A STUDY OF THE BRITISH MILITARY BUILDINGS AT
NIAGARA-ON-THE-LAKE, 1838-71
by
DAVID McCONNELL

(1977)
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Abstract

Following William Lyon Mackenzie's unsuccessful rebellion and the raising of "Patriot" armies along the frontier, the Imperial authorities reoccupied the base at Niagara. From August 1838 until July 1841 elements of the 1st or King's Dragoon Guards garrisoned the post. To meet their needs Navy Hall was repaired as a barrack and stables, shops, and veterinary facilities were built within Butler's Barracks. As well a new commissariat store and office was put up and the other buildings were repaired. The hospital was also put into shape and new auxiliary buildings were added. The engineer office was repaired and by 1843 the engineer's quarters were ready to receive an officer. To complete the overhaul of the base, Fort Mississauga was renovated and armed with 14 guns of various kinds and calibres.

When the dragoons withdrew only a small detachment of Royal Artillery remained at Niagara for almost two years. Then in the spring of 1843 two companies and the headquarters of the Royal Canadian Rifle Regiment were stationed at Niagara. Both Butler's Barracks and Fort Mississauga housed the troops. The commandant's quarters was repaired for the commanding officer, the officers' quarters and mess for other officers, and one of the stables was converted into barrack rooms for some of the troops.
By the early 1850s the Imperial authorities were thinking of reducing their commitments abroad. As little as possible was to be spent on posts such as Niagara, which by 1854 was clearly being abandoned. Headquarters was removed to Toronto and by 1857 the last detachment of the R.C.R.R. had withdrawn. Meanwhile, in accordance with an act passed in 1856 all the military land and buildings at Niagara were transferred to the provincial authorities by 1858.

Anglo-American tensions caused by the American Civil War saw the return of a company of the R.C.R.R. to garrison the post from 1861 to 1864, but the buildings and lands reverted to the control of the Canadian government with the withdrawal of the troops. After confederation control rested with the federal government which eventually decided by 1871 that the lands at Niagara would be suitable as a training ground for the volunteer active militia.
Introduction

On 7 December 1837 William Lyon Mackenzie's rebellion was broken at Montgomery's Tavern on Yonge Street north of Toronto. Mackenzie fled to Buffalo where he recruited a filibustering army of "Patriots" who in the early morning of 14 December occupied Navy Island, Canadian territory in the Niagara River near the mouth of Chippawa Creek. Immediately Canadian militia and then British regulars rushed to the defence of the Niagara frontier. Once again the British base at Niagara, abandoned a year before, was to experience garrison life.

By 1 August 1838 elements of the 1st or King's Dragoon Guards and the 43rd regiment were at Niagara. Evidently the 43rd was only passing through to Niagara Falls but the King's Dragoon Guards remained until sometime in July 1841. During this period Fort Mississauga was made defensible, Navy Hall repaired as a barrack, the hospital repaired, and Butler's Barracks put in shape to receive elements of a cavalry regiment. Sometime in July 1841 the Dragoons were withdrawn leaving only a small detachment of Royal Artillery to look after the guns of Fort Mississauga.¹

For almost two years the base remained quiet. Then in March 1843, one company of the newly formed Royal Canadian Rifle Regiment, shortly followed by a second, moved into Niagara.² Once more Niagara was to be the headquaters
of a regiment and the commandant's quarters were renovated to receive the Lieutenant-Colonel. One of the stables in Butler's Barracks was turned into barrack rooms and the barracks in Fort Mississauga were utilized as well.

The implications of the political revolution of the 1840s in Canada reinforced the British desire to cut costs and reduce commitments in North America.³ In July 1853 the headquarters of the R.C.R.R. was transferred to Toronto and the garrison at Niagara reduced to one company. Even this was shortly reduced to a detachment which was withdrawn entirely in 1855, although it returned in 1856 for another year.⁴

At the same time the Imperial authorities indicated their willingness to turn over to the Canadian government most of their military land, except for holdings at Quebec City, Montreal, and Kingston. Thus in June of 1856 an act was signed transferring various lands from the Respective Officers of the Ordnance to the Secretary of War or to the Province of Canada.⁵ All the lands at Niagara except for Fort Mississauga were transferred to the government of the province, and shortly it was decided to transfer Fort Mississauga as well.⁶ Due to various delays it was not until 1858 that all the lands and buildings at Niagara were actually under the control of W.F. Coffin, Ordnance Lands Agent of the provincial government.⁷

Once more the military base at Niagara languished as the Canadian government tried to determine what to do with the ordnance land. The American Civil War and the resulting Anglo-American tension removed the need for a decision. The buildings were loaned back to the Imperial authorities who
garrisoned the base with a company of the R.C.R.R. from August 1861 to October 1864. During this period the British government was responsible for upkeep and various repairs were undertaken to keep the buildings habitable. Following the withdrawal of the company of the R.C.R.R. the property reverted to the provincial government and following confederation to the Dominion government.

This study takes up where the previous study (MRS 191) left off and carries the structural history of the military base down to about 1871 when the Canadian government began to use Niagara as a training ground for the volunteer active militia.
Fort George

The documentary evidence on Fort George during this period is almost none existent. The Ordnance leased the "Guard House & Magazines inside Fort George" to John Meneilly from 1 January 1837 to 31 December 1844, at a rent of £5 Halifax Currency per annum.\(^1\) It is not clear precisely what is meant by "Magazines inside Fort George" since there was only one magazine within the earthworks. Presumably the older magazine outside the earthworks was included. Meneilly again leased Fort George from 19 August 1847 at an annual rent of £4/10/0 (Sterling ?).\(^2\) There is no record of whether he continued to occupy the site from the end of the first lease to August 1847 nor precisely the length of the second lease. He was still occupying the site in 1851. Meneilly's name arose again in 1858 in connection with his lease of land at Niagara, but it is not clear if Fort George was meant or some other parcel of land on the military reserve.\(^3\)

On 1 November 1844 an Edward Cambell addressed a letter to Sir R.H. Bonnycastle asking for a piece of land 10 feet square on the south-west bastion of Fort George on which to erect a monument to his father. The latter had been Fort Major at Fort George and, according to Campbell, had died there on 1 December 1812 and had been buried within the fort "...at the Western Angle or Western Side of the Gate". Because of subsequent modifications he had never been able to locate the exact spot but he felt that the square of land he was
requesting was near his father's remains. Bonnycastle forwarded the request to the Respective Officers at Montreal who reported favourably to the Board of Ordnance. The latter in January 1845 approved Campbell's request. Whether or not Campbell actually erected a monument to his father is unknown.

In October 1852 Campbell wrote again to the Ordnance apparently requesting to buy or to lease the 8 acres of Fort George then rented to Meneilly. Campbell's letter has not been preserved nor has the final decision of the Ordnance. They clearly did not sell the land to him, but they could have removed Meneilly in Campbell's favour, for the former's lease was renewable from year to year and could be terminated at any time on three months' notice. There is no evidence that this was done.

Accompanying the submission to the Board of Ordnance in 1844 was a sketch of the southwest and north bastions of Fort George. The earthworks and, very near the southwest bastion, the gateway into the fort were outlined. Within, stretching the width of the fort, someone, possibly John Meneilly who was occupying the fort at that time, had erected a snake fence. At the point where it met the north bastion there was a small rectangular area enclosed by picketing (fig. 3).

Any further knowledge of Fort George rests almost entirely on the various maps and plans dating from 1842 to 1853. A map dated 9 February 1842 showed the guard house and magazine within the earthworks. Three other maps, of 1843, 1851, and 1852, indicated only the two magazines. The Verification Plan, 1852/53, showed both magazines and the guard house (figs. 1, 2, 6, 8, 9).
There are some indications, however, of other buildings. A map, seemingly of 1845, which outlined the town boundaries as well as showing the guardhouse and two magazines, also showed a small building in the southeast corner of the fort. A later map, dated 26 October 1850, indicated 3 small buildings in this area. These buildings do not correspond to any of the old military structures put up prior to 1837. Possibly they were farm buildings thrown up by John Meneilly who was leasing the site during these years (figs. 4, 5).

In 1860 Benson J. Lossing visited Fort George while preparing his Pictorial Field-Book of the War of 1812. According to him:

The breastworks in all directions were quite perfect, and the entire form of the fort could be traced without difficulty. There were two or three houses within the works, and the parade and other portions were devoted to the cultivation of garden vegetables.

He found the 1796 magazine occupied by a soldier named Lee and his family. Lee had built some lean-tos onto the front of the building. Lossing wrote:

It was covered with slate, and its walls, four and a half feet thick, were supported by three buttresses on each side....The interior of the magazine is arched, and the doors were originally covered with plates of copper fastened by copper nails.

The 1814 magazine he found being used as a pig-sty by an Irish family (probably the Meneillys). They lived in a small house nearby, which most likely was the guardhouse (figs. 82, 83).
Navy Hall

For the period following the rebellion of 1837, relatively little is known about Navy Hall. By the autumn of 1840 it had been fitted up as a barrack to accommodate 72 men. An inspection report of that year described the building:

The Barrack termed "Navy Hall" is an old Wooden Building, but has been put into a good state of repair for the accommodation of 72 Men, great inconvenience however is experienced from the want of a proper looking house; at present the Cooking is done under an open shed by the road side, and in the Winter the Stoves are necessarily removed within the Barrack rooms at considerable risk and to the great detriment, as represented by the Medical Officer, of the health of the Troops. This Building is on the Beach in the Town and would We consider be greatly improved, if enclosed by a wood paling so as to form a small Barrack Yard for use of the Detachment.¹

There is no evidence that the pale fence was ever built, nor that the cook house was immediately built. A map dated 9
February 1842 showed, as well as Navy Hall identified as "Soldier's (sic) Barrack", a guard house nearby, but no evidence of a cookhouse (fig. 1).²

Clearly the building was being used in 1840, but did it actually house 72 men? In November 1840 there were only 83 rank and file of the King's Dragoon Guards in Niagara. Surely some of them would be housed in Butler's Barracks near the stables for their horses. The 72 is most likely the maximum accommodation provided. This conclusion is corroborated by a return dated 26 October 1841 which again gave the accommodation of the "Ferry Barrack" [Navy Hall] as 72 non-commissioned officers and privates, at a time when all but a small detachment of Royal Artillery had been withdrawn.

Sometime during the 1840's the cookhouse was put up. A map dated 7 December 1851 dealt with Navy Hall, now called "Red Barracks", in some detail. As well as the barracks itself, there was the guard house, cook house, and, on the nearby wooden dock, the privy.⁴ This arrangement was confirmed by the Verification Plan of 1852/53.⁵ The name "Red Barracks" suggests that it had been painted a red colour, perhaps Spanish brown (figs. 7, 9).

During the '40s the accommodation of Navy Hall had been changed from 72 men to 56, and in 1851 some 34 men were actually living in the building.⁶ These soldiers would be members of the Royal Canadian Rifle Regiment.

In 1853 a certain John A. Cull of Toronto, a starch manufacturer, applied to the military authorities to lease Navy Hall for his business. He had found the water of Toronto too impure for his purposes. Although the Commanding Royal Engineer
had no objection to Cull's proposal, he recommended that the leasing be deferred until the boundary between Navy Hall and the Niagara Harbour and Dock Company, apparently in dispute, had been clarified. Perhaps because of this delay Cull gave up his plans. At any rate, there is no evidence of any lease.

In 1861 with the beginning of the American Civil War Navy Hall was occupied by a detachment of the Royal Canadian Rifle Regiment. In July the Barrack Sergeant requested that glazing and puttying be undertaken. He also noted that neither a cook house nor a privy existed. They must have fallen or been torn down since 1853. There were some administrative delays in accomplishing the repairs, but in August incidental repairs and the building of a privy were ordered, but it is not clear if these orders also included a cook house. In 1863 a barrack report indicated that the building could accommodate fifty-six men but was occupied by nine men and nine women, undoubtedly married couples of the R.C.R.R.

According to Janet Carnochan in her *History of Niagara* W.A. Thompson, a local railway promoter and entrepreneur, cut a new railway line through the oak grove, which line he found would run through Navy Hall. She claimed that he then obtained permission to move the building "...back into the Fort George enclosure, which was carefully done...."

In 1862, under a statute of the Province of Canada Thomson purchased the Erie and Ontario Railway from the town of Niagara. Sometime in 1863 he sold the railway to the Erie and Niagara Railway Company. If Miss Carnochan's recollections are correct then in 1862 or 1863, Thomson had Navy Hall moved. What precisely she meant by "the Fort George enclosure" is obscure but there is no doubt that the building was moved. Unfortunately there is no corroborating evidence as to the precise date of the relocation.
In August 1864 the British military authorities in Canada decided to abandon the military posts at London and Niagara and to return the buildings and property to the provincial government by 30 September. For some reason the Ferry Barrack (Navy Hall) was to be excepted.14
As a consequence of Mackenzie's rebellion in December 1837, the subsequent invasion of Navy Island, and the general border unrest, Colonel Foster, Commander of the Forces in Upper Canada, on 25 January 1838 ordered the renovation of Fort Mississauga as part of the plan of defence of that province. Since Foster's original orders have not been found it is impossible to know precisely what he intended for the fort. The only record is an abstract of "...Estimates for Special Services in the Western District U.C. approved and ordered to be performed by Colonel Foster... from... 5th Dec 1837. to the time of His Excellency Sir G. Arthur assuming the command."

The estimates respecting Fort Mississauga were dated 10, 12, and 17 February 1838, prepared no doubt in consequence of Foster's order of 25 January. They called for repairs to the Officers' Barracks, to a hut nearby for the Royal Artillery, and to fit up the tower for 50 men. These repairs were minor - the cost of repairing the Officers' Quarters, £18/0/5, of repairing the hut, £3/4/6, and of fitting up the tower, £3/2/12.

No details as to what was involved in this work are available. Also it seems unlikely that this was the total extent of the work. On April 19, J.R. Wright, the Commanding
Royal Engineer in the Canadas, reported that "... a considerable expenditure has been incurred and is still going on in putting the Old Fort at Toronto and the old work at Mississauga [sic] Point, Niagara, in a state of Defence...."3 Surely he cannot be referring merely to the sums above mentioned. On 16 May despite Wright's caution and his own belief that Fort Mississauga was a "contemptible work", Sir George Arthur, the newly arrived Lieutenant-Governor of, and Commander of the Forces in, Upper Canada,"...in the present unsettled and doubtful aspect of affairs on the Niagara Frontier, deemed it advisable to desire the continuance of the renovation of that Fort, as ordered by Colonel Foster on 25th January 1838 until the pleasure of the Commander of the Forces be Known."4 Again, this statement suggests extensive work.

Subsequent to that decision, Arthur approved an estimate dated 17 May for the repair of Fort Mississauga totalling £1,752/13/10½. In mid-August these repairs had not been completed.5

Although details of the repairs are lacking, there are some indications as to what they were. On 25 June, according to Lieutenant-Colonel F. Campbell, the commander of the Royal Artillery in the Canadas, Fort Mississauga was "...undergoing a complete repair and I believe a Ravalin [sic] is to be added towards the Country, a splinter proof Barracks is building within the Fort for 150 men and the Tower will contain from 40 to 60."6 A document dated the next day referred to a barrack building for 200 men, and early in July Campbell himself noted that the barrack was for 200 men.7 Despite the discrepancy in accommodation, it is likely that only one barrack building was being written of, not two.
On 24 June 1838, Sir John Colborne, the Commander of the Forces, issued orders "... for rendering defensible Fort Mississagua [sic]..." In compliance with these orders estimates dated 2 September were prepared by Captain Mackenzie, the engineer at Niagara. These estimates provided for the renovation of the interior of the tower and for building a gun platform on top, excavating the main ditch, building the main gate and bridge over the dry ditch, driving a tunnel through the earthworks to the privy, lining the officers' quarters, and constructing gun platforms on the earthworks. The cost of this was estimated at £687/5/9½ sterling. These are the only detailed estimates that have been discovered for this period immediately following the rebellion (Appendix A, figs. 48, 49, 50, 51, 52, 53).

The interior of the tower was composed of two vaults, two stories high, each divided into two levels by a floor, the rafters of which were laid close together and fixed into the wall. By 1838 the floor and rafters had rotted and it was proposed to remove them. The brickwork of the walls which had received the rafters was to be repaired. The new floor was to be supported by a series of stanchions along the walls. The stanchions were to be fixed into plates at top and bottom, and the bottom plate was to rest on brick footings.

One half of one of these rooms, room number 2, probably the one further from the entrance door, was to be turned into a powder magazine. It was to be separated from the other half by a brick-nogged partition. The brick floor was to be taken up, dwarf walls built, assumedly to support the new wooden floor of 2 inch pine plank. The air space under the floor was to be ventilated by apertures covered by perforated copper plates set into the foot of the brick partition. A door with copper locks and fastenings was to be fitted into the partition wall. The
portion of room number 2 outside the magazine was to contain artillery stores.

Room number 1 of the lower level was to be repaired in the same way as room number 2, except of course there would be no powder magazine. A well was to be dug in this room to render the tower independent of the "wretched fort". The room was to be a commissariat provision store.

Rooms number 1 and 2 of the second level were to be fitted out as barrack rooms to contain 25 men each in iron bedsteads. The new floor was to be of 3 inch pine plank. Over the magazine a course of fire brick was to be laid before the wooden floor was put down.

A new platform was proposed for the top of the tower. According to the engineer, since the arches had settled it was necessary to take the weight of the guns off them. The beams of the new platform were to be fitted into the side walls and braced onto the central partition wall of the tower. The covering of the platform was to be 3 inch pine plank.

When the fort was originally thrown up, according to the engineer in 1838, the parapet was constructed from the excavations from the interior of the fort. Consequently there was no ditch, although there was a palisade. It was proposed to dig a ditch around the earthworks to strengthen the fort in accordance with the Duke of Wellington's dictum "Deepen the ditch [,] raise the scarp, but don't reform the shape."

The estimates provided for folding gates for the main entrance. Presumably there had been gates before but what had happened to them is not known. The new gates were to be 6
inches thick, made up of 2 inch oak plank nailed together with 7½ inch rose head spikes. They were to be hung from the gate posts by wrought iron hinges and closed with an iron swing bar.

Once the dry ditch was dug it became necessary to build a bridge across it to enter the fort. The estimates provided for the construction of a simple trestle bridge, framed with 12 inch by 12 inch pine, covered with 3 inch pine plank.

In order to arm the earthworks properly, estimates were prepared to build three gun platforms in three of the angles "to traverse in any direction". Also the ways for four traversing platforms were to be built in the other four angles.

The privy for the fort was in the ditch within the palisade on the lake side. For the soldiers to get to it, it was proposed to build a tunnel (in the estimates called a "gallery") through the parapet. The framing of the tunnel was to be 6 inch pine scantling, and it was to be lined with 2 inch pine plank. The tunnel was to be closed with a strong pine door, 3 inches thick and double planked.

Item 7 of these estimates provided for lining the officers' quarters with 1 inch boards, wrought one side and ploughed and tongued. As well the outside joints were to be pointed with mortar. It is difficult to say what building was indicated but the remark, "The[re] having been a great difficulty in obtaining lime last spring the logs were not bedded in mortar" suggests that it was a new construction.

Two sets of plans of Fort Mississauga in 1839 exist - one in the War Office papers with the estimates, the other in the National Map Collection at the Public Archives of Canada. The two sets of plans essentially agree but there are certain
variations which it is impossible to reconcile. The two plans of the tower show variations in measurements and its shape (figs. 48, 51). The detailed measurements of the two sections of the earthworks do not agree and the section held by the Public Archives shows the fort fraized as well as palisaded (figs. 49, 52). Finally there are plans of a drawbridge (fig. 53). The estimates provide for a trestle bridge. Could this mean a drawbridge? The drawings in the War Office papers seem to be rough sketches, while those held at the Public Archives are much more detailed and carefully drawn. One might conclude that they were prepared as the working drawings for the construction provided for in the estimates.

The Royal Engineers proceeded with the work outlined in the estimates - the items of £1752/13/10\$ and £687/5/9\$. By 10 January 1839 work had progressed to such an extent that it was reported "...that there will be little if any balance left on either."\textsuperscript{10} In October 1838, according to Lieutenant-Colonel Thomas Cubitt, the commander of the Royal Artillery in Upper Canada, the platforms for the traversing gun carriages would not be finished that year as it was necessary for the new earth to settle. The tower had apparently been renovated, for he reported:

The Magazines formed under the Ramparts tho' small, are very good [.] the one in the Old Tower under the Barrack Room, I do not Consider so secure, tho' a roomy and a very dry one --11

Early in November, Major Barou of the Royal Engineers inspected Fort Mississauga "which I found in a much better state than I expected". He also recommended certain improvements:
1st To enclose with a Loopholed Stockade an old Barrack outside the entrance Gate, which masks the defence, is not allowed to be removed, and is besides available for accommodation -- The Cost would be about £70

2nd To throw out a log tambour to flank the Lake Side of the Fort now unseen into - this item would require £70

3rd An abattis planned on Some parts of the Counter Scarp would cost about £50

4th It would contribute to the defence of the ditch if a few Barrels of powder and shells were placed at the disposal of the Engineer officer to prepare for explosion on occasion --12

Later in the month Captain Mackenzie at Niagara received Sir George Arthur's authority to carry out Baron's proposals immediately. Later in the month Baron applied for funds to perform the work.13 Presumably it was carried out.

It was to be another two years before the fort was finally completed. By September 1839 most work was done:

This [Fort Mississauga] is now a respectable Work with a Strong Square Tower in its Centre having a 24 Pr mounted upon it on a Traversing Platform, the Tower will contain 50 men, has a Magazine and Store within it. -- Log Barrack for 100 Men within the works. -- There are three 24 Prs mounted towards the Lake and River, one 24 and one 18 Pr gun towards the Land, and an 18 Pr Caronade
[sic] and there are two 8 inch Mortars in the Fort, - it has a good Ditch Strong Out Works towards the Lake (not quite completed) well Palisaded.  

In essence it appears that the provisions of the estimates had been largely accomplished.

In November of that same year, Lieutenant-Colonel Oldfield, Commanding Royal Engineer in Canada, submitted estimates amounting to £189/9/4½ for the approval of the Commander of the Forces. What these were for specifically or whether they were actually approved is unknown but at the end of the year a report on the defences of Upper Canada stated:

Fort Mississauga [sic], at the mouth of the Niagara, has been repaired, and is now tenable against any attack which may be made by an irregular force.

In October 1840 when Campbell, the commander of the Royal Artillery, inspected Fort Mississauga, he reported:

Fort now completed. I had an 8 Inch Howitzer mounted in addition to the Two 24Prs towards the River, and have recommended Embrasures for the Guns on that Front, and the Parapet raised. The Fort is supplied with the necessary Ammunition and Stores for the Ordnance mounted. There is a N.C. Officer and 8 Artillerymen in addition to 80 Provisional Militia in the Fort. The magazines [sic] in the Tower on which the 24 Pr is
mounted are in good order: a Detachment of the Kingston Militia Company of Artillery is to be here [.]\textsuperscript{17}

A month later the Commanding Royal Engineer reported that the fort "...may be permitted to remain in its present state; no outlay for its reform is recommended."\textsuperscript{18}

There seem to have been some minor changes in 1841. In February the Respective Officers at Montreal requested the provision of a fire board for the officers' guard room and of two steamers for the cook house at the "Blue Barrack"\textsuperscript{19} The "Blue Barrack" was that building outside the main gate, by then enclosed in a ravelin and picketting. Whether these requests were approved and implemented is not known.

In August the Master General and Board of Ordnance approved the request by the Respective Officers at Montreal to convert part of the "Blue Barrack" into a canteen. In October the Respective Officers were requesting the estimated sum, £19/9/1\textsuperscript{4}, be credited to the Deputy Ordnance Storekeeper at Toronto.\textsuperscript{20} No details of the renovation are known, but the work was carried out.

In October 1841, Lieutenant-Colonel J. Oldfield, Commanding Royal Engineer in Canada, sent to the Inspector General of Fortifications proposals for the defense of the Niagara district. Although he did not propose any changes at Fort Mississauga, he did enclose a plan of the fort, a section of the tower, and two sections of the earthworks. From these we can discover what the renovated Fort Mississauga looked like (figs. 14, 54, 55).\textsuperscript{21}

According to the plan there were within the earthworks, besides the tower, five wooden buildings. Two of these were
soldiers' barracks, one an officers' barracks, another a guard house and non-commissioned officers' quarters. The identification of the fifth is almost impossible from the plan, but subsequent maps identify it as an engineer store. Outside the earthworks was the building which became the canteen, identified as an "old framed Barrack". A privy had been built on the lake side in the ditch but within the palisade, connected to the interior of the fort by a tunnel.

A comparison of the layout of the plan of the 1841 fort and the various plans before 1837 reveals that the buildings seemed to be in the same positions, with two exceptions. The pre-1837 guard house had vanished, and the engineer store was new, as was the privy. Even the functions were essentially the same, although the former officers' quarters outside the fort had become a canteen, and one of the soldiers' barracks had become an officers' barracks.

Unfortunately this plan does not agree with a plan of February 1842 (fig. 17). This plan shows a building where the pre-1837 guardhouse had been located, labelled "Soldiers' Barracks," but it does not show the engineer store. Moreover, a drawing made in 1840 by P.J. Bainbrigge of the interior of Fort Mississauga provides further conflicting evidence, since it shows one end of the engineer store, the guard house and non-commissioned officers' quarters, the soldiers' barracks (where the guard house was), and the officers' barracks (fig. 74). It is difficult to explain these discrepancies.

But which of these structures are pre-1837 buildings and which are new? An 1835 map recorded all the wooden structures within the earthworks to be ruins. Had the engineers merely repaired them, or had they torn them down and rebuilt them on their former locations? In 1838 it was noted that a
barrack was being built for either 150 or 200 men. Perhaps then at least one of these barrack buildings had been constructed anew.

A comparison of the Durnford plans of the buildings with the Bainbrigge drawing of 1840 gives further evidence that the structures may have been rebuilt. Bainbrigge's drawing of the guardhouse and non-commissioned officers' quarters does not agree with the Durnford plan in the location of doors and windows. This is also true of the building where the guardhouse was and the officers' quarters.

The 1841 plan shows the earthworks and a palisade encircling them. As well the ravelin and stockade enclosing the former officers' barrack is indicated. On the lake side a stockade has been built at water level, supposedly to act as a breakwater to prevent erosion. There also appears to be a wharf there as steps are shown coming down the rampart to the water's edge.

The sections of the tower and earthworks partially corroborate the detailed estimates of September 1838. Upon the section of the tower one room is marked "Magazine" and the other "Store". The top of the tower presents a problem. The section shows a line drawn across the tower from the top of each parapet. It is not clear what this represents -- it does not really look like a roof. On each side against the parapets are represented three steps leading up to a small platform. These could be firing platforms for men firing muskets but hardly for canon. Yet how was the 24 pounder mounted that was reported on the plan on the top of the tower?

The sections of the earthworks show that the ditch had been deepened to the landside of the fort and a palisade set up therein. On the lake side there was not a ditch, merely
the palisade, but the ramparts then sloped down to the water. The more detailed of the two sections shows a structure on the water's edge, composed of two parallel rows of posts, 7\frac{1}{2} feet high, driven into the ground, one immediately at the water's edge, the other 7\frac{1}{2} feet back. Across the top is indicated some form of wood covering. The stockade was loopholed for soldiers warding off an anticipated water borne assault. Supposedly it was also a breakwater to prevent the erosion of the earthworks by the lake.

Fort Mississauga was armed with 14 pieces of ordnance. A 24 pounder was mounted on the tower. Five other 24 pounders were each in an angle, along with an 18 pounder and an 18 pounder carronade. There were as well two 8 inch mortars in one angle. Outside the palisade on the lake side, another 18 pounder carronade and an 8 inch howitzer were mounted. On the 1841 plan near the tower two 10 inch howitzers are noted. In an inspection list of October 1843, the commander of the Royal Artillery lists two 10 inch mortars. Either there had been an exchange of howitzers for mortars or either the plan or the list was in error. Otherwise the plan and list agree.

In November 1847 an unknown civilian visited Fort Mississauga and left his impression of it:

Accompanied by a friend -- a Major of Militia from the Colborne District -- we visited the Fort on Saturday last. Strangers are not admitted, but being known to Corporal Lee, commanding the detachment of Artillery, he was kind enough to receive us courteously, and show us everything he considered interesting. In outward appearance the building is not attractive, and is far from being so
imposing as Fort Niagara on the American side of the river, but it is very strongly built, and the compartments, ramifications and embrasures of the outworks, are multifarious and complete, and could not have been constructed without an enormous expense.

We had no idea the place contained so many munitions of war, and on entering we were surprised on beholding in every direction large piles of balls, and shells of different sizes, with mortars, howitzers, and pieces of cannon of various calibre, some of them if we mistake not, upwards of nine feet in length. A company of the Royal Canadian Rifle Regiment remain with the detachment of Artillery in the Fort, under which is placed the Magazine, and on the roof, which is flat, there is a furnace for making cannon balls red hot when required. We saw the implements designed for conveying such balls to the guns, also the particular kind of wadding used on such occasions....

The store rooms contain every implement used by the Artillery in war, all in the utmost regularity -- every thing appeared to be in its place, and, as far as we could form an opinion, in excellent condition. There are instruments and scales for regulating the fuse, according to the distance required for projectiles, and other articles so
numerous that we could not remember half of them. All is ready for active warfare at a moment's notice. The whole was to us a matter of curiosity.27

During the 1840s Fort Mississauga remained quietly garrisoned until 1850 by one company of the Royal Canadian Rifle Regiment and until 1854 by a detachment of the Royal Artillery. The various inspection reports of the artillery reveal that the guns and carriages were generally in good condition. The only change was the loss of one gun for some reason or other in 1852, only 13 pieces of ordnance being noted. Whatever repairs were necessary were of such a minor nature as not to be itemized separately but covered under incidental services.28

In the summer of 1853 the high water level of Lake Ontario and stormy weather caused serious damage to the lake-side earthworks of Fort Mississauga.

The water has formed breaches in the exterior palisading, and washed away certain parts of the terrepleine of the lower Breastwork, River front. The wood revetment having rotted, about 60 feet in length of the lower slope of Rampart has slipped, and threatens to fall altogether, if not immediately repaired. The earth above the stairway of descent in the North West Angle has bulged [?] out the sheeting, and its repair is therefore requisite.29

Lieutenant-Colonel M.C. Dixon, Commanding Royal Engineer in Canada, submitted an estimate for repairs which was approved by the Master General and Board of Ordnance (Appendix P).30
In the estimate the stockade at the water's edge was to be repaired where necessary. Twelve 16 foot pieces of pine, 14 in. by 14 in., were called for. The revetment (some 66 feet) was to be taken up entirely and replaced with 12 in. by 12 in. pine 8 ft. 6 in. long and capped with 12 in. by 6 in. pine. The stairway leading down to the lower terreplein was also to be repaired -- a new frame and sheathing were necessary. As well the slope was to be repaired and sodded and the large holes in the lower terreplein to be filled in. Presumably this was accomplished in the autumn of 1853.

In the section showing the earthworks accompanying the estimate, there is no covering between the stockade and the revetment as was shown in the section dated 1841. Indeed, the revetment is flush with the slope of the rampart, while in 1841 it is shown standing perpendicular to the lower terreplein (figs. 56, 57). Which was the accurate representation?

From 1852 until 1858, when Fort Mississauga was turned over to the Canadian government, there were a series of yearly inspections of Ordnance property in Canada West. These are not in any detail but they do make general comments on the state of repair of the earthworks, tower, and magazines. All three magazines -- the one in the tower and the two in the earthworks flanking the front gate -- were uniformly reported in good repair over the seven years. The tower deteriorated from "good" in 1852, 53, and 54 to "tolerable" for the remaining four years. As well for these last years it was noted that the platform on top of the tower required repairing.

The earthworks and palisade deteriorated badly over these years. In 1852 and 1853 they were reported in good shape, but in need of a fence to keep cows off the earthworks. In the latter year, as already noted, damage from high water
and the rotting of the revetment were noted. Thereafter until 1858 the fort was in "tolerable" repair, but the erosion caused by the waves of Lake Ontario continued. In 1858 the state of repair of the fort was reported to be "not good", with the riverfront eroding badly and the palisade and stockade rotten. The rapid deterioration of the fort raises the question of whether the repairs planned in 1853 were ever actually carried out.

Fort Mississauga was slowly being neglected. In 1853 it was manned by a detachment of Royal Artillery consisting of one non-commissioned officer and four gunners. In the autumn of that year the detachment was reduced by two gunners. Then at the end of 1854 the fort was dismantled, although the guns with their carriages were to remain for years.

Perhaps the most authoritative description of Fort Mississauga at this time is that by Captain W. Hatt Noble in his "Military Memoire of the Province of Canada"

Fort Mississauga [sic] consists of an irregular four bastioned redoubt, one front of which, with its lower battery faces the Lake; the others the land. In the centre of this work is a square bombproof masonry tower, mounting one gun, and having a furnace for red hot shot on the top. It accommodates 36 men and has a magazine for 280 barrels of gunpowder, in the basement. **-- The redoubt is not reverted and its fraises & palisades have rotten. It mounts 6 - 24 prs, 1 - 18 pr, 1-8" Howitzer &2,8" 2,10" Mortars & two**
18 pr carronades in the lower battery --
The carriages & platforms of the guns are
in an unserviceable state; & the waves of
the Lake are rapidly making a breach in
the lower Battery; while the whole of the
palisades &c requires renewal, & the slopes
to be restored to their proper size and
shape. There are two small expence
magazines holding 150 barrels of powder,
sufficient for the defence of the fort --
Some houses in the fort accommodate 2
officers & 11 men [.

This description corroborates the newspaper account of 1847,
that there was a hot shot furnace on the tower, but this is
the first mention that the earthworks were fraised as well as
palisaded.

In the spring of 1855, on the intimation by the British
government that it was willing to turn over to the province
all ordnance and naval land in Canada, except for certain
lands at Kingston, Montreal, and Quebec, the provincial
government passed legislation enabling the Governor-General on
behalf of the province to accept such land.35 In June of
the next year the provincial legislature passed an act which
established two classes of land -- the title to one of which
was to be vested in the Secretary of State for War, the title
to the other to be vested in the Queen in right of the
province.36 Fort Mississauga was included in the lands of
the first schedule. Two years later, however, the fort was
turned over to the Canadian government.37

In August 1858 Lake Ontario began once again to take its
toll on Fort Mississauga. Captain James Baxter, who seems to have been some sort of caretaker, reported to William F. Coffin, Ordnance Land Agent:

... in consequence of the unusual height of water in the lake, the heavy sea rolling in from the north for the last few days, it has washed down nearly all the Pickets on the east side of the Fort at this station and has made great inroads on the outer works, and a similar blow will carry them away, the bank on each side of the Fort having been washed away a considerable distance, during the summer [.] the outer works of the Fort project eight or ten yards into the water and is exposed to every wave that roll[s]in from the lake....

Coffin must have come down to visit the fort with Baxter for in February he wrote:

... in one of the outworks the earth had been washed away that a gun or carronade looked very likely to fall into the Lake and that some of the shot had actually gone into the Lake.39

It is not known if any measures were taken to prevent further erosion. In 1860 the tower was reported in good condition, the buildings in bad, but the earthworks were not mentioned.40
In 1860 Benson J. Lossing in preparing his *The Pictorial Field-Book of the War of 1812* visited Fort Mississauga leaving both a woodcut and a description of the fort. The woodcut agrees essentially with Bainbrigge's drawing of 1840, showing the same buildings from a very similar perspective (fig. 81). Lossing wrote of his visit:

We found the gate of Fort Mississaga [sic] wide open, and walked in without leave. Not a human face was visible. I went up to and around the ramparts, and, taking a position over the entrance gate, from which I could see most of the interior and Fort Niagara beyond, I sketched the scene. In this view are seen the barracks and the castle, with Fort Niagara across the river in the extreme distance. The castle is built of brick. The walls are eight feet in thickness, and covered with stucco. While engaged with the sketch I was startled by a voice near me. It was that of the whole garrison, comprised in the person of Patrick Burns, who told me to make as many sketches as I pleased, for the fort was uninhabited except for his own family.41

With the outbreak of the American Civil War and the accompanying strain in Anglo-American relations, the fort was placed at the disposal of the Imperial authorities.42 In the autumn of 1861 estimates were prepared to deal with certain repairs at Fort Mississauga. It was proposed to reshingle a number of the buildings — officers' quarters and
kitchen, soldiers' quarters, store, canteen and privies — as well as to repair the foundations of the log buildings. The tower needed some repair and the gun platform was to be altered in some way. Funds were provided for all this work, except that to the tower and gun platform. Presumably it was carried out. In August of 1863 orders were issued to repair the bridge at Fort Mississauga.

Following the cessation of hostilities in the United States Fort Mississauga once more reverted to civil control. In August or early September 1865 a Sergeant Armstrong, who had been placed in charge of the fort, abandoned his position abruptly, leaving the fort open to the danger of vandalism. Some boys took advantage of this to strip off some lead and attempted to sell it. One lad was prosecuted and received two months in jail and two others were in similar danger. From what the lead was taken is not clear.

Sergeant Armstrong's departure seemingly led the authorities to secure another tenant for Fort Mississauga. If he behaved himself properly, kept the shot and shell neatly in order, he was to receive the first 12 months of his tenancy rent free. He was liable to eviction on a day's notice if the authorities required the site. Who this individual was or how long he remained in possession of the fort is unknown.

When Coffin assumed control of Fort Mississauga in 1858, the British Army ordnance still remained there. According to a list sent by Coffin to the Military Secretary in Toronto the armament at the fort consisted of:
<table>
<thead>
<tr>
<th>Guns</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>24 pr</td>
<td>6</td>
</tr>
<tr>
<td>Serviceable</td>
<td>18 &quot;</td>
<td>1</td>
</tr>
<tr>
<td>Carronades</td>
<td>18 &quot;</td>
<td>2</td>
</tr>
<tr>
<td>Mortars</td>
<td>2</td>
<td>47</td>
</tr>
<tr>
<td>Serviceable</td>
<td>8 in</td>
<td>2</td>
</tr>
<tr>
<td>Howitzer</td>
<td>8 in</td>
<td>1</td>
</tr>
<tr>
<td>Guns</td>
<td>24 pr</td>
<td>7</td>
</tr>
<tr>
<td>Iron</td>
<td>18 &quot;</td>
<td>1</td>
</tr>
<tr>
<td>unserviceable</td>
<td>18 &quot;</td>
<td>2</td>
</tr>
<tr>
<td>Mortars</td>
<td>10 Inch</td>
<td>247</td>
</tr>
</tbody>
</table>

As well there was various shot and shell. This list agrees with an inspection list of October 1843, with the exception of the unserviceable iron guns. Where had they come from? Had they been brought from another post to be stored at Fort Mississauga? The answer is unknown.

The War Office decided that the guns should be inspected and the serviceable ones removed into stores and the unserviceable ones sold. Despite the authorization to sell, nothing was done and "... they have been suffered to remain at the Fort ... owing to the disturbed state of the Frontier." Probably then during the Civil War years the fort was armed and garrisoned by the detachment of the Royal Canadian Rifle Regiment stationed at Niagara.

In 1865 the problem of what to do with the guns again arose. There are two lists of guns at Niagara, one dated 16 December 1865, the other 10 April 1866. The former notes seven 24 pounder and one 18 pounder iron guns, all unserviceable. The latter includes only the seven 24 pounders. What had happened to the 18 pounder? Also these
lists do not agree with the list of 1858, unless only the unserviceable guns were being inventoried. Whatever the case, some condemned guns, shot and shell were sold to the Czowski firm of Toronto and turned over to them in June 1866.51

Two years latter there were still guns at Fort Mississauga. Colonel G.R. Kennedy, the commander of the Royal Artillery in Canada, wrote the following description of the fort.

... the place is fast becoming a ruin. The guns, mortars & caronades, Shot &c. are lying in the long grass, and are becoming unserviceable from want of care, painting & lacquering. The works are also in very bad order & becoming mere mounds, the rampart crumbling into the ditch; and although the Ordnance is not in Royal Artillery charge, it concerns me so far as in case of any disturbance in that part of the country, the work would most likely be again occupied.52

In January of 1869 the War Office decided to sell the guns at Fort Mississauga with the exception of four mortars which were to be sent to Toronto. For the rest, notice of tenders was to be circulated in Canada and the United States for the disposal of the guns.53 Presumably sometime in the spring or summer of 1869 the last guns, shot and shell were removed from Fort Mississauga.
Commanding Engineer's Quarters

When the detachment was withdrawn from Niagara in 1836, the Engineer's Quarters, occupied by the commanding officer at Niagara since 1823, was vacated. In 1841 it was reported that the building had been rented to one Alexander McLeod for five years, but no further details of the terms of the lease were given. In 1841 the Ordnance was attempting to eject McLeod from his tenancy and once again lodge the senior engineer in the Niagara District in the house. In the spring a suit to evict McLeod was successful and the Barrack Master obtained possession of the house.1

Alexander McLeod was reported to be a prisoner in the United States.2 Unless there is a large coincidence he must be the Alexander McLeod arrested by American authorities on 12 November 1840 and charged with being involved in the burning of the Caroline and the murder of Amos Durfee during the Navy Island affair of 1837-8. According to a lawyer representing the Ordnance, James Boulton, McLeod had much damaged the house, but there was no hope of getting redress from him or his sureties. He is vaguely represented as a disreputable individual.3

That McLeod should be so regarded seems strange considering the reason for his imprisonment in the United
States and that he was a deputy sheriff in Upper Canada. Moreover, evicting a man while he is being tried on trumped up charges for a capital crime hardly seems fair.

An explanation may be personal animus on the part of lawyer Boulton. In an article on McLeod Alastair Watt argues that part of the reason McLeod was arrested in New York was because of a conspiracy on the part of the Davis family, against one of whom he had acted in his official capacity in Upper Canada. According to Watt, "... McLeod claims that the Davis family and their lawyer, Boulton, took advantage of the resentment against him along the border to serve their own ends". If the Boulton to whom Watt refers and James Boulton, the Ordnance solicitor, are the same, then possibly the suit to evict McLeod was part of that same conspiracy.

