Excavations at Fort Frederick, Kingston: Insights into the Design and Structural Development

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This paper presents the results of excavations at Fort Frederick (BbGc-43), a British military fortification constructed to defend the Kingston Navy Dockyard at Point Frederick, Kingston. Excavation and archival research resulted in the finding of structures dating to the first phase of occupation at Fort Frederick, first constructed during the War of 1812 and lasting until 1846. Evaluation of the structural finds in tandem with archival documents allowed for the interpretation of specific use areas and the identification of the earliest fortification structures. The interpretive value of the archaeological data was hampered by the disturbance around the blockhouse structure, which had been "excavated" by amateurs during the late 1960s.

Introduction

This article presents the findings of the first two excavation seasons at the historic military site of Fort Frederick, Kingston. This work formed the basis of a paper for the 2004 Council for Northeast Historical Archaeology (CNEHA) conference as well as the author's Master of Arts thesis work at the University of Leicester (Berry 2004a). The latter was completed following the CNEHA conference, allowing for some review and reinterpretation of what was presented during that forum. Fort Frederick (BbGc-43) is situated at Point Frederick, Kingston. Now the home of the Royal Military College of Canada (RMC) it is a historically rich site featuring more than 200 years of continuous military occupation. This context served as a good location for a public archaeology program. Beginning in 2003 and continuing for the following two seasons, Cataraqui Archaeological Foundation has operated a public archaeology program providing a learning experience for those in attendance (Berry 2004b). In addition to the educational value of the excavation, the site offered several interesting research opportunities. Excavation strategies were aimed at locating and assessing buildings from the earliest stages of occupation, and shedding light on the development, design and use of the site. This paper presents aspects of these efforts as well as

the results of using archival records in tandem with archaeological investigation to reconstruct and understand the earliest fortification designs.

Site History

Eighteen years before the War of 1812 would erupt, Lord Dorchester outlined the importance of the Kingston area in the defence of Upper Canada. In a letter to John Graves Simcoe, dated April 1794, he stated, "The appearance of hostilities with our neighbours, which the intrigues and influence of France seem to render inevitable, will necessarily draw your attention to the upper part of the River St. Lawrence" (Preston 1959:229). Dorchester was aware of the need to have a port and stores at a point near the head of the river, and also the need to supply significant protection for this station. The site of this military post would become Point Frederick, and one of the places built to protect it was Fort Frederick.

The site of Fort Frederick is located at the southern tip of Point Frederick. Point Frederick is bounded by the Cataraqui River along its west shore, by Navy Bay along its east shore and faces Lake Ontario to the south (Figure 1). Since 1876, Point Frederick has been the site of the Royal Military College of Canada. With the establishment of the College, Fort Frederick,

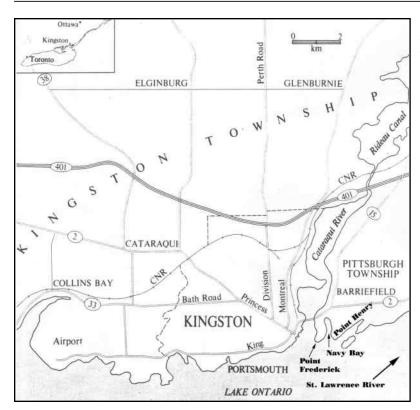


Figure 1. Location of Fort Frederick (based on Osborne and Swainson 1988:xvi).

which was no longer garrisoned, remained untouched. At times the fort grounds were allowed to fall into disrepair but the fort remained a sanctuary for cadets. Today the Fort Frederick tower, which was built in 1846, is the site of the RMC museum. The history of the battery and fort at Point Frederick begins in 1789 with the establishment of the dockyard and naval post at the Point. Despite concerns about its defensive position, Point Frederick quickly became the centre of activities for the Provincial Marine. General Gother Mann, Inspector General of Fortifications at the Board of Ordnance, instructed the surveyor of Kingston in 1789: "One hundred yards back from the extremity of the Point (A) measured from the top of the Bank mark be considered as reserved for a Battery" (Library and Archives of Canada (LAC), LAC NMC 7084). The land remained reserved but also appears to have been dormant until tensions with the United States increased the need for defences.

