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A5 AND A55 ARCHAEOLOGICAL SURVEY ENHANCEMENT

PHASE 2A

NORTH WALES

Survey Report

A5 and A55 Survey Enhancement North Wales

Archaeological Survey Report

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The desktop survey was by Jo Bell, and the fieldwork by Jo Bell and Neil Wearing. The survey of the toll-house and weigh bridges was by Chris Wild and Vix Hughes. The Database entry and editing were by Neil Wearing and Dan Elsworth and the graphic work by Emma Carter. The report was compiled by Jo Bell and was edited by Jamie Quartermaine and Richard Newman. The project was managed by Jamie Quartermaine.

SUMMARY

This report presents the results of a brief programme of research and fieldwork in North Wales, which was intended to enhance the database created during an earlier archaeological survey of Thomas Telford's Holyhead road, between Holyhead and the English border (largely coincident with the present A5) undertaken in autumn 1998 (LUAU 1999). As a part of this project, sites on the A5 were revisited, and an archaeological survey was undertaken of the road built by Telford between Bangor (or Llandegai) and Conwy as part of his Holyhead-Chester road. The route of this road largely coincides with that of the present A55. It was felt that it deserved study not only as an important historic route in North Wales, but also as an example of civil engineering by one of its best-known practitioners in a time of great industrial and social change.

A rapid desktop survey was undertaken during which historic maps, listings and other sources were consulted. A programme of fieldwork followed during which the Chester road route between Bangor and Conwy was subjected to an identification survey.

The documentary research undertaken as part of the original survey (LUAU 1999) was enhanced by a brief review of archives held at Record Offices in Caernarfon and Llangefni, Anglesey as part of this project. This was followed by a short programme of additional fieldwork to augment information on particularly important sections of the A5 and to assist with the compilation of scheduling and listing proposals. A number of gates originally associated with the road were visited and photographed and new information was added to the existing A5 database.

The listing status of the monuments along the routes were reviewed and recommendations are made for extending the listing status to the more significant examples of each class of monument. The scheduled status of the monuments was examined and it was acknowledged that it would be impractical to schedule sections of operational road as this would severely impair any maintenance. It was therefore proposed that important sections of detrunked road, notably the major embanked Ty Nant section (Site 158), and also sections of pre-Telford turnpike, be put forward for scheduling.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 Lancaster University Archaeological Unit (LUAU) was commissioned by Cadw to undertake a programme of work (Phase 2A) on the A55 and A5 roads in North Wales, and was required to follow on from an earlier programme of work (Phase 1) on the A5 (LUAU 1999). The work involved an identification survey of the A55, research into the location of sunburst gates, surveys of two toll-houses and weigh bridges, an enhanced documentary study and a review of the listing and scheduling of the road monuments. The programme of work defined in the project design (*Appendix 2*) and the Project Brief (*Appendix 1*) also provided for research into the inns along the A5 route, and detailed surveys of Cernioge Mawr, and Mona, but in the event these elements were omitted from the programme.
- 1.1.2 **Documentary Study:** archival research comprised examination of documents including Telford's specifications, with other published and unpublished sources to explore the history of the Bangor-Conwy route. Information was gathered not only about the Telford road-building campaign but also the roads which preceded it, and subsequent alterations to the Telford road.
- 1.1.3 **A55:** the desktop study was followed by a programme of fieldwork, during which a rapid visual survey of the Bangor-Conwy section of Telford's road between Bangor and Chester was carried out to assess the extent and survival of Telford-period remains. The route of the present A55 coincides largely with Telford's route between Bangor and Conwy. Telford's road left the main Holyhead-London (or A5) line south of Bangor at Llandegai, and ran north-east along the Irish Sea coast, as the A55 does, before turning inland (on the line of the present A547) to approach Conwy from the north and pass through the town to the river Conway. For the purposes of the present study, the route is taken to end at the eastern end of Conwy suspension bridge. For the sake of consistency, the Holyhead-London route or A5 is here referred to as the 'Holyhead road' and the present Bangor-Conwy/A55 road as the 'Chester road', in keeping with Telford's own use.
- 1.1.4 **Sunburst Gates:** reports from Barrie Trinder and from other sources of out-of situ locations of toll gates were investigated, the sites were visited, and oral research was undertaken within the region as to the locations of further gates. The results were compiled in the project database and presented as *Appendix 3*.
- 1.1.5 **Toll-house and Weigh bridges:** surveys in plan and cross section were undertaken of the toll-house / weigh bridge combinations at Lon Isa and Ty Isaf and the graphic results are presented in this report (Fig 2-8).
- 1.1.6 **Database Enhancement:** the database compiled to record information about the sites encountered is included as the gazetteer to this report. A programme to update and enhance the A5 database was undertaken at the same time, and is also considered in this report. This work was intended to provide further information on certain areas of the A5. Liaison was undertaken with the SMR's of Clwyd Powys and Gwynedd and the Highways Directorate to ensure compatibility of output.

- 1.1.7 ***Listing and Scheduling of the Holyhead Road:*** the legal status of the monuments was reviewed and recommendations for further listing and scheduling was made, and is presented below (*Sections 6 and 7*).
- 1.1.8 The historical introduction which follows (Section 2) is derived in part from previous reports, and the results of the present documentary study. It is presented here to enable this report to be read in isolation but understood in context. The historical introduction focuses on the A55 - Chester Road as the A5 Holyhead Road has been detailed in a previous report (LUAU 1999).

2. HISTORY OF TELFORD'S CHESTER ROAD

2.1 INTRODUCTION

2.1.1 In 1811 Thomas Telford, the renowned civil engineer and County Surveyor for Shropshire, was commissioned by Parliament to improve and in some places build anew, the route between Holyhead (the departure port for Dublin) and London. At the same time, the road from Holyhead to Chester was to be improved. It is this Chester road which partially survives in the line of the present A55.

2.2 PRE-TELFORD ROAD

2.2.1 The Chester road followed a long-established route along the North Wales coast. A traveller of the mid-sixteenth century mentioned a route between Dwygyfylchi and Llanfairfechan as part of the *'kinges high way from Conewey to Bewmares, Bangor and Carnarvon, and the only passage that the kinges post hath to ryde to and from Ireland'* (North 1935, 4). The Chester road remained the mail road to and from London until 1804, when the predecessor of the A5 (the route via Capel Curig and Shrewsbury) superseded it in that role.

2.2.2 The existing roads, which Telford came to rebuild or replace, were themselves an improvement on earlier tracks, and much of their line and fabric had been put in place by turnpike trusts in the previous thirty years. However, the turnpike trusts did not always employ trained surveyors or engineers (barely emerging professions) to lay out their roads, and maintenance was usually undertaken *ad hoc* by inexperienced labourers with locally available material. Some of the resultant roads lacked durability, clear boundaries or other features which generally distinguish a good road; the worst were *'not confined by hedges and walls to narrow strips of land covered over with a specially prepared surface, they were not sign-posted, and there were no milestones to tell the distances'* (Pritchard 1961, 27).

2.2.3 The exact standard of these roads is subject to some debate. Certainly the main roads of North Wales remained demanding and sometimes tortuous in the early nineteenth century. Their piecemeal construction and maintenance by various turnpike trusts had inevitably led to inequalities of standard, and the private finance which underwrote them had rarely allowed very large-scale engineering works. It had not always been possible to straighten the road, to raise it fully above waterlogged ground or to bridge high-sided river valleys.

2.2.4 The roads which Telford encountered, particularly on the Holyhead route, were therefore characterised by steep gradients, sharp bends, areas of marshland or open water, and badly drained or potholed surfaces. The journey through north or central Wales was unpleasant and sometimes dangerous; coaches were overturned, riders unseated and pedestrians found the way unclear and uncomfortable. The local guides who were sometimes employed by travellers were themselves unreliable: one traveller commented, *'It is remarkable that we had hitherto never deviated from the true line of our route when alone, and that we seldom kept to it when we employed a guide'* (Pritchard 1961, 27). Indeed, the journey between Bangor and Conwy was usually made by ferry before the

late eighteenth century, as travellers preferred even the quicksands and fast-rising tides of the North Wales coast to the uncertain and uncomfortable overland route.

2.3 TELFORD'S CHESTER ROAD

- 2.3.1 The commissioning of the new Holyhead and Chester roads fell within a national pattern of road improvements. The importance of an adequate inland transport network was increasingly clear to Parliament and to influential landowners, as commerce and manufacture expanded in internal markets which could not be reached by sea or by navigable waterways. The science of making roads was developed by influential engineers such as Metcalfe, Macadam and Telford. In particular, they developed an understanding of the fabric of the road. The importance of a stable substructure made with various sizes of roadstone, of a durable but flexible surface which would settle and stabilise in use, and of good drainage by camber and culvert, came to be more widely appreciated.
- 2.3.2 The immediate stimulus to improvements on the Holyhead and Chester roads was a political one. The Act of Union of 1800 brought England and Ireland under the same administration. Irish members of Parliament wishing to come to London found the roads impracticable for coaches, and not always adequate even for single horse-riders. From 1808 an erratic mail service ran between Shrewsbury and Holyhead, and it became still clearer that the condition of the road was a serious hindrance to good communications. The necessity for well-built and well-maintained post roads spurred Parliament to establish a Commission, to order and oversee the building of new roads. It was to this commission that the superintendent of the Mail Coaches reported in 1811 that '*I consider the stage from Conway town to Aber one of the most difficult we have to perform in Great Britain*' (North 1935, 11).
- 2.3.3 The commission appointed Thomas Telford as chief engineer to the road improvement programme. Telford had a proven record of large-scale engineering works including canals, bridges and notably a system of roads in the difficult terrain of the Scottish Highlands, which presented problems of mountainous or waterlogged terrain similar to that of North Wales. The line of the Chester road was surveyed in 1810-11 and improvements began soon after, and were completed in 1830. Because the road building programme was underwritten with public money, Telford was able to tackle serious engineering problems, such as very steep gradients, with large-scale earthworks or other expensive works.
- 2.3.4 **Conwy:** on the Holyhead route, Telford's greatest obstacle was the Menai Straits, which he spanned with a bold suspension bridge. On the Chester road he bridged the river Conway in the same way on a smaller scale, making redundant the ancient ferry route. His approach to the medieval castle at the west end of the bridge was uncompromising and visually striking; he drove the chains of the bridge through the castle walls and used its bedrock foundation as an anchor for the chain stays. The bridge was '*in a forward state*' by 1824 (Penfold 1981, 55) and complete by 1826. The masonry was by John Wilson and the ironwork by William Hazeldine, the founder who had cast the iron for

the Waterloo Bridge on the Holyhead road. Having reoriented the approach to Conwy, so that the road came in from the north, Telford was again confronted by a medieval wall, this time the city wall, and again took a robust approach. At the north-western turret in the city wall, now known as the Bangor Gate, an arch was driven through the structure to allow passage.

- 2.3.5 **Penmaenmawr:** a further challenge, and one which Telford was not fully able to resolve, was presented by the great mountain Penmaenmawr west of Conwy. A good deal of information is available about this section of the road because of its notoriety. At the beginning of the seventeenth century Camden's *Britannia* described it as '*a very high and perpendicular rock....which hanging over the sea, affords travellers but a very narrow passage; where the rocks on one hand seem ready to fall on their heads; and on the other, the roaring sea of a vast depth*' (North 1935, 3). A traveller in the mid seventeenth century described the same section of the '*kinges highway*' in greater detail and with some hyperbole. His description gives a striking image of the terrain and the contemporary road.

'This rock is a myle and a half in height and very pendicular, especially beneath this way; the way begininge att the sea shore within the parishe of Dwygyfylchi is cutt through the syd of a rocke still ascendyng untill you come to a cricke upon the rocke called Clippyn Seiriall, and all that way is 200 yardes above the sea, over which yf either man or beaste shoulde fall, both sea and rocke, rocke and sea, woulde strive and contend whether of both shoulde doe hym the greatest mischief; and from the Chappell aforesayd forward the way is cutt through the syde of a gravelly, rocky hill, still descyndyng untill you come agayne to the sea shore within the parishe of Llanvair; this way in length is aboute a myle and somewhat better, and in breadth two yardes, but in some places scarce a yard and a quarter, or a yarde' (North 1935, 4).