When Alexander Garrett, the Barrack Master, obtained possession of the house he inspected it to determine what repairs were necessary (Appendix F). The dwelling house needed fairly extensive, but not serious, repairs. All the locks were to be repaired or renewed. The floors, skirting boards, and ceilings needed work. The sashes and doors were to be refitted and rehung and the brick work, presumably of the fireplaces and chimneys, to be repainted. Outside, the shingling and weatherboarding needed repair.

Garrett writes of a "hut or office" which required similar work - fireplace and hearth and floors repaired, locks replaced, doors rehung. It is not clear if this was an attachment to the house or a separate building. If the latter it is not shown on any plan. If part of the house, it is difficult to decide from the 1823 plan which room was intended.
The various subsidiary buildings also needed attention. The cellar, root house, and dairy were three sections of a single building to one side toward the rear of the dwelling. All three needed new doors and the dairy three new windows and shutters. Three loads of sand were necessary for the floor of the cellar and the dairy also needed its wooden floor and joists replaced.

Nearby stood the coach house and woodshed. Like the dwelling house its weatherboarding and shingling required some work. Studs in the walls needed replacing and the foundation needed attention. The folding doors of the coach house were to be repaired and rehung.

The repairs to the stable and cow house were similar—shingling and weatherboarding on the outside; plastering, new door frames and doors rehung, floor repaired, mangers and bins repaired, and the replacement of various racks, pegs and hardware. According to Garrett, since sick horses had been kept in the stable it also needed purifying and painting.

The hay shed needed some work, especially on the roof. The pit of the privy was to be emptied and the weatherboarding repaired. A new lock was also necessary. (Why was it necessary to be able to lock the privy?) The covering of the well needed repair and a new bucket, chain and windlass were necessary. Various gates were to be repaired or replaced and the bridge from the road across the ravine into the garden needed repair. The various fences also needed repair or replacement.

The last sentence of Garrett's report is the most disturbing:
The dwelling house has been reported to be undermined & infested with Rats to a very great degree.\(^5\)

Following Garrett's report the Royal Engineers prepared a report and estimate of repairs to the Engineer's Quarters in June 1841 (Appendix G, fig. 15). Generally it matches Garrett's report but there are certain additions which he had not mentioned. On the exterior provision was made to repair the stone foundation, the weatherboarding and the shingling. The chimney's brick work was to be repaired and coloured. One eave trough was to be replaced and the rest repaired. The jalousie blinds were to be rehung with new hardware and to be painted green three coats in oil. The whole of the exterior of the house was to be painted twice in oil. Some colour was indicated but not specified. Standing, roof, and chimney ladders were to be repaired or replaced.

Inside the dwelling most of the doors and sashes needed to be repaired and rehung and new locks put on the doors. The ceilings of all the rooms were to be scraped and whitewashed. The walls of the dining room, bedrooms, and dressing room were to be coloured while the parlours were to be papered. (This is the first time at Niagara that there has been any mention of papering.) All the woodwork and the walls of the hall were to be painted. The brick work of the fireplaces needed repair and numerous panes of glass in the windows had to be replaced.

Repairs to the outbuildings were all lumped together. They included work on the foundations, framing, weatherboarding and shingling of the various buildings. The interiors were to be whitewashed and the doors and sashes
painted. It was necessary to remove and replace various rotten gutters, doors, sashes and sash frames, flooring, and roof boarding. Various pieces of hardware also were to be replaced.

The privy's cesspool was to be emptied and relined with 1 in. pine. The door was to be rehung and the lock replaced and a new sash supplied for the window. The exterior and the interior woodwork was to be painted and the walls and ceiling whitewashed.

The well had been fouled. It was to be cleaned out and relined. The covering over the well was to be removed and replaced and a new windlass, chain, and bucket were to be supplied.

Most of the fences were rotten or had been carried off. Only the eastern boundary fence was judged "in tolerable repair." The boundary fence near the road immediately adjacent to the building was to be torn down and a new fence of 6 ft. 6 in. high of 1 inch wrought pine boards built. They were to be attached to 4 in. x 3 in. pine rails spiked to 7 in. square cedar posts set 3 ft. 6 in. into the ground. This fence was to be painted three times in oil. The rest of the boundary fence on that side was deemed repairable. On the other two sides of the enclosure the fence had been carried away and was to be replaced by a 4 ft. fence of 1 in. rough pine boards nailed to 4 in. x 3 in. pine rails spiked to 6 in. diameter cedar posts. (The report says 6 in. diameter, the estimate 7 in.) The interior fences separating the garden from the field enclosing the stable and hay yards were to be similar to the latter fence but 6 ft. high. Two gates were to be repaired and rehung and three other gates were to be replaced entirely.
Finally the two bridges over the ditch leading from the road into the enclosure were to be repaired. A stone culvert leading from the ditch into the ravine, which had collapsed and blocked drainage, was also to be fixed up.6

The proposal and estimate was sent to the Board of Ordnance for approval. On the advice of the Inspector General of Fortifications the Board instructed the Respective Officers at Montreal to seek the approval of the Commander of the Forces to their appropriation of the building as an engineer's quarters once again. Once this was granted, the estimate could be considered in the Canada Annual Estimate for 1842-3.7 For some reason it was not included in those estimates, and in January 1842, the Secretary to the Board instructed the Inspector General of Fortifications to have it brought forward for the next year, that is 1843-4. There is no record of what happened, but if instructions were followed, the repairs to "Vavasour House" would have been accomplished during the spring-summer-autumn of 1843.

In the spring of 1849 W.C.E. Holloway, Commanding Royal Engineer in Canada, proposed moving the engineers' records from Niagara to Toronto and dispensing with an engineer establishment at Niagara. Consequently he asked for permission to rent the buildings and lot of land, which permission was granted by the Board of Ordnance in June 1849.9 On 17 September that year the Engineer's Quarters and land was leased to James Baxter for £5. In 1851 it was still leased to him.10

Royal Engineer Office
This building was on the lake shore. Although it was not shown on an 1837 map, this must have been an oversight since
it was clearly shown on an 1839 map and identified in subsequent maps in the 1840s and 1850s (figs. 13, 16, 22, 25, 28). Moreover, there were two estimates recorded in 1838 for repairing and fitting up the Royal Engineer Office. Judging from the sums involved — £5/14/10\(^\text{s}\) and £16/15/0 — the work involved was minor, but there is no evidence of precisely what was done.\(^{12}\) No other record of work on this building has been found.

When the Royal Engineers moved out of Niagara in 1849 presumably this building was put out to lease. There is no record of its being leased until 29 January 1851 when a James Colebrook took it and the land attached for £5/16/8 per annum.\(^{13}\) Whether it was leased to someone else in 1849 and 1850 or whether no one could be found to lease it before January 1851 is unknown. Early in 1852 Major Tulloch in charge of the pensioner force in Canada proposed it be turned over to a staff-sergent of pensioners. The engineers did not agree and left the premises in Colebrook's hands.\(^{14}\) Thereafter nothing is known of the building.

**Carpenter's Shop and Quarters**
The carpenter's shop was clearly identified on a map dated 9 February 1842 (fig. 17). From 1 January 1837 until 31 December 1844 it was leased to a Donald Macdonald at a yearly cost of £9/15/7 Halifax Currency.\(^{15}\) What happened at the end of 1844 is unknown but the shop was not listed among the rented buildings in 1851.\(^{16}\) According to the Verification Plan, 1852/53, there was still a building at its location (fig. 25).\(^{17}\) Presumably it had fallen into such disrepair could not be rented.
The carpenter's quarters was a house indicated on the 1842 map across King Street from the engineers' complex (fig. 16). According to a return of 1841 it was a small condemned building, occupied by an Elizabeth Mackie who paid a quit rent only for the land on which the building stood. On the Verification Plan, 1852/53, a building seems to be indicated at the location of the carpenter's quarters, but whether it was the same building is impossible to say (fig. 25). It was not mentioned in the 1851 barrack returns.
Guard House on the Beach

This guard house, called the Lower Ferry Guard House in 1842, was clearly identified on the 1842 map at the foot of King Street (fig. 16).\(^1\) Like most of the other military buildings it was repaired in 1838.\(^2\) In February 1848 a Mr. B. Roddy of Niagara offered to lease the guard house for $15 per annum. A lease was prepared and approved by the Commanding Royal Engineer.\(^3\) It is not clear that the building was rented to Roddy; there was also a suggestion that it be rented by public competition. In September 1850, it was leased for £2/19/2, a sum more than double what Roddy had offered.\(^4\) It is difficult to know if the building was marked on the Verification Plan since it certainly was not identified and there were a number of buildings indicated in the vicinity of its location (fig. 25).\(^5\)
The Buildings on the Plain

Hospital
When the regulars returned to Niagara following the Rebellion of 1837 it became necessary to renovate the garrison hospital located there.¹ There is no record of precisely what was done in late 1837 or early 1838, but sometime before 14 March of the latter year, two estimates were approved for work on the hospital at Niagara — one for £5/7/9 and the other for the more substantial sum of £41/14/1.¹

In August 1839 Captain Colin Mackenzie, the engineer at Niagara, prepared estimates for a combination guardhouse and deadhouse [i.e. a morgue], a stable, and a new privy for the garrison hospital (Appendix D, figs. 63, 64). The guardhouse and deadhouse was:

To be a framed building 24 feet by 16.
One story high, the inside to be lathed & plastered and fitted up with Guard bed, arm rack & stove pipe chimney --

This building was divided into two rooms, each 15 ft. by 12 ft. according to the notation on the plan. The plan itself errs in indicating one room — the Guardroom — to be slightly larger than the other. By scale the dead house would be 15 ft. by 11 ft. and the guard room 15 ft. by 12 ft. The two rooms were
divided by a partition wall broken at its centre by a chimney into which a stove in each room could be connected. According to the plan the building was 9 ft. from ground level to the eaves.

The estimates indicated some other characteristics of the building. There was no provision for a foundation. Evidently the sill was to be laid on 10 cedar posts 3 ft. 9 in. long set into the ground. The frame was of pine and probably the weatherboarding, roof sheeting, and shingles were the same material. The flooring was 1\(\frac{1}{2}\) in. wrought boards, probably pine. Each room had one doorway with a 1 in. ledged door. The guard room had two windows and the dead house one. The estimates provided for sashes, but also for six pairs of 3 in. butt hinges. The sashes then swung open rather than slid up or down. The guard room was fitted up with a guard bed and an arm rack for four muskets.

The stable was:

To be a framed building 14 feet by 12 the inside lined with rough boards & fitted up with rack & manger, a rough floor to be laid in the loft.

It was to have two stalls, according to the plan each 5 ft. 6 in. wide. Again the plan seems to be inaccurate. By measurement, it represents a building 13 ft. 6 in. by 15 ft., with the stalls about 6 ft. wide. It was 12 ft. from ground level to the eaves.

Again there was no provision for a foundation. The sill was to be laid on six cedar posts 3 ft. 9 in. long set into the
ground. The frame was of pine and probably also the 
weatherboarding, roof sheeting, and shingling. The main 
flooring was 2 in. and the loft flooring was 1 in., both rough 
and probably pine. There was one ledged door, 4 ft. by 7 ft., 
flanked by two windows. Above was an entrance into the loft 
closed by a second ledged door, 3 ft. by 5 ft. Three pairs of 
butt hinges were provided, probably one pair for the loft 
door, and one pair each for the windows. The walls of the 
stable were to be lined with 1 in. boards, ploughed and 
tongued.

The last item in the hospital estimate was for a new 
privy. An old one near the front entrance of the hospital was 
giving offence and was to be filled in and the new one built 
at the rear. There is no plan of the building, but from the 
estimate it was to be a simple framed structure of 4 x 4 pine 
covered with 1½ in. pine plank. Interestingly it was to be 
lathed and plastered. 2

The estimates were dated 26 August 1839 by Captain 
Mackenzie at Niagara and approved on 7 September 1839 by 
Lieutenant-Colonel W. Ward. Presumably the work started 
shortly thereafter. It was certainly underway by 18 October 
when a memorandum indicated that the work on the hospital 
outbuildings was going forward. 3 It is not recorded when 
the work was finished, but on such simple buildings, 
presumably before winter set in.

Throughout most of the 1840s little is heard of the 
hospital. In 1843 there was a proposal to plant trees along 
the north side of the fence enclosing the hospital as a 
windbreak, but it does not seem to have been approved. 4 
In 1847 provision was made to build a boarded walk from the
hospital to the privy, a service which in all likelihood was carried out.\textsuperscript{5} A year later this same problem of passage through the mud was raised by Dr. Maitland of the Royal Canadian Rifle Regiment. He noted that:

"... a plank walk is much needed between the Hospital and Butlers Barracks, as at certain seasons it is almost impassable from mud, and water...."

His proposal was endorsed by the Commander of the Forces who authorized its immediate execution.\textsuperscript{6}

Consequently an estimate was prepared for a plank walk, some 1218 ft. long, 20 in. wide, stretching from the front door of the hospital to the two storey soldiers' barracks inside the stockade of Butler's Barracks. The walk was to be of 2 in. pine plank laid on cedar sleepers, flattened on top, 4 ft. apart. The planks were to be held down by 5 in. wrought iron nails. The soldiers of the Royal Canadian Rifle Regiment were to do the work, thus saving some money.\textsuperscript{7}

At the same time that Maitland was calling for the plank walk he also asked that the partitions of wards 3, 4, and 5 in the hospital be raised to the ceiling. He felt that this would greatly add to the warmth of the hospital and consequently to the comfort of the sick in winter. This proposal was also endorsed by the Commander of the Forces and ordered executed.\textsuperscript{8}

The estimate provided that the new partitions be of 1½ in. pine, the edges shot, ploughed, and tongued and held in place by rough pine fillets. The new partitions were to be
In 1849 the surgeon at Niagara, fearing the cholera epidemic reaching there, became very concerned with the drainage around the hospital. The waste water from the well and the water falling from the roof after heavy rains did not drain away properly and became stagnant. Consequently it was proposed that a 9 in. brick barrel drain of some 350 feet stretching from the well across the front of the hospital to a ravine on its other side be put in at an average depth of three feet. Connecting to it from the hospital were four surface wood gutters to carry off the rain water falling from the hospital roof (Appendix K).10

Shortly thereafter, in June, Maitland again had occasion to complain about the state of the drains at the hospital. The existing wooden box drains leading from the surgeon's quarters in the hospital had rotted and collapsed. In consequence the cellar underneath his quarters had filled up with water. An estimate was prepared to replace this drain with a new 9 in. brick barrel drain 150 feet long, at an average depth of three feet (Appendix L, fig. 36).11

Since there was no money available for performing this service it was necessary to make special application to the Board of Ordnance for approval to construct the drains. Approval was given early in the autumn and presumably sometime in October or November the drains were put in at the hospital.12

Two maps - a map dated 7 December 1851 and the Verification Plan of 1852/53 - showed in some detail the layout of the hospital grounds (figs. 43, 44). The hospital was surrounded by a fence. This space was again divided across
its length separating the surgeon's area from the hospital ward's. The surgeon's was again divided, into a front and back yard. At the rear of the surgeon's quarters was his privy. To one side at about the half-way mark of the side fence was the stable. Originally this had been planned at the rear, but for some reason had been built at the side.

In the remaining grounds, at the rear was the patients' privy. Near it was the ash pit. Near the half-way point of the side fence was the dead house and guard house. At this point a gateway was indicated. Near the end of the hospital was the well. Both maps indicated a small structure built onto the rear of the ward section of the hospital, but there is no indication what it was. The 1852/53 map indicated some different fencing arrangements, but essentially the two maps agree. 13

Presumably the building was turned over to the Canadian government with the other structures at Niagara by 1858. In the autumn of 1861 when the British military again occupied Niagara, the hospital came under the control of Staff Surgeon Vere Webb. He very quickly complained of the condition of his quarters and the hospital. The roofs of both needed repair to prevent rain leaking in. The framework of the kitchen windows was so rotten that the rain came in and the fastenings of some of the other windows needed repairing. The chimneys needed work to prevent the rain pouring down them. He requested fireboards for the kitchen and two bedrooms, these rooms being heated by stoves. Shelves were needed in the kitchen and shelves or cupboards in two of the other rooms. The kitchen should be whitewashed and the rooms and passage coloured. At present, according to Webb, "... the Medical officers[sic] Quarters are not habitable as a Winter residence - "14
No specific estimates of repairs have been discovered but orders were issued that the hospital was to be fitted up under the general authority for putting the buildings at Niagara in order. Presumably the work was undertaken in November 1861 or in the spring of 1862.\textsuperscript{15} In 1864 the building would again revert to the Canadian government.

A barrack inspection of October 1863 gives us a last glimpse of the hospital. It is worth quoting in full.

This Hospital is capable of containing 17 Patients - It is reported by the local Medical officer that the Sanitary condition of the Barracks and Hospital at Niagara is good -- The Intermittent fever from which the troops suffered was brought on at other outposts which are not now in use -- The Diarrhoea, he states, was caused by errors in diet -- There is no doubt that the want of good Sanitary arrangements has also a bad effect upon the troops, and encourages if it does not engender disease. There is no ventilation at this Hospital besides what is obtainable from doors and windows -- The Hospital is warmed by box stoves -- There is no lavatory: hand basins and tin baths are used for washing purposes -- The Kitchen is provided with an American cooking stove. A well supplies water -- The only drainage is superficial -- There are water closets and privies in good order -- This Hospital should be examined in
conjunction with the Barracks and fitted with proper Lavatory and Bath rooms. It should also be properly ventilated, and have the drainage put into good order — It is also suggested as necessary, on account of the Barracks being inhabited by married soldiers, to set apart one ward at least for women — 16

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A water colour picture by F.H. Granger, circa 1864, clearly shows the hospital, its outbuildings and fencing (fig. 84). The picture generally corroborates the documentary evidence about the hospital. The dead house and guard house can clearly be seen in its proper location, as can one of the privies at the rear. The three units of the hospital itself are clearly visible; even the number and placing of the chimneys agree with Durnford's 1823 plan. A building which may or may not be the stable can be seen to the right. The fence seems to be a close pale fence. There is however an enclosure to the left which is not shown on any plans. Perhaps the most interesting feature is that the roofs of the buildings are all painted blue. The buildings otherwise seem to be white. 17
The Commandant's Quarters

The documentary evidence concerning the Commandant's Quarters, near the hospital, is rather slight. It was leased to a Lewis Clement for seven years from 1 May 1837 to 30 April 1844. A map dated 9 February 1842 bears the notation "Commandant's Quarters Let to Lewis Clement" (fig. 31). In all likelihood Clement occupied the building until his lease ran out.

Whether Clement wished to renew the lease is unknown, but the army wanted the house for the quarters of the officer commanding the newly arrived Royal Canadian Rifle Regiment in Niagara. Sometime before 22 June 1844 the engineers prepared estimates for repairs to the building. These were expensive and the Commander of the Forces ordered their revision. In October new estimates were submitted, amounting to £284/14/2½ sterling, still a sizeable amount. Probably they were accepted. Following approval by the Board of Ordnance the engineers advertized for tenders, probably in February 1845, to repair the Commandant's Quarters. Undoubtedly the repairs were completed in the spring and summer of 1845. Precisely what they were remains unknown.

Two further pieces of documentary evidence indicate the layout of the grounds of the Commandant's Quarters. Unfortunately they do not entirely agree. A plan dated 7 December 1851 shows the main building and two nearby structures (fig. 42). To the west and front is a small structure identified as a root house. To the rear is another small building noted as an out house. Interestingly no privy is shown, but it is difficult to believe that there was not one.
The second map is the Verification Plan, 1852/53 (fig. 44). It shows the main structure and the out house behind, but not the root house. It also shows an ash pit near the rear west wall of the house. A privy is shown attached to the rear of the quarters and connected to the out house by what appears to be a narrow corridor. Lacking any other documentary evidence it is difficult to reconcile the two maps.

Archaeological evidence merely adds to the confusion. In 1970 a Parks Canada archaeologist, James R.H. Henderson, excavated the Commandant's Quarters. The outline of the house generally corresponded to the Durnford plan of 1823 with some exceptions. Henderson found a small cellar under one part of the front rooms of the house. There is no indication of a cellar in the Durnford plan. The rear wall of the kitchen does not correspond to the massive wall shown on the Durnford plan. Henderson speculates that at some stage the massive wall, supporting a fire place, may have been torn down when stoves were introduced to heat the building. This is possible and could perhaps have been part of the repairs noted in 1844 and 1845. Henderson also found a well just to the west of the kitchen and an ash pit in the general location shown on the Verification Plan. He found evidence of plank and piling construction of foundations, a technique which has been noted above in the construction of the outbuildings at the hospital.

To the rear, in the location of the outhouses, the archaeologist uncovered a privy. This is at odds with the two plans; moreover, the size of the privy is much smaller than the outhouse shown on the plans. It would seem that the plans are in error.

There is extant a water colour of the commandant's quarters, circa 1854 (fig. 77). It is a front view and agrees
substantially with Durnford's 1823 plan, with the exception of the number of chimneys shown. There are three features of interest. As in the case of the hospital, the roofs are painted blue. There is a chimney ladder shown leaning against the tallest chimney. The fences are not picket or pale but seem to be split rail nailed to posts, three rails to a panel.24

What happened to the building after 1854? Presumably it was turned over to the Canadian government along with the other structures by 1858. Henderson speculates that it burned down, probably in the late 1850s. This is possible. At any rate there is no further evidence relating to the Commandant's Quarters.
Butler's Barracks

Canteen
Almost against the south-west wall of the pickets enclosing Butler's Barracks stood a building identified on various maps from 1839 to 1853 as the canteen (figs. 29, 31, 38, 40, 42, 44, 45). In February 1840 it was rented as a dwelling to the canteen keeper, a Thomas Reid, for £5 per annum. A report that year noted that it was "part of a very old Building used as a Granary almost in ruins and does not admit of a separate room, so generally insisted upon, being allotted for the use of the non Commissioned Officers.... The lease expired on 30 September 1842. Whether it was renewed thereafter is unknown. Whatever the building's inadequacies it continued in use for more than a decade. However, a map of 1851 noted that the old canteen was in ruins and that the former barrack store, converted to stables, contained a canteen (fig. 42).

The old building was again leased in 1848 to an unidentified female. In March 1852 the canteen was reported to be "...in a state of decay, damp, and unwholesome...." and the army felt that it should be sold no later than 1 June of that year. In the meantime, for the convenience of the tenant, the Commanding Royal Engineer was prepared to supply a back door and to repair the window sashes, but not to build a woodshed or a privy. He made a confusing remark, if the army intended to sell the building, noting that the lining of the loft could be postponed until the estimates for 1853/54.
The building was not recorded in the Verification Plan of 1852/53 (fig. 44). It is marked, but not identified on a later map of 1853, but the base map being used may be of an earlier date (fig. 45). It is a fair inference that by the early 1850's the building was of little use to the army, even as a rental property. The Commanding Royal Engineer remarked that "The Canteen Keeper can give up her Tenancy if she be not contented with the accommodation provided for her." 

**Officers' Quarter**

The Officer's Quarters and Mess continued in that function throughout the 1840's and 1850's according to the various maps (figs. 29, 31, 40, 42, 44, 45). Other than the information on the maps, in which the building was marked officers' quarters or barracks, the only evidence of the development of the building is contained in a plan dated 8 April 1843 and a watercolour by F.H. Granger, circa 1854.

The plan of 1843 shows the "altered appropriation" and the "proposed Yard and Outhouses (fig. 66)." The "altered appropriation" involved minor changes. Of the six rooms which had been individual officers' quarters, the three at the rear of the building were to be allocated to a field officer. The one at the corner of the building was to be his kitchen. The next two were to be joined by a doorway and were his quarters. A doorway between No. 2 and No. 3 rooms, which is not shown on the 1823 Durnford plan, was to be closed. The ante-room to the mess, which had extended across the building in 1823, was to be divided into two rooms, the one at the rear to be an officer's quarters and the other to serve as the ante-room. The notation on the plan that "the door [is] to be closed and partition completed" indicates that the room had already been divided, something again not shown on the 1823 Durnford plan.
The two small porch entrances and the large porch entrance to the mess room may have been rebuilt since 1823. In 1843 the doorway in all three cases is at the side rather than at the front as in 1823. To the rear of the field officer's quarters the yard, 75 ft. by 36 ft., was to be fenced in and at its rear a new privy and ash pit were to be built. There seems to have been a minor change in the kitchen area since 1823, a small room having been created alongside the pantry, but otherwise the floor plan seems the same. The building was changed to accommodate at least one senior officer and not merely subalterns as was the case in the 1820s.

The watercolour sketch, circa 1854, by F.H. Granger depicts part of the front of the officers' quarters (fig. 76). It shows the large porch (the entrance to the mess room) and one of the smaller porch entrances. In front is a close pale fence about four feet high. The roof of the building and porches appear to be painted a light blue.

Nothing more is known of the building until William Kirby, caretaker for the Department of Militia of Canada, reported on the whole complex in December 1866.

Officers Quarters - occupied by two pensioners named Pollock (?) and Graham -- The buildings are considerably out of repair[.] The occupants say the roof is leaky -- The entire garden fence gone -- and I found some of the doors open and the locks broken.10

**Orderly Room, Staff Sergeants' and Officers' Quarters**

In 1839 the most southerly of the two commissariat
buildings was still designated "Commissariat Quarter [and] Office" (fig. 29). Late that year a new storehouse and office was built and the older building was turned over to the Ordnance Department. According to a plan dated 22 April 1843 the first floor was appropriated as an orderly room, school room, quarter-master's and adjutant's quarters while the four rooms on the second floor were allocated to staff-sergeants (fig. 67).

A comparison between the 1843 plan and the 1823 Durnford plan shows that only relatively minor charges had been made, but there is no clue as to when they were undertaken. A cellar with its own porch has been added to one end of the house. The area known as the shed and school room had been separated from the rest of the house by closing up a doorway. The school room has two windows while the equivalent room in 1823 is shown to have three. In the officers' quarters, the partitions separating the hall from the kitchen and No. 1 room seem to have been rebuilt since the doorways entering these two rooms do not correspond with those of the 1823 plan. The hallway no longer extends the full width of the house, but ends at a doorway opened in 1843 allowing access to No. 3 room, the quarter-master's quarters. The doorway leading from this room to the stairway and into No. 2 room had been closed off. Access to No. 2 room is from No. 1 room by a small doorway opened between the fireplace and the upper wall. No. 1 and 2 rooms were the adjutant's quarters. The second floor, turned over to staff-sergeants, seems little changed, except that there is no access from the second to the first floor, as the stairway leads to the outside through a porch.

This building was variously identified on the maps from 1839 to 1852 (figs. 31, 38, 42, 44). In 1839 it was still the "Commissariat Quarter [and] Office", but in 1842 it was designated as "Field Officers and Staff Serg'ts Qrs."
February 1851 the building bore the title "Orderly Room, Staff Sergts Qrs [and] Offrs Qrs" and in December of that year "Orderly room, Qrs Masters Qr & Adjts Qrs." The Verification Plan of 1852 identified it simply as "Staff Sert's Qrs". Despite these variations in titles the building seems to have changed its function very little through the 1840s and early '50s.13

It was still in existence in December 1866 when William Kirby reported on it. He noted that it housed orderly rooms and quarters for non-commissioned officers but that it was vacant.14

Commissariat Quarters
In 1839, the building known as the Junior Commissariat Quarters had been neglected for a number of years. Accordingly in January the Commander of the Forces, Sir John Colborne, authorized the Royal Engineers to draw up an estimate to repair the building. In February Captain Colin Mackenzie at Niagara was directed to prepare the detailed estimates, which he completed by 25 March 1839 (Appendix C, fig. 62).

Mackenzie's estimates provide a good indication of the state of the building in 1839 and of the nature of the repairs carried out on it. The front porch foundation and weatherboarding needed to be repaired and the porch platform to be replaced. Repairs were necessary to the shingling of the various roofs and new eaves-gutters and conductors were to be supplied. The shutters which were to be taken off the front windows and put on those at the rear were to be replaced by jalousies, painted green. The building, which had not been painted since 1830, was to be painted entirely with two coats of oil paint.
The front porch interior needed work - the ceiling to be whitewashed, the walls coloured, and the woodwork painted with three coats of oil paint. The skirting board round the walls, panes of glass to the windows, and the knob and lock to the door needed to be replaced.

Similar repairs were prescribed for the hall - whitewashing the ceiling, colouring the walls, and painting the woodwork. An opening into the attic in the ceiling of the hall was to be closed and plastered. A hat rail with pins was to be installed along the walls and a new knob and lock supplied for the front door.

The four rooms of the front of the house all needed similar repairs. The ceilings were to be whitewashed, the walls coloured with distemper, and the woodwork painted with three coats of oil paint. The hearths of the fireplaces in each room were to be relaid. Panes of glass were to be replaced in the windows, and, with the exception of room No. 4, new knobs and locks were to be installed in the doors. Except for room No. 3, the plastering needed some repair. Shelves were to be put into the closet in room No. 2. The major work was the creation of an opening in the ceiling of room No. 4 and the building of a stairway to lead to the new attic-room. The stairway was to be enclosed with 1 in. ploughed and tongued boarding.

The attic was to be turned into a proper room. Studs were to be installed for walls and the ceiling and walls lathed and plastered. A frame and door were to be put in and skirting board fixed around the walls. The walls and ceiling were to be whitewashed and the woodwork painted with two coats in oil. Since two panes of glass were also called for, there must have been at least one window, probably one at each end of the room. Since provision was made for the chimney to receive stove pipes, the room was to be heated by stoves.
Between the four rooms in the main living area of the house and the kitchen area were three rooms, two of which were designated "porch" and "hall". These were the rear entrance to the house. Since the floor and joints were decayed it was proposed to replace them. From the amount of material in the estimates - 72 ft. lineal 6 in. by 4 in. pine joists and 120 sq. ft. of 2 in. pine flooring rough - it can be inferred that only the joists and floor of one of the rooms were being replaced. In all likelihood this was the porch, which would receive the most wear and tear, since it opened directly to the outside. The outside door needed to be repaired, and a thumb latch and a bolt were provided for it. One of the sashes next the door was to be replaced and the other repaired. It was to be glazed but no glass was included in the estimates. The walls and ceilings were to be whitewashed. Two coats of oil painting were also provided, presumably for the woodwork.

The larder similarly needed repairs to the plastering, and the ceiling and walls whitewashed. The door and the window sash were to be repaired, and a lock and bolt put on the door and the sash painted. Three rows of 1½ in. shelves were to be fixed to one of the walls.

The floor and joists in the cellar had decayed and needed to be replaced - both the joists (5 in. by 4 in.) and the flooring (1½ in.) were of smaller dimensions than in the case of the porch. The ceiling and walls were to be whitewashed and the door and sashes painted.

The kitchen needed extensive repairs. The plaster work was to be repaired, then the walls and ceiling to be whitewashed. The doors and sashes were to be repaired and painted twice in oil. The fireplace and hearth were to be repaired, 500 red common bricks being required.
The ceiling and walls of the servant's bedroom were to be whitewashed, and the woodwork repaired and painted twice in oil. The handrail and balusters to the room over the kitchen were to be replaced. A thumblatch was included in the requisition, presumably for a door. Two squares of glass were also ordered, no doubt to be fitted in the window of the room.

The room above the kitchen seems to have been finished in some haste. The floor boards, which it was suggested had been green when nailed down, had shrunk and needed to be taken up and relaid. Of the three closets, only one had a door. It needed to be replaced, and two other closet doors supplied. New skirting boards were to be provided and the woodwork painted twice in oil. The walls and ceiling were to be whitewashed. The window(s) needed nine panes of glass fixed in.

The vegetable cellar had deteriorated badly. Its stone walls needed to be repaired and pointed. Its roof was to be entirely replaced - rafters, boards, and shingles. Three new doors and frames were to be made and put up, along with new steps. Both the inside and outside were to be whitewashed. Fourteen yards superficial painting, twice in oils, was included in the requisition, presumably for the doors and frames.

The flooring and "bearers" [sic] of the well, located immediately behind the house, needed to be replaced. The covering and the windlass were to be repaired and painted and a new chain and bucket supplied. The well was also to be cleaned out.

A page is missing in the microfilm copy of the estimates; consequently only a small part of the estimate for the repairs
to the stable is available. From it, it is evident that at least one new sash was to be installed. At least two doors were required, since two thumb latches and two stock locks were to supplied. However, three sets of hook and band hinges were to be ordered. Perhaps double doors were to be put on the coach house. Five bushels of lime and five days of mason's work perhaps indicated extensive repairs to the stable's foundations.

A comparison between the stable shown in the Durnford plan of 1823 and the stable in the 1839 plan indicates that they may not have been the same building. The Durnford plan shows a rectangular building containing three stalls, with some sort of an addition attached to the side away from the house, perhaps to house a coach or wagon. In the 1839 plan this addition has vanished. Also the interior arrangement has changed. The rectangular building then had two rooms (not joined it would seem), one a stable with two stalls and the other a coach house. The dimensions and its position relative to the house were the same in 1839 as in 1823. It is possible that a new stable had been built on the old foundations or merely that interior renovations had been carried out.

To the right and rear of the stable stood an old privy which needed to be replaced. A new cesspool was to be dug to replace the old one which was full. The new privy was to be double, framed and weatherboarded, with a lining of ploughed and tongued 1 in. boards. Two doors and a small window sash and frame were also provided. The seat and riser were to be made of pine. The cesspool was to be 10 ft. by 6 ft. and 6 ft. deep and lined with 1½ in. planks.

The drain from the kitchen sink had become rotten and plugged up. A new excavation was necessary and the building of a 2 in. plank drain to replace the old one was required. The drain led into "the water course in the garden", presumably
a small stream.

The last item provided for the repair of the fence surrounding the property. The original estimate may have included the replacement of the entire fence but:

Captain Mackenzie's Estimate on this Item has been reduced to provide no more fence than is absolutely required.

Consequently the fence at the front of the house, which was a light pale fence 5 ft. high, was almost entirely replaced (235 ft. lineal of pale fencing was called for) but the close boarded fence at the side and rear, 6 ft. high, was patched where necessary (only 82 ft. lineal of close boarded fence was called for). In addition a strong pair of pale gates, hung on 8 in. by 8 in. oak gate posts, was to be inserted in the pale fence.

From the terms used, "light pale fence" and "close board fence", one may infer that the pales on the front fence were placed with intervals between them while the boards of the fence at the rear and sides were placed edge to edge. Whether the pales were driven into the ground or nailed to railings attached to posts at intervals is not clear from the description or estimates.15

There is no irrefutable evidence to indicate that these repairs were actually carried out. There is, however, a memorandum from Lieutenant-Colonel William Ward, Commanding Royal Engineer in Upper Canada, to Sir George Arthur, on work going on in Upper Canada that the Commissariat Officer's Quarters at Niagara were being repaired.16 It is not an
unreasonable inference that they were being repaired in accordance with Mackenzie's estimate.

The next record we have of the Commissariat Officer's Quarters occurs in the Barrack Annual Estimate for 1844-5. Presumably some time in 1843 these estimates were prepared. Three items were included - for shingling the roof of the building, for supplying chimney boards to the fireplaces, and "for coloring [sic] and whiting" the building. The first two items were disallowed by the Master General and Board of Ordnance in England but the third was approved.17

Presumably "whiting" means whitewashing, but it is not clear precisely what was to be coloured and whitewashed. Colouring usually refers to interior painting using a non-oil solvent, but whitewashing was used both inside and out.

In August 1845 and in May 1846 the Commanding Royal Engineer inspected the building. In his report he noted that the floors were almost at ground level, that the roof required shingling, that some of the lower timbers were rotten, and that the clapboarding and the verandah were in need of repair. In consequence an item was put into the Abstract of the Canada Commissariat Estimate for 1847-8 to repair the building. Subsequently a detailed estimate was received from the District Commanding Engineer to repair the building with the exception of raising the floors.18 The necessary approval had to be obtained from England. No record of it has been found, but there is a record of a minute entitled "Rel: to Comt QR Niagara being ready for Occupation", dated 28 October 1847. Unfortunately the enclosed letter has not been found, but a possible implication is that something had been or was being done to render the Commissariat Officer's
Quarters habitable. Perhaps the estimate to repair the building without raising the floors was being carried out.19

Six years later in December 1853, the Commanding Royal Engineer in Canada West, Alexander Gordon, protested to the Commanding Royal Engineer in Canada against the deferring of any of the repairs to the "Commissariat Quarter and Stores". Indeed he reported that some of them, in accordance with orders, had already been carried out, and "the deferring of any of the provisions of the Estimate cannot but be attended with much inconvenience".20

A survey of the maps and plans of the period from 1839 to 1853 sheds little light on the buildings. The maps usually show the main building, root cellar, and stable. With the exception of a map dated 7 December 1851, the privy is not shown. The latter map shows it in more or less the same position as on the plan accompanying the 1839 estimates. Since it seems unlikely that the privy was not rebuilt, the new privy must have been built on the site of the old. Was a new cesspool dug or was the old one merely cleaned out?

In his 1866 report, William Kirby, as caretaker, reported on this building:

Is a dwelling House - at present occupied by Mr. Porter - He will remove as soon as the weather moderates when I will occupy it my self - It seems to be also in need of repairs.22

Kirby did indeed occupy it and in May 1867 submitted estimates
for repairs which, after some initial confusion, were approved. There is no indication what these were. Kirby occupied the house until August 1871 when he moved out to make way for the commandant of the first Niagara camp and his staff to use the building as headquarters.  

Soldiers' Two Story Barracks
There is almost no documentary evidence about this building during the 1840s. It is marked and identified on the various maps as "Soldiers [sic] Barracks" and one may assume that it was used as such (figs. 29, 31, 38, 42, 44). Presumably it was repaired periodically but no estimates have been discovered. No doubt they were minor and subsumed under general upkeep items in the annual estimates.

The water colour drawing by F.H. Granger (circa 1854) shows the building from the parade square (fig. 76). Granger's drawing agrees generally with the 1823 Durnford plan, showing a large two storied hip-roofed building, with nine windows on the second floor and a chimney at each end. The colour of the walls and roof is a light brown, but it is difficult to conclude from this the actual colour of the building.

William Kirby, in December 1866, noted that it was in good order and that it was vacant.

Barrack Store (formerly Gun Shed)
The original barrack store had been converted into a stable by March 1839. In consequence the gun shed's function was changed to a barrack storehouse. This may have included some physical modifications since in 16 March 1839 Captain Colin
Mackenzie forwarded estimates for repairs to a number of buildings, including the "Barrack Store". It is identified on the various maps at the position of the gun shed (figs. 29, 31, 38, 40, 42, 44). Its dimensions, 100 ft. by 26 ft., are those of the gun shed drawn in the Durnford plans of 1823. It retained its function throughout the period. In 1866, William Kirby listed it as a Barrack Store:

A good building contains all the Barrack Stores deposited here.

Guard House, Cook House, and Sergeant's Quarters
The small building immediately to the south of the soldiers' two story barracks was consistently identified on the various maps from 1839 to 1853 as a guard house and cook house. On those of 1842 and February 1851 it was also noted as the Fort Sergeant's Quarters and in December 1851 as the Staff Sergeant's Quarters. The map of February 1851 showed the building divided into 3 sections (figs. 29, 31, 38, 42, 44).

It seems likely that this building is one wing of the one storey soldiers' barracks, so identified on the pre-1837 maps. It is in the same location, its dimensions are about the same, and the cook house and sergeant's quarters correspond to the pre-1837 usage. Therefore some time before 1842, probably in 1838 when much work was done, one wing of the old barracks was torn down. It has been previously argued that the cook house and sergeant's quarters of the remaining wing were newer and therefore in better condition. Consequently they were allowed to stand.

The only other evidence concerning the cook house is
contained in estimates dated 1 December 1845 (Appendix I). The estimate for the cook house (accompanying the estimates to convert stables 7, 8, and 9 into barracks) was for

Taking down old brick work and fixing up 3
New Boilers and Cast Iron pipes including
wrot Iron doors and soot holes to
facilitate the cleaning out the flues[.]

When William Kirby reported on the Butler's Barracks complex in 1866, he merely noted that this building was the cook house and guard house.

Work Shop
This was the larger of the two buildings located between the Orderly Room, Staff Sergeants' and Officers' Quarters and the Straw Shed. On the maps from 1839 to 1852/53 it was variously identified - in 1839 as a shoeing shed, in 1842 as a Forge House and Saddler's Shop (both uses connected with the cavalry unit, the King's Dragoon Guards, stationed at Niagara) but in February 1851 as "Engine House, Forge, Tailor's Shop". A later map of 1851 noted as well that it was the Armourer's shop and quarters. On the Verification Plan, 1852/53, the more general term "Work Shop" was used (figs. 29, 31, 38, 42, 44).

An inspection report of 1841 listed a Forge House and a Saddler's Shop. Both were wood, the former 22 ft. by 15 ft., the latter 15 ft. by 14 ft. Surely these were the building referred to on the map. Assuming the width at 15 ft., this structure would be 36 ft. long. Assuming the maps are scaled reasonably accurately, the building shown thereon is better than 50 ft. long. One explanation for the discrepancy
is that only part of the building was reported upon, although why there should be only partial reporting is not clear.