In 1806, the jurisdiction of the point transferred to the Quartermaster General's Department. This

change resulted in the establishment of the battery at Fort Frederick. In 1809, a wood yard was constructed at Point Frederick to the northwest of the battery and fort grounds. This wood yard also accommodated a detachment of 10th Royal Veteran Battalion, as part of the effort to strengthen the defences over the dockyard (LAC RG8 I C Series v.514). The Kingston garrison consisted of four companies of the 10th under the command of Major Macpherson and a local militia that numbered nearly 1,500 men (Preston 1959:276).

Construction continued at Fort Frederick up to the beginning of the War of 1812. In that same year the battery is described as housing "6 or 8 small ship guns" (LAC RG8 C Series v.728:137). It was with those defences that Fort Frederick took part in the repulsion of an American fleet under Commodore Chauncey on November 10, 1812. Fear of additional attacks led to an increase to four 32-pounders, one 24-pounder, a 10-inch sea mortar and a13-inch land mortar, as detailed in an 1816 map (LAC NMC 11378a). The War of 1812 also sparked a great

building phase at Fort Frederick. Upon the recommendation of Lieutenant Colonel Bruyères a blockhouse was constructed in December of 1812. Measuring 48 feet square around the lower storey (Young 1980:49), the blockhouse was constructed with the intent of housing four officers and 140 men (Young 1980:79). Additional buildings mentioned through archival sources as being constructed during the War of 1812 include officers' quarters, Royal Artillery barracks, log barracks, guardhouse, canteen, armourer's shop and powder magazine (Bazely 1995) (Figure 2).

The fort saw heavy use during the war. Following the signing of the Treaty of Ghent and the Rush-Bagot Agreement, the fort and the dockyard were garrisoned by fewer men. During this period the fort buildings were not updated and likely fell into disrepair. The Upper Canada Rebellion of 1837-38 sparked renewed activity at Point Frederick. The dockyard was re-opened after only a year of complete closure and civilian militia forces were raised along with the enlisted regiments at the Point. The rebellion proved largely uneventful for Point Frederick as no force



Figure 2. Detail of 1824 Board of Ordnance map of Fort Frederick (LAC NMC 16105): (1) Magazine, (2) Officers' Quarters, (3) Magazine, (4) Blockhouse, (5) Canteen, (6) Armourer's Shop, (7) Guardhouse, (8) Cookhouse, (9) Royal Artillery Barracks.

fired a shot in anger in the Kingston area. This was in spite of events close by that required troops from the British marines and the 93rd Regiment from Kingston to respond to the Patriot Hunters that invaded Canada and engaged in the Battle of the Windmill at Prescott.

In the late 1830s, following the construction of the Rideau Canal and revived tensions with the Americans, the need for a new fort was deemed necessary. The requirement for greater defences was solidified when another threat of war with the Americans grew out of the Oregon Crisis. This threat led to the construction of four Martello towers between 1846 and 1848. These were situated on Murney Point with Murney Tower, the shoal in front of City Hall with Shoal Tower, on Cedar Island with Cathcart Tower, and the largest built on Point Frederick named Fort Frederick. The construction of the Fort Frederick tower required a complete destruction and re-landscaping of the previous fort in order to create a new earthworks and battery. As previously mentioned, the grounds exist more or less in this form to this day (Figure 3).

The Archaeological Site

The site plan details the excavation completed following the 2004 field season at Fort Frederick (Figure 4). In the first season of excavation, 12 excavation units were placed around the fort.



Figure 3. The modern site of Fort Frederick. Note exposed southeast corner of the 1812 blockhouse in lower right (Cataraqui Archaeological Research Foundation).

These units were placed in an effort to locate particular historic buildings dating to the first phase of the fort, from the 1812 construction to 1846. Excavation during the second season featured additional research into the first phase fort grounds, as well as several units placed to locate elements from the second phase, post-1846 tower period, not the subject of discussion here. In addition to the larger excavation units, a series of test pits were excavated south of the Martello tower as part of another public archaeology program. The results added to the understanding of the fort grounds and stratigraphic context of the site.

