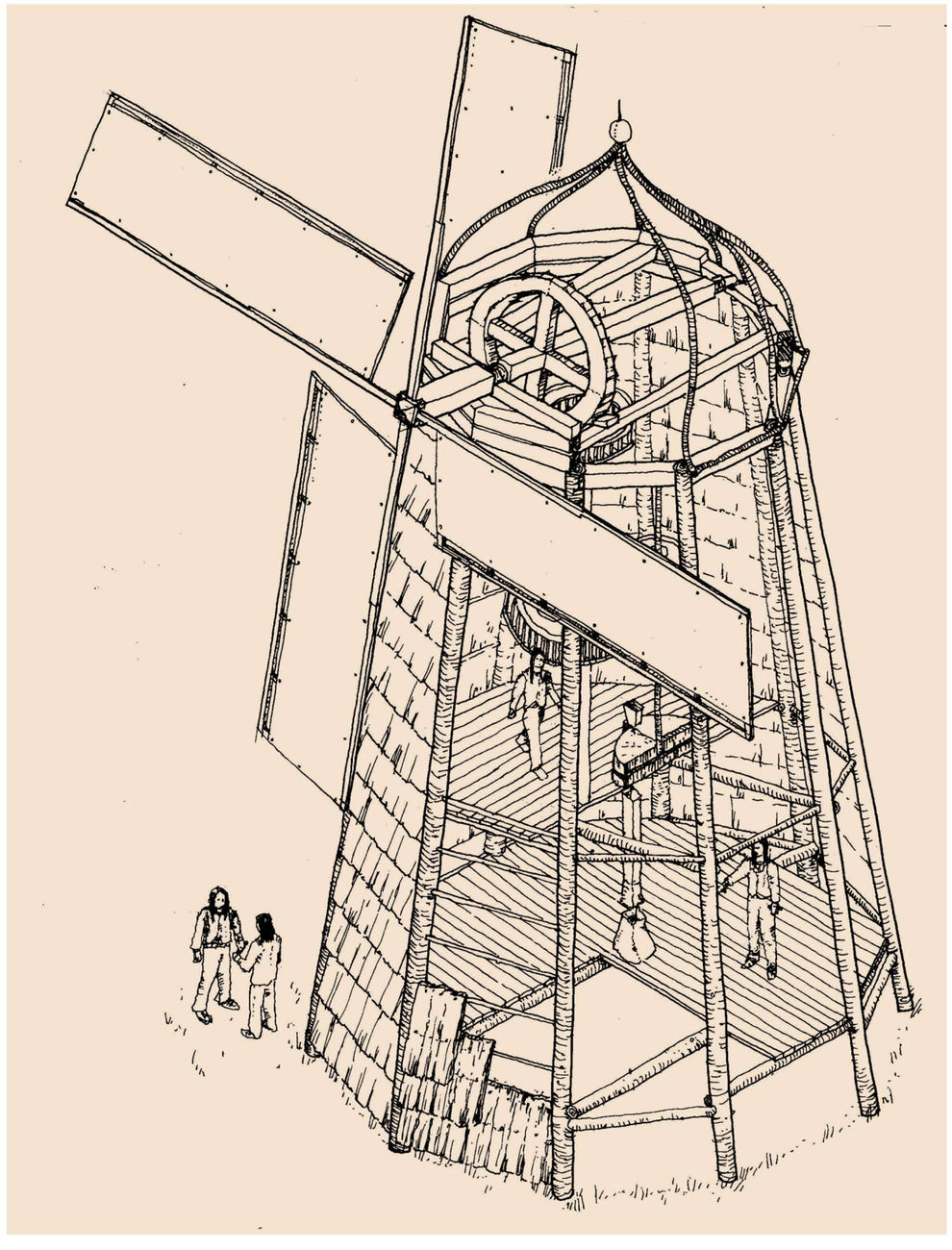


St. Peter's Dynevor Windmill

The Story in Five Drawings

More than 180 years ago, in 1832, the first Aboriginal agricultural settlement was established in Western Canada. That little community was abandoned a year later in favour of another site a few miles south on the Red River, near the present site of St Peter's Dynevor Anglican Church (itself built by that Aboriginal community in 1852-57).

