Preliminary Site Study
Poonamalie Lock Station

by Linda Smith

1983
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INVENTORY OF STRUCTURES</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>INTRODUCTION</strong></td>
<td></td>
</tr>
<tr>
<td>Area History and Site Description</td>
<td>3</td>
</tr>
<tr>
<td>References</td>
<td>8</td>
</tr>
<tr>
<td><strong>EXTANT BUILDINGS</strong></td>
<td></td>
</tr>
<tr>
<td>Defensible Lockmaster's House</td>
<td>10</td>
</tr>
<tr>
<td>Detached Summer Kitchen</td>
<td>15</td>
</tr>
<tr>
<td>Small Barn</td>
<td>16</td>
</tr>
<tr>
<td>Porch from the Defensible Lockmaster's House</td>
<td>17</td>
</tr>
<tr>
<td>Shed</td>
<td>18</td>
</tr>
<tr>
<td>Storage Shed</td>
<td>18</td>
</tr>
<tr>
<td>Lock Office</td>
<td>19</td>
</tr>
<tr>
<td>Guage House</td>
<td>19</td>
</tr>
<tr>
<td>References</td>
<td>20</td>
</tr>
<tr>
<td><strong>NON EXTANT BUILDINGS</strong></td>
<td></td>
</tr>
<tr>
<td>Early Locklabourer's Dwellings</td>
<td>25</td>
</tr>
<tr>
<td>Permanent Locklabourer's Dwelling</td>
<td>26</td>
</tr>
<tr>
<td>Temporary Locklabourer's Dwelling/Storehouse</td>
<td>28</td>
</tr>
<tr>
<td>Storage Buildings</td>
<td>29</td>
</tr>
<tr>
<td>Privies</td>
<td>30</td>
</tr>
<tr>
<td>References</td>
<td>31</td>
</tr>
<tr>
<td><strong>ENGINEERING STRUCTURES</strong></td>
<td></td>
</tr>
<tr>
<td>Canal Cut</td>
<td>36</td>
</tr>
<tr>
<td>Lock Chamber</td>
<td>37</td>
</tr>
<tr>
<td>Stoplog Bulkhead</td>
<td>42</td>
</tr>
<tr>
<td>Canal Waste Weir</td>
<td>43</td>
</tr>
</tbody>
</table>
Wharves ................................................................. 44
Dam ........................................................................... 45
Canal Cut Embankment .............................................. 50
River Embankment .................................................... 54
References .................................................................. 57

ILLUSTRATIONS ............................................................ 66
INVENTORY OF STRUCTURES

The following inventory does not imply that the buildings listed are necessarily within the control of this department. Rather, it represents those structures which seem to be now or at one time significant in the picture of this canal site.

Existing structures:

Canal site and buildings
- Defensible Lockmaster's House
- Detached Summer Kitchen (outbuilding 1)
- Small Barn (outbuilding 2)
- Porch to Defensible Lockmaster's House (outbuilding 3)
- Shed/Small Barn (outbuilding 4)
- Shed (outbuilding 5)
- Lock Office

Other buildings
- Gauge House

Engineering structures
- Dam
- Canal Waste Weir
- Canal Embankment
- River Embankment
- Canal Cut
- Lock Chamber
- Stop Log Bulkhead
- South Wharf
- North Wharf
Missing structures:

Canal and site buildings
- Locklabourer's House/Contractor's House, circa 1827 - circa 1903
- Locklabourer's House, circa 1827 - circa 1900
- Permanent Locklabourer's House, 1904-1965
- Temporary Locklabourer's House, 1908-1966
INTRODUCTION

Area History and Site Description

The construction of the Rideau Canal is truly a remarkable accomplishment. In its preserved state it is a reminder of an era that saw the culmination of the development of canal construction. The fact that it was built through little-explored, virgin forest unaided by modern equipment gives added interest to this monumental engineering endeavour. Today it is probably one of the best-preserved remaining examples of nineteenth-century canals in the world.

Poonamalie was initially known simply as First Rapids, because it was the first set of rapids on the Rideau River at the outlet of the Rideau Lakes. It is located approximately 2 miles above Smiths Falls and is a quiet, picturesque spot. A gravel road off Highway 15 approaches the lock station. Although it bypassed only a minor set of rapids, it proved one of the most difficult of the small stations. After work was underway, the initial plans for the site had to be discarded for two reasons. The first was that the river bed was hard limestone which made for difficult excavating. The second difficulty was due to the low river banks which prevented the water levels from being raised to the desired height. With a substantial increase in costs the plans were altered and the work proceeded.¹

While work was underway on the waterway, several dwellings, probably seven or eight, were erected to house the workers. The houses were of a modest design with the possible exception of the contractor's quarters which on earlier maps appears larger than the other buildings.² The design was
probably not unlike that of a log cabin near Kilmarnock Lock Station depicted in a J.P. Cockburn watercolour from the 1830s. They generally consisted of a single story with one door, usually one or perhaps two windows and a chimney. Some had a low flat-roofed shed nearby which most likely housed domestic animals. Judging by the Cockburn painting and a fairly detailed work by John Burrows (Fig. 1) from the same approximate time frame, the buildings appear to have been built of logs with a roof of either wide flat boards or cedar shingles. References to buildings in the Checklist of Works indicate that shingles were fairly commonly used.

That Poonamalie was not always the quiet isolated site it is today was made abundantly clear from a description recorded by a young gentleman traveller passing through in 1830.

... we proceeded by an excellent road to Poonamallee. Here we spent the night in social glee and pleasure not only in the enjoyment of undisguised hospitality, but also having our harmony enchanted and the glut of pleasure augmented by the society of some charming females. To us this was a pleasure of no [small] degree.

In the Taverns where we had been, there is a peculiar shyness in the female character they seldom [show] in society. But here in addition to the sweet and kind attention of the lady of the mansion, we had the society of her charming daughter and a female companion of nearly her own age —...

However, another gentleman traveller passing by this station a few short years later was not so favourably impressed with what the society offered.
A small hamlet called by an uncouth East Indian name, which deserves not to be recorded, is built in this place; it is in a languishing condition, not more than a half dozen houses or rather huts being tenanted.\textsuperscript{6}

Whereas there may once have been a small hamlet, this period was short-lived. Settlement did not develop in the immediate vicinity because the land was unsuited to agriculture. The bedrock was only covered with a thin layer of soil.\textsuperscript{7}

First Rapids, or Poonamalie as it stations along the upper Rideau, in general, contributed to the growth of Perth as a supply centre. The settlers and farmers in the Perth area were provided with a captive market while this section of the canal was under construction, and the Tay River provided a convenient transport line.\textsuperscript{8} The market at Poonamalie, though, was only a temporary one because once the work at the station was completed, it came to resemble a small subsistence homestead. The whole area in the vicinity of the lock station had been cleared during construction to enable the work to proceed with all due haste. After the construction period a considerable area was maintained free of brush, perhaps in part for security reasons.\textsuperscript{9} Well into the twentieth century an area of approximately two acres was kept cleared and was developed as a modest mixed farm plot by the canalmen. In the 1840s the department land was fenced, partially to mark the canal land but probably also to restrain the domestic animals on the site.\textsuperscript{10} Aside from large vegetable gardens, part of the land was left in grass, perhaps for grazing. This style of small farm-like endeavours were encouraged by the authorities. The superintendent remarked in 1861 that,
There are 23 Lock Stations, the general pay of a Lock Master at a single Lock is 70cts per day, there is generally a comfortable house a garden and a piece of Land attached which renders the stations more private and enables us to get a good class of men at this low rates.¹¹

Work about the lock station, however, was not to be neglected for care of the canalmen's personal projects.¹²

Some of the roughly-built construction period dwellings were torn down in 1842 and others in 1851.¹³ Some were probably converted for use by the locklabourers. In 1857 an inventory of structures along the canal was made. At this canal site, besides two locklabourer's dwellings and the defensible lockmaster's house, there were two cow sheds and one stable. Each labourer had a cow shed. One was a frame construction with a "S" roof, which may mean a "slant" or perhaps "shingle" roof. It was 18 feet long, 13 feet wide and 8 feet 6 inches high. The other cow shed was a log building with a shingled roof 27 feet 6 inches long by 20 feet 3 inches wide and 9 feet 11 inches high. The Lockmaster had a stable for his use. It was a log building roofed with boards and slabs. The dimensions were recorded as 13 feet by 14 feet and an unlikely 4 foot 3 inch height.¹⁴

Despite the functional approach to the canal land, the decorative element was not foresaken. Several large deciduous trees shaded the well-manicured lockmaster's lawn. Two such trees still stand along the side of the lock chamber in front of the lock house. It is the canal cut which has been the subject of many glowing descriptions over the years. The shores are lined by a dense growth of cedar trees. It was these trees which contributed to the renaming of the
station. One of the officers of the Royal Engineers was reminded of a similar thick growth in India, hence, the exotic name, Poonamalie. This striking growth of cedars remains as impressive today as it was in the nineteenth century.
End Notes, Area History and Site Description


2 Public Archives of Canada (hereafter referred to as PAC), National Map Collection (hereafter cited as NMC), John By Map, 1831, Reference No. 0019333; Parks Canada, Ontario Regional Office, Historical Research, "Plan Showing in Green Coloring the Land Required for service of the Canal at Poonamalie Lock Station", Royal Engineers Office, Bytown, 24th January 1851.

3 Royal Ontario Museum (hereafter cited as ROM), Toronto, Catalogue No. 942.48.10, Watercolour by J.P. Cockburn, circa 1830s. A copy is available at Parks Canada, Ontario Regional Office, Historical Research, Reference No. R4-010-B-0010.


7 Passfield, Building the Rideau, p. 102.
8 Passfield, Building the Rideau, p. 102.


10 PAC, RG43, C, Vol. 1917, Checklist of Works; various entries throughout the 1840s.


12 PAC, RG43, C, Vol. 1917, Circular Order from Major Bolton, Commanding Royal Engineer to the Lockmasters on the Rideau Canal, 30th May 1840.

