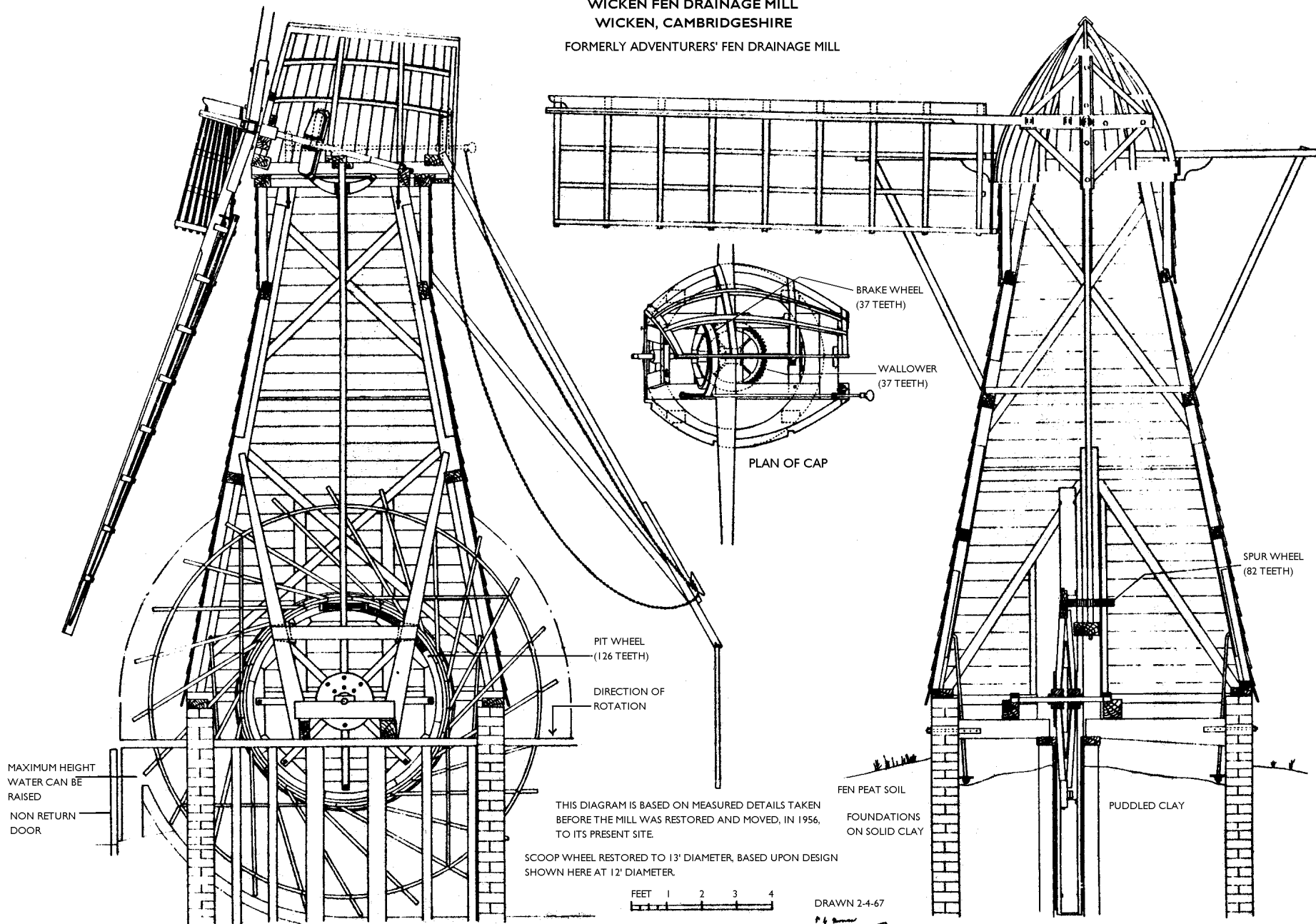


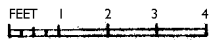
WICKEN FEN DRAINAGE MILL
 WICKEN, CAMBRIDGESHIRE
 FORMERLY ADVENTURERS' FEN DRAINAGE MILL



MAXIMUM HEIGHT
 WATER CAN BE
 RAISED
 NON RETURN
 DOOR

PIT WHEEL
 (126 TEETH)
 DIRECTION OF
 ROTATION

THIS DIAGRAM IS BASED ON MEASURED DETAILS TAKEN
 BEFORE THE MILL WAS RESTORED AND MOVED, IN 1956,
 TO ITS PRESENT SITE.
 SCOOP WHEEL RESTORED TO 13' DIAMETER, BASED UPON DESIGN
 SHOWN HERE AT 12' DIAMETER.