- 2.3.6 The same traveller described the procedure then in use for maintaining the road, and the difficulties in keeping it in good condition throughout the year because of frequent rock falls:

'And this way is ever sythence kepte and repayred by a heremyte [hermit].....and for all this the way would soone perishe, weare ytt not for the fyrmenes [firmness] of the rock, by reason of greate stones and rubbell that often fall from the hill, beyng dissolved upon the thawynge of every greate snowe and froste, and sometymes either choake and fill upp the passage, or ells breake down greate gappes in the way, which are repayred by...new foundations wrought in such gappes upon poles and thornes' (North 1935, 4).

- 2.3.7 According to North only two routes were possible across the mountain until tunnels were cut in the twentieth century (North 1935, 6). The road described above took the higher line, but in the eighteenth century it was replaced by a lower one. This road had been financed with a £2000 grant from Parliament in 1769, after reports of particularly heavy rock falls (North 1935; Pritchard 1961, 25) and was built by Sylvester in 1772. It was Sylvester's road which Samuel Johnson travelled in 1774, commenting that it had been '*lately made very easy and very safe. It was cut smooth and enclosed between parallel walls*' (Harper 1902, 274). Even so, the road was narrow and high, and was described at the

end of the eighteenth century as one which '*cannot be travelled without shuddering*' (*ibid*).

- 2.3.8 The narrowness of the road and the steepness of the drop below it were features which reappeared constantly in travellers' accounts. The natural gradient, the size of the outcrops, the proneness of the rock to erode and slip, and the proximity of the Irish Sea made it impractical to re-align the track significantly. Likewise, it was difficult to make cuttings and embankments to broaden the track or reduce its slope.
- 2.3.9 Telford was forced to compromise on the site, the breadth and the gradient of the road. He could not deviate significantly from Sylvester's route, although in places he took a new line about six metres higher (Harper 1902, 274). In terms of breadth, Telford usually insisted on a minimum of thirty feet. At Penmaenmawr, even with rock cutting, the narrowest sections were widened to only seventeen feet.
- 2.3.10 In terms of gradient Telford, again, had little leeway at Penmaenmawr. Telford considered uniform gradients essential to a good road. He had undertaken great campaigns of cutting and embanking wherever finance and technology allowed, even when contemporaries decried the attempt. For instance, he had driven lengthy and expensive cuts through the mountainside at Nant Ffrancon to provide a uniform gradient for the Holyhead road. Undoubtedly he would have hoped to lessen the climb at Penmaenmawr in the same way, for he measured the gradient of Sylvester's road on the Llanfairfechan side at 1 in 16 (North 1935, 9), where Telford preferred a maximum of 1 in 20. The Act of Parliament covering the improvements allowed for gradients of no greater than 1 in 25, and on the Llanfairfechan side a slope of 1 in 22 was achieved. At the summit, however, the gradient remained 1 in 14 even after Telford's improvements (*ibid*, 11).
- 2.3.11 The Penmaenmawr section of the road has remained a challenge for civil engineers. Tunnels were cut in 1935, and the recent widening of the route has required a further tunnel and substantial consolidation works in the 1990s.
- 2.3.12 The Chester road benefited not only from centralised finance and world-class engineering, but from rigorous planning and administration. The road was divided into numbered lots, each with a detailed specification expounding its engineering and administrative requirements. Each specification was accompanied by a map showing the line of the new road, and where it diverged from that of the old road. Work was carried out by local contractors and closely supervised, and reports were regularly made to the Parliamentary commission by Telford and his engineers. The specifications and reports constitute an unusually complete account of the road building programme, which are a valuable historical source.
- 2.3.13 **Operation of the Road:** the road between Bangor and Conwy was complete by 1830 and operated, like its turnpike predecessors, as a toll road. Tolls collected under the aegis of the Parliamentary commission, rather than a private trust, recouped some of the construction costs and financed maintenance in an example of what would today be called hypothecation. The toll houses, gates and mileposts which furnished the road were a distinctive part of its overall

design. At present only a single milestone (C012) is known to survive *in situ*, and two toll houses (C006 and C030).

- 2.3.14 Telford's roads were immediately successful in reducing journey time and increasing safety, and helped towns such as Bangor and Conwy to communicate with a wider hinterland. Nonetheless their function as mail routes, their *raison d'être*, was short-lived. By 1850 the roads had been displaced by the expanding railway network for the carriage of much mail, freight and passenger traffic. The roads declined somewhat until twentieth century motor transport revived their fortunes, and their subsequent history has been one of ongoing alteration to accommodate the increasing volume of motor traffic.
- 2.3.15 The present A55 preserves much of the line of Telford's Chester road, but it has been subject to more alteration than its contemporary, the Holyhead road. The fabric of the Chester road has been much disrupted by modernisation, particularly in the vicinity of Penmaenmawr. Some sections of the Telford route have been bypassed by the A55 and exist either as minor roads or overgrown tracks, visible as disjointed fragments, footpaths or field boundaries.

3. METHODOLOGY

3.1 PROJECT DESIGN

3.1.1 A project design for Phase 2A (*Appendix 2*) was submitted by LUAU in accordance with a project brief (*Appendix 1*) prepared by Rick Turner of Cadw. The project design required the following:

- a documentary study be undertaken of the A5 and A55 roads, to augment that work already undertaken as part of Phase 1.
- an identification survey to be undertaken along the line of the Bangor - Conwy section of the Chester road (A55)
- an investigation of the out-of situ sunburst gates.
- a survey of the toll houses and weigh-bridges at Lon Isa and Ty Isaf
- enhancement of the database
- review of the legal status of the Telfordian and turnpike road monuments on the A5 and A55

3.1.2 The project brief (*Appendix 1*) and the project design (*Appendix 2*) provided for research into the inns along the A5 route, and detailed surveys of Cernioge Mawr, and Mona, but in the event these elements were not commissioned. In all other respects the work has been undertaken in accordance with the project design.

3.2 DOCUMENTARY STUDY

3.2.1 **Specifications:** most of Telford's specifications for the roads, which became the A5 and A55 survive in the archives of the Ironbridge Gorge Museum, Shropshire. The form of these specifications and the information gathered from them has been discussed in a previous report (LUAU 1999). They remain the most important primary source for any archaeological work on what Telford called the Holyhead road, and were consulted once again during this project. The route had been traced out on First Edition Ordnance Survey maps during the previous programme of works, and the annotated First Edition extracts were again used in the field. They provided a useful comparison with the present route and allowed modern deviations from the Telford road to be pinpointed.

3.2.2 Unfortunately not all of Telford's specifications for the Chester road survive. Only around a third of the Bangor-Conwy route is covered by surviving specifications. The remainder has been traced from historic maps (*Section 4.3*), which show the Bangor-Conwy route before and after Telford's campaign.

3.2.3 From the descriptions and maps in the specifications, the route of the Telford road was traced as far as possible on the First Edition Ordnance Survey map of c1890 (scale 6" to 1 mile), and onto the current 1:10,000 Ordnance Survey map. This allowed direct comparison in the field between the Telford route, the route in use in the 1890s and the current A55.

- 3.2.4 **Statutory Protection:** information on listed buildings and scheduled monuments along the route was obtained from Mr Tony Render of Cadw, which were compared with field observations of the sites.
- 3.2.5 **Primary and Secondary Sources:** visits were made to local record offices at Caernarfon and Llangefni, Anglesey, in the hope of seeing primary documents which would cast light on the past history of the road or features associated with it. Promising documents, newspaper articles or photographs were accessed and secondary sources consulted. The record office at Caernarfon supplied a collection of historic maps dating from the seventeenth century onwards, which showed the Bangor-Conwy roads before and after Telford's improvements. Other primary sources included correspondence from landowners affected by the proposed road improvements, and articles from the *North Wales Gazette*; these often refer to the road and summarise the reports of the Parliamentary Commissioners, including Telford's own testimony before the commission. A number of secondary sources were also consulted at the record office and in libraries elsewhere.

3.3 A55 SURVEY

- 3.3.1 Fieldwork was undertaken in September 1999. The survey involved walking the route of the Telford road wherever possible, but as much of the A55 route is now dual carriageway, walking was not always possible. Some parts of the road were therefore driven twice or more, as slowly as possible, and observations were made from the car. Because the sections of dual carriageway are usually those where the Telford road has been entirely lost, it is not considered that significant archaeological information was lost by this approach.
- 3.3.2 For each section of the road transparent overlays were prepared, on which the Telford route was marked. When laid over the current 1:10,000 map extracts, these allowed features seen in the field to be rapidly and accurately located on the current map, and recorded on the overlay. A proforma record sheet was filled in for each feature. Two kinds of sheet were available: one for 'linear' features such as stretches of road or wall, and one for 'structures' such as toll houses or milestones. Each feature was given an arbitrary and unique number, with odd and even numbers indicating which side of the road the feature lies on.
- 3.3.3 **Photographs:** a photographic archive was compiled. Black and white and colour prints were taken of all features recorded, and digital images were taken of outstanding features.
- 3.3.4 **Data Processing:** as part of Phase 1 the design of the database was undertaken using Microsoft Access 97 and was based upon the database formats of the Gwynedd and the Clwyd Powys SMRs. However, as the database was specifically designed to record the Telford road it included a number of fields, that are not represented within either of the two SMRs, examples are: Milestone Number, Telford's Lot Number, and the Planlet Number. The data from the A55 survey was inserted directly into the same database as that for the A5, to ensure that there was no segregation or discrimination of the data between the two elements. The sites numbers, however, were prefixed with a 'C' to discriminate the sites on the Chester road, from those on the Holyhead road.

- 3.3.5 **CAD:** the line of the modern A55 and OS reference data was digitised from the current OS maps and this was divided into planlet boxes, each of which corresponded to a c2.5km length of the route. Ordnance Survey first edition maps, obtained from Cadw, were scanned by a commercial scanning company into a Rasta TIF format. These digital files were then read into the AutoCAD 14 as a backdrop to the digitised data, and were scaled and positioned to provide a best 'fit' with the modern mapping. The listed buildings and the extent of Telford's lots were input onto a CAD system (AutoCAD 14), the latter by comparing the lot maps and the OS first edition mapping.
- 3.3.6 Transparent overlay plots were generated from the CAD system which fitted maplets based on current 1:10,000 OS maps, and were numbered in a west/east sequence for the whole length of the Bangor - Conwy section of A55. Tiles of OS 1:10,000 maps were provided under licence by Cadw and these were superimposed as a backdrop into the CAD files.
- 3.3.7 When fieldwork was completed, data processing became a matter of inputting and displaying information that had been gathered in the field. The sites were digitised from the field maplets into the CAD system and could be then compared with the appropriate depiction on the OS first edition map. For the most part there was a close correlation between the digitised data, and the OS first edition, which demonstrated the quality and accuracy of the early mapping.

3.4 FABRIC SURVEY OF THE LON ISA AND TY ISAF TOLL-HOUSES

- 3.4.1 An instrument-based survey, with hand-measured enhancements, was carried out to record the cross sections and plans of the two toll houses and associated weigh bridge buildings.
- 3.4.2 **Survey Control:** a Zeiss Elta 3 total station was used to establish the survey control around the two sites by means of a closed traverse.
- 3.4.3 **Standing Building Survey:** the standing buildings were for the most part recorded using a reflectorless total station, which is capable of measuring distances to a point of detail by reflection from the wall surface, and does not need a prism to be placed against the structure at each point of detail. The instrument used was a Leica T1010 theodolite coupled to a Disto electronic distance meter (EDM). The Disto emits a powerful laser beam which can be visually guided around points of detail. The digital data was stored within a portable computer running TheoLT software which allows the survey to be directly inserted into AutoCAD LT software. The survey provided plan information internally and externally and also survey data for the cross sections; this method required only minimal manual enhancement to enable completion of the cross sections and plans. The drawings were created for an anticipated output at 1:20.