In December 1866 William Kirby noted that the workshop for tailors, shoemakers, and others was vacant.\textsuperscript{38}

Veterinary Stables and Quarter Master's Store
This small building was one of two located between the Orderly Room, Staff Sergeant's and Officers' Quarters and the Straw Shed. A comparison of maps suggest that it was a new building possibly put up in 1838, but neither estimates nor a plan for it have been found. On a plan of Butler's Barracks dated 6 August 1839 it was designated "sick horses" and on an 1842 plan as "Veterinary Stables (figs. 29, 31)."\textsuperscript{39} Nothing more is known about the building until on a map dated February 1851 it was designated as "Quarter Master's Store" and remained such on subsequent maps (figs. 38, 40, 42, 44).\textsuperscript{40} According to an inspection report of 1851 it was a wooden framed building 31 ft. by 14 ft. 6 in., 8 ft. high.\textsuperscript{41} William Kirby recorded this building in December 1866 as a regimental storehouse.\textsuperscript{42}

Straw Shed
Near the northern palisade of Butler's Barracks, in September 1839, the Royal Engineers put up the Barrack Master's straw shed to store the straw for the soldiers' mattresses. The Commander of the Forces ordered the erection of the shed 20 June 1839; the estimates were sent from Toronto for his approval on 2 July; the building was commenced on 8 September and finished on the 25th of the same month. The estimated cost was £85/3/7 3/4 and the actual cost somewhat less, £72/1/6 3/4 (fig. 65).\textsuperscript{43}
The straw shed was a simple wood framed one storey, peaked roof building, exterior measurements 50 ft. by 20 ft., 12 feet to the roof line. The interior was divided into two rooms one 13 ft. wide, the other 34 ft. 6 in. There was one entrance into the smaller room and three into the larger. The entrance into the smaller room was 7 ft. wide, as were the two flanking entrances into the other room. This implies double doors. The middle entrance was about 4 ft. 6 in., probably taking a single door. There seems to be no indication of a rubble stone foundation; the sill seems to have been laid on the ground. Undoubtedly the roof was shingled.44

The straw shed was identified on the various maps from 1839 to 1852 (figs. 29, 31, 38, 40, 42, 44). On the map of July 1851 it was designated "Ordnance Store," but the December 1851 map again specified straw shed. The Verification Plan, 1852/53, recorded it as barrack stores. With no other evidence it is difficult to account for the changes in functions. Possibly the July 1851 map was in error. Perhaps the building was being used to keep barrack stores as well as straw, both the responsibility of the barrack master - hence the designation "Barrack Stores."45

In December 1866 William Kirby, the caretaker at Niagara, briefly noted this building:

...a gun shed and store house for Qr Masters stores - It is vacant except some stoves and pipes - The building is [in] good order.46

Stable Barracks
In August 1838 Captain Colin Mackenzie of the Royal Engineers
at Niagara received the instructions of the Commander of the Forces, Sir John Colborne, dated 6 August 1838, to provide stabling for a squadron of the King's Dragoon Guards at Niagara. Because of the lateness of the season, Mackenzie proceeded immediately to advertise for tenders to build two cavalry stables. On 18 August a tender was accepted, the contractor agreeing to complete one stable by 25 October and the other by 31 October. Unfortunately the work did not progress punctually. A report of 22 September commented that "...the Stabling will be scarcely ready before the Winter sets in - " A subsequent report explained the delay:

...the resources of the Country were inadequate to perform the Work at so short a notice, it appears he [the contractor] had two Rafts wrecked in Gales of Wind....

Consequently the builder did not complete the stables until 4 December, at a total cost of £ 1688/13/4½ sterling.

Maps of 1839 and 1842 clearly identify these stables located in the south-west quarter of the Butler's Barracks complex, adjacent to a building identified before the rebellion as a barrack storehouse (figs. 29, 31). The 1839 map shows the identical outline of two new buildings. The 1842 map identifies both these buildings and the barrack storehouse as stables. According to a report of 16 March 1839 the latter had been converted to a stable for 20 horses, but precisely when or for whom remains unclear.
Presumably the King's Dragoon Guards stabled their horses in the buildings until they were withdrawn from Niagara in the summer of 1841. The Royal Canadian Rifle Regiment which arrived in the spring of 1843 would not need such large accommodation for horses although they may have used part of the stables. In the autumn of 1845 a detachment of the R.C.R.R. at Queenston found their accommodation intolerable. Not being able to rent a suitable building at a reasonable price, the Commander of the Forces decided to approve a proposal to convert stables 7, 8, and 9 into barracks for them, each section to contain 24 men. (Stables 7, 8, and 9 was the building, apparently divided into 3 sections, parallel to the former barrack storehouse and at a right angle to the other new building, stables 4, 5, and 6.) The orders for the conversion were issued on 4 October 1845 and the work was completed no later than 24 January 1846. 54

There is no description of stables 7, 8, and 9 extent. It is possible to extrapolate, however, from the plan and section and the estimates produced for its conversion in 1845 (Appendix I, fig. 68). Since it was proposed to batten the walls, the building was probably framed, not log. Its exterior dimensions were approximately 35 ft. by 86 ft., divided into three equal sections, each with interior dimensions of 35 ft. by 28 ft. Each section had only one window opposite the doorway. Precisely how it was laid out as a stable is unknown, but it had the usual stalls, mangers, and hay cribs. The building rested on a rubble masonry foundation, which by 1845 apparently needed some repair, since the estimate included some 27 cubic feet rubble masonry one foot square under the north wall. The building therefore was about one foot above ground level.
The conversion was relatively simple. From each section the workmen removed the stalls, mangers, and hay cribs, took up the floor boards, and lowered the joists. They then put down a new floor of 1½ in. pine, ploughed and tongued.

Certain modifications were necessary to various openings. The carpenters cut the openings for two new windows on each side of the old window opening which they closed up. They installed new sashes on hinges which were held closed by spring fasteners. The stable ventilators were covered over inside and out, and the opening into the hay loft was closed.

Each barrack room contained 24 men, 11 on each side of the room, and 2 at the side opposite the door. For these men the carpenters installed shelving, an arm band rail, a pin rail (3 pins to a man), and cut the openings for the butts of 24 muskets. They nailed a new skirting board around the inside of the room. They put up a new porch with a ledged door inside the room rather than outside. The joints in the wall boards were covered with 1/2 in. by 2 in. battens, but it is not clear if this was done inside or outside. The walls and ceiling were whitewashed twice. The outside of the door was painted one coat in oil, lead colour or other "common" colour, and lettered in white. The sashes and sash frames were painted white, three coats in oil.

An opening for a new chimney was cut in the roof and a new chimney built which extended from ceiling level through the roof. Heat was provided by a stove centrally located underneath the chimney to which it was connected by stove pipes.
This building continued to be used as a barrack and is so listed on the Verification Plan, 1852/53 (fig. 44). In December 1866 William Kirby, the caretaker for the Canadian government at Niagara, reported that the building, although vacant, had been artillery barracks converted into infantry barracks.

Stables 1, 2, and 3
The building identified as the barrack storehouse before 1837, as previously noted, was converted into a stable for 20 horses, possibly sometime in 1838. Since the other two stables put up in 1839 were numbered 4, 5, and 6 and 7, 8, and 9, presumably this building was divided into three stables numbered 1, 2, and 3. This building is identified as stables until late in 1851 (figs. 29, 31, 38). In December of that year it is noted on a map as "Canteen School Mr Sgt Qr and Stables" (fig. 42). On the Verification Plans of 1852/53 it is listed as "Canteen and Stable" (fig. 44). It is not known where the schoolmaster had gone. In December 1866 William Kirby's report identified the building as canteen and stables and noted that "Canteen is occupied by a pensioner named Girvin - Stables are vacant."

Proposed Prison
Stables 4, 5 and 6 appear to have been identical to stables 7, 8 and 9. There are two plans extent, for converting stables 6 and 4 respectively into cells (figs. 69, 70, 71). The plan of stable 4 gives inside measurements of 28 ft. by 35 ft., which coincides with the measurements of stable 9. The plan of stable 6 has the inside width at 34 ft. 10 in. and the exterior at 36 ft. 3 in. Such small variations seem hardly significant. For all intents...
and purposes stables 4, 5, and 6 were identical to stables 7, 8, and 9.63

Stables 4, 5, and 6 did not have an identical history to the other building. In 1846 the army authorities found that prison facilities at Niagara were inadequate and prepared a plan and estimate to convert stable 6 into 7 cells and a warder's room.64 The wheels of official machinery apparently turned very slowly on this proposal. It was not until 4 April 1850 that the Secretary at War approved of the plan and estimate and approved £181/13/0 sterling being appropriated for the conversion during 1850-1851.65

In Canada the Superintendent of Military Prisons, C.R. Knight, objected to the plan. An approximate estimate for constructing a new prison building of masonry had been prepared in 1849. This appealed more to Knight than the building of wooden cells within an old stable.66 In consequence Henry Vavasour, Commanding Royal Engineer in Canada, prepared a detailed estimate, amounting to £752/10/7 sterling, for six cells at Niagara.67 Having approved of £181/13/0 sterling for converting stable 6, the Secretary at War must have been shocked to receive a request for over four times as much. In consequence he decided to postpone the work until the next year.68

During 1851 and 1852 the Superintendent of Prisons continued to report unfavourably on Niagara. Early in 1853 the Royal Engineers completed a plan and estimates to convert stable 4, that is the stable at the other end of the building, into cells and warder's room (Appendix 0, fig. 70).69 This is a more elaborate plan than that for stable 6 but still only about one-half the cost of Vavasour's proposal.
There is no evidence of any action on this estimate. The reports of the Superintendent of Military Prisons continued to denigrate prison conditions at Niagara. With the garrison of the Royal Canadian Rifle Regiment being reduced and shortly to be withdrawn it is hardly surprising that the army did not take any further action on converting one of the stables in stable 4, 5, and 6.

**Proposed School**

While stables 4, 5, and 6 were under consideration for conversion to cells, they were also being considered for conversion to a school room and school master's quarters. In September 1850, the officer commanding the Royal Canadian Rifle Regiment, Lieutenant-Colonel Muter, appealed for more adequate school accommodation at Niagara, pointing out the large number of children to be taught in very confined space. Muter's appeal was carried to the Secretary of War who responded favourably instructing the Commanding Royal Engineer to confer with Muter to determine a plan and estimates for new school and school master's quarters. At the same time plans and estimates were to be drawn up for the various other posts occupied by the regiment.

In consequence by 19 February 1851, the Commanding Royal Engineer in Canada had prepared and submitted to the General Officer Commanding plans and estimates for providing school facilities for the Royal Canadian Rifle Regiment in Canada (Appendix M, fig. 72). These estimates were submitted to the Secretary at War who by then had changed his mind and did "... not consider it expedient to authorize any expenditure on that account at present".
In October 1851, the Secretary at War indicated that he intended "...to take the subject of School accommodation in Canada into consideration at an early period...." As good as his word, he requested an estimate on the conversion of stable 6 into a school. Early in January 1852 such a plan and estimate had been prepared by the Royal Engineers in Canada (Appendix N, fig. 73). Once again however the Secretary at War decided to postpone the work. Despite this disappointment the pressure continued on the War Office to provide adequate school accommodation at Niagara. In May the Secretary at War approved the conversion of stable 6 into a school room. Almost as soon as he approved the plan and estimate, he reversed his decision pending the outcome of the general planning affecting the stationing of troops in Canada. There is no evidence the conversion was ever undertaken.

While plans were developed to convert stables 4, 5, and 6 or part of it into a prison or school there is some evidence that one of the stables was converted into a barrack room. In August 1851 Lieutenant-Colonel Taylor, replacing the deceased Muter, reported that he had been told that the centre stable, that is stable 5, was to be converted into a barrack room. The Verification Plan of 1852/53 identified this building, along with its neighbour, as a stable barracks and indicated that there were four barrack rooms, that is the three in stables 7, 8, and 9 and one in stables 4, 5, and 6. In March 1852, a Treasury official made direct reference to room number 4 in approving:

...the issue of the regulated allowance of Fuel for two Stoves necessary for warming
Room No. 4 in the Stable Barrack at Niagara.\(^{82}\)

By the winter of 1852 then it seems likely that stable 4 was being used as a barrack room.

In 1866 William Kirby reported on this building. He wrote:

Barracks - were built for stables but were two years ago I believe converted into Infantry Barracks. Vacant.\(^{83}\)

Kirby is obviously reporting hearsay, but there is nothing necessarily inconsistent with his statement and the view that stable 4 was a barrack room. The rest of the building was still stables which could have been converted into barracks during the American Civil War years.

Commissariat Store and Office
Sometime in 1838 or early in 1839, Assistant Commissary General Scobell at Drummondville reported unfavourably upon the state and condition of the commissariat buildings at Niagara and apparently recommended the construction of a brick storehouse for the post, the estimated cost of which was £660 sterling. On 17 June 1839, the Commander of the Forces ordered the Commanding Royal Engineer in Canada to have a report and estimate prepared to deal with Scobell's complaints. The task was assigned to Captain Colin Mackenzie, the engineer at Niagara. By 11 July Mackenzie had drawn up the report and estimate, based on Scobell's requirements, substituting a wooden for the more expensive brick building suggested by the Assistant Commissary General.
The building Mackenzie designed was to be 2½ stories high, resting on 24 tapered coursed stone piers set into and level with the ground. According to the engineer:

The building 60 Feet by 30 Feet to be framed, weatherboarded and shingled to be lined inside with rough inch boards, the Floors to be 1½ inch Plank rough, laid on 3/8" boards, the windows to be 1½" sashes hung with hinges, folding 16 lights 8 x 10 to each the lower windows to have 1½" ledged shutters hung with hook and band hinges, the doors to be 1½" ledged, wrot & beaded hung with hook and band hinges, with wood bar to each, the step ladders to have 3 inch string pieces and steps (no risers,) housed in and spiked the upper floor to be of inch boards rough.

Included as well was a requisition to cover 108 square yards with oil paint three times. This measure is nowhere near the extent of the surface area of the building, although it is somewhat nearer the surface area of the walls of the ground floor store room. Perhaps it was intended to paint it. If so, how was the exterior treated?

In order to haul up the crates and containers of stores, the estimate provided for installation of a windlass or crane, consisting of a wheel, 8 feet in diameter on the upper storey, equipped with hoisting ropes and a hook.

The north-east end of the ground floor of the storehouse was to be set up as the Commissariat Office. The estimates
provided that:

... a portion of the building [be fitted up] as an Office at the N.E. end forming 2 rooms, building a brick chimney with 3 fireplaces plastering the ceilings and walls, providing & fixing 4 windows of 20 squares 9 x 12 to be hung folding to have 1½" ledged outside shutters, to provide and hang 2 six panel framed doors with Frames Architraves &c and to paint the walls and all the wood work, 3 coats in oil --

The requisition for painting provided for three coats of oil paint for 170 square yards, which must be for the interior of the rooms.

Beyond these provisions, the money chest from the old office was to be removed and fixed in the new quarters. The building was to be enclosed by a 6 foot high board fence. The final estimate was for a privy and cesspool (Appendix B).84

The building that was put up in the late autumn of 1839 was somewhat different than the one provided for in the estimates. There is an extant plan showing the building after it had been put up. According to a note on the plan, its construction began on 1 October 1839 and was finished sometime in December of that same year. The major difference between the building as put up and Mackenzie's plan was the addition of a basement. Otherwise a comparison of the upper floors in the two plans shows that, with a few minor variations, they
are essentially the same (figs. 58, 59). Perhaps of more note, was the actual cost, £351/15/3. Even though this included a basement, it was less than Mackenzie's estimated cost, £408/2/10\(^\frac{1}{2}\).85

The storehouse and office served its purpose until the early spring of 1843 when the Commissary General in Canada decided that it was necessary to build a vault to protect whatever monies the Commissariat had at Niagara. Undoubtedly the plan to station the Headquarters and a detachment of the Royal Canadian Rifle Regiment at Niagara would necessitate the keeping of large sums. To make the point more emphatic, there had already been one attempt at "robbery by violence" at the station. After discussions with the Royal Engineers and consideration of various plans, it was finally decided to build a money vault in one of the office rooms in the first floor of the commissariat store house building.

Initially the engineer had suggested a separate room and vault adjoining the Commissariat Office, but this plan had been rejected, because of its cost, in favour of a vault in one corner of the basement underneath the office. The Commissary General objected to this, arguing that basement vaults were very damp, rotting the money bags. In deference to the Commissary General's opinion, the vault was built on the first floor in the existing Commissariat Offices.86

The Commanding Royal Engineer prepared an estimate, dated 27 May 1843, for the construction of a money vault in the basement of the storehouse. Subsequently, because of the Commissary General's objections, the engineer prepared a plan of the vault to be constructed on the first floor. Since no accompanying estimates have been found, it is not unreasonable
to infer that the estimates for the basement vault, with necessary changes, were used to build the vault on the first floor (Appendix H, figs. 60, 61).

In accordance with the new plan, a foundation of rubble stone, filled with earth, was built in the basement to support the vault on the first floor. The vault was of brick, with 18 inch thick walls and a brick arch 9 inches thick, covered by rubble masonry. The floor was built of 8 inch flag stones, set in mortar and held together by iron dowells. The entrance was closed by a door made of flat iron rivetted to an iron frame and secured by two wrought iron tumbler locks "of the best description the country affords". On the wall opposite the door were to be two rows of 12 inch iron shelves to hold papers. It also seems likely that the Commissariat Chest which was housed in the office would be put inside the vault. Such a chest is referred to in 1850 but there are no details.

It is not clear when the vault was built, in 1843 or in 1844. The Commissary General was anxious to have it built as soon as possible, but according to instructions from the Board of Ordinance the expense was to be included in the estimates for the following year, 1844-5. Therefore the vault may have been built in 1844.

Otherwise the records are silent on the Commissariat Store and Office except for a reference in 1853. The Commanding Royal Engineer in Canada West adamantly protested that repairs be made to the Commissariat Quarter and Store, but their nature or if they were carried out is unknown.

In December 1866 William Kirby reported on the building
following its return from Imperial authorities to the Canadian Government. He wrote:

two stories high - in very good condition
[illegible] for Commissariat offices and
store - It is now converted into a Barrack
- There is a powder magazine in this
building containing a quantity of
Ammunition. But I have no account of it
among the Stores handed over to me.91

His reference to a powder magazine is interesting.
Surely he must mean merely a storeroom unless he means the
money vault which is rather small to store much ammunition or
powder.

Palisade
In July 1839 the Royal Engineers proposed to construct a
defensible picket stockade around the Butler's Barracks
Complex.92 The proposal accepted was a rectangle,
slightly longer than wide, with four bastions at the angles.
The palisade excluded the Officers' Quarter, Junior
Commissariat Officer's Quarters, and Barrack Master Quarters.

The palisade was to be made of 3400 pine pickets, 2500 of
them 11 feet long and 900 14 feet long. They were to be set
into the ground 3 ft. 6 in. Most of the stockade then would
be 7 ft. 6 in. high

excepting the faces and flanks of the
Bastions 1, 2, 3 which being on low ground
require to be high enough to cover the men
defending the flanks ... from the rising
ground in front....

Unfortunately it is difficult to obtain a clear picture of the
palisade from this description.

The front and rear gates were to be placed in the
north-east and south-west walls, and a wicket gate in the
south east wall at the rear of the officers' quarters. Near
the front entrance in the north-east wall ran a small stream
which needed to be cleared and a bridge built across it
(Appendix E, fig. 29).93

The work was undertaken by the autumn of 1839 but whether
finished that year or the next is unknown.94 It is
clearly represented on the various maps of the 1840s and
1850s. A watercolour tentatively dated 1854 shows part of the
palisade near the Officers' Quarters (fig. 76).95

Following the withdrawal of the regulars the palisade
deteriorated. In 1861 when a detachment of the Royal Canadian
Rifle Regiment returned during the American Civil War an
estimate of £150 was proposed to renew the palisade.96
Whatever was proposed seems not to have been carried out.
A photograph of 1865 shows a very deteriorated palisade (fig.
85).97
Conclusion

In 1836 the British army had abandoned the military base at Niagara. Mackenzie's rebellion and the resulting border tensions revealed once again the need for a garrison there. With the arrival of a detachment of the King's Dragoon Guards in mid-1838, the army began the renovation of the base. Fort Mississauga was once again made defensible. Stables and auxiliary buildings were put up at Butler's Barracks and the whole compound was palisaded.

In July 1841 the King's Dragoon Guards withdrew from Niagara, but within two years the headquarters and part of a new regiment, the Royal Canadian Rifle Regiment, came to garrison the town. This regiment, especially composed of long service volunteers of good conduct from other line regiments in Canada, was raised to man many of the border posts. It was felt that these soldiers were less likely to desert because of their long service, good conduct, and in many cases a wife and family. To accommodate the officers and men the commandant's quarters and the officers' quarters were renovated and one of the stables in Butler's Barracks was turned into barracks.

By the early 1850's the British were again attempting to reduce their commitments abroad. Once more the base at Niagara was to be abandoned and the land turned over to the Canadian Government. Most of the garrison was withdrawn in 1854 and in 1856 an act was passed transferring the land and buildings to the provincial government. By 1858 the physical transfer had taken place.
This second withdrawal by the British was shortlived. Once again border tensions during the American Civil War resulted in a detachment of the Royal Canadian Rifle Regiment garrisoning the post from 1861 to 1864. Thereafter the land and buildings once again reverted to the provincial, and after Confederation to the federal, government of Canada.
Appendix A. Report and Estimate for Carrying on Repairs and rendering defensible the Fort on Mississagua Point Niagara U.C. pursuant to the Order of His Excellency The Commander of the Forces 24th June 1838.

Report
Item 1

N\textsuperscript{0}2 of Foundation
This portion is one half of the lowest floor measuring in the clear of the Walls 35 ft 6". The whole of the ceiling or joists of the floor, immediately over head being totally decayed, to be removed, the walls made good with brickwork where they were pierced to bear the floors, which are now proposed to be supported by stanchons clear of the walls, the rafters to be the usual distance apart instead of being placed in close contact as before, which is not necessary and possible promoted decay. The plate under Stanchons to be placed on a brick footing. The inner half 17'-6" x 16'-6" to be fitted up for a powder Magazine with a 2 in deal floor ventilated from the outer apartment (whose brick floor is 1'-6" lower) by perforated plates of copper 1'-6" x 1'-6" set into apertures left for ventilation at the foot of a brick nogged Partition (plastered outside to prevent Boards taking fire []) that separates the Magazine from the outer apartment calculated for Artillery stores 16 ft 6" x 18'-0"

N\textsuperscript{0}1 of Foundation
It is here proposed as in N\textsuperscript{0}2 precisely, to support with stanchons on brick footing, the floor over head, but the brick floor to remain as heretofore; a well is proposed to be sunk in the appartment, it being His Excellency's desire to render the Tower independent of the wretched fort. This appartment to serve "Minition de bouche" Commissariat Provision store.
Nos1 and 2 Rooms of Ground Floor
Are proposed to be fitted up for Barrack Rooms 16' 6" x 35' 6" each, to contain 25 Men each, in iron headsteads, with 3 in floor, and a fire brick floor over Magazine. The floors are this thickness in case of being required to carry heavy stores -

Platform on Top of Tower
The Arches having settled, it is proposed to relieve them from the weight of the Guns, by constructing a platform as shewn in this sketch, to be carried by the side walls, and braced on to the partition wall, which will be thoroughly made good at the foundation & the toothings [?] high up, left by the decayed joists this wall is moreover much strengthened by the stanchons and frame work of plates, and sills of new floors; I can only hear of one 18 p' having ever been mounted on the Tower, which is supposed to have never been fired.

Item 2

There being no ditch to the Fort, as the parapet has been formed by excavating the interior, (which stands level with the Berm) The palisades can be cut down in any part and in most unseen; and any number of assailants have ample footing; The only security now is in a Ditch, and such an one as in usually given to defend dead works and redoubts, is here proposed; it will leave no footing for the assailants, whom it places moreover in an awkward position, for hewing down the palisades, it is submitted in accordance with a maximum of His Grace the Duke of Wellington "Give me a deep ditch and high scraps", and in case of reform proposed at Gibraltar in 1823 His Grace's reply was "Deepen the ditch raise the scrap, but don't reform the shape" It is proposed also in default of flank defences as the cheapest remedy in the present case; It is to be excavated ¼ by Military labour, and possibly altogether by the Soldier, and greater portion of the déblais is absolutely seen from the Country ¼ its height in many places, Standing as it does almost on the plane
of site; from the remblais, for the Parapet, having come from the interior

Item 3

Provides for a pair of folding oak Barrier Gates and posts with their fastenings

Item 4

Provides for a Trestle Bridge across the Ditch

Item 5

Provides for 3 Gun platforms on 3 points of the Fort for Garrison Carriages, made to fill nearly the whole Salient, so as to traverse in any direction, including also the ways for 4 Traversing platforms in the other 4 Angles.

Item 6

For the Comfort of the Troops, and to ensure cleanliness in the Fort, it is here estimated to open a passage 60" x 30" thro' the rampart, to lead to Privy which is within the palisades in the Ditch.

Item 7

Provides for lining the Officers Quarters, and mess Room, with 1 in boards; and is recommended for the due Comfort of the Officer in addition to pointing the outside joints with Mortar. The[re] having been a great difficulty in obtaining lime last spring the logs were not bedded in Mortar
## Estimate

### Item 1

The Tower Second room of foundation Removing old brick flooring, building dwarf walls for new Magazine, Laying flooring for do, building partition wall and making and fixing door with copper Locks and fastenings.

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>71 Feet Super 2 in pine plank @ per 100 feet</td>
<td>10/-</td>
<td>7</td>
<td>70</td>
</tr>
<tr>
<td>296 Feet -&quot;- -&quot;- -3- -&quot;- -&quot;- -&quot;-</td>
<td>15/-</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>560 Feet -&quot;- -&quot;- -2- -&quot;- -&quot;- -&quot;-</td>
<td>10/-</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>7½ Feet Cube oak for Portal [?] at per foot cube</td>
<td>/7½</td>
<td>4</td>
<td>30</td>
</tr>
<tr>
<td>30 Feet Super 2 in pine @ per 100 ft</td>
<td>/7½</td>
<td>4</td>
<td>30</td>
</tr>
<tr>
<td>2 Feet cube oak at per foot cube</td>
<td>5/-</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>50 Feet -&quot;- Super 1 in pine at per 100</td>
<td>40/-</td>
<td>8</td>
<td>40</td>
</tr>
<tr>
<td>200 Bricks red common @ per 1000</td>
<td>1/-</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>10 Bushles of Lime at per bushel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Pair Gudgeon and band hinges lock and fittings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>compë including sheet copper all copper</td>
<td>1/3</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>14 Days a civil Carpenter at per diem</td>
<td>6/3</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>28 -&quot;- Military - do -</td>
<td>1/3</td>
<td>15</td>
<td>21</td>
</tr>
<tr>
<td>4 -&quot;- Civil Bricklayer - do -</td>
<td>7/6</td>
<td>10</td>
<td>70</td>
</tr>
<tr>
<td>8 -&quot;- Military - do -</td>
<td>1/3</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>6 -&quot;- Civil Laborer - &quot; -</td>
<td>3/9</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>2 -&quot;- Double Team - &quot; -</td>
<td>12/6</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>

N° 1 Room of Foundation, Building dwarf walls for plates and bearers [?] of new ground floors, repairing brickwork, and fitting in by Mason, for ends of old beams cut out, Digging well, Facing, forming and Covering.

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4000 Bricks red Common at per 1000</td>
<td>40/-</td>
<td>8</td>
<td>40</td>
</tr>
<tr>
<td>16 Bushles of lime at per bushel</td>
<td>1/-</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Item</td>
<td>Unit</td>
<td>Quantity</td>
<td>Cost</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------------</td>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>6 Loads of Sand at per load</td>
<td>4/1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>4 Days a Civil Bricklayer at per day</td>
<td>7/6</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>8 &quot;&quot; Military - do -</td>
<td>1/3</td>
<td>&quot;</td>
<td>10</td>
</tr>
<tr>
<td>6 &quot;&quot; Military Laborer -</td>
<td>1/3</td>
<td>&quot;</td>
<td>7</td>
</tr>
<tr>
<td>20 Feet excavation of well 6 feet diameter and lining with Stone Labour only a pr feet lineal</td>
<td>7/6</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>3927 Cubic feet stone lining at per toise</td>
<td>216 feet</td>
<td>55/</td>
<td>5</td>
</tr>
<tr>
<td>1&quot; Mills improved pump included putting up</td>
<td>5</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>6 Days a single team at per day</td>
<td>7/6</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

**No. 1 and 2 Rooms of ground floor, removing old floor, and Making good by mason for ends of old beams, laying new floor, and covering with 3 in plank, and in no 2 Room, laying a brick course for fire floor over Magazine.**

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Quantity</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1034 Feet Cubic pine timber at per foot</td>
<td>/3 1/2</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>1160 &quot;&quot; Super 3 in pine for floor at per 100 ft</td>
<td>15/</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>300 &quot;&quot; 11/4 in - do - do -</td>
<td>7/6</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>&quot; Iron work for door way including hinges &amp; Staples</td>
<td>1</td>
<td>5</td>
<td>&quot;</td>
</tr>
<tr>
<td>&quot; Fittings for rooms including shelves pin rails and bands &amp;ca</td>
<td>11</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>80 lbs Spike nails at per 1lb</td>
<td>/6</td>
<td>2</td>
<td>&quot;</td>
</tr>
<tr>
<td>20 Bushles of lime at per bushel</td>
<td>1/-</td>
<td>1</td>
<td>&quot;</td>
</tr>
<tr>
<td>1000 Bricks red common at per 1000</td>
<td>40/</td>
<td>2</td>
<td>&quot;</td>
</tr>
<tr>
<td>100 Days a Military Carpenter @ per day</td>
<td>1/3</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>100 &quot;&quot; Civil [Civil] labourer &quot;&quot;</td>
<td>3/9</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>6 &quot;&quot; &quot;&quot; Bricklayer &quot;&quot;</td>
<td>7/6</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>12 &quot;&quot; &quot;&quot; Military - do - &quot;&quot;</td>
<td>1/3</td>
<td>&quot;</td>
<td>15</td>
</tr>
</tbody>
</table>

**Upper Floor on top, for Guns on Garrison Carriages; cutting out Brickwork, and repairing walls for receiving ends of**
beams & fixing beams & a, making
good by bricklayer including all labour
and raising Materials.

798 Feet cubic pine timber at per foot cube /3½  11 12 9
1300 "- Super 3 in pine at per 100 feet 15/- 9 15 "
10 Bushles of lime @ per Bushel 1/- " 10 "
20 "- Sand "-
90 lbs of Spikes at per lb /6  2 5 "
15 Days a Civil Bricklayer @ per day 7/6  5 12 6
30 "- Military - do - 1/3  1 17 6
24 "- Civil Carpenter "-
48 "- Military - do - "-
40 "- Civil Labourer "-
80 "- Military - do "-
Use of Gyn Pull [?] and tackle 1 " "

Total for the Tower Item 1 carried over £184 4 5

Excavating the ditch and forming counter Scarp

Item 2

5163 Yards cubic of excavation pr Yd 1/2½  311 18 7½
400 Feet Super 3 in pine wheeling [?] plank 15/-  3 " "
20 ft long at per 100 feet Super
50 Wheel Barrows at each 20/-  50 " "

Total of item 2 £364"18"7½

Item 3

Barrier gates of Oak 6 in thick made of 2 in
plank and nailed with 7½ in rose headed nails,
hung with strong wrought iron hinges &ca swing
bar complete.
114 Feet cubic oak 12" x 12" at per foot  /7½ 3 11 3
270 " Super 2 in Oak plank at per 100 ft 15/ 2 " 6
300 lbs 7½ in rose headed spikes @ per lb  /4 5 " 
   Iron swing bar, hinges, brads, & fast[en] 17 6
  ings complete
7 Days a Civil Carpenter @ per day 6/3 2 3 9
14 " Military - do - "- 1/3 " 17 6
4 " Civil labourer "- 3/9 " 15 "
8 " Military - do "- 1/3 " 10 "

Total Item 3 £32.4.0

Item 4

Standing Trestle Bridge across Main Ditch

418 Feet cube pine 12" x 12" at per 100 feet 36/- 7 10 5½
560 " Super 3 in pine plank @ per 100 ft. 15/ 4 4 "
30 lbs of Spikes at per lb  /6 " 15 "
10 Days a Civil labourer at per day 3/9 1 17 6
20 " Military - do - "- 1/3 1 5 "
10 "- Civil Carpenter "- 6/3 3 2 6
20 "- Military - do "- 1/3 1 5 "

Total for Item 4 £19.19.5½

Item 5

Making and laying 3 Gun Platforms of 3 in
pine plank, laid on 12 pine bearers [?],
including also the ways for 4 Traversing
platforms.

950 Feet cube pine at per 100 ft 36/- 17 2 "
2180 " Super 3 in pine plank @ per 100 ft 15/- 16 7 "
80 lbs Spikes @ per lb /6 2 " 
4 Days a Civil Carpenter @ per day 6/3 1 5 "
8 "- a Military - do "-
15 "- a Civil labourer "-
30 "- a Military - do "-

Total of Item 5 £41.17.9

Item 6

Driving a Gallery through parapet to communicate with the Privy in the Ditch, and making the frames and Sheeting and a strong door.

200 Feet 6 in pine Scantling @ per 100 ft 15/- 1 10 "
800 "- Super 3 in pine plank for sheeting at do Pine Door 3 in thick double planked complete 10/- 4 " "
with fastenings and hinges &a 1 4 6
7 Days a Civil Carpenter @ per day 6/3 2 3 9
14 "- Military - do "-
50 "- Military workman for the excavation 1/3 3 2 6

Total for Item 6 £12.18.3

Item 7

Lining for Officers Quarters and Mess Room

2262 Feet Super 1 in board wrought one side ploughed and tongued at per 100 5/- 5 13 1
10 Days a Civil Carpenter at per day 6/3 3 2 6
20 "- Military - do " -
40 lbs Rose headed Nails at per lb /6 1 " "

Total for Item 7 £11.0.7

Appendix B. Report and Estimate for building a new Commissariat Store House and Office at Fort George U.C. pursuant to the order of His Excellency the Commander of the Forces dated 17th June 1839.

Report

1 This service is proposed to be done by Contract, the prices are based on the Engineer practice on the spot.

2 Mr Asst ComY General Scobell having been called upon to point out the extent and nature of the accommodation required and the site proposed. This Estimate is formed upon the data given in all particulars excepting that Mr Scobell proposed the building to be Brick, as being on Government ground, and Fort George being a resumed Ordnance Station the difference in the cost would be as 3 to 5, a brick building would cost £660 St9. Adverting to Mr Scobell's observation that the Senior Commissarys Quarter and Office ordered for repair but not commenced might be rendered available for the Troops and the amount £118.7.10 placed toward the erection of a new store and office, in the 1st observation Mr Scobell is correct, but the repairs have been forwarded as authorized by the Commander of the Forces and well advanced towards completion, but should the accommodation required by the Troops be authorized and this building afford it (which I think it will) the amount of the repairs will be covered by the authority delegated to the Troops who will be accommodated at a cheap rate forthwith and the same amount carried to the credit of the Commissariat store if authorized. In the store estimated the framing and scantling are estimated to carry stores required by Mr Scobell.
3 A wheel and Axle Crane or Windlass is proposed for hoisting the Stores to economize labour

4 Mr Scobell proposes a portion of the ground floor to be appropriated for an Office consisting of 2 rooms, the whole of the upper story to be available for stores the joists of the Attic to be roughboarded to secure empty cases &

5 The old Money chest to be removed from the present office the damages there to be made good and the chest refixed in the new office.

6 By Mr Scobell's proposal the Commissariat Premises at present scattered will now be concentrated on a rectangular spot 158 feet long by 73 feet wide, the store house being at the west end and the yard enclosed with a boarded fence with wicket and gate. A privy is proposed for convenience to the Store and Office.

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Amount to be paid from the Military Chest including all labour and Material purchased on the spot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 1</td>
<td></td>
</tr>
</tbody>
</table>

To excavate for the foundation of the Piers (one foot larger all round than the intended Pier, which was to be built of good coursed stone work 2 ft 6 inches by 2 ft at the base, and battering 3 inches on each face, to finish 2 feet by 1 foot 6 at the top, the ground to be filled in and rammed to ditto
### Item 2

The building 60 Feet by 30 Feet to be framed, weatherboarded and shingled to be lined inside with rough inch boards, the Floors to be 1\(\frac{1}{2}\) inch Plank rough, laid on 3/8" boards, the windows to be 1\(\frac{1}{2}\)" sashes hung with hinges, folding 16 lights 8x10 to each the lower windows to have 1\(\frac{1}{2}\)" ledged shutters, hung with hook and band hinges, the doors to be 1\(\frac{1}{2}\)" ledged, wrot & beaded hung with hook and band hinges, with wood bar to each, the step ladders to have 3 inch string pieces and steps (no risers) housed in and spiked the upper floor to be of inch boards rough,

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>80/</th>
<th>12</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 ft</td>
<td>300 Ft linial 12x10 pine sills per</td>
<td>80/</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>484</td>
<td>-- &quot; -- 8x6 -- &quot; -- Posts -- &quot; --</td>
<td>33/9</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>600</td>
<td>&quot; -- 8x6 -- &quot; -- Plates &amp; Girths</td>
<td>33/9</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>440</td>
<td>&quot; -- 6x3 -- &quot; -- Braces -- &quot; --</td>
<td>18/9</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>1440</td>
<td>&quot; -- 6x3 -- &quot; -- Studs -- &quot; --</td>
<td>18/9</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>720</td>
<td>&quot; -- 12x3 -- &quot; -- Joists -- &quot; --</td>
<td>30/</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>720</td>
<td>&quot; -- 10x3 -- &quot; -- &quot; -- &quot; --</td>
<td>25/</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Item Description</td>
<td>Quantity</td>
<td>Unit Price</td>
<td>Total Price</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>Squares 1&quot; rough roof boarding per sq'</td>
<td>@8/9</td>
<td>8</td>
<td>19 $4\frac{1}{2}$</td>
<td></td>
</tr>
<tr>
<td>Shingling to 4\frac{1}{2}&quot; guage</td>
<td>&quot;17/6</td>
<td>17</td>
<td>18 $9$</td>
<td></td>
</tr>
<tr>
<td>Rough plank floor on 3/8 boards</td>
<td>&quot;21/3</td>
<td>36</td>
<td>7 $9\frac{1}{2}$</td>
<td></td>
</tr>
<tr>
<td>Rough 1&quot; boards on 3/8 boards</td>
<td>&quot;11/3</td>
<td>9</td>
<td>12 $7\frac{1}{2}$</td>
<td></td>
</tr>
<tr>
<td>Squares 1&quot; lining rough</td>
<td>@15/</td>
<td>31</td>
<td>6 $3$</td>
<td></td>
</tr>
<tr>
<td>Windows 16 lights 10x8 hung folding, including Sashes, Frames Glass &amp;a</td>
<td>@25/</td>
<td>18</td>
<td>15 $&quot;$</td>
<td></td>
</tr>
<tr>
<td>3&quot; butt hinges with screws</td>
<td>&quot;1/</td>
<td>1</td>
<td>10 $&quot;$</td>
<td></td>
</tr>
<tr>
<td>6&quot; with screws</td>
<td>&quot;2/</td>
<td>1</td>
<td>10 $&quot;$</td>
<td></td>
</tr>
<tr>
<td>1\frac{1}{2}&quot; ledged shutters</td>
<td>&quot;1/</td>
<td>3</td>
<td>&quot;$&quot;</td>
<td></td>
</tr>
<tr>
<td>24&quot; Hook &amp; band hinges</td>
<td>&quot;5/6</td>
<td>1</td>
<td>7 $6$</td>
<td></td>
</tr>
<tr>
<td>8&quot; bolts with screws &amp;</td>
<td>&quot;2/</td>
<td>1</td>
<td>12 $&quot;$</td>
<td></td>
</tr>
<tr>
<td>10&quot; dead lock best, complete</td>
<td>&quot;8/9</td>
<td>8</td>
<td>9 $&quot;$</td>
<td></td>
</tr>
<tr>
<td>Super 1 3&quot; Strings &amp; Steps</td>
<td>&quot;/9</td>
<td>4</td>
<td>4 $&quot;$</td>
<td></td>
</tr>
<tr>
<td>108 Yrs Super 1 Painting 3 coats in oil</td>
<td>&quot;1/3</td>
<td>6</td>
<td>15 $&quot;$</td>
<td></td>
</tr>
<tr>
<td>Total Item 2</td>
<td>255 $15$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add 1/10th for contingencies</td>
<td>25 $11$</td>
<td></td>
<td>6 $&quot;$</td>
<td></td>
</tr>
<tr>
<td><strong>Total Item 2</strong></td>
<td>281 $6$</td>
<td></td>
<td>6 $&quot;$</td>
<td></td>
</tr>
</tbody>
</table>
**Item 3**

To provide a Windlass or Crane, to be fixed in the upper story to have an oak shaft 8" diameter with iron pinions and bearings. Pine wheel 8 ft diam with wrought irons for rope to work in the working and hoisting ropes to be 6" best white rope with strong hook &a complete

Add 1/10 th for contingencies

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>10</td>
<td>13 15</td>
</tr>
</tbody>
</table>

**Item 4**

To fit up a portion of the building as an office at the N.E. end forming 2 rooms, building a brick chimney with 3 fireplaces, plastering the ceiling and walls, providing & fixing 4 windows of 20 squares 9x12 to be hung folding to have 1½" ledged outside shutters, to provide and hang 2 six panel framed doors with Frames Architraves &a and to paint the walls and all the wood with 3 coats in oil

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Yas excavation to chimney</td>
<td>@1/9</td>
<td>9 9</td>
</tr>
<tr>
<td>3</td>
<td>Toise rubble stone work to do</td>
<td>&quot;70/</td>
<td>10 10</td>
</tr>
<tr>
<td>8688</td>
<td>bricks red common, laid including all materials</td>
<td>&quot;65/</td>
<td>28 4 8½</td>
</tr>
<tr>
<td>3</td>
<td>Chimney bars 96 lbs</td>
<td>&quot;/8</td>
<td>3 4</td>
</tr>
<tr>
<td>4</td>
<td>Iron flue pipes for stoves with stoppers</td>
<td>2/6</td>
<td>10</td>
</tr>
<tr>
<td>400</td>
<td>bricks best laid in hearths</td>
<td>&quot;8/9</td>
<td>1 15</td>
</tr>
</tbody>
</table>
### Item 4

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Quantity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>170 ft linial 6x3 pine studs in partition</td>
<td>$18/9</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>5½ Squares flooring labour extra in do</td>
<td>$5/7½</td>
<td>1</td>
<td>5½</td>
</tr>
<tr>
<td>130 ft linial ? skirting 9 inches wide</td>
<td>$/6</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>4 Windows glazed 20 lights 9x12 and hung with Frames, linings, single architraves &amp;c complete</td>
<td>$50/ 10</td>
<td>10</td>
<td>500</td>
</tr>
<tr>
<td>2 Doors 6 Panel bead &amp; butt [?] with frames, single architrave best 7&quot; iron rim lock &amp;c</td>
<td>$50/ 5</td>
<td>5</td>
<td>250</td>
</tr>
<tr>
<td>192 Yas super 1 3 coat Lath &amp; Plaster</td>
<td>$1/6</td>
<td>14</td>
<td>84</td>
</tr>
<tr>
<td>96 ft -- &quot; -- 1½&quot; bead &amp; butt shutters</td>
<td>$1/</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>8 pr 18&quot; Hook &amp; band hinges</td>
<td>$5/</td>
<td>2</td>
<td>&quot;</td>
</tr>
<tr>
<td>4 Setts shutter fastenings complete</td>
<td>$2/6</td>
<td>10</td>
<td>&quot;</td>
</tr>
<tr>
<td>170 Yas super 1 3 coat painting</td>
<td>$1/3</td>
<td>10</td>
<td>12</td>
</tr>
</tbody>
</table>

**Add 1/10th for contingencies**

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Quantity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 days a Carpenter</td>
<td>$6/3</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>4 -- &quot; -- &quot; -- Bricklayer</td>
<td>$7/6</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>4 -- &quot; -- &quot; -- Laborer</td>
<td>$3/9</td>
<td>&quot;</td>
<td>15</td>
</tr>
<tr>
<td>1 -- &quot; -- &quot; -- Double Team</td>
<td>$12/6</td>
<td>12</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total Item 4**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>108</td>
<td>4</td>
<td>6½</td>
<td>90</td>
</tr>
<tr>
<td>3</td>
<td>9½</td>
<td>4</td>
<td>6½</td>
</tr>
</tbody>
</table>

### Item 5

To take down, remove and refix the chest and fixtures from the old Office to the new, including making good the Floor Brick work and Plastering in the old Office.

