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THE HISTORICAL ARCHAEOLOGY OF NEW PLYMOUTH FLOUR MILLS

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New Plymouth

Introduction

Although there are now no flour mills operating in Taranaki, the flour milling industry was once essential to the survival of the settlements in Taranaki. By the end of the 19th century, when they were no longer needed, the mills decayed or were pulled down and quickly forgotten. Very few people now realise that they ever existed.

At present I am enrolled in the Department of Historical Archaeology at Sydney University. For my thesis I am conducting a survey of the remaining evidence of the flour mills of Taranaki, where I now live. My material comes from physical, pictorial, documentary and oral sources. In this paper I will deal with the earliest group of mills, the flour mills of New Plymouth.

New Plymouth was the first settlement in Taranaki. The first ship-load of Plymouth Company settlers arrived in March 1841. The settlement remained fairly isolated until the 1880's because of the lack of a harbour and the surrounding mountains. Self sufficiency in basic foodstuffs was very desirable and shortages were common in the first years.

The first wheat was sown in May 1841, and was initially ground in small hand mills. Although these were common even up to the end of the 19th century, examples or even pictures are not easy to find. There is a fairly crude example held in the Te Awamutu Historical Society Museum. I suspect that most of them were imported, and a little more sophisticated.

The early New Plymouth crops were very successful and the settlers from Devon and Cornwall expected that as in England, each locality would have its own mill to supply local needs. The more enterprising envisaged Taranaki as an ideal milling area for export in terms of 19th century milling as they knew it - rich soil, few diseases, plenty of water for power. They were unable to perceive the vast changes already in motion which were to completely transform the industry - the move from water power to steam, and later to diesel, gas and electricity, from stone to roller grinding, and from soft grains suited to stone grinding to the harder grains needed by metal rollers, which could be grown and harvested with such efficiency in the dry flat inland areas of places like Canada and Australia. In 1849 one optimistic New Plymouth writer expressed his belief that Taranaki would one day be the "granary of the South Pacific" (Hursthouse, 1849). Between 1843 and 1867 five mills were built in New Plymouth.