3.5 STATUTORY PROTECTION

- 3.5.1 Features on both the A5 and the A55 roads were assessed with a view to possible listing or scheduling. Scheduling is the highest form of statutory

protection and is afforded only to monuments which are judged to be of national importance. The criteria defined for scheduling within the Ancient Monuments and Archaeological Areas Act 1979 is as follows:

- **Period:** monuments that characterise a period are of significance
- **Rarity:** the rarity of a monument type increases its significance
- **Documentation:** the significance amount of
- **Group Value:** the association of a monument with contemporary monuments enhances the significance
- **Condition:** the relative condition of a monument enhances its significance
- **Fragility:** the relative fragility of a monument would enhance the need for protection
- **Diversity:** a monument with a combination of high quality features enhances its significance
- **Potential:** the significance of a monument will be enhanced if it has potential, but not proven

3.5.2 Scheduling has been preferred for landscape features such as embankments, but listing for standing structures. For bridges the present system is confused in both England and Wales; some are listed and some are scheduled and some are both. In general we suggest listing bridges that are still in use as parts of Highways because of the problems potentially caused by scheduling for their long term maintenance as a functioning road structure. Bridges no longer part of operational roads are proposed for scheduling. In general listing is the preferred form of protection because most of the road is still operational. Amongst considerations taken into account in the listings process are the architectural importance of the building, its intrinsic historic interest and any association with nationally important figures or events, and its spatial and stylistic relationship to other significant buildings.

3.5.3 A completed list of all the sites reviewed for both listing and scheduling is defined within the project database. The existing listed structures is defined in *Appendix 4* and the proposed new listed structures in *Appendix 5*.

4. DOCUMENTARY RESULTS

4.1 INTRODUCTION

- 4.1.1 The desktop survey was relatively unproductive reflecting the previously advanced level of documentary research undertaken by Trinder, LUAU and contained within published secondary sources. Archival research at Llangefni produced only one document of real use; this was a plan (LRO, ref W/CD/53(a) 1818) drawn by surveyors at the time of Telford's road-building programme in Anglesey, and was markedly similar in style to the maps which accompany the specifications for the road. Anglesey's roads were particularly bad when Telford was commissioned, and a later writer summarised it as a place which prior to Telford had *'no made road, but only a miserable track, circuitous and craggy, full of terrible jolts, round bogs and over rocks, for a distance of twenty four miles'* (Smiles 1874, 252). The plan shows the routes of the pre-existing mail road and Telford's planned new route. As has been established in earlier work, the Anglesey section of the road took an almost entirely new line and crossed the island some distance to the south of the previous roads. This was in contrast to other parts of the route where Telford frequently followed the line of existing roads, sometimes diverting to the other side of a river or to cut through a rocky outcrop, but seldom striking out on an entirely unestablished line.
- 4.1.2 The Record Office at Caernarfon provided a number of historic maps (*Section 4.2*), which give no information about the condition of the road, but were valuable for the comparison they allowed between the routes of Telford's road and its predecessors.
- 4.1.3 The Listed Buildings section of Cadw, in the person of Mr Tony Render, supplied listings information for the Bangor / Conwy section of the Chester road. Very few listed buildings lay on or near the route, and of these, the only one of particular relevance to the Telford road is the Telford toll house near Conwy [C006].
- 4.1.4 The Sites and Monuments Record, held by Gwynedd Archaeological Trust, holds no records relating to the Telford road.

4.2 MAPS

- 4.2.1 Historic maps, drawn up before and after Telford's Chester road was built, allow a reconstruction of his route even without a full set of specifications. They show that a coastal route was well established before Telford came to rebuild any of it, and Telford's main alteration to the line was in the approach to Conwy, which he diverted north of the town rather than entering directly from the west. The primary route between Bangor and Conwy (formerly Conway or Aberconway) has changed relatively little since Telford's time, and as this road has been rebuilt as a major trunk road, there are only a few sections surviving.
- 4.2.2 The map evidence is discussed here in chronological order. Where reference numbers are given, 'CRO' denotes that the map is held at the Caernarfon Record Office. All the maps seen dating from earlier than 1830 are at a scale (usually one inch to one mile) which does not allow for detailed analysis, or the retrieval of information such as the location of milestones.

- 4.2.3 **1742:** a 1742 map of North Wales by W H Toms does not explicitly show roads on the A55 route, but shows St Asaph and 'Aberconway' or Conwy, towns whose existence and importance presupposes an important road.
- 4.2.4 **1748:** a map of North Wales by the brothers Emanuel and Thomas Bowen (CRO, XM/Maps/1748) shows a road running almost due east out of Bangor and then gradually turning north-east along the coast, before coming south and inland, apparently running on the inland side of Penmaenmawr before turning north-east to 'Aber Conway'. A second route enters Conwy from the west. It cuts across the irregular corner of headland north of the city, to connect the ferry route from Anglesey with that across the river Conway and enabled a single line of transport for long distance passengers heading east. The route is shown crossing water at Conwy, but this does not necessarily indicate a bridge as it also crosses the wide mouth of the Menai Straits where there was certainly no bridge; this therefore only serves to show the routes generally taken by ferries.
- 4.2.5 **1764:** a 1764 map of North Wales by Thomas Kitchin which seems to be largely based on the Bowen's map of 1748 (Section 4.2.4), and shows the road unchanged from that map.
- 4.2.6 **1768:** a 1768 survey of land at Penrhyn (CRO, XM/Maps/3156/1-4) shows the junction of several roads at Llandegai, confirming that by this date the routes which survive in the A5, A55 and A5122 were present and lay on their present alignments at this point.
- 4.2.7 **1787:** a 1787 map of North Wales by John Cary (CRO M/549) is at too small a scale to add much information to this; however, it clearly shows the route coming into Conwy from the west, as a continuation of the ferry route from Anglesey. The main Bangor-Conwy route is seen to leave Bangor running almost due east, and to cross over Penmaenmawr. Both of these details suggest that the map is more schematic than strictly accurate, since near-contemporary maps show deviations at both points.
- 4.2.8 **1795-7:** a 1795-7 map by John Evans (CRO, XM 304 and XM/Maps/2213/1)) shows the mail road of that date on the same line as Telford's road. A road running south from Bangor to 'Landygau' (Llandegai) meets a route running north-east along the coast via Aber and Llanfairfechan, hugging the coast to run north of Penmaenmawr, then striking slightly inland to run via Dwygyfylchi and south of Penmaenbach to 'Conway', which it enters from the south-west. No bridge is in place but a ferry house is marked on the eastern bank of the river Conway, opposite the castle. An alternative route out of Bangor is provided by a road running from the Menai Straits east to Capel Ogwen (Port Penrhyn) and then immediately south to rejoin the coast road. The map demonstrates that a number of serious improvements had been made even at this date, which Telford was later able to capitalise on. On either side of Aber (now Abergwengregyn), for instance, the road had already been straightened.
- 4.2.9 **1809:** an 1809 map by E W Brayley (CRO, XM/Maps/672) of North West Wales shows the Bangor-Conwy road as a 'Mail Coach Road'. The mail road leaves Bangor by the eastern route to Port Penrhyn and drops south to meet the 'A55' east of Llandegai. It proceeds north-east along the coast on the same route as that shown by Evans in 1795, via Aber and Llanfairfechan, running

north of Penmaenmawr and south of Penmaenbach, and approaching Conwy from the south-west.

- 4.2.10 **1824:** a map of c1824 includes a town plan of Conwy, showing streets and buildings in the town. The road pierces the town wall in the north-west of its circuit, and approaches the castle via Highgate Street which runs east, then Burial Street and from Castle Street which run south to the castle. A bridge is marked tentatively, at almost exactly the location of Telford's bridge. The map may therefore have been drawn up when the bridge was being constructed in 1824, or soon before.
- 4.2.11 **1827:** a map of Wales by John Cary (CRO, XM/Maps/630) dated to 1827; however, most of Cary's mapping was of a much earlier date (Newman pers comm) and it is probable that this was a copy of an earlier map dating from the second decade of the nineteenth century. Of the two routes out of Bangor- one running south, which survives as the A5122 and one running east to Port Penrhyn before dropping south to Llandegai - the former is now established as the mail route. This was the road Telford had recently completed as part of his Holyhead-London route, and had apparently eclipsed the smaller road to Port Penrhyn which served the wharves there. The Chester road ran from Llandegai north-east via Aber and Llanfairfechan, the north slope of Penmaenmawr and concluded, as on earlier maps, by running east from Dwygyfylchi into Conwy. The Menai Bridge is shown, but not the bridge at Conwy, even though it was '*in a forward state*' in 1824 (Penfold 1981, 55) and was apparently complete by 1826. A 'Ferry House' is still shown on the eastern bank of the river Conwy.
- 4.2.12 **1830-1:** an 1830-31 map of North West Wales by C and J Greenwood shows the finished Telford road between Bangor and Conwy for the first time. For most of its length it follows the coastal route laid down by previous surveyors, but two significant changes are apparent. Firstly, the Conwy Bridge is shown in place, offering uninterrupted road passage across the river Conway for the first time. Secondly, it is noticeable that Telford has changed the approach to Conwy. The previous route always entered the town from the south, running almost due east from Dwygyfylchi on the approach to Conwy. Telford's road follows the coast north beyond Dwygyfylchi, before turning south-west to enter Conwy. The former route is still shown on the Greenwood map, but has clearly been superseded by the Telford route for mail carriage. Also notable on this map is the stretch of railway that is shown for the first time alongside the other great Telford road, the present A5, on its southward route past the slate quarries of Bethesda.
- 4.2.13 **1831:** an 1831 map of Caernarvonshire by Robert K Dawson (CRO, XM/Maps/1049/1) shows roads schematically, including the northern approach to Conwy described by the Greenwoods (*Section 4.2.12*).
- 4.2.14 **1834:** an 1834 plan of Bangor by John Wood (CRO, unreferenced) shows the network of roads around Port Penrhyn and Llandegai in more detail than the previous maps. The Chester road is shown leaving Llandegai and crossing the Ogwen at Tal y bont.
- 4.2.15 **1841:** the first edition Ordnance Survey 1841 map, at a scale of one inch to one mile, shows the Telford route unchanged, and a railway line in place. The

railway runs immediately north of and usually parallel to the Telford road from Llandegai to Conwy.

- 4.2.16 **1890s:** the first edition Ordnance Survey maps, at a scale of 6" to 1 mile, dating to the 1890s, were used as base maps to trace Telford's route in the field. They show the route to an accurate scale and in detail for the first time, marking, for instance, the location and legend of each milestone. The road, though it had been over sixty years in use, entirely follows Telford's route. Where it deviated from earlier roads, the Telford route is always broader and straighter than its predecessors, but by comparison with earlier maps, shows that these improvements did not necessarily originate with Telford. An example is the stretch of road south-west of Aber, where Telford's road took a very straight line, bypassing a steep, sinuous 'Roman Road'. Although typical of the sort of improvements he made, this straighter section had been in place since at least 1795, when it was shown on the Evans map (*Section 4.2.8*).

4.3 LISTINGS

- 4.3.1 Listings were supplied for all listed sites within a generous corridor around the Bangor/Conwy section of the Chester road, but only the Conwy bridge/toll house (C030) listing and the toll house C006 were of direct relevance to it.

4.4 OTHER DOCUMENTS

- 4.4.1 Correspondence from Telford regarding the Menai and Conwy Bridges (CRO, XM/2838) was seen as photocopied documents, but the quality of reproduction was extremely poor and the letters were illegible.

4.5 SECONDARY SOURCES

- 4.5.1 Information from secondary sources has been largely incorporated into the historical background section (*Section 2*). Particularly helpful was an article by H L North on 'The Seven Roads across Penmaenmawr' which was seen only as a photocopy at the Caernarfon Record Office and could not be fully referenced.

