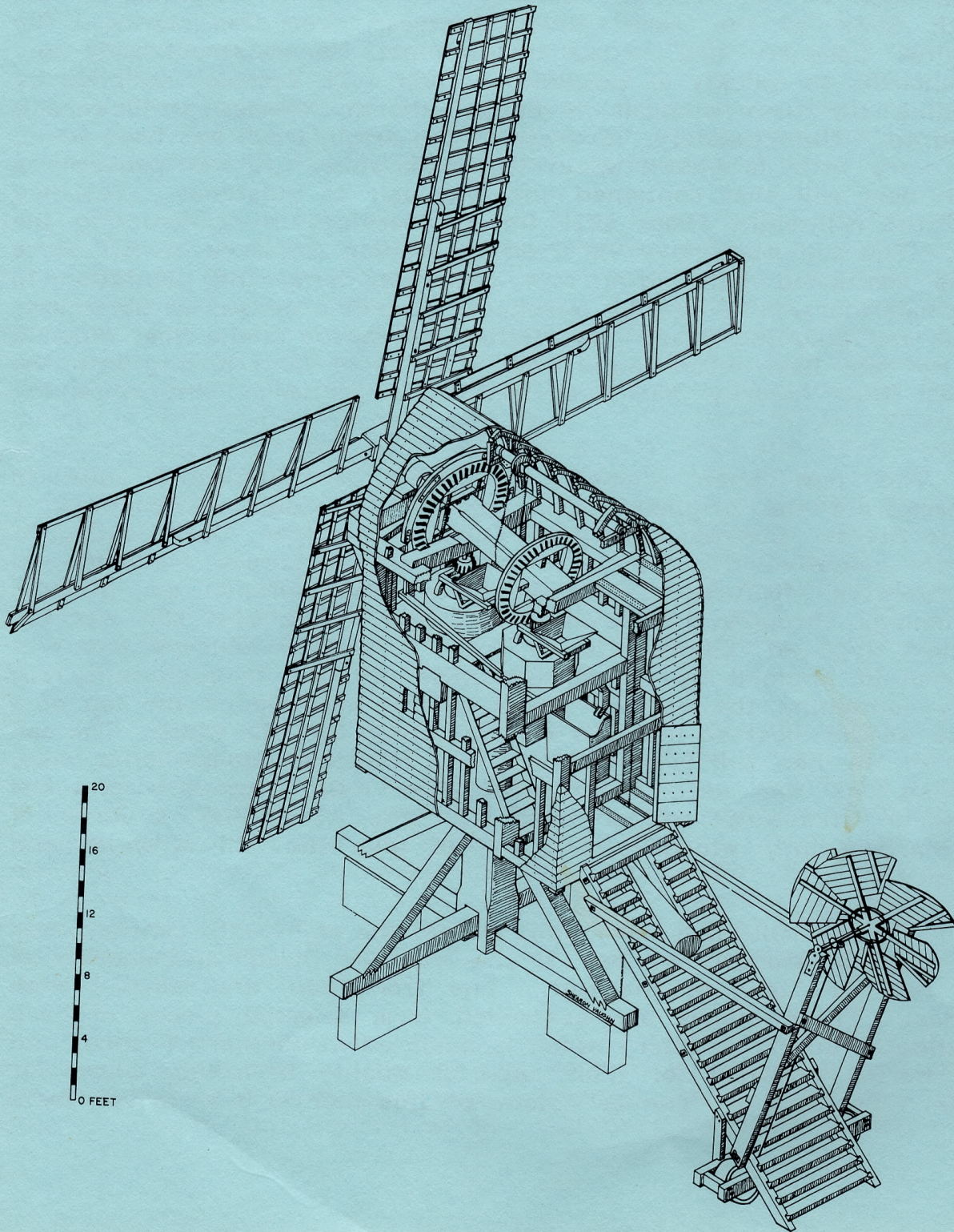


THE
FLOWERDEW HUNDRED WINDMILL



By 1619, a settlement called Flowerdew Hundred had been established by Sir George Yeardley, Governor of Virginia, on the south bank of the James River upstream from Jamestown. The Virginia Company had urged the colonists to construct mills and bakehouses as quickly as possible, and in 1621 Yeardley complied by building the first windmill in English North America at Flowerdew Hundred. Unfortunately, no trace of the original mill has been found and very little is known about its appearance. It was probably a small post mill that contained only one pair of millstones. Yeardley paid the millwright about £120 for his services in constructing the mill. The mill must have survived the Indian massacre of 1622 since it is mentioned both in a 1624 deed conveying the plantation to Abraham Piersey, a wealthy merchant, and in a census of the colony taken the following year. No further references to the first windmill or its fate have been found, but a point of land jutting into the James River nearby has been known as Windmill Point since the 1670's.