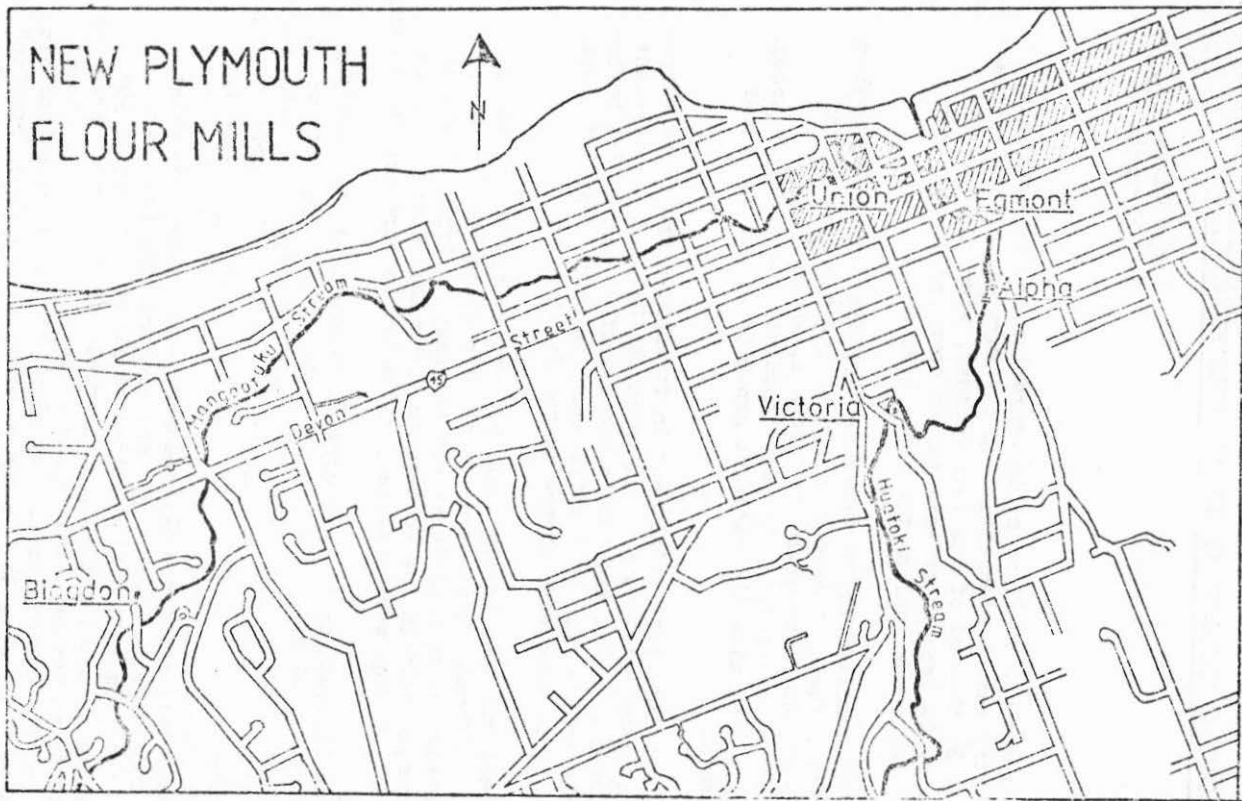


FIGURE 1. New Plymouth showing location of early flour mills.

The Alpha Mill

The first flour mill to be built was the Alpha, on the Huatoki Stream, near the centre of the town (Plate 1). It was begun in 1843 and commenced operation in February of 1844. This makes it one of the earliest mills in New Zealand. The first was built about 1834 at Waimate in the Bay of Islands (Hargreaves, 1961).

The Alpha was built and owned by Richard Rundle, a builder, and Samuel Oliver, a young miller. The entire mill was constructed under the direction of and partly by Oliver from local materials, this including the machinery, considered at the time to have been quite a feat of ingenuity (N.Z. Spectator and Cook's Strait Guardian, 12/4/1845).

From various documentary sources we have fragmentary information about the mill:

- the building was of rimu, board and batten construction,
- the mill was operated by a 13ft diameter breast shot wheel,
- there were two pairs of stones, 3ft 10 inches in diameter, made from andesite from boulders from the New Plymouth beach. (Stones from the same source were made for Kebbles Mill in the Manawatu),
- the bolting (sifting) machine used a thin wooden lattice, and muslin in place of graded silks or wool.

In spite of early enthusiastic reports and exports to Wellington the flour produced was fairly coarse. There is a story, possibly apocryphal, of it having to be reground with a garden roller. When there was an attempt to raise the price of grinding from 6 pence to 9 pence a bushel in 1846 the settlers went about building an improved mill on a subscription basis. When this mill was opened in 1849 it seriously affected the Alpha and although Oliver attempted to compete by importing French Burrs for grinding (see below) and French silks for sifting, he was not successful. By 1854 he had bought the new mill and moved his operations to it. Most of the machinery from the Alpha was sold to the Maoris, except for the original stones and the water wheel. The premises with the wheel, were let to a sawmiller, and were later used as a bone crushing mill as well. The site sold for £12 in 1885 which makes it certain that it was then no longer operational.

French Burrs are made of chalcedonic hornstone or fresh water quartz, found only at two sites in the Paris Basin. Because the stone varies considerably in quality it is quarried in small pieces and sorted into grades. The pieces are trimmed and fitted together using a similar principle to that of a stone arch. They are set in a bed of 'plaster of Paris', and finally bound with one or more iron hoops. These stones are much harder wearing than any others and all but the most primitive mills used them throughout the western world.