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Quantity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 days a Carpenter</td>
<td>$6/3</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>4 -- &quot; -- &quot; -- Bricklayer</td>
<td>$7/6</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>4 -- &quot; -- &quot; -- Laborer</td>
<td>$3/9</td>
<td>&quot;</td>
<td>15</td>
</tr>
<tr>
<td>1 -- &quot; -- &quot; -- Double Team</td>
<td>$12/6</td>
<td>12</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>12</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
Add 1/10th for contingencies

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Quantity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Item 5</td>
<td></td>
<td>759616</td>
<td>65.6</td>
</tr>
</tbody>
</table>

**Item 6**

To enclose the Premises with a boarded fence 6 feet high. To excavate a Cess pool and build a framed Privy 6 feet by 6 and ? from the surface of yard &c.

350 feet linial boarded fence 6 feet high Cedar Posts 7 feet apart 2 pine rails 4x2  
20 ft super 1 framed & braced Gate  
1 PF hinges & fastenings 25 lbs  
Digging Cesspool 9 ft x 6 & lining with 1½" pine building a framed Privy with ledged doors, sash

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Quantity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/9</td>
<td></td>
<td>30 12</td>
<td>6</td>
</tr>
<tr>
<td>1/6</td>
<td></td>
<td>1 10</td>
<td></td>
</tr>
<tr>
<td>@/10</td>
<td></td>
<td>1 10</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>43 3 4</td>
<td></td>
</tr>
</tbody>
</table>

Add 1/10th for contingencies

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Quantity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.6</td>
<td></td>
<td>17 9 8</td>
<td>39</td>
</tr>
</tbody>
</table>

408 2 9½

PAC, MG13, WO55/1917, B-3041, pp. 466-71, Fort George, 11 July 1839.
Appendix C. Report and Estimate for repairing the Junior Commissary's Quarters at Fort George Upper Canada under the authority of His Excellency Sir John Colborne G.C.B. Commander of the Forces dated 23rd January 1839.

Report
Junior Commissary's Quarters
This is a framed cottage, weatherboarded and shingled with an attic ascending by a ladder from the passage the kitchen is of brick one and a half story the whole premises including a stone cellar and log stable have been with the fences long neglected. The external repairs are in consequence and of such a nature and extent as detailed in the Estimate and to be done by day work the front windows have wooden outside shutters, but being much exposed to the sun, Jalousie blinds are preferred, the shutters to be put on the back room apartment.

The external painting is much wanted and has not been performed since 1830.

[Hall]
To render the Attic available it is quite necessary to Construct a Stair Case which it is proposed to spring [?] from an adjoining room instead of the ladder now placed in the Hall and the Ceiling to be made good by the Plasterer

[No1 Room]
This room requires slight repairs to Doors, Windows and Plastering, also scraping washing stopping and whitewashing the Ceiling, and Colouring in Distemper the Walls, and painting the Wood Work, the internal painting has not been done since 1830

No 2 Room
This room requires the repairs detailed in No1 Room
N°3 Room
This room requires the repairs detailed in N°1 Room

N° 4 Room
This room requires the repairs detailed in N°1 and it is proposed from this room to ascend to the Attic by a small stair case instead of a ladder from the Hall as at present.

Attics
One of the rooms having never been lathed and plastered, it is here provided; also a new door and frame, also 2 safety crocks [?l or conductors for stove pipes, whitewashing &c &c

Porch & Hall to back Entrance
The floor and joists are decayed also one of the sashes of the side lights, it is here provided to renew them & repair the door and other sash.

Larder
Repairs to the Plastering, whitewashing and shelves are necessary

Cellar
The floor and joists being decayed it is proposed to renew them and whitewash the Cellar.

Kitchen
The hearth, fireplace, doors, sashes and plastering require repair. Whitewashing is here provided for and inside painting

Servants Bedroom
The walls and ceilings require to be whitewashed and a hand-rail to the staircase to the room over the kitchen to be renewed
Room over the Kitchen
The floor in this room being laid with boards not properly seasoned, had shrunk very much and requires to be taken up and relaid, and 3 small closet doors to be supplied, one being deficient from fair wear, the other two appear never to have been supplied but are necessary and are here provided.

Cellar
A stone building, the walls require to be repaired and pointed new steps and 3 new doors to the entrances, the roof to be renewed, the boarding and shingling being quite decayed.

The Well
Requires a new Platform and bearers the covering and windlass to be repaired and painted and new bucket supplied. The well to be cleaned out.

Privies and Drains
The old Privy being decayed and the Cesspool full another requires to be excavated and a framed double privy to be built and lined with grooved and tongued boarding. The drain leading from the kitchen sink being decayed and choked up require to be excavated and 2 inch plank drain provided.

Boundary Fences
Being quite decayed, are proposed to be renewed in front with a light Pale fence with gates to correspond, hung to strong oak posts, rear and sides with close boarded fence. Captain Mackenzie's Estimate on this Item has been reduced to provide for no more fence than is absolutely required and is shewn in the accompanying sketch colored yellow.
Estimate

External repairs

The foundation of the Porch to be repaired and a new platform made to ditto — also the weatherboarding & shingling to all the roofs The eaves gutters to be repaired and new ditto and new wood conductors supplied Jalousie blinds to be made and hung to 8 of the windows all the wood and iron work to be painted twice in oil.

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 ft linial small corner (?) gutter per foot</td>
<td>2</td>
<td>2/ 2 8 &quot;</td>
<td></td>
</tr>
<tr>
<td>26 -- &quot; -- &quot; -- wood conductor</td>
<td>/6</td>
<td>&quot; 13 &quot;</td>
<td></td>
</tr>
<tr>
<td>245 2/3 yards super(^1) painting 2 coats in oil</td>
<td>/10</td>
<td>10 4 8(\frac{1}{2})</td>
<td></td>
</tr>
<tr>
<td>8 Pair Jalousie Blinds includ9 painting 3 coats in oil green Hinges &amp; fastenings</td>
<td>30/</td>
<td>12 &quot; &quot;</td>
<td></td>
</tr>
<tr>
<td>60 feet Super(^1) 1(\frac{1}{4}) inch pine plank</td>
<td>100 ft</td>
<td>7/6 4 6</td>
<td></td>
</tr>
<tr>
<td>180 &quot; &quot; weatherboarding do</td>
<td>5/</td>
<td>&quot; 9 &quot;</td>
<td></td>
</tr>
<tr>
<td>31 &quot; lineal 6x3 pine joists do</td>
<td>7/6</td>
<td>2 3(\frac{1}{4})</td>
<td></td>
</tr>
<tr>
<td>3 budle (?) pine shingles p m (?)</td>
<td>7/6</td>
<td>1 2 6</td>
<td></td>
</tr>
<tr>
<td>15 lb nails wrought p lb</td>
<td>/7(\frac{1}{2})</td>
<td>9 4(\frac{1}{4})</td>
<td></td>
</tr>
<tr>
<td>2 pr best T hinges 17 in with screws p pr</td>
<td>3/6</td>
<td>7 &quot;</td>
<td></td>
</tr>
<tr>
<td>2 Bolts 6 inch with do each</td>
<td>1/</td>
<td>&quot; 2 &quot;</td>
<td></td>
</tr>
</tbody>
</table>

Amount to be paid from the Military Chest including all labour and material purchased on the spot.
2 ladders 22 steps p step /9 " 16 6
1 Day a Mason 7/6 " 7 6
8 do a Carpenter 6/3 2 10 "
3 do a Labourer 3/9 " 11 3

Add 1/10 for Contingencies
3 4 9

35 12 4 1 29 13 8

Item 2 Internal repairs

Porch

The Ceiling to be whitewashed the walls coloured the woodwork painted a new lock to door and the glass repaired

3 yds supl whitewashing p yd /1½ " " 4½
7 1/3 do do Coloured do /2 " 1 2½
13 feet lineal Skirting 6 inches wide p ft /4 " 4 4
5½ yds supl painting 3 oils p yd 1/3 " 6 10½
6 squares 7x9 glass stopped in ea /6 " 3 "
1 Knob rim Lock 8 inch 8/9 " 8 9
½ Day a Carpenter 6/3 " 3 1½

Hall

The present step ladder to be removed and the Ceiling made good, the plastering to be repaired, the Ceiling to be whitewashed and Walls coloured the Wood Work to be Painted.

16 yds supl whitewashing p yd /1½ " 2 "
52½ do do colouring, Distemper do /3 " 13 1½
19½ do do Painting 3 oils do 1/3 1 4 ½
10 feet lineal 8x3 Pine joists p 100 ft 10/ " 1 "
40 ft Supl 1 inch boards do 3/ " 2 "
10 ft lineal Hat rail & Pins at p ft /6 " 5 "
1 Knob rim lock 7 inch 7/6 " 7 6
3 lb nails wrought p lb /7½ " 1 10½
2 Bushels lime p Bus 1/ " 2 "
4 do Sand do /2 " " 8
1 Day a Plasterer 7/6 " 7 6
2 do a Carpenter 6/3 " 12 6
1 do a Labourer 3/9 " 3 9

No 1 Room

The door and sashes to be repaired 1
lock put on Plastering to be repaired
the Ceiling whitewashed and walls
distempered the Hearth to be relayed
and the Wood Work painted.

26½ yds supl Whitewashing p yd /1½ " 3 3½
62 do colouring in Distemper do /3 " 15 6
16 do painting 3 oils do 1/3 1 " 2 "
4 squares Glass 7x9 each /6 " 2 "
1 Knob rim lock 6 inch 6/3 " 6 3
50 Bricks red Common p 100 4/ " 2 "
3 Bushels Lime p Bus 1/ " 3 "
6 do Sand do /2 " 1 "
2 days a Plasterer 7/6 " 15 "
1 do a Carpenter 6/3 " 6 3
2 do a Labourer 3/9 " 7 6

No 2 Room

Repairs to Plastering, Whitewashing
and colouring and the Hearth to be
replied the wood work to be painted
the Glass repaired and shelves fixed
in the Closet.
<table>
<thead>
<tr>
<th>Item Description</th>
<th>Price</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>23 1/3 yds supl Whitewashing p yd</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>47 do Colouring distemper do</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>26 do Painting 3 oils do</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>1 Knob rim lock 6 inches</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>3 squares Glass 7x9 stopped in ea</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>50 Bricks red Common p 100</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2 Bushels lime p Bus</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>6 do Sand</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>24 ft lineal 1 inch Shelf p ft</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>1 day a Plasterer</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>1 do a Carpenter</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>2 do a Labourer</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

**[NO 3 Room]**

Repairs to Ceiling. Whitewashing and Colouring and Painting the Hearth to be relaid and Glass repaired and Lock put on

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Price</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 yds super1 Whitewashing p yd</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>14 do Colouring Common do</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>17½ do Painting 3 oils do</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>4 squares Glass 7x9 stopped in ea</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1 Knob rim lock 6 inch</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>50 Bricks red common</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1 Day a Plasterer</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>1 do a Carpenter</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>1 do a labourer</td>
<td>3</td>
<td>9</td>
</tr>
</tbody>
</table>

**[NO 4 Room]**

An opening to be made in the Ceiling and a small staircase fixed leading to the Attic and to be enclosed with 1 inch ploughed and tongued boarding the Plastering to be repaired and the Wood Work Painted
### 54 ft supl 1 inch steps & risers

<table>
<thead>
<tr>
<th>Material</th>
<th>Amount</th>
<th>Price</th>
<th>Laborer</th>
<th>Carpenter</th>
<th>Plasterer</th>
</tr>
</thead>
<tbody>
<tr>
<td>75 do 1 inch ploughed &amp; tongued board</td>
<td>17/6</td>
<td>13</td>
<td>1½</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 2/3 yds Whitewashing p yd</td>
<td>/1½</td>
<td>2</td>
<td>5½</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48 do Colouring do</td>
<td>/2</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 do Painting 3 oils do</td>
<td>/1/3</td>
<td>17</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Square 7x9 Glass stopped in</td>
<td>/6</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 Bricks (red common) per 100</td>
<td>4/</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1½ days a Plasterer</td>
<td>@7/6</td>
<td>11</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 --- &quot; --- Carpenter</td>
<td>&quot;6/3</td>
<td>1</td>
<td>11</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3 --- &quot; --- Laborer</td>
<td>&quot;3/9</td>
<td>11</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Attics

The rafters to be furred out for lathing small studs to be fixed and the room lathed & plastered, the rooms to be whitewashed a door & frame and skirting to be fixed 2 tin conductors with stoppers to be fixed in the chimney for stove pipes.

<table>
<thead>
<tr>
<th>Material</th>
<th>Amount</th>
<th>Price</th>
<th>Laborer</th>
<th>Carpenter</th>
<th>Plasterer</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 ft lineal 4x3 pine studs per 100</td>
<td>5/</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66 yds super lath &amp; plaster 1 coat</td>
<td>/10</td>
<td>2</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>86 ft lineal skirting 6&quot; wide</td>
<td>/4</td>
<td>1</td>
<td>8 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>128½ yds superl Whitewashing</td>
<td>/1½</td>
<td>16</td>
<td>¾</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 &quot; &quot; Painting 2 oils</td>
<td>/10</td>
<td>1</td>
<td>10 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80 feet &quot; 1 inch boards</td>
<td>5/</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 lbs nails (wrought)</td>
<td>/7½</td>
<td>8</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 squares of glass 7x9 stopped in</td>
<td>/6</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Tin conductors &amp; stoppers</td>
<td>2/</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 days a Carpenter</td>
<td>6/3</td>
<td>1</td>
<td>17 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 --- &quot; --- Laborer</td>
<td>3/9</td>
<td>11</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Porch and Hall near the Kitchen
New joists and floor to be laid the doors to be repaired one sash supplied and
2 do glazed the ceilings and walls to be whitened

72 feet lineal 6x4 pine joists per 100  10/  "  7  2½
120 -- " -- super 1 2" pine floor
   rough "  20/  1  4  "
60 -- " -- " -- 1" -- " -- boards "  5/  "  3  "
122 yds -- " -- whitewashing  /1½  "  15  3
14 -- " -- " -- Painting 2 oils  /10  "  11  8
1 Thumb latch complete with screws  2/6  "  2  6
1 8" bolt -- " -- " --  2/  "  2  "
1 day a Carpenter  6/3  "  6  3

Larder

The plastering to be repaired the ceiling and walls whitewashed 3 tier of shelves to be fixed the door and sash to be repaired and lock put in, door & sash to be painted

34½ yds whitewashing  /1½  "  4  4
3 " Painting (2 oils)  /10  "  2  6
53 feet super 1 1½" shelves  /6  1  6  6
1 stock lock 10" with screws  7/6  "  7  6
1 bolt 6" -- " -- " --  1/3  "  1  3
1 bushel of lime  1/  "  1  "
2 bushels of sand  @/2  "  "  4
1 day a Plasterer  @7/6  "  7  6
1 -- " -- Carpenter  @6/3  "  6  3

Cellar

The floor and joists to be renewed, the ceiling & walls whitened the door and sashes painted
80 ft lineal 5x4 joists per 100 & 15/ & 12 \\
150 -- " -- super\(^1\) 1\(\frac{1}{2}\)" rough floor & 15/ & 1 & 2 & 6 \\
50 yds -- " -- whitewashing & /1\(\frac{1}{2}\) & 6 & 3 \\
7 -- " -- " -- Painting (2 oils) & /10 & 5 & 10 \\
1 stock lock 10" with screws & 7/6 & 7 & 6 \\
1 day a Carpenter & 6/3 & 6 & 3 \\

**Kitchen**

The Plastering to be repaired, ceiling & walls whitewashed, doors & sashes repaired and painted the fire place and hearth to be repaired.

131 yards super\(^1\) whitewashing & @/1\(\frac{1}{2}\) & 16 & 4\(\frac{1}{2}\) \\
19 -- " -- " -- Painting (2 oils) & @/10 & 15 & 10 \\
11 squares of glass 7x9 stopped in & /6 & 5 & 6 \\
500 bricks red common & 4/ & 1 & " \\
4 bushels of lime & 1/ & 4 & " \\
16 -- " -- sand & /2 & 2 & 8 \\
2 days a bricklayer & @7/6 & 15 & " \\
1 -- " -- Carpenter & "6/3 & 6 & 3 \\
3 -- " -- Laborer & "3/9 & 11 & 3 \\

**Bedroom**

Ceilings and walls to be whitewashed, the woodwork to be repaired and painted

70 yds super\(^1\) whitewashing & @/1\(\frac{1}{2}\) & 9 & 9 \\
13 -- " -- " -- Painting (2 oils) & "/10 & 10 & 10 \\
2 squares glass 7x9 stopped in & "/6 & 1 & " \\
1 Thumb latch with screws & "1/6 & 1 & 6 \\
6 Feet lineal small handrail & "/6 & 3 & " \\
30 " " square balusters & "/2 & 5 & "
\[\begin{align*}
\frac{1}{6} \text{ day a Plasterer} & \quad \text{"7/6"} \quad 3 \quad 9 \\
\frac{1}{6} \text{ -- " -- Carpenter} & \quad \text{"6/8"} \quad 3 \quad 1\frac{1}{2}
\end{align*}\]

Room over the Kitchen

The floor to be taken up & relaid, 3 small ledged doors to be made & hung the glass to be repaired the wood work to be painted, the walls and ceilings whitewashed

\[
\begin{align*}
30 \text{ Feet superl 1 inch ledged door} & \quad \text{"/9"} \quad 1 \quad 2 \quad 6 \\
88 \text{ -- " -- lineal skirting 6" wide} & \quad \text{"/4"} \quad 1 \quad 9 \quad 4 \\
12 \text{ yds superl painting (2 oils)} & \quad \text{"/10"} \quad 10 \quad \\
61 \text{ yds Superl whitewashing} & \quad \text{"/1\frac{1}{2}"} \quad 7 \quad 7\frac{1}{2} \\
9 \text{ Squares of glass 7\frac{1}{2}x8\frac{1}{2}} & \quad \text{"/6"} \quad 4 \quad 6 \\
3 \text{ pair 3" butts and screws} & \quad \text{"1/"} \quad 3 \quad \\
1 \text{ Thumblatch with screws} & \quad \text{"1/6"} \quad 1 \quad 6 \\
1 \text{ 7" Closet lock -- " --} & \quad \text{"3/6"} \quad 3 \quad 6 \\
15 \text{ lbs wrought nails} & \quad \text{"7\frac{1}{2}"} \quad 9 \quad 4\frac{1}{2} \\
1 \text{ bushel of lime} & \quad \text{"1/"} \quad 1 \quad \\
2 \text{ -- " -- sand} & \quad \text{"/2"} \quad 4 \\
1 \text{ day a Plasterer} & \quad \text{"7/6"} \quad 7 \quad 6 \\
3 \text{ " Carpenter} & \quad \text{"6/3"} \quad 18 \quad 9 \\
1 \text{ " Labourer} & \quad \text{"3/9"} \quad 3 \quad 9 \\
\end{align*}\]

Add 1/10th for contingencies

\[
\begin{align*}
57 & \quad 12 \quad 3 \\
\end{align*}\]

Item 3

Vegetable Cellar & Well

The stove work to be repaired & the roof to be boarded & shingled. Three new doors with frames to be made & fixed new
steps to doors, and the interior and exterior to be whitewashed, a new Platform and bearers to be laid to the well & the covering & windlass to be repaired and painted, the well to be cleaned out & a new bucket supplied

170 feet lineal 4x3 pine rafters per 100 15/ 1 5 6
4½ squares roofboarding & shingling 23/ 5 9 3
54 feet lineal door frame @4½ 1 " 3
54 -- " -- super 1" ledged doors /9 2 " 6
3 Pairs hook & band hinges & screws 4/ " 12 "
2 stock locks 9" with screws 5/6 " 11 "
124 yds super 1 whitewashing /1½ " 15 6
18 ft lineal 8x10 pine steps /9 " 13 6
14 yards super 1 painting (2 oils) /10 " 11 8
5 bushels of lime @1/ " 5 "
10 -- " -- sand /2 " 1 8
35 ft super 1 1½" floor /3 " 8 9
48 " lineal 6x4 pine bearers /2 " 8 "
1 well bucket iron bound /7/6 " 7 6
6 feet chain and fixing on bucket /2/ " 12 "
3 days a Carpenter "6/3 " 18 9
5 " Mason /7/6 1 17 6
10 " Laborer /3/9 1 17 6
1 " double team "12/6 " 12 6

Add 1/10th for contingencies 2 " 10
22 9 2 18 14 3½

[a page missing from manuscript]
**Item 4 continued [Stable]**

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 feet superl 1½&quot; sash and frame</td>
<td>$1/6</td>
<td>9</td>
</tr>
<tr>
<td>3 Pair hook &amp; band hinges &amp; screws</td>
<td>$5/6</td>
<td>16.6</td>
</tr>
<tr>
<td>2 Thumb latches &amp; screws</td>
<td>$3/6</td>
<td>6</td>
</tr>
<tr>
<td>2 Stock locks 10&quot; with</td>
<td>$7/6</td>
<td>15</td>
</tr>
<tr>
<td>5 bushels lime</td>
<td>$1/6</td>
<td>5</td>
</tr>
<tr>
<td>5 days a Mason</td>
<td>$7/6</td>
<td>17.6</td>
</tr>
</tbody>
</table>

Add 1/10th for centinges

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>32 18 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 5 10¼</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36 4 8½</td>
<td>30 3 11½</td>
<td></td>
</tr>
</tbody>
</table>

**Item 5**

*Privies and Drains*

A Cesspool 10 feet by six feet deep to be dug & lined with 1½ plank, a framed & weatherboarded double Privy to be built to be lined with 1 inch boards ploughed and tongued to have pine seat & riser, ledged doors and small sash & frame. A 2" plank (?) drain 9" square in clear to be made and laid down the kitchen to the water course in the Garden

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 Cubic yards excavation</td>
<td>$0/9</td>
<td>9</td>
</tr>
<tr>
<td>228 Pt Superl 1½&quot; pine plank</td>
<td>$7/6</td>
<td>17.1</td>
</tr>
<tr>
<td>220 &quot; lineal 4x4 &quot; framed</td>
<td>$20/6</td>
<td>2.4</td>
</tr>
<tr>
<td>2½ Squares weatherboarding</td>
<td>$15/6</td>
<td>13.9</td>
</tr>
<tr>
<td>½ -- &quot; -- boarding &amp; Shingling</td>
<td>$25/6</td>
<td>18.9</td>
</tr>
<tr>
<td>2½ -- &quot; -- 1&quot; rough lining</td>
<td>$15/6</td>
<td>17.6</td>
</tr>
<tr>
<td>½ -- &quot; -- 1½&quot; wrought floor</td>
<td>$25/6</td>
<td>12.6</td>
</tr>
<tr>
<td>32 ft superl seat &amp; riser</td>
<td>$/6</td>
<td>16.5</td>
</tr>
</tbody>
</table>
Item 6

**Boundary fence & Gates**

The front fence to be a light Pale Fence 5 feet high with framed & braced pale Gates hung to strong oak posts. The rear & side boundary lines to have close boarded fence 6 feet high

<table>
<thead>
<tr>
<th>Description</th>
<th>Units</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>36 -- &quot; &quot; &quot; -- 1&quot; ledged door &amp; frame</td>
<td></td>
<td>1/9</td>
<td>1 7 7</td>
</tr>
<tr>
<td>6 -- &quot; &quot; &quot; -- 1½&quot; sash &amp; frame glazed</td>
<td></td>
<td>1/6</td>
<td>&quot; 9  &quot;</td>
</tr>
<tr>
<td>2 pair best T hinges &amp; screws</td>
<td></td>
<td>&quot;3/6</td>
<td>&quot; 7  &quot;</td>
</tr>
<tr>
<td>2 thumblatches -- &quot; &quot;</td>
<td></td>
<td>&quot;2/</td>
<td>&quot; 4  &quot;</td>
</tr>
<tr>
<td>2 bolts 6&quot; -- &quot; &quot;</td>
<td></td>
<td>&quot;1/</td>
<td>&quot; 2  &quot;</td>
</tr>
<tr>
<td>52 yards lineal of excavation in Trench</td>
<td></td>
<td>&quot;1/9 20 11 3</td>
<td></td>
</tr>
<tr>
<td>156 ft -- &quot; &quot; -- 2&quot; drain making &amp; laying</td>
<td></td>
<td>&quot;3/9</td>
<td>&quot; 9  &quot;</td>
</tr>
<tr>
<td>Add 1/10th for contingencies</td>
<td></td>
<td></td>
<td>3 7 10</td>
</tr>
<tr>
<td>General Total</td>
<td></td>
<td></td>
<td>179 7 8 1/2</td>
</tr>
</tbody>
</table>

### Item 6

**Boundary fence & Gates**

The front fence to be a light Pale Fence 5 feet high with framed & braced pale Gates hung to strong oak posts. The rear & side boundary lines to have close boarded fence 6 feet high

<table>
<thead>
<tr>
<th>Description</th>
<th>Units</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>82 feet lineal close boarded fence</td>
<td></td>
<td>&quot;1/9</td>
<td>7 3 6</td>
</tr>
<tr>
<td>235 &quot; &quot; Pale &quot;</td>
<td></td>
<td>&quot;1/9</td>
<td>20 11 3</td>
</tr>
<tr>
<td>70 &quot; superl framed gates &amp; wicket</td>
<td></td>
<td>&quot;1/9</td>
<td>2 12 6</td>
</tr>
<tr>
<td>20 &quot; lineal 8x8 oak gate posts</td>
<td></td>
<td>&quot;1/</td>
<td>1  &quot;</td>
</tr>
<tr>
<td>3 Pair hook &amp; strap hinges 45 lbs</td>
<td></td>
<td>&quot;3/9</td>
<td>&quot; 3</td>
</tr>
<tr>
<td>1 Wrot iron gate latch with screws</td>
<td></td>
<td>&quot;5/</td>
<td>10</td>
</tr>
<tr>
<td>2 Padlocks, hasps &amp; staples</td>
<td></td>
<td></td>
<td>33 18 6</td>
</tr>
<tr>
<td>Add 1/10th for contingencies</td>
<td></td>
<td></td>
<td>3 7 10</td>
</tr>
<tr>
<td>General Total</td>
<td></td>
<td></td>
<td>37 6 4 31 1 11 1/2</td>
</tr>
</tbody>
</table>
### Abstract of Items

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 External repairs</td>
<td>29 13 8</td>
</tr>
<tr>
<td>2 Internal</td>
<td>52 16 2½</td>
</tr>
<tr>
<td>3 Vegetable Cellar &amp; well</td>
<td>18 14 3½</td>
</tr>
<tr>
<td>4 Repairs to Stable</td>
<td>30 3 11½</td>
</tr>
<tr>
<td>5 Privies &amp; Drains</td>
<td>16 17 7½</td>
</tr>
<tr>
<td>6 Boundary Fence &amp; Gates</td>
<td>31 1 11½</td>
</tr>
</tbody>
</table>

**Total British Currency**

£179 7 8½

Amounting to One Hundred and Seventy Nine Pounds, Seven Shillings and Eight pence Three Farthings Sterling dollars at 4/2 for all labor & materials

*(signed) C. Mackenzie*

Captn R.E.

*(signed) W. Ward*

Lt Col R.E.

7th Sept 1839

Royal Engineer Office

Fort George 25th March 1839

*(signed) R.J. Barou*

Major R.E. Comg W.D.

17th April 1839

Appendix D. Report and Estimate for providing a dead House Guard House and Stable for the Garrison Hospital at Niagara Upper Canada

Report
The prices estimated are the lowest current on the spot at this time and are lower than the Tenders usually given in, work is executed cheaper and quicker by the Engineer workmen than by the Contractors who are neither numerous nor substantial -

[Stable]
This building is proposed to be 14 feet by 12 and fitted up with 2 stalls and a small loft in the roof.

The work is proposed to be done by the Engineer Department and the materials supplied by Contract

[Privy]
The Privy near the entrance and front [?] of the Hospital ground has been complained of as offensive and requested to be removed to the site proposed in the rear.

The new buildings now proposed will cause its immediate removal.

Estimate

Guardhouse and Dead House
To be a framed building 24 feet by 16.
One story high, the inside to be lathed & plastered and fitted up with Guard bed, arm rack & stove pipe chimney.

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount to be paid from the Military Chest including all labour and material purchased on the spot.</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Cedar Posts 3'9&quot; long including fix</td>
<td>@3/9 1 17 6</td>
</tr>
<tr>
<td>80 ft lineal 10x10 pine sills per 100</td>
<td>50/ 1 16 &quot;</td>
</tr>
<tr>
<td>120 -- &quot; -- 6x4 -- &quot; -- posts -- &quot; --</td>
<td>22/6 3 4 9½</td>
</tr>
<tr>
<td>Item</td>
<td>Quantity</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Ceiling joists</td>
<td>288</td>
</tr>
<tr>
<td>Posts</td>
<td>80</td>
</tr>
<tr>
<td>Studs</td>
<td>540</td>
</tr>
<tr>
<td>Ceiling joists</td>
<td>288</td>
</tr>
<tr>
<td>Rafters</td>
<td>240</td>
</tr>
<tr>
<td>Roof boarding &amp; shingling</td>
<td>5½</td>
</tr>
<tr>
<td>Weatherboarding</td>
<td>8</td>
</tr>
<tr>
<td>Flooring</td>
<td>3½</td>
</tr>
<tr>
<td>Lineal Pine &amp; Facia</td>
<td>92</td>
</tr>
<tr>
<td>Ledged doors</td>
<td>48</td>
</tr>
<tr>
<td>Sashes &amp; frames glazed</td>
<td>39</td>
</tr>
<tr>
<td>Best T hinges &amp; screws</td>
<td>2</td>
</tr>
<tr>
<td>Butt hinges</td>
<td>6</td>
</tr>
<tr>
<td>Round bolts</td>
<td>3</td>
</tr>
<tr>
<td>Stock locks</td>
<td>2</td>
</tr>
<tr>
<td>Thumblatches with screws</td>
<td>2</td>
</tr>
<tr>
<td>Guardbed &amp; bearers</td>
<td>102</td>
</tr>
<tr>
<td>Arm rack for 4 muskets</td>
<td>1</td>
</tr>
<tr>
<td>Bricks in stove pipe chimney including</td>
<td>960</td>
</tr>
<tr>
<td>Mortar &amp; laying per 1000</td>
<td></td>
</tr>
<tr>
<td>Lath &amp; plaster (2 coats)</td>
<td>114 1/3</td>
</tr>
<tr>
<td>Stove pipe linings &amp; stoppers</td>
<td>2</td>
</tr>
<tr>
<td>Add 1/10th for contingencies</td>
<td></td>
</tr>
<tr>
<td>Sterling</td>
<td></td>
</tr>
</tbody>
</table>

**Stable**

To be a framed building 14 feet by 12 the inside lined with rough boards & fitted up with rack & manger, a rough floor to be laid in the loft.

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Units</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cedar Posts</td>
<td>6</td>
<td>3 ft 9</td>
<td>@3/9</td>
</tr>
</tbody>
</table>
52 Ft lineal 10x10 pine sills per 100 ft  
108 -- " -- 12x3 -- " -- joists -- " --  
136 -- " -- 6x4 -- " -- posts & plates --  
98 -- " -- 7x3 -- " -- Ceiling joists -- " --  
333 -- " -- 4x3 -- " -- Studs -- " --  
40 -- " -- 5x3 -- " -- rafters -- " --  
3 Squares boarding & shingling -- " --  
7 -- " -- weatherboarding wrot --  
1½ -- " -- 2" rough flooring  
6½ -- " -- 1" lining ploughed & tongued  
1½ -- " -- 1" rough floor on lath boards  
20 ft Super 1 1½" ledged door  
15 -- " -- " -- 1" -- " -- " --  
34 Feet lineal door frame  
75 -- " -- " -- plancea & facia  
12 -- " -- super 1 1½" sashes & frames  
12 -- " -- lineal manger with oak rail  
12 -- " -- " -- hay rack  
20 -- " -- " -- stall rail & post  
56 -- " -- Super 1 stall partition rough  
2 rack chains, Manager rings & stables ea  
1 Thumblatch home made  
1 Stock lock 10" with screws  
1 Pair hook & band hinges  
3 -- " -- 3" butt -- "  
3 round bolts 6"  

" 75/ 1 19 "  
" 25/ 1 7 "  
" 30/ 2 9½ "  
" 20/ " 19 7 "  
" 16/3 2 14 1 "  
" 17/6 1 4 6 "  
" 25/ 3 15 "  
" 7/6 6 2 6 "  
" 20/ 1 10 "  
" 15/ 4 13 9 "  
" 12/6 " 18 9 "  
" 1/ 1 8 "  
" 9/ 11 3 "  
@ /5 14 2 "  
" /7½ 2 6 10½ "  
" 1/6 " 18 9 "  
" 1/3 " 15 9 "  
" 1/ " 12 9 "  
" /4 " 6 8 "  
" /2½ " 11 8 "  
3/ " 6 "  
" 4/6 " 4 6 "  
" 7/6 " 7 6 "  
" 6/6 " 6 6 "  
" 1/ " 3 6 "  
" 1/ " 3 6 "  

38 1 7  
Sterling 34 18 1½  

Add 1/10th for contingencies 3 16 1½  
41 17 8½  

Privy  
To excavate and line a lesspool to remove the Privy and cover the old pit
<table>
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<tr>
<th>Item</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>20 Cubic yards excavation</td>
<td>@1/1</td>
<td>1</td>
<td>&quot;</td>
</tr>
<tr>
<td>360 ft Superl 1½&quot; pine plank</td>
<td>&quot;7/6</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>104 ft -- &quot; -- lineal 4x4 &quot;</td>
<td>&quot;6/8</td>
<td>&quot;</td>
<td>6 11</td>
</tr>
<tr>
<td>38 yds Superl lath &amp; plaster</td>
<td>&quot;1/3</td>
<td>2</td>
<td>7 6</td>
</tr>
<tr>
<td>4 lb wrought nails</td>
<td>&quot;/7½</td>
<td>&quot;</td>
<td>2 6</td>
</tr>
<tr>
<td>8 days a Carpenter</td>
<td>&quot;6/3</td>
<td>2</td>
<td>10 &quot;</td>
</tr>
<tr>
<td>10 &quot; -- &quot; -- Laborer</td>
<td>&quot;3/9</td>
<td>1</td>
<td>17 6</td>
</tr>
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</table>

9 11 5

Add 1/10th for contingencies

<table>
<thead>
<tr>
<th>Sterling</th>
<th>8 15 5½</th>
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<tr>
<td>Total Sterling</td>
<td>98 6 10</td>
</tr>
</tbody>
</table>

Amounting to Ninety Eight Pounds Six Shillings and Ten pence Sterling, dollars at 4/2 for labor & materials

(Signed) W Ward
Lt Col R.Ers
7th Sept 1839

Royal Engineer Office
Niagara UC 26th Augt 1839

(Signed) C. Mackenzie
Capt'n R.E.

Appendix E. Report and Estimate for enclosing with a Defensible Picket Fence, the buildings and stable at Butler's Barracks Niagara, Upper Canada under the authority of

Report
The development is 923 yards, the excavation is proposed to be done by measurement, the Pickets to be supplied by Contract, and to be pointed and fixed by the workmen of the Engineer Department, as the best means of assuring good and quick work. They are to be set 3 ft 6 inches in the ground and to stand 7 ft 6 inches above excepting the faces and flanks of the Bastions 1, 2, 3 which being on low ground require to be high enough to cover the men defending the flanks, which are loopholed by a 3" picket on the joint [point?] of the 2nd front picket from the rising ground in front, auxiliary flanks are raised on the long curtains.

The labour is charged at the lowest rate on the Frontier; at G, G, are proposed to be placed the front and rear gates and a wicket at W.

A water course crossing the road near the front entrance requires to be cleared and a bridgeway made over it.

Amount to be paid from the Military Chest including all labor and material purchased on the spot

Estimate

To construct a Picket Fence around the buildings at Butler's Barracks.

923 Cubic yards of excavation @1/ 46 3 "
2500 Pine Pickets 11 Feet long "2/8 333 6 8
900 -- " -- " -- 14 -- " -- " -- "3/4 150 " "
5½ Cut wrot spikes                  "56/    15  8  "
3000 Ft lineal 6x2 Pine            "5/     7  10  "
250 "    " 7x5 Oak                  "/4     4  3  4  
5 Pair hinges and fastenings 750lbs "/10    31  5  "
3 Padlocks, large, best quality    "5/     "  15  "
250 Days a Carpenter              "6/3    78  2  6  
300 -- " -- Laborer               "3/9    56  5  "
50 -- " -- Single team             "7/6    18  15  "

To construct a small Bridgeway and clear the
cross drains near the entrance.

80 Ft Cubic pine Timber            @10/    1  12  "
200 " Supl 3"--"-- Plank             "15/    1  10  "
50 lbs wrot spikes                "/6     1  5  "
4 days a Carpenter                "6/3    1  5  "
30 -- " -- " -- Laborer            "3/9    5 12  6

Add 1/10th for contingencies      75 5  9½

Halifax Currency                   828  3  9½
British -- " --                    £690  3  2

Amounting to Six Hundred and Ninety Pounds Three
Shellings and Two Pence Sterling dollars at 4/2
for all labor and materials.

(Signed) W. Ward
Royal Engineer Office            Lt Col Rl Engr
Niagara U. Canada                 7th Septr 1839
26th August 1839

(Signed) C. Mackenzie
Capt'n R.E.

PAC, MG13, WO55/1917, B-3041, p. 464, Niagara,
26 Aug. 1839.
Appendix F. Report of repairs required to the Sen° R° Eng° quarter at this post as per inspection taken on 8 May 1841 - recently occupied by Mr Alex° McLeod & Known by the name of Vavasour House

Description of Detail of Repairs required
Building

Dwelling House The Dwelling House is a framed Building Containing 6 rooms, Kitchen and pantry on ground floor and small Servants rooms in the Attic, all the Locks in the House require to be repaired and Some are So bad as to render it necessary to have them renewed the backs of the fire places require to be repaired, closet in room No 3 to be washed, stopped and Colored. The flooring skirting and Ceilings of the Several rooms require to be repaired the pantry floor to be repaired with brkck. The Sashes and doors generally require to be eased and rehung, as also the Window blinds with fastenings &ca

The Brick work requires pointing and repairing in Several places the Shingling and weatherboarding require repairing

Hut or Office The Small hut or office requires the fire place and hearth to be repaired, as also the floor, and the doors to be rehung, and Locks and fastenings renewed. The Bells require to be Made good and rehung.

Out Offices The Out Offices are 1 privy, 1 root house, 1 diary, 1 Cellar, 1 Wood Shed, 1 Coach house, 1 hay Mow or Barn. The Well covering or boxing requires repairing, and New bucket, chain and
Windlass The Cellar requires 3 Loads of Sand for the floor as also one New outside door and fastenings. The root house requires sundry repairs inside, and a New inner door, and outside door to be repaired, pad locks and hinges to be renewed. Dairy requires a New door and Cill, 3 New Windows. New floor and joists, and outside Shutters. Coach and Wood House requires the weather boarding and shingling to be repaired as also the Studs and foundation, the folding doors require to be repaired and rehung and New fastenings to them.

Outhouses

Stable, plastering, door frames, racks and Mangers to be repaired, the Mangers to be lined with sheet iron the doors to be rehung. Weather boarding and shingling to be repaired. New saddle brackets, locks, and rack chains are wanting, and in consequence of diseased horses having been kept in this building it requires purifying and painting. Harness room brick floor requires to be taken up and relaid. 2 new window sashes wanted, door to be rehung. Corn bin and plastering to be repaired. 12 new harness pegs, rail and pad lock wanting, loft door requires to be repaired and rehung, floor to be repaired, 1 pad lock wanting. Cow house requires new boarding and reshingling and one end of this building to be new boarded and door latch to be repaired. Hay Shed requires repairing particularly the roof.

