of the project, technical advice is broken into four sub-segments; Massachusetts Historical Commission (MHC) Request, evaluate other historical resources for display, design of curatorial display, and preparation and placement of artifacts. Each of the sub-segments are necessary in order to implement the final product of a curatorial display.

The first sub-segment, MHC request, is necessary in order for the Town to be certified as a curatorial facility. To take possession of the Pine Hawk Site collection, the Town needs to demonstrate that it can provide a repository that meets MHC standards. This will require the Town's consultant to work with the MHC to complete the appropriate paperwork, document the artifacts to be displayed and present the operation and maintenance plan necessary to ensure the artifacts are protected within the curatorial display.

The second sub-segment, evaluate other historical resources, is intended to assess and evaluate other artifacts that the Town currently has in its possession. These artifacts, mostly from the revolutionary and civil war periods, would either be considered to be placed within the proposed curatorial display or the display will take into account the future needs of these artifacts.

The third sub-segment, design of the curatorial display, will be the task of the consultant to take the requirements of MHC and create a display that meets all of those requirements. In addition, the design will take into account the potential of storing other artifacts or having the capability to expand for historic artifacts the Town wishes to preserve.

The fourth sub-segment, preparation and placement of the artifacts, will be the work required after the display is completed. The chosen artifacts will have to be identified with supporting documentation, prepared for display, placed in their individual protective containers and set within the display unit.

The third segment of the project, construction materials and work is broken into three sub-segments; curatorial display case components, construction of curatorial display, and artifact display materials. Implementation of these three sub-segments will result in the final product of a curatorial display.

The first sub-segment, curatorial display components, will be the purchase of all the materials necessary to construct the final curatorial display. Some of the major elements will be temperature and humidity controls, protective glass, lighting, monitor and DVD player, and security system.

The second sub-segment, construction of the curatorial display, will be the construction and placement of the curatorial display at the chosen location (either the Town Hall or Memorial Library). The consultant will be responsible for the construction and for obtaining the final certificate from the MHC.

The third sub-segment, artifact display materials, will be purchase of all the materials needed to either protect the artifacts within the display or to present them appropriately for the viewer. Display of each item with the proper background or with supporting documentation is vital in presenting a display that both educates and entertains.

## Proposal for Additional Public Education Services

### Middle Fort Pond Brook Sewer Project Data Recovery Program Pine Hawk Site Acton, MA

The Town of Acton and Woodard & Curran, project engineers for the Middle Port Pond Brook Sewer project, have requested that PAL prepare a proposal to provide additional public education and consulting services. These additional services will supplement the public education program currently being implemented as part of the archaeological data recovery investigation recently completed on the Pine Hawk Site (19-MD-793).

PAL is pleased to participate in this opportunity to communicate the results of the data recovery program on the Pine Hawk Site, increase public awareness of cultural resources in Acton and initiate evaluation of the potential for a town level museum or curation facility for archaeological and historical collections.

The three types of proposed programs or services are:

- A public presentation/lecture on the archaeological data recovery program for the Pine Hawk Site. The cost for this task is \$511.
- Development of a display on the Pine Hawk Site, using artifacts on temporary loan from PAL to the Town of Acton, The cost for this task is \$3572.
- Providing advice and assistance to the Town of Acton and Acton Historical Commission in acquiring the Archaeological materials from the Pine Hawk Site and creation/development of a curatorial facility that would meet standards of the Massachusetts Historical Commission. The cost for this task will depend on the extent of facility proposed by the Town and level of effort to be determined; PAL would undertake this task at a rate of \$75.00 per hour.

The presentation/lecture would be done by PAL and Woodard & Curran staff involved in the engineering, design, environmental permitting and cultural resource management studies for the Middle Fort Pond Brook Sewer project.

To carry out the second and third tasks, PAL would assist the town of Acton in obtaining MHC approval to make both temporary loan and permanent long-term transfer of the Pine Hawk Site materials to the town.