13 PAC, RG43, C. Vol. 1917, Checklist of Works; April 1842 and July 1851.

14 PAC, RG43, C, Vol., 1917, Checklist of Works; Correspondence, July 1857.

EXTANT BUILDINGS

Defensible Lockmaster's House

Sixteen defensible lockmaster's houses were built along the Rideau and are unique to this canal system. Twelve of the buildings remain standing today, and one of them is at Poonamalie Lock Station. Col. By had originally visualised a blockhouse here which would provide living quarters for the lockmaster and his family as well as protection from attack. However, because of financial constraints only four blockhouses were completed. Poonamalie remained without a fortified structure until the aftermath of the 1837 rebellion when a series of defensible lockmaster's houses were built at most lock stations. The defensible lockmaster's houses were erected to provide a covering fire for the canal structures and were intended to withstand the musketry of small bands of marauders unaccompanied by artillery. In the strict sense these buildings were not defensible according to the British military standards of the time. The most obvious shortfall was that the loopholes were not the required minimum of 7 feet from the exterior ground. The defensive arrangements were further compromised by the porches; although those at Poonamalie and several other lock houses were loopholed and lined with brick infill, "entry was gained through doors at the front of the porches which made them vulnerable since they could not be protected by cross-fire". The design of all the defensible lockmaster's houses was basically the same: single story, thick rubble masonry walls with heavy timber-braced roofs covered in tin. The height of the walls was approximately 9.5 feet from the top of the foundation to the eaves.
Construction began on the Poonamalie defensible lockmaster's house in May of 1841. A cellar was excavated with a drain or gutter leading from it. The work was completed by August when the Overseer of Works, J. Fitzgibbon, arrived and gave charge of the lock house to the lockmaster, James Rutley. Work about the site continued into the fall consisting largely of clearing the rubbish and earth and landscaping around the building. A ladder was requisitioned for the house in 1842 to ease the painting undertaken in September of 1843. A circular order in 1845 specified that all the openings on the defensible lockmaster's houses must be fortified. It is probable that wooden coverings were used to seal the building's four windows. Using available comparative information, the building very likely had four windows, two on the south-facing front wall and two on the north-facing rear wall. The windows at the Jones Falls defensible lockmaster's house measured 5.5 feet by 3.75 feet and contained 24 panes of glass. The windows at Poonamalie were probably similar, if not the same. William Wylie explains how the loopholes were closed in peace time:

These openings were covered with glass ... They were set in wooden frames splayed inwards, with horizontal wooden members imbedded in the masonry running between the holes to brace the frames. Large wooden lintels were situated over each hole.

At a later date the loopholes were permanently filled in. The interior of the building was possibly partitioned in a similar four room division as that of Jones Falls. Surely one room served as office space for canal operations. Wylie's research on the defensible lockmaster's house at Jones Falls also uncovered that the practice of applying plaster directly to the stone walls was fairly typical to all the houses. Although the interior walls were plastered, this
method was unable to prevent damp and unhealthy conditions from prevailing in later years.\textsuperscript{10} The lockmaster's house was given a fresh coat of lime in 1849.\textsuperscript{11} In 1852 the building was reportedly in good condition and described as a stone structure "tinned & loopholed", 27 feet 6 inches square.\textsuperscript{12} In 1853 repairs were made to the cellar floor.\textsuperscript{13} In 1857 the lockmaster at Poonamalie described the building with the same dimensions adding that it was 9 feet high to the eaves. The two porches were listed as being 6 feet 6 inches by 7 feet, and 7 feet high\textsuperscript{14}. (Fig. 3)

In 1856 the responsibility for the Rideau Canal was taken over by the provincial government which effectively marked the end of the "military phase" on the Rideau. The defensible lockmaster's house, however, remained unchanged until the 1870s because the civil authorities delayed any work to the site in an overall struggle to reduce the canal's deficit. In 1874-75 unspecified work costing 150 dollars was done on the lockmaster's house.\textsuperscript{15} An outdoor "summer kitchen" was probably built at this time. Such detached kitchens were popular in the days of large cook stoves as they allowed the main house to remain cool during the summer months. The detached kitchen sat immediately behind the main house near the entrance on the east wall. It was a frame construction with a cedar shingle roof and shall be discussed later in more depth. In 1878, 50 dollars was spent on repairs to the windows of the defensible lockmaster's house.\textsuperscript{16} At this time the east wall window was probably opened and the loopholes may have been permanently sealed.

The constant series of changes to the lockmaster's house from the 1870s onwards are tangible evidence of the canal's ever-declining military significance. As the threat of attack continued to subside, the new role of the canal emerged, that of a commercial waterway and, consequently, the lockmaster's house gradually changed from a defensible to a solely domestic building. When the lockmaster's house was
struck by lightning in 1893 it was shingled and the interior plastered. The tin roofing may have been removed at this time. The interior plaster was probably in poor condition having deteriorated as a result of condensation forming on the stones. Upon replastering, the walls were likely surfaced first with lath. In 1899 a kitchen addition was built onto the rear or north wall of the lockmaster's house. The single story addition was a frame construction. The horizontal cove siding was painted grey as were the other outbuildings. One door was built into the east wall and a single window was placed in the west wall.

Almost all of the defensible lockmaster's houses received second story additions about the turn of the century due to domestic considerations. The second floor was built at Poonamalie sometime between 1908 and 1925. The south wall had three windows, two of which were double-hung sash with vertical sash bars. A third central window which illuminated the stairway was approximately half the width of the other two. Its sashes had no dividing sash bar. The double-hung sash window on the east wall above the porch was the same as the large windows on the front wall. A window was also located on the west side of the new addition.

The centrally-placed chimney had to be altered with the addition of the second story. The new interior brick chimney is depicted in a 1930 photograph protruding through the roof slightly off centre on the west side of the building. The same photograph reveals that the front defensible porch had also been removed. (Fig. 5) The new porch had a square plank base with one step. On either side a wooden-slat railing stretched between the lock house walls and the two posts which held up the front of the small roof. The back of the roof was anchored to the main house. It was slanted and had a small gabled peak at the front. At an unknown date
prior to 1930 an exterior basement entrance had also been added to the west side of the building. It is interesting to note that the Department of Railways and Canals reports of 1930 said that there was no cellar under this building when in fact there was. The same report recorded that the roof was covered in cedar shingles, the foundation was concrete and the interior was partitioned into eight rooms.\textsuperscript{24} The building had no furnace or electric lighting but it did have a well which had been furnished by the department in 1914-1915. The well was 21 feet deep and was lined with 24 inch cement pipe.\textsuperscript{25} The dwelling was reported as being in good condition and valued at approximately 2,500 dollars.\textsuperscript{26} In the winter of 1953-54 substantial renovations were made to the Poonamalie Station. The lockmaster's house was wired for hydro, and plumbing was installed.\textsuperscript{27} By the mid-50s the rustic life style had clearly been left behind.

By 1974 the paint on the frame addition appears to have been altered from the grey with white corner, base and window trim evident in 1930. In a photograph of that year, the siding was now white with green trim, and red asphalt roofing had replaced the cedar shingles of the 1930s. New upper story windows had been supplied between 1930 and 1974. The new ones are the same apparent dimensions but the double-hung sashes are uninterrupted by a sash bar. The lower story windows appear unchanged. The east wall porch appears little changed since 1930 except that an outer wooden screen door has been replaced with an aluminum screen door. In fact this porch appears very similar to how it must have originally appeared. One further change worthy of note by 1974 was the construction of a cinder block chimney which ran up the west wall. The propane bottles sitting about the cellar porch suggest the house was heated by means of propane.\textsuperscript{28} (Figs. 6 and 7)
In 1978, after 137 years of occupancy, the building was vacant for the first time. The last tenant was J. MacKenzie who moved out of the dwelling in October 1977. A mere six years later the building appears sadly neglected and in want of constant care. Presently the red brick chimney on the kitchen addition is crumbling, sections of the eaves troughing are missing and the upstairs west window is open wide allowing free access to birds, insects, small animals, as well as rain and snow. The front porch is in poor condition.

Detached Summer Kitchen

At some time during the two decades immediately following the canal's construction, a frame building was built directly behind the defensible lockmaster's house. A building appears in this location in an 1851 plan. Its initial function was that of a summer cook house; therefore it was conveniently located near the main house and the lockmaster's garden plot. The earliest photograph of a building in this location dates from the early years of the twentieth century where it can be seen as a frame construction with a wooden door on the south face and a window on the east face. (Fig. 4) The roof was covered in cedar shingles. It was not listed on the 1857 Inventory which suggests two possible explanations. Either it was considered as part of the main house or perhaps the building noted in the 1851 plan had been removed and a second detached kitchen built after 1857. The early photographs may depict this second building. The building remained largely unchanged until sometime between 1925 and 1930 when the horizontal cove siding was painted a light colour, probably grey. The exterior wall joints, the eaves, the frames of the window and the door were all painted white. An interior chimney protruded from the east end of the peaked roof. The building rested on a concrete foundation. It is unlikely that the building was ever partitioned.
Dating from the time of the first photographs, the function of the building changed. When the attached kitchen was built onto the rear of the main building the detached kitchen became redundant and henceforth was used as a shed. A swing door opened on the west face of the building by 1974 which was probably installed after it became a shed. The cedar shingles had been replaced with red asphalt shingles and the building appeared in fair condition especially considering its age. In keeping with the canal colour scheme, by 1974 the building had been painted white with green trim. It has been unused for a number of years, at least since the lockmaster's house was vacated in 1977 and is beginning to show the ravages of the elements and time.

Small Barn

A second outbuilding was built at Poonamalie some distance behind or north of the detached kitchen. It lies approximately 100 feet north-west of the defensible lockmaster's house. A definite construction date has not been determined. It is probably this building which appears in an air photograph from 1925. But certainly it was on the site by 1930 because a view of its west wall with the distinctive diamond window appears in a photograph from that year. The same photograph reveals that the building was covered with horizontal cove siding and had a ventilation shaft in the roof which has since been removed. It was painted in a light shade, probably grey, and was trimmed in white.

