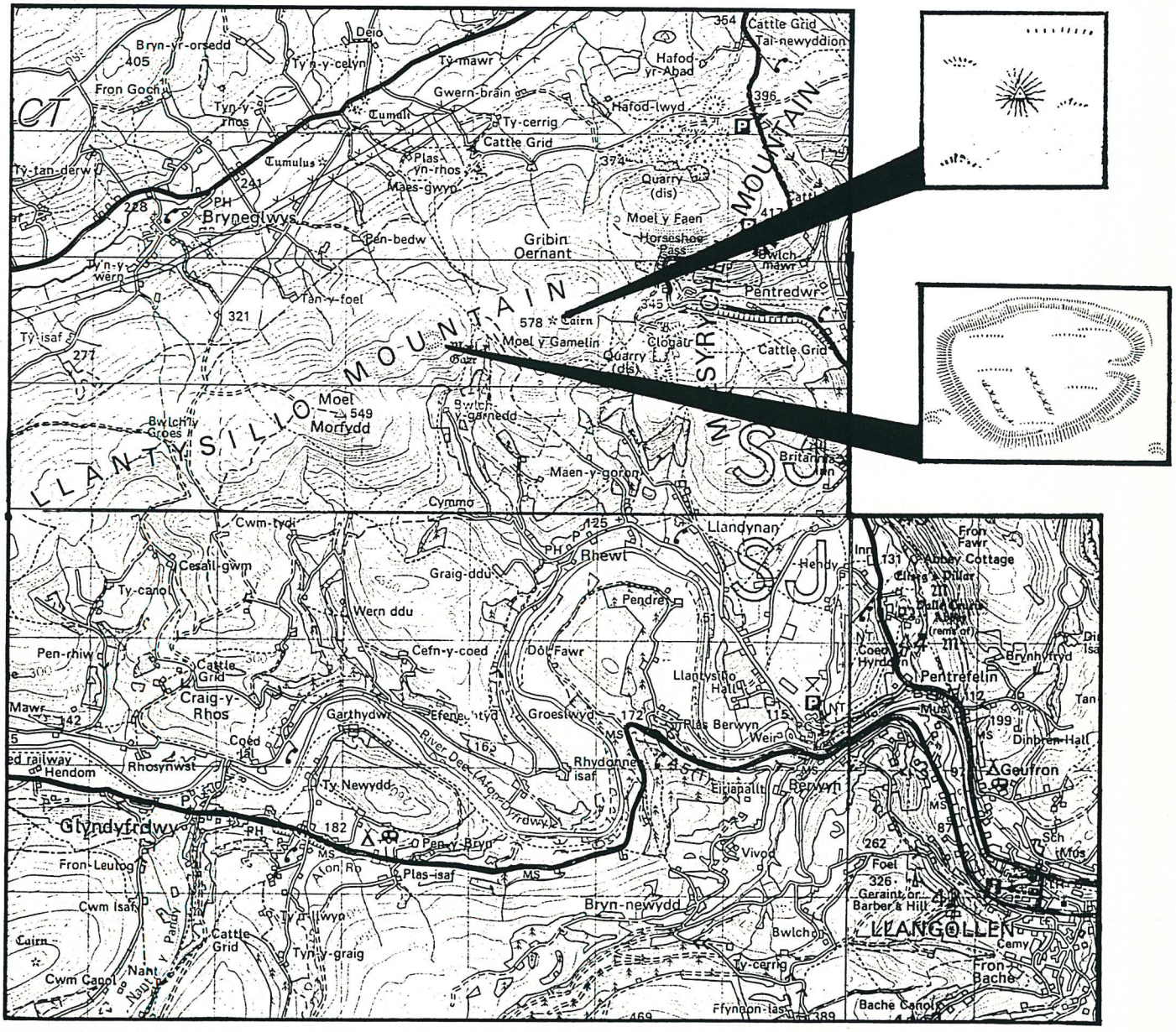
Moel y Gamelin Round Barrow
S.A.M. De68
&
Moel y Gaer Hillfort
S.A.M. De126
Proposals for Management



PROPOSALS FOR THE MANAGEMENT OF

MOEL Y GAMELIN ROUND BARROW S.A.M.De68 101370

N.G.R. SJ 176 465

&

MOEL Y GAER HILLFORT S.A.M.De126 101366

N.G.R. SJ 167 464

Introduction.....