The new post windmill at Flowerdew Hundred, built to commemorate the original mill, stands on a ridge overlooking the James River. Constructed by an English millwright, Derik Ogden, it is representative of a type once common in the English Midlands and incorporates features illustrating the development of windmill technology through the Revolutionary War. The post mill was the earliest type of windmill to be built in Western Europe and was common in England by the seventeenth century. In such mills, the body containing the machinery and sails is mounted on the top of a large wooden post so the sails can be turned into the wind. The oak post of the new mill is 19 feet long and 28 inches square at its base. English oak was used to construct the main framework and the complete structure weighs over 45 tons, including 5 tons of weatherboarding, which is essential to give the mill strength and rigidity.

The new mill, like many built during the eighteenth century, has two pairs of stones, one pair at the front or "head" and another at the rear or "tail" of the mill. The front pair are called French stones. These stones are assembled from selected pieces of hard freshwater quartz or burr, which is quarried in northern France, and are world renowned for their superior quality in milling wheat for flour. The top or "runner" stone of this pair is over-driven by a

wooden bevel gear called a "stone nut", which is turned by a large elm bead or brake wheel mounted on the sail axle, or windshaft. The rear stones were carved from a solid piece of "millstone grit" quarried in the Peak District of England. They are driven by an earlier form gear known as a lantern pinion. Such stones were used mainly to grind corn for animal feed. Both types of stones are known to have been imported into America during the colonial period.

The mill sails are bolted to two large beams called stocks, which pass through and are wedged in a cast-iron canister, or poll end, on the nose of the oak windshaft. Cast ironwork was first introduced into millwork by an English engineer, John Smeaton, about 1750. Prior to this, sail stocks were mortised into the wooden windshaft. Two types of sails are fitted to the new mill. The earlier "common" or "hand clothed" sails have a canvas sheet spread over the sail frame, which is furled by a series of ropes. This type of sail produces good driving power but is difficult to adjust when the wind changes speed. In 1773 Andrew Meikle, a Scottish millwright, solved this problem by inventing spring sails. This type of sail has a series of hinged shutters linked together like venetian blinds. The shutters are held closed in the working position by an adjustable spring. This allows the shutters to blow open and spill the wind when the velocity increases, thereby regulating the speed of the sails automatically. Spring sails were often fitted to mills as a second pair and this has been done on the Flowerdew mill.

All of the earliest post mills were faced into the wind by the miller pushing on the lower end of a long tiller known as the tail pole, which was secured to the rear of the mill. In 1746 an English millwright, Edmund Lee, patented the fan tail, which winded the mill automatically and saved the miller a great deal of labor. The fan is designed to revolve whenever the wind changes direction. By means of a series of gears and shafts, power is transmitted to two wheels mounted on a carriage on the bottom of the steps, which turns the mill into the wind. A fan tail has also been incorporated into the new mill at Flowerdew Hundred.

The new windmill, which was completed in 1978, is an outstanding example of the art and work of an almost extinct craft, that of the traditional millwright. The mill stands today because of the generosity and interest of Mr. and Mrs. David A. Harrison III,

who commissioned its construction. The commemorative mill represents the first phase of a long-term plan to interpret to the public the historical and archaeological evidence being found at Flowerdew Hundred, one of the most significant and fascinating early settlement sites in America.

FLOWERDEW HUNDRED FOUNDATION

Flowerdew Hundred is located on the south side of the James River off Route 10, about 5 miles east of the Benjamin Harrison Bridge.

Open daily (except Mondays) April 1 - November 30 (or by appointment)

Hours: 10:00 A.M. to 5:00 P.M.

Admission: Adults \$4.00; over 55 \$3.50; Children (6-12) \$2.50; under 6 free.

Discounted group rates with confirmed reservation.

For more information write or call:

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(804) 541-8897 or 541-8938**