No clear photographs of the building exist prior to 1974; therefore it is impossible to isolate features original to the building and those added later. It can be said, however, that between 1930 and 1974 the colour scheme had changed from grey with white to white with green. Also, a simple small square window and a standard-size door had been added to the south wall. A double door had been opened in this wall after
1930 but by 1974 it was reduced to this standard hinge door. The other features of the building, such as the linhay-style extension, may or may not have been original to the structure. The building's use as a barn at one time is evident from the two sets of double doors on the east wall. The double-size door on the building opens side-ways on a set of rollers; the doors on the extension swing outward. Loft doors open above the large rolling door.36

The building already appeared neglected and in poor condition by 1974 but by 1983 the process of decay was much advanced. The building, according to lock station personnel, has not been used in fifteen to twenty years. The door is hanging open because it will no longer close. The paint is very faded and cracked, the green trim is barely discernable. The red asphalt rolled roofing is the same that covered the building in 1974 and it is in very poor condition with large sections having fallen away exposing the wooden planks beneath. The grass and weeds have been uncut for several seasons and are now almost shoulder high around this building.37 (Fig. 8)

Porch from the Defensible Lockmaster's House

Located on the south-west corner of the small barn is a third outbuilding at the Poonamalie Lock Station. It, too, is a frame construction painted white and green. This building, seemingly insignificant, was carefully examined in 1982 to ascertain its architectural and historical importance to the site. At this time it was discovered to be the original porch of the defensible lockmaster's house, hence an 1841 construction. The building still has the original loopholes and many other original components, including intact brick infill wall lining. It is covered with horizontal cove siding and the original tin-plate roofing and edged in flashing trim. The door opening has been altered but the original one is still apparent.38 (Fig. 8)
Shed

The last known function of this outbuilding was as a chicken coop. It has not, however, been used for any purpose in a considerable number of years. By 1974 this building had a markedly shabby appearance and certainly had not received any attention in some time. The structure lies slightly north-west of the barn and the porch. It is a white frame construction with the south and west walls built of horizontal cove siding and the north and east walls of vertical board and batten, perhaps suggesting the south and west walls were rebuilt at some time after the initial construction date. The roof, by 1974, had been covered with red asphalt rolled roofing. The shed may have served for hay storage at some point or so the upper loft doors on the west wall would suggest. When all the outbuildings were appraised in 1982 it was felt that this building was a circa 1930s structure and should be preserved as it contributes to the sense of historical evolution at the site.(Fig. 9)

Storage Shed

On the south side of the canal cut at Poonamalie, approximately 50 feet south and east of the lock office, a small slant-roof storage shed is located. Three of the walls are constructed of rolled tin nailed to timber struts. The fourth wall, facing in a north-westerly direction, is covered with horizontal cove siding although most of this wall is filled with two double swing doors faced with vertical cove siding. The slanted roof is shingled with tin or aluminum. The interior is divided by a rough partition of unfinished boards nailed to timber struts. This is the only shed currently in use at the Poonamalie Lock Station and it is of recent construction. (Fig. 10)
Lock Office

A new lock office was constructed at this station in 1967 on the south side of the canal cut, parallel to the lock chamber. It was erected on the same approximate location as the temporary locklabourer's house which had been torn down earlier in that same year. The structure is built of cut stone set upon a concrete foundation. Its roof is covered with cedar shingles. A concrete sidewalk encircles three sides of the building - all but the south wall. The building has several windows of assorted shapes and styles; each of them is placed directly below the eaves and has trim painted green. Square concrete steps lead to a set of double doors on the south face. A standard-size door is located on the west face while two doors similar to it provide access to the front entrances on the north wall. Two more standard-size doors lead to the public toilet facilities on the east side of the building. All of the doors on the building are painted green. Green metal eaves troughing edges the roof.\(^\text{42}\) (Fig. 11)

Gauge House

The gauge house is located on canal property but is removed from the actual lock station. It is situated on the north side of the canal cut just below the dam on the spit of land stretching westward. This automatic water guaging station was first installed in 1924-25.\(^\text{43}\) Plans for the building are still held by the Rideau Canal Office in Smiths Falls. It was probably considered a necessary feature at this lock station which was constantly a trouble spot in times of low water. In the 1919-20 season, for example, traffic was obstructed at Poonamalie at the beginning of October due to low water.\(^\text{44}\) A concrete sidewalk about 30 feet long leads away from the white frame door of this small red brick building. A path then leads to the walkway along the canal cut.
End Notes, Extant Buildings


2 Passfield, Building the Rideau, p. 104.

3 Parks Canada, "Preliminary Site Study Series Newboro Lock Station", Appendix B, pp. iii-iv.


5 Passfield, Building the Rideau pp. 103-104.


8 Wylie, op.cit., p. 82; PAC, Photograph C-13299, Edwin Whitefield I-48, watercolour on pencil. A reproduction is on file with Parks Canada, Ontario Regional Office, Historical Research, Reference No. 415-32-2-850-3610.
9 Wylie, op. cit., p. 78.

10 Ibid., p. 80.


12 Ibid., RG8, Vol. 1635, Reel C-3838, 17 July 1852, Inspectional Reports.


14 Ibid., Correspondence 1857.


16 Ibid., Vol. 341, Repairs Estimate for the next six months, 14 December 1874.

17 Department of Railways and Canals, Annual Report, 1892-1893, Appendix No. 11, p. 166.

18 Upon inspection by Rideau Canal historian for Parks Canada in 1982 the walls were found to be lath and plaster over stone.


21 Ibid., Historical Research, A.T. Philips Photograph, Poonamalie Lock Station, circa 1903-1908 and, Ordnance Land Photo of the Lock, Lockmaster's Residence and Grounds, Reference No. R4-014-B-0011.
22 Ibid., Ordnance Land Photo of the Lock, Lockmaster's Residence and Grounds, Reference No. R4-014-B-0011 and, Photograph of Poonamalie Locklabourer's house in 1930, Reference No. R4-014-B-0004; Ibid., Library, Book No. 8, 1974 Photographic Survey. An assumption has been made that by 1974 a window on the north wall had not been sealed and that, in fact, one had never existed.

23 Ibid., Historical Research, Ordnance Land Photo of the Lock, Lockmaster's Residence and Grounds, Reference No. R4-014-B-0011 and Photograph of Poonamalie Locklabourer's House in 1930, Reference No. R4-014-B-0004.

24 Ibid., Photograph of Poonamalie Locklabourer's house in 1930, Reference No. R4-014-B-0004.


26 Parks Canada, Ontario Regional Office, Historical Research, Photograph of Poonamalie Lockmaster's house in 1930, Reference No. R4-014-B-0003.


30 Ibid., Ontario Regional Office, Historical Research, Plan showing in green coloring land required for service of the Canal at Poonamalie Lock Station, Reference No. 415-17-1-851-1927.

31 Ibid., A.T. Philips Photograph, Poonamalie Lock Station, circa 1903-1908.


33 Parks Canada, Ontario Regional Office, Historical Research, Ordnance Land Photograph of the Lock, Lockmaster's Residence and Grounds 1925, Reference No. R4-014-B-0011.

34 Ibid., Library, Book No. 8, 1974 Photographic Survey.

35 National Air Photograph Library (hereafter cited as NAPL). Poonamalie Lock Station 1925, Reference No. HA60-52. A copy is available at Parks Canada, Ontario Regional Office, Historical Research, Photograph of Poonamalie Lockmaster's house in 1930, Reference No. R4-014-B-004.

36 Parks Canada, Ontario Regional Office, Library, Book No. 8, 1974 Photographic Survey.

37 Site observation, Summer 1983.


39 Jerry Cole, Lockmaster, Poonamalie Lock Station, Summer 1983.
40 Parks Canada, Ontario Regional Office, Library, Book No. 8, 1974 Photographic Survey.


42 Ibid., Library, Book No. 8, 1974 Photographic Survey.

43 Department of Railways and Canals, Annual Report 1924-1925, p. 98.

44 Ibid., Annual Report 1919-1920, p. 76.
NON EXTANT BUILDINGS

Early Locklabourer's Dwellings

The house constructed for use by the contractor at Poonamalie was later taken over by one of the locklabourers as a dwelling. Undoubtedly this building would have been the most substantial of the construction period dwellings and thereby most suitable for conversion to year-round canal use.\(^1\) It was a log house with a cedar shingle roof located on the north side of the lock and the dimensions were approximately 30 feet by 26 feet, 10 feet high.\(^2\) A second locklabourer's house was occupied by 1840.\(^3\) Quite possibly this dwelling was also the one abandoned by the construction workers. It was a log structure with a cedar shingle roof, also located on the north side of the lock. The dimensions were 26 feet by 19 feet and 7 feet high.\(^4\) In 1841 a cellar was excavated under the temporary labourer's house, which was probably the smaller of the two log buildings.\(^5\) It was normal for the labourers to spend numerous days each fall during the unseasonable weather repairing their dwellings.\(^6\)

In 1845 the permanent labourer's house was reshingled and painted with a lime wash. Pine boards were also used to make some unspecified repairs.\(^7\) In 1851 one of the two dwellings was "raised" and reshingled, probably the temporary labourer's dwelling, as a scant six years earlier the other had been shingled. Later the same year one of the houses was plastered.\(^8\) In 1866 substantial repairs were conducted on one of the labourer's dwellings: 675 feet of boards were used to renew the floor, the doors and windows were repaired and an 8 foot high brick flue was installed.\(^9\) Other unspecified repairs were made to the dwellings in 1868 amounting to a 30 dollar expenditure.\(^10\) In 1893 one of the dwellings was again reshingled.\(^11\)
The repair estimates submitted by Superintendent A.T. Phillips for the 1899-1900 and 1901-1902 fiscal years both included significant expenditures for repairs to one of the locklabourers houses at Poonamalie.\textsuperscript{12} It seems unlikely though, that these repairs were actually undertaken as no mention was made of them in the relevant Annual Reports.\textsuperscript{13} Having postponed repairs for several seasons the superintendent reconsidered the plan and decided instead to build a new locklabourer's dwelling:

The Lock labourer's house is in a bad condition, and will in all probability have to be pulled down, and a new house built, as it is built on sills which have completely gone, and the old log house will not bear raising up again.\textsuperscript{14}

The permanent labourer's house was replaced in 1904 and the quarters for the temporary labourer were renewed in 1908.