Both monuments are located on the Llantysilio Range of hills which run west-south-west to east-north-east dividing the Vale of Clwyd to the north from the Dee valley to the south. The settlement of Llangollen is situated 6km (3.75 miles) to the south-east.

The Round Barrow occupies the summit of Moel y Gamelin at 577 metres (1893 feet) above Ordnance Datum. Moel y Gaer Hillfort is situated 1km (0.6 mile) west-south-west of Moel y Gamelin at 504 metres (1654 feet) OD and is separated from Gamelin by a deep cut valley which bisects the Range.

The Range supports a characteristic heather moorland vegetation dominated by ling (Calluna vulgaris) and bilberry (Vaccinium myrtillus). Both monuments support Cowberry (Vaccinium vitis-idaea).

Of note amongst the range of birds using this habitat are black grouse (Lyrurus tetrix) and the raptor Merlin (Falco columbarius).

Vegetation is traditionally managed by controlled burning. The structure of the vegetation suggests that Moel y Gaer and its immediate environs were subject to a burn some five years ago, whilst the area to the north and west of Moel y Gamelin Round Barrow has been burnt March 1993.

Although privately-owned, the mountain is registered common land and subject to common rights of pasturage for sheep.

The mountain forms part of the Ruabon/Llantysilio Mountains and Minera Site of Special Scientific Interest which extends to 4795 hectares (11,849 acres).

/ Continued.....

The Problem.....

The Range has been subject to illegal recreational access by four wheel drive vehicles and trail motorcycles for a number of years. Access has traditionally followed the ridgeline, resulting in a visually intrusive erosion scar of ecological, archaeological and landscape significance.

Heather is particularly sensitive to compaction and crushing damage and may display evidence of dieback following a single passage by a vehicle. Once dieback has occurred, the underlying shallow peaty surface horizon is readily sheared by tyres and may then be blown or washed away to expose the nutrient poor shaley subsoils. This substrate is inherently unstable and is rendered more so by continued access, again aided by wind and rain action. Compaction commonly occurs resulting in waterlogging and the formation of sumps. Where such waterlogging occurs paths become subject to braiding and widening as users seek access across adjoining drier ground.

Access across the summit of Moel y Gamelin Round Barrow has resulted in the exposure of the shaley substrate through the loss of some 100mm (4in.) of the surface peat. On the north-eastern flank of the monument, where shear action is enhanced by the gradient of the slope, erosion occurs to a depth of circa 200mm (8in.). The extent of this damage is illustrated diagrammatically in Figure 1a.

Access at Moel y Gaer Hillfort occurs through the eastern inturned gateway. The track traverses the interior of the fort to exit across the western rampart. The track averages 1.5 metres (5 feet) in width extending to approximately 10 metres (33 feet) where it crosses the western rampart. Throughout surface horizons have been lost, with average erosion to a depth of 150mm (6in.) increasing to some 450mm (18in.) across the western rampart. There is evidence of path braiding, as yet embryonic. The extent of this damage is illustrated diagrammatically in Figure 1b.

The Proposed Solution.....

Clwyd County Council's Countryside Service is working closely with the local Police to control illegal vehicular access and has been successful in significantly reducing the level of such access. There remains, however, a small but committed hard-core of users, control of which is to be addressed on an on-going basis.

Proposals must be mindful of this continued, albeit low level, of access and of the ecological sensitivity of the monuments and their environs.

Proposals are intended to:

- stabilise erosion damage and ensure the conservation of the archaeological integrity of the monuments;

/ Continued.....

- achieve the re-vegetation of sensitive eroded areas of the monuments and their approaches to reflect the species and genetic diversity of the surrounding moorland vegetation;

- focus access along existing routes providing a more resilient surface to accommodate occasional motorcycle access and pedestrian use, whilst affording adequate protection to adjoining undamaged archaeological horizons.