5. BANGOR / CONWY SECTION OF THE CHESTER ROAD - SURVIVAL AND CONDITION

5.1 ASSESSMENT OF SURVIVAL – A55

- 5.1.1 The survival of Telford's Chester road between Bangor and Conwy is extremely poor in comparison to the Holyhead road within Wales (LUAU 1999). It must be said that the Holyhead road is exceptionally well preserved, retaining many milestones and other features including weigh houses which might have been destroyed, had that road been subjected to the same degree of expansion and consolidation which has recently been applied to the A55. The paucity of archaeological remains on the A55, therefore, whilst disappointing, is a salutary reminder that if the Holyhead road represents the condition of the road pre- development then the Chester road is a clear indicator of the impact following such road development programmes.
- 5.1.2 *Detruncked Sections:* the A55 deviates most significantly from Telford's route, as shown on the First Edition Ordnance Survey map, at the following points:
- On the approach to Conwy, where the Telford road coincides largely with the present A487. Since this road is itself a substantial A-road, its implications for the archaeology of the Telford road are similar to those of the A55. The Telford road is largely destroyed here, with the exception of an earthwork.
 - At Llanfairfechan, where the Telford road curves slightly inland and through the village, the A55 leaves it to run closer to the coast. It had been hoped that the Telford road here would be reasonably well preserved, however, this was not the case. Telford's embankments seem to have been repaired or rebuilt, with new drains inserted, the earlier breastwalls likewise are either rebuilt, replaced or severely disrupted by breaches for private drives and new roads.
- 5.1.3 The character of the A55, a broad dual or multi-carriageway road which has been much 'improved' in very recent years, is such that it has entirely destroyed those sections of Telford's road which preceded it on the same alignment. But where there are sections where the Telford road has effectively been bypassed by the modern road, it was hoped that there would be better survival of Telfordian road. Even here, however, the survival of the road was intermittent and surviving fabric was of very poor quality:
- 5.1.4 *Conway Quarries (C024):* a stretch of Telford road survives in an alignment at the foot of steep outcrops east of Conway quarries. This is the point where Telford's road leaves the A55, following instead the A547 into Conwy. Between the A55 and the A547 a short stretch of the Chester road survives as an earthwork, if not in fabric. The precise point of divergence between the A55 and the Telford road is obscured by vegetation, which may have been planted as a screen to block the defunct junction. The remainder of this short stretch exists as a tarmaced track leading to building (C017). It retains little if any Telfordian fabric, and survives only as an alignment coinciding with Telford's specifications.

- 5.1.5 **North slope of Penmaenmawr (C015):** an isolated stretch survives in the line of the present foot- and cycle-path over the northern slope of Penmaenmawr. The track has undoubtedly been resurfaced and its walls substantially rebuilt or relocated, particularly on the north side. However, it is possible that some Telford fabric is preserved in the south wall where it has been built up to double height, fossilising the original line.
- 5.1.6 **Llain Fulbat (C001):** a short section of former road running east/west from Llain Fulbat near Bangor. It is very much decayed and overgrown, with badly collapsed walling which now forms part of a field boundary. It is thought to represent the line of the former Telford road, which was itself altered by the addition of a railway bridge and revetment walling at the side of the railway. The section was bypassed in recent years by a re-alignment of the road. It has been systematically obscured by forestry waste and fly-tipping, but is surfaced with tarmac and has modern concrete kerbs, suggesting that it was in use within the past decade.
- 5.1.7 **Embankments:** the embankments which carried the road above boggy ground have seldom survived on the re-developed A55. However, the best preserved example is site C010 near Llanfairfechan which underlies the milestone C012 and runs south-west/north-east for approximately 200m. It is an earthen feature and incorporates no walling on either side of the road. It does not warrant listing.
- 5.1.8 **Walls:** the survival rate of Telford walls on the Chester road is generally very poor, by comparison with the Holyhead road. Where they survive at all they are very much altered or repaired, obscuring Telfordian fabric, as at site C019, near Conwy. Concrete repointing and replacement of capstones make it difficult to distinguish Telford walling from neighbouring sections of later building, and in most cases the wall can barely be classed as a Telford-period structure. As was the case on the Holyhead road, the walls are almost entirely absent in towns or villages, where they have been subsumed into private boundary walls or removed to accommodate driveways and splayed road entrances.
- 5.1.9 However, the fragmentary remains which survive are sufficient to establish the nature and line of the original wall. The boundary walls or 'breast walls' and the parapet walls which topped embankments, followed the general specification set out by Telford for use on the Holyhead and Chester roads. Rough-coursed rubble-built walls, in whatever stone was locally available, were built to a height of approximately 1m, with a slight batten. They were capped with the same type of stone used in the body of the wall. Usually the capstones were set on edge, and occasionally set in a long-and-short alternating pattern. No wall sections have sufficient survival to warrant listing.
- 5.1.10 **Milestones:** only one milestone (C012) was located on the Bangor-Conwy stretch, although anecdotal evidence suggests that at least one more survives (A Cochran, pers comm). Milestone C012 lies roughly halfway along the Bangor-Conwy stretch, and is very different to those seen on the contemporary Holyhead road. On the Holyhead road, Telford's milestones were uniformly 1.5m high and were cut in an obelisk silhouette from fine-grained limestone. The distances were marked on cast iron plates fixed to the stones by bolts.

Telford took considerable trouble over the design of the milestone, which he apparently considered the finishing touch and 'brandmark' for the Holyhead road. By contrast Milestone C012, is visible to a height of 0.7m (although a partially obscured datum mark and height demonstrate that its actual height is greater). It is cut of a fine-grained deep red sandstone, bearing the legend 'BANGOR 7 MILES CONWAY 7 MILES' which is cut into the dressed face of the stone in a sans-serif style commonly, but not exclusively, seen on later nineteenth century monuments. A rusticated 'frame' surrounds the inscription, and on the top edge of the stone a slightly eroded hole may have received a metal fixing, for instance a direction pointer.

- 5.1.11 At present no further information is available about the stone, and it is not possible to say conclusively whether it belongs to the Telford road, as no specification is known for the Chester road milestones. Although it might be expected that, since the Chester and Holyhead roads were contemporary, Telford would have applied a similar style to the milestones on both, it is probable that this was indeed a Telford milestone, and that its divergence from the 'house style' of the Holyhead road simply betokens a different style for all the stones on the Chester road. The distinctive style of the Holyhead stones, and the trouble taken by Telford in designing them, may denote the greater importance of that route as the main post road to London, and its new or recent origins.
- 5.1.12 **Toll houses:** there are two houses on the Bangor-Conwy stretch of the A55. The first of these (C030) stands at the east end of the Conwy suspension bridge. It is unique amongst Telford's toll houses in its mock-medieval architectural style, which echoes the turrets of the nearby castle, and is incorporated within the listing of the bridge.
- 5.1.13 The second toll house, C006, is also Listed Grade II. It may be the house described in specifications for Telford's lot number 92; however, the specification mentions a porch which would have projected almost into the road, and refers to a then existing toll house nearby, of which no sign survives. The Telford toll house is a single storey building, with the multi-angled plan which allowed toll keepers to keep an eye on approaching traffic from both directions. There is no evidence of privies or other outbuildings. A slate mile-plate (C008) hangs above one of its windows, carrying the legend 'LIANLIECHID 2½m' and a hand-shaped pointer. The font, material and style of the plate suggest that it is an eighteenth century feature which was not part of the Telford road furniture, but rather was appropriated from the pre-existing road.
- 5.1.14 **Other features:** the Bangor Gate (C028) is an archway inserted by Telford's roadmakers through a turret of the city wall. It is notable for making some attempt to camouflage the nineteenth century aperture with mock-medieval features including arrow slits and stepped corbels supporting a walkway.
- 5.1.15 The Conwy Bridge (C032) is perhaps the most attractive of the Telford features on the road. It was built on the same principle as the Menai Bridge, and opened in the same year (1826). The suspension principle was not Telford's innovation, but he had found it particularly useful for spanning broad stretches of navigable water, like the river Conway. Like the neighbouring toll house its style is mock-medieval, with crenellated 'towers' in homage to the

Marcher castle which stands at the west end of the bridge, and through whose walls the suspension chains pass.

- 5.1.16 Elsewhere on the route, Telford's bridges and culverts are not usually visible. On this coastal route, the culverts and bridges which were so regularly deployed by Telford on the more mountainous Holyhead route to carry the road over water are not so commonplace. The depots which appear very frequently in sections of the Holyhead road were nowhere evident on the Chester road. It may be that they were more necessary in the mountains and valleys encountered on the former route, but even so none appear on the Penmaenmawr section of the Chester road. They are, however, mentioned in Telford's specifications for this section.

6. LISTING AND SCHEDULING RECOMMENDATIONS – A5

6.1 LISTING RECOMMENDATIONS

- 6.1.1 **Major structures, bridges and embankments:** the more significant of Telford structures which suggest themselves for listing, such as the Menai and Waterloo Bridges, are already protected. The larger bridges which remain in use have inevitably been heavily repaired throughout their lifetime, and often widened to accommodate motor traffic travelling in both directions as well as pedestrian footpaths. The invariable result is a bridge which is more twentieth century than nineteenth in character. Characteristic features are cantilevered footpaths, widened carriageways and extended concrete arches.
- 6.1.2 In addition to these significant structural alterations, many bridges have undergone routine repairs which have paid scant attention to their historic character. Although the present Highways Office are now much more aware of the heritage of the Telford road, maintenance in former years has sometimes been heavy-handed and extremely unsympathetic to the Telford structures. Particularly common are heavy repointing with lime mortar which leaches down the face of the bridge, the insertion of bulky fishplates and the reinforcement of arches with concrete shells. Whilst these measures were no doubt financially expedient and structurally sound, they have often obscured bridges to such an extent that it is difficult to assess the Telford structure lying beneath.
- 6.1.3 Embankments, such as the Stanley Embankment, widened to accommodate a railway, and the one across Malltraeth Marsh (0161), now carrying a dual carriageway, have suffered the same fate. Such features cannot in all good conscience be recommended for listing, as structures representative of Telford's road. In any case it is envisaged that there would be problems with listing or scheduling sections of embankment on stretches of road which are currently in use, as this would impede road maintenance. The massive embankments on the now-bypassed section at Ty Nant (0158) are indeed the best representatives on the road of this kind of structure; this is presently Listed Grade II, and there is a case for scheduling it (*Section 6.3*). Similarly the Nant Ffrancon embankment (802) is of sufficient significance to warrant scheduling and is discussed in *Section 6.3.7*.
- 6.1.4 Halfway Bridge (233) is Listed Grade II, but as it is a fine and largely intact example of an elegant single-arched bridge of considerable span, retaining a date-stone in the parapet wall and is one of the more significant bridges on the line of the A5 (Welsh section) it is recommended that this be enhanced to Grade II*.
- 6.1.5 Similarly Chirk Bridge (1000) is presently Listed Grade II. This was built by Telford in 1793, many years before his commission to build the Holyhead Road, and marks not only the border between England and Wales but also a marked change in style from the usual rubble construction of the Welsh bridges. Admittedly the eastern side of the bridge is a twentieth-century extension, but the bridge retains its character as a Telford structure. Its construction by him in his years as County Surveyor for Shropshire, and its

subsequent incorporation into the great Holyhead road, add to its historical and engineering interest. It is therefore recommended that it be Listed Grade II*.