The cultural materials from the Pine Hawk Site were recovered under a State Archaeologist's permit. Any transfer of archaeological material and supporting documentation from PAL to the Town of Acton will require the approval of MHC and the State Archaeologist. To take possession of the Pine Hawk Site collection, the town would need to demonstrate that it could provide a repository that meets MHC standards for secure, long-term to ration of archaeological materials and supporting documentation.

PAL would assist the town in development of a curatorial facility meeting MHC standards and preparation of a custody permit application. In addition to storing the archaeological materials from the Pine Hawk Site, the curatorial facility could also serve *as a* repository or town museum for other artifacts and items of historic value that might be donated to the Acton Historical Commission or the Town in the future.

A cost breakdown or estimate for these services is attached.

**Acton Board of Health  
Minutes  
March 25, 2002**

Members Present: William McInnis, Chair; Mark Benedict, Mark Conoby,  
Molly O'Neil, Associate Member

Staff Present: Doug Halley, Health Director; Heather Marceau, Secretary

Others Present: Susan Mitchell-Hart, Bill Brandon, Joyce Hanselman, Bruce Ringwall

The meeting was called to order at 7:40 p.m.

**Community Preservation Act**

Susan Mitchell-Hart and Bill Brandon appeared before the Board to give a brief presentation on the Community Preservation Act (CPA). There is an article on the Annual Town Meeting warrant for the town to become a participant in the CPA. Ms. Mitchell-Hart distributed some information regarding the CPA for the Board to review. Mr. Brandon explained that the CPA has three main goals: Historical Preservation, Open Space and Affordable Housing. This program is funded through a surcharge on resident's property tax bill and through annual matching funds from the state. Mr. Halley asked if the monies from this program could be used to purchase a place where artifacts recovered from the Pine Hawk Trail (on Adams Street). These items are currently not available for the residents to view, and he would like to change that. The Board members thought this might fall into the "Historical Preservation" goal of the CPA.

Ms. Hart and Mr. Brandon encouraged the Board members to read the literature provided to them and support this Act at Town Meeting.

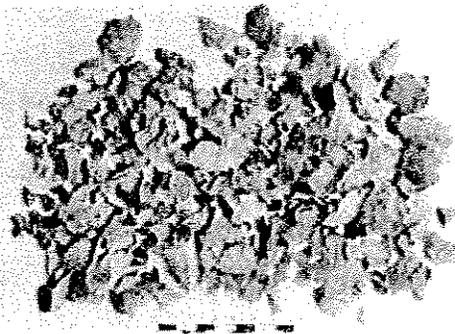
The Board thanked them for the information and for their time in appearing before them.

## MANAGEMENT ABSTRACT

PAL conducted an archaeological data recovery program at the Pine Hawk Site in Acton, Massachusetts from August to October 1999. The site was located on an elevated terrace overlooking the Assabet River within the proposed location of a wastewater treatment plant for the Middle Fort Pond Brook Sewer project. The Pine Hawk Site was first identified during an intensive (locational) archaeological survey of the Middle Fort Pond Brook Sewer project completed in December 1998. Subsurface sampling of the Pine Hawk Site in this survey indicated that it contained archaeological deposits associated with Native American activity from about 7,500 to 4,000 years ago in the Middle to Late Archaic periods. The site was considered to be potentially significant and further study at the site examination level was recommended.

In March 1999, PAL completed an archaeological site examination of the Pine Hawk Site. During this study, subsurface testing established the horizontal boundaries of the site, collected information about the integrity, density, and complexity of cultural materials and features, and about the temporal range of Native American occupations. The site examination established that the Pine Hawk Site covered an area of 3,300 m<sup>2</sup> and contained three primary concentrations (Areas I, II, 110 of cultural material and features.

