A470 BLAENAU FFESTINIOG TO CANCOED IMPROVEMENT

ARCHAEOLOGICAL RECORDING REPORT

G1874

Report number : 621 part 3

Prepared for
White Young Green plc and Gwynedd Consultancy Environment Directorate
January 2006

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

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By

David Hopewell

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A470 BLAENAU FFESTINIOG TO CANCOED IMPROVEMENT (G1874)

ARCHAEOLOGICAL RECORDING

Part 3 Sites 3(13) Crane, 3(11) Weighbridge House and 10 Field Barn, Tal y Waenydd

1. INTRODUCTION

Gwynedd archaeological Trust was contracted by White Young Green on behalf of Gwynedd Council to carry out a programme of archaeological mitigation in advance of improvement works on the A470 between Blaenau Ffestiniog and Cancoed. The results are presented in three volumes of Gwynedd Archaeological Trust report No 621 *A470 Blaenau Ffestiniog to Cancoed Improvement, Archaeological Recording.* Parts 1 and 2 covering field evaluation, basic recording, detailed recording (excluding elevation drawings) and a photographic record were produced in December 2005. The present report, part 3 covers elevation drawings of three sites (3(13) Crane, 3(11) Weighbridge House and 10 Field Barn, Tal y Waenydd) along with additional notes on the crane. This report should be viewed alongside Parts 1 and 2

2. METHODOLOGY

2.1 Site 3(13) The Crane (Llechwedd Exchange Sidings)

Elevation drawings of the crane were produced using a combination of techniques. A series of photographs were taken of all components of the crane using a levelled camera where possible. Photographs were taken from as great a distance as possible to lessen parallax error and all included a scale. All accessible components of the crane were then measured and a sketch plan was produced. This information was then combine to make four elevation drawings. Measurements could not be taken of the upper part of the crane because of health and safety considerations. The crane is 6.5m high and free to rotate. It was observed to swing round in the wind so the use of ladders was not possible. The upper part of the crane was therefore drawn entirely from photographs and unmeasured sketches. The results are presented as four elevation drawings. An additional front elevation includes a colour coded cut away.

2.2 Site 3(11) Weighbridge House and Site 10 Field Barn, Tal y Waenydd

Elevations and plans were produced from a combination of measured survey and photographs. The photographs were taken using a levelled digital camera with the focal plane parallel to the building.

3. RESULTS

3.1 Site 3(13) The Crane (Figs 1 to 3)

The crane is still standing in its original position and is mostly constructed from cast iron. It is hand-cranked with a fixed jib and rotates freely around its axis without the use of gears.

The rotatable part of the crane is supported by a fixed, 2.7m high, cast iron pillar. The crane rotates on and around this pillar and is attached in two places. The jib and the base are joined by a series of 6 iron braces to a cast iron head that rotates on top of the pillar. The base of the crane is held in place by a wheel that runs around a flange on the base of the supporting pillar. This is stabilised by two rollers mounted inside the front plate of the base that are forced against the supporting pillar by the weight of the jib. The crane must have been turned by manually moving the load hanging from the jib. The crane still turns around during strong winds but cannot be turned by hand.

The lower parts of the crane are housed within a three-sided box framework formed by three cast iron plates. The front plate houses the stabilising rollers, the rotation support wheel and the base of the jib.

Two side plates are bolted on to this which house two axles bearing the winching mechanism. The side plates are held apart at the rear by a threaded iron bracing rod and bolts.

The rear axle bears a small cog and a ratchet and has square-section ends designed to hold a turning handle. The front bears the winch drum, a large cogwheel, and a brake/clutch wheel. They interact as follows: The small and large cogwheels are mounted on the left side. These provided the necessary gearing to lift heavy loads by winding two cables (no longer present) around the winch drum and over a double pulley at the end of the jib. The right side is dedicated to the braking mechanism. The rear axle bears a simple ratchet that would have stopped the load from falling back down when being lifted. The front axle bears a friction break or clutch consisting of a central wheel surrounded on its circumference by a steel band. The band could be tightened by pulling on a lever thus acting as a brake on the rotation of the winch drum. The end of the brake lever is broken off

The angle of the jib is fixed. The central part is wooden and octagonal in section it is housed in a socket in a projection from the front plate. A further cast iron section is fitted onto the upper end, holding the double pulley and the fixing point for the stays.

The head bears the name plate of the manufacturer W. & J. Galloway, Manchester. They were a major firm of engineers, boilermakers and iron founders who patented the Galloway boiler in 1848 and also carried out many large civil engineering projects.

The crane is generally in good condition although most of the moving parts are rusty and have seized up. The Jib and the head are slightly twisted in relation to the lower parts of the crane. The cast iron section on the end of the jib is also slightly twisted. There is a patch of rot at the bottom of the wooden part of the jib.

3.2 Site 3(11) Weighbridge house (Figs 4 and 5)

Listed Grade II. A rectangular plan structure, with a hipped roof from which most of the slates (which were trimmed to give a pointed lower end) are missing, and containing the remains of a weighing machine (Plate 43). There is a door in the southern wall and windows in the northern and western sides. A small fireplace is set into the eastern wall and a chimney, now collapsed, formerly stood on top of the wall. The balance mechanism standing within the building is well preserved. The other components lie within a pit extending beneath the line of the rails outside the building. Two iron plates, now partly buried, presumably mark the outer end of the balance. The inner end of the pit, within the building, is open but mostly filled with slate waste.