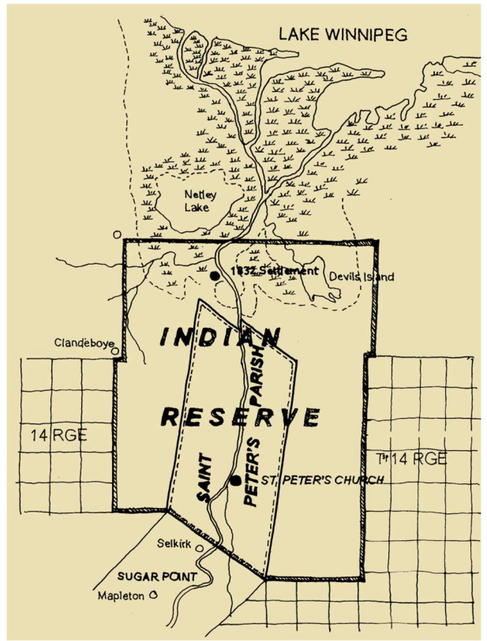
What came to be called St. Peter's Indian Village, or Settlement, gradually grew from about 30 people at its outset to more than 500 by the early 1850s. Besides the small log houses and church (the first one, in 1835, of log), the community also boasted a windmill, one of at least 18 that served the growing Red River Settlement.

Those windmills, as well as nine water mills that started to be built in the late 1820s throughout the Red River Settlement, were imperative structures at the time, ensuring that the fledgling agricultural communities stretching along the Red River had the means to turn their grains into flour – ground at the local mill.

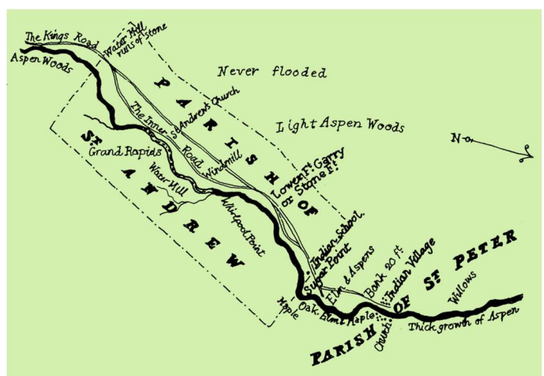
The St. Peter's Dynevor windmill, constructed in 1835, was perhaps even more significant than its cousins serving European settlers and retired fur traders closer to present-day Winnipeg. For the Indian Settlement windmill was at the heart of a remarkable attempt by a Scottish clergyman—William Cockran—and a band of Cree and Saulteaux people—led by Chief Peguis—to develop the kind of sustainable community that would allow the Aboriginals to live within a system and in proximity to incoming white settlers. The community's windmills (another was added in 1846) ensured that this fascinating experiment had the means to succeed.

Sadly, as was the case with so many other Aboriginal situations in Western Canada, the St. Peter's Indian Settlement sat on prime agricultural land, and it did not take long—20 years in fact, from the time of its greatest success, in the 1850s—for the onslaught of eastern Canadian settlers to take over the whole area, sending the St. Peter's people north, to what is now the Peguis First Nation in the Interlake region.

But while it did last—along with the 1846 addition—the St. Peter's windmill was a visible symbol of the quasi-industrial enterprise that would be required to transform what had been fur-trading country into a major agricultural region.



Sketch map showing the immediate vicinity of the St. Peter's Indian Village, here showing the so-called Indian Reserve, Saint Peter's (Anglican) Parish and St. Peter's Church. (Map redrawn from the original courtesy Gary Still, redriverancestry.ca)



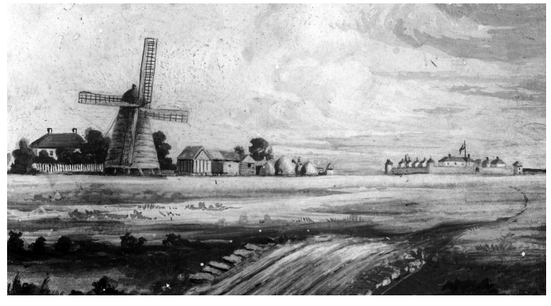
Sketch map showing the immediate vicinity of the Indian Village, with a number of buildings and sites indicated, along with roadways and vegetation. The Indian Village and related sites and topography descriptions are situated at the right. (Map redrawn from the original courtesy Gary Still, redriverancestry.ca)

All of the Red River windmills are long gone, and little exists to suggest what they looked like, notably in their many details, and especially of how they operated. This is a shame, because these striking buildings were amongst the most sophisticated sites, certainly at Red River, but in any community in which they stood. They were considered to be at the height of engineering accomplishment at the time, and even when they were rudimentary, as certainly the Red River examples must have been—built as they were from materials at hand (logs, grass for thatch)—they must still have been sights to behold, and amazing to observe when they were in operation.