It is proposed that these objectives be achieved as follows:

Moel y Gamelin Round Barrow

It is proposed that the eroded surface be covered with a layer of imported soil of local provenance to provide a medium to enable rapid re-vegetation and to afford protection to the exposed archaeological surface. On the summit and south-western flank this material will not exceed 50mm (2in.) in depth. On the north-eastern flank, however, where scarring is more acute it is proposed that the surface be repaired to its former profile, requiring a maximum infill depth of 200mm (8in.). At this location, because of the depth of infilling, it is proposed that the interface between the eroded archaeological surface and fill material be defined using Greenfix Type 13 polypropylene matting.

It is estimated that approximately 4 cubic metres of infill material will be required. It is proposed that this material be derived as a by-product of the posthole boring required for the proposed deflective fencing (discussed later). This is to be augmented, as required, by subsoil material obtained from the eroded flanks of Moel y Gamelin outwith the scheduled area as a product of scarification prior to re-seeding (discussed later).

The eroded extent of the monument is then to be turfed. Where possible it is proposed that turf be derived as a by-product of posthole boring for the deflective fencing. This is to be augmented, as required, by using unimproved turf derived from farmland adjoining the Range but outwith the S.S.S.I.

To stabilise this turf and overcome the potential problems of root shear during the critical establishment phase it is proposed that the turf be secured with Wyretex Fabric-type 8 steel wire/polypropylene matting. This is to be pinned to and through the turf using 5mm (0.2in.) diameter steel pins not exceeding 190mm (7.5in.) in length, to a maximum density of 6 per square metre.

It is proposed that the interface between the repaired area and adjoining extant semi-natural vegetation be protected by a layer of forestry brashings. This is intended to contain access and enable the exclusion of livestock from the margins to facilitate a gradual colonisation by semi-natural vegetation.

/ Continued.....

To ensure that this brashing remains in place and is not dislodged by gale-force winds or deliberately removed by site users, it will be necessary to wire and peg brashings. It is proposed that this will be achieved using green P.V.C. coated galvanised line wire 'criss-crossing' the brashings and secured at each edge by staples to 40mm.x 40mm. (1.5in.x 1.5in.) oak pegs of no more than 200mm (8in.) in length. No more than 30 such pegs are to be used.

Following completion of the above works the monument is to be monitored at monthly intervals to evaluate the impact of the continued low level access by motorcycles. Should it be considered that such access compromises the conservation of the monument further management works may be deemed necessary to control such access. Such works are to be agreed in discussion with Cadw:Welsh Historic Monuments and Countryside Council for Wales.

Moel y Gaer Hillfort

The nature and depth of erosion damage at Moel y Gaer suggest that the archaeological horizons have been lost along the extent of the track, except in the areas of the western rampart and eastern gateway. It is proposed therefore that works be designed to permit continued access along the existing track, whilst preventing an increase in track width and affording protection to the gateway and rampart areas.

It is proposed that the margins of the track, embryonic path braiding and areas of superficial sheet erosion be brashed as described previously to contain access and exclude livestock. It is intended that brashing will achieve a reduction in boundary layer windspeeds with resultant enhancement of the micro-climate at soil level. It is anticipated that this, coupled with the physical exclusion of livestock, will facilitate recolonisation by semi-natural vegetation. Brashing is intended to reduce overall path width to 1.2m (4 feet).

Where the track passes through the gateway, it is proposed that a 20m (66 feet) length of path be turfed using imported unimproved turf, as described previously. Turf is to be laid onto a 50mm (2in.) layer of imported fill to afford protection to the eroded archaeological surface.

Where the track crosses the western rampart it is proposed that a 1.2m (4 feet) width path be defined at the northern end of the scar where erosion depth is greatest. This is to be turfed as described previously. Elsewhere, it is proposed that path width be reduced to 1.2m (4 feet) using pegged and wired forestry brashings. Given the extensive nature of sheet erosion in this area it is proposed that the subsoil surface first be stabilised and protected against rainwash using Greenfix Type 6 100% coirfibre matting secured using 5mm (0.2in.) diameter 100mm (4in.) pins to a maximum density of 6 pins per square metre. It is proposed that this stabilised surface be allowed to recolonise naturally.