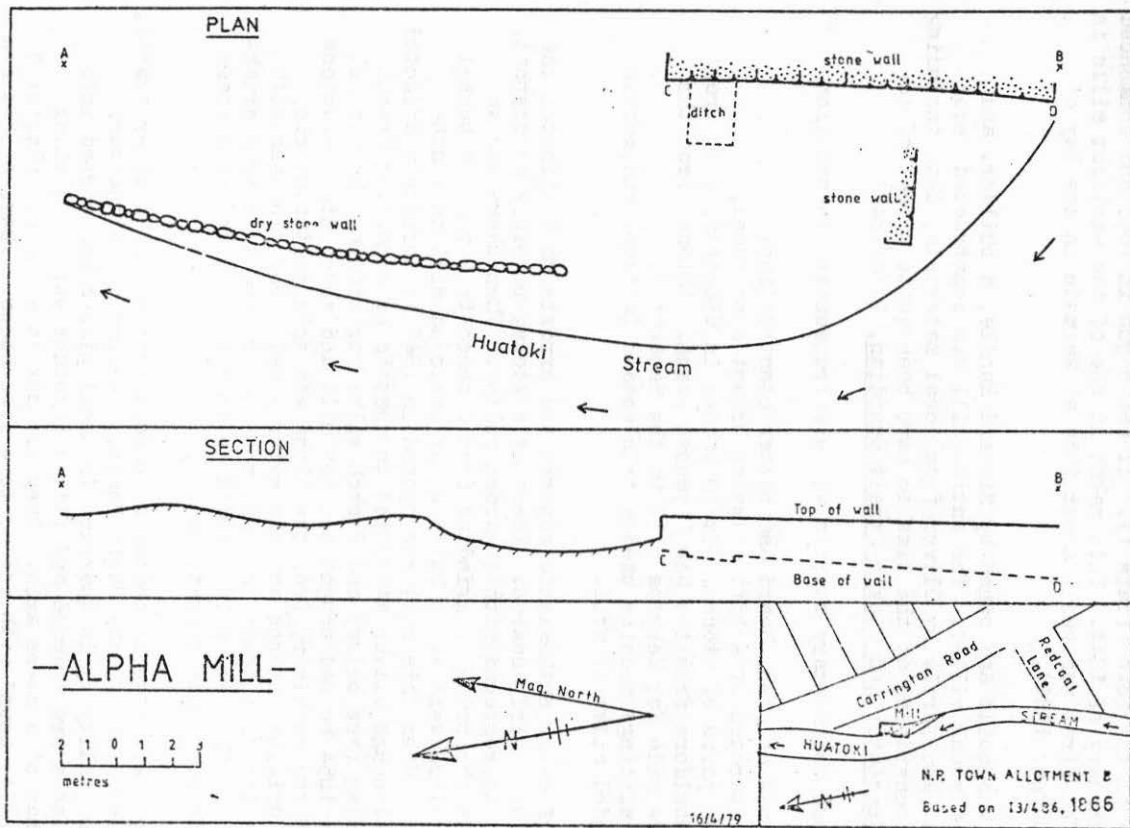


FIGURE 2. Location and archaeological remains of the Alpha Mill.

The mill site forms a narrow shelf along the eastern bank of the Huatoki Stream on a Council Reserve (Figure 2). There is a steep drop from Carrington Road down to the site. A track which originally led down to the mill has now completely disappeared. The site is now heavily overgrown which makes proper study very difficult.

Features at present visible are:-

1. A slightly curved stone wall 13.65m long, 1.2m above ground at the northern end and 1.85m at the southern end, of one course of about 1m depth which probably formed the eastern retaining wall of the headrace.
2. A lower stone wall of the same type, which runs from the bank towards the first wall (length of 3.5m visible, one course in height and breadth visible). This may have been connected with the dam seen in Plate 1. A number of large boulders embedded in the stream at this point may have also been utilised for the dam.
3. Towards the northern end of the first wall is a small ditch. Although by no means clearly dating to the mill period this may have been connected with the sluice gate seen in the photograph.
4. At the northern end of the stone wall the ground dips markedly. At this point the water from the race appears to have been taken up by a wooden flume.
5. Beyond the dip is a fairly flat area, more open than the rest of the site. It is almost certainly the site of part of the main building and subsidiary buildings. No surface features can be seen.
6. The remaining feature is a dry stone wall, along the bank of the stream, now particularly difficult to see due to overhanging vegetation. About 2.5m high at the northern end, the wall moves up the slope of the bank and decreases in height. It was probably part of the reinforcing of the bank for the tailrace.
7. Two original millstones from the Alpha are now preserved on another reserve in New Plymouth, next to the Union Mill site, the runner cut to take the bridge, and the bedstone with a plain round hole in the centre.

The Victoria Mill

New Plymouth's second mill, the Victoria, began to operate late in 1844. There are no known pictures of this mill which was built higher up the Huatoki Stream on what was then reserve land outside the residential area of the time. The road put in to service it is still known as Mill Road.