Privy

Privy Soil pit to be emptied, weather boarding to be repaired locks to be renewed.
Gates. The front Gates require to be repaired and the Bridge leading from the high road into the Garden to be repaired. The gates and posts between the Garden, and yard to be renewed, also New gates leading to hay Yard, and New Gates from hay yard into the field.

Fence Front fence requires to be repaired also about 371 feet of New fence round the Garden, and about 261 ft round the field and the fence at present standing requires repairing and Making good.

Glass
66 Panes of Glass Wanting in the whole premises

The dwelling house has been reported to be undermined & infested with Rats to a very great degree.

A. Garrett,
Bk Master

PAC, MG13, W055/876,B-2820, pp.427-9, Niagara, 13 May 1841.
Appendix G. Report and Estimate of the probable expense of Repairing the Engineer Quarters Niagara Canada

Report
Royal Engineers Quarters Niagara
External Repairs

This Estimate is Submitted agreeable to the Instructions Conveyed by Lt Colonel Wards letter No 83 dated Toronto 7th June 1841 enclosing a MemO from the Comg Rl Eng Canada dated 3rd June 1841 Copies of which are annexed

This is a Framed Building 35 x 30 weatherboarded and Shingled, with a Kitchen and Small Room annexed One Story High, with attics in the roof for a stable and out Houses attached, and has about 2½ Acres of ground for a Garden and field, Situated on the Lake Shore opposite the American Fort it has for the last five years been in the occupation of Mr McLeod Tenant of the Ordnance

This Item provides for repairing the Stone foundation and the lower part of the Weather Boarding where Necessary, for repairing and rehanging the Jalousie Blinds including renewing the Hinges and fastenings and painting them in three coats in Oil green, for repairing the Shingling of the roof generally which is very defective For renewing one eave Gutter, and repairing the rest, For renewing One ground [ladder] and two Chimney and roof do for repairing and coloring the outside of the Brick Chimneys, and Chimney shafts & painting the Exterior wood work twice in Oil Color

The prices are the lowest Current at the Station

Internal Repairs

This Item provides for repairing the doors and Sashes Most of which require to be rehung, for renewing the Locks, the greater part of which are worn out and the Keys nearly all deficient, For repairing the Bells in all the rooms, for Scraping & Whitewashing all the Ceilings which are in a very
bad State for coloring the Walls of the Dining Room, Bed rooms and dressing room and papering the parlors, for painting all the wood work, and the Walls in the Hall which has not been done for a Considerable time repairing the Brick Work to all the fire places (which are much worn) for renewing two pair of Sashes in the Kitchen repairing the Brick paving of the passage, pantry and Larder, and replacing all the broken Glass.

Outbuildings
These Buildings comprise, a Cellar Root house and Dairy a wood Shed, Stable Corn [Cow?] house, Hay Barn and Small out House, the whole of which are much delapidated and require repairs to the foundations, framing, Weather Boarding and Shingling. The interior of these Buildings require to be lime Whited and the doors and sashes to be painted. This Item also provides for renewing decayed gutters, doors, Sashes, Sash frames flooring roof boarding & as detailed in the Estimate.

Privy and Well
The privy is of wood framed, and Weather boarded the Cess pool lined with Cedar posts, and pine boards the latter have become rotten and require to be renewed and the Cess pool to be emptied, provision is also Made for renewing the Lock to the door, and a Small Sash to the window, the painting the Exterior and interior Wood Work, and whitewashing the Walls and Ceilings.

This Item also provides for cleaning the Well the Water at present being very impure owing to Some putrid Substance having been thrown in which has rendered it useless, also for renewing the Windlass Chain, and Bucket and the covering Over the Well
Fences and Gates
This Item provides for a general repair to the fences and Gates, and for renewing Such portions as have been taken away and burned during the occupation of the last Tenant.

The fence toward the road is in a very delapidated State, the posts being all rotted off at the ground line it is proposed to renew this with a wrought boarded Fence 6 ft 6 in high with Cedar posts, 7 in Square, 7 ft apart and Set 3 ft 6 in in the ground two rails of 4 x 3 pine notched and Spiked to the posts and one inch wrought pine boarding nailed on.

The boundary fence to the Field on the land Side to be repaired with 1 In rough pine boards nailed to the posts, and on the Lake Sides the fence to be renewed, with a rough boarded fence 4 ft high formed with Cedar posts 6 in diameter placed 7 ft apart, and Set 3 ft 6 in in the ground with 2 rails of 4 x 3 pine Notched and Spiked, and one inch rough pine boards nailed on close.

The division fence between the Garden and Field to be of the Same description 6 ft high also the enclosure to the Stable and Hay Yards

Two pair of Gates to be repaired and rehung and 3 pair of 3 In framed and boarded pine Gates to be renewed, the Hinges, Hooks and fastenings to be repaired and refixed.

Provision is also Made for painting the wrought fence and the Gates, 3 Coats in Oil Color.

Bridges and Drains
This Item provides for renewing two Bridge Ways with timber over the Water Course at the entrance Gates and for rebuilding the Stone Culvert which has fallen in and partially Stopped the drainage.
Estimate
Royal Engineers Quarters
Niagara External Repairs

24 66/100 Squares of Shingling to be repaired generally @4/2 5 2 9
113 ft Supl of pine weatherboarding in repairs @/2½ 1 3 6½
142 ft Supl of 1½ In pine wrought and fixed in repairs @/5 2 19 2
32 ft linl of pine 7x6 wrought Solid Rain Water Trough including painting and fixing in repairs 1/ 1 12 "
45 ft linl of ground and chimney ladders with Oak Steps, painted 3 Coats in Oil including fixing 1/2 2 12 6
30 ft linl of Chimney Ladder to be repaired and refixed including painting 2 Coats in Oil Color @/8 1 " "
13 Pairs of Jalousie Blinds to be repaired and rehung @2/6 1 12 6
13 Pair 6 in HL Hinges with Screws @1/9 1 2 9
36 Sets of Wrought Iron hooks and Staples including fixing @1/2 2 2 "
14 ft linl of 3 In tin Conductors including fixing @/9 " 10 6
6 Elbows for do @/9 " 4 6
90 ft Cube of Rubble Stone Work in repair @/8 3 " "
75 ft Cube of Brick Work in repairs to Chimneys /10 3 2 6
22 2/9 Yards Supl of painting to Chimney Shafts including raking out the Joints & Coloring @/9 " 16 8
<table>
<thead>
<tr>
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<th>Rate</th>
<th>Quantity</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>48 8/9 Ya$^8$ Sup$^1$ of painting to the Stone Work</td>
<td>@/5</td>
<td>1</td>
<td>4½</td>
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<tr>
<td>137 Ya$^8$ Sup$^1$ of Coloring to old Brick work, and Stone work</td>
<td>@/1½</td>
<td></td>
<td>17 1½</td>
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<tr>
<td>320 6/9 Ya$^8$ Sup$^1$ of painting 2 Coats in Oil Color</td>
<td>@/10</td>
<td>13 7 2½</td>
<td></td>
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<tr>
<td>73 6/9 Yards Sup$^1$ of painting 3 Coats in Oil Color green to Jalousie Blinds</td>
<td>@1/2</td>
<td>4 5 11¾</td>
<td></td>
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<tr>
<td>Contingencies 1/10</td>
<td></td>
<td>46 12 0</td>
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<tr>
<td>Total for Item 1</td>
<td></td>
<td>51 5 2</td>
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**Internal Repairs**

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<tr>
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<tbody>
<tr>
<td>114 ft Cube of Brick Work to be taken down and rebuilt in repairs to fire places and Boiler</td>
<td>@1/</td>
<td>5</td>
<td>14 &quot;</td>
</tr>
<tr>
<td>10 8/9 Ya$^8$ Sup$^1$ of 3 Coats plastering in rep$^s$</td>
<td>@1/2</td>
<td></td>
<td>12 0½</td>
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<tr>
<td>24 4/9 Ya$^8$ Sup$^1$ of Brick paving laid flat in Mortar in repairs</td>
<td>@2/6</td>
<td>2</td>
<td>14 2</td>
</tr>
<tr>
<td>4 Ya$^8$ Sup$^1$ of Brick paving on edge laid in Mortar</td>
<td>@3/</td>
<td></td>
<td>12 &quot;</td>
</tr>
<tr>
<td>3 Iron Stove hole linings with tin Stoppers including fixing</td>
<td>@3/9</td>
<td></td>
<td>11 3</td>
</tr>
<tr>
<td>17 Pair of Folding Sashes to be repaired and rehung</td>
<td>@2/</td>
<td>1</td>
<td>14 &quot;</td>
</tr>
<tr>
<td>18 Doors to be repaired &amp; refitted</td>
<td>@1/6</td>
<td>1</td>
<td>7 &quot;</td>
</tr>
<tr>
<td>8 Sash frames to be repaired</td>
<td>@2/6</td>
<td>1</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>5 Mortice Locks including putting On</td>
<td>@10/6</td>
<td>2</td>
<td>12 6</td>
</tr>
<tr>
<td>5 Six inch Iron rim closet Locks including putting on</td>
<td>@3/9</td>
<td></td>
<td>18 9</td>
</tr>
<tr>
<td>3 eight inch Stock Locks including Screws and putting on</td>
<td>@6/</td>
<td></td>
<td>18 &quot;</td>
</tr>
</tbody>
</table>
1 Brass Thumb latch including Screws and putting on @6/6 " 6 6
1 Brass 6 inch Bolt including Screws and putting on @3/6 " 3 6
4 Iron thumb latches complete including Screws & putting on @3/6 " 14 "
5 Thumb Latches to repair & refix @2/6 " 12 6
2 Three inch Cupboard Locks including Screws and putting on @3/ " 6 "
2 Brass Cupboard Turn Buckles including putting on @1/ " 2 "
31 8/12 ft Supl of 1½ inch Ovolo Folding Sashes hung with hinges including priming & Glazing 1/6 2 7 6
7 ft linl of ? skirting in repairs @/4 " 2 4
12 ft linl of Square Skirting to be refixed @/2 " 2 "
11 ft Supl of 2 in Oak door Sills including fixing in repairs @1/ " 11 "
12 6/12 ft Supl 1 Inch pine wrought ledged doors @/7 " 7 3½
6 Wood Buttons including Screws and fixing @/6 " 3 "
35 9/12 ft Supl of green Baize on doors and nailed with brass nails @1/ 1 15 9
8 ft linl of pine Joists 6 x 4 including taking up the Old @/6 " 4 "
22 5/12 ft Supl 1½ inch pine flooring in repairs @/9 " 16 9½
4 Bolts to be repaired including taking off and refixing @7/6 " 6 "
5 Bells to be repaired with New wires and cranks @15/ 3 15 "
35 Squares Glass of $\frac{7}{2}\times\frac{8}{2}$ including Stopping in 35 9 1 6 3
92 6/9 Yas Sup\(^1\) of painting 3 Coats in Oil \(\frac{\$1}{\$1} \quad 5 \quad " \quad 4\frac{1}{2}\)
220 5/9 -- " -- of " -- 2 -- " -- \(\frac{\$0.1}{\$0.1} \quad 9 \quad 3 \quad 9\frac{1}{2}\)
678 4/9 -- " -- of Whitewashing including Washing, Stopping & Scraping \(\frac{\$0.25}{\$0.25} \quad 6 \quad 7 \quad 2\frac{1}{2}\)
187 8/9 Yas \(^\text{Sup}{}^1\) of Coloring including Washing Stopping & Scraping \(\frac{\$0.3}{\$0.3} \quad 2 \quad 10 \quad 10\frac{1}{2}\)
184 Yas \(^\text{Sup}{}^1\) of paper including hanging and Bordering \(\frac{\$0.9}{\$0.9} \quad 6 \quad 18 \quad " \)
3 Six in Iron rim Knob Locks including putting on \(\frac{\$0.7}{\$0.7} \quad 1 \quad 1 \quad " \)
Contingencies - 1/10 \(\frac{6}{6} \quad 16 \quad 4\frac{1}{2}\)
Total Item 2 \(\frac{70}{70} \quad 4 \quad 0\frac{1}{4}\)

**Outbuildings**

10 84/100 Squares of pine Shingling including Stripping off the Old Shingling and repairing the Boarding \(\frac{\$1.6}{\$1.6} \quad 8 \quad 13 \quad 5\frac{1}{2}\)
74 ft \(^\text{lin}{}^1\) of Hip [?] Shingling \(\frac{\$0.3}{\$0.3} \quad " \quad 18 \quad 6\)
12 16/100 Squares of repairing old Shingling \(\frac{\$0.2}{\$0.2} \quad 2 \quad 10 \quad 7\)
1 68/100 " of Furring for Lathing \(\frac{\$0.8}{\$0.8} \quad " \quad 14 \quad "\)
108 ft \(^\text{lin}{}^1\) of 7x6 pine wrought Solid Eave Gutter including painting 3 Coats in Oil and fixing \(\frac{\$1}{\$1} \quad 5 \quad 8 \quad "\)
32 ft \(^\text{lin}{}^1\) of 6x4 pine wrought Solid Eave Gutter including painting 3 Coats in Oil and fixing \(\frac{\$0.9}{\$0.9} \quad 1 \quad 4 \quad "\)
<table>
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<th>Unit</th>
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<td>140 ft Sup of 1½ in pine wrought and fixed in repairs</td>
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<td>@/7</td>
<td>4</td>
<td>1</td>
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<tr>
<td>75 9/12 ft Cube of pine 4x4 to 6x6 including fixing</td>
<td></td>
<td>@2/7</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>113 ft Sup of 1 inch wrought and ledged doors including hanging</td>
<td></td>
<td>@/7</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>41 ft lin of 4x4 pine wrought and fixed in Small Sash frames</td>
<td></td>
<td>@/9</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>25 8/12 ft Sup of 1½ in pine Ovolo Sashes including pinning</td>
<td></td>
<td>@1/6</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>1 7/100 Squares of 1½ in pine wrought flooring including taking up the old</td>
<td></td>
<td>@20/</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3 ft Sup of 2 in Oak plank wrought and fixed in repairs</td>
<td></td>
<td>@1/</td>
<td>&quot;</td>
<td>3</td>
</tr>
<tr>
<td>5 80/100 Sqres of Weather boarding in repairs</td>
<td></td>
<td>@16/</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>88 ft Sup of 1 In pine wrought and fixed in repairs</td>
<td></td>
<td>@/3½</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>21 6/100Sqres of 1 In pine including fixing in the rough</td>
<td></td>
<td>@16/</td>
<td>16</td>
<td>16</td>
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<tr>
<td>82 ft Sup of 1½ Inch pine wrought and Ledged doors including hanging</td>
<td></td>
<td>@/8</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>55 ft lin of Oak 4x4 wrought and rounded including fixing</td>
<td></td>
<td>@/5</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>100 ft lin of turned Oak rail Stairs 2 in diameter including fixing in</td>
<td></td>
<td>@/5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>1 Door frame to repair &amp; refix</td>
<td></td>
<td>@3/6</td>
<td>&quot;</td>
<td>3</td>
</tr>
<tr>
<td>25 ft Sup of 2 In Oak Floor lamed in the rough in repairs</td>
<td></td>
<td>@/6</td>
<td>&quot;</td>
<td>11</td>
</tr>
<tr>
<td>7 Doors to rehang and repair</td>
<td></td>
<td>@2/</td>
<td>&quot;</td>
<td>14</td>
</tr>
<tr>
<td>2 Pair of 18 in Hook and band hinges including Screws</td>
<td></td>
<td>@5/</td>
<td>&quot;</td>
<td>10</td>
</tr>
</tbody>
</table>
3 Bolts to repair & fix including Screws @1/6 " 4 6
1 Stove pipe hole lining and Stopper including fixing @3/9 " 3 9
20 ft Supl of Sheet Iron including punching holes & Nailing on @1/ " 1 "
3 Manger rings & Staples @1/3 " 3 9
3 Stock Locks 8 in including fixing @6/6 " 19 6
4 Pad Locks 3½ in Tumbler @3/ " 12 "
3 Hooks and Staples including fixing @3/ " 9 "
6 Thumb latches comple incl9
   Screws & fixing @4/ " 1 4 "
12 Pair of 2 in Butts and Screws @/9 " 9 "
12 Wood battens incl9 Screws & fixing @/6 " 6 "
18 Ft line of 2 in Tin Rain Conductor including fixing @/6 " 9 "
10 Elbows for do and fixing @/9 " 7 6
7 6/12 Ft Cube in Brick work in repairs @1/ " 7 6
261 Ft Cube of Rubble Stone Work in repairs to foundations @/8 8 14 "
19 Ya Supl of Brick paving laid flat in Mortar in repairs @2/6 2 7 6
36 6/9 Ya Supl of Lathing and 2 Coats plastering in repairs @1/ 1 16 8
765 3/9 Ya Supl of lime Whiting 2 Coats including Stopping @/1½ 4 15 8
169 4/9 Yards Supl of painting in Oil Color 2 Coats @/10 7 1 2½
2 Iron rim Knob Locks 6 inch including fixing @6/6 " 13 "

Contingencies 1/10 10 8 3
Total Item 3 114 10 10½
## Privy and Well

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Cess pool to be emptied</td>
<td></td>
<td>50/ 2</td>
</tr>
<tr>
<td>77 ft Supl of 1 in pine fixed in the rough</td>
<td></td>
<td>@/2</td>
</tr>
<tr>
<td>2 6/12 ft Supl of 1½ ovolo sash including pinning [?] Glazing and</td>
<td></td>
<td>@1/6</td>
</tr>
<tr>
<td>hanging</td>
<td></td>
<td>3 9</td>
</tr>
<tr>
<td>1 Pair of 2 inch Iron Butts &amp; Screws</td>
<td></td>
<td>@/9</td>
</tr>
<tr>
<td>1 Wood Button including fixing</td>
<td></td>
<td>@/6</td>
</tr>
<tr>
<td>1 Door to be refitted</td>
<td></td>
<td>@1/6</td>
</tr>
<tr>
<td>1 Iron rim Knob Lock and fixing</td>
<td></td>
<td>@6/6</td>
</tr>
<tr>
<td>18 Yards Superficial of White washing</td>
<td></td>
<td>@/1½</td>
</tr>
<tr>
<td>39 2/9 yds Supl of painting 3 Coats</td>
<td></td>
<td>@1/1</td>
</tr>
<tr>
<td>1 Well to be cleaned out 25 ft deep pr ft</td>
<td></td>
<td>@1/</td>
</tr>
<tr>
<td>45 ft Cube of dry Stone Work in repairs</td>
<td></td>
<td>@/6</td>
</tr>
<tr>
<td>48 4/12 Ft Supl of 1½ in pine wrought ploughed &amp; tongued including</td>
<td></td>
<td>@/9</td>
</tr>
<tr>
<td>fixing</td>
<td></td>
<td>1 8 2½</td>
</tr>
<tr>
<td>32 ft linl of pine 6x6 wrought framed &amp; chamfered including fixing</td>
<td></td>
<td>@/4½</td>
</tr>
<tr>
<td>20 ft Supl of 1½ inch pine wrought and fixed</td>
<td></td>
<td>@/6</td>
</tr>
<tr>
<td>98/100 Squares of pine Shingling in repairs</td>
<td></td>
<td>@16/</td>
</tr>
<tr>
<td>3 6/12 Ft linl of Oak 7 In diamet wrot and rounded</td>
<td></td>
<td>@2/3</td>
</tr>
<tr>
<td>1 Oak Bucket Iron bound</td>
<td></td>
<td>@7/</td>
</tr>
<tr>
<td>25 ft linl of Small Iron Chain</td>
<td></td>
<td>@/4</td>
</tr>
<tr>
<td>7 lbs of wrought Iron in repairs to Windows and Gudgeons</td>
<td></td>
<td>@/9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>13 2 4½</td>
</tr>
</tbody>
</table>
Contingencies 1/10 | 1 6 2½
---|---
Total for Item 4 | 14 8 7½

### Fences and Gates

273 ft lin\(^1\) wrought pine boarded
- fence 6 ft 6 in\(^s\) high with
- Cedar posts 7 In\(^s\) Sq\(^e\) 7 ft
- apart Set 3 ft 6 in\(^s\) in the ground
- 2 pine rails 3x4 including digging filling &ca to posts
  @1/10 25 " 6

202 ft lin\(^1\) of rough pine boarded
- Fence 6 ft high with Cedar posts
- 7 In\(^s\) diam\(r\) 7 ft apart and
- two pine 4x3 Rails
  @1/4 13 9 4

706 ft lineal of Fence to be repaired
  @/3 8 16 6

488 -- " -- of Fence 4 ft high of pine boards fixed in the rough with
- Cedar posts 7 ft long 7 In\(^s\) diameter 7 feet apart and 2 pine 4x3 rails
  @1/ 24 8 "

162 6/12 Ft\(^t\) Superficial of wrought pine framed Gates including fixing and hanging
  1/ 8 2 6

122 Ft\(^t\) Cube of Oak wrought & framed in Gate posts
  @3/ 18 6 "

50 Ft lin\(^1\) of 4½x3 Oak Bar [?]
- wrought
  @/6 1 5 "

141 ft of wrought Iron in repairs to hinges and fastenings
  @/8½ 4 19 10½

542 Ya\(^s\) Sup\(^l\) of painting 3 Coats in Oil
  @1/1 29 7 2
  133 14 10½
  Contingencies 1/10
  13 7 5½
  Total for Item 5 147 2 4½
## Bridges & Drains

- **225 Ft Cube of pine 12x12 fixed in the rough**
  - Amount: £1 11s 5d

- **180 ft Supl of 3 Inch pine plank laid in the rough**
  - Amount: £0 3s 15d

- **702 Ft Cube of rubble Stone with repairs to drains**
  - Amount: £0 13s 3d

<table>
<thead>
<tr>
<th>Contingencies 1/10</th>
<th>2 16 3 3</th>
</tr>
</thead>
</table>

Amount of Item 6 | 30 19 6 1
Amount of Estimate | £428 10 7

Amounting to the Sum of Four hundred and Twenty Eight pounds, Ten Shillings, and Seven pence Sterling

Vincent Biscoe  
Capt'n Rl Engineers  
June 23 1841

W.C. Ward  
Lt Coll Rl Engrs  
26th June 1841

J. Oldfield Lt Colonel  
ComG Royl Engineer  
in Canada  
26th July 1841

Appendix H. Report and Estimate of the Probable Expence of Building a Money Vault in the Basement floor of the Commiss\textsuperscript{t} Store, Niagara, Canada West.

Report

Niagara

Building a Money Vault in the Basement \underline{floor of the Commiss\textsuperscript{t} Store}.

This Estimate is submitted agreeably to the Order of His Excellency the Commander of the Forces, Communicated by the Military Secretary's letter of the 28\textsuperscript{th} March 1843. Copy of which is hereto Annexed, and provides, as per accompanying plan and Sections for Constructing a Money Vault under the Commissariat Office in the Basement Story of the Commissariat Store at Niagara. Access is proposed to be had to the vault by means of the existing stairs leading to the Basement, and also by means of a step ladder and trap door to be formed from the Commissariat Office.

Provision is therefore herein made for Excavating under the level of the basement floor, and under and round the two Angle Walls of the present Storehouse to allow of their being underpinned, the two exterior walls of the Commiss\textsuperscript{t} Store to be underpinned with rubble masonry to the extent shown in the Section; foundations of rubble Masonry for the two interior walls to be built as shown; the two inside walls to be of brick work 18 inches thick and the two exterior walls to be lined with brick work averaging 6 inches thick properly bonded into the rubble Masonry foundation wall; a door opening 5'. 6" x 2'.0" in the clear with proper \textsuperscript{?} of cut stone work to be formed, a \textsuperscript{2} solid stone head and door sill to be built to the door opening and two of the solid chisild stones Morticed to receive the bolts of the door Locks to shoot into the door jamb; the small window opening to be built up, and the window
removed to the opposite side of the building as shown on the plan; the floor of the Vault to be formed of ? stone flags 8 inches thick laid solid in mortar, close jointed and dowelled with wrought Iron dowels run with lead; a 9 inch thick (?) arch to be (?) over the apartment, the top of which is to be loaded with rubble masonry-, a four pannel wrought door 5'.8" x 2'.3" exterior dimensions to be made and fitted to the door opening, the front of the door to be made of flat Iron 3/8 inch thick rivetted to a wrought iron frame made of 2 x ½ inch iron except the hanging stile which is to be made of 2 x 1½ ½ inch iron with working pivots two inches long left at the top and bottom of it, two strong 10 inch wrought Iron tumbler Locks of the best description the Country affords to be provided and fixed on the door, the Keys having brass labels with chains; two rows of iron shelves for holding papers to be fixed along the wall of the vault opposite the door; the shelves to be 12 inches wide made of plate Iron 1/8 inch thick and supported on iron brackets made out of Iron 2 x ½ firmly spiked to the brickwork. A trap door 4'.0" x 3'.0" to be fitted to and hinged to the Office floor, secured by a 3 inch patent pad Lock, hasp and staple; three pine steps 1½ inch thick with side linings to be fixed to descend to the vault. The iron work to be painted 3 times in Oil, and the inside of the vault & (?) lime washed two coats.

By Specification and Contract

Estimate

20 Yards Cube of Excavating through earth
including filling in and ramming round the walls 1/ 1 0 0

274 Feet cube of rubble Masonry laid in Mortar in foundations /8 9 2 8
<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>352 Feet cube of Brick work laid in Walls and Arch</td>
<td></td>
<td>1/17 12 0</td>
</tr>
<tr>
<td>89 Feet cube of boucharded (?) Solid Stone Work in Jamb head and sill to door and in floors of vault</td>
<td>3/6 15 11 6</td>
<td></td>
</tr>
<tr>
<td>2 Mortices sunk in stone to receive bolts of Lock</td>
<td>5/10 0</td>
<td></td>
</tr>
<tr>
<td>2 Mortices sunk in stone for door pivots</td>
<td>9/1 6</td>
<td></td>
</tr>
<tr>
<td>12 Iron joggles 1 inch square 3 inches long including letting into the stone floor and running with Lead</td>
<td>2/1 4 0</td>
<td></td>
</tr>
<tr>
<td>2 Days of a Bricklayer &amp; Labourer building up old window opening, breaking out and forming new window opening old wall to form bound for brick lining</td>
<td>9/9 19 6</td>
<td></td>
</tr>
<tr>
<td>4 Bushels for plain Mortar for do</td>
<td>/8 2 8</td>
<td></td>
</tr>
<tr>
<td>200 Bricks for do</td>
<td>35/7 0</td>
<td></td>
</tr>
<tr>
<td>2½ Squares lime washing 2 Coats</td>
<td>1/5 3 10 1/2</td>
<td></td>
</tr>
<tr>
<td>450 lbs of wrought Iron door, shelves &amp; brackets</td>
<td>/10 10 15 0</td>
<td></td>
</tr>
<tr>
<td>2 Ten inch strong wrought Iron Locks to shoot into Mortices stones built in for the purpose</td>
<td>25/2 10 0</td>
<td></td>
</tr>
<tr>
<td>1 Three Inch patent Pad Lock</td>
<td>15/15 0</td>
<td></td>
</tr>
<tr>
<td>1 Wrought Iron Hasp and Staple</td>
<td>1/1 0</td>
<td></td>
</tr>
<tr>
<td>1 pair of Wrought Iron 18 T Hinges put on with bolts and nuts</td>
<td>5/5 0</td>
<td></td>
</tr>
<tr>
<td>3 Brass labels with chains &amp; engraving</td>
<td>2/6 7 6</td>
<td></td>
</tr>
<tr>
<td>2 days of a Smith and helper fitting &amp; filing (?) &amp; fixing shelves &amp; Iron door &amp;c</td>
<td>11/9 1 3 6</td>
<td></td>
</tr>
</tbody>
</table>
25 Feet sup1 of 1½ pine steps and
risers & side lining to door of
vault including ? /7 14 7
2 days of a Carpenter taking out and
refixing in new opening a small sash
and frame and cutting floor and
trimming round Office for trap door 6/3 12 6
12 Feet sup1 of pine 1½ inch
thick wrought both sides rebated
& ledged in trap door /8 8 0
9 Feet lin1 of pine step ladder 2/3 1 0 3
2 Feet cube rough pine 6x4 /6 1 0
7 Yards of oil painting 3 Coats 1/2 8 2

Contingencies 1/10 7 7 7½
Halifax Currency 81 3 10
Sterling £66 14 7½

T. Foster
Major & Capt R Eng
23d May 1843

WEC Holloway
Colonel Com9 R Eng
27 May 1843

Appendix I. Report and Estimate for Converting Cavalry Stables into Barrack Rooms to Accommodate A Detachment of the Royal Canadian Rifle Regiment removed from Queenston to Niagara By Order of His Excellency the Commander of the Forces dated 4th October 1845.

This Service is brought forward by Order of the Commander of Forces dated 4th October 1845 and provides for converting One of the Cavalry Stables at this post into Barrack Room for 24 Men. It is herein proposed to take down the present Stalls Mangers and hay cribs and Make good all deficiencies: To take up the present Stall floor [written above 2 - 35ft 0in by 10ft 0in ?]: lower the joists and relay the whole [written above 35.0 by 28.0 ?] with a floor of rough 1½ In pine plank ploughed and tongued: to close up the present [?] ventilators on inside with rough 1" pine & nail up the outside shutters of ditto - and to cut out for two New Sashes and frames where shewn on the Accompanying plan at B; The Sashes to be 2" Ovolo hung with 3" [?] Butt Hinges and fitted with Brass Sash Spring Fasteners and to be glazed with the best C Glass properly braded [?] and stopped: with Sash frames of pine 19in x ? [:] To Shut up the wall above the present Hay crib to the upper floor with 1" rough pine, ploughed and tongued to be Secured to the Ceiling with rough pine Fillets: to provide and fix Shelving, Arm Band Rail and pin Rail; the Shelving to be of 1½" pine wrought bolt Sides, edges shot; 12" wide; supported on wrought O.G. Brackets, 6 feet apart Securely Nailed to the Studding with 5" Wrought Nails; the Pin rail to be of pine 4½" x 1½" wrought one side edges shot, with Oak turned pin, 9 " long Securely Wedged [?]; 3 pins are allowed for each Man [:] the Arm band Rail to be of pine 4"x2" Wrought, edges shot Nailed to the wall and Studded [?]
with 5" cut [?] Nails; Wrought Iron Arm Bands are also provided; a Skirting of 1 Inch rough pine 6" wide to be fixed all round the Room; to limewhite the whole of the walls and ceiling 2 Coats as also the Joists and ?; the outside of the Door Sashes & frames to be painted One Coat in Oil and lettered; to build a chimney of 4" Brick work with 9" flue from the upper floor to the height shewn on Section supported on 2 inch pine (16½ ft Supl); and to provide and fix a Cut Stone pipe hole [?] in the upper floor & making good ? the same [:] Walls to be battened with fillets 2 x ½ for the purpose of laping [?] joints. To ? a porch as shewn on Sketch of 1½ ["] plank rough edges shot ploughed and tongued & rebated for door. Door of 1 Inch pins wrot ploughed tongued and ledged hung with 12 In T hinges and strong thumb Latch

Rubble masonry below North end of building 27 ft 1 foot square.

Closing up present window at A on plan & remouving inside casing --

Cutting thro' roof for chimney & making good deficiencies
Cutting out for butts of 24 muskets

By Measurement

2 The same quantities and descriptions of

3 Workmanship and Materials as described for fitting up Stable N° 9 as a Barrack Room require to be performed to Stables N° 7 and 8 for a similar purpose, the Amount of the detailed Estimate for Stable
NO 9 is therefore repeated for fitting up each of the Stables NOS 7 & 8

4. Taking down old Brick work and fixing up 3 New Boilers and Cast Iron pipes including Wro* Iron doors and Soot holes to facilitate the cleaning out the flues

There are no Funds in the District of Canada West available for the Service herein Estimated and which have been carried into effect as directed by His Excellency the Commander of the Forces under date 18 October 1845.

Niagara

Converting three of the Cavalry Stables into Barrack Rooms for 24 Men each

27 Feet Cube Rubble Masonry per Contract

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>north end of Building</td>
<td>13</td>
<td>3 1/2</td>
<td>7 10 1/2</td>
</tr>
<tr>
<td>21 11/12 Do Brick Work in chimney</td>
<td>31</td>
<td>1/-</td>
<td>1 1 11</td>
</tr>
<tr>
<td>1 Cut Stone pipe hole fixed Complete</td>
<td>76</td>
<td>2/6</td>
<td>2 6</td>
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</table>

32 46/100 Squares Whitewashing done 2 Coats

85 Feet Sup1 1 Inch pine boards rough fixed for ventilators & skirtings

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 6/12 Do 2 Inch pine plank rough fixed for supp9 Chimney</td>
<td>170</td>
<td>1 1/2</td>
<td>8 10 1/2</td>
</tr>
<tr>
<td>9 80/100 Squares 1 1/2 Inch pine plank rough ploughed &amp; tongued in floor</td>
<td>178</td>
<td>?</td>
<td>11 4 7</td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>140 Do 1 Inch pine boards rough Edges Shot ploughed and tongued in closing from hayloft to upper floor</td>
<td>171) 178) /3 1 0 1½</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80 6/12 Do 1½ Inch pine plank rough edges Shot ploughed and tongued in porch</td>
<td>173) 178) /3 1 0 1½</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 Ft Sup 1 2 Inch pine plank wrot 2 Sides Edges Shot and rebated in frames for Sashes</td>
<td>173) 178) /4½ - 9 4½</td>
<td></td>
<td></td>
</tr>
<tr>
<td>126 Ft Sup 1 ½ Inch pine plank wrot 2 Sides Edges Shot in Shelving</td>
<td>173 /3½ 1 16 9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Squares taking up old 2 Inch flooring</td>
<td>189 2/6 - 17 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 6/12 Ft Sup 1 Inch pine door wrot ploughed tongued and ledged</td>
<td>193 /4½ - 6 10 3/4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 8/12 Ft Sup 1 2 Inch Ovolo Sash fitted and prepared for hanging</td>
<td>207 /8 - 17 9½</td>
<td></td>
<td></td>
</tr>
<tr>
<td>72 Accoutrement pins of Oak turned</td>
<td>233 /3 - 18 -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 Ft lin 1 Band rail 4x2 wrot and fixed</td>
<td>237 /3 - 6 -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>122 Do Accoutrement rail of pine 4x1½ wrot chamfered and fixed</td>
<td>234 /4 2 0 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1255 Feet lin 1 Fillets of deal rough fixed</td>
<td>248 /½ 3 18 5½</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 Cutting out for butts of Muskets</td>
<td>254 /2 - 4 -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 Wrought O.G. Brackets</td>
<td>282 /9 - 19 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 Wrot Iron Arm bands per pattern and fixing</td>
<td>352 1/ 1 4 -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Pair 3 Inch Cast Iron butt Hinges</td>
<td>384 /8 - 1 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Pair 12 Inch T hinges with Screws and fixed</td>
<td>388 3/3 - 3 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Strong home Made Thumb Latch and fixed</td>
<td>397 4/5 - 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 Feet lin 1 Rebating on porch for door</td>
<td>264 /½ - - 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Brass Spring Sash fasteners and fixed</td>
<td>421 2/6 - 5 -</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Closing up window at A on plan and removing inside casing
   X  2/6  -  2 6

10. Taking down Stalls Manger and hay cribs and Making good deficiencies
    X  2/6  1 5  -

4. Nailing up Ventilators (the present inside ones)
    X  /6  0 2  -

350 ft 1 lin1 leveling joist for floor
    X  /4  -  7 3 ½

2. Cutting out for new Sashes and frames
    X  2/6  -  5  -

1. Cutting out thro roof for chimney and Making good deficiencies
    X  2/9  -  2 9

1. Cutting out thro upper floor and Making good deficiencies
    X  1/-  -  1  -

2 8/9 Yards Sup1 painting lead or other
   Common Color 1 Coat in Oil
    434 /2½  -  -  7 ½

28. Inches lettering White
    440 /1  -  2 4

2. Painting White 3 Coats on Sash frames
    441 1/3  -  2 6

1 4/12 Dozens painting White 1 Coat on Sash Squares
    442 /4½  -  -  6

17 10/12 Feet Sup1 Glazing with C Glass in
   ? work
    458 /7  -  10 4 ½

Add per contract

100 per Cent on £0.10.4½ Masons Work £0.10.4½

25 Do on £2.6.3 for Bricklayers & £0.11.6 3/4 Plasters Work

15 Do on £30.19.1 for Carpenters Do £4.12.10½

100 Do on £0.16.4½ for Painters Do £0.16.4½

   6 11 2
   41 3 3
   4 2 3 ½
   45 5 6 ½

add 1/10th for Contingencies

Currency

1. Expense of fitting up NO 9 Stable Sterling
    37 2 3

2. Do  Do  NO 8  Do
    37 2 2

3. Do  Do  NO 7  Do
    37 2 3

Sterling
    111 55 9
4  Setting Three Boilers in Cook House
Butlers Barracks

189 8/12 ft Cube Brick work built in Setting 31)
Boilers with best Bricks 462[?] l/1 10 5 5½
132 Feet Cube to bring[?] down old Brick[?]
& piling Bricks 42 /1 - 11 -
3 Fixing Cast Iron tops on Brickwork of
Boilers X 1/3 - 3 9
75 lbs Wrot Iron in Small door and frame
for Soot Trops 334 /7½ 2 6 10½

Add per Contract

25 per Cent on £11.0.2½ for Bricklayers
work £2.15.0½
15 do on £2.6.10½ for Carpenters £0.7.0½ 3 2 0 ½
16 9 1 ½
Add for Contingencies
1 12 10 ½
Currency £18 2 0 ½
Sterling £14 16 9

R.S.
CW
1 Decr 1845

Amounting to One Hundred and Twenty Six pounds three Shillings
and six pence half penny

Royal Engineer Office
Kingston C.W. 1st December 1845
RW Bonnycastle L Col. RE.
District Commg Ryl Engineer
Canada West
Estimate received at Head Quarters after being ? at this Station 23 January 1846

WCE Holloway
Colonel Com9 R Eng
24 January 1846

Approved
By Command

Montreal
28th January 1846

Geo Talbot
Military Secretary
Appendix J. Report and Estimate of the Expence of Forming Plank Walk from the Hospital to Butlers Barracks also for Carrying up the Partitions in the Hospital Wards to the Ceilings at Niagara, Canada West Amounting to £35.. 6.. 10½ Sterling

This Estimate is submitted with reference to the Minute of His Excellency the Commander of the Forces dated 19th August 1848 on Dr Maitlands letter of the 12th August 1848 to Lieut Colonel Newton Comm9 the Royl Canadian Rifles copies of which are annexed - Dr Maitland in his letter above quoted has represented the necessity of a Plank Walk between the Hospital and Butlers Barracks.

Provision is here made for furnishing the requisite materials for the formation of one from the Hospital to Butlers Barracks 1218.'0" in length and 1.'8" wide with cedar sleepers at 4 feet between centres flatted on top & laid plank of 2" pine in the rough, and 100 lbs of 5in wrot iron spikes for fixing the planking. The workmanship in laying down & fixing the plaking is not provided as the Troops under Colonel Newton have done the work in conformity with his Excellency's minute above quoted.

This Item provides for carrying the partitions of the Hospital Wards Nos 3, 4 & 5 to the ceiling being at present not within 5 feet thereof and which Dr Maitland represents will add to the warmth of the Hospital and consequently the comfort of the sick during the winter. The additional height of the partitions formed of 1½" pine plank rough edges shot ploughed & tongued, fixed with rough pine fillets on both sides. The partitions to be whitewashed with 2 coats of lime white.
Partitions

<table>
<thead>
<tr>
<th>Rooms NOS</th>
<th>1(\frac{1}{2})in pine</th>
<th>rough fillets</th>
<th>whitewashing</th>
</tr>
</thead>
<tbody>
<tr>
<td>3, 4, &amp; 5</td>
<td>2/27.0 x 5.0</td>
<td>4/27.0</td>
<td>4/27.0 x 5.0</td>
</tr>
<tr>
<td></td>
<td>1/30.0 x 5.0</td>
<td>2/30.0</td>
<td>2/30.0 x 5.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>150</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>420</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>168</td>
</tr>
</tbody>
</table>

N.B. Orders have been given for the immediate execution of the foregoing services in conformity with the instructions contained in His Excellency's Minute above referred to.

By Measurement.

Forming Plank Walk from the Hospital to Butlers Barracks

2030 Ft super¹ 2\(\frac{1}{2}\)in pine plank /\(\frac{1}{4}\) 14 16 0\(\frac{1}{2}\)

503 4/12 Ft Lin¹ Cedar beams not less than 10\(\frac{1}{2}\)in diameter at the small end flattened on the top and laid /\(\frac{1}{4}\) 8 7 9\(\frac{1}{2}\)

100 lbs. Iron wrot in spikes /\(\frac{1}{5}\) 2 1 8 25 5 5\(\frac{1}{2}\)

Add 25 Per cent p\(\frac{1}{r}\) contract 6 6 4\(\frac{1}{2}\) 31 11 10

Add 1/10th for Contingencies 3 3 2

Current £34 15 -

Sterling £28 9 8

Carrying up the Partitions in the Hospital Wards to the Ceilings

8 40/100 Squares, Limewhite twice done /9 - 6 3\(\frac{1}{2}\)

420 Ft Sup¹, 1\(\frac{1}{2}\)in pine rough edges shot ploughed & tongued in extra height of partitions /3 5 5 0
168 Ft 1 lin, Fillets of deal rough for  
- do - do -                          /Ł 10 6
                                          6 1 9½

Add 24 pr cent on £0.6.3½ Masons Work £1.6
Add 25 __ " __ £5.15.6 Carpër __ " __
£1.8.10.10½                           1 10 4½
                                         7 12 2
                                      - 15 2½
                                    £8 7 4½
                                    6 17 24
                                    Total Sterling 35 6 10½

Amounting to the sum of Thirty five pounds, Six shillings 
and Ten pence ½ Sterling

WEC Holloway                              Royal Engineer Office
Col1 Com REnr                               Kingston 12th September 1848
18th Sept. 1848                             ? Lt Colonel
                                          Comm9 Roy1 Engineer C.W

Appendix K. Report and Estimate of the probable expense of Constructing Drains at Garrison Hospital Niagara.