/ Continued.....

Control of Vehicular Access.....

It is apparent that motorcycles may readily gain access to both monuments from the old drovers' road which passes through the valley between the sites. If proposals for the management of both monuments are to be successful it is considered essential to deter access by this route.

It is proposed that deflective fencing be erected along both the western and eastern sides of the drovers' road for distances of 150 metres (492 feet) and 350 metres (1148 feet) respectively. This fencing is to comprise a single 100mm (4in.) square rail set on 135mm (5.3in.) square posts at 1.8m (6 feet) intervals. Overall fence height is not to exceed 750mm (2.5 feet). The proposed design is illustrated in Figure 2.

To minimise visual intrusion this fence is to be stained with Dark Oak 'Cuprinol' or similar and is to be set, where, possible so as to make use of natural depressions.

It is proposed that postholes be prepared using a handheld posthole-borer to avoid problems of heather dieback associated with the passage of vehicles. Turf and surplus soils derived from this operation are to be utilised in the proposed erosion repair of Moel y Gamelin Round Barrow, as described previously.

Re-seeding of Approach Slopes.....

The dramatic visual setting of Moel y Gaer and Moel y Gamelin is significantly compromised by the extensive erosion scars. It is proposed that the approach slopes to each monument, some 1.5 hectares (3.7 acres), be re-seeded using Johnson's JR36 mix, comprising:

20% Festuca ovina (Sheep's Fescue)

20% Poa compressa (Flattened Meadow-grass)

15% Lolium perenne (Perennial Rye-grass)

15% Deschampsia flexuosa (Wavy Hair-grass)

10% Agrostis capillaris (Common Bent/Brown Top)

10% Festuca rubra (Red Fescue)

7% Lotus corniculatus (Common Bird's-foot-trefoil)

3% Trifolium repens (White Clover)

/ Continued.....

Seed is to be applied at a rate of 50-100 kg per hectare (20-40 kg per acre).

Scarification is recommended prior to re-seeding to provide a suitable seedbed. As a by-product of this operation it is proposed that a quantity of the subsoil material be collected to serve as infill for the proposed erosion repair operations at both monuments. It is estimated that 8 cubic metres of material will be required in this context.

Such works will enable the stabilisation of approach slopes and facilitate the gradual colonisation of semi-natural vegetation. In addition to enhancing the visual settings of both monuments re-seeding will also enable the long-term containment of access to defined routeways.

Access to Enable Management.....

It is proposed that the bulk of materials will be airlifted to each monument.

Limited access to each site from the drovers' road using a quad motorcycle is anticipated.

Recording.....

Prior to the commencement of works both monuments are to be the subject of a colour transparency photographic survey. This survey will be supplemented by a photographic record of the key stages of work in progress.

Moel y Gamelin Round Barrow is to be the subject of an E.D.M. survey to enable the extent of the repaired area to be clearly identified.

Personnel.....

Works are to be implemented by private contractor under the supervision of Clwyd Archaeology Service's Archaeological Sites Management Officer.

