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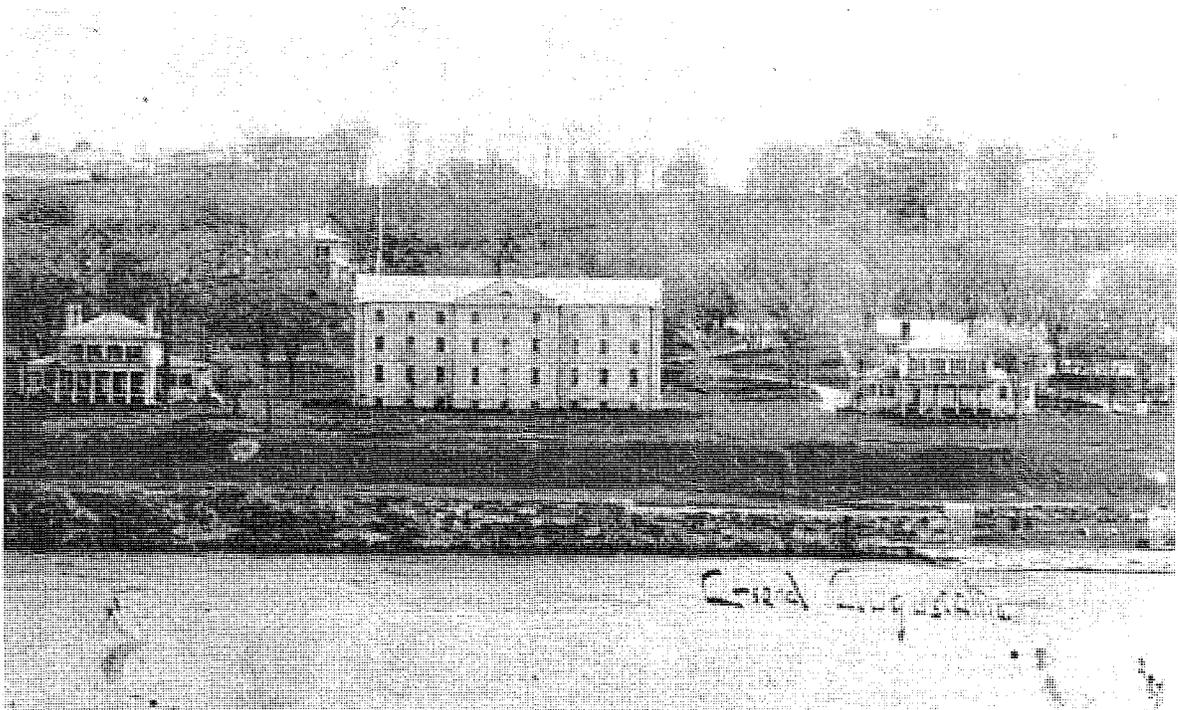
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HISTORICAL STUDY FOR
KENNEBEC ARSENAL,
AUGUSTA MENTAL HEALTH INSTITUTE
AUGUSTA, MAINE

24 June 2003



Maine Historic Preservation Commission

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GLOSSARY OF TERMS

alligatoring – when paint that is several layers thick becomes excessively hard and brittle with age and is consequently no longer able to expand and contract with the wood in response to changes in temperature and humidity it begins to craze and crack as the wood swells. Once the bond between paint layers has broken, moisture is able to penetrate the surface cracks causing the wood to swell and deeper cracking to take place. The cracking of the paint becomes an overall pattern of horizontal and vertical breaks in the paint layers that look like reptile skin.

bay - a major spatial division of a building marked off by vertical or transverse supports.

cladding - a protective cover, referring to the exposed surface of an exterior wall on a building.

conservation - action taken to prevent decay.

consolidation - the physical addition or application of adhesive or supportive materials into the actual fabric, in order to ensure its continued durability of the surfaces or structural integrity.

corrosion - the gradual deterioration of metal by chemical reaction, as when exposed to weather, moisture, or other corroding agents.

deteriorated - to grow worse in quality or state.

dutchman - a piece of material spliced into an element comprised of the same material where a section has deteriorated or has been removed.

ell – a wing at right angles to the length of a building.

epoxy – a thermosetting resin characterized by toughness, strong adhesion, and high corrosion and chemical resistance.

fabric - referring to the building materials and finishes.

frass – bore dust left by wood-boring insects.

frieze - a decorative band, as one along the top of an interior wall, immediately below the cornice, or a sculptured one in a string course on an outside wall.

patch - to mend, cover, or fill up an opening, a hole or weak spot according to recognized preservation methods.

ponding - in a building, referring to a standing body of water usually due to poor drainage.