This Estimate is formed in accordance with a minute of the Respective Officers at Toronto dated 24th April 1849. upon a Requisition from the Medical Officer & Commandant at Niagara through the Barrack Master at the Station requiring the drains at the Garrison Hospital to be immediately put in order in the anticipation of cholera or any other Epidemic.

The water falling from the Roof of the Hospital & Medical Officers Quarters & also the waste water from the Well not being properly drained becomes stagnant after heavy rains and it is therefore proposed to lay a 9" Brick barrel drain at an average depth of 3 feet below the surface leading to the ravine on the Military Reserve the excavation being taken at 2 ? [?]. Wood Surface Gutters sprayed all over with vegetable tar with 9" brick shafts similar to the above named drain and Stone links with Cast iron gratings are also provided for the purpose of carrying off the water falling from the Hospital to the brick drain above mentioned as shown on the accompanying Sketch - provision is also made for forming and levelling the ground in front of the Hospital so as to carry off the surface water in the drains [.]

There are no funds in the District of Canada West available for this purpose nor can any Service of a less urgent nature be postponed to meet the expense of that herein provided.
<table>
<thead>
<tr>
<th>Item</th>
<th>Price</th>
<th>Amount to be paid in Money in the spot</th>
</tr>
</thead>
<tbody>
<tr>
<td>77 21/27 Yards Cube Digging &amp; throwing out ground and filling in and ramming</td>
<td>£ 1/7½</td>
<td>£ 2 8 7½</td>
</tr>
<tr>
<td>358 Ft lineal Nine inch Brick Barrel drain half brick all round laid in rock lime &amp; sand Mortar</td>
<td>£ 48 1/1½</td>
<td>£ 20 2 9</td>
</tr>
<tr>
<td>5 Stone Curbs 1'6&quot;x1'6&quot;x0'6&quot; Wrot on one face with a hole cut through 9&quot; diameter and fixing</td>
<td>£ x 5/6</td>
<td>£ 1 7 6</td>
</tr>
<tr>
<td>1 Forming &amp; levelling ground</td>
<td>£ x 21/</td>
<td>£ 1 1 0</td>
</tr>
<tr>
<td>41 6/9 yards Supl spraying over with vegetable tar one coat</td>
<td>£ 292 /3</td>
<td>£ 10 5½</td>
</tr>
<tr>
<td>66 8/12 Ft Cube Surface drains of pine 12x8 inches hollowed &amp; cemented [?] including excavation through earth laying &amp; filling in complete</td>
<td>£ 309 1/2</td>
<td>£ 3 17 9½</td>
</tr>
<tr>
<td>50 lbs Casting of soft grey iron including filing cleaning fitting &amp; fixing &amp;c</td>
<td>£ 399 /3½</td>
<td>£ 14 7</td>
</tr>
</tbody>
</table>

£ S D

1.7.6 add 75 per Cent on Masons Work                               £ 1 0 7½

23.12.4½ " 24 " " Bricklayer "                                      £ 5 13 4½

5.2.9½ " 25 " " Carpenters                                        £ 1 5 8½

Add 1/10th for Contingencies                                       £ 38 2 3½

Currency                                                            £ 41 18 6½

24/4 Currency per /20 Sterling                                      £ 34 9 2½
Amounting to the Sum of Thirty four pounds
Nine Shillings & two pence Sterling

Henry Vavasour
Col Comg. Ryll Engineer
Canada
10 August
1849

Capt
Ryll Engineer
28th April 1849

PAC, MG13, WO55/883, B-2830, p. 244, Toronto, 28 April 1849
Appendix L. Report and Estimate of the Probable Expense of Renewing under ground drain at the Medical Offrs Qrs Niagara C.W.

This Estimate is formed in accordance with a Minute of the Respective Officers at Toronto dated 13th June 1849 upon a Requisition from the Commanding Officer through the Barrack Master - The Wood box drain leading from the Medical Officers Quarters is decayed and fallen in & the Cellar inundated, thus causing not only great inconvenience to the occupant but being also prejudicial to health (as shown by annexed letter) - This Estimate provides for laying a nine inch Brick Barrel drain half brick all round, laid in Roche lime and sand mortar - The ground to be excavated to an average depth of 3 feet Length of drain 150 feet

Amounting to the sum of Ten pounds Eleven shillings and Eleven pence farthing Sterling

There are no funds in the District of Canada West available for this Service nor can any other Service of a less urgent Nature be postponed to meet the expense of [illegible].

<table>
<thead>
<tr>
<th>Item of Schedule Price</th>
<th>Amount to be Paid in Money on the Spot</th>
</tr>
</thead>
<tbody>
<tr>
<td>33 9/27 yards Cube digging &amp; throwing out ground and filling in and ramming</td>
<td>1  7$ 1 0 10</td>
</tr>
<tr>
<td>150 Feet lineal Nine inch Brick Barrel Drain half Brick all round, laid in Roche Lime and Sand mortar</td>
<td>48  1/1$  8 8 9 9 9 7</td>
</tr>
</tbody>
</table>
Add 24 per Cent per Contract 2 5 6
11 15 1
Add 1/10th for Contingencies 1 3 6
Currency £12 18 7
Sterling £10 11 11½

Henry Vavasour  ?  Capt.
Col Comp. Ry1 Engineer  E. engineer
Canada
10 August
1849

PAC, MG13, WO55/883, B-2830, pp. 248 - 248A, Toronto,
18 June 1849.
Appendix M. Report & Estimate for providing School Accommodation for the Royal Canadian Rifle Regiment at ... Niagara ... Canada.

Report

Cavalry Stables Nos 4, 5, and 6 at Butlers Barracks is a substantial framed Building, standing upon stone piers, sheeted with one inch boards on the inside, and weatherboarded on the outside. It was built in 1838, and is now unoccupied, it is therefore submitted that instead of erecting a New Building as suggested by the DPY [?] Secretary at War, to convert those stables into a School, for which it is well adapted, and will afford accommodation for 144. Scholars, with School Masters Quarters, as shewn on the accompanying Plan.

Item 10

This Item provides for the conversion of Nos 4, 5, and 6, Cavalry Stables at Butlers Barracks, into a School room for 144 Pupils, and a Quarter for a School Master, according to the accompanying drawings, and for the supply of the necessary Fitments of the Regulated Pattern, also for the necessary Outbuildings.

The Building is of wood, framed, sound and in good condition, is supported on stone piers, built about 6 feet apart, and to render it fit for the proposed appropriation the spaces between the piers should be closed to exclude to cold. Provision is therefore made for completing the foundation with rubble masonry laid in Mortar, built under the sills, also
footings of rubble masonry as above to be built to sustain the brickwork of the chimney hearth [?] and shafts.— The Chimney hearth [?] and shafts to be built as shown on Drawings with the best bricks in the neighbourhood laid in mortar. Cut stove pipe holes wrot one face to be fixed in the flues of School room, and School Masters Quarter.

The walls and ceilings of the School room, School Masters Quarter, passages, and porches to be lathed and plastered 2 Coats, & limewhited twice, also the interior of the Porches.— The existing straining [?] beams and queen posts of roof to be taken out, and the roof secured with collar braces of pine rough framed and fixed to rafters, and with $\frac{1}{2}$ inch round 10x2 wrot: iron tie bars, and suspension rods, with proper eyes, screws, and nuts, fixed as shown on Section.— The existing ventilators to stalls to be taken down, and the roof made good with 1 inch pine rough boarding and shingling. — The doors, shutters and sashes of the existing door and window openings also the stall partitions Racks and managers, to be taken down carefully and removed to a convenient place, where they may be taken assunder, the nails drawn, and the stuff selected and piled for use, and the old flooring of the stalls and passage between the stalls to be also taken up and the nails drawn, and the boards removed and piled — and the partitions between the stables, together with the flooring and Joists of the Forage Loft to be taken down, also the steps leading to the Forage Loft to be taken down, the nails drawn and materials piled for use.— The Joists, plate and uprights for the raised platforms of the School room to be constructed as shown on Section of pine scantling selected from the old materials — The old flooring Joists of the Stable to be taken up ? sound portion relaid and made good with pine Joists selected from the old materials. —
New door openings to be formed in the external walls, and new entrance doors to School Masters Quarters fitted with wrot: rebated and chamfered door frames, the materials for the purpose to be selected from the old materials. New window openings to be formed in the front and rear walls of the School room, and School Masters Quarters as shewn on Plan & Section, and to be fitted with sash frames of pine " with oak sunk and rebated 6x3 sills, wrot: framed rebated and chamfered, with 2 inch chamfer bow [?] sashes, fitted and hung with cast iron pivots and furnished with lines and cleats complete. -- The existing door and window openings to be closed up with rough pine studs of old materials, and covered with ½ inch pine rough weatherboarding outside, framed and braced partitions of pine scantling ", 4x3 with heads and sills of pine " , wrot: framed and rebated 4x4 door stiles and heads " to be fixed to form the Porches, 6x3 passages and School Masters Quarter as shown on plan, the scantling for this purpose to be selected from the old Materials. -- The School room, passages, Porches, and School Masters Quarters to be laid with 2 inch pine, wrot: rebated and filletted flooring. -- The Platforms in the School room to have risers of 1½" pine wrot: one side, and the floor laid with 2 inch pine wrot: rebated and filletted, projecting 1½ inches over the risers and rounded. -- Single faced Architraves 4 inches wide to be fixed to all the doorways and window openings -- Angle staff [?] of pine to be fixed to all sashes [?] in the School room, and School Masters Quarters to receive plastering -- Battens of pine " rough fixed 15 inches from Centres to the 2x1 inside of all external walls to receive the lathing, the battens
to be selected and prepared from the old materials, 1 inch
square skirting 6 inches high to be fixed to the walls and
partitions in the Schoolrooms, Porches, Passages, and School
Masters Quarters, -- The Ceiling Joists to be of pine __ [?] 5x2
rough fixed to the rafters as collar braces, and suspended from
ditto by two pieces of pine ___ -- 2 inch pine rough steps &
3x1\frac{1}{2}
risers, with sills, carriages [?] pieces, bearers and brackets
with wrot: newals, and rounded hand rail and boarded spandrils
to be fixed at the entrance to the School Masters Quarters, and
the passage leading to the Girls Yard, as shown on the Plan, the
boarding & Scantling for which to be selected from the old
materials. Framed & weather boarded Porches to be erected in
front of the Entrance doorway for the Pupils and the
doorway leading to the Boys Yard as shown on Plan. These
Porches to be of pine, cills ___ rough framed - Angle posts ___ 6x6 6x4
-- Studs ___ doorposts ___ wrot: framed and rebated -- Rafters
4x2 5x4
___ -- Ceiling Joists ___ The roof boarding to be of 1 inch
5x2 4x2
rough, covered with 18 inch pine shingles, shewing 4\frac{1}{2} inches to
the weather. The weatherboarding to be of \frac{1}{2}" pine rough. The
inside including ceiling to be lined with 1 inch pine rough,
edges shot, ploughed and tongued -- The flooring Joists to be of
pine ___ rough framed and fixed, and the floors to be of 2 inch
6x3
pine wrot: rebated and filletted -- The roof boarding inside
lining, and flooring Joists to be selected from the old
Materials. The entrance doorways front and rear, including the
entrance doorway to the School Masters Quarters, and the
doorways of the external Porches to be fitted with oad sills ___ 6x2
wrot:, and 1½ inch pine doors wrot: ploughed tongued and ledged hung with 16 inch T hinges, and secured with home made thumb latches, & except the Porches with 10 inch stock Locks fixed with 4 bolts and nuts to each.—The doorways of the passages, inner Porches, and the School Masters Quarters to be fitted with 1½ inch pine doors framed square in 6 pannels hung with 4 inch butt hinges, and secured with 7 inch iron rim locks with brass ?
-- A raised platform to be constructed for the Masters desk

6x3

rough framed, and 2 inch pine flooring wrot: and rebated, with rounded nosings, with risers of 1½ inch pine wrot: one side, the desk to be of 1½ inch pine wrot: and fixed on 1½ inch pine wrot: one side, the desk to be of 1½ inch pine wrot: and fixed on 1½ inch pine fronts and ends, wrot: framed.— A Brook Press to be constructed on one side of the Masters Desk, with back and side linings of one inch pine wrot: one side edges shot ploughed and tongued, shelves of 1½ inch pine wrot: two sides ploughed and tongued, and door frame of pine 4x2 wrot: framed and rebated, fitted with an 1½ inch pine door framed square in six pannels hung with 4 inch butt hinges, and secured with a 4 inch spring and tumbler press Lock. The mock [?] doorway on the side of the Masters desk to be formed to correspond with the Book press.— The desks to be of 1½ inch pine wrot: both sides edges shot ploughed and tongued and fixed on tressels of cast iron of the approved pattern, fixed to the platforms with 2 inch screws, the desks to have holes cut in them for Inkstands — The forms [?] to be of 1½ inch pine wrot: 2 sides edges shot and fixed on cast iron tressels as above rails of " wrot: and

4½x1½

chamfered with turned pins of oak 9 inches long to be fixed to the walls and partitions in the porches and passages.— Each of the Entrance doorways to be furnished with a pine step " with

12x9
wrot: iron door ? on each.  
All the wrot: wood to be painted 4 Coats, and all the iron work 3 Coats Common Color, the doors to be lettered, and the sashes to be glazed with C Glass--

By Special Contract

The mode shown in pencil on the Section, by a horizontal Tie or Tension Bar, the King Bolt extended to embrace it; also the two Queen Bolts, with struts, to receive the weight on the Purlins, and the intermediate bearing of the Collars, by a Ceiling Summer if required, with the connexions as suggested for Item 1, are submitted for adoption in this case also: so far as they are applicable; instead of the oblique strain of tension Bars, and additional load exerted by it on the Purlins, as shewn and provided, if it be requisite to remove the present Trusses.

The previous Remarks on provision of Yards & Privies, Curtains, Ventilation, Painting 4 oils, &c appear applicable to this Item also.--

[initialled ?]

Item 11

The Stables are at present enclosed on two sides by a picket fence, it is proposed to put up boarded fences, 6 feet high from the back of the Stables to meet the existing fence, so as to form separate Yards for the Male and Female Scholars and School Master, and thus mask the approches to the Privies.--

This Item provides for enclosing the Yards in rear of the
School room and Masters Quarters.

The posts to be of Cedar 8 inches diam. spaced 7 feet apart, notched to receive rails of pine cut arriswise from _"_ pine and fixed, the boarding to be of 1 inch pine rough from 5x5 the old materials. The posts to be of pine _"_ rough framed 12x12 with pine sills and braces and rebated for the Gates, to be fitted with 1 inch pine rough ledged Gates hung folding, with wrot: iron hook and eye hinges, and secured with a wrot: iron bolt and hasp and staple with a 4 inch patent Padlock complete.

A Wicket to be formed in a line with the Gateway, on the steps[?] leading to the School Masters Yard, as shewn on plan, wrot: & rebated door posts, fitted with One inch pine rough ledged door, hung with T hinges, and secured with a wrot: iron bolt.

All the pine in the works above specified (except the Gate posts and the rails of the Fences) also the hinges bolts, hasps and staples and Padlocks to be obtained from the old materials.

The Remarks on Item 10 appear applicable to this Item also.--

[initialled ?]

Item 12

The Barrack Privies are considered too distant for the use of the School, new Privies are therefore provided, and are also desirable as a matter of decency.
The soil pits to be excavated to the depth of 6 feet below the surface and the stuff removed 90 Yards. The lining of the soil pits to be of 2 inch pine rough, secured with pine 5x4 rough framed. The building to be framed and weatherboarded, of pine, sills 6x6 -- Angle posts 6x4 -- Studs 4x3 -- door posts 6x6 6x4 4x3 -- rafters 4x4 -- Joists 4x2 -- Ceiling Joists 6x3 4x2 all rough framed -- The weatherboarding to be ½ inch pine, and the roofs covered with 1 inch pine rough, and 18 inch pine shingles shewing 4½ inches to the weather. The floors to be laid with 2 inch pine, and the interior of each Privy to be lined with 1 inch pine boarding rough edges shot, the seats and risers to be 1½ inch pine wrot: one side edges shot ploughed and tongued fixed on rough framed bearers, with rounded nosings, and holes cut out and dished in each privy as shewn on the plan, 1½ inch pine rough partitions to be fixed in the Boys and Soldiers Privies as shewn on plan.-- Each Privy to be fitted with a one inch pine wrot: ledged door hung with 14 inch T hinges, and secured with a Norfolk thumb latch, large size -- Screens as shewn on plan to be erected in front of each Privy of pine rough and fixed.-- Urinals (as shown on Plan) with upright and underground Box drains, to be constructed within the Screens of the Soldiers and Boys Privies-- The pine to be used in the scantling and boarding required for the soil pits and drains, the ? boards - roof boarding, and the flooring, inside linings, partitions, doors, Screens, and urinals to be obtained from the old materials.--

The Remarks on Item 10 appear applicable to this Item also.

[initialled ?]
Item 13

The Soil at Niagara being of a soft nature plank pathways are proposed to be constructed out of some of the old materials which will necessarily be removed in making the conversion proposed in Item 10.—

This Item therefore provides for laying down sleepers of pine ___ and ___ rough, and planking the same with 2 inch pine 6x4 4x4 boarding the sleepers and boarding to be obtained from the old materials -

By Special Contract for the Whole Service at this Station——

The Remarks on the previous Items appear generally applicable to this Item also——

[intialed ?]

Estimate

Niagara

Item 10. Converting NOS4, 5, and 6. Cavalry Stables into a School Room & Master Qrs

41 1/3 Yards cube digging and throwing out ground including filling in and ramming /7½ 1 5 10

1,443 Feet cube rubble masonry laid in Mortar /8 48 2 0

573 Feet — " -- brickwork in walls partitions &c laid in Mortar /11 23 10 3
<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Cut stone pipeholes wrot: outside including fixing</td>
<td>5</td>
<td>1/5</td>
<td>15</td>
</tr>
<tr>
<td>82 Squares supl: Lime white done twice</td>
<td>3</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>858½ Yards -- &quot;-- lath &amp; plaster 2 Coats and set</td>
<td>60</td>
<td>16</td>
<td>2½</td>
</tr>
<tr>
<td>2 Feet Cube Oak <em>wrot: and fixed</em></td>
<td>2</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>16 Feet -- &quot;-- pine <em>rough fixed</em></td>
<td>7½</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>68 Feet -- &quot;-- do <em>rough fixed</em></td>
<td>1</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>1½ Feet -- &quot;-- do <em>rough fixed</em></td>
<td>1½</td>
<td>11</td>
<td>8½</td>
</tr>
<tr>
<td>5 Feet -- &quot;-- do <em>rough fixed</em></td>
<td>1½</td>
<td>5</td>
<td>2½</td>
</tr>
<tr>
<td>3½ Feet -- &quot;-- do <em>rough fixed</em></td>
<td>1½</td>
<td>3</td>
<td>4½</td>
</tr>
<tr>
<td>8 Feet -- &quot;-- do <em>rough framed and fixed</em></td>
<td>1½</td>
<td>11</td>
<td>4</td>
</tr>
</tbody>
</table>
| 30 Feet -- "-- do _rough framed and fixed_                                 | 1½       | 2     | 6               | 3
| 2½ Feet -- "-- do _rebated & DO_                                           | 2½       | /     | 10½             |
| 4 Feet -- "-- do _rebated & DO_                                            | 11/3     | 6     | 8               |
| 3 1/3 Feet -- "-- do _rebated & DO_                                        | 1½       | 5     | 11½             |
| 1 Feet -- "-- do _rebated & DO_                                            | 2/3      | 2     | 3               |
| 5 Feet -- "-- do _rebated & DO_                                            | 2/4      | 11    | 8               |
| 2 Feet -- "-- do _rebated & DO_                                            | 2/8½     | 5     | 5               |
| 397 Feet supl: ½" pine boarding rough fixed                                | 1        | 1     | 13              | 1
8 Feet -- " -- 1" do wrot: one side edges shot & fixed /2 " 1 4
270 Feet -- " -- 1½" do D0 two -- D0 -- D0 -- D0 -- /3½ 3 18 9
97½ Feet -- " -- 1" do ploughed tongued and do -- /2½ 1 " 3½
170½ Feet supl: 1½" pine boarding wrot: one side ploughed tongued and fixed /3½ 2 9 8½
44½ Feet -- " -- 1" pine do ploughed & tongued and plugged (?) to walls /3 " 11 1½
93 1/3 Feet -- " -- 2" pine do wrot: 2 sides edges shot and fixed /3½ 1 9 2
406 Feet -- " -- 1½" pine do -- do -- ploughed tongued and fixed /4½ 7 3 9½
29½ Squares -- " -- 2" pine flooring wrot: rebated & filletted 30/ 44 5 "
42½ Squares -- " -- taking up 1 inch pine flooring drawing the brads & removing the boards to Store 2/ 4 5 "
48 Squares -- " -- taking up 2 inch pine do -- do -- do -- do 2/6 6 " "
142 Feet supl: 1½" pine doors, wrot: ploughed & tongued & ledged, including hanging /5½ 3 2 1½
172 Feet -- " -- 1½" pine doors framed square & flat in six pannels including hanging 1/1 9 6 4
176 Feet -- " -- chamfer bar sashes 2" thick prepared for hanging /8 5 17 4
225 Feet -- " -- single faced Architraves /4½ 4 4 4½
174½ Feet -- " -- square skirting 1 inch thick /3½ 2 10 10½
10 Feet -- " -- 2 inch pine steps & risers wrot: and rounded including fixing and rough pine brackets /8 " 6 8
80 Feet linl: accoutrement rails of pine
" wrot: 1 side & chamfered & bored
4½x1½
for pins including fixing /4 1 6 8
80 Accoutrement pins turned of oak 9 inches
long 1½ inch diam" /3 1 " "
84 Feet linl: Angle staff (?) of pine /2 " 14 "
360 Feet -- " -- bandrail of do " wrot:
4x2
& fixed /3 4 10 "
16 Feet -- " -- chamfering on edges /½ " " 8
261 Feet -- " -- rounded nosings /1 1 1 9
9 Taking down sashes & putting in store /9 " 6 9
17 Taking down old doors and shutters /6 " 8 6
1½ Square suppl: covering with 18" pine
shingles shewing 4½ inches to the weather 15/ " 18 9
16 Feet linl: extra allowance to do. /3 " 4 "
72 Dozen 2 inch screws /4 1 4 "
576 Lbs wrot: iron in ties with screw & nut
at each end /6 14 8 "
1,944 Lbs castings of soft grey iron including
filing fitting and fixing /4 32 8 "

32 Bolts, rod, bright (?), straight 6" long and
fixing 1/10 2 18 8
8 Pair butt hinges 3 inches with screws /8 " 5 4
7 Pair 16 inch T hinges with screws 3/4 1 7 5
7 Latches thumb home made with do 4/5 1 10 11
5 Locks, stock 10 inches with 4 bolts and
nuts and staple on plate with screws and
fixing 5/2 1 5 10
6 Locks iron rim 7" with brass ? furniture
and fixing 5/6 1 13 "
<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Press Lock, 4 inch spring &amp; tumbler &amp; fixing</td>
<td></td>
<td>3/</td>
<td>3</td>
</tr>
<tr>
<td>8 Hooks, with screws, and fixing (Brass)</td>
<td></td>
<td>/3</td>
<td>2</td>
</tr>
<tr>
<td>12 Fitting in the ? with brass including ?</td>
<td></td>
<td>1/</td>
<td>12</td>
</tr>
<tr>
<td>8 Cutting out straining beams, and queen posts, securing roof &amp; fixing iron tie beams and suspension rods</td>
<td></td>
<td>4/6</td>
<td>1 16</td>
</tr>
<tr>
<td>8 Taking down Ventilators, including making good the roof boarding and shingling</td>
<td></td>
<td>2/9</td>
<td>1 2</td>
</tr>
<tr>
<td>30 Taking down stall partitions &amp; removing to store</td>
<td></td>
<td>2/1</td>
<td>3 2 6</td>
</tr>
<tr>
<td>36 Taking down racks and managers &amp; -- do -- do --</td>
<td></td>
<td>1/8</td>
<td>3</td>
</tr>
<tr>
<td>2 Taking down studs &amp; braces of partitions &amp; do -- do --</td>
<td></td>
<td>4/6</td>
<td>9</td>
</tr>
<tr>
<td>72 Taking up old flooring Joists -- &amp; -- do -- do --</td>
<td></td>
<td>/3½</td>
<td>1 1</td>
</tr>
<tr>
<td>5 Stopping up old door openings &amp; fixing studs to receive new weatherbording, Labor and Nails</td>
<td></td>
<td>2/3½</td>
<td>11 5½</td>
</tr>
<tr>
<td>9 Stopping up old window openings &amp; fixing studs to receive new weaterboarding, Labour &amp; nails</td>
<td></td>
<td>1/7½</td>
<td>14 7½</td>
</tr>
<tr>
<td>16 Cutting out openings for windows &amp; fitting in and making good the new sash frames, Labour and Nails</td>
<td></td>
<td>1/7</td>
<td>1 5 4</td>
</tr>
<tr>
<td>224 Feet supl: sash frames of pine &quot; with oak 6x3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sunk &amp; rebated sills, wrot:, framed rebated and beaded inside and chamfered outside</td>
<td></td>
<td>/6</td>
<td>5 12</td>
</tr>
<tr>
<td>16 Hanging sashes including cast iron pivots, line and cleats complete</td>
<td></td>
<td>2/7½</td>
<td>2 2</td>
</tr>
<tr>
<td>5 Cutting out &amp; forming door openings including frames and sills complete, labor and nails only</td>
<td></td>
<td>9/</td>
<td>2 5</td>
</tr>
<tr>
<td>1 Taking down and removing steps [?]</td>
<td></td>
<td>2/3</td>
<td>2 3</td>
</tr>
<tr>
<td>Work Description</td>
<td>Cost</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Repairing &amp; renailing clapboarding</td>
<td>5/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Taking up &amp; relaying flooring Joists, Labour &amp; nails only</td>
<td>50/2 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Cutting the roof for Chimney shafts including making good</td>
<td>3/8   7 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Fixing Joists for raised platforms complete labor &amp; nails</td>
<td>18/9 3 15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Preparing &amp; fixing framed &amp; braced partitions to receive lath and plaster</td>
<td>12/6 1 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Repairing -- DO -- DO -- DO</td>
<td>6/2   12 4</td>
<td></td>
<td></td>
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<tr>
<td>2 Repairing -- DO -- DO -- DO</td>
<td>6/6   13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Repairing -- DO -- DO -- DO</td>
<td>17/6  17 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Pine steps &amp; risers rough fixed including sills, carriage pieces and brackets, with wrot: newals rounded headed &amp; handrails Labor and Nails.</td>
<td>7/3 1 1 9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Preparing &amp; fixing battens to extend walls of School room, &amp; School Masters Quarters to receive lath and plaster, Labor and nails.</td>
<td>29/1 9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Fixing roofboarding Labor &amp; nails only</td>
<td>2/3   2 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Framing &amp; fixing partitions - do - do -</td>
<td>4/    4</td>
<td></td>
<td></td>
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<tr>
<td>2 Fixing inside lining to walls &amp; partitions of porches labor and nails.</td>
<td>4/    8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>144 Holes Cut for Ink stands</td>
<td>/2    1 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>144 Wrot: iron hat and coat hooks fixed</td>
<td>/3½  2 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 Lbs wrot: iron in door Scrapers</td>
<td>/8    16 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Framing &amp; fixing flooring joists of porch Labor only</td>
<td>3/    3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>107½ Yards supl: painting in Oil 4 Coats stone color</td>
<td>/10   4 9 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>429 Feet linl: printing in - do - do - on skirting and pine rails</td>
<td>/1    1 15 9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32 Painting white 4 Coats on sash frames</td>
<td>1/10 2 18 8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
42 2/3 (?) painting do - on sash squares 1/6 3 4 "
5 Painting black 3 do - on door scrapers /8 " 3 4
119 Inches painting letters black /1 " 9 11
142½ Feet supl: Glazing in New sashes with C Glass /7 4 2 11½
144 Painting in Oil 3 coats stone color on cast iron Tressels. /8 4 16 "

Add 30 per cent on £ 136.15.9½ Masons work 378 16 5½
£ 41.0.8½
Add 75 per do - on £ 136.15.9½ Stone cutters do 11.3
Add 20 - do - on 219.5.5¼ Carpenters - do 43.17.1
Add 25 - do - on 22.0.2½ Painters -do 5.10.0 90 19 1¼
469 15 7
Add 1/10 for Contingencies 46 19 6½
Currency 516 15 1½
Sterling 430 12 7½

Item 11. Erecting Boarded Fences to Enclose Yards for the Scholars and School Master
31 1/3 Yards cube of excavations in earth including filling in and ramming /7½ " 19 7
45 Feet cube pine _" cut arriswise in rails 1/0½ 2 6 10½
5x5
18 Feet - " - " - ____ rough framed and fixed 1/1 " 19 6
12x12
19 Feet linl: rebating /½ " " 9½
2 Taking up pickets including piling for use 3/ " 6 "
405 Feet linl: of Cedar posts 8" diam® and fixing /2 3 7 6
1560 Feet supl: 1 inch pine boarding rough fixed
  labor and nails only   /½  3  5  
70½ Feet " 1" pine rough ledged Gates including
  hanging labor and nails only   /1⅓ "  7  4  
2 Pairs taking off old hook and Eye hinges   /6 "  1  
2 Taking off & refixing door bolts   /9 "  1  6  
1 Taking off & do hasps and Staples for padlocks   /6 "  6  

Add 30 per cent on £ " 19.7 Masons Work £ " 5.10½
Add 20 do " 10.16." Carpenters do 2.3.2½

- Add 1/10 for Contingencies

<table>
<thead>
<tr>
<th>Currency</th>
<th>15 13 1½</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterling</td>
<td>13 &quot; 11½</td>
</tr>
</tbody>
</table>

Item 12: Constructing Privies

33 Yards Cube digging and throwing out ground and
  removing the stuff under 100 yds & levelling   /10 1 7 6  
1 Foot Cube oak " wrot: and fixed
  6x2                                           2/9 "  2  9  
8 Feet "- pine " rough & do
  4x2                                           1/0½ "  8  4  
34 Feet "- do - " rough framed & fixed
  6x6                                           1/5 2 8 2  
7½ Feet "- do - " - do - do -
  6x3                                           1/6½ "  11 6½ 
18 Feet "- do - " - do - do -
  4x4                                           1/8 1 10 "  
11 Feet "- do - " - do - do -
  4x3                                           1/8 "  18 4  
7½ Feet "- do - " - do - do -
  3x3                                           1/9½ "  13 5¾ 
14 Feet "- do - " wrot: framed rebated
  6x3                                           2/4 1 12 8  
& fixed
<table>
<thead>
<tr>
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<th>Quantity</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>848 Feet Supl: ¼ in do boarding rough fixed</td>
<td>/1</td>
<td>3 10 8</td>
<td></td>
</tr>
<tr>
<td>49 Feet -&quot;- 1&quot; pine wrot: one side edges shot, ploughed, tongued and fixed</td>
<td>/2½</td>
<td>&quot; 10 2½</td>
<td></td>
</tr>
<tr>
<td>62 Feet -&quot;- 1½&quot; pine - DO - DO - DO</td>
<td>/3½</td>
<td>&quot; 18 1</td>
<td></td>
</tr>
<tr>
<td>14 Holes cut and dished in seats</td>
<td>/9</td>
<td>&quot; 10 6</td>
<td></td>
</tr>
<tr>
<td>37 Feet linl: rounded nosing</td>
<td>/1</td>
<td>&quot; 3 1</td>
<td></td>
</tr>
<tr>
<td>3 Squares supl: covering with 18&quot; pine shingles shewing 4½ inches to the weather</td>
<td></td>
<td>15/   2 5</td>
<td></td>
</tr>
<tr>
<td>1 Sliding bolt 6 inch and fixing</td>
<td>1/10</td>
<td>&quot; 1 10</td>
<td></td>
</tr>
<tr>
<td>6 Pairs 14 inch T hinges with screws</td>
<td>3/11½</td>
<td>1 3 9</td>
<td></td>
</tr>
<tr>
<td>6 Norfolk Latches large size with screws</td>
<td>2/3</td>
<td>&quot; 13 6</td>
<td></td>
</tr>
<tr>
<td>2 Lining soil Pits with pine rough fixed</td>
<td>14/</td>
<td>1 8</td>
<td></td>
</tr>
<tr>
<td>2 Fixing pine rough Collar braces &amp; uprights in gables labor and nails only</td>
<td>3/7</td>
<td>7 2</td>
<td></td>
</tr>
<tr>
<td>560 Feet Supl: 1 inch pine boarding rough fixed, labor and nails only</td>
<td>1/2</td>
<td>1 3 4</td>
<td></td>
</tr>
<tr>
<td>3½ Squares supl: 2&quot; pine flooring, rough laid</td>
<td>7/6</td>
<td>1 6 3</td>
<td></td>
</tr>
<tr>
<td>6 Lining the interior of Privies with 1 inch rough boarding. Labor and nails.</td>
<td>4/</td>
<td>1 4</td>
<td></td>
</tr>
<tr>
<td>5 Framing &amp; fixing sills, sleepers, and posts, for screens of Prives Labor only</td>
<td>2/8</td>
<td>13 4</td>
<td></td>
</tr>
<tr>
<td>88 Feet supl: 1&quot; pine wrot: ploughed and tongued doors includ9 hanging</td>
<td>/4½</td>
<td>1 11 2</td>
<td></td>
</tr>
<tr>
<td>3 Making &amp; fixing urinals including upright &amp; underground box drains labor &amp; nails only</td>
<td>6/</td>
<td>&quot; 18</td>
<td></td>
</tr>
<tr>
<td>6 Putting up partitions in Privies Labor and nails</td>
<td>2/3</td>
<td>13 6</td>
<td></td>
</tr>
</tbody>
</table>

Add 30 per Cent on £ 1.7.6 Masons Work £ " 8.3
Add 20 - do - on - 27.6.7½ Carpenters do 5.9.3½

Add 1/10th for Contingencies

Currency

Sterling
Item 13: Laying down Plank Pathways to the Privies

5 98/100 Squares supl: 2 inch pine flooring rough laid Labor and nails only 7/6 2 4 10
3 Repairing and laying down rough pine sleepers /9 1 7 " for Pathway, Labor only 3 11 10
  Add 20 per cent on Carpenter Work " 14 4½
  Add 1/10th for Contingencies " 8 7½

Currency 4 14 9½
Sterling 3 19 "

PAC, MG13, WO55/885, B-2832, PP. 151, 172-80, Montreal, 19 Feb. 1851.
Appendix N. Report and Estimate of the Probable Expense of Fitting up NO 6 Cavalry Stable as a School Room for 84 Scholars at Niagara.

Report

1 This Estimate is submitted agreeably to the Minute of the Inspector General of Fortifications NO 4639, dated 6th October 1851, forwarding the Honble Boards Order dated 3rd October 1851, __W__, with reference to a letter from the Honble Secretary at War dated 2d October 1851, and provides for fitting up NO 6 Cavalry Stable at Niagara as a School Room for 84 Scholars, with Privies and small enclosed Yard.

The Stall partitions, Hay Racks and Mangers, also the door and side lights, and sashes and frame to be taken down and removed to Store; - the roof to be secured with Collar ties of pine " and spiked to the rafters, and an Iron tie bar 7/8 inch diam" , with nut and screw at each end to, and four suspension rods ½ inch diam" from the rafters; Six openings to be formed for the new windows, and one for the door, the lining of the walls to be made good, above the present loft floor to the plates, with a portion of the rough flooring of the Hay Loft, the weatherboarding on the outside made good over the old door and window openings, and to the new sash frames, which are to be 4'.6" x 4". 0" of pine wrot " and framed and 6x2 rebated with inside and outside linings [?] and sunk sills, 2 inch pine Chamber bar sashes hung on pivots secured with two 6 inch sliding bolts to each and furnished with lines of opening and closing the same - The
floor and platforms, to be laid with new two inch pine wrot and rebated, and the nosings rounded, the door frame to be of pine 6x4 wrot framed and rebated with oak sills, and wrot fillets fixed on each side to receive the weatherboarding and plastering, the door to be 7'.0" x 3'.0" of 1½ inch pine wrot ploughed tougued, ledged, and braced [?], hung with 18 inch T hinges & secured with a ten inch stock lock, and a Home made thumb latch, - the walls to be battened with pine 2x1 placed 1 foot apart, and the walls and ceilings lathed and plastered two coats and set with find stuff, - the Chimney to be brickwork laid in mortar, built on a rubble stone foundation laid in mortar, and sunk three feet in the ground; a Stove pipe stone wrought on one face, and a cast iron soot door 12x9 inches with frame to be built in the chimney - The Desks and forms to be supported on Cast Iron standards, and made in conformity with the instructions accompanying Circulars No 362 and 374; the Masters desk to be of pine with clamped [?] flap, hung with 3 inch brass butt hinges, and secured with a 3 inch spring and tumbler Lock. The Desk to be supported on 1½ inch pine framed, attached to a raised platform 8 inches high, and plain framed stool supplied, - The porch to the entrance to be of pine rough framed on Cedar posts 10 inches diam², placed 4 feet in the ground, sills of pine 8x7 and Joists 4x2, angle posts and plates - Studs and rafters - The roof 4x4 4x2 to be covered with 1 inch pine rough, and 18 inch pine shingles laid 4½ inches to the weather; - The Floor to be laid with 2 inch pine wrought and rebated, the inside of the Porch to be lined with 1 inch pine rough edges shot, ploughed and tongued, and the outside weatherboarded with 5/8 inch pine rough, each course 7 inches wide, and having one inch lap.
The door and frame including fastenings to be the same as described for the entrance to the School room, and the sash frames and sashes taken from the stable to be refitted and refixed in this porch; the new sashes to be glazed with C Glass, and the doors and frames to be painted 3 Coats in Oil white or stone Colour, the Outer door to be marked with 2 inch letters, the interior of the porch to be lime whited 3 Coats.