This booklet focuses on the 1835 windmill, which is the only Red River windmill whose key measurements were recorded, and thus allows for a certain degree of accuracy in what is still a conjectural exploration of its construction and operation.

The booklet is extracted from a larger report developed for the St. Clements Heritage and Tourism Committee, and which provides a great deal more information on the history and context of the site, and of the history and development of windmills in Manitoba. It is recommended that anyone interested in this fascinating subject, and the story of St. Peter's Indian Settlement, consult that report for more in-depth material.

This present document presents the windmill via the seven drawings that were developed for the larger report, and which in fact were the ultimate purpose of that project – to attempt to graphically recreate the St. Peter's windmill in all its construction and operational details. And by so doing to suggest what a Red River Settlement-era windmill looked like close up, and to serve as a reminder of the kind of ingenuity, skill and determination that attended Manitoba's earliest attempts at industry and manufacturing.



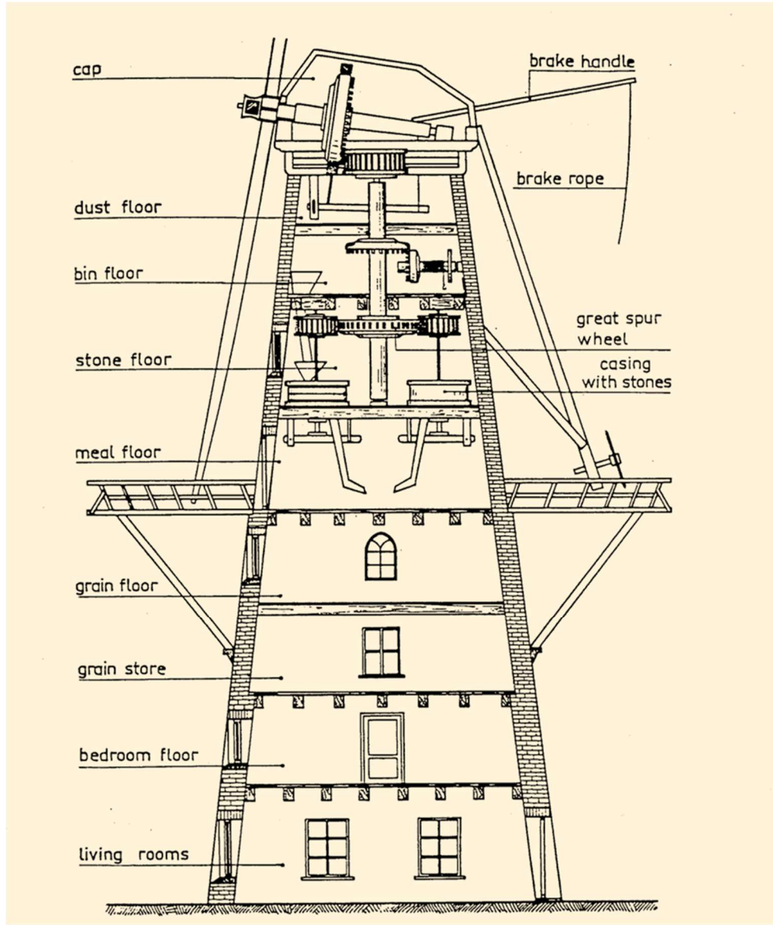
"Young's Mill," by noted painter Paul Kane, shows a windmill apparently outside the walls of Lower Fort Garry, ca. 1860. ((Image Courtesy Archives of Manitoba)

An Ojibway farmer with his team of oxen, likely at St. Peter's. (Image Courtesy Archives of Manitoba)

The St. Peter's windmill, and all other windmills at Red River were tower windmills, to distinguish them from earlier windmill types called post mills, which were popular in the Middle Ages. By the early 1800s the tower mill was a well known and familiar combination of formal and mechanical elements and features – at least to windmill builders. And while the Red River examples from the 1830s were modest and even rudimentary, they were still of this type, and presumably as sophisticated, at least in terms of general mechanics and operations, as their thousands of cousins throughout Europe and eastern North America.