preservation - this approach prescribes the maintenance and repair of features, as they currently exist. It allows replacement of existing features but does not permit the addition of new features.

pressure treated - referring to wood impregnated with chemicals applied under pressure to increase its resistance to decay and insect infestation.

rehabilitation - this approach allows features to be repaired or altered to make their use compatible with the building's historical, cultural, or architectural value and program, while preserving those features that are important in defining its significance. Modern additions are a part of rehabilitation.

reconstruction - this approach permits the re-creation of missing or destroyed forms, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

repair - when referring to historic materials, the least degree of intervention possible such as patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading according to recognized preservation methods to maintain architectural character and historic fabric.

restoration - in a building, returning to its appearance at a particular time in history. Usually the original appearance when construction was completed.

rust jacking – referring to the expansion of oxidizing iron which cracks surrounding masonry at fixing points.

SHPO - abbreviation for State Historic Preservation Officer

spalling - the chipping or scaling of a hardened concrete or masonry surface usually caused by freeze-thaw cycles.

stabilization - to prevent or slow down further deterioration. Usually a temporary measure.

substrate - any material that serves as a base or foundation.

swale - a low-lying or depressed stretch of land.

wing - a projecting part of a building from and subordinate to a central or principal block.

INTRODUCTION

1.0 INTRODUCTION

The National Historic Landmark Nomination, dated May 2000, identifies the Kennebec Arsenal as the most intact early-nineteenth-century munitions arsenal in the United States. Constructed between 1828-1838, the Arsenal comprises a largely intact and cohesive collection of granite buildings designed in the Greek and Gothic Revival styles that is nationally significant as a surviving example of an early-nineteenth-century military complex and for its association and role in the Northeast Boundary Controversy with Britain.

The arsenal was established in 1828 with the construction of the arsenal building. By 1831, construction of the complex was nearly complete with the addition of support buildings including two officer's quarters, the commandant's house, an office/guard house, barracks, and two powder magazines, which all remain standing today. Other buildings constructed included a stable, a shop for a blacksmith and wheelwright. The majority of these buildings were removed during the early twentieth century. Additionally, wooden laboratory buildings were constructed at various times during the nineteenth century to aid in the manufacturing of munitions.

In 1905, the Federal government deeded the property to the State of Maine to be used for the Maine Insane Hospital (Augusta Mental Health Institute.) Many of the buildings underwent significant interior rehabilitations at this time. Beginning in 1997, the state and city began examining new uses for the complex because it was no longer needed by the hospital. The Kennebec Historical Society, the Augusta Historic Preservation Commission, and the Maine Historic Preservation Commission prepared a study of the historical and architectural development of the Kennebec Arsenal to provide background information and guide future planning decisions.

The State of Maine, through the Department of Financial and Administrative Services, Bureau of General Services, retained Turk Tracey & Larry Architects, LLC in June 2002 to complete a study of the Kennebec Arsenal that identifies significant historical features of the buildings and makes recommendations for the conservation of the buildings. Recommendations for treatment have been established by *The Secretary of the Interior's Standards for the Treatment of Historic Properties*, by the U.S. Department of the Interior, National Park Service, Washington, DC, 1995. These Guidelines identify four possible treatments for historic resources: preservation, rehabilitation, restoration and reconstruction. The implementations of each treatment are summarized below:

Preservation – This approach prescribes the maintenance and repair of features, as they currently exist. It allows for replacement of existing features but does not permit the addition of new features.

Rehabilitation – This approach allows features to be repaired or altered to make their use compatible with the building's historical, cultural, or architectural value and

program, while preserving those features that are important in defining significance. Modern additions are a part of rehabilitation.

Restoration – This approach prescribes returning a site or structure to its appearance at a particular time in history, usually the original appearance when construction was completed.

Reconstruction – This approach permits the re-creation of missing or destroyed forms, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and its historic location.

Future work done at the Kennebec Arsenal should follow one of these treatments based on a conservation philosophy established by the State or current Owner of the property.

The history and architecture of the Arsenal has been well documented in the *National Historic Landmark Nomination* (2000) and *The Kennebec Arsenal: An Historical and Architectural Survey* by Marius B. Peladeau and Roger G. Reed (1997), so in-depth research on the complex was not necessary nor is it a part of this study. This study has been prepared solely for the use of the State of Maine Bureau of General Services and has been prepared based on the requirements set forth in conversations with Phil Rose in Spring 2002. The report is not to be used by any other party and if it is, Turk Tracey & Larry Architects, LLC cannot be held accountable for any information contained within the report.