By Special Contract

2 The Soil Pit to be excavated 11'.0"x11'.0" and 6 feet deep with an opening in the rear 6.0x4.0 for emptying, the whole to be lined with the old 2 inch pine rough flooring from the stable, secured with posts ___, and top and bottom sills 5x4

___, and the new opening to be covered with 3 inch pine [?] 4x4

earch 1'.6" in thickness - The privies to be of pine rough framed sills - posts and plates ___ - Ceiling Joists ___ -

4x4 4x2

Roof boarding of inch pine covered with 18 inch pine shingles laid 4½ inches to the weather - The inside of the walls to be lined with 1 inch pine rough ploughed and tongued and the outside weatherboarding with 5/8 inch pine rough as described for the Porch, the floor to be laid with 2 inch pine, wrot and rebated - Door frames of pine ___ wrot framed and rebated,

4x2

with linings 4 inches wide on each side 1 inch wrot ploughed tongued and ledged, hung with 12 inch T hinges and secured with a Home made thumb latch to each, 1½ inch pine seats and wrot and fixed on rough bearers, and a small wooden urinal of 1½ inch pine to be fixed where shown on Plan. -The doors and frames to be painted 3 Coats Stone Colour and lettered and the interior of the Privies to be Lime whited 2 Coats.
3 The Fence to formed (on the line shewn on Plan) with Cedar posts, 8 inches, placed 7 feet apart, and 3 feet 6 inches in the ground. - The rails of pine $4 \times 3$ and 1 inch pine rough boarding six feet high, from the old flooring of the Loft, the plank pathways to be laid as shewn on plan with old flooring from the stable, on pieces of scantling $4 \times 4$ placed 4 feet apart, for which labour, nails and Spikes are provided -

Estimate

<table>
<thead>
<tr>
<th>Item 1</th>
<th></th>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>3 2/3</td>
<td>Yards Cube of excavation in earth for posts &amp; incl. filling in &amp;</td>
<td>/7½</td>
<td>2</td>
<td>3½</td>
</tr>
<tr>
<td></td>
<td>including filling in &amp;</td>
<td></td>
<td></td>
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<tr>
<td>31½</td>
<td>Cube of rubble Masonry laid in Mortar in foundations</td>
<td>/8</td>
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<tr>
<td>1</td>
<td>Stove pipe stone wrought one face</td>
<td>5/</td>
<td>&quot;</td>
<td>5</td>
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<tr>
<td>58</td>
<td>Feet cube of brick work laid in mortar in Chimney</td>
<td>/11</td>
<td>2</td>
<td>13</td>
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<tr>
<td>279</td>
<td>Yards supl of lathing and plastering</td>
<td>1/5</td>
<td>19</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>2 coats &amp; set</td>
<td>/9</td>
<td>&quot;</td>
<td>&quot;</td>
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<tr>
<td>1</td>
<td>Square supl of limewhite 2 Coats</td>
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<tr>
<td>45½</td>
<td>Feet Cube of pine $4 \times 7$ rough framed</td>
<td>/7x2</td>
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<td>1 2/3 Feet $10 \times 3$ wrot do and</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>chamfered</td>
<td>4/-</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>6½</td>
<td>Feet $8 \times 7$ rough framed</td>
<td>1/3</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>1 2/3</td>
<td>Feet $6 \times 2$</td>
<td>1/8</td>
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<td>9½</td>
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<tr>
<td>8 3/4 Feet Cube of pine rough framed</td>
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<td>14 7</td>
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<tr>
<td>4x4</td>
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</tr>
<tr>
<td>3 1/2 Feet &quot; &quot; &quot; &quot; &quot; &quot; &quot; &quot; &quot; &quot; wrot do rebated</td>
<td>1/9 1/2</td>
<td>5 9 1/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4x2</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6 Feet &quot; &quot; &quot; &quot; &quot; &quot; wrot do rebated</td>
<td>2/2</td>
<td>13 0</td>
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<tr>
<td>chamfered</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>45 Feet sup1 of 1 inch pine rough and fixed</td>
<td>1 1/2</td>
<td>4 8 1/2</td>
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</tr>
<tr>
<td>104 Feet &quot; &quot; 1 &quot; &quot; &quot; &quot; &quot; edges shot ploughed tongued</td>
<td>/2</td>
<td>17 4</td>
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<tr>
<td>112 Feet &quot; of 1 1/8 inch pine wrot one side</td>
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<td>1 5 6</td>
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<tr>
<td>379 1/8 Feet &quot; 2 &quot; &quot; &quot; &quot; &quot; two sides</td>
<td>/3 1/2</td>
<td>5 18 6</td>
<td></td>
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<tr>
<td>16 1/8 Feet &quot; 1 1/8 &quot; &quot; rough edges shot and fixed</td>
<td>/2 1/2</td>
<td>3 0 1/2</td>
<td></td>
<td></td>
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<tr>
<td>92 Feet &quot; 5/8 &quot; &quot; &quot; weatherboarding rough fixed</td>
<td>/2</td>
<td>15 4</td>
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<tr>
<td>10 9/10 Squares of 2 inch pine flooring wrot &amp; rebated</td>
<td>30/-</td>
<td>16 7 0</td>
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<tr>
<td>9 8/10 Squares sup1 of taking up old 1 inch flooring Cleaning, piling &amp;a</td>
<td>2/-</td>
<td>19 7</td>
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<td></td>
</tr>
<tr>
<td>9 8/10 Squares sup1 of taking up old 2&quot; flooring cleaning &amp;a</td>
<td>2/6</td>
<td>1 4 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>108 Feet sup1 of pine sash frames</td>
<td>/4 1/2</td>
<td>2 0 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6x2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wrot framed rebated &amp;a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84 Feet sup1 of 2 inch pine chamfer bar sashes hung with pivots</td>
<td>/8</td>
<td>2 16 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>156 Feet &quot; of pine wrot single faced Architcave</td>
<td>/11 1/2</td>
<td>2 18 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>78 1/8 Feet &quot; of 1 inch pine wrot skirting</td>
<td>/3 1/2</td>
<td>1 2 10 1/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42 Feet &quot; of 1 1/8 inch &quot; wrot ploughed tongued ledged and braced doors</td>
<td>/5 1/2</td>
<td>1 0 1 1/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1512 Feet linl of rough fillets and fixing</td>
<td>/3 1/2</td>
<td>4 14 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>Quantity</td>
<td>Rate</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
<td>-------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>1/4 Square supl of shingling with 18 inch pine shingles laid 4 1/2 inches to the weather</td>
<td></td>
<td>15/-</td>
<td>7 6</td>
<td></td>
</tr>
<tr>
<td>168 Feet linl of rounded nosings</td>
<td></td>
<td>1/-</td>
<td>14 0</td>
<td></td>
</tr>
<tr>
<td>96 Lbs of wrot iron in tie bars with nuts &amp; screws</td>
<td></td>
<td>6/-</td>
<td>2 8 0</td>
<td></td>
</tr>
<tr>
<td>1873 Lbs of cast iron in standards for desks &amp; forms, soot door &amp; a</td>
<td></td>
<td>4/-</td>
<td>31 4 4</td>
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</tr>
<tr>
<td>12 Wrot iron 6&quot; sliding bolts with screws &amp; fixing</td>
<td></td>
<td>1/10</td>
<td>1 2 0</td>
<td></td>
</tr>
<tr>
<td>1 Ten inch stock Lock including fixing</td>
<td></td>
<td>5/2</td>
<td>5 2</td>
<td></td>
</tr>
<tr>
<td>1 Brass Label including engraving</td>
<td></td>
<td>11/-</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>2 Pair 18 inch T hinges with screws</td>
<td></td>
<td>6/3</td>
<td>12 6</td>
<td></td>
</tr>
<tr>
<td>2 Home made thumb latches and fixing</td>
<td></td>
<td>4/5</td>
<td>8 10</td>
<td></td>
</tr>
<tr>
<td>28 Dozens [?] of 2 1/2 inch screws for fixing desks and forms</td>
<td></td>
<td>7/-</td>
<td>16 4</td>
<td></td>
</tr>
<tr>
<td>1 Taking down old door and frame removing</td>
<td></td>
<td>1/6</td>
<td>1 6</td>
<td></td>
</tr>
<tr>
<td>6 Cutting out &amp; making good for new sash frames</td>
<td></td>
<td>5/-</td>
<td>1 10 0</td>
<td></td>
</tr>
<tr>
<td>12 Taking down Hay Racks, Mangers stall partitions &amp; a and removing</td>
<td></td>
<td>1/6</td>
<td>18 0</td>
<td></td>
</tr>
<tr>
<td>1 Taking out sash frame and sashes, repairing refitting and refixing in</td>
<td></td>
<td>4/6</td>
<td>4 6</td>
<td></td>
</tr>
<tr>
<td>Porch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Taking up old joists and removing</td>
<td></td>
<td>9/-</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>758 Feet linl of refixing old joists and bearers</td>
<td></td>
<td>1/2</td>
<td>1 11 7</td>
<td></td>
</tr>
<tr>
<td>300 Feet &quot; preparing and fixing brackets to form platform</td>
<td></td>
<td>1 1/2</td>
<td>2 5 0</td>
<td></td>
</tr>
<tr>
<td>1 Making good rough lining on walls</td>
<td></td>
<td>20/-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Taking down old Ventilators and making good the shingling</td>
<td></td>
<td>8/6</td>
<td>8 6</td>
<td></td>
</tr>
<tr>
<td>6 Sets of pivots with screws for sashes also lines for opening and closing</td>
<td></td>
<td>2/6</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
<td>Quantity</td>
<td>Unit</td>
<td>Rate</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>----------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>16</td>
<td>Feet lnl of Cedar 10&quot; diam² rough and fixed</td>
<td>/4</td>
<td>&quot;</td>
<td>5 4</td>
</tr>
<tr>
<td>1</td>
<td>Tin stopper for Stove pipe Hole</td>
<td>/10</td>
<td>&quot;</td>
<td>10</td>
</tr>
<tr>
<td>84</td>
<td>Cutting holes in desks for Inkstands</td>
<td>/2</td>
<td>&quot;</td>
<td>14 &quot;</td>
</tr>
<tr>
<td>1</td>
<td>Pine desk (for the Master) with lock, framed enclosure and raised platform</td>
<td>30/</td>
<td>1</td>
<td>10 0</td>
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<tr>
<td>1</td>
<td>Pine framed stool for ditto</td>
<td>7/6</td>
<td>&quot;</td>
<td>7 6</td>
</tr>
<tr>
<td>1</td>
<td>Cast iron scraper [?] for Entrance</td>
<td>5/</td>
<td>&quot;</td>
<td>5 &quot;</td>
</tr>
<tr>
<td>15</td>
<td>5/9 Yards supl of painting 3 Coats stone Colour</td>
<td>/8</td>
<td>&quot;</td>
<td>10 4½</td>
</tr>
<tr>
<td>136</td>
<td>Feet lnl do do do 3 Coats on skirting</td>
<td>/1</td>
<td>&quot;</td>
<td>11 4</td>
</tr>
<tr>
<td>12</td>
<td>Sash frames painted 3 Coats</td>
<td>1/6</td>
<td>&quot;</td>
<td>18 0</td>
</tr>
<tr>
<td>15</td>
<td>Dozen sash squares do do do</td>
<td>1/2</td>
<td>&quot;</td>
<td>17 6</td>
</tr>
<tr>
<td>20</td>
<td>Inches of writing letters &amp; figures</td>
<td>/1</td>
<td>&quot;</td>
<td>1 8</td>
</tr>
<tr>
<td>66</td>
<td>Feet supl of Glazing in new sashes</td>
<td>/7</td>
<td>1</td>
<td>18 6</td>
</tr>
</tbody>
</table>

Add 30 per Cent on £23.17.11 Masons Work £ 7.3.11½
" 20 " on 99.8.11 3/4 Carper do 19.17.9½
" 25 " on 4.17.4½ Painters do 1. 4.4 28 5 6

156 9 9
Add 1/10th for Contingencies
Currency 172 2 8½
Sterling 141 9 7

Item 2 Building Privies for the use of the Scholars

35 1/3 Yards Cube of excavation in earth & removing the stuff 100 Yards | /10 | 1 | 9 5½ |
4 1/6 Squares of limewhite 2 Coats | /9 | " | 3 1 3/4 |
11 1/4 Feet Cube of pine " rough framed 5x4 | 1/5 | " | 15 11 1/4 |
18 Feet cube of pine " rough framed 4x4 | 1/6½ | 1 | 7 9 |
<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>14½ Feet cube of pine rough framed 6x6</td>
<td>1/5</td>
<td>1</td>
<td>10 ½</td>
</tr>
<tr>
<td>3½ Feet rough framed 6x2</td>
<td>1/8</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>13 1/3 Feet rough framed 4x2</td>
<td>1/9½</td>
<td>1</td>
<td>10 ½</td>
</tr>
<tr>
<td>1 2/3 Feet rough framed 4x3</td>
<td>1/8</td>
<td>2</td>
<td>9 ½</td>
</tr>
<tr>
<td>4 Feet rough framed 5x2</td>
<td>1/8</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>192 Feet suppl of 1 inch pine rough fixed</td>
<td>1/1½</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>418½ Feet of do do edges shota ploughed and tongued</td>
<td>/2</td>
<td>3</td>
<td>9 ½</td>
</tr>
<tr>
<td>6/10 Squares of 2″ pine wrought &amp; rebated flooring</td>
<td>30/-</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>24½ Feet suppl 3″ pine rough fixed</td>
<td>/3½</td>
<td>7</td>
<td>1¼</td>
</tr>
<tr>
<td>22 2/3 Feet 2″ pine wrot and rebated</td>
<td>/4</td>
<td>7</td>
<td>6 ½</td>
</tr>
<tr>
<td>84 Feet 1 ¼″ pine do and fixed</td>
<td>/2½</td>
<td>19</td>
<td>3</td>
</tr>
<tr>
<td>70 Feet 1″ pine wrot ploughed &amp; tongued ledged doors</td>
<td>/4½</td>
<td>1</td>
<td>4 ½</td>
</tr>
<tr>
<td>6 Feet 1 ½″ pine wrot two sides and rebated</td>
<td>/3½</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>12 Feet 1 linl of rounded nosing</td>
<td>/1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6 Cutting holes for water closets</td>
<td>/9</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>1 1/3 Squares of pine shingling on roof</td>
<td>15/</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4 Pair of 12 inch T hinges with screws</td>
<td>3/3</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>4 Home made thumb latches &amp; do</td>
<td>4/5</td>
<td>17</td>
<td>8</td>
</tr>
<tr>
<td>28½ Feet linl of Cedar 8″ diamr and fixing</td>
<td>/2</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>300 Feet Supl of 5/8 pine weatherboarding rough</td>
<td>/2</td>
<td>2</td>
<td>10</td>
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<tr>
<td>285 Feet of fixing old 2 inch plank</td>
<td>/½</td>
<td>11</td>
<td>10 ½</td>
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<td>Item</td>
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<td>Unit</td>
<td>Rate</td>
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<tr>
<td>------</td>
<td>-------------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>26</td>
<td>5/9 Yards Suppl of painting 3 Coats stone colour</td>
<td>/8</td>
<td>11</td>
</tr>
<tr>
<td>26</td>
<td>Inches of letters and figures</td>
<td>/1</td>
<td>2</td>
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<tr>
<td></td>
<td>Sum of above 26</td>
<td></td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Add 30 per Cent on £1.12.7 Masons Work</td>
<td>£</td>
<td>9 9 1/2</td>
</tr>
<tr>
<td></td>
<td>on 19.15.1 1/2 Carpenters do</td>
<td>3.19 1/2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>on 19.10 1/2 Painters do</td>
<td>4.11 1/2</td>
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<tr>
<td></td>
<td>Sum of above 4 13 9</td>
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<td></td>
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<tr>
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<td>Add 1/10th for Contingencies</td>
<td></td>
<td>27</td>
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<tr>
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<td>Currency</td>
<td></td>
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<td></td>
<td>Sterling</td>
<td></td>
<td>29</td>
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<td>Sum of above 24 9 5</td>
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**Item 3  Enclosing the Yard and Laying Plank Pathways**

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<tr>
<th>Item</th>
<th>Description</th>
<th>Unit</th>
<th>Rate</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>6 1/2</td>
<td>Yards Cube of excavation for posts including filing in &amp; a</td>
<td>/7 1/2</td>
<td>4</td>
<td>0 1/2</td>
</tr>
<tr>
<td>7 1/2</td>
<td>Feet Cube of pine rough fixed</td>
<td>4 x 3</td>
<td>1/</td>
<td>7 6</td>
</tr>
<tr>
<td>7</td>
<td>Feet of Cedar wrot framed &amp; a</td>
<td>7 x 7</td>
<td>2/2</td>
<td>15 9</td>
</tr>
<tr>
<td>5</td>
<td>Feet supl of 1 1/2 inch pine wrot and fixed</td>
<td>/2 1/2</td>
<td>1</td>
<td>1 1/2</td>
</tr>
<tr>
<td>21</td>
<td>Feet of do do ploughed and tongued ledged and braced door</td>
<td>/4 3/4</td>
<td>8</td>
<td>3 1/2</td>
</tr>
<tr>
<td>12</td>
<td>Feet linl of chamfering on edge</td>
<td>/4 1/2</td>
<td>8</td>
<td>3 1/2</td>
</tr>
<tr>
<td>57</td>
<td>Feet of Cedar posts 8&quot; diam including fixing &amp; a</td>
<td>/1</td>
<td>6</td>
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</tr>
<tr>
<td>270</td>
<td>Feet supl fixing old 1&quot; boarding including labour and nails</td>
<td>/2</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>230</td>
<td>Feet laying sleepers &amp; 2&quot; planking for paths labour and nails</td>
<td>/1</td>
<td>16 10 1/2</td>
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<tr>
<td>25</td>
<td>Lbs of wrot iron Hook (?) Hinges</td>
<td>/1</td>
<td>19</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>Thumb Latch Home made and fixing</td>
<td>/8</td>
<td>16</td>
<td>8</td>
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<td></td>
<td>Sum of above 4/5</td>
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<td>5</td>
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<td>---------------------------------------------------------------------</td>
<td>----------</td>
<td>-----------------------------------------</td>
<td>------------</td>
<td>-------</td>
</tr>
<tr>
<td>1. Hasp and staple including fixing</td>
<td>1/3</td>
<td>Patent Padlock</td>
<td></td>
<td>13</td>
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<tr>
<td>1. Brass Label including engraving</td>
<td>/11</td>
<td></td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>9. Yards supply of Painting in oil</td>
<td>/8</td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>12. Inches of writing letters</td>
<td>/1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
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<td></td>
<td>14</td>
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<td></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td>3/4</td>
</tr>
<tr>
<td>Add 30 per cent on £4.0 3/4 Masons' Work £1.2½</td>
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<tr>
<td>&quot; 20 &quot; on 5.3.9 Carpenter do 1.0.9</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
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<tr>
<td>&quot; 25 &quot; on - 7 - Painter do 1.9</td>
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<td></td>
<td></td>
<td>8½</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6½</td>
</tr>
<tr>
<td>Add 1/10th for Contingencies</td>
<td></td>
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<td>13</td>
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<tr>
<td>Currency</td>
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<td>Sterling</td>
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<td></td>
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<td></td>
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</tr>
</tbody>
</table>

E.O. Sheatfield
Lt ComG Royl Engineer
3d January 1852

PAC, MG13, WO44/591, B-1437, pp. 413-19, Montreal, 3 January 1852.
Appendix 0. Canada Report and Estimate of the probable Expense of Services to the Military Prisons in the Year 1853-4.

Report

This Service is brought forward with reference to the accompanying letter from the Superintendent of Military Prisons in Canada, dated 11th November 1852, and is considered necessary as there is no suitable place of confinement at Niagara. It is accordingly proposed to fit up No. 4 Cavalry Stable as a Prison containing 4 cells, an office, Kitchen, and Warders room, with an enclosed yard, working shed, &c at the rear, as shewn on the accompanying drawing.-

Provision is made for taking down the Stalls, racks, Mangers, stable fitments, doors &c and removing them to store, taking up the present old rough flooring, & renewing with 2" pine floor wrot. rebated, & filletted, regulate and fur the joists, so as to make the floor level throughout stud partitions to cells, of pine 4x3 rough & fixed, sheeted inside with 1½ inch oak, rough ploughed & tongued, and in the passage with inch pine also rough, ploughed, and tongued, the spaces between the sheeting of the partitions to be fitted with Saw-dust, door-frames of Cells & Office, of Pine 7x5 wrot. framed, rebated, and chamfered, 2" pine doors, framed square and flush on both sides, covered on the inner side with sheet iron, 1½ lbs per Superficial foot, hung with 3, four inch cast iron butt hinges, An inspection plate, covered with gauze wire fixed in each, and dietary flaps, hung with 2" iron butt hinges, & supplied with approved fastenings: the Cell doors to be secured with Spring Locks of the approved pattern - The sashframes in the Cells, to be of pine 7x3, wrot. framed, & rebated, with oak Sills 9x4 wrot. rebated & weathered [?] inside & outside, 2" pine chamfer bar sashes glazed with 3 glass, & a ventilating pane in each
hung with small but hinges, & secured with buttons, the cell windows to be protected with wrot. iron cross bars $2\frac{1}{2}\times\frac{1}{2}$, upright do $1\times1$, Sash frames in Office, of pine __ Oak sunk 9x4
& rebated sill, wrot. framed, rebated, & hollowed for $1\frac{1}{2}$" chamfer bar sashes, rounded & hollowed stiles, hung with 3" butt hinges, secured with two brass knob sash bolts, & glazed with NO C glass, the windows to be protected with wrot iron bars $1\times1$, office door, of 1" pine wrot. rebated, ledged, & hung with 16" wrot iron T hinges, & secured with an 8" iron rim lock, with brass furniture, air flues to be formed, of 1" pine rough, and edges shot, fixed between the studs, of the partitions for warming, & ventilating the Cells, one placed over each door, to receive the hot air, from the Stovepipe, in passage, and One, under the Cell window, to carry off the foul air, the mouth of the flues, to be protected by cast iron gratings inches, thick, with a $\frac{1}{2}$" space between the bars, each cell to 16x6x$\frac{1}{2}$
be provided with a table, stool, shelves, & bedstead, with bottom boards and pillow, secured with lock & chain — A bell pull & labels communicating with a bell hung over the Warders room, with brass pull at Entrance door, attached to ditto —

The foundation under chimney Shaft, to be of rubble Masonry in Mortar, chimney Shaft of brickwork in Mortar, with 3 flues, & a stove pipe stone, wrot one face, in each:— also a soot door of cast iron inches, with wort iron hook & eye hinges rivetted on, 10x8x$\frac{1}{2}$
and turnbuckle, the warders room, Kitchen, & Closet, to be partitioned off, with studs of pine ___ rough and fixed, 1" pine 4x2
square shirting, 6" wide to do, the walls & ceilings to be lathed, & plastered two coats, & set with fine stuff — doorframes of 2" pine, wrot one side, rebated & framed — 1" pine doors wrot:
rebated, ledged and hung, with 16 inch wrot iron T hinges, secured with 8" iron rim locks with brass furniture, sashframes & sashes in Warders room, & kitchen, to be the same, as those described for office, and the Kitchen windows to be protected by Iron bars 1x1, partition across the prison passages, to be of 2" pine wrot two sides, ploughed, & tongued, let into a head, & sill of pine 4x3, wrot chamfered, & sunk, doorframe of pine 4x3, wrot rebated, & chamfered, 2 inch pine doors, wrot, & framed, flush on both sides, & hung with 4" cast iron butt hinges, secured with a Spring Lock, and an inspection plate fixed as described for Cells, two doorways to be framed at the rear, fitted with 3" pine doorframes, wrot one side, rebated, & framed, with transomes wrot two sides, 1½ inch pine doors, wrot ploughed, tongued, ledged, and braced, hung with 16" T hinges, and secured with 10" iron rim dead Shot lock, & strong thumb latches, 1½" pine, fan sashes, glazed with NO C glass, and protected on the outside by iron bars 1x1.-

The Porch at back door of Prison to stand on 10" Cedar Posts, sunk 4 ft: into the ground, pine rough & fixed sills 7x6, pine rough & framed Angle studs 4x4, Plates 4x3, filling in studs & rafters 4x2, Joists 6x3, flooring 1½" pine, wrot, ploughed, tongued, clapboarding of 5/8" pine, wrot one side, roofboarding of 1" pine rough & edges shot, taken from the present lining of the Stable, covered with 18" pine shingles, shewing 4½ inches to the weather, porch door of 1" pine, wrot, rebated, ledged & hung with 16" wrot iron T hinges, secured with a 10" inch stock Lock sash in porch to be taken from the present window in the Stable, repaired & refixed, the steps descending to the yard, from porch & warders passage, to be of 12" pine wrot 1 side nosings, rounded & housed into strings of 2" pine, wrot 2 sides & framed. - The clapboarding on exterior of building to be repaired, & renailed, where necessary.-
Digging for Posts of fence through earth, 4 ft: deep, filling & ramming, Cedar posts 8x7, those between warders & prison yard 7x6, rough & framed, rails of pine 6x6, rough framed, & cut arriswise, 1" pine sheeting, rough edges shot, ploughed & tongued, capping on top of fences of 2" pine, 6" wide, chamfered on top, & groved underneath for sheeting.—Gate posts at entrance to prison yard, to be cedar 8x7, wrot & framed into sills of Cedar, rough 8x8, braces 6x4, pine 7x6, wrot & framed in transome gates, of 1½ inch pine, wrot ploughed, tongued, ledged, & braced, hung with the hook & Strap hinges, now on the Stable doors, & secured with wrot iron sliding bolts 1 ft: 6" long, rivetted on plates — Wrot iron Swing bar 2x½ with Knuckle joint, hasp, staple, & rivetted on plate, & 3" spring & tumbler padlocks.—Pine 4x3, rough & fixed in rails along present picket fence, to be sheeted over with 1" pine as before described.—Digging for Soil pit of privy, thro' earth, 7 ft: deep, and the Surplus stuff removed 100 yards, walls of Soil pit of rubble Masonry in Mortar, 1 ft: 6" thick. Pine 6x6 rough & framed in sills, under privy, Angle studs 6x4, filled in d° 4x2, Joists 6x3 bearers for seats 3x2, flooring 1½" pine, wrot rebated, & filletted, risers & seats, 1" pine, wrot one side, ploughed & tongued, with holes, cut & dished in seats, inside sheeting of pine, rough, edges shot, and rebated, 2" pine doorframes, wrot one side framed, & rebated, 1" pine doors wrot, rebated, ledged & hung with 12" wrot iron T hinges, furnished with Norfolk thumb latches, bearers for pit, of 6" Cedars, covered with 2" pine rough, taken from the present flooring, laid 12" below the ground line—

Digging for Posts under Work Shed, through earth 4 ft: deep, cedar Posts 10" diameter rough & fixed, pine rough framed Sills 8x7, Studs 4x3, pine wrot & framed Angle posts 6x4, Centre d° 6x6, pine rough & fixed plates 6x4, Bearers 5x4, & rafters 5x2½, Inch pine roof boarding, laid rough, & covered with 18"
pine Shingles - Inch pine clapboarding, rough sheeted inside, with inch pine rough, ploughed, & tongued, taken from the present lining of the Stable - Digging for foundations of Ash-pits through earth 3 ft: deep, foundation walls of rubble masonry, 1 ft: thick, superstructure of brickwork in Mortar 9" thick, covered with a coping of 3" pine, 1 ft: wide, chamfered on top, & nailed to blocks of pine 4x3, rough, built in the brickwork - Digging thro' earth for urinal 4 ft: deep, & surplus earth removed 100 yards, - foundation of rubble masonry in Mortar 4'.0"x2.'0"x1.'6", a 4 inch rough boucharded [?] flag channelled out, to be placed at the bottom of the Shaft, the Shaft to be of brickwork in mortar, 2'.6"x2'.0"x1.'6" covered with a urinal stone of 4" rough boucharded [?] flagging, sunk & mortired, a drain from Urinal to soilpit of Privy (there being no other discharge available) formed of half brick sides, bick flat bottom, & top 6x5 in the clear.

The interior of the Prison building, Cells, & Warders room to be limewhited twice - The entire of the doors, frames, skirtings, & partition across passage, to be painted 3 coats lead color - The sashes & frames, & iron bars, 3 coats white, the cells, & rooms in prison, to be lettered with their respective appropriation--

By Special Contract.

Estimate

Niagara

Item 2 Fitting up NO4 Cavalry Stable, Butlers Barracks, for Garrison Cells, and Warders Room.
14 yds cube. Digging & throwing out ground, including filling, and ramming

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Material</th>
<th>Dimensions</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 yds cube. Digging &amp; throwing out ground, including filling, and ramming</td>
<td></td>
<td></td>
<td>$7\frac{1}{2}$</td>
</tr>
<tr>
<td>30\frac{1}{2} - d\circ - d\circ - &amp; removing the Stuff 100 yards</td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>511 ft: cube. Rubble Masonry in mortar</td>
<td></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>19 ft: lin: Brick box drain</td>
<td></td>
<td></td>
<td>10</td>
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<tr>
<td>406 ft: cube Brickwork in Mortar</td>
<td></td>
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<td>11</td>
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<tr>
<td>9 ft: sup. 4&quot; rough boucharded paving, including setting</td>
<td></td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>2\frac{1}{2} ft: lin: channelling in stone</td>
<td></td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>1 Mortice in -- d\circ --</td>
<td></td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>3 Cut stone pipe holes, wrot one face, &amp; fixed</td>
<td></td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>2 ft: sup. Sinking in stone</td>
<td></td>
<td></td>
<td>24</td>
</tr>
<tr>
<td>223\frac{1}{3} yds sup. Lath and plaster two coats, and set with fine stuff</td>
<td></td>
<td></td>
<td>27</td>
</tr>
<tr>
<td>40 Sq\text{res}, Limewhite twice done</td>
<td></td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>1/2 ft: cube. Pine --- rough &amp; fixed</td>
<td></td>
<td></td>
<td>33</td>
</tr>
<tr>
<td>3x2</td>
<td></td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>4\frac{1}{2} -- d\circ -- d\circ -- 4x2 -- d\circ</td>
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<td>39</td>
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<tr>
<td>87\frac{1}{2} -- d\circ -- d\circ -- 4x3 -- d\circ</td>
<td></td>
<td></td>
<td>42</td>
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<tr>
<td>7\frac{1}{2} -- d\circ -- d\circ -- 6x3 -- d\circ</td>
<td></td>
<td></td>
<td>45</td>
</tr>
<tr>
<td>5 -- d\circ -- d\circ -- 8x7 -- d\circ</td>
<td></td>
<td></td>
<td>48</td>
</tr>
<tr>
<td>3 -- d\circ -- d\circ -- 8x5 -- d\circ</td>
<td></td>
<td></td>
<td>51</td>
</tr>
<tr>
<td>1/2 -- d\circ -- d\circ -- 4x3 wrot &amp; d\circ</td>
<td></td>
<td></td>
<td>54</td>
</tr>
<tr>
<td>1 Pt: cube. Pine 4x3 rough &amp; framed</td>
<td></td>
<td></td>
<td>57</td>
</tr>
<tr>
<td>1\frac{1}{2} -- &quot; -- d\circ -- 4x4 -- d\circ</td>
<td></td>
<td></td>
<td>60</td>
</tr>
<tr>
<td>19 -- &quot; -- d\circ -- 5x4 -- d\circ</td>
<td></td>
<td></td>
<td>63</td>
</tr>
<tr>
<td>21\frac{1}{2} -- &quot; -- d\circ -- 6x2 -- d\circ</td>
<td></td>
<td></td>
<td>66</td>
</tr>
<tr>
<td>65\frac{1}{2} -- &quot; -- d\circ -- 6x4 -- d\circ</td>
<td></td>
<td></td>
<td>69</td>
</tr>
<tr>
<td>5\frac{1}{2} -- &quot; -- d\circ -- 6x6 -- d\circ</td>
<td></td>
<td></td>
<td>72</td>
</tr>
<tr>
<td>18 -- &quot; -- d\circ -- 8x4 -- d\circ</td>
<td></td>
<td></td>
<td>75</td>
</tr>
<tr>
<td>47 -- &quot; -- d\circ -- 6x6 d\circ &amp; Cut arriswise</td>
<td></td>
<td></td>
<td>78</td>
</tr>
<tr>
<td>4 -- &quot; -- d\circ -- 6x4 wrot &amp; framed</td>
<td></td>
<td></td>
<td>81</td>
</tr>
</tbody>
</table>
3 -- " -- d° -- 6x6 -- d° -- 1/9½ " 5 4½
3 -- " -- d° -- 7x6 -- d° -- 1/8 " 5 " 1/8
1½ -- " -- d° -- 4x3 wrot rebated & chamfered 2/6 " 3 1½
18 -- " -- d° 7x5 -- d° -- 2/2 1 19 " 2/2
3 -- " -- Cedar 6x4 rough, framed & fixed 2/2 " 6 6
21 -- " -- d° 7x6 -- d° -- 2/ 2 2 " 2/2
97 -- " -- d° 8x7 -- d° -- 1/11 9 5 11 1/11 " 19 2
10 -- " -- d° 8x8 -- d° -- 1/11 " 19 2
149 -- " -- d° 8x7 wrot 2/4 17 7 8
288 ft: sup. 1" pine rough & edges shot /1½ 1 16 " 1½
3646 -- d° --, 1" -- d° -- ploughed & tongd
819½ -- d° --, 1" -- d° wrot 1 side /2 30 7 8 /2 6 16 7
8 1/3 -- d° --, 1½" -- d° -- d° -- /2½ " 1 10½ 1½
19 -- d° --, 3" -- d° -- d° -- /4½ " 7 6½ 4½
1422 -- d° --, 1½" Oak, rough edges shot, ploughed & tongued 6½ 38 10 3
30 ft: sup: 1" Pine wrot two sides and edges shot /2½ " 6 3
27 ft: sup. 2 inch pine ploughed, and tongued /4½ " 10 1½
15 -- d° --, Pine wrot 1 side & framed /3½ " 4 8½ 3½
46½ -- d°, -- 2" -- d° -- d° -- d° -- /4½ " 18 4½ 4½
42 -- d° --, 3" -- d° -- d° -- d° -- /6½ 1 3 7½
18 -- d° --, 1½ -- d° wrot 2 sides edges shot and framed /4½ " 6 4½ 4½
3½ -- d°, 3" -- d° -- d° -- d° -- /7½ " 2 1½ 1½
32/100 Sq res, 2" pine floor rough 18/9 " 6 
53/100 " 1½" pine flooring, wrot rebated, & filletted 26/ " 13 9½ 26
10 Sq res, 2" -- d° -- d° -- 30/ 15 " 
17 d°, Taking up old 2' pine flooring 2/6 2 2 6
<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Price</th>
<th>Subtotal</th>
</tr>
</thead>
<tbody>
<tr>
<td>184 ft 1&quot; pine, wrot ploughed, and tongued, ledged &amp; braced doors</td>
<td></td>
<td></td>
<td>4 1/2</td>
<td>3 12 10</td>
</tr>
<tr>
<td>144 d°, 1 1/2&quot; -- d° -- d° --</td>
<td></td>
<td></td>
<td>5 1/2</td>
<td>3 9 &quot;</td>
</tr>
<tr>
<td>76 d°, 2&quot; Pine doors framed square, &amp; flush both sides &amp; hung</td>
<td></td>
<td></td>
<td>1/6 1/2</td>
<td>5 17 2</td>
</tr>
<tr>
<td>40 d°, 1 1/2&quot; pine sashes rounded &amp; hollowed stiles, throated[?] water boards &amp; hung</td>
<td></td>
<td></td>
<td>4 1/2</td>
<td>&quot; 15 &quot;</td>
</tr>
<tr>
<td>54 ft: sup: 2&quot; chamfer bar sashes prepared, &amp; fitted</td>
<td></td>
<td></td>
<td>8</td>
<td>1 16 &quot;</td>
</tr>
<tr>
<td>6 d° circular head[?] to Sashes, 2&quot; pine</td>
<td></td>
<td></td>
<td>1/</td>
<td>&quot; 6 &quot;</td>
</tr>
<tr>
<td>54 d°, 1&quot; pine square skirt ing fixed</td>
<td></td>
<td></td>
<td>3 1/2</td>
<td>&quot; 15 9</td>
</tr>
<tr>
<td>17 d°, 2&quot; pine string boards wrot &amp; framed</td>
<td></td>
<td></td>
<td>6</td>
<td>&quot; 8 6</td>
</tr>
<tr>
<td>14 ft: lin: chamfering</td>
<td></td>
<td></td>
<td>1/</td>
<td>&quot; 7</td>
</tr>
<tr>
<td>42 -- d° --, Wrot &amp; chamfered deal fillets</td>
<td></td>
<td></td>
<td>1 1/2</td>
<td>5 3</td>
</tr>
<tr>
<td>280 -- d° --, Rough deal fillets</td>
<td></td>
<td></td>
<td>1/</td>
<td>17 6</td>
</tr>
<tr>
<td>2 Holes cut &amp; dished out as to water closets</td>
<td></td>
<td></td>
<td>9</td>
<td>1 6</td>
</tr>
<tr>
<td>16 Housings</td>
<td></td>
<td></td>
<td>1</td>
<td>1 4</td>
</tr>
<tr>
<td>25 ft: lin: Rounded Nosings</td>
<td></td>
<td></td>
<td>1</td>
<td>2 1</td>
</tr>
<tr>
<td>321 d° Rebating to order</td>
<td></td>
<td></td>
<td>1/</td>
<td>13 4 1/2</td>
</tr>
<tr>
<td>2 Taking down old doors</td>
<td></td>
<td></td>
<td>6</td>
<td>1 &quot;</td>
</tr>
<tr>
<td>8 Ventilating panes, including butt hinges</td>
<td></td>
<td></td>
<td>2/</td>
<td>16 &quot;</td>
</tr>
<tr>
<td>2 1/5 Square, Covering with 18&quot; pine shingles</td>
<td></td>
<td></td>
<td>15/</td>
<td>1 13 &quot;</td>
</tr>
<tr>
<td>87 Bushels, Sawdust supplied</td>
<td></td>
<td></td>
<td>2</td>
<td>14 6</td>
</tr>
<tr>
<td>12 lbs, Wrot iron in bolts &amp; nuts</td>
<td></td>
<td></td>
<td>9</td>
<td>9 &quot;</td>
</tr>
<tr>
<td>50 -- &quot; --, -- d° -- in Hook &amp; eye hinges</td>
<td></td>
<td></td>
<td>8</td>
<td>1 13 4</td>
</tr>
<tr>
<td>28 -- &quot; --, -- d° -- in Short chains &amp;c</td>
<td></td>
<td></td>
<td>8 1/2</td>
<td>19 10</td>
</tr>
<tr>
<td>406 -- &quot; --, -- d° -- in Window bars</td>
<td></td>
<td></td>
<td>5</td>
<td>8 9 2</td>
</tr>
<tr>
<td>192 -- &quot; --, Castings of soft grey iron</td>
<td></td>
<td></td>
<td>4</td>
<td>3 4 &quot;</td>
</tr>
<tr>
<td>64 ft: sup. Covering doors with sheet iron</td>
<td></td>
<td></td>
<td>8</td>
<td>2 2 8</td>
</tr>
<tr>
<td>6 lbs, House Bells</td>
<td></td>
<td></td>
<td>2/</td>
<td>12 &quot;</td>
</tr>
<tr>
<td>10 Bell cranks, common driving</td>
<td></td>
<td></td>
<td>4</td>
<td>3 4</td>
</tr>
<tr>
<td>1 Brass Bell pull</td>
<td></td>
<td></td>
<td>1/6</td>
<td>1 6</td>
</tr>
<tr>
<td>1 Bell Spring, double Steel</td>
<td></td>
<td></td>
<td>1/</td>
<td>1 &quot;</td>
</tr>
<tr>
<td>Item</td>
<td>Price</td>
<td>Qty</td>
<td></td>
<td></td>
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<tr>
<td>----------------------------------------------------------------------</td>
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<tr>
<td>40 Bell Staples</td>
<td>$1.80</td>
<td>1</td>
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<td></td>
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<tr>
<td>40 yds Bell wire, copper</td>
<td>$6.80</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Hanging Bells, workmanship only</td>
<td>$11.60</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>3 sets, Bolts brass knob for sashes fixed</td>
<td>$15.60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 pairs, 2&quot; cast iron butt hinges</td>
<td>$2.25</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7½ d° -- 3&quot; -- d° -- d° --</td>
<td>$5.65</td>
<td></td>
<td></td>
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<tr>
<td>10½ -- d°, 4&quot; -- d° -- d° --</td>
<td>$8.90</td>
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<tr>
<td>2 Pairs, 12&quot; wrot iron T hinges supplied only</td>
<td>$5.10</td>
<td>1</td>
<td></td>
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<tr>
<td>7 d°, -- 16&quot; -- d° -- d° -- d° --</td>
<td>$9.50</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Norfolk thumb latches fixed</td>
<td>$9.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 10&quot; Stock lock fixed</td>
<td>$5.20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 8&quot; Iron rim locks with brass furniture fixed</td>
<td>$19.60</td>
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</tr>
<tr>
<td>3 10&quot; -- d° -- dead shot locks &amp; fixed</td>
<td>$1.20</td>
<td>1</td>
<td></td>
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<tr>
<td>6 3&quot; padlocks</td>
<td>$10.60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Taking down present racks &amp; mangers, &amp; removing</td>
<td>$15.60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>420 ft: lin: Taking up, &amp; regulating joists</td>
<td>$17.60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Cutting out &amp; forming flap doors</td>
<td>$10.60</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5 Inspection plates covered with gauze wire, &amp; fixed</td>
<td>$7.60</td>
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<tr>
<td>5 Wrot iron spring locks of the approved pattern for cells</td>
<td>$15.15</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1 Ramming Sawdust in partition</td>
<td>$18.18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Cutting out framing of building, and making good about window frames</td>
<td>$15.15</td>
<td></td>
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</tr>
<tr>
<td>82 ft: sup: Sash frames with oak sills</td>
<td>$1.60</td>
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<tr>
<td>4 Cutting circular in stool tops</td>
<td>$2.80</td>
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<tr>
<td>40 Blocks, including glueing</td>
<td>$10.40</td>
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</tr>
<tr>
<td>12 White ash legs turned, &amp; fixed</td>
<td>$8.80</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>12 Rounding edges of shelves</td>
<td>$3.30</td>
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<td>4 Bell pulls, cast iron, Prison pattern</td>
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3 Cast iron soot doors 10x8, with wrot iron hinges, & turnbuckles  
1 Cutting thro' roof, & making good  
1 Making good weatherboarding on exterior walls  
22 ft: lin: Sinking [?] in deal  
3 Taking out old frames, and preparing for new  
60 ft: lin: 10" cedars fixed  
550 ft: sup: 5/8" pine weatherboarding rough, & fixed  
2 Strong wrot iron running bolts rivetted on plates  
223 ft: lin: Capping of Pine 6x2, wrot, chamfered, fixed & painted  
22 Caps on posts 1½" thick fixed and painted  
16½ ft: lin: 6" cedar, flatted on top & laid  
36 -- d° -- Weathering  
298 yds sup: Painting 3 Coats lead color  
198 ft: lin: -- d° -- on Iron bars, skirtings &c  
14 -- d° -- on sash frames  
31 doz: [?] -- d° -- on sash squares  
16 -- d° -- on Gratings &c  
9½ inches, Painting letters  
28 ft: sup. Glazing in New sashes  
27 -- d° -- d° with ? glass  

Add 30 pº cent on £61:7:10½ Masons  
Work £18:8:4  
" 20 d° £248:14:1 Carpº and Paintº d° £49:14:9½  

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<tr>
<th>Item</th>
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<td>3 Cast iron soot doors 10x8, with wrot iron hinges, &amp; turnbuckles</td>
<td></td>
<td>5/ 15</td>
</tr>
<tr>
<td>1 Cutting thro' roof, &amp; making good</td>
<td></td>
<td>8/6 8 6</td>
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<tr>
<td>1 Making good weatherboarding on exterior walls</td>
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<td>22 ft: lin: Sinking [?] in deal</td>
<td></td>
<td>/1 1 10</td>
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<tr>
<td>3 Taking out old frames, and preparing for new</td>
<td></td>
<td>8/6 1 5 6</td>
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<tr>
<td>60 ft: lin: 10&quot; cedars fixed</td>
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<td>/3 15</td>
</tr>
<tr>
<td>550 ft: sup: 5/8&quot; pine weatherboarding rough, &amp; fixed</td>
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<td>/3 6 17 6</td>
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<tr>
<td>2 Strong wrot iron running bolts rivetted on plates</td>
<td></td>
<td>5/ 10</td>
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<tr>
<td>223 ft: lin: Capping of Pine 6x2, wrot, chamfered, fixed &amp; painted</td>
<td></td>
<td>/3 2 15 9</td>
</tr>
<tr>
<td>22 Caps on posts 1½&quot; thick fixed and painted</td>
<td></td>
<td>/6 11</td>
</tr>
<tr>
<td>16½ ft: lin: 6&quot; cedar, flatted on top &amp; laid</td>
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<td>/3 4 1½</td>
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<tr>
<td>36 -- d° -- Weathering</td>
<td></td>
<td>/1 3</td>
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<tr>
<td>298 yds sup: Painting 3 Coats lead color</td>
<td></td>
<td>/7½ 9 12 5½</td>
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<tr>
<td>198 ft: lin: -- d° -- on Iron bars, skirtings &amp;c</td>
<td></td>
<td>/1 16 6</td>
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<td>14 -- d° -- on sash frames</td>
<td></td>
<td>1/6 1 1</td>
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<tr>
<td>31 doz: [?] -- d° -- on sash squares</td>
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<td>1/2 1 16 2</td>
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<td>16 -- d° -- on Gratings &amp;c</td>
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<td>/8 10 8</td>
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<td>9½ inches, Painting letters</td>
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<td>/1 9½</td>
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<td>28 ft: sup. Glazing in New sashes</td>
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<td>/7 16 4</td>
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<td>27 -- d° -- d° with ? glass</td>
<td></td>
<td>1/ 7</td>
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<tr>
<td>Add 30 pº cent on £61:7:10½ Masons</td>
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<tr>
<td>Work £18:8:4</td>
<td></td>
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<tr>
<td>&quot; 20 d° £248:14:1 Carpº and Paintº d° £49:14:9½</td>
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Add 10th for Contingencies 37 16 6
Currency £416 1 7½
Sterling £341 19 18

Deduct for Materials from the present building, available for this Service Sterling 4 12 0

Total for Niagara, Sterling £337 7 8

W. Dixon
Colonel Com9
Royal Engineer
Canada
8th January, 1853

Appendix P. Report and Estimate of The probable Expence of Repairing the Exterior Stockade on the Lake front, also the wooden Revetment to the Exterior slope of the Lower Breastwork at Fort Mississauga, Niagara C.W.