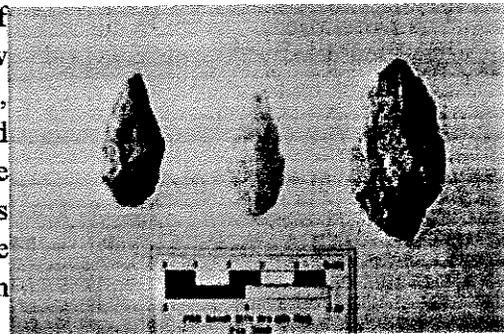
Archaeological materials recovered from the site included four projectile points diagnostic of the Middle and Late Archaic periods, chipping debris of various lithic materials (rhyolite, quartzite, quartz, and mylonite) and a ceramic sherd likely to be of Middle Woodland Period age. Two hearth features were radiocarbon dated to 3910±80 years before present (B.P.) and 4440±100 B.P., respectively. Archaeological data collected from the Pine Hawk Site indicated that the site was in good condition and had been occupied from the Middle Archaic to Middle Woodland periods.



The densest deposits of cultural material appeared to be associated with Late/Terminal Archaic components. Based on the results of the site examination, the Pine Hawk Site was considered to be potentially significant and eligible for listing in the National and State Registers of Historic Places. PAL recommended that proposed wastewater treatment facilities for the Middle Fort Pond Brook Sewer project be designed to avoid the Pine Hawk Site. Since avoidance of the site area was not a feasible or prudent alternative, an archaeological data recovery program was developed to mitigate adverse effects to the Pine Hawk Site from construction-related activities.

The research design developed for the data recovery program contained a set of research contexts or problems relating to: 1) site formation/depositional processes and episodes of intensive use on multicomponent riverine zone sites, 2) contrasting patterns of Late/Terminal Archaic Small Stemmed Point and Susquehanna Tradition settlement/resource use, and 3) prehistoric lithic resource use in the Sudbury/ Assabet/Concord drainage. Excavation units placed within Areas I, II, and III during the data recovery program yielded a relatively large sample of cultural material and features. The stone tool assemblage from the site consisted primarily of bifacial tool blades and projectile points. Scrapers, retouched/ utilized flakes, hammerstones, quarry blanks, and drills were also found. Ground-stone tools were limited to a few broken fragments (pestle, woodworking tool).

The projectile points included diagnostic Middle Archaic (Neville, Stark) and Late/Terminal Archaic (Brewerton, Squibnocket Triangle, Small Stemmed, Wayland Notched, Orient-like) types. A number other untyped points likely to be of Late/Terminal Archaic affiliation was also found. A few ceramic sherds and other cultural material (jasper, hornfels chipping debris) dispersed through Areas I and II indicated there was also a low density Middle Woodland Period component on the site. Concentrations of rhyolite and mylonite chipping debris marking Middle or Late Archaic lithic workshop loci were identified in Areas I and II.



Features found on the site were mostly post molds and small firepits or hearths with some deep pits and burnt rock concentrations. Radiocarbon dates obtained from feature contexts ranged from 4440±100 B.P., 4260±70 B.P., 4170±60 B.P., 3910±80 B.P., 3710±40 B.P., 3220±70 B.P., and 3150±60 B.P., indicating numerous episodes of site use during the Late and Terminal Archaic. An unusual, deep pit feature radiocarbon dated to 3730±40 years B.P. was found in Area III of the site where it was part of a small Late Archaic deposition. The most recent radiocarbon date of 2100±70 B.P. may be associated with Terminal Archaic/Early Woodland activity on the site. Specialized analyses carried out on cultural materials and samples collected from the site included petrographic and geochemical analysis of lithic materials, soil micromorphology and oxidizable carbon ratio dating of charcoal samples.

The classes of archaeological data recovered from the Pine Hawk Site were used to assess the research contexts, interpret the site and compare it to others at the local (Sudbury/Assabet/Concord drainage), subregional (southern Merrimack basin) and regional (southeastern New England) scales. The categories of information collected in the data recovery program were considered sufficient to address the research contexts or problems posed for this investigation and mitigate the adverse effects of proposed construction on the Pine Hawk Site. As a result, it was recommended that construction of the proposed wastewater treatment facility proceed as planned.