In spite of the 24ft diameter breastshot wheel (which probably also powered the sawmill built at the same time), and imported machinery, including a pair of French Burrs, reports of flour production in New Plymouth at the time suggest that this was a smaller mill than the Alpha and the flour of no finer quality. Neither of the proprietors of the Victoria were millers, and they do not appear to have got on: in 1846 Mr. White

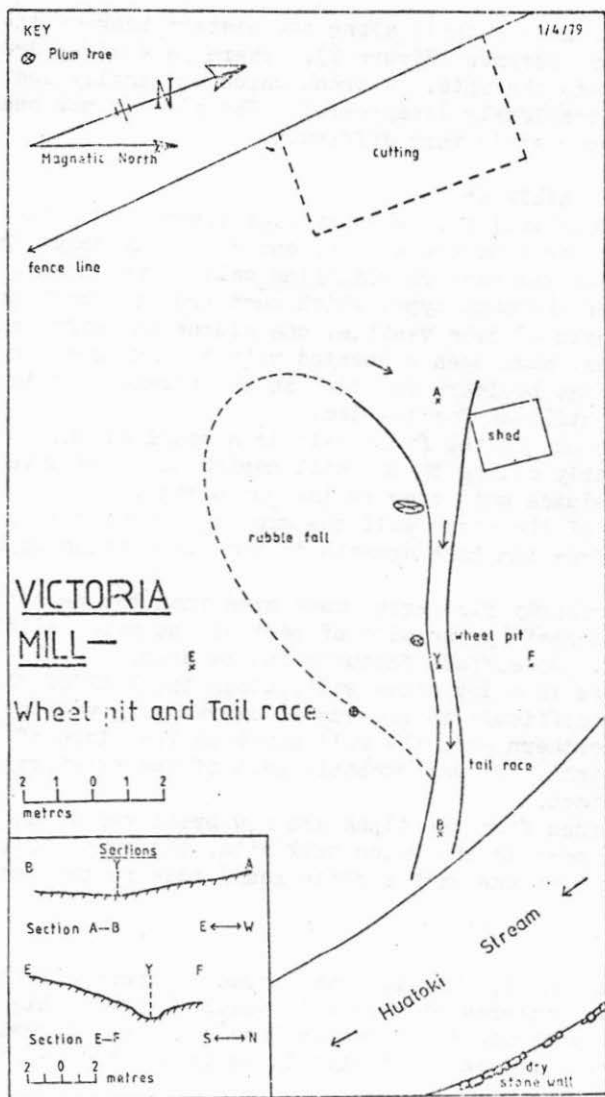


FIGURE 3. Archaeological remains of the Victoria Mill.

was arrested for severely assaulting Mr. Gillingham. In the same year, when the attempt was made to raise milling prices, the police were called in to prevent a riot at the mill.

Like the Alpha, the Victoria was given a complete overhaul after the new mill was built in 1849. An advertisement in 1856 says that "..... all grist work is done on the principle of everyone receiving the produce of his own wheat" (Taranaki Herald, 31/5/1856), this is probably indicating that the mill was operating on a fairly small scale. The last advertisement appears in 1857, and although the property was advertised for sale and rental during the 1860's, there is no evidence to suggest that the mill ever operated again.

The site of the mill is now within a closely settled residential area in the backyard of a private home (Figure 3). The Ardern family who have lived on the site since 1923 have been helpful in describing modifications to the site during their occupation.

The remaining evidence consists of wheelpit, tailrace and stone retaining wall. There have been no visible remains of dam, headrace or buildings for over 50 years.

1. The wheelpit is now marked by a depression which slopes down towards the stream. Mr. Ardern remembers it very considerably deeper, and swampy at the deepest point. Considerable quantities of fill have gone into it. Foundations, adjacent to the deepest point (Y), probably part of the wheel mountings, were covered over. Most of the 12m depression surveyed would have been taken up by the wheel, followed by a short tailrace into the stream.
2. On the opposite bank of the stream are the very eroded remains of a stone wall, which would have reinforced the bank against rush of tail water.
3. At the top end of the wheelpit is a regular shaped depression, pointed out by Mr. Ardern. Although unlikely to have been the millhouse itself, because of its position in relation to the wheelpit, it may be a related building site.