The contiguous mono-pitch structure may have been a storehouse or privy. It is subsiding to the east and beginning to separate from the weighbridge house.

3.3 Site 10 Field barn Tal-y-Waenydd (Figs 6 and 7)

A 19th century hay barn and animal shelter stands to the east of the A470 opposite Oakeley Terrace (Plates 44 and 45). Its external dimensions are 12.1m x 7.6m and it is open to the east. It is constructed from rough quarried slate with occasional split field stone. It stands on a plinth of rounded field stone. There are three ventilation slits in the western wall and one in the north gable. The south gable holds the entrance to the loft and a small window has been inserted on the ground floor. The open eastern side is supported by two pillars. The roof is recent corrugated iron replacing an earlier slate roof.

Internally the barn is divided into two bays. The southernmost is partially infilled on the eastern side with a haphazard construction of wood and breeze blocks. Internally it retains 6 concrete cattle feeding troughs. The loft area floor has largely been lost. This is divided from the northern two thirds of the barn by a rough wooden partition. The northern partition is open to the roof.

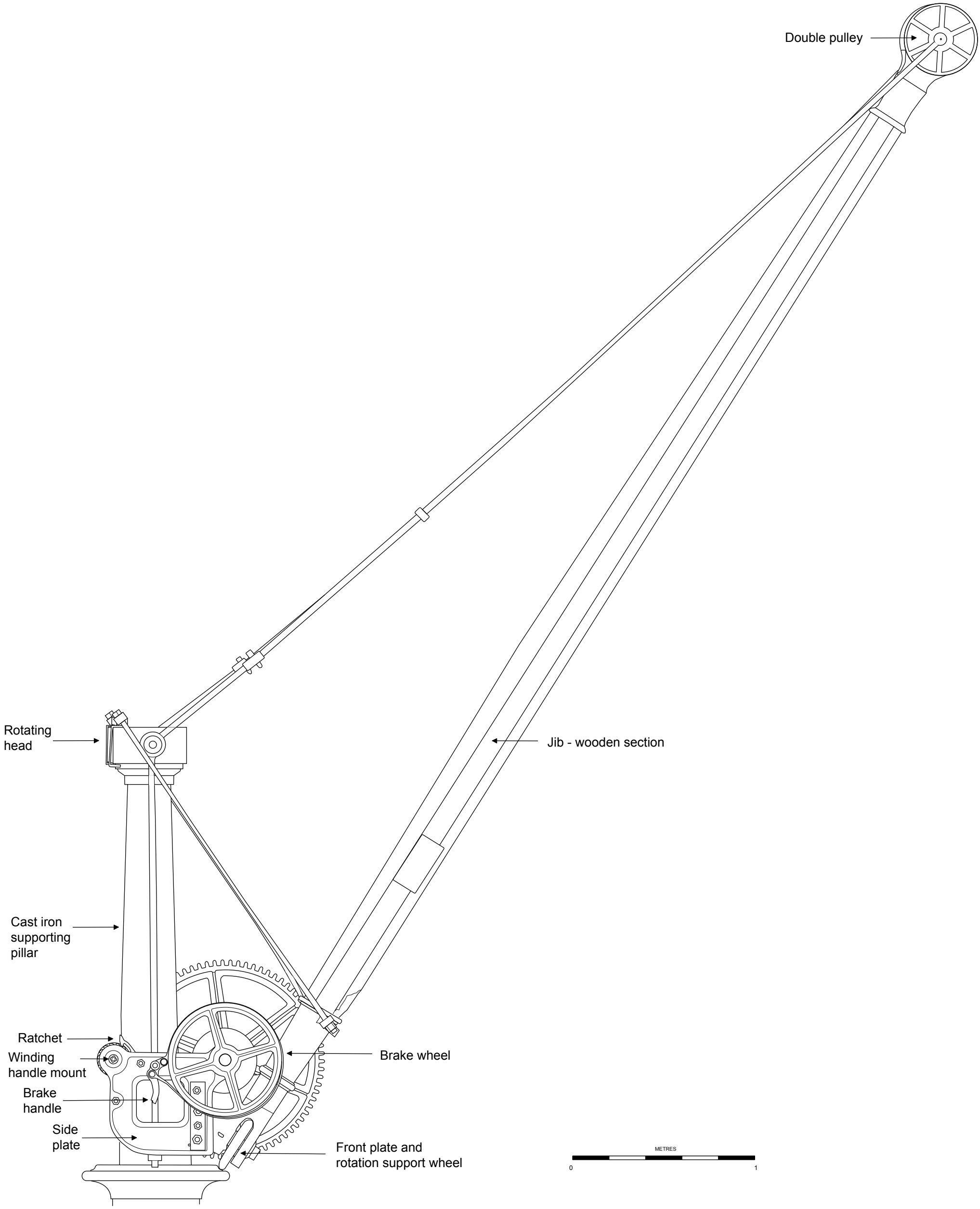


Fig. 1 Site 3(13) Crane (Llechwedd exchange sidings) right elevation

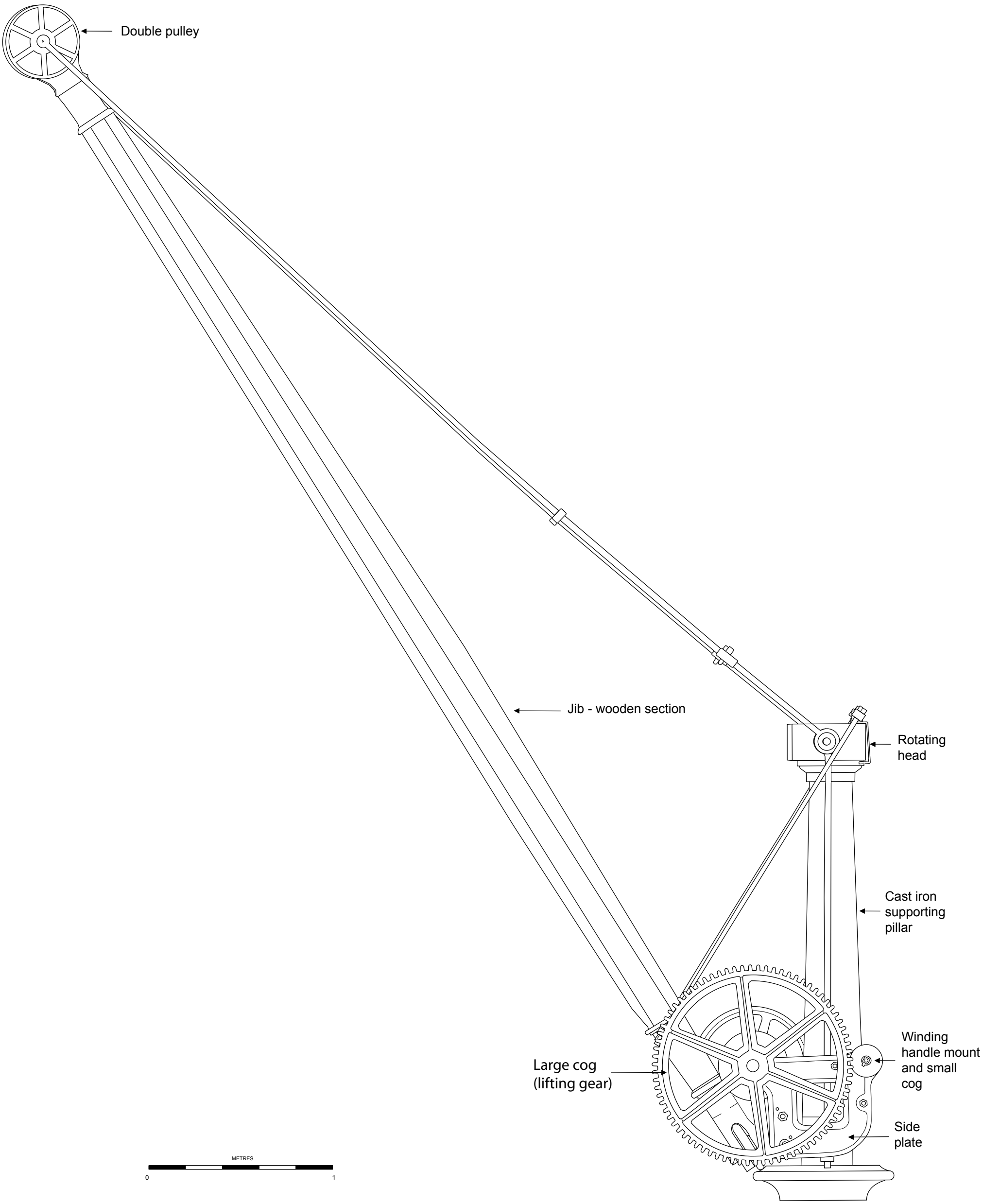


Fig. 2 Site 3(13) Crane (Llechwedd exchange sidings) left elevation

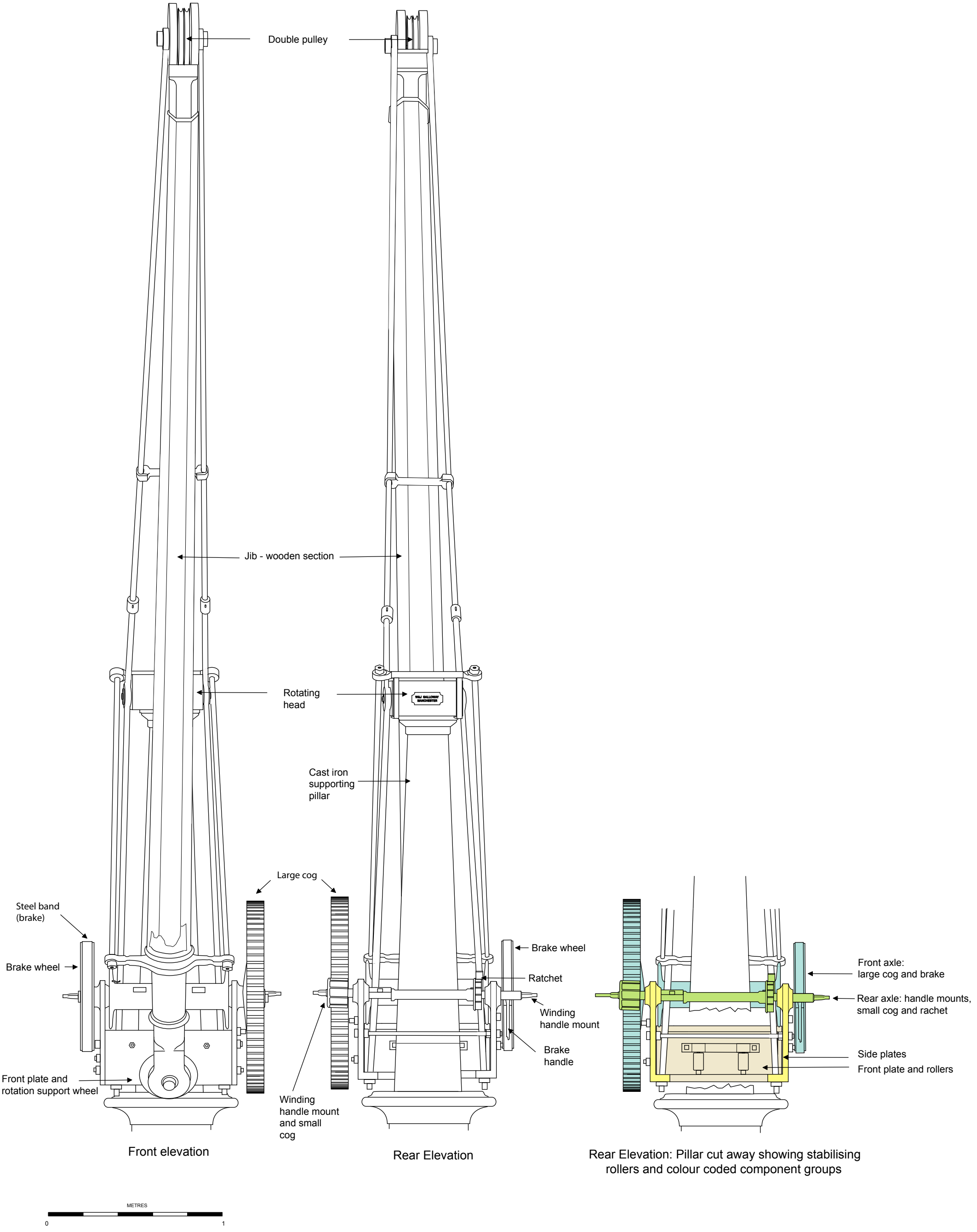


Fig. 3 Site 3(13) Crane (Llechwedd exchange sidings) front and rear elevations and cut away