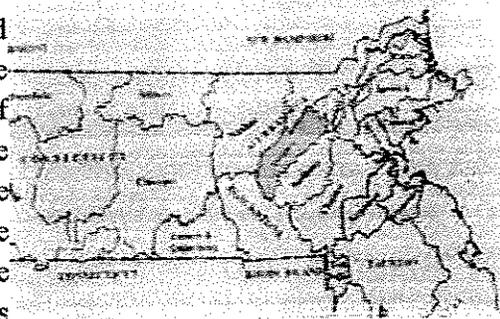
## CHAPTER NINE

### DISCUSSION AND CONCLUSIONS

The archaeological data recovery program completed on the Pine Hawk Site was able to achieve the primary research tasks defined for this study, from data collection during fieldwork, to analysis and interpretation. A sample of the cultural material features and faunal or floral remains, as well as other types of information such as soil micromorphology, was collected from the three concentration areas (Areas I, II, III) identified within the site area. The results of analysis of all the data categories collected from the site yielded information directly relevant to the set of three research contexts and associated hypotheses that were developed for this investigation. The final interpretation of the Pine Hawk Site was based on an assessment of these research contexts using the information collected during the data recovery program and earlier studies of the site. Some of the major points forming this interpretation of the site, and its function or role within larger Native American settlement systems are summarized below.

#### **Native American Settlement Patterns in the Combined Sudbury/Assabet/Concord River Drainage as Reflected at the Pine Hawk Site**

The most important overall contribution to current knowledge of past Native American settlement and other activity was the information obtained from the Pine Hawk Site relative to the internal characteristics of large, multicomponent, riverine zone sites. The Sudbury/Assabet/Concord drainage is an area where many moderate to large sized sites of this type are known but information about their internal, structure complexity and contents from systematic excavation is limited.



The most intensive occupations of the Pine Hawk Site occurred during the Middle and Late Archaic periods, between about 7,500 and 3,000 years ago. Activities were focused on intermediate stage reduction of lithic raw materials from both local and non-local sources, manufacture of chipped- and ground-stone tools, and construction of pit, hearth and burnt-rock features for heat/light and processing or cooking of plant and animal material for food. Off-site activities inferred from stone tools, features, and faunal or floral remains included hunting, fishing and collecting resources used for sustenance, tools and shelter.

At least one burnt-rock feature on the site is suggestive processing riverine resources such as fish or some type of plant food. Less intensive utilization of the site area occurred during the Terminal Archaic and Middle Woodland period between about 3,000 and 1,000 years ago. Overall, the temporal/cultural associations, distribution, and numbers of tool types, lithic workshop loci, concentrations of fire-cracked rock, firepits and hearth features at the Pine Hawk Site indicate that composite occupations of the site area were relatively brief events.

Settlement pattern analysis attempts to trace the movements of populations across a landscape in an attempt to deduce the economic, cultural and subsistence activities in which Native American groups involved themselves. A settlement pattern approach to the investigation of the composite archaeological deposits at the Pine Hawk Site is useful in interpreting the overall nature of the site. Unfortunately, as a direct result of the very low probability of discovering all sites associated with a single group's movements over the landscape throughout the course of a year, archaeologists are forced to interpret the 'remnant' settlement patterns of populations as opposed to 'true' settlement patterns, making the task even more difficult (Dewar and McBride 1992).

Application of a remnant settlement pattern approach to the archaeological record of southern New England envisions the distribution of archaeological sites in any given single seasonal settlement round as taking the form of one of three different occupational sequences that include 1) a concentrated sequence of occupations, 2) a localized sequence of moderate congruence, or 3) a dispersed settlement sequence low congruence (figure 9-1) (Dewar and McBride 1992:234). Archaeologically, each of these occupational sequences would manifest themselves quite differently, and unless the overall content is taken into consideration a misinterpretation of the Site data might occur.