The Union Mill

The Union Mill was situated on the Mangaotuku Stream near the main business area of town (Plate 2). It was built because of local resident's dissatisfaction with the Alpha and Victoria mills, and there is quite a saga of wheelings and dealings between the conception of the idea in late 1845, and the opening of the mill in March 1849. Much of the mill had in fact been completed by early 1847.

Initiated by a group of subscribers the mill went into private ownership and finally opened as a company. At some time before 1854, after a period of poor wheat harvests, it was sold to Sam Oliver, the owner of the

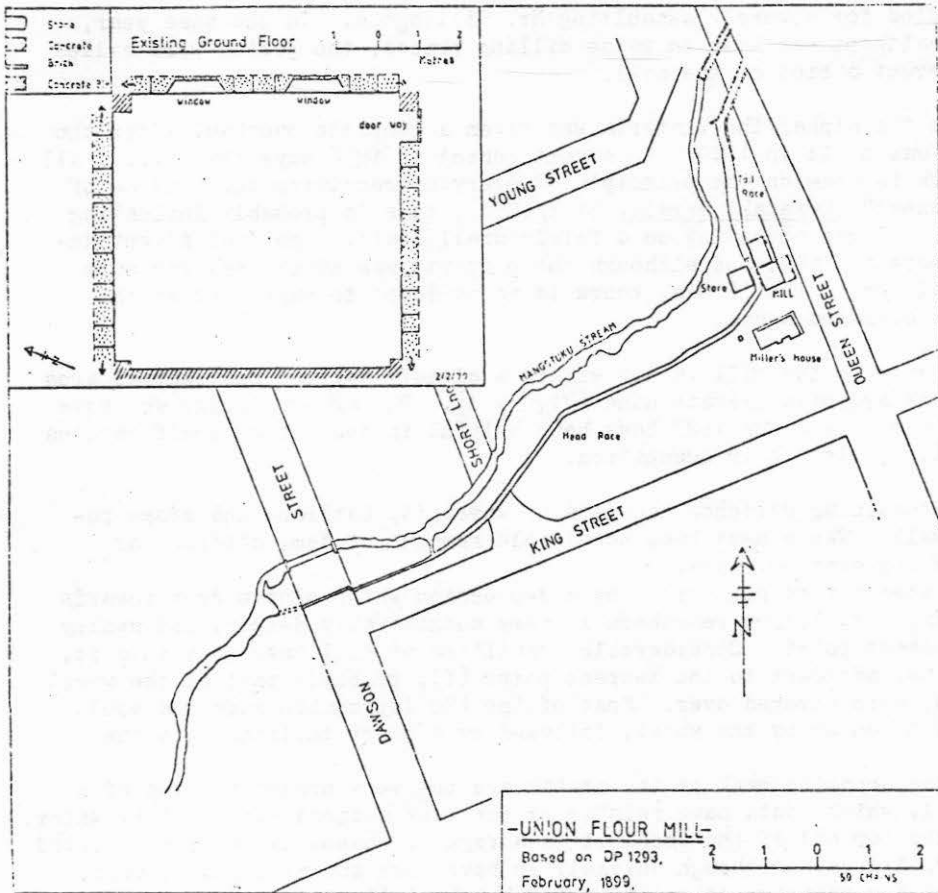


FIGURE 4. Location and ground floor plan of the Union Mill.

Alpha, who lived in the adjoining residence and ran the mill until his death in 1873. In its heyday flour was exported from the mill and two trading vessels owned by Oliver were run in conjunction with the business.

In 1873 the mill, in rather dilapidated condition, was bought by the firm of Honeyfield and Read who thoroughly overhauled it and gave it a new lease of life. Later, probably after a fire in 1882, a completely new building was built, of typical mill shape, apparently much larger than the original building, although its existence is only known from a photograph and from the plan shown in Figure 4. The mill was demolished some time after its purchase in 1899 by the Crown Dairy Company.

Although the machinery of the mill was said at the time to have been very sophisticated, there is no description. The wheel was a 36ft diameter overshot and there were two pairs of French Burrs.