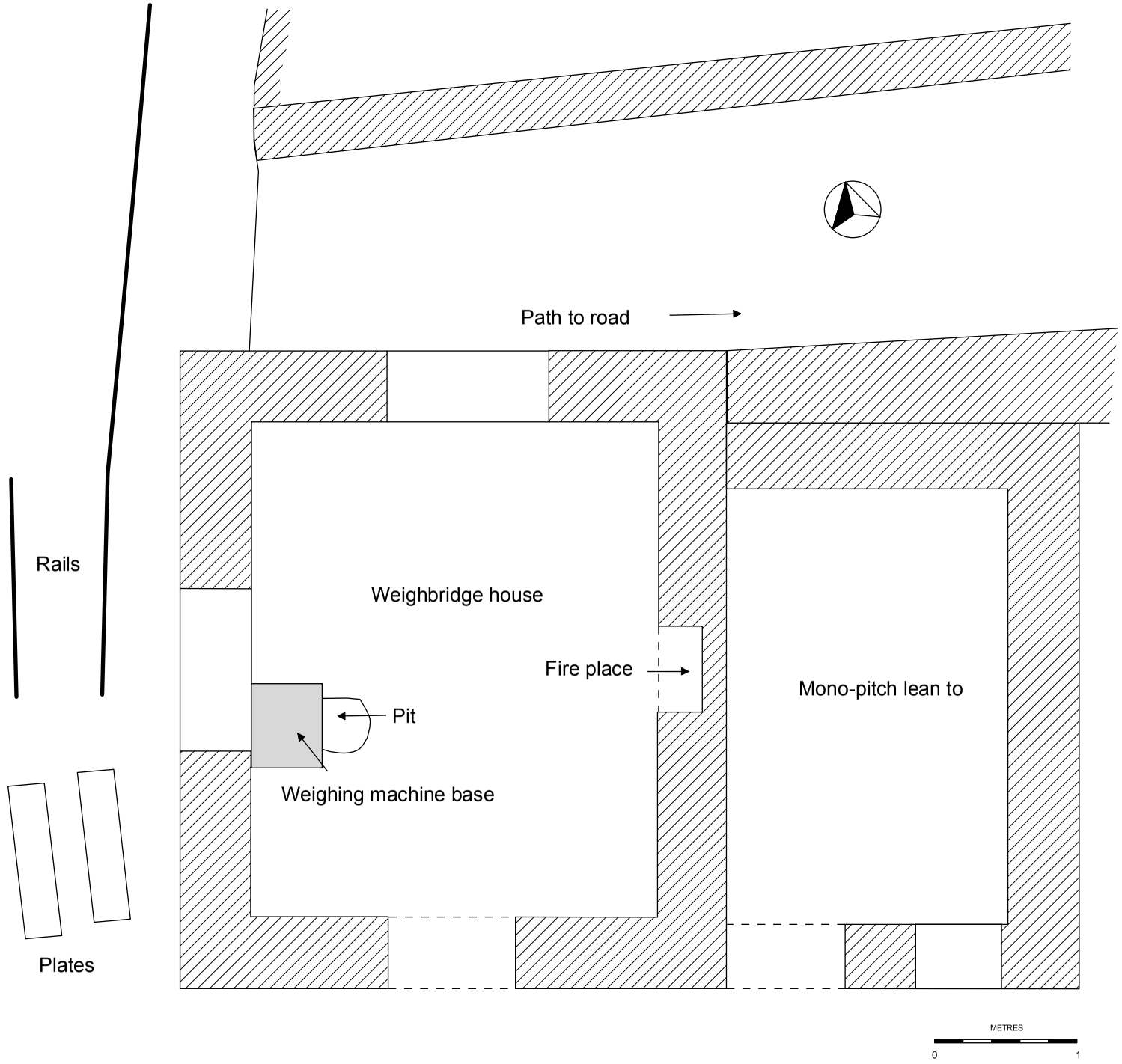
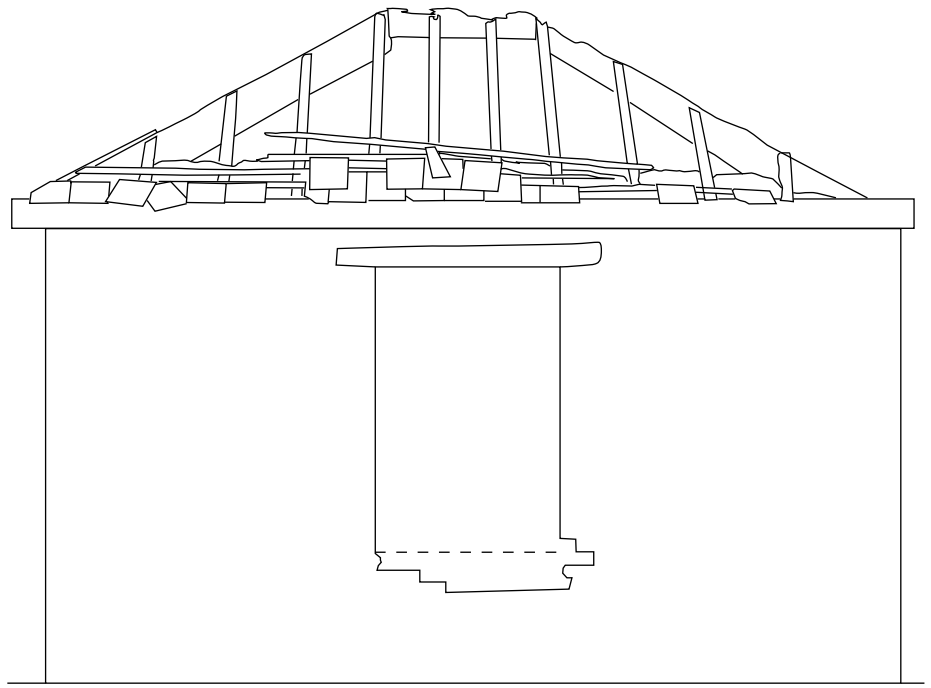