A "concentrated sequence of occupation results as individuals or groups of individuals return time and again to the same specific site location for the purposes of settlement or resource exploitation. Environmental characteristics, cultural requirements, or both, precipitate settlement at these exact locations. Return to the site location might occur seasonally, annually, or over some other interval of time. The superimposing mosaic of occupation results in the formation of archaeological sites that are extremely thick and contain dense deposits of artifacts and features. A "localized sequence of moderate congruence" differs from that of a "concentrated sequence occupations" in that it is formed as groups return to generally the same location over and over again. Settlement does not necessarily have to be on the exact location as the previous settlement because the entire landscape is equally attractive. The occupational sequence results in the creation of larger sites that are broadly distributed across the landscape. A "dispersed settlement sequence of low congruence" settlement pattern occurs when small single component occupations return to the area, but settlement locations are not influenced by previous settlement. Sites representative of this settlement pattern tend to be widely dispersed across the larger landscape, are generally smaller, have fewer features, and do not exhibit the range of cultural materials witnessed in the previous two occupational sequences.

Despite the fact that the Pine Hawk Site contained archaeological deposits dispersed across a relatively large area of more than 3,000 sq m. its occupational history is not consistent with a substantial site type, such as a base camp or village. The characteristics of this site are also not consistent with a continuous Native American presence spanning long periods of time.

The archaeological record of the site indicates that its formation, horizontal extent and internal structure resulted from a series of overlapping occupations of varying intensity over thousands of years. Following a remnant settlement pattern analytical approach, the occupational history of the Pine Hawk Site is best interpreted as representing a “localized sequence of moderate congruence” for the Middle Archaic and Late Archaic periods and a “dispersed settlement sequence of low congruence” for the remainder of the later and smaller Terminal Archaic and Early to Middle Woodland period components.

Features on the Pine Hawk Site, with few exceptions, are predominately hearths and firepits associated with the production of heat/light or were used for cooking. The numerous charcoal-packed firepits identified at the site appear to be associated with the Late Archaic occupation episodes, such as the Laurentian and Small Stem Point components and are suggestive of a repetitive return to the site area. However, the individual occupations are somewhat spatially separated across the site area. Artifacts and artifact types recovered from the



site include predominantly hunting and processing tools, such as projectile points and scrapers. Ground-stone tools such as axes, adzes, gouges, ulus, plummets, usually found on more substantial sites, such as riverine and lake or pond-side base camps, are noticeably absent from the site. Consequently, the stone tool assemblages and feature types derived from the site are consistent with short term, task specific hunting, tool manufacture, repair or maintenance and resource processing) settlements.

Radiocarbon analysis and diagnostic artifacts recovered from the site indicate that it was first occupied during the Middle Archaic Period between about 7,500 and 5,500 years ago, and was not part of settlement systems after the Middle Woodland Period (1,600-1,000 years ago). The entire occupational history of the Pine Hawk Site spans almost 6,500 years. Although more features undoubtedly remained undiscovered at the Pine Hawk Site, 97 (most of which were post molds) were identified during data recovery investigations. The construction of 97 identified features over a 6,500 year site life (less than 0.015 per year) is less than convincing evidence for the presence of a “concentrated” settlement history. Sites dating to these same periods are quite common in the combined Sudbury/Assabet/Concord river drainage, indicating that this basin, as a whole, was densely settled from the Middle Archaic through the Late/Terminal Archaic Period.

The topographic setting of the Pine Hawk Site on a level, to slightly sloping deposit of well-drained sand/gravel glacial outwash deposits elevated above open water and wetlands resemble a number of other known multicomponent riverine zone sites in the Sudbury/Assabet/Concord drainage with similar long occupation histories. In addition to the natural features of topography and soils, other factors coercing settlement may have been close proximity to the major transportation route represented by the Assabet River and a river ford or trail crossing near the present location of High Street and the American Powder Company complex. These natural and cultural features probably ensured occasional resettlement atop previous campsite locations as small groups of Native American people or individuals stopped briefly during the course of their travels or other subsistence related activities. In other words, it is likely that the overlapping components on the Pine Hawk Site occurred by happenstance as opposed to any culturally driven pattern mandating settlement at this specific site location.