DRAWN 2-4-67

PLAN OF CAP

BRAKE WHEEL
 (37 TEETH)
 WALLOWER
 (37 TEETH)

SPUR WHEEL
 (82 TEETH)

FEN PEAT SOIL
 FOUNDATIONS
 ON SOLID CLAY

PUDDLED CLAY

TURF DIGGING ON ADVENTURERS' FEN

Turf digging took place from March until late August, the start of the season depending largely on ground conditions. The peat needed to be wet over the winter, to keep it malleable, and to prevent animals burrowing in it. However, it needed to be dry before digging; cutting wet turf would lead to the blocks crumbling as they dried later. The windpumps were therefore in action during the early spring particularly, to drain the turf fields of winter water.

DRAINING THE FENS

Wind-powered pumping mills were once used more generally to keep the fen fields dry. After the extensive drainage of the Fens in the mid 17th century, land levels fell due to the peat shrinkage. Rivers and the main drainage channels were left higher than the surrounding land, and so it became necessary to pump water up out of low level ditches into the main drains.

The Drainage Commissioners, responsible for the drainage of large areas of flooded land from 1767, owned the largest wind pumps such as the Upware Pumping Mill, built in 1767, and in operation until 1821. Engineers employed to run the pumps would also clear ditches and drains. In winter, heavy rainfall would often cause flooding, and the pumps would work continuously, as long as there was enough wind.

Wind-powered pumps were in common usage by the mid 18th century. They were replaced by steam-driven engines during the 19th century. These, in turn, have been superseded by diesel and electric engines, still in use today.

HOW WERE THE WINDPUMPS BUILT?

A *Smock* drainage mill had a wooden internal structure, clad with weather boards built on brick foundations. The *cap* was turned by a long wooden *tail pole*. The internal mechanism was made of iron, and the *scoop wheel* of wood. The open framework *common sails* would be covered with sail cloth for operation. The cloths were furled when the pump was not in use.

Smaller windpumps were often *skeleton* pumps, without the external cladding, and set directly on the ground.

HOW DID THE WINDPUMPS WORK?

To operate the windpump, the cap was first turned away from the wind, and the common sails covered with the sail cloths – in strong winds only two of the sails were covered. The cap and sails were then turned into the wind for the sails to rotate, to drive round the *windshaft* and *brakewheel*. These turned the *wallower* at the top of the vertical *drive shaft*.

At the bottom of the drive shaft, the *spur wheel* engaged with the *pit wheel*, to drive the *scoop wheel*, and so draw water through wood lined troughs from the lower to the higher level.

The quantity of water pumped depended on the wind speed. Steam-powered pumps were obviously able to operate whatever the weather.

Wicken Fen 01353 720274
Drainage attractions close by include
Prickwillow Drainage Engine & Museum 01353 688360
Stretham Old Engine 01353 649210
Please check opening times in advance.
National Trust Registered Charity No 205846

The National Trust WICKEN FEN WINDPUMP



The windpump now situated on the Sedge Fen, the only working wooden windpump remaining in the Fens, was originally sited on Adventurers' Fen. It was known as (Bill) Norman's Mill, and was used to drain and control water levels in turf (peat) digging pits.

It is known that a pump stood on the site in 1886, but its date of construction is unclear. The internal workings of this original pump were re-used in 1908, when Hunts of Soham built a skeleton mill at the site. It was weather-boarded in 1910, and underwent several renovations before being abandoned in the late 1940s. Turf digging on Adventurers' Fen had long since ceased, and the pump had been used at the end to help drain the land for food production during World War II.

The derelict windpump was dismantled in 1955, and restored to working order. Lord Fairhaven, of Anglesey Abbey, was instrumental in rescuing the windpump. A carpenter from Histon, CJ Ison, undertook the rebuilding work. The windpump was erected on Sedge Fen in 1956. It no longer drains, however, as when it is now put to use, it pumps water onto the Sedge Fen.