Report

This Estimate is brought forward in consequence of the damage done to the water front of Fort Mississauga by the unusual height of Lake Ontario, and which it is urgently necessary to repair without loss of time to prevent great portions of the work from going to destruction, as the wash of the water has breached the exterior stockade and worn holes in various parts of the terreplein of the lower breastwork; and owing to the decay of the wooden revetment of the lower slope of the rampart has slipped and threatens to fall altogether if not secured - The sheeting of stairway forming the descent in the N.W. angle is bulged out by the weight of earth above and requires repair.-

Provision is therefore made for the repairs necessary to the breastwork with pine 12/16'.0" x 14" x14" rough and fixed, repairing gutter with 2 inch pine rough & edges shot, the decayed wood revetment to the extent of 66 feet to be tken up and replaced with pine in rough & fixed, capping in

12x12

The decayed timbers to the well hole of stairs at N.W. angle descending to the lower terreplein to be taken down and replaced with studs (?) of pine in rough and fixed sheeted

6x6

over with 2 inch pine rough to the extent of 29 feet supl. - A Military Working party of the Royal Artillery stationed at Fort Mississauga consisting of four men to be employed for the purpose of digging out the unserviceable portion of the wooden revetment, and preparing for the contractor to fix the new wood work which ? party will, it is presumed, accomplish in five days, also for cutting sod, repairing, trimming and sodding the slopes which cannot be performed in less than 25 days each man filling up the large holes, repairing the ground
of the lower terreplein generally, but more particularly at
the East angle which will occupy them 60 days.— Provision is
also made for a Driver, Horse and cart to draw gravel and sod
for the use of the military working party.

By measurement

There are no funds available for this service in Canada West.

Estimate

Niagara

Fort Mississauga

Repairing the Exterior Stockade on the Lake
front, also the Wooden Revetment to the
Exterior Slope of the lower Breastwork

24 Days of a Driver, Horse & cart 7/6 9 " "
7½ Ft cube Pine in rough and fixed 1/1 " 8 1½
6x6
47½ DO -- DO 12x6 -- do -- 1/ 2 7 6
595 DO -- DO 12x12 -- do -- 1/0½ 30 19 9½
261 DO -- DO 14x14 -- do -- /11½ 12 10 5½
29 Ft Supl 2 Inch pine rough /2½ " 6 0½
133 1/3 DO -- 2 -- do -- do & edges
shot /2½ 1 10 6½
80 Ft Linl Fillets of deal rough &
chamfered /3 " 5 "
1 Cutting out decayed timber about
well hole 1/7½ " 1 7½
57 9 0½

Add 33 1/3 per cent on £9.00 Masons
Work £3.0.0
DO 40 do on £48.9.0½ Carpenters do

£19.7.7.½

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<td>79 16 8½</td>
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9 Days of a N.C. Officer 1/ 9
180 DO of a Private /9 6 15

Total Sterling £72 16 4

Amounting to Seventy two Pounds, Sixteen Shillings, and Four Pence sterling

Royal Engineer Office
Kingston 13th August 1853.
Alexr Gordon Lt Colonel
District Comg Royal Engineer
Canada West.

Endnotes

Introduction

1 Public Archives of Canada [henceforth PAC], MG 13, W017/1542, B-1577, p. 132, 1 Aug. 1838; p. 186, 1 Nov. 1838; W017/1545, p. 135, 1 Aug. 1841.

2 Ibid., W017/1547, B-1579, p. 59, 1 April 1843; p. 110, 1 July 1843.


5 Canada, Statutes, 19 Vict., Cap. 45, 1856.


7 Ibid., Vol. 493, p. 241, Coffin to Gunn, Montreal, 24 Aug. 1858.

9 PAC, MG 13, W017/1565, B-1583, p. 111, 1 Aug. 1861; W017/1568, B-1584, p. 174, 1 Oct. 1864.


Fort George

2 Ibid., Vol. 70, p. 4, Canada, 1851, Barrack.

3 Ibid., I, Vol. 1417, p. 64, Minute, Montreal, 23 Oct. 1857.

4 PAC, MG13, W044/44, p. 61, B-1313, R.O. (Montreal) to the Board of Ordnance, Montreal, 20 Dec. 1844; p. 62, Campbell to Bonnycastle, Niagara, 1 Nov. 1844.

5 PAC, RG8, I, Vol. 1627, p. 610, Lambert to DCRE, (Canada West), Montreal, 2 Nov. 1852; Gordon to CRE (Canada), Kingston, 23 Nov. 1852; p. 608-9, Lambert to DCRE (Canada West), Montreal, 29 Dec. 1852; Gordon to CRE (Canada), Kingston, 5 March 1853.
6 PAC, MG13, W044/44, p. 61, B-1313, R.O. (Montreal) to the Board of Ordnance, Montreal, 20 Dec. 1844; p. 62, Campbell to Bonnycastle, Niagara, 1 Nov. 1844.

7 PAC, RG8, II, Vol. 52, p. 11, Niagara, Plan to accompany 9 returns... 9 Feb. 1842; National Map Collection, Plan of the Military Reserves... To accompany Col. Holloway's letter No. 82 of 12th August 1843; RG8, II vol. 70, p. 11, Niagara, C.W., 20 June 1851; National Map Collection, Niagara, C.W., 27 Jan. 1852; Canada, Niagara, Verification Plan, 1852/53.

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Navy Hall
1 PAC, MG13, W055/875, pp.183A-184, B-2819, Extract of a Report from Messrs Eaton and Elliott of a Barrack Inspection at Niagara dated 22nd August 1840, enclosed in Byham to IGF, Office of Ordnance, 18 Nov. 1840.

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5 Ibid., Canada, Niagara, Verification Plan, 1852/53.

6 Ibid., RG8, II, Vol. 70, Canada, 1851, Barrack.


8 PAC, RG8, I, Vol. 1611, p. 152, Savage to CRE, (Kingston), Niagara, 22 July 1861.

9 Ibid., pp. 150-1, Storer [?] to CRE, (Canada), Kingston, 29 July 1861.


Fort Mississauga


2 Ibid., Vol. 608, p. 85, Abstract of Estimates for Special Services in the Western District U.C. approved and ordered to be performed by Colonel Foster Commanding the Troops in Upper Canada... n.d. [March 1838].


6 Ibid., MG13, W055/1228, pp.326-7, B-3036, Campbell to Dickson, Montreal, 25 June 1838.

7 Ibid., RG8, I, Vol. 609, p. 129, Posts directed to be established in Upper Canada, 26 June 1838; MG13, W055/1228, p. 321, B-3036, Campbell to Dickson, Montreal, 3 July 1838.
8 Ibid., MG13, W055/1917, pp.372ff, B-3041, Report and Estimate for Carrying on Repairs and rendering defensible the Fort on Mississaga Point Niagara U.C. pursuant to the Order of His Excellency the Commander of the Forces 24th June 1838, 2 Sept. 1838.

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10 Ibid., RG8, I, Vol. 447, pp.31-2, Halkett to Rowan, Toronto, 10 Jan. 1839.

11 Ibid., Vol. 612, pp.311-12, Cubitt to Foster, Kingston, 16 Oct. 1838.

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14 Ibid., MG13, W055/1229, pp.203-4, B-3036, Campbell to Dickson, Montreal, 20 Sept. 1839.

15 Ibid., RG8, Vol. 449, p. 288, Oldfield to MS (Montreal), Montreal, 11 Nov. 1839.
16 Ibid., MG13, W01/536, p. 261, B-3067, Papers Relative to the Fortifications and Defences of Canada, inclosure in Seaton to Russell, Lyneham, 30 Dec. 1839.

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32 Ibid., MG13, W055/1232, pp.56-7, B-3037, Bell to Ross, Montreal, 30 Sept. 1853; p.142, Bell to Director General, Montreal, 25 Sept. 1854.

33 Ibid., RG8, I, Vol. 469, p. 207, Report of the Commanding Officer of Artillery in Canada respecting the Armaments &c of the Forts adverted to in His Excellency's the Governor General's letter..., Bell, Montreal, 14 Nov. 1855.


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51 Ibid., Vol. 493, p. 242, Galletty to Coffin, Montreal, 21 June 1866; p. 243, Coffin to Galletty, Ottawa, 23 June 1866.

52 Ibid., Vol. 492, pp.209-10, Kennedy to DAG in Canada, Montreal, 15 July 1868.

53 Ibid., pp.209-10, Galletty to [Thackwell], Montreal, 28 July 1868; Vol. 493, pp.232-3, Galletty to MS (Montreal), Montreal, 2 Nov. 1868; Monck to [CRA, Canada], Montreal, 6 Nov. 1868; Radcliffe to MS, Montreal, 13 Nov. 1868; p. 325, Starks to G.O.C. (Canada), London, 17 Dec. 1868; Starks to G.O.C. (Canada), London, 27 Jan. 1869.

The Royal Engineer's Complex
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10 Ibid., RG8, II, Vol. 70, Canada 1851 Barrack, p. 4.
11 Ibid., National Map Collection, Plan of a portion of the Town of Niagara, 11 Nov. 1837; Map of the Mouth of the Niagara River, 11 May 1839; RG8, II, Vol. 52, p. 11, Niagara, Plan to accompany 9 returns called for by Master Gen¹ and Board by letter dated FebY 3, 1841, 9 Feb. 1842; National Map Collection, Niagara. C.W., 7 Dec. 1851; Canada Niagara Verification Plan, 1852/53; Niagara, 18 Oct. 1853.


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15 Ibid., RG8, II, Vol. 52, Niagara Canada Barracks 1841, p. 7; p. 11, Niagara, Plan to accompany 9 returns called for by Master Gen¹ and Board by letter dated FebY 3 1841, 9 Feb. 1842.

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19 See note 17.

20 See note 16.
Guard House on the Beach

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2 Ibid., I, Vol. 447, p. 265, Account of Expenditure incurred by Great Britain for the Military Protection of the Province of Upper Canada for the years 1837 and 1838, 14 March 1838. [must be misdated, 14 March 1839?].

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22 Ibid., Canada, Niagara, Verification Plan, 1852/53.


24 Niagara Historical Society, Commandant's Quarters, Niagara, Canada West, 1854, by F.H. Granger.

Butler's Barracks
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3 PAC, National Map Collection, Niagara C.W., 7 Dec. 1851.


5 PAC, National Map Collection, Canada, Niagara, Verification Plan, 1852/53; Plan of part of the Government Reserve at Niagara, 24 March 1853.

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8 PAC, National Map Collection, Niagara, Officer's [sic] Quarters, Butler's Barracks, 8 April 1843.

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10 AO, Kirby Papers, Kirby to Powell, 20 Dec. 1866.

11 PAC, MG13, W055/1917, B-3041, between pp. 463-4, Sketch of Butler's Barracks shewing the Trace of a defensible picket stockade proposed, 6 Aug. 1839.
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14 PAO, Kirby Papers, Kirby to Powell, 20 Dec. 1866.


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26 PAO, Kirby Papers, Kirby to Powell, 20 Dec. 1866.

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30 PAO, Kirby Papers, Kirby to Powell, 20 Dec. 1866.

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36 PAC, MG13, W055/1917, B-3041, between pp.463-4, Sketch of Butler's Barracks shewing the Trace of a defensible picket stockade proposed, 6 Aug. 1839; National Map Collection, Niagara, 9 Feb. 1842; MG13, W055/885, B-2832, p. 171B, Niagara, Sketch shewing the relative position of the several Buildings at Butlers Barracks, 20 Feb. 1851; National Map Collection, Niagara C.W., 7 Dec. 1851; Canada, Niagara, Verification Plan, 1853/53.


38 PAO, Kirby Papers, Kirby to Powell, 20 Dec. 1866.


40 PAC, MG13, W055/885, B-2832, p. 171B, Niagara, Sketch shewing the relative position of the several Buildings at Butlers Barracks, 20 Feb. 1851; RG8, II, Vol. 70, p. 11, Niagara C.W., 20 June 1851; National Map Collection, Niagara C.W., 7 Dec. 1851; Canada, Niagara, Verification Plan, 1852/53.

41 PAC, RG8, II, Vol. 70, Canada 1851 Barracks, p. 9.
220

42 PAO, Kirby Papers, Kirby to Powell, 20 Dec. 1866.

43 PAC, National Map Collection, Plan and Section of the Barrack Master's Straw Shed Called for by the CRE order dated 24th August 1840, 10 Nov. 1840; RG8, I, Vol. 448, p. 263, Halkett to Rowan, Toronto, 2 July 1839.

44 PAC, National Map Collection, Plan and Section of the Barrack Master's Straw Shed Called for by the CRE order dated 24th August 1840, 10 Nov. 1840; RG8, II, Vol. 52, p. 9, Niagara, Canada, Barracks, 1841; Vol. 70, p. 9, Canada, 1851, Barracks. The latter documents record the height as 13 ft.


46 PAO, Kirby Papers, Kirby to Powell, 20 Dec. 1866.


48 Ibid., Vol. 915, pp.45-7, Mackenzie to Booth, Fort George, 16 March 1839; Vol. 447, p. 95, Wright to Rowan, Quebec, 8 Feb. 1839.
49 Ibid., Vol. 1274, p. 54, Arthur to Colborne, Gov't House [Toronto], 22 Sept. 1838.

50 Ibid., Vol. 447, p. 95, Wright to Rowan, Fort George, Quebec, 8 Feb. 1839.

51 Ibid., pp. 110-11, Wright to Rowan, Quebec, 11 Feb. 1839.

52 PAC, MG13, W055/1917, B-3041, Sketch of Butler's Barracks shewing the Trace of a defensible picket stockade proposed, 6 Aug. 1839; National Map Collection, Niagara, 9 Feb. 1842.

53 PAC, RG8, Vol. 915, p. 45, Mackenzie to Booth, Fort George, 16 March 1839.


55 PAC, MG13, W055/880, B-2826, pp. 484-9, Report and Estimate for Converting Cavalry Stables into Barrack Rooms to Accommodate A Detachment of the Royal Canadian Rifle Regiment removed from Queenston to Niagara, 1 Dec. 1845.

56 PAC, National Map Collection, Canada, Niagara, Verification Plan, 1852/53.

57 PAO, Kirby Papers, Kirby to Powell, 20 Dec. 1866.
58 PAC, RG8, I, vol. 915, p. 45, Mackenzie to Booth, Fort George, 16 March 1839.


60 PAC, National Map Collection, Niagara C.W., 7 Dec. 1851.

61 Ibid., Canada, Niagara, Verification Plan, 1852/53.

62 PAO, Kirby Papers, Kirby to Powell, 20 Dec. 1866.

63 PAC, MG13, W055/884, B-2831, p. 78, Section and Plan of No. 6 Stable shewing the proposed Cells and Wardens Room to be formed therein, 27 Aug. 1846; W055/886, B-2834, p. 572A, Sketch shewing proposed method of converting No. 4 Cavalry stable into a Prison and Warder's Quarter, 17 Dec. 1852.

64 PAC, RG8, I, Vol. 1563½, p. 336, Holloway to Deputy Quarter Master General, Montreal, 15 Sept. 1846; MG13, W055/884, B-2831, p. 78, Section and Plan of No. 6 Stable shewing the proposed Cells and Wardens Room to be formed therein, 27 Aug. 1846.

65 PAC, MG13, W055/889, B-2831, pp. 77-8, Butler to Burgoyne, Office of Ordnance, 4 April 1850.

Ibid., Vol. 349, p. 157, Vavasour to Military Secretary, Montreal, 4 July 1850.


Ibid., W055/886, B-2834, pp.572A-9, Fitting up NO 4 Cavalry Stable, Butlers Barracks, for Garrison Cells, and Warders Room, 8 Jan. 1853.


Ibid., Vol. 521, pp.195-8, Muter to Military Secretary, Niagara, 26 Sept. 1850.

Ibid., pp.227-30, Sulivan to GOC, War Office, 8 Nov. 1850.

Ibid., p. 32, Vavasour to Military Secretary, Montreal, 19 Feb. 1851; MG13, W055/885, B-2832, pp.171-80, Converting NOS 4, 5, and 6, Cavalry Stables into a School Room & School Masters QRS, 19 Feb. 1851.

PAC, MG13, W055/885, B-2832, p. 150, Butler to Burgoyne, Office of Ordnance, 7 May 1851.


77 PAC, RG8, I, Vol. 775, p. 7, R.O. (Canada) to Deputy Quarter Master General, Montreal, 10 Jan. 1853; p. 12, Dixon to MS, Montreal, 19 Jan. 1853; p. 75, Dixon to MS, Montreal, 8 March 1853.

78 Ibid., p. 111, Hawes to GOC, War Office, 6 May 1853.

79 PAC, MG13, W055/836, B-2833, pp.177-8, Bulter to IGF, Office of Ordnance, 1 July 1853.

80 PAC, RG8, I, Vol. 773, pp. 114-17, Taylor to Assistant Quarter Master General [?], Niagara, 22 Aug. 1851.

81 PAC, National Map Collection, Canada, Niagara, Verification Plan, 1852/53.

82 PAC, RG8, I, Vol. 525, p. 18, Trevelyan to Rowan, Treasury Chambers, 10 March 1852.
83 PAO, Kirby Papers, Kirby to Powell, 20 Dec. 1866.

84 PAC, MG13, W055/1917, B-3041, pp. 465-72, Report and Estimate for building a new Commissariat Store House and Office at Fort George U.C. pursuant to the order of His Excellency the Commander of the Forces dated 17th June 1839, C. Mackenzie, Fort George, 11 July 1839.

85 PAC, National Map Collection, Niagara, Plans and Sections of the Commissariat Store and Office called for by the C.R.E. order dated 24 [28 crossed out] August 1840, Vincent Biscoe, 10 Nov. 1840.

86 PAC, RG8, I, Vol. 151, pp. 320-1a, Bayley to the Commissary General, Drummondville, 16 March 1843; p. 319, Filder to Taylor, Montreal, March 25, 1843; pp. 352-4, Holloway to Taylor, 27 May 1843; pp.356-9, Filder to Taylor, Montreal, 3 June 1843,


88 PAC, RG8, I, Vol. 155, p. 59, Knowles to Talbot, Montreal, 17 June 1850.


91 PAO, Kirby Papers, Kirby to Powell, 20 Dec. 1866.


93 Ibid., W055/1917, p. 464, B-3041, Report and Estimate for enclosing with a Defensible Picket Fence, the buildings and stable at Butler's Barracks Niagara, Upper Canada..., 28 Aug. 1839.


95 NHS, Butler's Barracks, 1854.

96 PAC, RG8, I, Vol. 1611, pp. 300-1, Approximate Estimate of Works and Repairs proposed to be carried on in the R¹ Engr Dept at Toronto and Niagara in the year 1862-3, Montreal, 10 Oct. 1861.

97 NHS, Queen's Own Regt. [sic] in front of Butler's Barracks, Hospital in distance, 1865.
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Henderson, James R.  

Lossing, Benson J.  

McConnell, David  

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Stacey, C.P.  

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Article, no title, 17 Nov. 1847.
Watt, Alastair
Fort George and Navy Hall. PAC, RG8, II, Vol. 52, p. 11, 9 Feb. 1842.
2 Fort George and Navy Hall. PAC, National Map Collection, 12 Aug. 1843
Sketch of the SW & N. Bastions of Fort George showing the spot 10 ft Sqre requested by Mr Campbell. PAC, MG13, WO44/44, B-1313, p. 63, 18 Nov. 1844.
SKETCH of the SW & N. Bastions of Fort George
showing the spot of file requested by
Mr. Campbell

Signed by Capt. J. Barrie
29th Nov. 1844

Scale: 100 ft to an inch
Fort George and Navy Hall. PAO, D6, 1845.
5 Fort George and Navy Hall. PAC, National Map Collection, 26 Oct. 1850.
6 Fort George and Navy Hall. PAC, RG8, II, Vol. 70, p. 11, 20 June 1851.

41 Soldiers Barracks
42 Cookhouse
43 Guard house
44 Custom house
45 Ferry house
46 Privies on wooden Wharf
47 Ferry wharf of clay
8 Fort George and Navy Hall. PAC, National Map Collection, 27 Jan. 1852
9 Fort George and Navy Hall. PAC, National Map Collection, 1852/53.
10 Fort George and Navy Hall. PAC, National Map Collection, 24 March 1853.
Ruins of Fort George.

Niagara
11 Fort George and Navy Hall. PAC, National Map Collection, 14 June 1853.
12 Sketch Showing "Navy Hall," or the "Red" or "Ferry Barracks" proposed to be leased by the Ordnance to Mr. John A. Cull for a Starch Manufactory. PAC, MG13, WO55/886, B-2834, p. 684, 14 Sept. 1853.
NIAGARA

SKETCH Showing Fort Hall, or the Red or
Ferry Barracks proposed to be leased by the
Ordnance to Mr. John A. Call for a March
Manufactory

To accompany the Command's Royal
Engineer's letter to the Inspector General
of Fortifications dated 15 Sept. 1815. No. 186

Scale: 6 Chains to an Inch.

Copy by: [Signature]

[Date: 1815]
13 Fort Mississauga and Royal Engineers' Complex. PAC, National Map Collection, 11 May 1839.
14 Fort Mississauga. PAC, MG13, WO44/37, B-1306, p. 117, 30 Sept. 1841.
15 Plan of the Engineer Quarter, Niagara.
Plan of the Engineer Quarter, Niagara. To accompany Estimate dated 23rd June 1845.
Scale 50 feet to 1 inch.

Reference
1. Dwelling House
2. Cellar-Roofed Barn
3. Wood Shed
4. Stable Cowhouse
5. Small Outhouse
6. Hay Barn
7. Priory H. Wall

Fence repaired

Garden

Yard

Field

Fence indicated on the Black lines may be removed

Niagara River

[Signature]

[Date]

[Note: Copy by T. Turner, Jr.]

[Signature]

[Date]

[Signature]
17 Royal Engineers' Complex. PAC, RG8, II, Vol. 52, p. 11, 9 Feb. 1842
18 Fort Mississauga. PAC, National Map Collection, 12 Aug. 1843.
19 Fort Mississauga. PAO, D6, 1845.
20 Port Mississauga and Engineers' Complex.
PAC, National Map Collection, 26 Oct. 1850.
Fort Mississauga and Engineers' Complex.
PAC, RG8, II, Vol. 70, p. 11, 20 June 1851.
22 Royal Engineers' Complex. PAC, National
Map Collection, Jan. 1852.

  3 Privy
  18 Well
  48 Dwelling house
  49 Cellar, root-house & pantry
  50 Wood shed
  51 Stable and Cow-shed
  52 Out-house
  53 Barn
  54 Royal Engineer Office
  55 Shed
23 Fort Mississauga. PAC, National Map Collection, Jan. 1852.

3 Privy
18 Well
19 Ash pit
29 Tower-barrack containing in
   Basement 3 Store room and No3 Magazine for 600 Barrels. On
   first floor 2 mens rooms.
30 Nos 1 and 2 Mens room
31 Mens rooms Nos 3 & 4 and Cook house
32 Officers Qrs.
33 Mens rooms No5
34 Officers kitchen, Guardroom & Artillery Sergt
36 Engineer Store
37 Blue Barracks
38 No1 Magazine
39 No2 Magazine
40 Artillery Store
24 Fort Mississauga and Royal Engineers' Complex. PAC, National Map Collection, 27 Jan. 1852.
Fort Mississauga and Royal Engineers' Complex. PAC, National Map Collection, 1852/53.
26 Fort Mississauga. PAC, National Map Collection, 1852/53.
27 Fort Mississauga and Royal Engineers' Complex. PAC, National Map Collection, March 1853.
Sketch showing the relative position of Forts Mississauga & Niagara.
28 Fort Mississauga and Royal Engineers' Complex. PAC, National Map Collection, 18 Oct. 1853.
NIAGARA

Plan showing lands to be leased under the Act 12 Geo 3 &c and 36 Geo 4 &c. of 1813 &c. with reference to the 15th day of September 1815 &c.

C. Mississauga Reserve about 81 Acres
Lot No. 29 Section 6, 75 Acres

Total 65 Acres

R. W. Hunt

Surveyor

10 Oct, 1813
Sketch of Butlers Barracks shewing the trace of a defensible picket stockade proposed. PAC, MG13, WO55/1917, B-3041, p. 463, 6 Aug. 1839.
Relative Plan of the Hospital Premises shewing the position of the new Buildings. PAC, National Map Collection, 10 Nov. 1840.
Relative Plan of the Hospital Premises showing the position of the new buildings.

Hospital and Surgeon's Qu.

Scale 50 Feet to 1 Inch.

W. T. B. B.
Col. Wing
12 June 1840

10th Nov. 1840

J. Collard.
A.E.W.
Reference:

a. Officers Barrack
b. Soldier's Barrack

c. Guard House, Cook House & Fort Storehouse
d. Canteen

e. Field Officers and Staff Storehouse
f. g. h. Cavalry Stables
i. Veterinary
j. Forge House and Saddler's Shop
k. Barrack Store
l. Straw Shed
m. Commisariat Store
Butler's Barracks, Garrison Hospital, and Commandant's Quarters. PAC, National Map Collection, 12 Aug. 1843.
33 Butler's Barracks. PAC, MG13, WO55/879, B-2824, p. 46, 10 Dec. 1844.
NIAGARA, CANADA WEST

Sketch of part of the Ordnance Lands, showing in yellow the
space proposed to be appropriated as Soldiers Gardens for the
Royal Canadian Rifle Regiment.

To accompany the Com. Royal Eng. Letter to the S. G. G. Gales 18 Dec. 1844
17280.

SCALE 100 YARDS TO ANCHOR.
Butler's Barracks, Garrison Hospital, and Commandant's Quarters. PAO, D6, 1845.
35 Butler's Barracks and Garrison Hospital.
KIAUGA

Sketch showing part of
The Military Reserve adjoining
Botteri Barracks and the
Garrison Hospital.

To accompany Estimate
dated, Montreal 16 Sept., 1858

C. H. Ludlow
Draftsman

Scale 150 yards to an Inch
36 Garrison Hospital. PAC, MG13, W055/883, B-2830, p. 245, 28 April 1849.
NIAGARA OW.
Sketch of Garrison Hospital showing in yellow the proposed drains.

Ozdem.

Marine.

Surgeon's Home Hospital.

Scale of feet shown below.

5812 to 5852.

245
37 Butler's Barracks, Garrison Hospital, and Commandant's Quarters. PAC, National Map Collection, 26 Oct. 1850.
NIAGARA.

Sketch showing the relative position of the several buildings at Butler Barracks.
NIAGARA.

Sketch showing the relative position of the several Buildings at Butler Barracks.
Butler's Barracks, Garrison Hospital, and Commandant's Quarters. PAC, RG8, II, Vol. 70, p. 11, 20 June 1851.
41 Butler's Barracks. PAC, National Map Collection, Jan. 1852.

1 Officers Quarters & Mess Establishment
2 Barrack Office & Bk. Sergt Quarters
3 Privies
4 Old Canteen ordered to be sold
5 New Canteen, School Mr Sergt Qrs & Stables
6 Stables & Soldiers Room
7 Stable Barracks
8 Sergt Major's Cook house
9 Orderly Room, Qr Mr Qrs & Adjts Qrs
10 Staff Sergt Qrs Cook house & Guard house
11 Soldiers Barracks
12 Wash house
13 Engine house, Forge Shop, Armourers Sergt Qrs Tailor shop
14 Regimental Store & 2 stall box Stable
15 Commissariat Store & Office
16 Barrack & Ordnance Store
17 Straw Store
18 Wells
19 Ash pits
20 Commissariat Qrs
21 Root house
22 Stables and Coach house
23 Bk Masters Qr
NIAGARA C.W.

PLAN

Showing the Ordnance, Naval and other Government Buildings as called for by Inspector General of
fortifications Circular No. 21 22 April 1831.

BUTLERS BARRACKS
Garrison Hospital and Commandant's Quarters. PAC, National Map Collection, Jan. 1852.

3 Privies
18 Well
19 Ash pit
21 Root house
24 Commandants Qrs.
25 Out-house
26 Stable
27 Garrison hospital & Surgeons Qrs
28 Dead-house & Guard house
GARRISON HOSPITAL

Computed from information obtained in the R.O. Office Toronto.
Butler's Barracks, Garrison Hospital, and Commandant's Quarters. PAC, National Map Collection, 27 Jan. 1852.
Butler's Barracks, Garrison Hospital, and Commandant's Quarters. PAC, National Map Collection, 1852/53.
Butler's Barracks, Garrison Hospital, and Commandant's Quarters. PAC, National Map Collection, 24 March 1853.
The Government Reserve at Niagara.

Scale, 300 Feet to 1 Inch.

Correct Ordnance Boundary.

Barracks

Officers' Quarters

Butler's Barracks

Commissioner's Quarters

Bos. Master's Quarters

Hospital

Castlereagh Street

Rail Road
46 Butler's Barracks, Garrison Hospital, and Commandant's Quarters. PAC, National Map Collection, 14 June 1853.
Butler's Barracks. PAO, Kirby Papers, Dec. 1866.
Plan Brothers Barracks

1. Gun Shed & 1st Aid Store
2. Commissioned Men's Mess Hall
3. Regimental Store
4. Workshops
5. Guard House
6. Orderly Rooms
7. Advance Barracks
8. Artillery Barracks
9. Barracks
10. Canteens
11. Stables
12. Castle House
13. Guard House
14. Barracks 2 Stories
15. Barracks 2 Storey
16. Officers' Quarters
17. Small Dwelling
18. Hospital
19. Dwelling
20. Dwelling

Dimensions:
- 11 x 10
- 9 x 8
- 10 x 12
- 14 x 16
- 14 x 18
- 14 x 20
- 6 x 9
- 5 x 4
- 6 x 3
- 10 x 3
- 14 x 2
- 20 x 2

Note: The diagram includes various measurements and labels for different sections of the barracks.
Fort Mississauga. Section through Tower Shewing in colors the new floors and Magazine. PAC, MG13, WO55/1917, B-3041, following p. 372, 2 Sept. 1838.
Section through Tower showing in colors
the New Floors and Magazine —

Scale 1 foot to 1 inch.

Magazine to contain 250 Barrels.

35.6 x 16.6

17.6 x 16.6

36.0

12.0

26.0

12.0

10.7

9

2.5

6.6

7.6

22.8

Bricks

2000"
Sections through Project and Dutch
Scale 10 feet to one inch
50 Fort Mississauga. Tower. Fig. 1, Plan of Foundation Floors. Fig. 2, Section of Foundation and Ground Floors. PAC, National Map Collection, 17 Aug. 1838.
51 Fort Mississauga. Tower. Fig. 3, Plan and Section on top of Tower for taking Guns. PAC, National Map Collection, 17 Aug. 1838.
52  Fort Mississauga. Fig. 4, Section through Parapet of Fort shewing the Ditch Fraised and Palisaded. PAC, National Map Collection, 17 Aug. 1838.
53 Fort Mississauga. Fig. 5, Elevation of Barrier Gates. Fig. 6, Elevation of Drawbridge Posts and Section of Drawbridge. PAC, National Map Collection, 17 Aug. 1838.
54 Fort Mississauga. Fig. 1, Section of Tower. PAC' MG13, WO44/37, B-1306, p.118, 30 Sept. 1842.
No. 3.

Fort Missisagua

Section of Tower

Scale for Fig. 1

Scale for Fig. 2
55 Fort Mississauga. Fig. 2, Section on ABCDE. Fig. 3, Section on Kiz [?].
PAC, MG13, WO44/37, B-1306, p. 118, 30 Sept. 1841.
56 Fort Mississauga. Sketch shewing the Part of Exterior Slope & Breastwork at the water Front, which has been damaged by the height of the water and violence of the wind. PAC, MG13, WO55/886, B-2833, p. 214A, 13 Aug. 1853.
Neagara
Fort Ushirogou

Sketch showing the Port of Exterior Side
Broadwalk at the Water Front, which has been
broaded by the height of the water and violence
of the wind.

Carpenters of Rampart.

Parapet:

Exterior Slope to be repaired

Lower Terrapin

Deep holes washed out by the action of the water to be filled with clay.

Lake Ontario

The dotted lines show the present position of the

To accompany Special Estimate
Acted 3 August 1858

R. D. B. Moore
Naval Eng. 4th
57 Fort Mississauga. Section on line ab.
58 Plans, Elevations and Section of a New Commissariat Store proposed to be erected at Fort George UC. PAC, MG13, WO55/1917, B-3041, following p. 466, 6 July 1839.
59 Plans and Sections of the Commissariat Store and Office called for by the C.R.E. order dated 24 August 1840. PAC, National Map Collection, 10 Nov. 1840.
NIAGARA.

Plans and Sections of the Commissariat Store and Office called for by the C.R.E order dated 28th August 1840.

Plan of the Basement Floor

Plan of the Ground Floor

Section on A.B.

Section on C.D.

Scale 10 Feet to 1 Inch.

J. Collard
A.F.W.

Built by Order of the Cen. of the Present
Commission 28th 1840

Union of S.C.

C. 1. 2. 3.

A. B. C. D.

Directed By Capt. Meade

Grenville Avenue E. 4th Sept. 1840

Scale 10 Feet to 1 Inch.

J. Collard
A.F.W.

W. T. Ward
Capt. Meade
28th Sept 1840

10th Oct. 1840
Plan and Section of the Basement floor of the Commissariat Store at Niagara shewing the proposed Money Vault tinged yellow. PAC, MG13, WO55/878, B-2822, p. 98A, 23 May 1843.
Plan and Section of the Basement floor of the Ammunition Store at Niagara, showing the proposed Money Vault tined yellow.

The window at d. to be closed up and removed to e; a trap door f to be placed in the office floor over head, with a stair ladder to descend to the money vault.

Section through Money Vault on the line a.b.c.

N. B. In execution, this Plan will be superseded by Plan No. 2 annexed to this Estimate.

The proposed new work is tined yellow.

Scale 10 feet to an inch.
Plan and Section of the Commissariat Office shewing the proposed Money Vault tinged yellow. PAC, MG13, WO55/878, B-2822, p. 103, 3 June 1843.
Plan of the Commissariat Office shewing the proposed Money Vault tinged yellow to be built in accordance with the last paragraph in the Comm'. Generals letter dated 3rd June 1843.
62 Plan &c of the Junior Commissariat
Quarters at Fort George U.C. PAC, M213,
Plan of the Junior Commissariat Quarters at Fort George U.C.

Scale of Plan: 30 feet to an inch.

Elevation B

[Diagram of the Junior Commissariat Quarters at Fort George U.C. with various rooms and measurements indicated.]

Signed: A. Mack
26th Oct. 1854

(Handwritten note: "Acknowledged."
27th Dec. 1854.)
63 Plan and Elevation of the Guard house, Dead house and Stable proposed to be built at the Garrison Hospital Niagara; and Sketch of the Hospital Premises shewing the situation of the Guard House Dead House and Stable. PAC, MG13, WO55/1917, B-3041, p. 487, 29 Aug. 1839.
Sketch of the Hospital Premises showing the situation of the Guard House, Dead House and Stable

Signed: J. B. Smith

Sept. 1848

 notifying intention of the Guard House, Dead House
and Stable proposed to be built at the Garrison.
Plans and Sections of the Stable, Guard House and Dead House at the Garrison Hospital.... PAC, National Map Collection, 10 Nov. 1840.
NIAGARA.

Plans and Sections of the Stable, Guard House and Dead House at the Garrison Hospital, Called for by the Q.E order dated 28th August 1840.

Built by Order of the Commander of the Forces 25th Augt 1839.
Commenced 31st Oct 1839
Finished 1st Dec 1839 6.4.14
Estimated Expense 46.4.10
Actual Cost 47.12.14

District Eng'g Capt' MacKenzie
Com't Roy Eng'g Lt Col Oldfield

Conformed agreeing by 21st May 12th
Yr. the Regulations.

Section A B

Scale 10 Feet to 1 Inch.
Plan and Section of the Barrack Master's Straw Shed.... PAC, National Map Collection, 10 Nov. 1840.
NIAGARA.

Plan and Section of the Barrack Master's Straw Shed.
Called for by the CRE order dated 28th August 1840.

Built by order of the Com. of the Forces 29 June 1839
Commenced 9th Sept. Finished 25th Sept. 1839
Estimated Expense £85.3.7½. Actual Cost £72.1.6½
District Eng: Capt. MacKenzie
Comd. A. Eng: Genl. Oldfield
Forwarded copy to Mr. Major Sect. 12 of the Regulations.

Plan.

Section on A.B.

Scale 10 Feet to 1 Inch.

J. Collard
A.F.W.
Officer's Quarters, Butler's Barracks. PAC, National Map Collection, 8 April 1843.
Plan of Adjutant's & QRS Masters QRS &ca at Butler's Barracks. PAC, National Map Collection, 22 April 1843.
Niagara

Plan of Adjutant's Office, 1814
at Buffalo Barracks.

Showing the form of foundation.

M. S. - hare signed. 1765.

By order of the Governor.

At Buffalo, Jan. 24, 1814.
Sketch of No 9 Stable proposed to be fitted up as a Barrack Room. PAC, MG13, W055/880, B-2826, p. 486A, 1 Dec. 1845.
Niagara

Sketch of No. 9 Stable to be fitted up as a Barracks Room

[Signature]
Jan. 23, 1875

Scale 1/2 foot to an inch
69 Butlers Barracks. Section and Plan of No 6 Stable shewing the proposed Cells and Wardens Room to be formed therein. PAC, MG13, WO55/884, B-2831, p. 78, 27 Aug. 1846.
NIAGARA

Butlers Barracks

Section and Plan of No. 6 Stable showing the proposed

cells and wardens room to be formed therein.

General

To accompany

Estimate 2d August 1861

Section on the line A.B.

Plan.

Cell Cell Cell Cell Cell

Passage

Warden's Room

Part of No. 6 Stable

Scale 10 feet to 1 inch.

W. C. W. 27th Feb.
Sketch showing plan of a prison.
Sketch shewing proposed method of converting No. 4 Cavalry Stable into a Prison & Warder's Quarter (part II). PAC, MG13, WO55/886, B-2834, p. 572A, 17 Dec. 1852.
NIAGARA C.W.

Sketch showing proposed method of converting a Curfew Stable into a Prison & Warder's Quarters.

[Drawings and annotations]

27 Dec 1872.

Section on line of

Section on Line c.d.

Present Straw Store

Section on Line a to b.

Scale 1 ft. to an inch.
Sketch shewing the manner in which it is proposed to fit up Cavalry Stables Nos 4, 5 and 6 as a School Room and School Master's Quarters. PAC, MG13, WO55/885, B-2832, p. 171A, 13 Dec. 1850.
73 Sketch shewing in Yellow the manner in which it [is] proposed to fit up Cavalry Stable N°6 as a School Room. PAC, MG13, W044/591, B-1437, following p. 415, 29 Dec. 1851.
NIAGARA
BUTLERS BARRACKS
Sketch showing in yellow the manner in which it proposed to fit up
Cavalry Stable No. 6 as a School Room

SCHOOL ROOM

Section of Barrack Room

SCHOOL ROOM

for

84 SCHOLARS

STABLE NO. 6

SOLDIERS BARRACKS

formerly

Cavalry Stable No. 8

375

Scale 1 foot = 1 foot
74 Fort Niagara from Fort Mississauga, 1840, sketch by P.J. Bainbrigge. PAC, Picture Division, C-1189.
75  Fort Mississauga, Niagara (circa 1850-2),
watercolour by General A.R.V. Crease.
Metropolitan Toronto Library Board.
76 Butler's Barracks, Niagara, Canada West, July 1854, watercolour by F.H. Granger.
The Niagara Museum and The Niagara Historical Society.
Commandant's Quarters, Niagara, Canada West, 1854, watercolour by F.H. Granger [?]. The Niagara Museum and The Niagara Historical Society.
78 Navy Hall and Ferry House, 1856, water-colour by F.H. Granger [?]. The Niagara Museum and The Niagara Historical Society.
DISTANT VIEW OF FORT MISSISSAGA.
INTERIOR VIEW—FORT MISSISSAGA IN 1860.
NEW MAGAZINE AT FORT GEORGE.
FRENCH MAGAZINE AT FORT GEORGE.
84 Hospital from Butler's Barracks, 1864, watercolour by F.H. Granger. The Niagara Museum and The Niagara Historical Society.
85 Queens Own Regt in front of Butlers Barracks, Hospital in distance..., 1865. The Niagara Museum and The Niagara Historical Society.