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ARCHITECTURAL AND HISTORICAL SUMMARY

2.0 ARCHITECTURAL AND HISTORICAL SUMMARY

The history and architecture of the Arsenal has been well documented in the *National Historic Landmark Nomination* (2000) and *The Kennebec Arsenal: An Historical and Architectural Survey* by Marius B. Peladeau and Roger G. Reed (1997). The following architectural and historical summary is based on this information and is provided as context for the significant features of the arsenal buildings.

The Kennebec Arsenal was constructed during a period of military preparedness when a number of munitions arsenals were being established following the War of 1812. During the War of 1812 the United States suffered attacks upon many major cities, such as Washington, Baltimore, and New Orleans; it was clear that the coastline was vulnerable. In March 1827, President John Quincy Adams signed a bill authorizing the establishment of an arsenal on a site in Augusta that was chosen due to its central location and siting along the Kennebec River. The Kennebec Arsenal was established in 1828 with the construction of the arsenal building. The building was designed by Lieutenant Julius A. d'Lagnel, second lieutenant of the 2nd Artillery who was stationed in Washington for ordinance duty. Additionally, Lt. D'Lagnel's plans included two officer's quarters.

The arsenal building was constructed with features associated with Federal Period architecture. The Federal Period ran from approximately 1780-1825 and developed as a gradual refinement of the preceding Georgian style. The Federal Period has its roots in England where two British brothers named Adam adapted the pragmatic Georgian style, adding swags, garlands, and other delicate details. In the American colonies, homes and public buildings began to be inspired by the work of the Adam brothers and also by the great temples of ancient Greece and Rome. Federal Period architecture became associated with America's evolving national identity. The Federal Period emphasized large symmetrical massing of buildings, smooth wall surfaces, and delicate ornamentation influenced from Classical sources. Federal Period details exhibited by the Arsenal building include the three-story symmetrical block, pilasters, splayed cornice and lunette windows in the gable ends. Similarly, Officer's Quarter's Number Two and Three were constructed with features associated with the Federal Period and shared common characteristics to each other, such as a geometrical main block, a hipped roof pierced by interior brick chimneys and large window openings. Remodeling of the quarters in the 1830s introduced the Greek Revival attributes including the balustrade and interior woodwork.

The Arsenal continued to grow in the following years. In March 1829, Congress made an additional appropriation to construct more buildings including a commandant's quarters, a barracks, a wheelwrights shop, an armory, and large and small magazines. Like the arsenal building and the two officer's quarters, the plans for the large magazine were by Lt. d'Lagnel. Most of the buildings were erected under the supervision of Lt. John Hills who first secured the property on behalf of the Federal government in 1827. Lt. Hills remained in Augusta until May 1831 when he was reassigned to establish an arsenal in Tallahassee, Florida. At that time, the Kennebec Arsenal came under the command of Captain James W. Ripley.

Captain Ripley almost immediately began a number of improvements to the Arsenal that made it conform in appearance to a modern military post with buildings exhibiting the current architectural fashions. Under Captain Ripley's command the two officer's quarters and the commandant's residence were enlarged with new wings and porches, all in the Greek Revival style. At the time, the Greek Revival style was contemporary with other public buildings constructed during the same period in Augusta and the United States. The Greek Revival style was the dominant style of architecture between the 1820s and 1860s and was developed partly as a result of the American interest in the struggle for independence in Greece during the 1820s. Additionally, the War of 1812 had ended and Americans had a lack of affection for British influence. The style of architecture looked back to the classical architecture of Greece and Rome for inspiration and employs simplified, bold details based on mathematical rules of form and proportion. Although often similar to Federal era buildings in massing, Greek Revival buildings are distinguished by their wide cornices, classical support columns and pilasters at the corners. The style became widely popular because it was spread by carpenter's guides and pattern books; housewrights and builders were able to pick-up on the simple design concept of post and lintel construction.

Ripley's improvements culminated in the construction of the Gothic Revival office/gatehouse building at the arsenal entrance with a cast iron and granite perimeter fence on the north, south and east boundaries of the property. In the 1830s the Gothic Revival style of architecture for public buildings and houses evolved because it evoked the image of a building in a picturesque setting. The style fed public fascination with the English medieval past and was associated with religion and nature. Gothic Revival buildings often have steeply pitched roofs, gables with decorated bargeboards, pointed arch windows, and a one-story porch. The office/gatehouse features distinctive lancet arched window openings featuring a pointed arched panel with trefoil designed above double-hung sash windows.

It is possible that Ripley himself designed the work, or two local architect-builders, Charles Keene and John D. Lord, aided him. Charles Keene (1794-1870) is documented in account books at the National Archives as the head carpenter for much of the work and was also hired to prepare plans for the granite gate posts. John D. Lord (1797-1888) is not known to have had any connection with the arsenal; however, he did design the original section of the granite insane asylum on the adjoining property, begun in 1836.