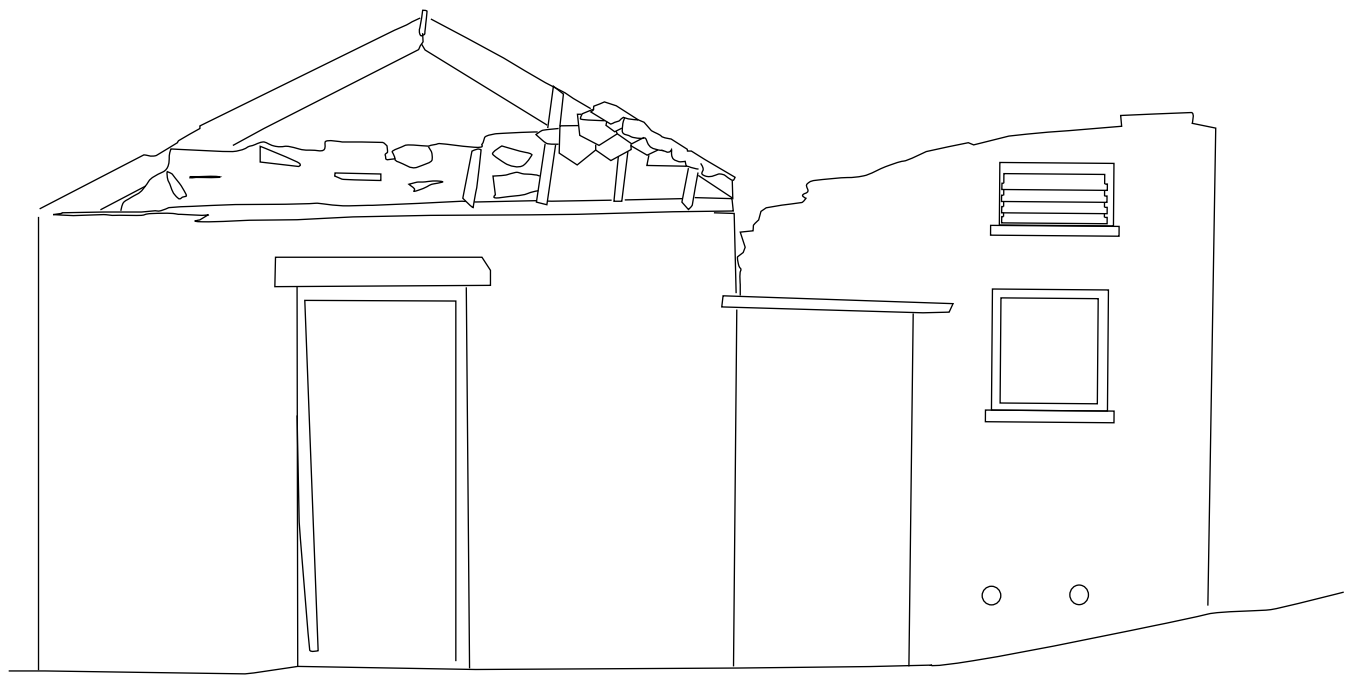