One of the main structural features found dating to the first phase of the fort is the Royal Artillery barracks. This structure was located through the excavation of units 48A, 48B and 48K in 2003 and unit 48N in 2004. The walls were constructed of rough-cut limestone blocks, measuring 40 cm wide and approximately 50 cm deep, and covering three to four courses of stone. Based upon archival records, the barracks were 12.19 m by 4.88 m (40 feet by 16 feet) and constructed of wood upon stone foundations with a shingled roof.

As-built architectural plans from an 1824 ordnance survey by the Royal Engineers detail a building with three rooms and a central chimney structure. Each room had a separate window (LAC NMC 4583). The 1824 as-built plan reveals that the barrack building was one of two grouped structures, the second equally as wide but not as long. The use of archival maps and the recorded spatial relationship to the blockhouse allows for the identification of this structure on historical maps. Based upon this orientation, it was believed following the 2003 excavation season that only the very south end of the barracks was recovered; the remaining section and the adjoining building were destroyed with the construction for the 1846 tower.

Excavation units within the barracks revealed that rubble remains from the destruction of the building were located within the structure indicating that the building was pushed in on itself upon its razing. The destruction layers from the barracks were capped by a thin pavé surface that

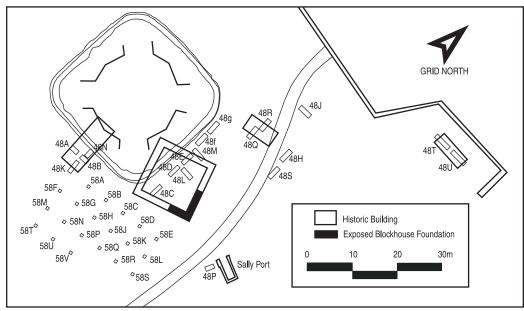


Figure 4. Fort Frederick site plan following 2004 season (based on Berry 2004a:49).

has been attributed to the Tower period at Fort Frederick. This functioned as a new walking surface around the fort. While no material culture finds from the pavé layer can place it solely in the second half of the ninetenth century, the destruction layer sealed below clearly dates to the 1830s. One such find from the destruction layer is a William IV 1831 copper halfpenny, which provides a minimal terminus post quem date for the destruction deposit.

A combination of archival and archaeological data led to the theory that the Royal Artillery barracks was abandoned, and possibly destroyed previous to the construction of the Tower. The last known map referring to the barracks dates to 1837. Also, a notation in a Board of Ordnance survey report, dated April 4, 1831 describes a structure at Fort Frederick as a "Log Hut occupied by two gunners of the Royal Artillery. A very old building, unworthy of repair 38 x 16. One story high with shingled roof" (LAC RG8 II, C Series v. 31). This appears to describe the Royal Artillery barracks. If the building was in a state of disrepair in 1831, it is unlikely that it survived to 1846.

In 2004, a unit was placed at the Royal Artillery barracks in order to verify this theory and more importantly to understand the 1846 construction phase and how the barracks were

removed in order to build the Martello tower. Finds within 48N showed a large trench area that cut through the 1812 structure and through the existing bedrock. Rubble fill remains from within the Royal Artillery barracks were found sloping out and down through the trench cut (Figure 5). A thick clean clay deposit also capped this fill. This suggests that the barracks were destroyed not very long before the construction of the Tower, and that it was necessary to stabilize the spilling of incompact destruction debris out of the remains of the Royal Artillery barracks. The destruction debris from the barracks was rich with cultural material. One of the interesting finds was a button of the 68th Regiment of Foot. Known as the Durham Light Infantry, the Regiment was posted at Fort Frederick between May of 1820 and May 23, 1823 (Stewart 1964:283).

The blockhouse was the second major building structure excavated at Fort Frederick. This structure was the main defensive building of the fort. The blockhouse was 14.63 metres square (48 feet square) at its lower story, built two stories high on stone foundations with wooden log walls (LAC RG8 II v.83:9-10). The 1824 as-built plan reveals that the blockhouse was heated with



Figure 5. Planview photograph of 48N showing the Royal Artillery barracks foundation wall (right) and rubble fill (left) (Cataraqui Archaeological Research Foundation).

two centralized chimneys at opposing ends of the building (LAC NMC 4628).