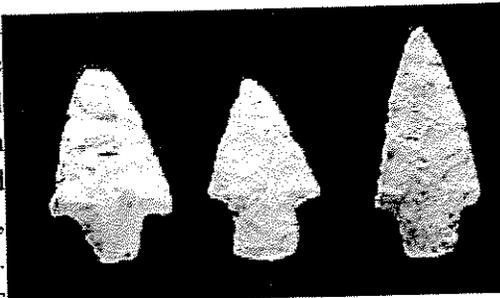
### **Middle Archaic Component on the Pine Hawk Site**

The program of archaeological data recovery determined that the Pine Hawk Site was used for multiple occupations during the Middle Archaic Period. Middle Archaic artifacts recovered from the site include diagnostic Neville, Neville-like, and Stark type projectile points in addition to debitage of argillite, Braintree Slate, Lynn volcanic complex rhyolite, quartzite, and possibly mylonite likely to be associated with this component. This lithic material set has been found in other Middle Archaic assemblages from the Sudbury/Assabet/Concord drainage, such as the one recovered from the Watertown Dairy Site in Wayland (Ritchie 1995:130-133). Three pit features with oxidized subsoil fills of apparent Middle Archaic origin were also identified at the site.

The Pine Hawk Site feature and artifact data is in marked contrast to other more complex Middle Archaic depositions in the eastern/southeastern Massachusetts subregion such as the composite loci identified in the Annasnappet Pond Archaeological District in Carver, Massachusetts. These loci demonstrate evidence for substantial habitation and Middle Archaic feature construction in a core settlement area around a major wetland system (Doucette and Cross 1997). The Middle Archaic component to the Pine Hawk Site does not exhibit any evidence for a substantial, long term habitation; the recovery of relatively few tools and features implies that the site was occupied for only brief periods as individuals traveled/hunted along the Assabet River corridor or in adjacent uplands. The Middle Archaic component to the Pine Hawk Site appeared to be somewhat smaller and less complex than others known in the Sudbury/Assabet/Concord and Shawsheen drainages, such as those on the Watertown Dairy and Heath Brook Sites. These other components either were larger in horizontal extent or had more complex deposits of cultural material and features, the large oxidized subsoil features on the Pine Hawk Site were superficially similar to Early Archaic pits on the Heath Brook Site in Tewksbury and may be part of an occupation episode at least 6,000 to 7,000 years old. The apparent scarcity or low frequency of features clearly associated with the Middle Archaic component on the Pine Hawk Site may also be part of a larger subregional pattern (Ritchie 1995:133).

## Late Archaic Laurentian Tradition Component at the Pine Hawk Site

The Laurentian, as a concept, was first formulated and defined by William Ritchie in 1938 who regarded the Laurentian Tradition as “an extensive Archaic cultural continuum, widely 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” (W. Ritchie 1980:79). Cultural elements diagnostic of this tradition include “the gouge; adz; plummet; ground slate



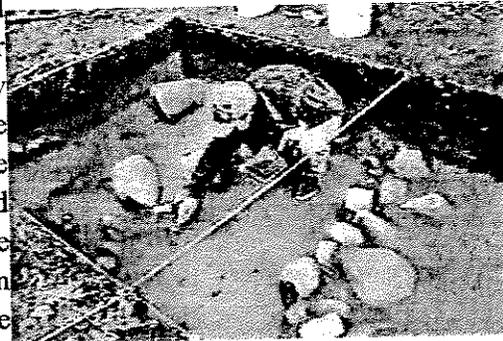
Post Laurentien points and knives, including the semi-lunar form of ulu . . . simple forms of the bannerstone: a variety of chipped-stone projectile points, mainly broad-bladed and side-notched forms; and the barbed bone point” (W. Ritchie 1980:79), in southern New England, the Laurentian Tradition is typically confined to the presence of projectile points (Vosburg, Otter Creek, and Brewerton varieties) that are rarely, if ever, associated with the other artifact types that originally defined this cultural tradition. Otter Creek, Vosburg, and Brewerton style projectile points maybe more useful as horizon temporal markers for the Late Archaic Period in southern New England than indicators of the Laurentian cultural tradition (Dincauze 1975).

