CPAT Report No 1039

Meifod Flood Risk Management Appraisal

ARCHAEOLOGICAL WATCHING BRIEF

THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

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Report for Environment Agency

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CPAT Report Record

Report and status

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1 INTRODUCTION

1.1 In November 2009 the Field Services Section of the Clwyd-Powys Archaeological Trust (CPAT) was invited to undertake a watching brief and assessment of borehole data on behalf of the Environment Agency, in relation to a programme of investigative work associated with the Flood Risk Management Appraisal for the village of Meifod in Powys.

1.2 Although originally scheduled for December 2009 the work programme was deferred and eventually conducted in February 2010.

1.3 A programme of ground investigations was undertaken, involving the excavation of a number of test pits, or 'window samples', together with a series of boreholes, to provide geotechnical information relating to the existing flood defences. The watching brief was undertaken on three of the window samples (Fig. 1, WS5-7) where it was thought likely that information might be recovered relating to earlier phases of the flood bank.

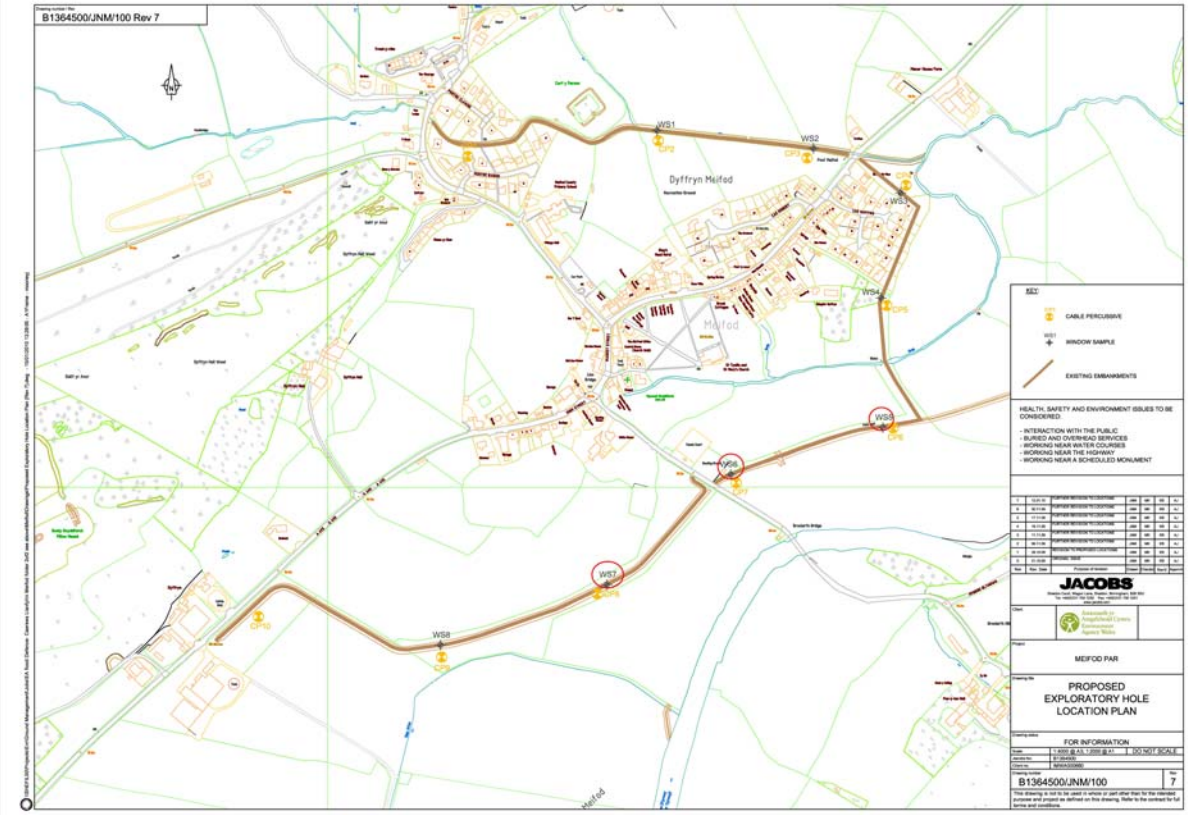

Fig. 1 Location of watching brief (WS5-7) and geotechnical samples (WS1-8 and CP1-10)

2 HISTORICAL BACKGROUND

2.1 The village of Meifod lies on the floodplain of the River Vyrnwy, 2km north-east of the confluence with the Afon Banwy. For much of its course the valley is rather less than 1km wide, with abundant evidence for changes in the course of the river in the form of palaeochannels, gravel fans and river terraces. The village lies less than 300m from present course of the Vyrnwy and the presence of a flood embankment encircling the village is testimony to the problems of this low-lying location.