Fig. 4 Site 3(11) Weighbridge house, plan



west-facing

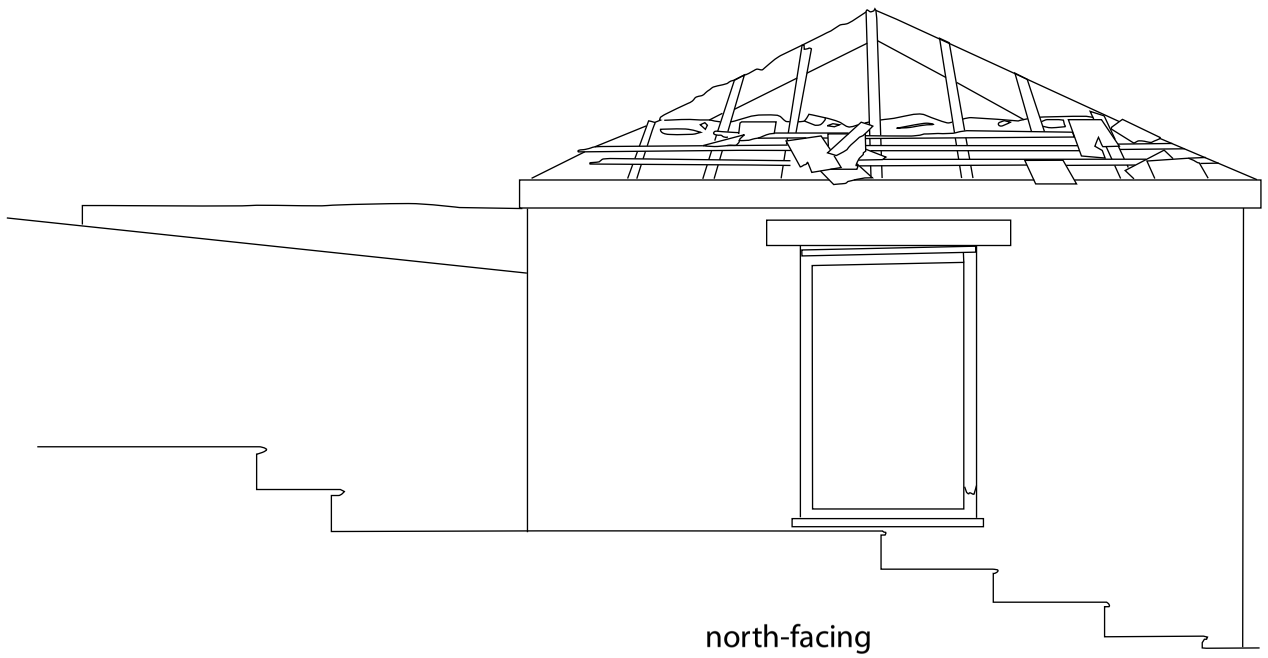


south-facing

METRES

0 1

east-facing



north-facing