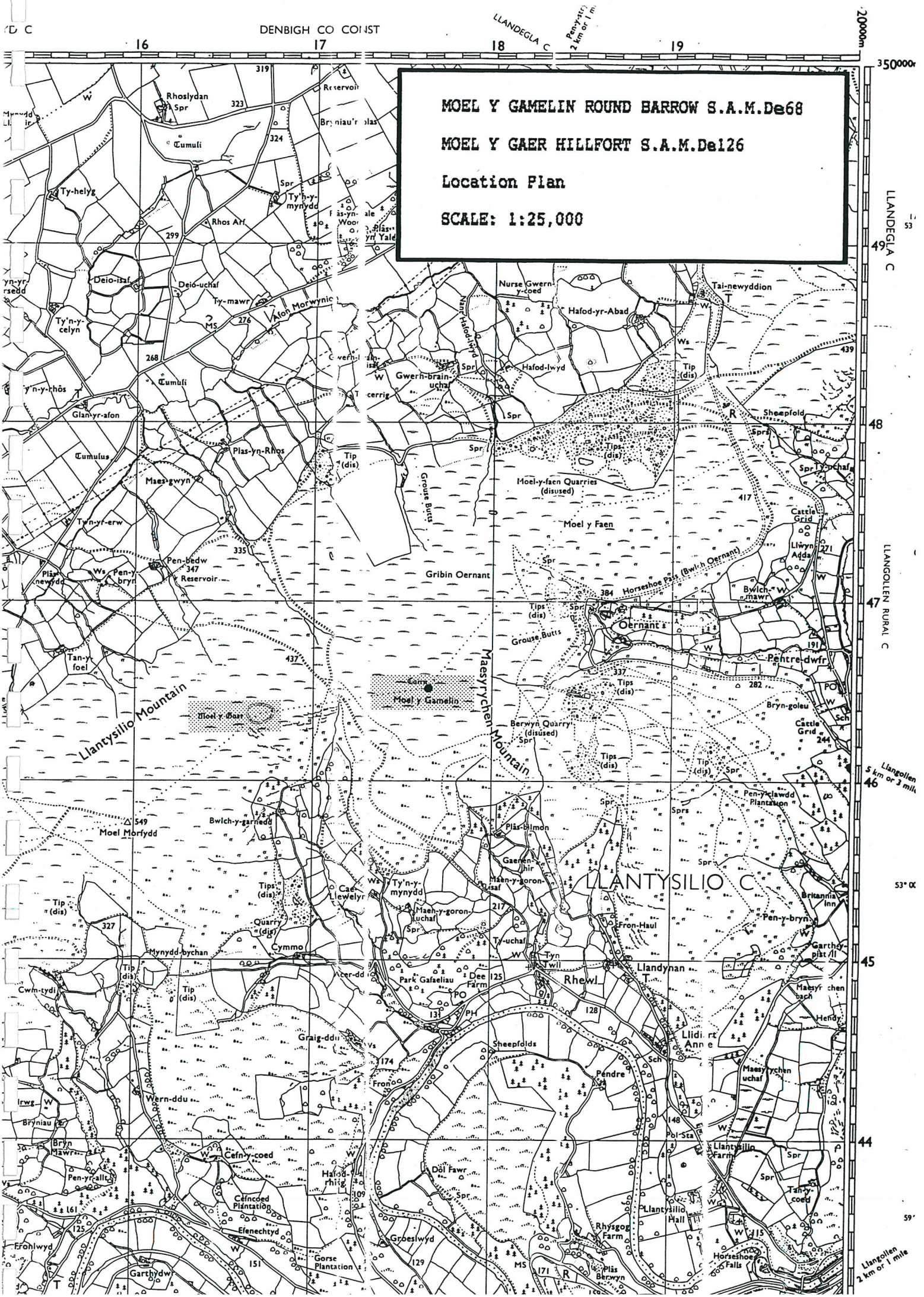

MOEL Y GAMELIN ROUND BARROW S.A.M.De68
MOEL Y GAER HILLFORT S.A.M.De126
Location Plan
SCALE: 1:25,000
DENBIGH CO CONST
LLANDEGLA C
LLANGOLLEN RURAL C
LLANTYSILIO C
Llantysilio Mountain
Maesyrychen Mountain
Moel y Gamelin
Moel y Gaer
Moel Morfydd
Gribin Oernant
Oernant
Pentre-dwfr
Llandynan
Rhewl
Llantysilio
Horseshoe Pass (Bwlch Oernant)
Afon Morwynion
Nant Hafod-lwyd
Grouse Butts
Moel-y-faen Quarries (disused)
Berwyn Quarry (disused)
Pen-y-clawdd Plantation
Cefncoed Plantation
Gorse Plantation
Llangollen 5 km or 3 miles
Llangollen 2 km or 1 mile

FIGURE ONE a:

MOEL Y GAMELIN ROUND BARROW De68

EXTENT OF EROSION DAMAGE/FEATURES LOCATION

Diagrammatic Representation

SCALE: c.1:200

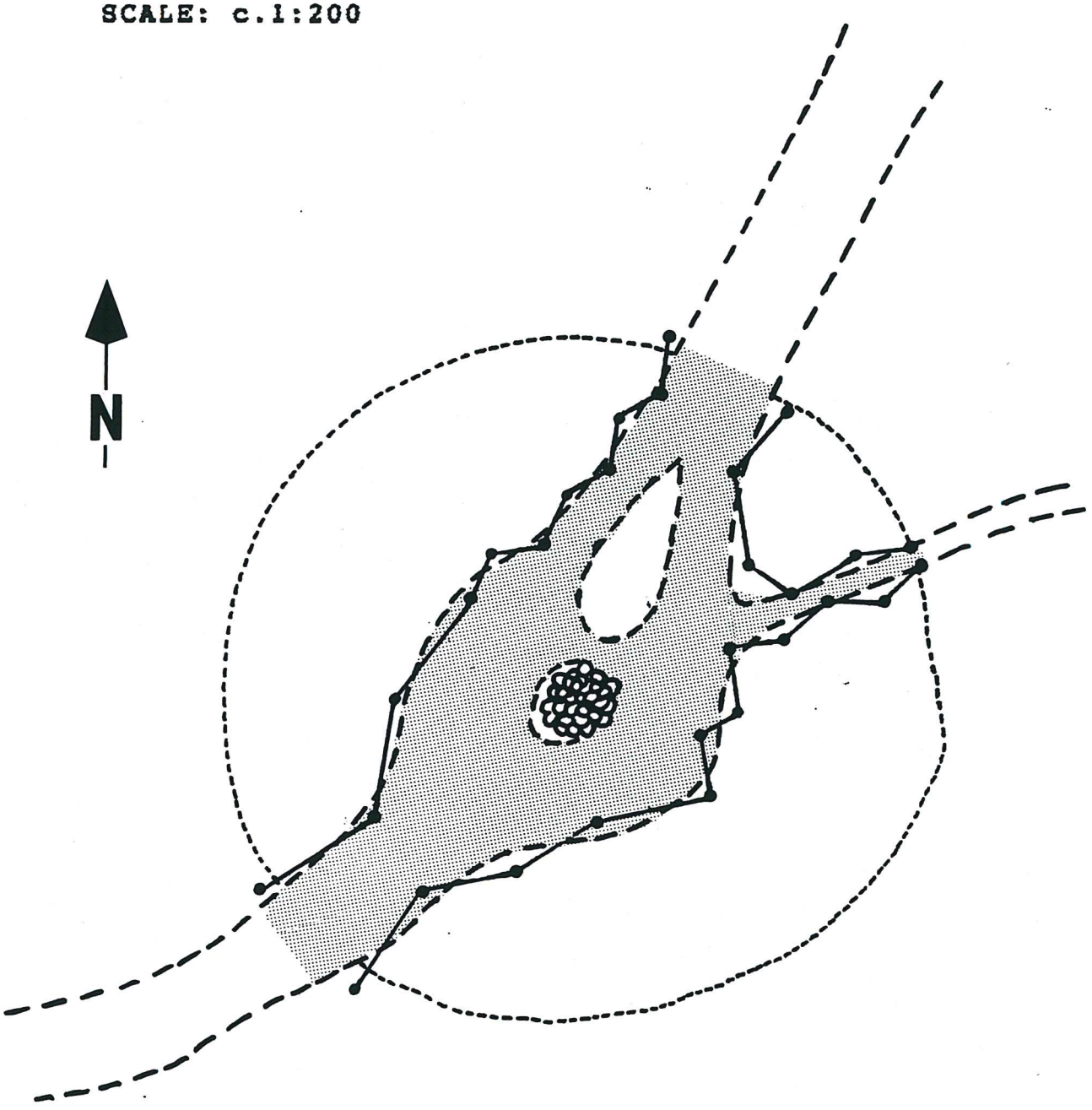