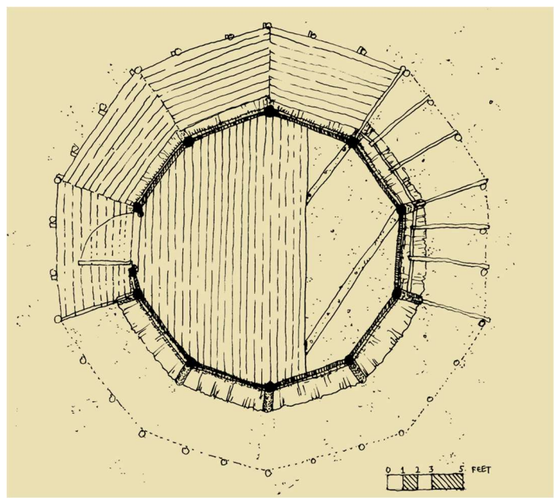
A large and sophisticated tower mill in cross section (opposite) shows some key features and details that will find their way to the mills of the Red River Settlement in the 1830s and 1840s. At the top of this drawing we see the cap, which holds a large wheel and axle which in turn are joined to the large sails and connecting features shown on the outside left of the cap. It is notable that the axle (known as the windshaft) and thus the sails and large wheel are placed at an angle to the horizontal – it was discovered fairly early on in the evolution of the windmill that this angle (about 15 degrees) was necessary for the efficient functioning of the sails. In this drawing there is a long shaft labelled "brake handle" – this feature was not present on many mills, but is a reminder of the need for a braking mechanism in this section of the windmill that could slow and stop the sails. The brake—usually a smaller wooden element—was more typically adjacent to the large wheel. We can see that this wheel also served another purpose – to turn, and thus via its toothed gears, drive a smaller wheel directly below the cap.

The concatenation of additional axles and smaller gear wheels, shown in the "bin floor" and "stone floor," were the typical features and arrangements in any mill—wind or water—that was used for grinding



Cross section of a large Dutch tower windmill (Dennis Shepherd for the National Aeronautics and Space Administration/NASA (1990)). This mill, featuring walls of masonry construction, was about 60-65 feet high and about 25-30 feet wide at the base. The St. Peters windmill was 37 feet tall and 21.5 feet at its base. The largest known tower mill was built in East Anglia, England, in 1812 and measured 121 feet (37 metres) high and 40 feet (12 metres) at its base; it was destroyed by a storm in 1905.

grain. The ultimate destination for all of this mechanical activity, and the gradual transition of power, is seen in the “stone floor,” where two “casing[s] with stones” mark the place where grain was deposited and in this case two large grinding stones did their work. In an area here called the “meal floor” one can see two long chutes that emerge below the grinding casings, and where the resulting flour would fall via gravity – there would be bags situated under these chutes when the mill was in operation. In this drawing there are two additional floors below the “meal floor” labelled “grain floor” and “grain store,” where grain waiting for grinding would be housed. The two lower stages, “bedroom floor” and “living rooms” were only developed in the most sophisticated of windmill operations. One final feature shown in this drawing is seen at the “meal floor” stage, where a fenced platform encircled the building – this was very common on tower windmills, the area where a miller could more easily get at the sails, for repairs and adjustments, and in this case at the rope that was attached to the brake handle.



St. Peter’s Indian Settlement Windmill, Plan

A floor plan is a common graphic expression of a building as if seen from above, via a horizontal cut that allows walls and room arrangements, as well as some structural details, to be clearly presented. Most plans employ the cut at ground level, but given that the windmill’s main floor was about four feet above grade this plan shows the cut at that point. The plan shows the main floor area, entrance and some construction features. The dark shaded lines define the ten-sided form, interrupted at their interstices by the main structural poles (which are also shown extending down to ground level). The dark lines also express the top edge of the thatch sheathing in between the poles, cut at this point for the drawing. The thatch itself flares out slightly to extend to the ground level. The pole supports are shown as much as they would be visible in this plan view. The floor planks are set atop logs attached at key juncture points of the main timber supports – some of the planks have been removed at the right side of the drawing to show this situation. The ‘stage’ area that enlarges the whole plan, shown encircling the main floor area (and with planks only on the top and left side), allowed the miller access to the sails. Thin posts are continued around the whole drawing to show the full extent of this feature.