\textbf{Permanent Locklabourer's Dwelling, 1904-1965}

The permanent locklabourer's house was rebuilt in 1904 at the estimated cost of 500 dollars.\textsuperscript{15} This "new cottage", as it was described, is in all probability the frame house referred to as Canal building number 38 in the 1930 inspectional report.\textsuperscript{16} A. Best resided in the permanent labourer's dwelling in 1910 and at this time the home was described as being in good condition.\textsuperscript{17} But either this house or the one used by the temporary labourer on the south side of the cut needed a new foundation by 1915 because the old foundation of old posts and sills had rotted away.\textsuperscript{18} The house was a one and a half story frame dwelling with 959 square feet of floor space divided into six rooms. The exterior was covered with horizontal cove siding and a cedar shingle roof. The north wall had one door with a wooden step leading to it. There were three windows, one on the ground
floor east of the door and two on the upper floor, all symmetrically placed. The east wall of the main building was solid but the rear annex had one door and one window. The west wall of the main building had at least one window as did the extension. The rear windows appear to have been the same design common to the lockmaster's house and the remaining locklabourer's house. The east portion of the rear of the house was a small open veranda with a cedar shingled roof edged with metal eaves troughing. A single chimney protruded from the roof at the back of the main dwelling.19 (Fig. 12)

The interior walls were covered with lath and plaster. The foundation, by 1930, was a clay and concrete mixture but originally it may have been wood. The building had a clay floor cellar. In 1930 there was no indoor water supply, furnace, nor electric lighting.20 The dimensions were 18.5 feet by 36.5 feet with a 12 foot square extension out the back. By 1951 materials were needed to fix a leaky roof over the veranda and a chocolate buff was requested for painting the floors. Panes of glass were also requested to repair the storm windows, as apparently the building was difficult to heat in the winter months. In 1954 the building was wired for electricity.21

In 1965 the building was declared surplus and sold. Part of the conditions of sale demanded that the purchaser remove the building from the site and break down the foundation walls to 2 feet below the surface and bury the resultant rubble at the site. At the time of its sale the building still comprised six rooms. There was no interior washroom. The floors were of softwood and the basement floor had been concreted. The shingles were asphalt. The only room insulated was the attic which had rock wool insulation. There was running water, but only cold. Other minor touches such as a clothesline, sidewalks and fencing were also absent.22 In both 1930 and 1965 the dwelling was rated as being in fair condition, perhaps over-confidently so in 1965.23
Temporary Locklabourer's Dwelling, 1908-1966

In 1908 the dwelling for the temporary labourer was also renewed. A temporary storehouse had been built at the canal site in 1904 to accommodate the stores for the 1904 dam reconstruction. This building was subsequently dismantled and the materials re-used to build a combination storehouse/locklabourer's house. It was constructed on the south side of the lock to afford more convenient access. References from 1929 and 1936 indicate the temporary worker paid 2 dollars monthly for rent of the "attic of a store house".

The combined storehouse and locklabourer's quarters, or building number 39, was carefully described in the 1930 canal inspection survey. It was 18.5 feet by 24.5 feet, of frame construction and finished in the interior with beaver board lining. It was one and a half stories with a cedar shingle roof and three rooms. It also had a small cellar but there was no furnace, electric lights nor water supply. The foundation may have been made of wood until 1915. Assessed as being in fair condition, the building was valued at approximately 1000 dollars. (Fig. 13)

The roof peak of building number 39 ran east-west, at the east edge of which an interior brick chimney protruded. The horizontal cove siding was edged at the corners of the building, as was the roof, with wooden trim painted a lighter shade, probably white. The north wall had two windows set evenly on either side of a solid wooden door. Two concrete steps led to the entrance. The east wall had four windows, two on each floor, all symmetrically positioned. The windows were double-hung sash with each sash intersected by a vertical sash bar. The upper story, being the labourer's living quarters, was probably divided into two rooms while the lower floor was one large room. The building was demolished in the fall of 1966 to make room for the lock office which was constructed in 1967.
Storage Buildings

A government store was built probably in the mid to late 1820s to serve the demands of the construction project. The first written reference to it appears in 1840. Throughout the 1840s and 1850s the labourers maintained the building as a part of their regular canal duties. A padlock was delivered for the building in December of 1849.29 A building labelled simply "store" lying roughly 200 feet north of the defensible lockmaster's house can be located on an 1851 ordnance map.30 In August and September of 1852 the labourers were employed for several days chinking the logs. The dimensions of the building were 43 feet long by 20 feet wide by 8.5 feet high. Above the log walls was a shingled roof.31 It would seem the building remained standing until at least 1860 but at some later date was demolished.32

A new storehouse was constructed in 1869. Carpenters commenced work in October of that year.33 Forecasting the construction, in 1867 requisitions were made for 600 feet of scantling, 1000 feet of boards, 300 shingles, 216 feet of plank and 120 feet of cedar. Orders were also placed for two windows with shutters, one door with a lock and hinges and 65 pounds of cut nails.34 The cost of constructing the new storehouse was approximately 50 dollars.35 The building was completed by 1870.36 It appears to have been positioned mid-way between the upper and lower wing wall set back from the north wall. A turn of the century photograph shows trim on the corners of the building. The casements of the windows and doors appear to be painted white while the vertical board siding seems to be unfinished. The south wall held both windows and the door.37 In 1908 it was removed from the site when the more conveniently-located storehouse/locklabourer's house was built on the south side of the lock.38 (Fig. 4)
Two more sheds are known to have existed at the lock station but almost nothing is known about them. One was located behind the permanent locklabourer's house (1904-1966) by 1925.39 It was a slant-roofed building constructed of unfinished vertical board siding.40 It was still on the site in 1946 but was removed shortly thereafter. (Fig. 5) Another shed was located immediately north of the detached kitchen of the lockmaster's house in 1925. This shed had probably been pulled down or otherwise removed from the site by 1946. It appears to have been a frame construction not unlike the detached kitchen.41 (Fig. 5)

Privies

What might have been a privy was located behind the detached kitchen of the lockmaster's house in 1930.42 (Fig. 5) Facilities of some description must have existed on the north side of the cut in proximity to the canalmen's dwellings. Unfortunately the air photographs taken of the station in 1925, 1936 and 1947 reveal very little. The houses generally had trees nearby which would have provided appropriate shelter. It is possible that foundation remains might be discovered in such locations.43 Foundations of a more recent privy are located on the south side of the lock, a distance south of the existing tool shed. This privy probably became redundant with the erection of the new lock office in 1966 which had running water and indoor toilets.
End Notes, Non Extant Buildings

1 PAC, NMC, Reference No. 0019333, John By Map, 1831; Parks Canada, Ontario Regional Office, Historical Research, Map of the government property at First Rapids, Reference No. 415-32-1-847-1844; Ibid., Plan showing in green coloring land required for service of the Canal at Poonamalie Lock Station, Reference No. 415-17-1-851-1927.

2 PAC, RG43, C, Vol. 1917, Checklist of Works, Correspondence 1857.

3 Ibid., Checklist of Works, October 1840.

4 Ibid., Checklist of Works, Correspondence 1857.

5 Ibid., Checklist of Works, April 1841.

6 Ibid., Checklist of Works, Various Entries.

7 Ibid., Checklist of Works, November 1845.

8 Ibid., Checklist of Works, May and September 1851.


10 Ibid., p. 986, Schedule of repairs required during half year ending 31 January 1869.


16 Parks Canada, Ontario Regional Office, Historical Research, Reference No. R4-014-C-0009, Photograph from the Collection of G.R. Davis, Smiths Falls, Poonamalie Lock Chamber. If this is true, the date on this photograph is incorrectly estimated at 1900 and it must instead be 1904, at the earliest.


19 Parks Canada, Ontario Regional Office, Historical Research, Photograph of the Poonamalie Locklabourer's house, 1930, Reference No. R4-014-B-0004, and Photograph of Lower Entrance to the Lock at Poonamalie, 1908, Reference No. R4-014-B-0015, from the N.A. Patterson Collection, Kingston.
20 Ibid., Photograph of the Poonamalie Locklabourer's house, 1930, Reference No. R4-014-B-0004.


22 Ibid., Vol. 2.


26 Ibid., Historical Research, Photograph of Locklabourer's house/Store house, Poonamalie Lock Station, 1930. Reference No. R4-014-B-0005.

27 Ibid.


30 Parks Canada, Ontario Regional Office, Historical Research, Plan showing in green coloring land required for service of the Canal at Poonamalie Lock Station, Reference No. 415-17-1-851-1927.


32 Parks Canada, Ontario Regional Office, Historical Research, First Rapids Station, Reference No. 415-32-1-860-1896.


36 Department of Railways and Canals, Annual Report, 1869-1870, p. 29.

37 Parks Canada, Ontario Regional Office, Historical Research, A.T. Phillips, Photograph Poonamalie Lock Station, circa 1903-1908.


39 NAPL, Poonamalie Lock Station 1925, Reference No. HA60-52.
40 Parks Canada, Ontario Regional Office, Historical Research, Photograph of the Poonamalie Lockmaster's house, 1930, Reference No. R4-014-B-0003.


42 Parks Canada, Ontario Regional Office, Historical Research, Ordnance Land Photograph of the Lock, Lockmaster's Residence and Grounds, 1925, Reference No. R4-014-B-0011.