- 6.1.6 **Minor structures, small bridges, culverts and drains:** smaller structures have suffered even more than the larger ones from routine roadworks, particularly during the twentieth century, and unfortunately are largely unworthy of statutory protection. The Telford culverts and drains have naturally been subject to perpetual renewal and repair, and are mostly obscured by the road above.
- 6.1.7 Typical of the bridges is site 241, a small single-arch span bridge of rough-coursed slate in Bethesda, with a span of c2.5m. Although structurally intact and identifiable on the west side of the road as a Telford bridge, it is heavily repointed and overgrown there, whilst on the east side it is entirely obscured by a modern footbridge and concrete repairs.
- 6.1.8 It is however, recommended that one small Telford bridges be considered for listing, in addition to two pre-Telford bridges which are discussed below (*Section 6.1.20*). This Telford small bridge (509) is over a tributary of the Conwy, and very close to the earlier important Rhydlanfair bridge (805) so that the two together represent different styles, scales and dates of building to the same purpose. It is recommended, therefore, that both the Telfordian bridge and the earlier turnpike bridge be subject to listing.
- 6.1.9 **Toll houses and weigh houses:** several of the toll houses on the Holyhead road are protected by listing (Ty Isaf (112), Maes-Y-Waen (197), Pentrefoelas (340) and Llangollen (822) *Appendix 4*). Of those which are not, most of them have been subject to considerable modern alteration or rebuilding which has left them unsuitable for listing, as the character of the original structure has been very largely lost. Somewhat perversely the toll house at Ty Isaf is listed, although it has been almost entirely rebuilt in recent years. By contrast the two weigh houses (Lon Isa (231) and Ty Isaf (601)) have survived relatively well and are very important relics, not only of the Telford road but of nineteenth century roads in general, and should certainly be afforded statutory protection. Both are Listed Grade II, but by virtue of their rarity and importance should be upgraded to II*.
- 6.1.10 The listed building records provided to LUAU indicate that the toll house at Lon Isa (034) is not listed. The toll house should be considered as part of a group of features, including weigh bridge 231 and depot 229. These features stand on a stretch of road which has been bypassed by the modern road and now survives as a private road. They should be afforded the highest possible level of protection in view of their rarity and their relationship to one another. We recommend, therefore, that the toll house be listed and that this and the other features be included in a scheduled monument constraint area, which is discussed below (*Section 6.3.4*).
- 6.1.11 **Milestones:** perhaps the most distinctive features that identify the Telford road are the milestones. Telford himself considered the milestones crucial to the 'branding' of the road, and they are equally important today in identifying it as a historic route. Although they vary in standard of preservation and condition their meaning is partly dependent on the survival of an uninterrupted

sequence, and it is recommended that each stone surviving with a plate, and which is *in-situ*, should be protected by listing.

- 6.1.12 Most of the Telford milestones are not protected by listing, and those which are fall mostly within the Gwynedd, rather than the Clwyd-Powys catchment, in part reflecting that many of the stones on the eastern section of the route have lost their plates. The unlisted stones, which are *in-situ* and incorporate plates and which are recommended for listing are:

034a, 039, 051, 051a, 071, 075, 093a, 096, 155a, 187a, 305, 629, 812, and 1001

- 6.1.13 **Revetment Walls and Depots:** it is difficult to identify stretches of revetment wall which can clearly be called ‘Telfordian’ in the sense that they remain essentially as Telford built them. The maintenance and rebuilding of such walls, essential to the upkeep of a road in use, inevitably disrupted the original fabric. Nonetheless, it is possible to offer the following selections of road as the best representatives of unadulterated revetment walls. In each case it is envisaged that a 100m-long section of the wall, including depots, with clearly defined start points should be identified in the field:

- 6.1.14 627: a stretch of embankment to the east of Druid

645: a stretch of wall, which is up to 2-3m high, near the town of Corwen

661: a stretch of wall near Owen Glyndwr’s Mound

691: a stretch of wall near Froncysyllte.

040: a long stretch of walling west of Llyn Ogwen which includes massive revetment walls, drains and a number of depots in one of the most highly-embanked areas of the route.

- 6.1.15 **Well-preserved stretches of boundary walls and depots:** the difficulties presented in identifying intact stretches of revetment wall are even more pronounced in the case of the parapet or breastwalls which define the boundaries of the road. In many cases the original fabric has been re-used in largely rebuilt walls, and it is not easy to determine in such circumstances what constitutes a genuinely ‘Telfordian’ wall. However, it is believed that there are a number of sections in which this is possible. It is therefore recommended that the following sections be considered for listing:

012: a 100m stretch of wall centred on culvert 059

023: a similar section of wall to the east of Caergeiliog, which includes rock-cuts, depots and at least two Telford drains of 3ft and 5ft diameter

830: a section of wall near the Halfway Bridge

- 6.1.16 **Inns and stables:** at Cernioge Mawr the farmhouse and the stable building are Listed Grade II. The farmhouse has been substantially altered internally and it is considered that this is an adequate level of listing; however, the stable building is largely unaltered and in good condition and it is proposed that this be upgraded to a Grade II*. This building was built in Telford’s time to complement existing buildings on the south of the road, and included a stable and was used as a base by Telford’s engineer John Provis during his work on the Holyhead road. It includes a collection of Welsh language graffiti,

probably of twentieth century date, and the timber divisions which formerly defined the stable cells.

- 6.1.17 **Gates:** listing should be applied to the *ex situ* ‘sunburst’ gates which are so characteristic of the furniture of the former Holyhead road. These gates conform to Telford specifications for the Holyhead and Chester roads and are of a recognisable style, size and, notably, weight since they are made of riveted cast iron. With the help of information from Mr Detheridge of Conwy Borough Council and personal communication from local residents, the gates were re-located during the fieldwork for this project and are described within *Appendix 3*. The gates are for the most part *ex-situ*, and the only exception being that at Conwy Bridge (C030), but they are important survivals of Telfordian furniture, and as such it is recommended that the more original, and best preserved gates be subject to listing. This is recommended for the following gates:

Stanley Embankment (001) is in good condition, and adjacent to its rebuilt toll house.

Plas Iolyn (904) is in current use and is in very good condition.

Cae Milwr (906) is in good condition, incorporating original hanging posts.

- 6.1.18 **Pre-Telford turnpike bridges and other structures:** the survey has revealed some significant pre-Telford structures that warrant statutory protection by listing. The first of these is a small bridge at Pentrefoelas (100) which, despite some modern repairs, retains its character as a small simple structure pre-dating Telford’s road, dating from 1782. This is listed as Grade II, but is in good condition and would warrant being upgraded to Grade II*.
- 6.1.19 Close to the Pont Afanc bridge, near Betws y Coed is a toll house (068a) associated with the a now minor road, near Pont Lledr. Although it is dilapidated and rather ruinous, it is of considerable value in providing a comparison with Telford’s toll houses, and in its own right as a representative of a non-Telford toll house. In common with most such buildings, it has the multi-angled frontage which allowed the toll keeper to look at the road in both directions. It is recommended that it be subject to listing.

6.2 REVIEW OF EXISTING LISTINGS

- 6.2.1 Listings for almost the whole of the road have been substantially revised and updated in recent months, and it would appear that for the most part the listing criteria has been applied uniformly. The listings are generally consistent in their descriptive style, level of detail and in the kind of monuments they seek to protect. They have addressed most of the significant structures or features of the Holyhead road, and it is a measure of their success that the present document offers relatively few additions to their coverage. The few alterations are defined above (*Section 6.1*).

6.3 SCHEDULING RECOMMENDATIONS

- 6.3.1 Scheduling is the highest available form of statutory protection, and presupposes that the feature it protects is of national importance as an

archaeological feature. This assessment is normally based on a combination of features including rarity, quality of preservation and historical associations. It is not an appropriate statutory tool for the protection of an operating road, since it would impede acts of routine maintenance which are necessary for a road in use. However, it has been applied to sections of Telford's former Holyhead road which are now out of use, having been bypassed by the modern A5. It was the purpose of the present study to identify further sites which might be recommended for scheduling.

- 6.3.2 In addition to sections of Telford road that would warrant scheduling it is considered that some sections of pre-Telford road would also warrant this level of statutory protection. Not only are they worthy of protection in their own right as relics of a former transport system, but their proximity to the Telford road makes starkly clear the contrast in style and standard between the earlier routes and that built by Telford. The following sites are recommended for scheduling:
- 6.3.3 **Ty Nant** (158): this is a section of the old Holyhead road, approximately 400m long, running along an engineered terrace above the gorge of Afon Ceirw, above the Pen-y-bont falls. The construction of this major embankment was a major engineering achievement, and is one of the more significant sections of the road. It is fortuitous that the section has been detrunked by a new section of the A5, and the section is no longer in use. The site is currently listed Grade II, but it is proposed that it be scheduled in order to enable its preservation as an example of one of the more significant embanked sections.
- 6.3.4 **Stanley Embankment** (821): a section of Telford road that has been bypassed by the modern A5 road to the north, which avoids the aluminium works; it merges with the modern bypass at the Stanley embankment. It was bypassed to allow for the construction of the aluminium works, which is c30 years old. It includes extant Telford dry-stone walls on the north side, and the base of the road is sunk into a substantial cutting. It reflects one of the best survivals of intact road in Anglesey and as such warrants preservation.
- 6.3.5 **Lon Isa** (034, 229 and 231): the section of road incorporating the toll house, weigh bridge, and depot is now detrunked and serves only very local traffic, being a cul de sac. It is proposed that a scheduling boundary be drawn around the weigh house, toll house, the depot and the area in between them which formerly included the weigh bridge itself. The scheduling proposal should exclude the road surface and all of the toll house which is occupied and listed, but should include the ground beneath them. This will ensure that any remains associated with the former weigh bridge will be preserved.
- 6.3.6 **Llyn Ogwen-Capel Curig Turnpike Section** (907): it is recommended that the pre-Telford road which runs south of the A5 along Nant Francon, between Llyn Ogwen and Capel Curig, should become a scheduled monument. This is a line south of the Holyhead road, starting opposite Glan Denau at SH 6680 6055 and running east and south-east along existing tracks and paths to a curve at SH 7175 5897, then curving around Creigiau'r Gelli and meeting a surfaced track at SH 7199 5845, from whence it runs south into Capel Curig and meets the Holyhead road at SH 7205 5815. It is an important remnant of the former road, which now survives only as an earthwork. Its location and form make a marked contrast with the Telford road immediately to its north.

- 6.3.7 While this early road is only slightly embanked and lies in the flood-prone valley of the Afon Llugwy, the Telford road is raised higher above the waterlogged ground. The Telford road also includes bridges and drains (notably Pont Rhyd-Goch) to keep it relatively dry. Whilst it would be impractical to schedule the A5 at this point, scheduling the disused former road would preserve the relationship between them which clearly illustrates important features of transport development in the late eighteenth and early nineteenth centuries. The development of turnpikes and private roads in difficult terrain, their rapid fall from grace in the face of Telford's better financed route, and the superior position and engineering of Telford's road are very clear in this juxtaposition, and the two roads run through a very high-amenity area, overlooked by some of the finest peaks of Snowdonia.
- 6.3.8 ***Pen-y-Benglog Turnpike Section*** (802): it is recommended that a further section of the same turnpike be subject to scheduling and would comprise the section of pre-Telford road curving north-west from the Pont Pen-y-Benglog at SH 6490 6050 and then north-east to meet the Telford road at cSH 6490 6057: from this point it runs north-west, immediately below the Telford road and is visible as a level earthwork alongside the Telford retaining wall for a distance of approximately 400m. The Nant-Francon embankment overlying this turnpike is one of the more impressive engineering achievements, and the structure is in a good condition. The juxtaposition of both the earlier turnpike and the embankment enhances the archaeological significance of the monument and it is recommended that both this embankment and the section of turnpike be incorporated within the same schedule.
- 6.3.9 ***Chirk Turnpike Section*** (807): it is also recommended that the Chirk section of pre-Telford turnpike be subject to scheduling. This is a steeply sloped section of road which incorporates a sharp hairpin bend; it was replaced by Telford with a substantial straight and evenly sloped embankment. The western section of the turnpike is an embankment, and leaves the line of the Telford road at SJ 2890 3750, following the hairpin bend the turnpike survives as a footpath lined with hedges until it joins the line of Telford's Road just to the west of the Chirk bridge (SJ 2902 3725). The juxtaposition of the two roads provides a dramatic contrast between the original construction with the well-engineered Telfordian replacement and as such warrants preservation.