Only minor changes were made at the Kennebec Arsenal after the initial period of development. Between the years 1851 and 1875 a stone engine house for fire equipment was constructed and in 1877 the carriage shop and armory on the east end of the arsenal grounds were dismantled and rebuilt closer to the river.

In 1901, the government finally closed the Kennebec Arsenal. Four years later the property was transferred to the State of Maine for use by the Maine State Hospital. The mental hospital had been constructed on the south side of the arsenal beginning in 1836. In acquiring the arsenal

property the hospital added only one new structure, the maximum security building, but demolished several of the smaller frame structures. The engine house, stable, laboratory, armory and carriage shop were razed, and the reservoir was filled.

The Kennebec Arsenal is believed to be the only surviving complex of pre-1840 military ordnance storage and support structures in the country. While a survey of pre-Civil War arsenal buildings for the National Landmark Nomination identified large extant complexes such as the armories at Springfield and Watertown, Massachusetts, these centers developed over time into large industrial complexes where as the Kennebec Arsenal maintained its use and character as a small-scale arsenal. The designs for the buildings reflect a combination of standard treatments typical of military arsenals, including the arsenal building, the barracks, and the magazines, as well as more fashionable embellishment of current architectural fashions seen on the commandants quarters, quarters two and three, and the office.

ASSESSMENT

3.0 ASSESSMENT

Conditions were reviewed in March and November 2002 and are defined as good, fair, or poor based on the criteria developed by the National Historic Landmark Condition Assessment Program.

An element is evaluated as Good when:

- the element is intact, structurally sound and performing its intended purpose.
- there are few or no cosmetic imperfections.
- the element needs no repair and only minor or routine maintenance.

An element is evaluated as Fair when:

- there are early signs of wear, failure, or deterioration, though the element is generally structurally sound and performing its intended purpose.
- there is failure of a sub-component of the element.
- replacement of up to twenty-five percent of the element or replacement of a defective sub-component is required.

An element is evaluated as Poor when:

- the element is no longer performing its intended purpose.
- the element is missing.
- deterioration or damage affects more than twenty-five percent of the element and cannot be adjusted or repaired.
- the element shows signs of imminent failure or breakdown.
- the element requires major repair or replacement.

To protect the significant features of the Arsenal, any necessary repairs to the buildings should follow several basic principles common to the maintenance of historic buildings, adapted from and *The Secretary of the Interior Standards for the Treatment of Historic Properties With Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings (Standards)* by Kay D. Weeks and Anne E. Grimmer, published by the U.S. Department of the Interior in 1995.

1. Deteriorated architectural features should be repaired rather than replaced wherever possible.
2. When replacement of original building material is necessary, new materials should match the material being replaced in composition, design, color, texture and other visual qualities.
3. Replacement of missing architectural features should be accurately duplicated based on historical or physical evidence rather than conjecture.
4. Repair methods, such as surface cleaning of the building, should be undertaken using the gentlest methods possible.

These principles recognize that historic materials and details have proven records for durability and compatibility, and that a small amount of maintenance at regular intervals avoids large

investments in repairs. If new materials are incorporated into the structure, care must be taken to assure that their physical properties do not conflict with the physical properties of surrounding materials. If materials are improperly applied, it may cause or accelerate physical deterioration of the historic building. An example of this is the incorporation of copper into a building that already has aluminum, tin, or iron elements. If the metals come directly into contact with each other, or indirectly by the flow of water, corrosion can occur in the original material because copper is higher on the galvanic scale.

Any work done to the landscape should follow basic principles common to the maintenance of historic landscapes, adapted from , *The Secretary of the Interior Standards for the Treatment of Historic Properties With Guidelines for the Treatment of Cultural Landscapes*, edited by Charles A. Birnbaum with Christine Capella Peters, published by the U.S. Department of the Interior in 1996.

1. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alterations of features, spaces, and spatial relationships that characterize a property shall be avoided.
2. Deteriorated features will be repaired rather than replaced wherever possible. When replacement is necessary, new materials will match the old in composition, design, color, and texture.
3. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
4. Archeological resources will be protected and preserved in place.

The treatments most likely followed for the arsenal buildings and grounds will be preservation, rehabilitation or restoration. All work done on the Kennebec Arsenal should be performed by a firm knowledgeable of *The Secretary of the Interior's Standards* and having not less than five (5) years successful experience in comparable work for at least three (3) buildings or landscapes similar to, or qualified to be listed in the National Register of Historic Places. The firms personnel should be skilled in the processes and operations indicated.