The plan of the mill property (Fig.4) shown comes from an unusually detailed Deposited Plan held by the New Plymouth Lands and Survey Department and dated 1906. It shows the long race, the mill residence, the original building on the north side, new building, waterwheel and grain store.

The race has been completely filled in and built over in what is now a business and light industrial area. Only the basement of the original millhouse and a single stone survive.

1. The basement built of roughly hewn stone blocks is situated under what is now New Plymouth Motorcycles Ltd., 26 Queen St. The front wall has now been buried underneath the pavement and been replaced with concrete. Features visible consist of two bricked up windows at the rear, an area filled with concrete blocks in the position of the opening shown in Plate 2, and another bricked up exit, which must be later. From photographs I estimate the original building to have been four storeys high, at least on the basement side, with two floors below street level, and one floor and an attic above.
2. At the time when the present building was erected in the 1940s traces of the old mill were discovered, and subsequently lost except for a complete stone which was donated to 'The Elms' in Tauranga. I have only seen photographs of this stone, but it is said to be 4ft 6 inches in diameter and is a French Burr.

The Blagdon Mill

Least of all is known about the Blagdon Mill, which was also on the Mangaotuku Stream, on what was then open farmland outside New Plymouth. The Blagdon Mill commenced work in 1853 and was intended to process grain grown by nearby farmers for their own consumption. The first miller was

one Obadiah Silcock. The last advertisement for the mill appears in early 1856. On 19th February 1861 during the First Taranaki War, the mill was burnt down by the Maoris. It was subsequently re-opened in 1870 as a flax mill but the property changed hands the following year and nothing more is heard of the mill.

The site of the mill is now in a state housing area. Although the area beside the stream has been left as a reserve I suspect considerable modification and there are no clearly identifiable surface remains of the mill.

The Egmont Mill

The last of the New Plymouth mills, and the most ambitious by far, was the Egmont, built on the banks of the Huatoki Stream in the centre of the town. This is now the only surviving flour mill building in Taranaki.

In spite of the declining grain growing industry around New Plymouth and the increasing availability of imported flour, the owners invested £7,000 in the mill which commenced operation in 1867 (Plate 3). By 1880 the mill was in difficulty. Although Egmont flour was cheaper than imported, local people rejected it because of its darker colour, due either to excess moisture in the grain or to a fungus called 'smut'. In 1885 the mill business was bankrupt although the mill continued to operate for a few more years under the management of its previous owners.

Information about its operations are as sketchy as any of the other mills. It was powered by a 15 horse power steam engine and employed three pairs of French Burrs. In 1879 a Gardiner City Brush and Scalper was imported to clean the wheat before it was ground, probably in an attempt to deal with the 'smut' problem.

From 1923 to 1965 the building was used by the Farmer's Co-op and at that time some additions were made to the building on the ground and basement levels, and the facade was made more ornate with the number of windows increased. A lift well was also added at the rear to service all floors. At present the building is used as a Friday night/Saturday morning market.

The building other than the ground floor was mainly used for storage and apart from the absence of machinery is pretty much in its original state. Filled holes in the floor throughout the building, for belts, shafts and sackhoist, bear witness to the building's original function.

The original building is five storeys high and is massively constructed to take the amount of vibration always experienced in a mill.