Canal Cut

The canal cut was excavated through the south river bank contrary to the first plan which called for a cut through the north bank. Confounded by environmental pressures the engineers could not proceed according to plan because of the open layered nature of the rock. The work required to make the cut water tight would have been too extensive. The relocated line of the cut avoided the difficult rock and, although longer than the one first planned, it required less onerous excavation because the digging was through clay and limestone. The finished cut was about one and a half miles long with an average 7 feet of water.\(^1\) The river banks proved to be lower than previously thought which meant the level of water could not be raised as high as planned. To provide adequate navigation depths the excavation within the cut was deepened, especially at the upper and lower entrances. By changing the line of the excavation, By was forced to abandon the workers' shanties on the north river bank and construct new ones more convenient to the works.\(^2\)

The upper entrance to the cut at Poonamalie presented a problem to navigation and it required frequent dredging, a measure which did not completely prevent vessels from occasionally grounding in low water.\(^3\) In 1860, 250 man days were spent deepening and clearing out the cut.\(^4\) This work sufficed until October, 1908 when navigation was interrupted for large vessels at Poonamalie because the water in Rideau Lake fell so low they could not get over a shoal at the entrance to the cut. The shoal, 90 feet long by 33 feet
wide, was blasted out to a depth of 18 inches in the winter season of 1909 at a cost of 600 dollars.\(^5\) A few seasons later in 1912-1913 a diver was employed removing obstructions from the cut.\(^6\) In October of 1919, canal traffic was once more interrupted at Poonamalie but this was attributed to the unusually dry season which caused the water levels to fall below all previous records.\(^7\) More of the shoal above the cut was removed in 1934-1935, greatly improving the channel for access by large boats.\(^8\) Water levels appear to have caused few problems since that time.

**Lock Chamber**

Before Col. By was forced to deviate from the original plan for the works at Poonamalie, the lift of the lock was an anticipated 7 feet. But once clearing was underway, rock of an open shelving nature was discovered and the river bank levels were determined to be lower than first believed. Consequently Col. By reassessed the site and decided to have the cut run through the south rather than the north river bank. He then placed the lock midway through the excavated line in order to avoid troublesome leaky rock. These changes meant the lock was required to lift an additional 9 inches of water.\(^9\) As a part of By's attempts to minimize expenditures wherever feasible, the lock floor at Poonamalie was built of wood. The sills and a portion of the breast work were formed in concrete. The floor consisted of hemlock sleepers laid upon the natural river bed which in turn were covered by hemlock planks forming the exposed surface.\(^10\)

The walls were given an extra height of several feet to accommodate the spring flood levels.\(^11\) The lock, like all others along the Rideau Canal, was built of cut stone, and was 134 feet in length from the upper mitre post to the lower. The width was 33 feet. From these dimensions the space required for the swing of the gate, 12 feet, and the width of the breast wall, 11 feet, had to be subtracted.
Essentially this meant that vessels could not exceed 100 feet. The lock was constructed of ashlar masonry 8 feet thick at the base, narrowing to 5 feet at the top. Robert Passfield provides a concise description of the chamber walls.

The wall masonry was set in and grouted with hydraulic cement; and a wall of clay pudding two feet thick was placed along the outside of each lock wall. Rubble and earth were then packed in behind the puddle. Care was taken to drain away any water that might accumulate behind the lock walls. Generally no piling was used to support the walls.

A culvert, or tunnel sluice passage, about 4 feet high by 3 feet wide, let water into the lock on both sides. One opening of the tunnel is inside the lock chamber, the other is on the outside. The sluice valves are opened and closed by a gate mechanism operated by means of a crab and chain. Water passes out of the lock through sluice valves in the lower gates.

Six locks in total received wooden floors. They were considered to be just as durable so long as they were constantly submerged. The wooden floor in the gate recess consisted of several large timbers placed parallel to the lock walls on the earth or clay surface of the lock. The foundation layer was then adzed to provide an even surface across which a solid row of squared timber sleepers was secured, laid at right angles to the bottom timbers. The sill frame, constructed of oak plank, was bolted up on the sleeper platform and filled tightly with small stone and then covered with hemlock plank. The floor within the lock pit followed a similar design. Hemlock timbers were placed the length of the chamber at about 30 inch intervals and their upper corners were notched. A solid level of sleepers was
nailed into the notched timbers with heavy tree nails. Upon
the sleepers a final layer of planks was nailed with wooden
tree nails and iron spikes.\textsuperscript{15}

It is known, from the time of construction throughout the
first several decades of canal operation, that careful
maintenance kept the lock in good condition. The
locklabourers were clearly instructed to keep the masonry
well pointed and clear of moss. Neglect of these duties was
seen as a serious oversight and when it was noticed by
Commanding Royal Engineer, Major Bolton, on a tour of
inspection in 1840 he wrote the following:

\begin{quote}
Having observed Grass and moss growing on the
joints of the Locks and Dams' the same must be
removed as soon as possible, and the Lock Masters
must be careful that this does not again occur,
............ Sufficient attention is not generally
paid to the manner of pointing, the points should
be well cleaned out to a depth of three inches if
possible and then filled with cement mixed in \underline{small}
quantities ... superficial pointing is of no
use.\textsuperscript{16}
\end{quote}

A few months later a similar order was issued but this time a
warning was included that should this negligence be observed
again it would meet with "severe censure".\textsuperscript{17}

Not until 1860 were any major works required at the site but
by this time the lower mitre sill had begun to leak quite
badly. It was necessary to build a coffer dam above the lock
in order to pump the chamber dry and inspect the extent of
the failure.\textsuperscript{18} The sunken sill was repaired in 1861 at a
cost of about 200 dollars. Materials used in the work were
200 feet of 3 inch pine plank and 10 pounds of spikes.\textsuperscript{19}
Repairs were made to the masonry of the lock walls in 1880
when the lock was thoroughly cleaned out. The lower masonry wing walls were repaired in 1894. The upper wing walls had begun to heave outwards by the 1900-1901 season. Upon inspection Phillips commented that during the following winter when the water was out of the cut the upper wing walls would be examined and, if necessary, rebuilt. Upon close appraisal it was determined that the upper wing wall on the south side was in bad condition, "two of the submerged courses of the stone being almost gone". The required repairs were scheduled for the following winter when the wall was duly taken down and reconstructed by the canal masons.

The masonry of the lock was generally in poor condition by the turn of the century after some seventy years of exposure to weathering elements. A coffer dam was built in 1907-1908 and the lock pumped dry so that both lower wing walls and gate recesses could be taken down and rebuilt as well as the lower mitre sill repaired and concreted. More extensive repairs were also made at this time to the upper lock. The upper gate recesses were taken down and reconstructed as far as the level of the upper mitre sill. Two new sluice frames were also installed.

The wear and tear on the masonry in the lock chamber became strongly evident in 1912-1913 when the Superintending Engineer reported: "A curious washout occurred under the upper mitre sill of the lock, caused by the rush of water from the sluices, involving the necessity of pumping the lock and concreting the bottom". The problem was caused by erosion of the wooden floor. Most of the six locks with wooden floors along the canal required capping to halt the erosive forces resulting from the water gushing from the sluices. The washout referred to at Poonamalie in the 1912-1913 Annual Report was similar in nature to the one which had occurred at Lower Brewers fifty years earlier where
the front of the gravity wall had rested on the hemlock floor while the back part had rested upon the natural river bed. Eventually water wore through the joints of the wood and under the gravity wall, washing away the base that supported the wall. In the case of Lower Brewers a large gap filled only with debris had been created and the weight of the wall was unsupported. Lower Brewers failed so early because the joints were very poorly formed. Although outward heaving had been evident at Poonamalie in both upper wing walls since the turn of the century, the north upper wing wall was not taken down and rebuilt until 1915-1916. During the 1915-1916 season the south chamber wall was also repaired. In 1930-1931 the lock was once more dewatered and extensive repairs made to the lock walls. A new mitre sill of timber and concrete was built, as well. This schedule of repairs was by and large repeated in 1975. The lock was dewatered and considerable grouting and patching was undertaken. Careful grouting was done to the timber floor and the sills were reformed by removing the timber surface and pouring a concrete cap.

In general, lock gates were renewed at ten to fifteen year periods. It is interesting to note that at Poonamalie the replacement of the upper and lower gates was at staggered intervals. Measures had been taken to ensure that largely the same construction methods have been retained so that the gates being hoisted today are a close reproduction of the originals.

The retention of the manually-operated crabs for opening and closing the lock gates and the sluice valves contribute significantly to the site's historic flavour. These mechanisms remain largely authentic to the turn of the century. During the early years the labourers were reported to be frequently greasing and oiling the lock machinery to keep them in efficient working order. The capstan and
endless chain design first employed for opening the gates proved difficult to operate because the chains underwater were forever becoming fouled. Because of these complications a new method was adopted. The new design employed balance beams or swing bars. This new system of endless-chain swing bar was implemented at Poonamalie not later than 1867 because at that time carpenters were employed splicing and painting swing bars. But this design, too, was later revised about the turn of the century when a third operation was introduced. At least by 1900-1901 the draw bar and repositioned capstan had replaced the swing bar at the Poonamalie Station, and this is the design still in use.

Stoplog Bulkhead

A stoplog bulkhead may have been built during the construction period at the head of the cut. The progress report for 1830 concluded: "A Stop Gate is also required to enable repairs to be made to the Lock Gates, sluices etc. and do away with the Expense of forming Coffer Dams which would otherwise be necessary." Whether this "stop gate" was ever built is not entirely clear. If, indeed, it was constructed it alone was not enough to keep the works dry when repairs were made, because in 1869 a coffer dam was built to facilitate the repairs needed to the north canal wall. The coffer dam was built for 75 dollars and later removed. A "new bulkhead" was built in the 1873-1874 fiscal year, suggesting that it replaced an earlier one. The stoplog bulkhead was in a poor state of repair in 1898-1899 and was scheduled for reconstruction in the following winter. New stoplogs were framed for the single bay in 1908-1909 while the new stoplog piers were rebuilt from the low waterline up in the following year.
The stoplog facility was 40 feet from bank to bank with one weir and stoplogs 40 feet in length. The abutments were built of concrete. The difference in water head was approximately 8 feet when the stoplogs were lowered in the fall to control the water level in the cut at a minimal 1.5 feet. By lowering the water in the cut the risk from freeze thaw action on the walls of the canal cut was reduced. When this structure was appraised in 1976 by Engineering consultants the machinery was found in working order but some concern was expressed about the bases for the abutments. The shelved bedrock on which they were placed allowed a substantial amount of water to pass through and into the cut. Leakage was also evident underneath the bottom stoplog as it did not sit evenly in the stoplog checks. The facility continues to be employed to lower the water in the cut during the non-navigation season.