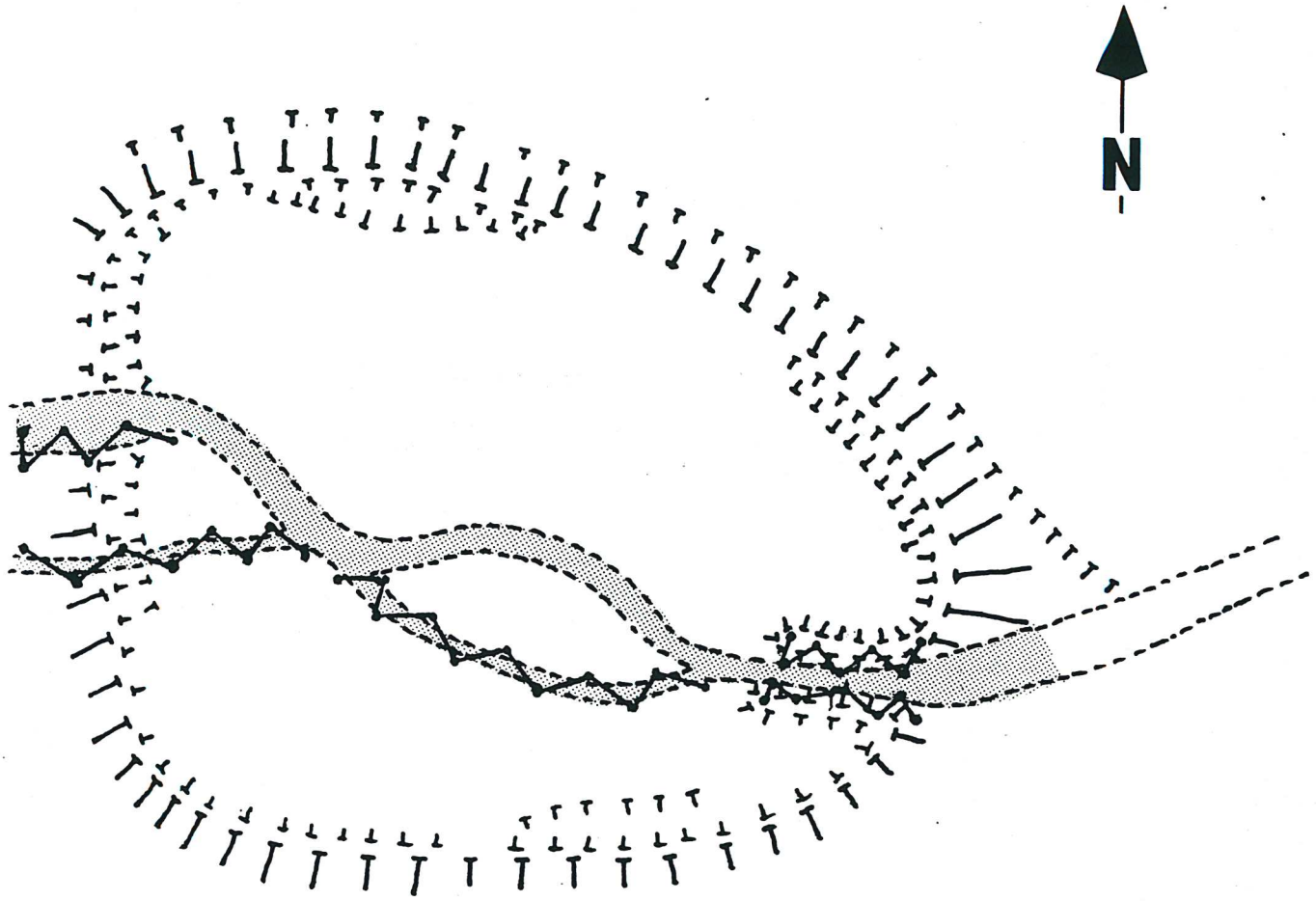
FIGURE ONE b:

MOEL Y GAER HILLFORT De126

EXTENT OF EROSION DAMAGE/FEATURES LOCATION

Diagrammatic Representation

Not to Scale



KEY:

Eroded Extent

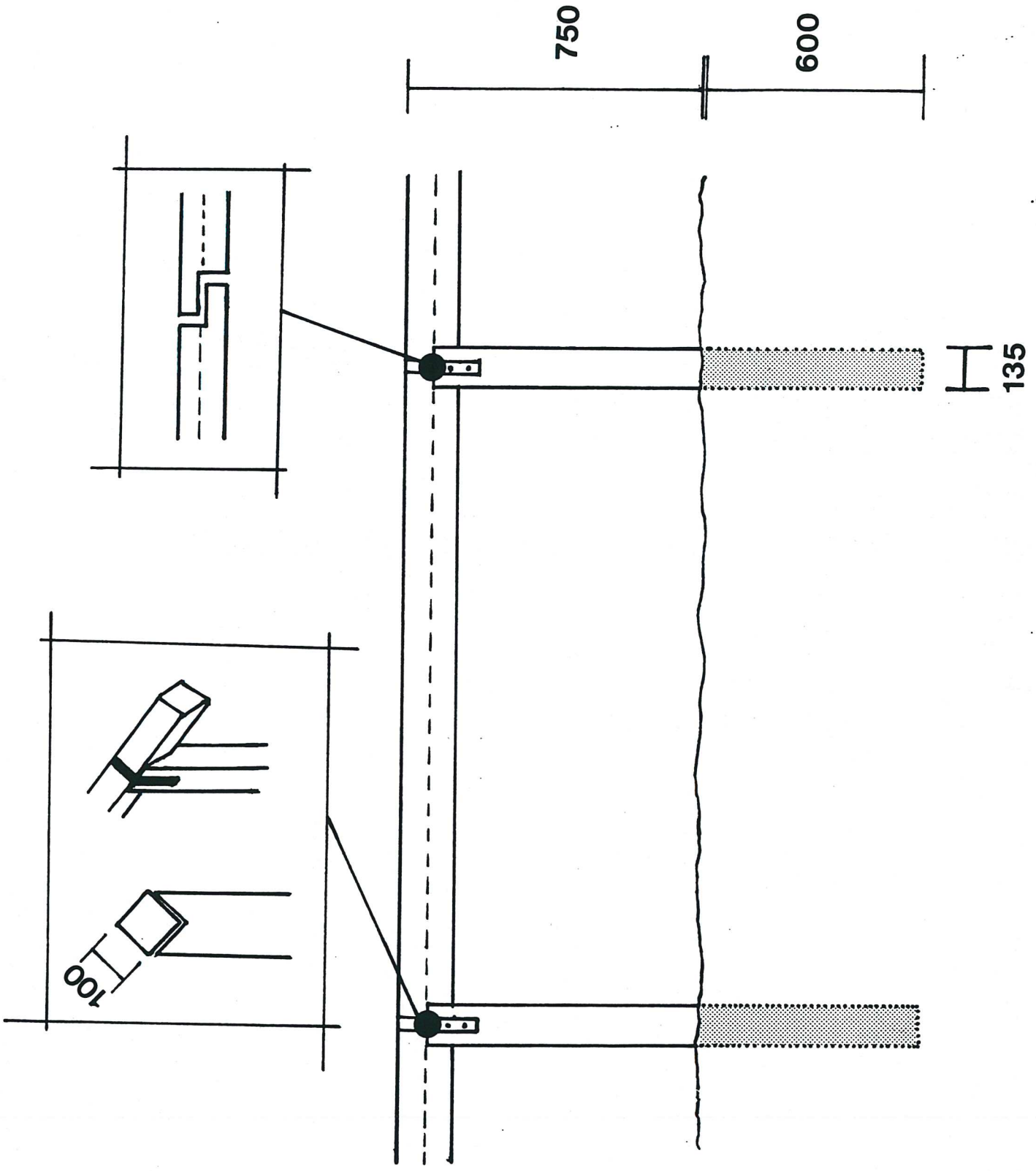
Brash Line/Pegs

FIGURE TWO:

PROPOSED DESIGN FOR DEFLECTIVE FENCING

All Timbers Unseasoned Oak

All Measurements in Millimetres



Report Prepared by:

André Berry
Archaeological Sites Management Officer,
Clwyd Archaeology Service,
Dept. of Development and Tourism,
Shire Hall,
Mold.
Clwyd. CH7 6NB.

Tel: Mold (0352) 704722 (Direct Line)

Final Draft: 22/04/93