7. LISTING AND SCHEDULING RECOMMENDATIONS – A55

7.1 LISTING RECOMMENDATIONS

- 7.1.1 A review of the condition of the elements of the road is presented in Section 5, and those structures that are of sufficient significance to warrant protection are presented below:
- 7.1.2 **Abandoned sections of Telford's Chester road:** there are a series of detrunked sections of the road, but their condition is much poorer than those exhibited along the line of the Holyhead road. None warrant statutory protection.
- 7.1.5 **Embankments:** the best preserved section of embankment is site C010 near Llanfairfechan which underlies the milestone C012, but this is an earthen feature and is much degraded and does not warrant listing.
- 7.1.6 **Walls:** the survival rate of Telford walls on the Chester road is generally very poor, by comparison with the Holyhead road. Where they survive at all they are very much altered or repaired, obscuring Telfordian fabric and as a consequence no wall sections have sufficient survival to warrant listing.
- 7.1.8 **Milestones:** only one milestone (C012) was located on the Bangor-Conwy stretch (*Section 5.1.10*). By virtue of the rarity and its potential significance it is suggested that this warrants statutory protection, and as it is not included within the listing details submitted to LUAU, it recommended that it be listed.
- 7.1.10 **Toll houses:** there are two houses on the Bangor-Conwy stretch of the A55. The first of these (C030) stands at the east end of the Conwy suspension bridge, and the second (C006) is at Ty'n-y-Hendre, near Bangor; both are Listed Grade II and there is no requirement to alter the listing designation.
- 7.1.11 **Other features:** the Bangor Gate (C028) is an archway inserted by Telford's roadmakers through a turret of the city wall. It is notable for making some attempt to camouflage the nineteenth century aperture with mock-medieval features including arrow slits and stepped corbels supporting a walkway. The gate is set within the scheduled city wall of Conwy, but, by virtue of the archaeological significance of the gate, it is recommended that it also be subject to listing (Grade II*) so as to highlight the gate specifically as an important nineteenth century monument.
- 7.1.12 The Conwy Bridge (C032) is perhaps the most attractive of the Telford features on the road. and the bridge, toll house and gates are all listed.

7.2 SCHEDULING RECOMMENDATIONS

- 7.2.1 By virtue of the number of detrunked sections of the Chester Road, it was hoped that some might warrant selection for scheduled monument status. However, the more fragmented survival of the Chester road, and its poorer quality where it does survive, would indicate that scheduling would not be appropriate for any sections of this road.

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8.2 MAPS

NB: CRO = Caernarfon Record Office, LRO = Llangefni Record Office

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Speed, J, 1612 Ref XM/Maps/672 at CRO

Toms, WH, 1742 Ref XM/1300 at CRO

APPENDIX 3

DESCRIPTION OF EX-SITU SUNBURST GATES

SITE 001 STANLEY EMBANKMENT (SH 2707 8035)

A gate at the Stanley embankment toll house. The toll house was moved stone by stone and rebuilt in 1973, when the A5 was widened at this point. The sunburst gate at the site was moved at the same time. It is intact, in moderate condition and painted black. Some of the cross-struts are slightly bent or have been strengthened.

SITE 215 MENAI BRIDGE (SH 5559 7156)

A set of gates on the eastern side of the Menai Bridge, which do not appear to be in their original locations. The gates are incorporated within the listing for the bridge (4049/4050).

SITE 901 CAE'R-LLO (SH 8620 6670)

A sunburst gate stands at the entrance to the farm driveway. Next to it is a cast iron turnstile of similar style, which is thought to be also taken from the Telford road. The turnstile has four panels, each of which has two iron cross-struts in an 'X' shape, secured by a central rivet. It turns on a post and socket. The gate and turnstile are both painted white and like the gate, the turnstile has flat top- and base-plates. They are both in good condition, although the quarter-circle sunburst centres on the gate are not riveted but welded and are believed to be later repairs. The gateposts are not original but the hanging post and fixings may be so.

SITE 902 GLAN YR AFON (SH 8780 6970)

A sunburst gate, which is somewhat bent and overgrown, is in place at the entrance to a farm drive near the A548. It is largely intact, but the lower sunburst centre has no rivets and is assumed to be a later addition. The gate is painted white and silver. The gateposts and fixings are not original.

SITE 903 TY CERRIG (SJ 0225 4595)

A rather battered and rusted sunburst gate is in use at the entrance to a field, off a minor road. The gate is painted red, and retains a flat top plate running across the gate; it retains its original hanging post or hinge with a shaped finial. It is set in non-original rough-cut slate gateposts. Several of the cross-struts are slightly bent, and the gate is generally not in good condition.

SITE 904 PLAS IOLYN (SH 8814 5034)

A sunburst gate in use in the farmyard at Plas Iolyn. The gate is part of a farm complex which is itself of considerable historical interest, including a sixteenth century barn. The gate is in very good condition, and retains the top plate running across the gate with an iron fixture attached. The hanging post or hinge is not original.

SITE 905 MARL FARM, CONWY (SH 7980 7873)

A sunburst gate from the Telford Bangor-Chester road, which is in use as an access gate to Marl Farm. The gate is in good condition, although two substantial cross braces have been added to strengthen the original sunburst bars. The alignments of former gate sockets indicate that the gate posts are not original. The gate was probably taken from a former tollhouse on the Telford road or even possibly from the bridge at Conwy where one gate remains in situ.

SITE 906 CAE MELWR (SH 8070 6070)

A sunburst gate is in use at the entrance to a multi-period farm complex which is itself of great architectural interest. The gate is painted white, and in good condition except for slight rusting on the upper sunburst centre. The catch and probably the hanging post are replacements, and the polygonal slate gateposts are not original.

SITE 910 MAESOL (SH 8538 6673)

A sunburst gate in use at the entrance to Maesol farm. The gate is painted white and is in generally good condition. Both sunburst centres have no rivets and may be later additions. The two hinges are original but the hanging post is very ornamental with a finial and is probably a replacement. The main gatepost is of cast-iron and of later date. Adjacent is a turnstile similar to that at Cae'r Llo, and has four panels and two cross struts in a 'X' shape secured by a central rivet. Both gate and turnstile have top and base plate surviving.

SITE 911 MUSEUM OF WELSH LIFE, ST FAGAN, CARDIFF, CF5 6XB

A sunburst gate is displayed at the Museum of Welsh Life. It originated from Gwalchmai, on Anglesey. It was not visited in the course of the present survey.

SITE C030 CONWY BRIDGE (SH 7850 7750)

The sunburst gates at the east end of Conwy Bridge are intact, *in situ* and the only ones thought to retain the small gate to one side for foot passengers. Both the large and small gates still have the original catch and the gate-stop is set in the ground behind them.

APPENDIX 4

EXISTING A5 LISTED BUILDINGS

Project No	NGR	Site Name	Site Type	Telford Maplet	Listed Building No
0003	SH 2758 8030	STANLEY	EMBANKMENT	3	19231
0009	SH 2905 7949	VALLEY	MILESTONE	4	19232
0036	SH 6148 6742	BETHESDA (N. END)	MILESTONE	19	18383
0038	SH 6256 6639	BETHESDA	MILESTONE	19	18379
0064	SH 7085 5945	CAPEL CURIG	MILESTONE	25	17823
0064a	SH 7210 5861	CAPEL CURIG	MILESTONE	25	17818
0066a	SH 7982 5466	PONT AFANC	BRIDGE	29	17832
0079	SH 3041 7862	West of CAERGEILIOG	MILESTONE	5	20417
0080a	SH 9760 4555	PONT TY GWYN	BRIDGE	39	107
0084	SH 9615 4655	PONT ARDWYFFAEN	BRIDGE	38	104
0086	SJ 0072 4456	PONT RHYD-ILEFRITH	BRIDGE	41	113
0088	SH 9952 4429	TYN-Y-GLYN	MILESTONE	40	130/19597
0100	SH 8727 5145	PENTREFOELAS	BRIDGE	32	20581
0104	SJ 0504 4354	PEN-Y-BONT	BRIDGE	43	673
0106	SJ 0695 4335	CORWEN BRIDGE	BRIDGE	43	656
0111	SH 4257 7496	MONA	MILESTONE	10	21076
0112	SJ 1671 4225	Y BWTHYN - (Ty Isaf)	TOLL HOUSE	48	1294
0127	SH 4398 7446	TYDDN-CEFN	MILESTONE	14	21077
0158	SH 9905 4469	TY NANT	WALL	40	118/19589
0165b	SH 4784 7197	GAERWEN	MILESTONE	17	20613
0195	SH 5265 7164	LLANFAIR PG	MILESTONE	14	19661
0197	SH 5314 7154	LLANFAIR PG	TOLL HOUSE	14	5433
0215	SH 5559 7156	MENAI SUSPENSION	BRIDGE	15	18572/4049/405
0231	SH 6021 6938	LON ISA	WEIGH HOUSE	17	23342
0233	SH 6081 6891	HALFWAY BRIDGE	BRIDGE	18	23377
0241	SH 6261 6628	BETHESDA	BRIDGE	19	18380
0309c	SH 6939 3601	NANT-Y-BENGLLOG	MILESTONE	23	17820
0334	SJ 2904 3811	CHIRK	MILESTONE	53	20236
0336	SJ 2907 3767	CHIRK	MILESTONE	53	20212
0340	SH 8501 5125	PENTREFOELAS	TOLL HOUSE	32	18328
0379	SH 7985 8873	WATERLOO BRIDGE	BRIDGE	28	17827
0381	SH 7963 5604	BETWYS Y COED	MILESTONE	28	17828
0383	SH 7916 5670	BETWYS Y COED	BRIDGE	28	3230
0385	SH 7428 5728	CAPEL CURIG	MILESTONE	26	17819
0395	SH 7560 5655	PONT TY HYLL	BRIDGE	27	3182/3179
0401	SH 7717 5755	PONT Y HYLL	MILESTONE	27	17833
0423	SH 7299 5760	CAPEL CURIG	MILESTONE	26	17821
0447	SH 7569 5739	PONT TY HYLL	MILESTONE	27	17824
0457	SH 7838 5665	BETWYS Y COED	MILESTONE	28	17829
0485	SH 8562 5120	PENTREFOELAS	BRIDGE	32	20575
0489	SH 8612 5130	BRON-CADNANT	BRIDGE	32	20574
0601	SJ 1771 4225	TY ISAF	WEIGH BRIDGE	48	14/B/62(25)
0657	SJ 1458 4274	GLYNDYFRDWY	STRUCTURE	46	657
0707	SH 5419 7167	LLANFAIR PG	MILESTONE	14	19663
0783	SH 6781 6045	NANT-Y-BENGLLOG	MILESTONE	23	17822
0801	SH 4252 7490	MONA	INN BUILDING	10	21079
0805	SH 8280 5240	PONT RHYDLANFAIR	BRIDGE	31	5858
0806a	SH 9059 5049	CERNIOGE	STABLE	34	20602
0806b	SH 9060 5042	CERNIOGE	INN BUILDING	34	67
0811	SH 5549 7178	MENAI BRIDGE	MILESTONE	15	18559
0814	SH 5867 7239	BANGOR HIGH STREET	MILESTONE	15	4048

0816	SH 6246 6663	BETHESDA	COACHING INN	19	18395
0817	SH 6255 6595	BRAICHMELYN	BRIDGE	19	18396
0818	SH 9915 4434	PONT GLYN-DIFFWYS	BRIDGE	40	19583
0819	SJ 2838 4047	CHIRK	STRUCTURE	52	627
0820	SJ 0804 4338	CORWEN	STRUCTURE	44	669
0822	SJ 2190 4180	LLANGOLLEN	TOLL HOUSE	49	1198
0901	SH 8620 6676	CAER' LLO	SUNBURST GATE		23489
0908	SH 8926 5101	PONT TWLLARAN	BRIDGE	33	20583
0909	SH 8721 5151	FOELAS ARMS HOTEL	INN	32	20590
0910	SH 8538 6673	MAESOL	SUNBURST GATE		
1005	SH 9526 4854	CERRIG-Y-DRDION	MILESTONE	37	258/19340
C006	SH 6190 7110	TY'N-Y-HENDRE	TOLL HOUSE	C1	3241
C030	SH 7850 7750	CONWY BRIDGE	TOLL HOUSE	C10	
C032	SH 7850 7750	CONWY BRIDGE	BRIDGE	C10	