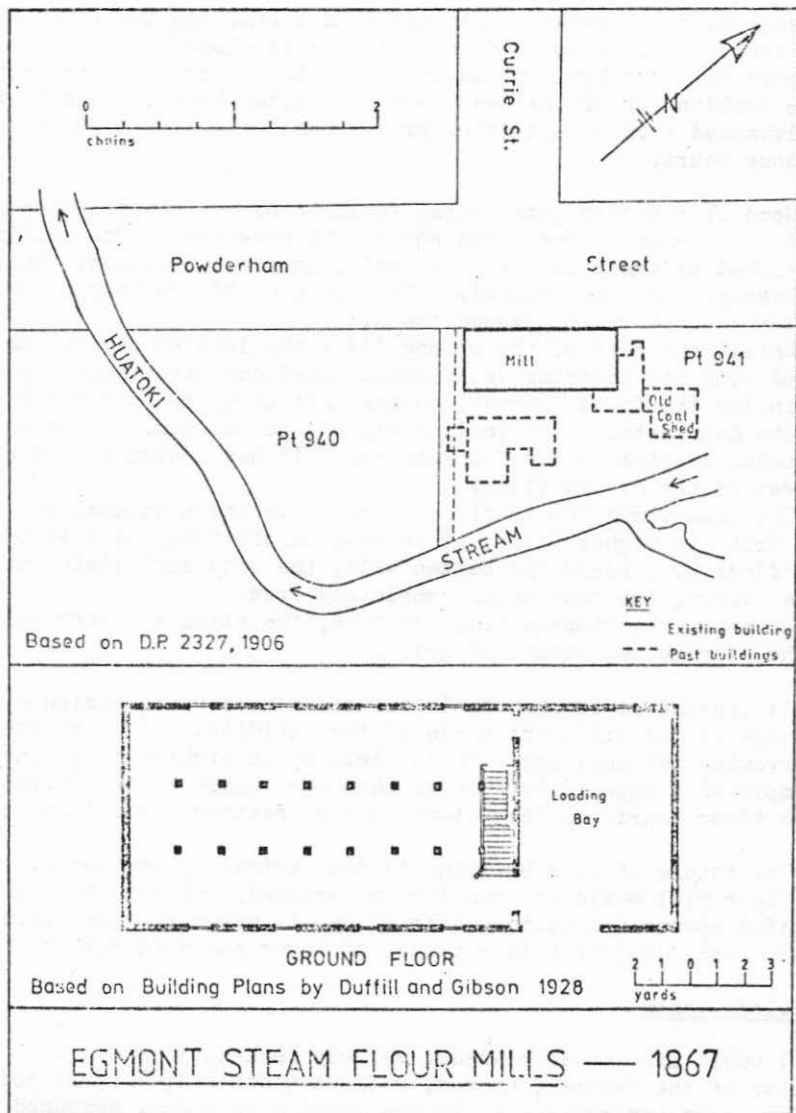


FIGURE 5. Location and ground floor plan of the Egmont Mill.

As examples, the basement walls are 60cm thick, and the floor boards 8cm thick. It is supported up to the attic floor by pillars as seen in Figure 5. The basement walls are of local stone and the remainder of the building is of unlined board and batten construction (now clad in galvanised iron on the exterior). Most of the building is rimu with some kauri.

Some of the more interesting features of the building include:

1. A stone room at the north end of the basement (7.9m x 2.75m) which has bricked up areas in the north wall, in the approximate position of the chimney, has been removed. This room would probably have housed the steam engine which powered the mill.
2. Unlike the rest of the ground floor the loading bay has been little altered with its interior walls still board and batten and a wheel guide just inside the front doorway, on the left side, to stop carts bumping into the doorposts. The loading bay has no pillars, and is supported by special bracing on the floor above. It has a higher ceiling than the rest of the ground floor.
3. The area above the loading bay may have had a special purpose. Apart from its higher floor, it is divided off from the rest of the first floor by a board and batten wall, the only such division on any of the floors, the rest being completely open.
4. Although the storage bins are gone, the attic was certainly used for the storage and mixing of grain.

At present it is impossible for the most part to assign specific functions to the different parts of the building. I am in the process of surveying the building with the help of an architect and once that is completed I hope to be able to make more sense of the filled holes in the floor boards as they start to form patterns from floor to floor.

The future of this building is not certain by any means. As the last flour mill building standing in Taranaki, and as a building of beautiful spaces and solid construction, it may make some claim for preservation, despite a fair amount of borer and some risk of fire.

Acknowledgements

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I would also like to acknowledge the help of Kelvin Day who has taken photographs for me, Mr. Robert Ardern for his advice about the Victoria site and the staff of the New Plymouth Lands and Deeds, and Lands and Survey Departments who I have continually harassed.

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GREAT BARRIER. Stone wall on the eastern end of the Matawhawhau Point.



NEW PLYMOUTH FLOUR MILLS Plate 1. The Alpha Mill.



NEW PLYMOUTH FLOUR MILLS Plate 2. The Union Mill.



NEW PLYMOUTH FLOUR MILLS Plate 3. The Egmont Mill.