Fig. 5 Site 3(11) Weighbridge house, elevations

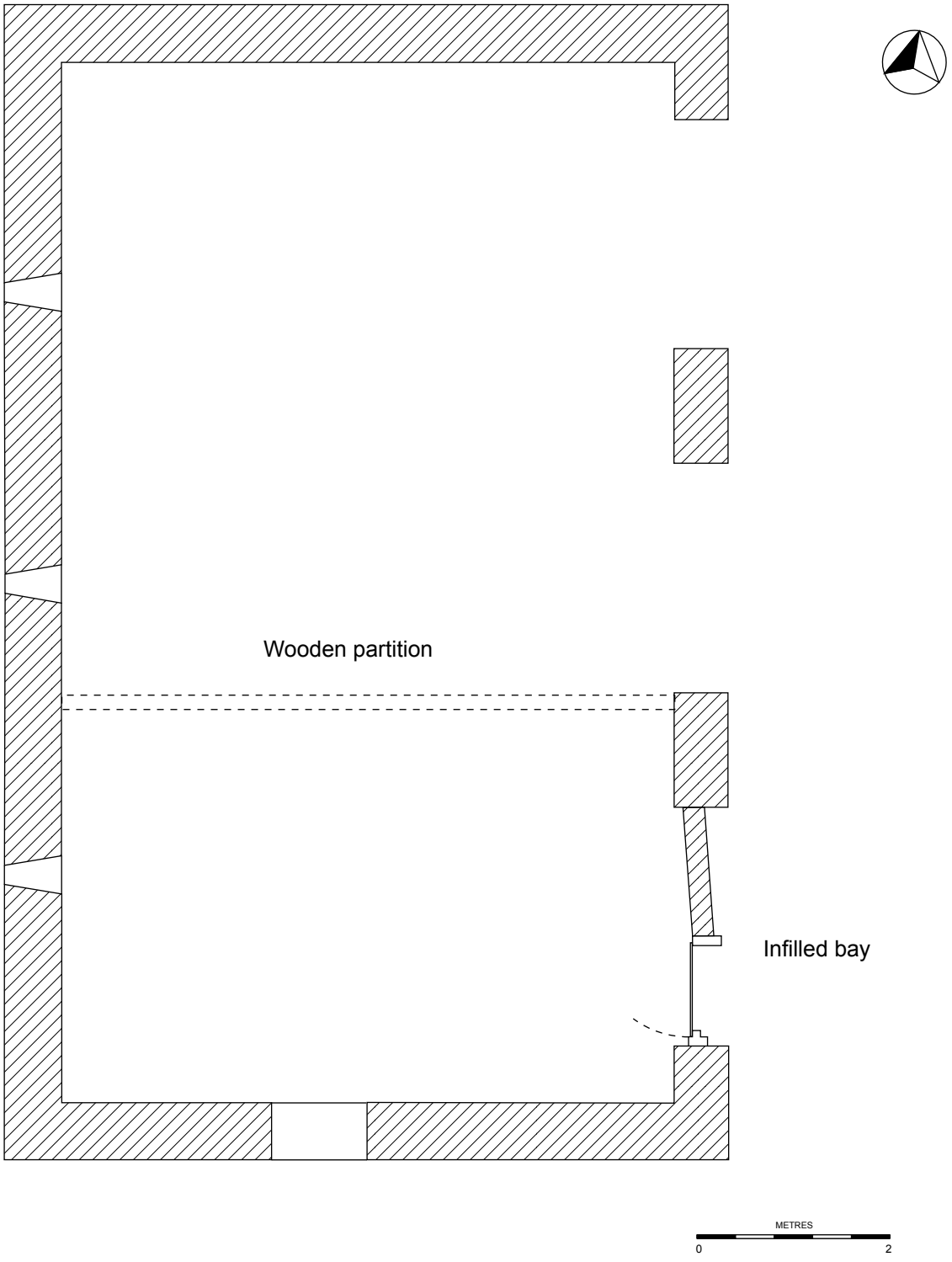
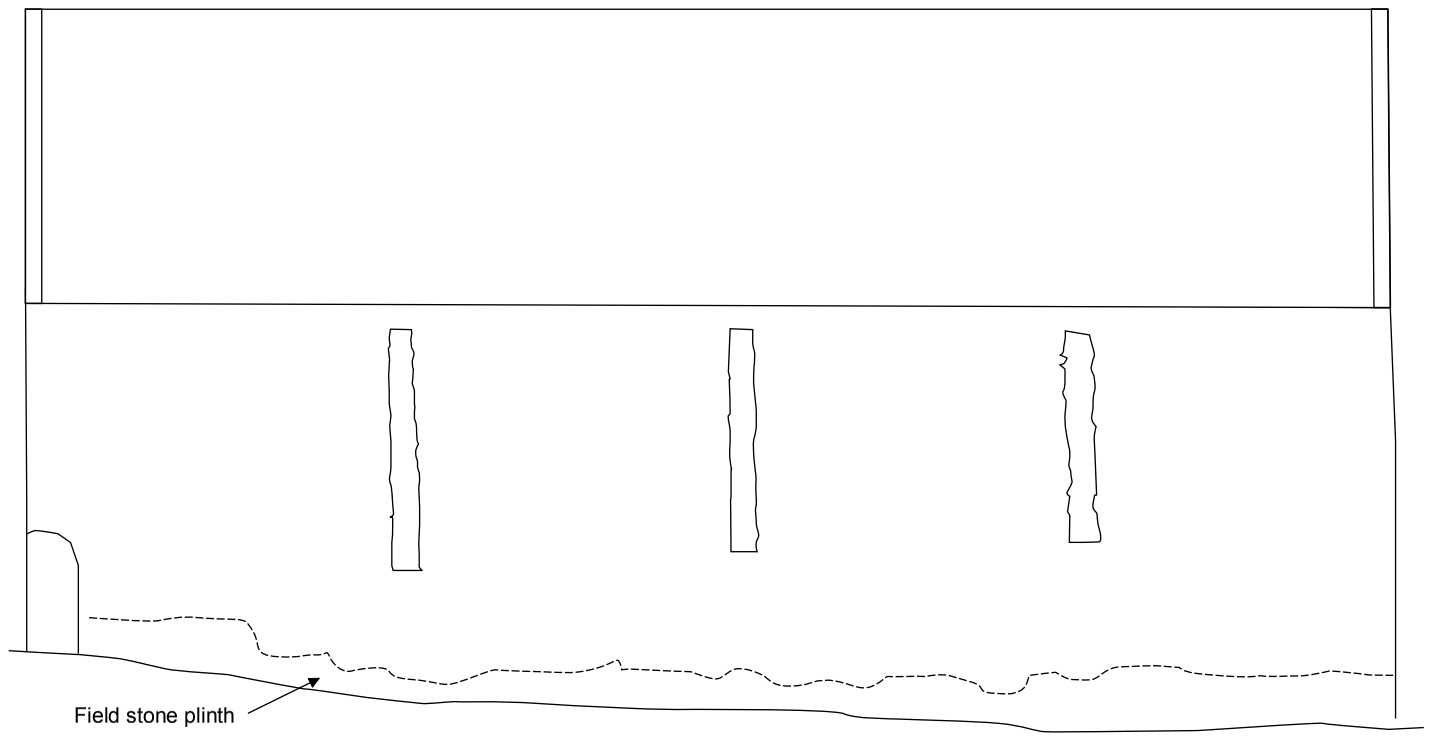
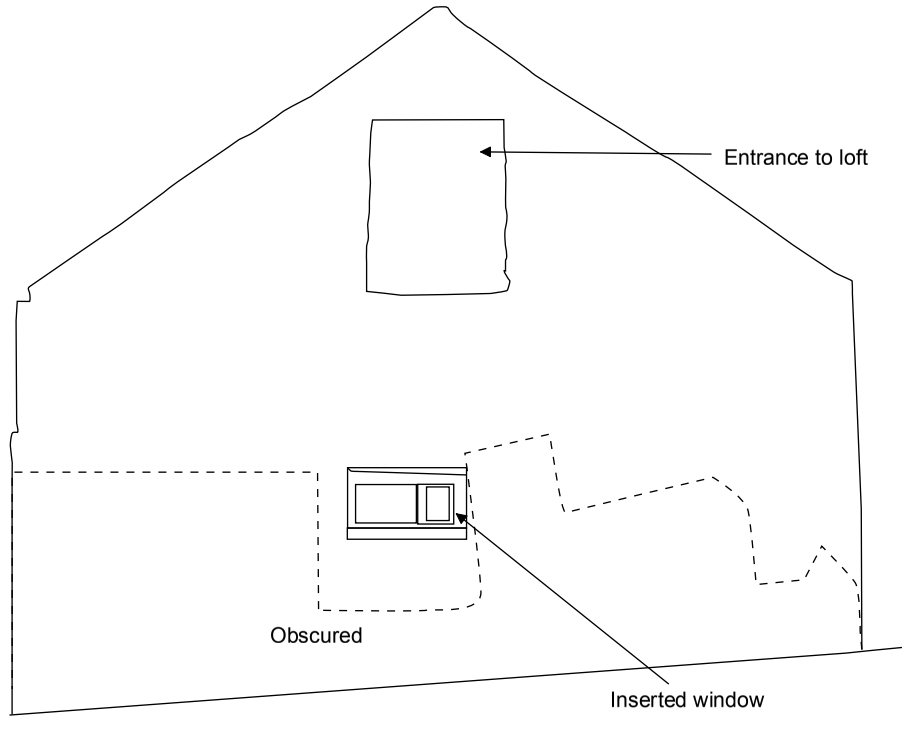