Canal Waste Weir

In response to low water problems in the twentieth century a concrete waste weir was constructed through the north side of the upper cut roughly midway between the lock and the dam. It is referred to as "a new concrete waste weir" in the Department of Railways and Canal's Annual Report for 1923-1924, leading one to assume that a wooden or earthen structure may have preceded it. This assumption is confirmed by the next year's Annual Report which stated: "At Poonamalie a new steel and concrete floor was laid over the waste weir in the upper cut". Although none of the early maps or plans acknowledge the existence of an earlier weir, some form of weir may have been constructed when the stone and cement canal wall was built along this section of the cut in 1912 and 1913. Because of the low water levels experienced along the canal, the weir was needed to draw off water from Rideau Lake to the stations below when the level fell below the sills of the dam. This could be
done through the lock sluices but it was preferred not to do so because of the wear and tear on the gates and sluice valves.44

The single waste weir is 15 feet wide with stoplogs 15 feet in length. A 1975 inspection found that the wing walls were slightly undercut and small sections were eroded. The hollow tube metal handrail was in an advanced state of deterioration but generally the concrete structure was considered to be in good condition.45 At present the mechanism for raising and lowering the stoplogs is rusty and worn-looking, and the handrail remains bent, rusted and in poor condition.

Wharves

Lieutenant Frome referred to an "excavated lay-by" for boats on the south side of the upper cut in 1832 approximately halfway between the lock and the river.46 The design of this structure is unclear but it undoubtedly was removed prior to the twentieth century. A John Burrows pencil sketch from 1832 reveals what may be mooring posts for vessels to use while waiting to enter the lock. No wharfage in the immediate vicinity of the lock is indicated by Burrows in this sketch or his later watercolour.47 It is clear that two timber crib wharves were built in 1913-1914, one on the north side of the cut and the other on the south side.48 Both wharves appear in early photographs taken soon after the turn of the century.49 The squared timber surface rested on a foundation of rock-filled timber cribs.50 In 1927-1928 the wharf above the lock was rebuilt from the water-line up, filled with stone and replanked.51 Sometime between 1928 and 1975 both wharves were reconstructed in concrete. In 1975 the 130 feet of concrete wharf wall below the lock was described as being in good condition as was the 250 feet of concrete wharf wall above the lock.52
Dam

Because the Rideau Canal is a canalized river system rather than a canal cut proper, the problem of water control has been an issue of almost continuous concern. Water control difficulties have been particularly aggravated by the heavy spring run off in the watershed of the Rideau - Cataraqui river systems. The dam built at Poonamalie Lock Station is of particular importance in maintaining the water supply for the section of the canal from Smiths Falls to Ottawa as it retains the waters of the Great Rideau and Lower Rideau Lakes. These lakes are the principal reservoir for the supply of water during the dry season.

Initially Col. By had planned to construct at Poonamalie a dam 8 feet high across the river. Contrary to these designs the banks of the river proved too low to support the height of water thrown back by a dam of this proportion. Instead, a dam 6 feet in height was constructed across the river with embankments extending from both ends of the dam into the river banks, at a location just below the upper entrance to the cut. The combination of a deeper channel and the 6-foot dam was designed to ensure sufficient water to raise the level of Rideau Lake to allow vessels clear passage throughout the navigation season. Although the dam was a very significant structure in the operation of the canal, By was ever mindful of the mushrooming expenditure for Rideau works and he attempted to reduce costs at Poonamalie by constructing a timber brace, stoplog overflow dam rather than the more costly arched stone dam used at many other lock stations. This inexpensive design was also employed at Hogs Back, Burritts Rapids, Merrickville, Kilmarnock, Brewers Lower Mills and the detached lock at Smiths Falls. A series of timber braces were anchored to the bedrock of the river with bolts. The area between the braces is referred to as the bay, and nailed in place in the bays were pine or hemlock
square timbers. A square timber reinforcement was fashioned and anchored to the river bed in front of the bottom row of stop logs. To reduce the wear and tear caused by the great volume of water flowing over the Poonamalie dam, loose stones were placed behind the bays with removable stoplogs while a more careful construction of heavy stones was stepped behind the bays with unmovable stoplogs.\textsuperscript{54} The abutments of the wooden dam were described as stone piers and they gave the dam an added measure of durability which By felt was sufficient considering the dam's modest height of 6 feet.\textsuperscript{55}

The dam was a spillway structure over the entire breadth of which the superfluous water was able to flow. It was a practical design as it minimized the possible flooding over the low river banks which might otherwise have occurred during spring run off. Some of the first dams constructed on the Rideau Canal allowed water to run off only over their upper edge but it was soon learned that the overflow concept needed re-evaluation because water falling over the spillway style dam tended to loosen stone in the rear of the structure and seriously undermine the indigenous bedrock to which the dam was anchored. At Poonamalie it was decided to incorporate waste weirs in the dam to control the volume of water passing over the dam at any one time.\textsuperscript{56} Hence, the dam had bays with removable stoplogs some of which were taken out to accommodate the heavy spring run off and then were installed later in the season during periods of low navigation to retain as much water as possible. This inclusion of a regulating mechanism would allow the water level to be lowered if repairs were needed to the banks of the river or the cut.\textsuperscript{57} It also meant that water could be raised elsewhere along the canal to Ottawa. This was necessary, for example, when a vessel ran aground as did the Steamer City in July of 1868 at Burritts Rapids. A telegram instructed Lockmaster Pearson:
on receipt of this letter run off water briskley the Steamer City is aground here, and we are running water from Merrickville, which will require to be again filled up...58

In addition to the waste weir with removable stoplogs, the stoplogs of the upper row along the dam were removable providing a greater degree of water control during high and low water levels.59 Soon after the dam was completed additional water may have been retained through the use of "flashboards" fastened on the upper row of stoplogs. The 1840 Checklist of Works records that part of the labourers' duties included "placing plank on the dam".60 Flashboards allowed for more water to be held in Rideau Lake longer in the season but could easily be removed, along with the upper row of stoplogs, during spring floods to allow the heavy volume of water to escape over the edge of the dam.

In 1862 the dam was damaged in the spring floods but the Superintending Engineer for the Rideau Canal, James D. Slater, noted philosophically that the works were already "much decayed and required extensive repairs, under any circumstances".61 In August of 1863 carpenters commenced work at the dam and in about two weeks time had completely renewed the waste weir and bulkhead at the station.62 By 1865 leakage at the dam was extensive and the flashboards were frequently broken off and washed away. In light of this the additional height provided by flashboards was made a more permanent feature at the Poonamalie Dam. In November of that year government carpenters commenced raising and strengthening the dam.63 A plan referring to the 1865 repairs shows the proposed additional height to be approximately 1\(\frac{1}{2}\) feet. (Fig. 14) According to the plan the troublesome flashboards were replaced with pine timbers "scribed" or fixed to the previous crest. The additional height was reinforced by a brace of pine behind the dam,
along with a deposit of gravel in front. The materials used in the project listed in the 1864 and 1865 Schedule of Repairs included 500 feet of lineal, 12 x 12 foot pine and 200 pounds long rag spikes for bolting on the timbers.

Summarizing the repairs undertaken at the Poonamalie Dam, Slater wrote: "extensive repairs to dam, which is at the outlet to Rideau Lake, by means of which the water can now be retained."

The dam underwent no other significant alterations or renewals throughout the rest of the 19th century. Until 1904 it required only day to day maintenance and the periodic placement of gravel along its face to staunch it against leakage. In the spring break up of 1904 a massive piece of ice mixed with clumps of weeds and silt broke through the wooden dam rendering a hole approximately 75 feet wide. Because of the low water in the lake when it froze for the winter, the ice mixed with much debris forming a compact mass of earth, wood and vegetation. In the spring the ice broke up quickly after sudden rains and it was almost as firm as when formed, still carrying much of the debris with it. The dam was given temporary repairs and served out the 1904 season of navigation but the decision was made to build a new concrete dam to replace the old timber brace dam.

The new dam was constructed at the end of the 1904 season at an estimated cost of $10,500. It was built slightly downstream allowing the old dam to act as a coffer dam thereby keeping expenses lowered. The engineering plans drafted for the 1904 construction indicate two stoplog bays on the old dam, and the new one appears to have continued with this design, also locating the new waste weir in line with the old. No mention or indication is made on the plan of an intended increase in height to the dam. It
must be assumed, then, that the new dam was not intended to hold back more water than the previous one.71 But as low water problems came to plague the operation of the canal, Superintending Engineer A.T. Phillips had steel brackets placed on the top of the dam in 1910-11 to hold flashboards. In his Annual Report for 1910-11 Phillips stressed the problem of low water at Poonamalie. Vessels drawing more than 4 feet 6 inches could not navigate beyond the Poonamalie Lock as the required 5 foot depth on the upper sill of the lock was not maintained past the 12th of October.

The low water was attributed to two main causes. First, the unusually early spring freshet meant that water had to be run out of Rideau Lake from the opening of the canal instead of waiting until June as was usually done. The second concerned the excessive water consumed by the power houses in Smiths Falls. A.T. Phillips complained about the dilemma of maintaining adequate navigation depths while regulating the water supply to the power companies:

... the electric light companies in the town of Smith's Falls, consume more water than they are entitled to; but it is extremely difficult to regulate the flow to their power houses; and when the levels from which they obtain their water are thereby lowered we are compelled to run water from the Lake to raise them again for navigation.72

Phillips concluded by promising to investigate the problem with Smiths Falls industry.