APPENDIX 5

RECOMMENDED STRUCTURES FOR LISTING AND SCHEDULING

RECOMMENDATIONS FOR LISTING

Site Number	Name	Site Type	NGR	Listing Grade
0001	Stanley Embankment	Sunburst Gate	SH 2707 8035	II
0012	Bryngwran	Breast Wall	SH 3529 7746 - 3650 7687	II
0023	Valley	Breast Wall	SH 2933 7930 - 3045 7862	II
0034A	Halfway Bridge	Milestone	SH 6085 6875	II
0039	Caergeiliog	Milestone	SH 3194 7843	II
0040	Llyn Ogwen	Embankment Wall	SH 6266 6594 - 6436 6500	II
0051	Bryngofed	Milestone	SH 3304 7808	II
0051a	Brynwrwan	Milestone	SH 3502 7755	II
068a	Lledr Cottages	Pre-Telford Toll House	SH 7976 5438	II
071	Caer Glaw	Milestone	SH 3802 7645	II
075	Castell Eden	Milestone	SH 3966 7618	II
0093a	Druid Farm	Milestone	SH 4108 7552	II
0096	Maerdy	Milestone	SJ 0290 4362	II
0100	Pentrefoelas	Pre-Telford Bridge	SH 8727 5142	II*
0155a	Malltraeth Marsh	Milestone	SH 4514 7362	II
0187a	Star	Milestone	SH 5105 7196	II
0231	Lon Isa	Weigh House	SH 6021 6938	II*
0233	Halfway Bridge	Bridge	SH 6081 6891	II*
0305	Llyn Ogwen	Milestone	SH 6486 6065	II
0307	Pont-y-Benglog Bridge	Bridge	SH 6489 6050	II
0509	Pont Rhyd Llanfair	Bridge	SH 8280 5250	II
0511	Pont Newydd	Milestone	SH 8110 5355	II
0601	Ty Isaf	Weigh House	SJ 1768 4227	II*
0627	East of Druid	Embankment	SJ 0255 4387 - 0418 4350	II
0629	Druid	Milestone	SJ 0355 5435	II
0645	South of Ty'n cllwyn	Embankment Wall	SJ 0974 4341 - SJ 1107 4315	II
0661	Owen Glyndwr's Mound	Embankment Wall		II

0691	Froncysyllte	Embankment Wall	SJ 2314 4133 - 2691 4128	II
0805	Pont Rhydlanfair	Bridge	SH 8280 5240	II*
0806	Cerniogge	Stable Building	SH 9059 5049	II*
0812	Bangor	Milestone	SH 5660 7179	II
0830	Near Halfway Bridge	Breast Wall	SH 6080 6895 - 6140 6750	II
0904	Plas Iolyn	Sunburst Gate	SH 8814 5034	II
0906	Cae Milwr	Sunburst Gate	SH 80706070	II
1000	Chirk Bridge	Bridge	SJ 2904 3722	II*
1001	Fairy Glen	Milestone	SH 8007 5464	II
C012	Nant-y-Felin	Milestone	SH 6780 7435	II
C028	Bangor Gate	Gateway through Conwy Town Wall	SH 7795 7755	II*

RECOMMENDATIONS FOR SCHEDULING

Project No.	Site Name	Site Type	NGR
0034, 229 and 231	Lon Isa	Toll House and Weigh Bridge	SH 6021 6938
0158	Ty Nant	Embanked Section of Road	SH 9905 4469 - 9949 4425
0802	Pen-y- Benglog	Turnpike and Telford Embankment	SH 64876052 - 6460 6119
0807	Chirk	Section of Turnpike	SJ 2890 3750 - 2902 3725
0821	Stanley Embankment	Section of Telford Road	SH 2737 8043 - 2721 8049
0907	Llyn Ogwen - Capel Curig	Section of Turnpike	SH 667 605 - 7205 5810

ILLUSTRATIONS

- Fig 1 A5/A55 location plan
- Fig 2 Lon Isa toll house location plan
- Fig 3 Ty Isaf toll house location plan
- Fig 4 Lon Isa toll house and weigh bridge site plan
- Fig 5 Cross-section through Lon Isa toll house and weigh bridge
- Fig 6 Ty Isaf toll house and weigh bridge general plan
- Fig 7 Ty Isaf site plan
- Fig 8 Cross section through Ty Isaf toll house and weigh bridge



Figure 1 : Location Map (Holyhead - Betws-y-coed)



based upon the Ordnance Survey 1:50000
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0 500 1000
 metres

Fig 2: Lon Isa toll house location map



Fig 3: Ty Isaf toll house location map

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PROJECT:

**A5 Toll House
 Survey**

DRAWING No: 4



DRAWN BY: EC, CW and JQ

DATE: Nov 1999

LOCATION:

KEY

TITLE:
 Lon Isa Toll House and
 Weigh Bridge Plan

COMPILED BY:
 Cadw

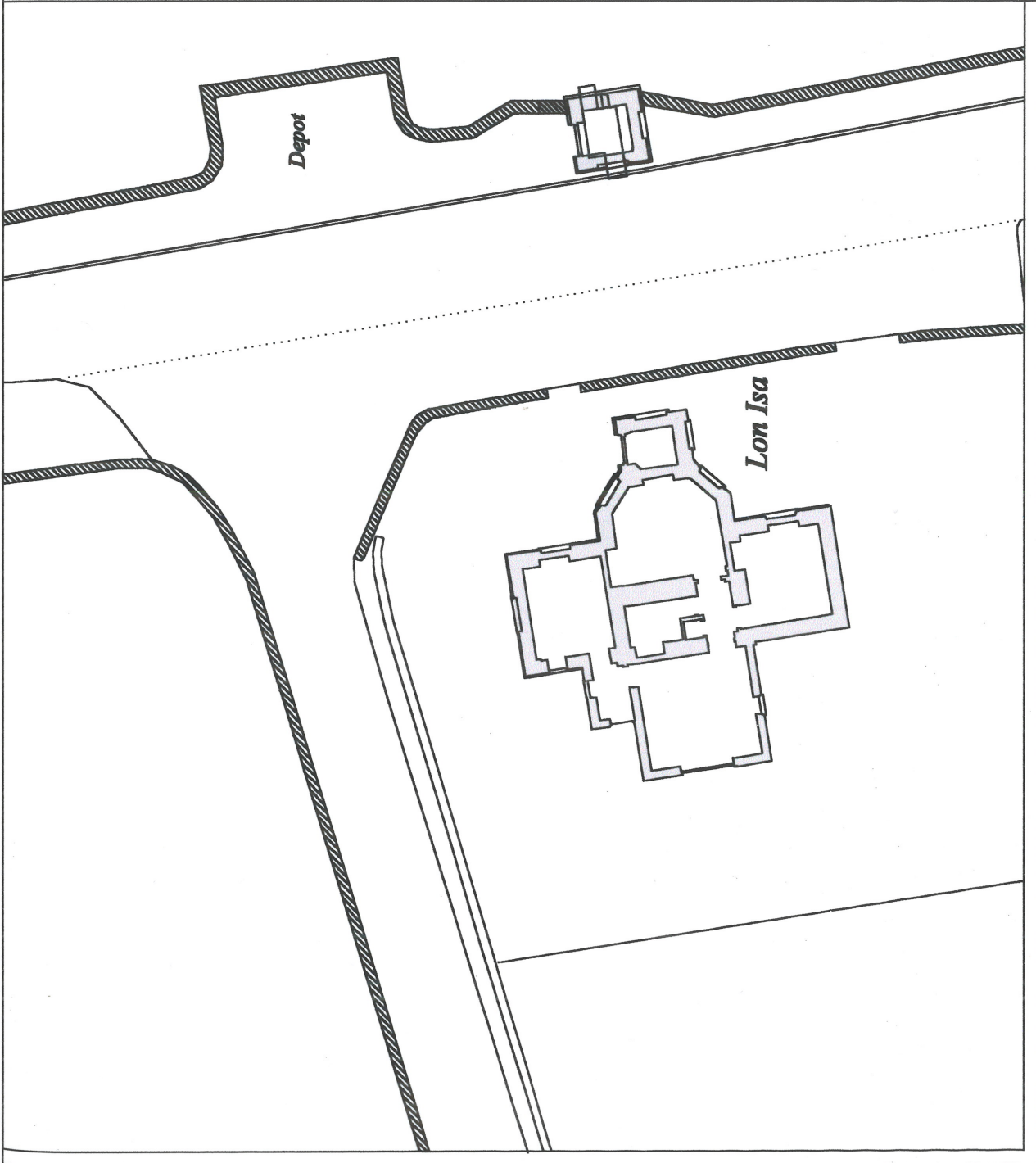


Fig 4: Lon Isa Toll House and Weigh Bridge Plan

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PROJECT:

A5 Tolk House and Weigh
Bridge Survey

DRAWING No:

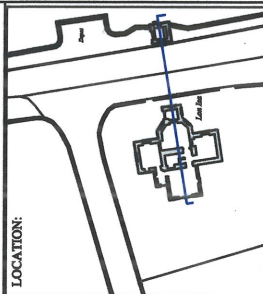
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DRAWN BY: CW, EM and JQ

DATE: November 2000

LOCATION:



KEY

TITLE:

Lon Isa Toll House and Weigh
Bridge - Cross Section

COMMISSIONED BY:

Cadw

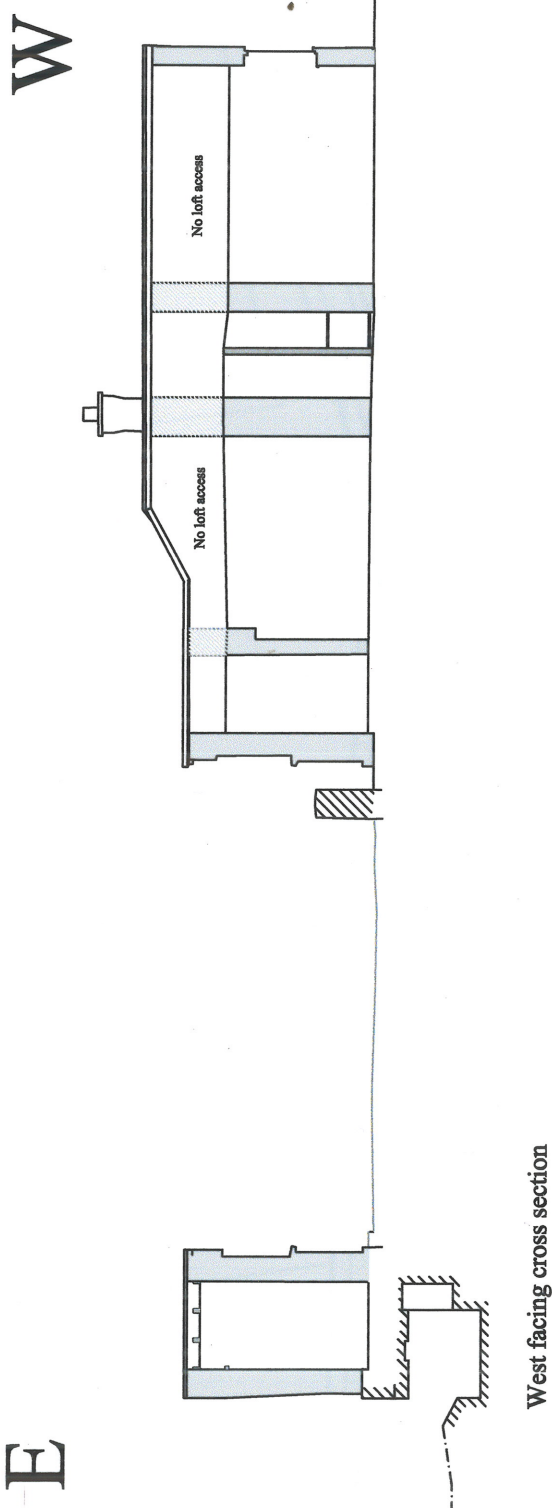


Fig 5: Cross section through Lon Isa Toll House and Weigh Bridge

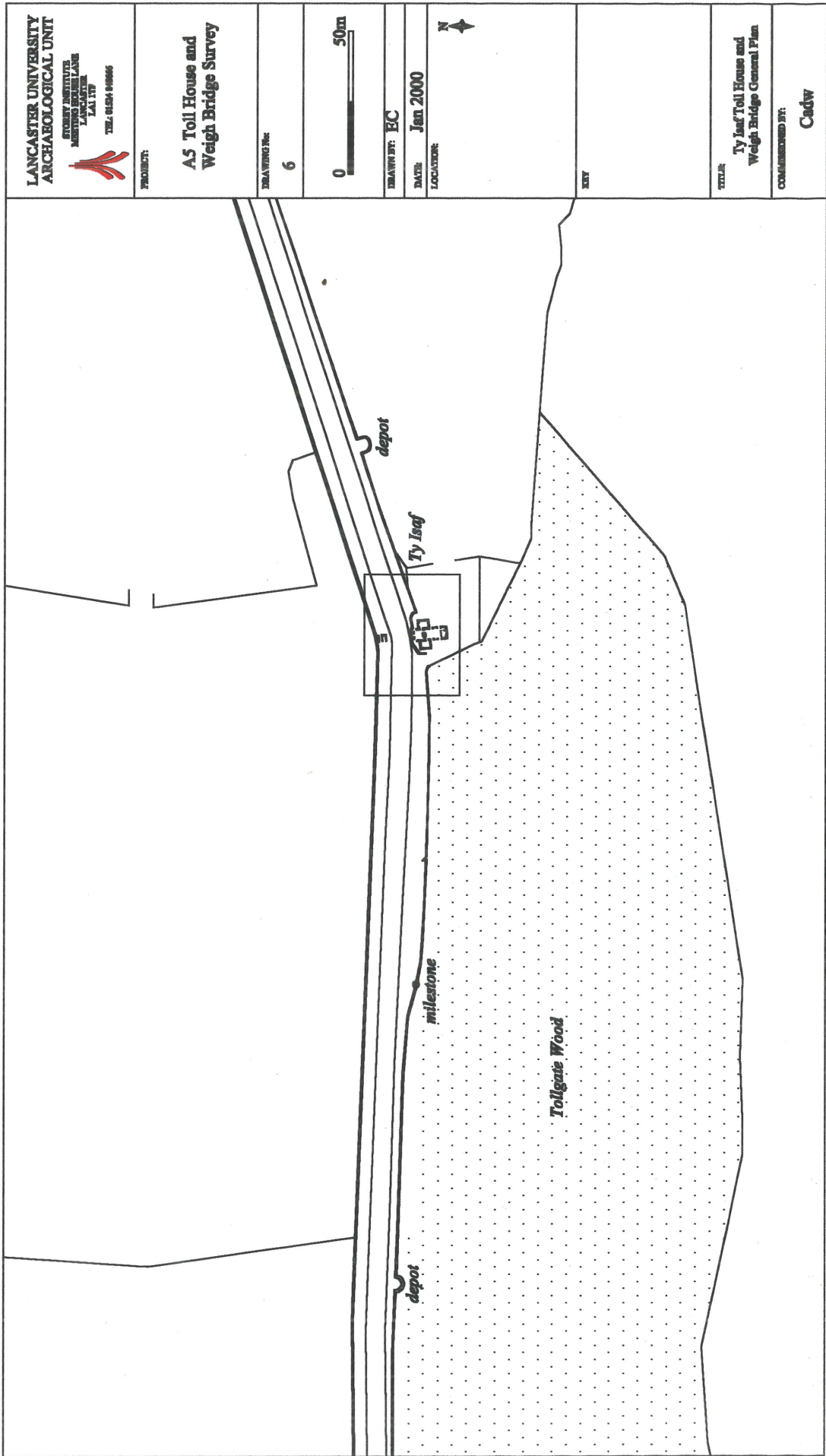


Fig 6: Ty Isaf toll house and weigh bridge general plan

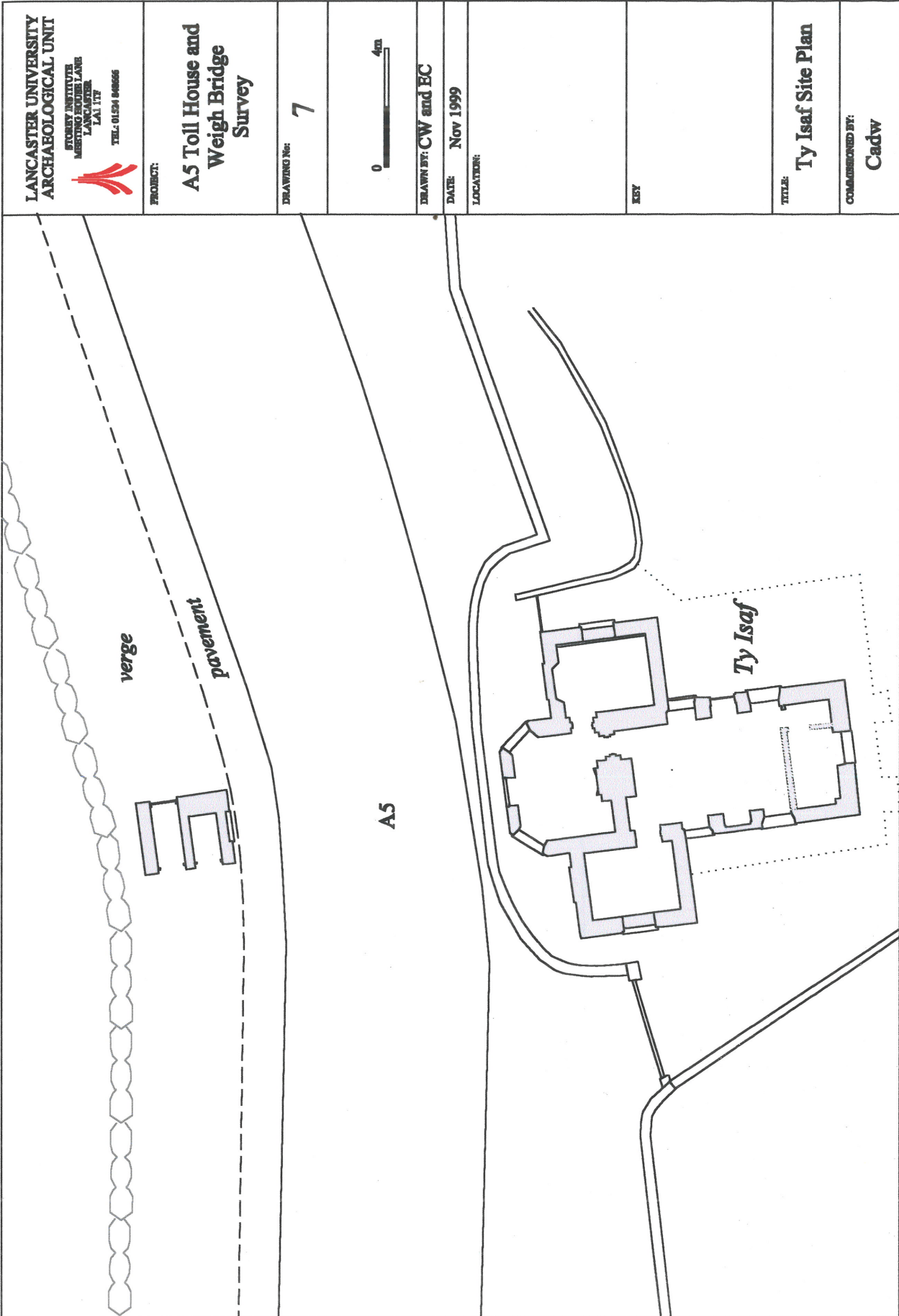


Fig 7 Ty Isaf Site Plan

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PROJECT:
**A5 Toll House and
 Weigh Bridge
 Survey**

DRAWING NO:
7

0 4m

DRAWN BY: CW and EC

DATE: Nov 1999

LOCATION:

KEY

TITLE:
Ty Isaf Site Plan

COMMISSIONED BY:
Cadw

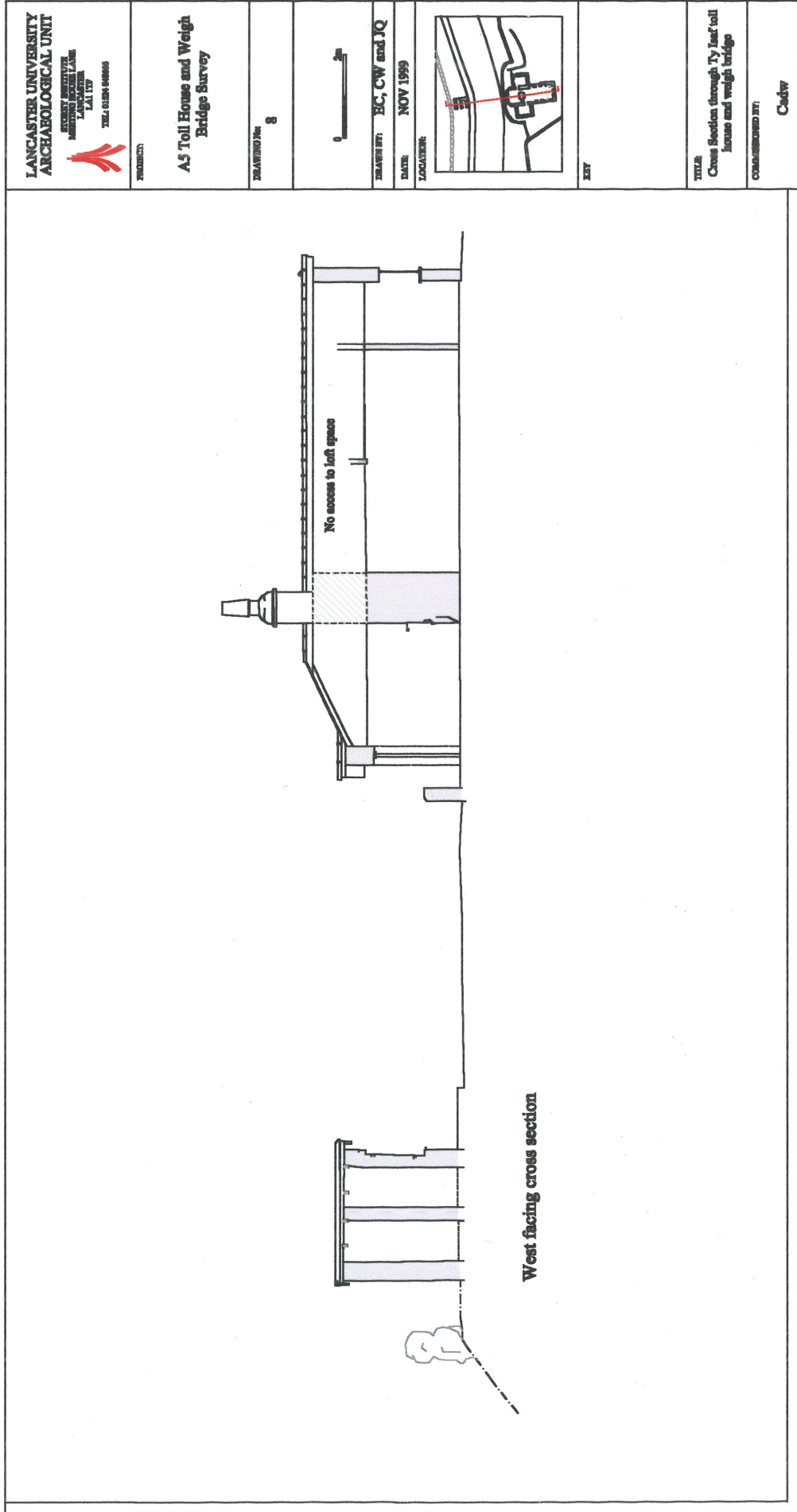


Fig 8: Cross Section through Ty Isaf toll house and weigh bridge

PLATES

- Plate 1 Plate 1 Lon Isa toll house looking west
- Plate 2 Lon Isa Weigh House Looking north
- Plate 3 Rear of Lon Isa weigh house – looking west
- Plate 4 Ty Isaf toll house and weigh bridge
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- Plate 6 Interior of Ty Isaf weigh house
- Plate 7 Sunburst gate and turnstile at Cae'r Llo (901)
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Plate 1 Lon Isa toll house looking west



Plate 2 Lon Isa Weigh House Looking north



Plate 3 Rear of Lon Isa weigh house – looking west



Plate 4 Ty Isaf toll house and weigh bridge



Plate 5 Ty Isaf toll house from rear – looking north



Plate 6 Interior of Ty Isaf weigh house



Plate 7 Sunburst gate and turnstile at Cae'r Llo (901)



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