2.2 The settlement has a long history, developing around the church which is supposed to have been built here by St Gwyddfarch in *c*.550 AD and later Meifod became the cult centre of his pupil, St Tysilio. With its vast 9 acre churchyard, it comes as no surprise that Meifod was a clas or mother-church in the early medieval period. Traditionally, it was the burial place of the princes of Powys prior to the Norman Conquest, whose seat was at Mathrafal, 3km away, though this view may simply be a back-projection of a practice that occurred in the 12th century.

2.3 Although the present river course lies some distance to the south-east of the village, evidence from historic mapping clearly shows that until perhaps the late 18th century the river followed the edge of a terrace along the southern side of the churchyard, within the area now protected by flood defences. The Ordnance Survey 1st edition 25" mapping of 1886 (Fig. 2) depicts this former course, identifying as 'Hen Afon', or Old River.

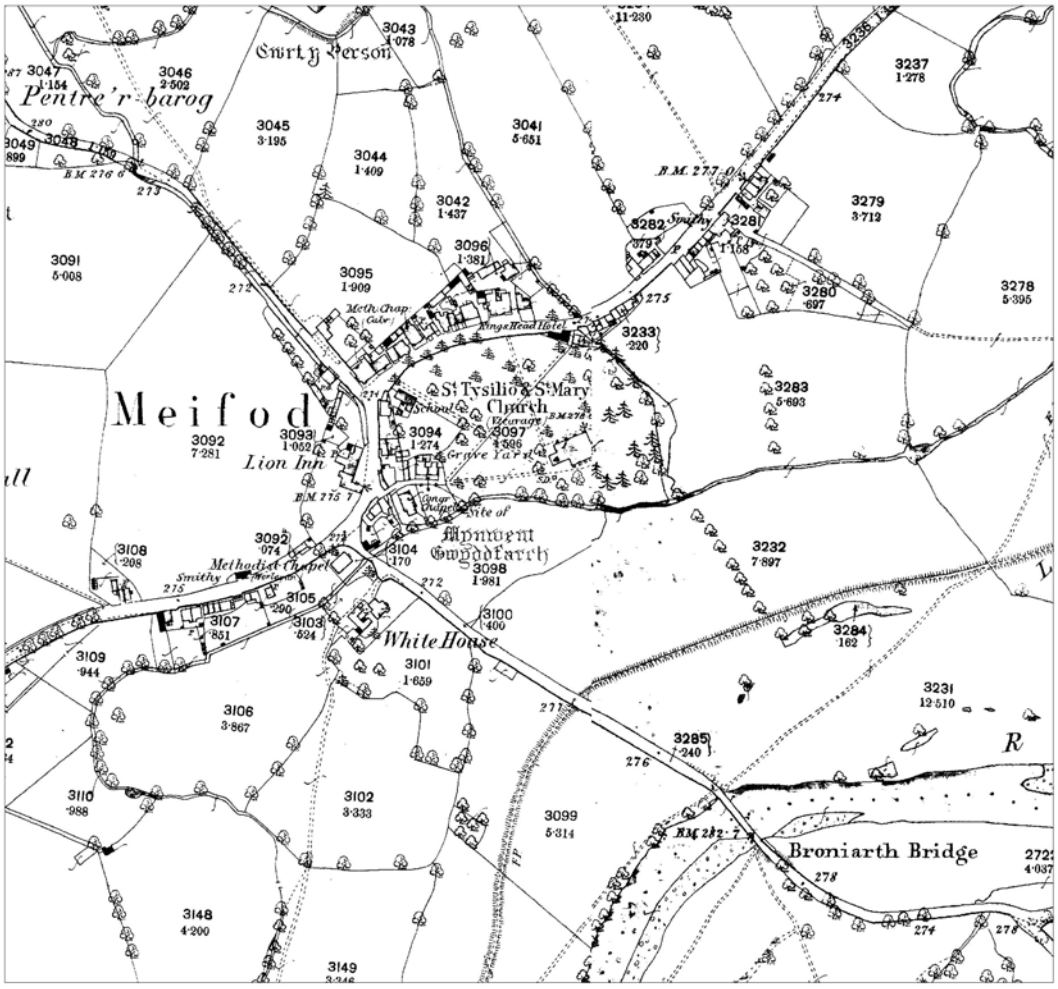

Fig. 2 Extract from the Ordnance Survey 25" map of 1886 showing the old river course immediately south of the churchyard.

2.4 The date at which the river course changed is not known, although it was certainly before the Ordnance Survey Surveyor's Drawing of 1829-30, which depicts the river in its present position. Local tradition suggests that the river was deliberately moved to reduce the risk of flooding and it is likely that this was achieved by creating an artificial confluence with the Banwy further upstream, the Vyrnwy then adopting part of the Banwy's original course.

2.5 A comparison between the 1886 mapping (Fig. 2) and modern mapping (Fig. 1) demonstrates that the modern flood bank follows part of the course of the original embankment to the north-east of the road to Broniarth Bridge, and also for around 60m to the south-west, after which the modern embankment adopts a new westerly course.