In the meantime the flashboards would help to alleviate the problem by holding back the water in Rideau Lake for a longer period rather than letting it spill over the peak of the dam. Phillips explained:
This will result in retaining from six to eight inches of water over an area of 100 square miles, for a period of, say, three weeks; and will be of inestimable benefit to navigation towards the close of the season. I do not anticipate any serious claims for damages by flooding, because we do not raise the water, but merely hold it after it has risen naturally, for a little longer than if we allowed it to spill to waste without benefitting either navigation or manufacturing interests.73

Other minor repairs were made to the dam. In 1909-1910 the structure required patching after it was damaged by ice. In 1911 the waste weir was repaired at a cost of $300. In 1914 a new platform was built from the north pier or abutment to the north river bank along the top of the dam.74

Little else seems to have been done to the dam until 1971. Photographs taken in 1970 (Fig. 15) show the concrete to be very weathered and eroded. The dam was completely rebuilt for the third time in 1971 as a concrete structure, and again placed slightly downstream in order that the old structure to be dismantled might act as a coffer dam. When the new dam was inspected in the fall of 1975 it was reported to be in good condition and described as 320 feet long with two waste weirs. The regulating sluice was a fully automatic tainter gate rather than the stoplog mechanism.75

Canal Cut Embankment

In 1827, even before construction was begun at Poonamalie, it was known that considerable embankments would be required to hold water in the cut due to the nature of the low river banks.76 However, once construction was underway it was ascertained that if the dam was built 8 feet high, provisions for embankments in the original estimate were too
conservative. In order to avoid vastly extended embankments at a great increase in cost, Col. By was forced to revise his plans by altering the original line of the cut and lowering the dam by 2 feet. Even with these changes the embankments within the cut were still necessary to a considerable degree in order to provide navigable depths in the approaches to the lock. By discovered, once construction was begun, that the rock in the canal cut was of an open shelving nature which would afford much seepage out of the cut into the river below the dam. He had two feasible alternatives. The first called for extensive masonry works to the banks of the cut to render the open rock watertight. This, however, would have been very expensive as the clay in the area was not suitable for forming puddle. To avoid having to ship large quantities of puddle from a considerable distance to the site, By decided to adopt the second option. As discussed earlier, this plan involved altering the line of the canal cut to avoid the layered rock.77

Considerable embankments were still required but they were of a simpler earth and stone design. Unfortunately no mention is made in the construction period progress reports of the exact location of the required embankments. It can safely be assumed that embankments were erected on the north side of the cut as leakage along this bank would undermine the ability of the Poonamalie Dam to hold back sufficient water throughout the canal season. The marshy banks along the south side of the cut, especially near Minnow Creek, seem to indicate that embankments there were less of a priority. Possibly, the south banks were drowned until a sufficient natural elevation held the water. Certainly seepage of water into the south bank had less dire consequences as it would not raise the river level and cause flooding below the dam.

The initial embankments were fashioned of a native clay or silt which was dredged from the river bottom and the canal
cut during construction. Upon the earthen mounds broken stones were placed in order to face it up and reinforce it. Following the construction period and up until the mid 1870s, the labourers were employed many days each year filling settlements and fissures in the canal embankments. The purpose of the work was to keep the banks from slipping back into the water and to prevent as much leakage as possible. Not even this constant care and attention to the works enabled the north embankments to withstand the high spring freshet of 1869. A breach occurred along a section of the north embankment, approximately 150 feet.

The 1869 damages were promptly repaired so that the delay in opening navigation at Poonamalie was a mere thirteen days behind the rest of the canal. The cost of the repairs was $625. Further reinforcing was deemed advisable in the following year of 1870 when an extra fifty yards of an earth and gravel mixture were used to raise the embankment along with sixty yards of stone to face the renewed embankment. It is possible that a loose stone wall was constructed at this time. The break had more far reaching consequences as it allowed a large volume of water to bypass the Poonamalie Dam and thereby caused flooding throughout the low-lying lands above Smiths Falls. During the 1870s the government paid out more than $5,000 in releases to landowners who claimed for compensation for injury to their property.

Despite the seemingly substantial repairs conducted in 1869 and 1870 there was a second collapse of an embankment in the canal cut a slight three years later in the spring of 1873. At this time two horse and cart teams and six men were employed for several days drawing stone and clay in order to make the necessary repairs. Whether this is the same embankment as repaired shortly before, or another segment of
the north embankment, is not clear. The Annual Report for the year ending June 30th, 1874 states that 500 yards of stone were placed on the embankment to strengthen it. This quite likely refers to the 1873 repairs.83

After the turn of the century the maintenance of adequate water levels became a critical problem along the Rideau Canal. To combat this, flashboards were placed on the dam in the 1910-11 season. To further the measures, the north embankment of the cut was raised and strengthened to enable it to retain more water. The previously built earthen and loose stone structure was now reconstructed with cement to reduce water escaping uncontrolled from the canal cut to the river below the dam.84 The 1913 Annual Report noted that "The roadway along the north bank of the upper cut was raised and graded, and 320 feet of cement walling was built here."85

Evidently some form of path or wagon trail dates back to the 1830s construction period, as some form of access was required for the works on the north side of the upper cut. The estimated cost of the 1912 work to the north embankment was $600. Aside from customary maintenance for the next several decades, little of note was done to the embankments by way of repair or renewal.

In 1975 an independent consulting firm, when preparing a report on engineering structures of the Rideau Canal, assessed the north upper cut stone and concrete embankment. They subsequently recommended that 125 feet of the masonry wall be rebuilt and the length of the wall be repointed -- a project which was duly undertaken and completed in 1981-1982.86 The project involved reconstructing the stone wall adjacent to the upstream, north wingwall of the lock and raising it by 300 mm. In the process of renewal as many of the original stones as possible were reused and
placed in the same location in order to retain a similar appearance. Extending westward from the end of the stone and masonry wall is an earthen embankment covered with loose stone. This feature was also scheduled for renewal. The work consisted of excavating and rebuilding the clay core in several locations, widening the embankment to a minimum of 3.5 metres and adding rip rap erosion protection. Caution was exercised to ensure that the natural vegetation along the embankment edge was protected. Essentially, repairs to the embankment involved removing the existing rip rap, placing filter mat on the earth beneath and then returning the original rip rap at the surface to the desired elevation. In 1983 the one time roadway along the north embankment had reverted to little more than a path.

**River Embankment**

A simple earthen embankment exists upstream from the Poonamalie Dam. It reaches across a triangular indentation along the north bank of Lower Rideau Lake on the section of canal property where the north edge of the main dam rests. This indentation, or irregularity, in the bank first appears on an 1847 map where it is indicated as land drowned by the water held back by the Poonamalie Dam. No embankment following the original line of the river bank appears on the 1847 map but such an embankment can be clearly seen on 1925 and 1936 air photographs. A clear date has not been determined for the building of the structure but it could date to the original construction period. Progress reports for the late 1820s and early 1830s mention that "considerable embankments" were required but exact locations were not included. The references may simply be to the embankments which were required in the canal cut.
A dam at the "breakground" is mentioned in the Annual Reports for the early 1870s. In 1871, 150 yards of stone for lengthening this dam were requisitioned along with 36 days labour and a wagon and driver for 18 days. They were to draw clay for the front of the dam in question. In the following year the repairs to the dam were reported to have been completed at a cost of $224. It is not known if the "breakground" dam is the same as the river bank dam which appears in the 1925 and 1936 photos. It may, instead, be the boom which rested above the main dam, or, indeed, refer to the main dam itself.

As dredging was needed periodically at the entrance to the Poonamalie cut, the possibility exists that this river embankment was formed from clay and silt collected from the river bed. This notion has some credence as in 1947 an individual owning land in the vicinity of the canal property at the north side of the Poonamalie Dam wrote:

... we wished to call your attention to the land that is being flooded again where the Gov. built that dam a few years ago with the dredge.

Perhaps the dam or embankment had worn low from weathering and was reinforced on the occasion referred to by the writer. Thirty years later a nearby landowner complained of the condition of the roadway blaming water leakage from the government's clay dam. Perhaps spurred by such complaints the clay embankment was tentatively scheduled for repairs in 1981. Correspondence from that occasion yields a few details about the clay embankment. Described simply as "upstream of the Poonamalie Dam" it is further said to be a very low clay dam approximately 300 metres long with an average height of 3 to 4 feet, designed for the purpose of retaining the water on crown property. The project proposed
was of a basic nature merely involving hauling and placing clay on and in front of the already existing clay embankment. The work, however, would have had to have been done from the water because of the marshy wetlands in the rear of the dam. Apparently the dam was badly deteriorated and water, especially during spring, was able to pass over the crest, flooding neighbouring farmland. Before the work could be undertaken it was decided instead that the walls of the cut had priority. It can, therefore, only be assumed that the clay embankment along the river bank, just above the Poonamalie Dam, remains in poor condition.
End Notes, Engineering Structures


5 Tulloch, op. cit., p. 127; Department of Railways and Canals, Annual Report, 1908-1909, pp. 261, 158.

6 Department of Railways and Canals, Annual Report 1912-1913, p. 310.

7 Ibid., Annual Report, 1919-1920, p. 76.


9 Passfield, Building the Rideau p. 102; PAC, UG7 G72, Vol. 1, Lieutenant Frome's Report, Professional Papers


14 Passfield, Building the Rideau, p. 102.

15 Ibid., pp. 122-123.


17 Ibid.


19 Ibid., Annual Report for the year Ending 31st December 1861, Schedule of Repairs Required for 1861, p. 22.


26 Tulloch, op. cit., p. 127; Passfield, Building the Rideau, p. 123.


30 Passfield, "A Brief Summary", pp. 4-5.


34 Department of Railways and Canals, Annual Report, 1900-1901, p. 241.


38 Department of Railways and Canals, Annual Report 1898-1899, p. 216.

39 Ibid., Annual Report, 1899-1900, p. 207.

40 Acres Consulting Services Limited, Rideau Waterway Assessment of Structures, Appendix: Dam Inspection.


42 Ibid., Annual Report, 1924-1925, p. 98.


45 Acres Consulting Services Limited, op. cit., p. 50 and Appendix: Dam Inspection.

46 PAC, UG7 G72, Lieutenant Frome's Report, Professional Papers of the Corps of Royal Engineers, p. 89, as cited by Price, op. cit., p. 223.