When repairs or alterations are being made to the Kennebec Arsenal, there are several architectural character defining features and elements that should be conserved under all circumstances. These features are what help to define the Kennebec Arsenal as historically important and they include:

1. site layout;
2. terraced lawns;
3. parade ground;
4. granite block, ashlar coursing;
5. geometrical massing;
6. fenestration;
7. double-hung 6/6 (typically) true-divided lite windows;
8. granite water-table and belt-course;

-
9. arched window openings of gate house;
 10. colonnaded porches;
 11. brick chimneys piercing the roofs;
 12. cast iron fence with granite piers;
 13. cast iron balustrade.

Many of these features are characteristic of the Federal, Greek Revival and Gothic Revival architecture and give the Kennebec Arsenal its uniqueness. Additionally, the siting of the buildings, the terraced lawns, and the parade ground along the east elevation of the Arsenal Building establish Kennebec Arsenal's sense of place. If alterations are made or additions are ever connected to the buildings, it is important that the connections not significantly alter any of these features and the simplicity of the buildings and site are maintained.

The property was listed in the National Register of Historic Place in 1970 and listed as a National Historic Landmark in 2002. The period of significance for both the National Register and Landmark nominations is defined as the ownership of the Federal Government from 1828-1901. This is not to say that when work is undertaken, the buildings must be restored to the period of significance; many of the additional elements added to the buildings after the state took over ownership in 1905 have become character-defining elements of the Arsenal and should be conserved as well. These are discussed within the individual building descriptions. Prior to beginning any major work on the property a conservation philosophy should be developed that clearly identifies the goals of the work and maintains the character-defining features of the property.

Other issues that must be considered when making alterations or repairs to the building include the safety of maintenance staff, occupants, and visitors. The best practice is to always try to preserve the original features. Often there are expendable features that can be altered and it will not take away from the historic significance of the building. In the future when alterations are desired, the Maine Historic Preservation Commission, a historical architect, or architectural historian can be consulted to better understand what features and elements are important to the architectural character.

Overall, the condition of the Kennebec Arsenal buildings and structures is fair. The buildings and structures are intact and the structural members, with some exceptions, are generally in sound condition. While the structures were converted for use by the hospital many of the substantial changes occurred on the interior and even the original floor plans are intact in all of the buildings except the barracks.

3.1 Arsenal (Burleigh Building)

The arsenal building was the principal structure of the arsenal for the storage of armaments and is prominently situated near the bank of the river and close to the wharf. The building merits conservation and reuse. Overall, the condition of the building is fair. The building maintains

many of its architectural features associated with Federal Period architecture including the massing, corner pilasters, splayed cornice (Figure 1) and lunette windows in the gable ends. All of the features are in fair to good condition. The roof was replaced within the past ten years and is in good condition. It was not until 1905 when the building was transferred to the State of Maine and used for the Maine Insane Hospital that the structure underwent major alterations. Work included the addition of the gable end pavilion along the east elevation to match the west elevation, roof ventilators, and a one-story full-width verandah (which is in fair to poor condition) along the west elevation (Figure 2). These later alterations have become character-defining elements of the building and should be conserved.



Figure 1. View looking west at principal façade of arsenal building.

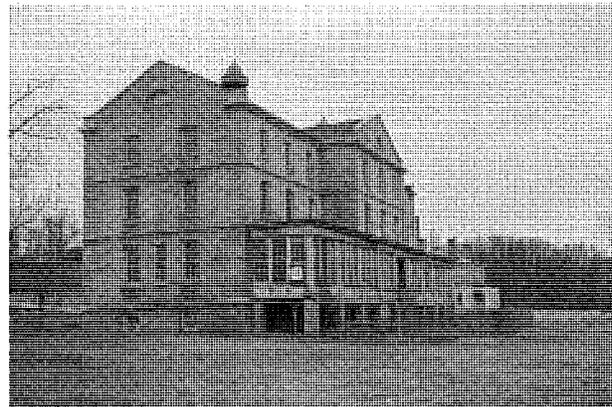


Figure 2. View looking southeast of rear elevation.

The inside of the arsenal also underwent major alterations in 1905. Interior work included new concrete floors overlaid with wood planks, wire lath covered plaster walls, sash replacements, and new iron staircases in the pavilions.

3.2 Commandant's House

Like the arsenal building, the commandant's house maintains many of its Federal Period features including the symmetrical mass, the hipped roof, and paired interior end-wall chimneys. The building also exhibits Greek Revival attributes added during the 1830s that include the gable portico over the main entrance and veranda, and cast iron balustrade along the west side (Figure 3). Overall, the commandant's house is in good condition and merits conservation and reuse. The double-hung wood sash windows, although several have been replaced by 4/4 double hung sash, are in good condition. The principal entry door is a non-historic staggered three-light flush door. The opening is highlighted by three-light sidelights, which are in fair condition (Figure 4).