3 WATCHING BRIEF

3.1 The watching brief was undertaken on 17-18 March 2010 to provide archaeological monitoring during the excavation of three of the window samples which formed part of the geotechnical investigations (Fig. 1, WS5-7).

Window Sample 5

3.2 This was located along the existing floodbank to the east of Broniarth Bridge and comprised a hand-excavated test pit, measuring 0.35 x 0.3m, which extended to a depth of 1.2m, below which the investigations were conducted by core sampling.

Plate 1 Window Sample 5

3.3 The results revealed two phases of bank construction, the earliest of which consisted of a 0.6m-thick deposit of firm, yellow silty clay with occasional stones and grit, the base of which lay around 1.5m below the surface of the present floodbank. This was sealed beneath a 0.55m-thick deposit of firm, pinkish clay containing fragments of limestone and an upper layer of stoney clay around 0.25m thick, indicating a second phase of construction, raising the level of the embankment. The uppermost layers within the sample consisted of 0.25m of firm, silty clay and a thin layer of turf/topsoil.

Window Sample 6

3.4 This was also located along the existing floodbank to the east of Broniarth Bridge and comprised a hand-excavated test pit, measuring 0.3 x 0.3m, which extended to a depth of 1.2m, below which the investigations were conducted by core sampling.

Plate 2 Window Sample 6

3.5 Unlike WS 5, there was no evidence for an earlier phase of embankment, with the floodbank having been constructed from a single deposit of silty clay and gravel extending beneath the topsoil to a depth of around 1.8m.

Window Sample 7

3.6 Located along the existing floodbank to the west of Broniarth Bridge, this comprised a hand-excavated test pit, measuring 0.3 x 0.3m, which extended to a depth of 1.2m, below which the investigations were conducted by core sampling.

3.7 Again, two phases of construction appear to be evident, the earlier of which was composed of a deposit of red-brown silty clay around 0.3m thick, sealed beneath a layer of gravelly clay up to 0.2m thick. The second phase comprised a single 1.3m-thick deposit of red brown silty clay containing fragments of limestone.

Plate 3 Window sample 7

4 ASSESSMENT OF GEOTECHNICAL DATA

4.1 The results from the geotechnical investigations were made available by Jacobs, on behalf of the Environment Agency, and these were studied with a view to identifying any potential areas of archaeological or palaeoenvironmental significance, with particular reference to the potential identification of former river channels.

4.2 On the northern side of the village, investigations comprised two window samples (WS1-2) and three cable percussion samples (CP01-3). Both window samples were positioned along the line of the existing flood embankment, demonstrating that it survived to a height of 1.2m to 1.5m above the natural subsoil. The cable percussion samples were located along the southern side of the embankment and revealed a series of natural riverine deposits consisting of clays and gravels, with no indication of any archaeological or palaeoenvironmental potential.

4.3 Two window samples (WS3-4) and two cable percussion samples (CP04-5) were taken along the eastern side of the village, the former again along the line of the existing flood embankment, while the latter were positioned immediately to the east. Window sample 3 revealed that the embankment consisted of three deposits, suggesting two phases of construction. The lower 0.9m comprised two deposits containing limestone, while the upper 0.6m contained clay and gravel. However, window sample 4 indicated a single build for the embankment. The cable percussion samples revealed a series of natural riverine deposits consisting of clays, gravels and silts, with no indication of any archaeological or palaeoenvironmental potential.

4.4 The analysis of historic cartography has already demonstrated that the modern flood bank follows the line of an earlier feature for around 360m on the southern side of the village. This was reaffirmed by the watching brief during the excavation of window sample 5, which revealed two phases of construction. Further to the west, window samples 7 and 8 demonstrate a single build for the embankment.

4.5 There was no obvious evidence for any potentially significant archaeological or palaeoenvironmental deposits within the data for the cable percussion samples on the south side of the village (CP6-10).

5 CONCLUSIONS

5.1 The results from the watching brief and geotechnical investigations, together with evidence from historic cartography, indicate that at least some sections of the present floodbank around the south of Meifod have two main phases of construction, although no dating evidence was produced for either. The material used for the earlier phase is likely to have been sourced locally, and consisted of silty clay and gravel, while the later construction utilised a reddish clay containing fragments of limestone.

5.2 Rather unexpectedly the results from WS6, to the east of Broniarth Bridge, indicated a single construction phase, whereas WS7, further to the west, suggested two phases. This is surprising as by comparing the Ordnance Survey mapping of 1886 with modern mapping it is clear that the present floodbank follows the course of the earlier embankment in the area of WS6, but shows no earlier feature at the location of WS7.

5.3 Analysis of the geotechnical data has revealed no obvious evidence for any palaeochannels or significant archaeological deposits. However, it is clear that the course of the river has changed significantly over the centuries and the 1886 mapping depicts the channel of 'Hen Afon', following a course much closer to the village than the present river channel.

6 REFERENCES

1829-30 Ordnance Survey Surveyors' Drawing No. 328
1886 Ordnance Survey 1st edition 25" maps, Montgomeryshire 14.12 and 15.9