49 Parks Canada, Ontario Regional Office, Historical Research, Poonamalie 1918, Reference No. R4-014-D-0010, from the G.R. Davis Collection, Smiths Falls; Ibid., Reference No. R4-014-E-0006, Poonamalie 1925, Ordnance Land Photo.


59 PAC, UG7 G72, Lieutenant Frome's Report, Professional Papers of the Corps of Royal Engineers, p. 89, as cited in Price, op. cit., p. 233.

60 PAC, RG43, C, Vol. 1917, Checklist of Works, June and November 1840.


63 Ibid., November 1865.

64 Parks Canada, Ontario Regional Office, Historical Research, Rough Sketch of Improvement Proposed for Poonamalie Dam (Reference No. R4-014-F-0017), and Dam at Poonamalie Showing the Proposed Additional Height (Reference No. R4-014-F-0018). These plans are undated but they undoubtedly refer to the work carried out in 1865 because this was the only occasion on which the pre-1904 dam at Poonamalie was raised and strengthened.

65 PAC, RG11, Vol. 184, p. 662, Schedule of Repairs for the fiscal years 1864 and 1865.

66 Ibid., p. 878, Annual Report for the year ending July 1866, Slater to Braun, 1 February 1867.


69 Tulloch, op. cit., p. 126.

70 Some uncertainty exists regarding the exact number of removable stoplog bays in the original dam. Lieutenant Frome described the dam in the 1830s with four removable bays and Rideau Canal historian, Robert Passfield believed the dam to have had three or four removable bays.

71 Parks Canada, Ontario Regional Office, Historical Research, Rideau Canal Plan of proposed Concrete Dam at Poonamalie, Ontario (Reference No. 415-33-1-904-2256).

72 Department of Railways and Canals, Annual Report, 1910-1911, p. 32.

73 Ibid.


75 Acres Consulting Services Limited, op. cit., Appendix: Dam Inspection.


80 PAC, RG11, Vol. 185, p. 1051, Annual Report for the year ending June 30th 1869, Slater to Braun, 1 July 1869.

81 Ibid., p. 1129, Estimate of Repairs Ending 30th June 1870, Slater to Braun, 20th December 1869.

82 Ibid., RG43, Vol. 2536, p. 163, Department of Railways and Canals, Deeds and Legal Index.

83 Ibid., B4(a), Vol. 207, p. 308, Annual Report for the fiscal year ending June 30th, 1874, Wise to Braun, 8 July 1874.

84 Tulloch, op. cit., p. 127.


88 Site observation, Summer 1983.

89 Parks Canada, Ontario Regional Office, Historical Research, Map of the government property at First Rapids, Reference No. 415-32-1-847-1844.


94 Ibid., memorandum, A.M. Hickman to File, 16 December 1977.

Map 1: First Rapids [Poonamalie]
11 January 1830
Lt. Col. John By

(Public Archives of Canada,
NMC 12892 50/80)
Map 2: Poonamalie Lock Station, 1831
[section]


LEGEND

--- - - CANAL PROPERTY
      BOUNDARY 1981

--- - - ROAD ALLOWANCE

--- - - ROAD

--- - - TOWNSHIP BOUNDARY

--- - - LOT BOUNDARY

--- - - STONE OR CONCRETE CANAL WALLS

--- - - LOCK WALLS

[ ] DEMOLISHED BUILDING (BEFORE 1831)

[ ] EXTANT BUILDING 1831

[ ] EXTANT BUILDING 1981

* THESE BUILDINGS WERE PROBABLY EXTANT IN 1851
   THUS ARE POSITIONED MORE ACCURATELY IN THE
   1851 MAP OF POONAMALIE LOCK STATION.

--- - - 1831 SHORE LINE
Map 3: Poonamalie Lock Station, 1851
[section]


LEGEND

- - - - CANAL PROPERTY BOUNDARY 1981

--- 1851 SHORE LINE

--- ROAD ALLOWANCE

--- ROAD

--- TOWNSHIP BOUNDARY

--- LOT BOUNDARY

- - STONE OR CONCRETE CANAL WALLS

- - LOCK WALLS

[ ] DEMOLISHED BUILDING (1831-1851)

- - - - EXTANT BUILDING 1851

- - - - EXTANT BUILDING 1981

--- V --- FENCES
Map 4: Poonamalie Lock Station, 1931
[section]


LEGEND

- - - CANAL PROPERTY BOUNDARY 1981

- - - ROAD ALLOWANCE

- - - ROAD

- - - TOWNSHIP BOUNDARY

- - - LOT BOUNDARY

- - - STONE OR CONCRETE CANAL WALLS

- - - LOCK WALLS

■ ■ ■ EXTANT BUILDING 1931

□ ■ ■ EXTANT BUILDING 1981

□ ■ ■ BUILDING BUILT & DEMOLISHED BETWEEN 1851 & 1931
Map 5: Poonamalie Lock Station, 1981

(Section)


LEGEND

- - - CANAL PROPERTY BOUNDARY 1981

[ ] MIDDEN

- - - ROAD ALLOWANCE

- - - ROAD

- - - TOWNSHIP BOUNDARY

- - - LOT BOUNDARY

[ ] STONE OR CONCRETE CANAL WALLS

- - LOCK WALLS

[ ] EXTANT BUILDING 1981

[ ] BUILDING BUILT & DEMOLISHED BETWEEN 1931 & 1981
Map 6: Poonamalie Lock Station, composite map 1827-1981 [section]


LEGEND

--- CANAL PROPERTY BOUNDARY 1981

MIDDEN

--- ROAD ALLOWANCE

--- ROAD

--- TOWNSHIP BOUNDARY

--- LOT BOUNDARY

--- STONE OR CONCRETE CANAL WALLS

--- LOCK WALLS

[ ] DEMOLISHED BUILDING

[ ] EXTANT BUILDING 1981
Map 7: Poonamalie Lock Station, composite map of area around the dam, 1827-1981


LEGEND

--- CANAL PROPERTY BOUNDARY 1981

□ MIDDEN

--- ROAD ALLOWANCE

--- ROAD

--- TOWNSHIP BOUNDARY

--- LOT BOUNDARY

---- STONE OR CONCRETE CANAL WALLS

--- LOCK WALLS

[...]: DEMOLISHED BUILDING

□: EXTANT BUILDING 1981
Map 8: Poonamalie Lock Station, composite map
1827-1981

Figure 1: First Rapids [Poonamalie], 1832
Rideau Canal
John Burrows pencil sketch.

(Public Archives of Canada, C-11169; Ontario Regional Office ref. no. R4-014-A-0002)
Figure 2: First Rapids [Poonamalie],
John Burrows watercolour
c. 1844-1848

(Archives of Ontario)
Figure 3: Defensible Lockmaster's House, Poonamalie, Edwin Whitefield, 1854. This early depiction of the building during the military phase of the Rideau Canal shows the loopholes in the porches and the rubble masonry walls.

/Public Archives of Canada, C-13299/)
Figure 4: View of Poonamalie from below locks, circa 1903-1908. The attached kitchen has been added to the defensible lockmaster's house but the second story has not yet been built. The detached kitchen is visible on the right and the permanent locklabourer's house (1904-1908) on the left. The storage shed (1867-1908) is visible behind one of the lock gates.

(A.T. Phillips collection, Rideau Canal Office, Smiths Falls)
Figure 5: Defensible Lockmaster's House, Poonamalie, 1930. The second story addition is fairly recent as is the front porch. Note the detached kitchen and the small building on the far right which may have been a privy. A small shed with a slanted roof is located in the far left corner.

(Ontario Regional Office, ref. no. R4-014-B-003)
Figure 6: Defensible Lockmaster's House, Poonamalie, 1974
Front (south) elevation

Figure 7: Defensible Lockmaster's House, Poonamalie, 1974, 3/4 view of rear (north) and west elevations showing attached summer kitchen (b.1899) and earlier detached summer kitchen.
Figure 8: Small barn with linhay and the original porch from the defensible lockmaster's house, 1974, showing rear (north) elevation and west elevation. The buildings are located north-west of the defensible lockmaster's house.

Figure 9: Shed, 1974, showing west and part of south elevation. This building, last used as a chicken coop, is located just north-west of the barn and lockmaster's porch.
Figure 10: Storage Shed, Poonamalie, 1974, west elevation.

Figure 11: Lock Office, Poonamalie, 1974, north (front) elevation.
Figure 12: Permanent Locklabourer's House (1904-1965) as it appeared in 1930. A fence separates it from the lockmaster's land. The small barn with a diamond-shaped window can be seen in the left of the photograph. Note the position of the upper west window in the lockmaster's house and the exterior cellar entrance.

(Ontario Regional Office, ref. no. R4-014-B-0004)
Figure 13: Storehouse/Temporary Locklabourer's House (1908-1966) as it appeared in 1930 (north and east elevations)

(Ontario Regional Office, ref. no. R4-014-B-0005)
Figure 14: Poonamalie Dam, ca. 1864, cross section, showing the proposed additional height.

(Rideau Canal Office, Smiths Falls; Ontario Regional Office, ref. no. R4-014-B-0018)
Figure 15: Poonamalie Dam (1904-1971) as it appeared in 1970.

(Rideau Canal Office, Smiths Falls, File no. 4256-14, Vol. 1)