Fig. 6 Site 10, Field barn Tal-y-Waenydd, plan

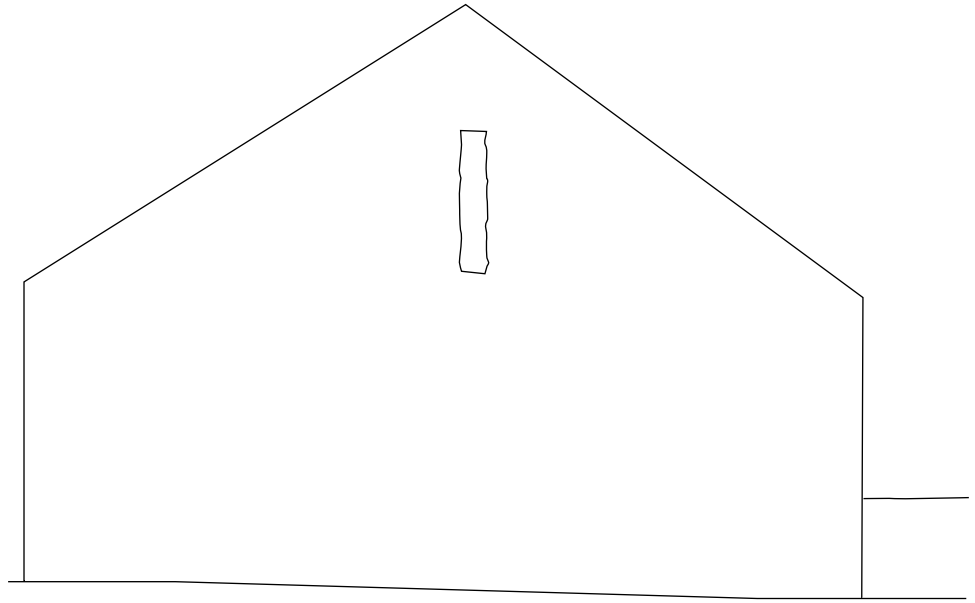


west-facing



south-facing

east-facing



north-facing

Fig. 7 Site 10, Field barn Tal-y-Waenydd, elevations

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