Personal correspondence with individuals associated with the RMC museum made us aware of previous work performed at Fort Frederick. In 1968 the curator of the RMC museum, Lieutenant Colonel P.T. Nation, authorized "excavations" on the blockhouse structure. No known records were kept of the work but for five photographs taken during the course of the digging at the blockhouse walls. They reveal that sections of the blockhouse walls were trenched on both sides exposing the southeast corner of the building. Since then the southeast corner has remained exposed for viewing and presented to the public with a small interpretive sign. In 2003, five units were placed around the blockhouse to examine the construction and design of this 1812 period building, and to assess the extent of the damage caused by the 1968 excavation. These units revealed the remains of the 1968 trenching. Clean sand was used to backfill the trench following the work. Similar deposits were found in the units along the exterior of the building. The fill included garbage, wire, sheeting, and plywood. Current excavation along the north wall of the blockhouse revealed the previously unknown fact that the 1968 trenching extended all the way around the walls and that the walls were "capped" with cement after digging. No portion of the remaining foundation walls escaped the trenching or cement capping activities that is still visible on the exposed section of the southeast corner.

One excavation unit, placed directly within the centre of the remaining structure, was free of any modern intrusion. A compact pavé layer, found beneath the modern sod, capped a heavy limestone rubble layer. This pavé was mixed with cultural remains that represented an early occupation, including a variety of ceramics (early palette polychrome hand painted wares, pearlware and creamware) as well as a military button of the 54th Regiment of Foot, which garrisoned Fort Frederick in 1853. These residual remains suggest that following the destruction of the blockhouse, during the construction period of the tower (c. 1848), the builder's trench material from the area of the tower and dry ditch was spread around. Earlier deposits were displaced from their original deposition and became enclosed in the pavé matrix. Beneath this fill was a deposit of large angular limestone. So dense was the stone deposit that its matrix contained little soil, primarily being composed of stone dust and other elements of crushed rock. The heavy stone deposit surrounded a displaced section of a red brick chimney that had collapsed within the interior of the building. The section was 69 cm high and approximately 71 cm square. Associated with the feature was a carved block of limestone, which, having a hole cut for the placement of a stovepipe, represented a component of the heating system. The heating of such a structure during a Canadian winter was surely no small feat. The chimney piece did not appear to be fixed to the bedrock beneath it. As the plans for the blockhouse showed, the chimneys were built at opposite ends of the building and the section recovered was at the approximate centre of the building. This section therefore appears to have dropped, intact into its location from one of the ends of the blockhouse.

In the course of the 2003 summer season, as the ground dried out, certain crop marks appeared in the soil which pointed to the existence of additional archaeological remains. The main crop mark feature was a clearly defined square building. This crop mark measured approximately 4.42 m by 4.88 m (14.5 feet by 16 feet). Because of its dimensions and location, it was believed to represent the location of the fort's guardhouse, which, according to as-built plans, was approximately 6.10 m square

(20 feet square) (LAC NMC 4636). Previous attempts to locate the guardhouse were unsuccessful.

In 2004, two units were placed on the site of the crop mark to bisect the structure and assess the potential for remains. These units found the exterior walls of a building (Figure 6). The upper course of the walls had suffered severe frost damage but measured approximately 1 m wide at the lower undamaged courses. The thickness of the walls created concern about the identity of the building as no plans for the guardhouse displayed metre-thick walls. Also, the external measurement between the two walls was approximately 4.27 m (14 feet), much less than the 6.10 m (20 foot) sides of the guardhouse.

The thickness of the walls immediately suggested a powder magazine or similar building, but the material remains from within did not directly point to this, or any one function. It was not until the discovery of further archival material that a more concrete theory about the building's function could be formulated. In 1831 another survey report was produced for Point Frederick and Kingston (Figure 7). It provided some of the most precise data concerning the design and layout of the first Fort Frederick. The report provides additional data some of which differs from the earlier 1824 report concerning the use of buildings within the fort grounds. The relative positioning of the buildings remains the same, yet their use and descriptions differ.