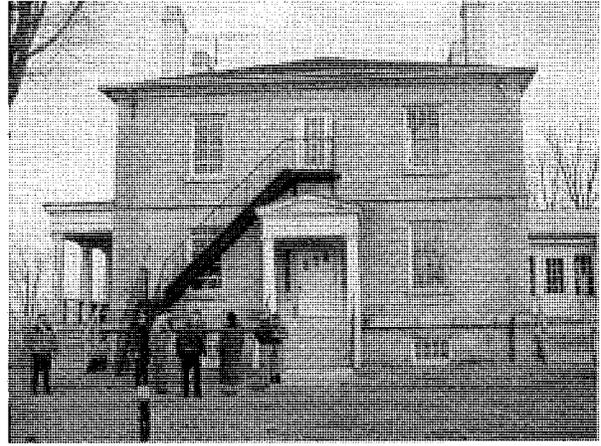
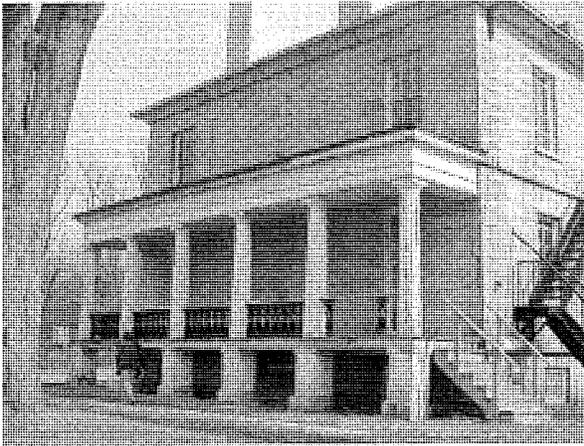


Figure 3. View looking northeast at commandant's house. Figure 4. View looking north at commandant's house.

Like the arsenal building, the interior of the commandant's house underwent major alterations in 1905 including new wood floors, plaster walls, pressed metal ceilings, and woodwork in several rooms. In addition, the main staircase was altered. The interior does feature shutter pockets at the window openings, although no shutters remain. Greek Revival mantelpieces are featured at fireplace openings. Every effort should be made to maintain these historic features of the building.

The wood frame addition on the east elevation was originally constructed as a garage sometime during the early twentieth century. It is clad with synthetic siding and the remnants of the present structure are not historically significant. This addition could be removed if desired.

3.3 Officer's Quarters Number Two (North Burleigh)

Officer's quarters number two merits conservation and reuse. Overall, the condition of the building is fair. The building maintains many of its architectural features associated with Federal Period architecture including the symmetrical mass, the hipped roof, and paired interior end-wall chimneys (Figure 5) as well as the Greek Revival attributes adding during the 1830s that include the one-story wings linked by the porch and cast iron balustrade on the east elevation. The full-width veranda along the west elevation was removed in the 1970s with the addition of an obtrusive one-story wing constructed on a raised concrete block foundation (Figure 6). Consideration should be given to removing the addition and restoring the veranda.



Figure 5. View looking northwest at principal façade of quarters number two.

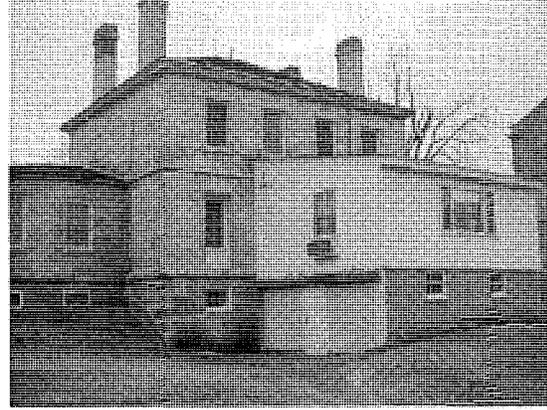


Figure 6. View looking southeast at rear of quarters number two.

The interior floor plan of the house remains intact as does original woodwork including Greek Revival styled baseboards and window and door trim in the main rooms. The windows feature paneled wood shutters. However, the fireplaces have been closed off and many of the historic finishes have been removed including the fireplace mantels and the replacement of plaster surfaces with modern sheetrock.

3.4 Officer's Quarter's Number Three (South Burleigh)

Officer's quarters number three merits conservation and reuse. Overall, the condition of the building is fair and maintains more significant exterior architectural features than quarter's number two including the full-width veranda along the west elevation (Figure 7). The columns of the veranda, however, are metal replacements. Quarters three exhibits the symmetrical mass, the hipped roof, and paired interior end-wall chimneys (Figure 8) typical of its Federal Period detailing, as well as the Greek Revival attributes added during the 1830s that include the one-story wings linked by the porch and cast iron balustrade on the east and west elevation. A non-historic one-story wood frame wing was added to the north wing in the 1970s. Consideration should be given to removing the addition and restoring the wing.