The small Middle Woodland sites used in the Sudbury/Assabet/Concord drainage may he a direct reflection of the strong coastal orientation displayed by settlement patterns in and around the Boston basin during this period. The Middle Woodland component to the Pine Hawk Site might be representative of a small hunting expedition to the interior uplands from a coastal settlement location.

### Directions for Future Research

The data recovery program conducted at the Pine Hawk Site has made a number of lasting contributions to current knowledge about prehistory at the regional (southern New England) subregional (southern Merrimack basin) and local (Sudbury/Assabet/Concord drainage) scales. Taken together, the recorded archaeological features, suite of radiocarbon dates, Middle Archaic through Terminal Archaic and Middle Woodland period lithic assemblages and specialized analyses (petrographic and geochemical analysis of lithic materials, soil micromorphology) all contribute to a clearer understanding of Native American settlement and resource use in the section of the southern Merrimack River basin covered by the combined Sudbury/Assabet/Concord river drainage.

While a substantial amount of information was collected and analyzed, the research problems or contexts posed for the data recovery program have not been completely resolved. This includes such observed patterns as the apparent changes in the frequency and intensity of Native American occupation through the Archaic and Woodland periods on moderate to large riverine zone sites like Pine Hawk. The nature of interaction between Small Stem Point and Susquehanna tradition groups within the cultural landscape of southern New England about 4,000



to 3,200 years ago also remains as a direction for future research. The results of investigations on the Pine Hawk Site should be used as a starting point from which subsequent archaeological investigations in the area could supplement, modify or refine these contexts and others, contributing to a better understanding of pre-Contact, Native American occupation in southeastern New England.

### **Archaeology in Acton**

The archaeological investigations at the Pine Hawk Site represented the first professional archaeological excavation of a prehistoric site in the town of Acton. Few prehistoric sites have been recorded in Acton and the section of the Assabet River between West Concord and Maynard. The extant data base consists mostly of Native American sites along the Sudbury and upper Concord Rivers and systematic excavations by avocational or professional archaeologists have been on sites in nearby Concord, Sudbury, Wayland, Marlborough and Westborough. The town of Acton is likely to contain numerous, as yet unidentified prehistoric sites, particularly along the network of streams and wetlands that flow into the Assabet River.

Hopefully, the data recovery program for the Pine Hawk Site and the public education program developed from it can also serve as the impetus for community-based efforts to identify and preserve cultural resources in Acton. These efforts could range from an inventory of known, but unrecorded prehistoric sites and artifact collections to a townwide assessment survey of areas known or likely to contain both prehistoric and historic period archaeological resources.

### **Conclusions and Recommendations**

The total body of archaeological information recovered from the Pine Hawk Site during data recovery investigations was sufficient to address the research contexts and issues outlined in the research design. Following fieldwork and preliminary analysis, PAL submitted a completion memorandum to Woodard & Curran, the Town of Acton, and the MHC. It was recommended that the data recovery program had collected sufficient information to mitigate the adverse effects of proposed construction on the Pine Hawk Site and that the site be cleared so that construction of the proposed wastewater treatment facility for the Middle Fort Pond Brook Sewer project could proceed. Following review of the completion memorandum, the MHC and state archaeologist concurred with this recommendation and Woodard & Curran and the Town of Acton secured clearance to proceed with the project as planned.