The 1831 map has two main differences from the 1824 plan that help to identify the function of the structure recovered. Firstly, the building identified in 1824 as the second officers' barracks (Figure 2, #2) is described as the canteen and barrack master stores. The description for this building in 1831 is as follows:

An old log building 58 x 17 standing on a stone foundation, one story high lathed and plastered inside. One half of the building is now occupied as a Canteen the remainder by Barrack Master Stores. The whole in a very decayed state and unworthy of repair and will be taken down when the Battery is reformed [LAC RG8 II, Series C vol. 31].

It remains an easy assumption that the function of this building changed some time between 1824 and 1831. The second difference is that the structures identified in 1824 as the canteen and the armourer's shop are no longer present (Figure 2, #5, #6). One structure is identified as "ruin" in the area of the former canteen. By using the dimensions of known buildings on the 1831 map as a basis of comparison, the length of the "ruin" can be calculated to be approximately 9.14 m by 3.66 m (30 feet by 12 feet). This most closely matches the dimensions of the canteen at 7.32 m by 3.05 m (24 by 10 feet) and is likely what this "ruin" and the

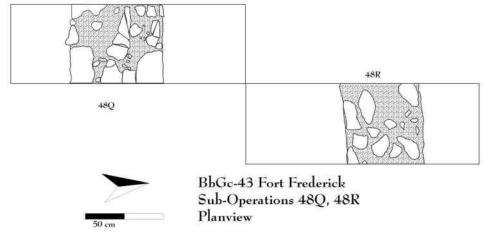


Figure 6. Planview drawing of units 48Q/48R showing the frost damaged walls of the building believed to be the former canteen (based on Berry 2004a:66).

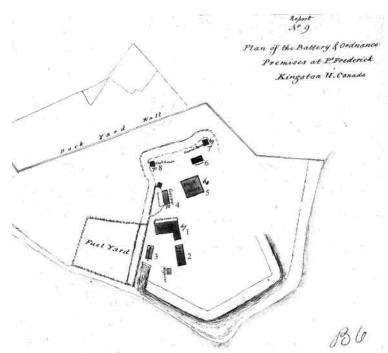


Figure 7. 1831 Plan of the Battery & Ordnance Premises at Pt Frederick Kingston U Canada (LAC RG8 II v. 31): (1) Officers' Barracks, (2) Canteen and Barrack Master Stores, (3) Magazine, (4) Royal Artillery Barracks, (5) Blockhouse, (6) Ruin, (7) Guardhouse, (8) Cookhouse.

structure recovered in 2004 represents. Of course this allows for some error, as the production of measurements from a plan can misrepresent. A map can be drawn to the wrong scale yet the relative positions of buildings and features are precisely plotted (Triggs 1998:128). However, based upon the available archival evidence, it appears that the canteen building went out of use some time between 1824 and 1831 and was moved into a former officers' barracks.

Discussion

The Royal Artillery barracks structure was the main source of information about lifestyle as well as changes in site design and use at the fort. The collection generally represents the sedentary daily life of the enlisted men of the fort. In addition to the military items (buttons, a plume holder, gunflints, chinscales, and a percussion cap), various household items were found, including ceramic tableware, glass stemware, cutlery, and storage containers.

Outside of the barracks building, the stratigraphic deposition provides insight into the layout and

operation surrounding the structure. To the east of the barracks walls, in unit 48B, a layer of brownish black clay with limestone pebble inclusions was deposited directly atop of the limestone bedrock. Located around the exterior of the building, it is believed to be a naturally occurring sterile subsoil clay. This deposit differed from the stratigraphic finds to the west of the barracks in unit 48A by virtue of an additional overlying layer. It consisted of a dark clay loam containing ceramic, bone, ferrous cut and wrought nails as well as an 1816 Montreal half penny token (Cross 1995:100). This layer appeared to have been deposited against the wall during the occupation of the building. The discovery of a dark loam at that depth suggests a buried sod layer. With the discovery of cultural debris that post dates the construction of the barracks, this layer appears to be an exposed occupation surface present at only one side of the structure.