Figure 7. View looking southeast at quarters number three veranda



Figure 8. View looking southwest of quarters three.

The inside of Quarters Number Three has undergone extensive alterations through the years including the conversion of the house into a two-family house in 1833-34. Much of the historic finishes and trim of the quarters have been removed.

3.5 Barracks

The barracks merits conservation and reuse. The massing, fenestration, and simple unadorned exterior of the building complement the other granite buildings of the arsenal complex (Figure 9). Additionally, the building's historic use as a barracks adds to the historical integrity of the Arsenal. The gable roof porticos over the entrances and fire escapes are later non-historic additions and the interior has been completely altered over the years and exhibits few if any historic finishes or trim work.



Figure 9. View looking southwest at barracks.

3.6 Gate House

The gate house/office merits conservation and reuse. While the interior has for the most part been completely gutted over the years, a simple Greek Revival style mantel remains. Additionally, the Gothic Revival stylistics of the building including the lancet arched openings and wood panels with tracery (Figure 10) demonstrate a knowledge of the current architectural trends and the desire to update or “modernize” the arsenal. Several historic photos of the building on file at the Maine Historic Preservation Commission provide views of the original porch and lancet arched shutters that originally adorned the exterior of the gatehouse.



Figure 10. View looking northeast at gatehouse/office.

3.7 Retaining Wall

For the most part, the granite blocks of the retaining wall and wharf (Figure 11) appear to be stable. There are however, several large depressions or sinkholes (Figure 12) between the retaining wall and hillside that should be investigated. Additionally, there are several large trees growing against the retaining wall. There can be a concern when plantings are too close to a structure that the roots will cause damage to the masonry. In an effort to try to save the retaining wall, the trees and vegetation within ten feet of the wall should be removed.



Figure 11. View looking northwest at wharf.

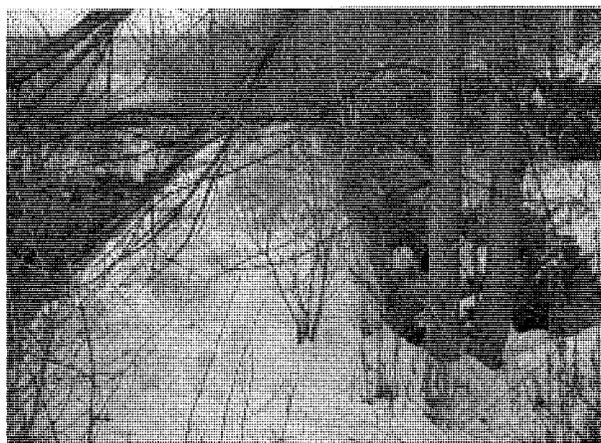


Figure 12. View looking north along granite retaining wall; Kennebec River to the left and sinkholes and vegetation to the right.

3.8 Entry Gate and Fence

Sections of the granite and cast iron fence exist on the north, south, and east boundaries of the property; only a portion of the iron fence survives on the north boundary while sections of the granite block base remain on the three sides. The extant iron fence extends from the river along a portion of the northern boundary of the property. The fence comprises eight-foot square spear-tipped iron pickets set in a granite base. Each section of fence is connected by a decorative post cast in the form of four clustered Gothic columns capped by fleur-de-lyes. The fence pattern is believed to have been supplied by the Watervliet Arsenal in New York in 1937 and manufactured by the Ulster Iron Company. The iron fence should be restored.

The entry gate is located at the north end of Arsenal Street and features two eight-foot granite posts consisting of a plinth, a paneled shaft and a capital; a cannonball is featured on top of the south post (Figure 13). Granite base stones extend to the east and west. The posts are generally in good condition; however, there are several corners that are deteriorated and portions of the post are stained. Additionally, there is some corrosion at the gate latch of both posts that could lead to rust jacking and cracking of the granite. The latches should be cleaned and the rust fully removed. They should then be treated with a rust-inhibitive primer and coated with a modern polymeric coating that adheres well and prevents rust. The missing cannonball (Figure 14) is reported to be stored in a coal bin in the boiler room of the Burleigh Building and should be reinstalled or replicated.

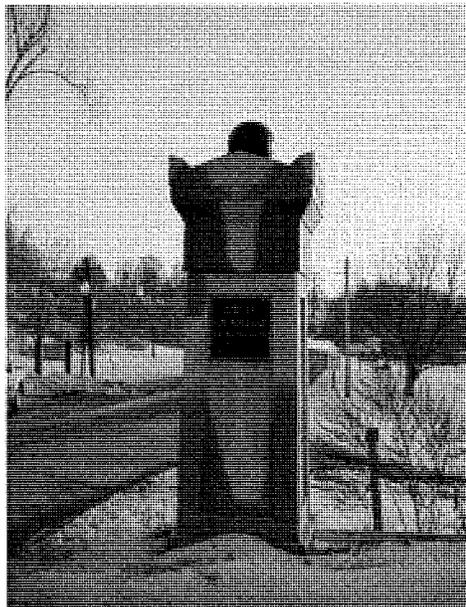


Figure 13. View looking south at entrance gatepost.

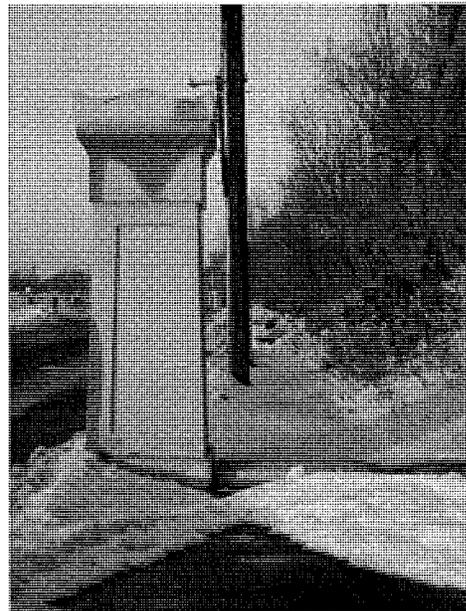


Figure 14. View looking north at entrance gatepost.

3.9 Siege Mortar

The siege mortar is a simple form of ordnance that was used during the Civil War to lob heavy projectiles a short distance at a high elevation and was therefore often referred to as plunging fire. The siege mortar located east of the Arsenal and west of Arsenal Street is in good condition. There are small areas of visible rust, especially at the connection joints between the sections and along the base that should be treated. Once rusting starts, it continues unless measures are taken to remove the rust and a coating of paint is provided to prevent future corrosion. If left untreated rust jacking of the canon could lead to splitting of the concrete base and ultimately deterioration of the canon (Figure 15). While the siege mortar no longer has a functional use it is an integral component of the arsenal campus and should be conserved. The siege mortar should be securely mounted on a historically appropriate and designed base.

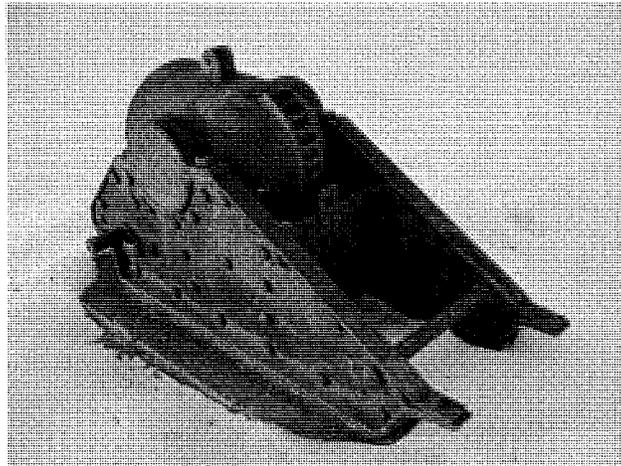


Figure 15. Siege mortar.

3.10 Powder Houses

The two granite powder houses (large and small) located on the hill to the east of the Arsenal were not included in the scope of work and were only briefly examined visually. The two powder houses retain much of their architectural character and historic setting. Every effort should be made to restore the exterior of the structures and preserve any historic interior finishes. An allowance should be made to further investigate the condition of the buildings and a feasibility study should be undertaken to determine an appropriate re-use for the structures.

CONCLUSION

4.0 CONCLUSION

The Kennebec Arsenal is believed to be the only surviving complex of pre-1840 military ordnance storage and support structures in the country. The designs for the buildings reflect a combination of standard treatments typical of military arsenals, including the arsenal building, the barracks, and the magazines, as well as more fashionable embellishment of current architectural trends seen on the commandants quarters, quarters two and three, and the office.

The buildings maintain many of the architectural characteristics from the time of their construction. All of the buildings should be conserved on the exterior following one of the *Secretary of the Interior's Treatment Standards*. The interiors could easily be rehabilitated for a number of uses including housing, offices, cultural center, and conference center to name a few. As mentioned in this report, the few significant architectural features on the interior should be saved as part of the rehabilitation.