The archaeological finds from the west of the barracks coincide with archival data regarding the position and use of the Royal Artillery barracks. The 1831 site map accompanying the Ordnance Department survey of military holdings in Kingston differed from any map previous by depicting pickets around certain areas of the fort

(Figure 7). These pickets not only border the fort and fuel yard, but also define certain work and entrance areas around the fort grounds. A detailed examination of the map shows a picket at the west side of the building suggesting an entrance yard area. The archaeological data supports this assumption. This enclosure would accrue more debris as a higher traffic area and was possibly manicured during the occupation of the building.

The blockhouse excavation of 2003 provided an understanding of the state of preservation of the structure and associated deposits. It did not however, provide a great deal of data concerning the buildings' use in the first phase. As mentioned above, the blockhouse was subject to neither scientific nor controlled excavation in 1969. This unfortunate occurrence means that there is unlikely to be further viable information about the blockhouse generated through archaeology; this task is now left to the historians and archivists.

Based upon the archival evidence it appears that the canteen building went out of use some time between 1824 and 1831 and was moved into a former officers' barracks building. The archaeological finds support such an interpretation. The interior layers of the building indicate a period of original occupation, and a later one of general inactivity. The interior context 48Q7/48R7 consisted of clay and limestone rubble which had early palette hand painted whiteware, creamware and pearlware ceramics within it. This collection was located above the subsoil layers and indicates the earliest occupation of the structure. Above it was a clay loam deposit, indicating an accumulation of soil and possibly sod. This lot (48Q5/48R2) contained a similar deposit but was found to have scalloped blue shell edged, curved impressed, line decorated ceramics, a type of decoration with a mean use between 1820 and 1835 (Miller et al. 2000:13). This find, while limited, suggests a later period of use, after the building appears to have been abandoned.

The building measured approximately 4.27 m (14 feet) from exterior to exterior and appeared, based upon the crop mark, to be square. A modern asphalt sidewalk that circles the interior of the fort presently covers the full length of the building. As mentioned previously, the upper courses of the

building's foundation walls were subject to a great deal of frost damage as a result of its close proximity (approximately 10 cm) to the modern sod surface. This freeze-thaw action accounts for the spreading of the upper courses of the wall, skewing overall measurements. The interior width is likely much closer to the 3.05 m (10 feet) width indicated on the 1824 plan (LAC RG8 II v. 83).

Conclusions

The first two seasons of excavation at Fort Frederick have greatly enhanced our understanding of this War of 1812 period site. The two phases of occupation at Fort Frederick, being so very different from each other, create the challenge of reconstructing the earlier landscape. The excavations have revealed that the fort clearly went through periods of rise and decline as suggested by documentary accounts. Certainly, by the later part of the 1830s, this once vital position for the defence of the Kingston Naval Dockyard had deteriorated into a desperate state. With the construction of the Fort Frederick tower in 1846, the fort was given new life. As part of the defensive system surrounding Kingston, it provided defence for this former capital and gateway to the Rideau Canal waterway that extended into the hinterland and the military stronghold of Upper Canada. It is with hope that the author looks to further research and published work coming out of the final excavation season at the fort, combining all the acquired data of this site.

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Cet essai présente les résultats des fouilles qui ont eu lieu au fort Frederick (BbGc-43), fortification militaire britannique construite pour défendre le Kingston Navy Dockyard situé à Point Frederick, Kingston. Les fouilles et la recherche archivistique ont conduit à la localisation de structures remontant à la première phase de l'occupation du Fort Frederick, phase dont la construction a débuté durant la guerre de 1812 et qui s'est prolongée jusqu'en 1846. L'évaluation des structures à la lumière des documents archivistiques a permis de déceler des aires réservées à des usages particuliers et à l'identification des premières structures de la fortification. La valeur interprétative des données archéologiques a cependant été atténuée en raison des perturbations qu'ont entraînées les "fouilles" effectuées par des amateurs autour du blockhaus vers la fin des années 1960.

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