

Report on Archaeological Assessment
at Winney's Down Area 2
Dartmoor National Park



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Non-technical Summary

This report outlines the results of an Archaeological Assessment, commissioned by the Dartmoor Mires Project in advance of blanket bog restoration work at Winney's Down Area 2 in the Forest of Dartmoor. The aim of this report is to assess the potential survival, nature and importance of archaeological features within the restoration area, along the access route and to identify potential impacts that restoration works might have on the archaeological resource. This report includes the results of a desk based assessment and walkover survey of the site and access route. Consultation of the Dartmoor Historic Environment Record (HER), Scheduled Monuments (SAM), English Heritage Surveys and historic mapping indicate that there are no known recorded monuments within the restoration site boundary. Examination of these sources combined with a walkover survey indicate that the access route to the site and the access route between Winney's Down Areas 1 and 2 traverse two historic features including Whitehorse Leat and a Peat Pass, respectively. Further analysis of aerial photography and LiDAR combined with the results of the walkover survey demonstrate that there is no above ground evidence for previously unrecorded archaeological features within the restoration site or along the access route to the site. Given the preservative nature of peat there remains the potential for previously unrecorded archaeological features or artefacts to be uncovered within the peat during restoration work. This will be mitigated by the undertaking of an archaeological watching brief by a suitably qualified archaeologist during restoration work.

Contents

1. Introduction	4
2. Background	4
3. Methodology	4
4. Results of the Desk-based Assessment	5
5. Results of the field walking survey	10
5.1 Access Route	10
6. Impacts	10
6.1 Access Route	10
7. Recommendations	11
8. Bibliography	12
9. Figures	13
Figure 1 Site location Map showing Winney's Down Area 2	13
Figure 2 Site location map showing Winney's Down Area 2 (in red) in relation to Fernworthy Forest (right side of map).	14
Figure 3 Winney's Down Area 2 showing access routes to/from site (pink and blue dashed lines) and between Areas 1 (purple outline) and 2 (red).	14
Figure 4 Winney's Down Area 2 and access route on first edition 6-inch Ordnance Survey Map (1886-1893).....	15
Figure 5 Winney's Down Area 2 and access route on the second edition 6-inch Ordnance Survey Map (1906-1907).....	15
Figure 6 Winney's Down Area 2 and access routes in relation to HER sites (MDV No.s) and English Heritage survey areas (solid pink lines) within a 1.5km radius of the restoration site. 16	
Figure 7 Winney's Down Area 2 on LIDAR image, note peat cutting evident on Marsh Hill to right of site and East Dart River on left of image.....	17
Figure 8 LiDAR image showing access route through Great Stannon Newtake, note Whitehorse Leat running roughly north to south in centre of image and Sittaford Tor in middle left foreground.	17
Figure 9 LiDAR image showing access route to Winney's Down Area 1 (pink) and return access route from Area 2 (blue).	18
Figure 10 LiDAR image showing access route between Winney's Down Areas 1 and 2 (pink) and return access route from Area 2 (blue).	18
Figure 11 Access route through Great Stannon Newtake showing HER monuments (MDV No.s) in proximity to route.....	19
10. Plates	20
Plate 1 Winney's Down Area 2 looking northwest from southeast side of site.....	20
Plate 2 Winney's Down Area 2 looking northwest towards Quintin's Man, from the southwest side of the site.	20
Plate 3 Large gully at southern end of Winney's Down Area 2, looking north.	21
Plate 4 Erosion gullies on southwest side of Winney's Down Area 2, looking northeast.	21
Plate 5 Point at which access route traverses Whitehorse Leat, looking southeast (note Grey Wethers in the background).	22
Plate 6 Access route approaching Whitehorse Leat from northeast.....	22

1. Introduction

1.1 Introduction

This report outlines the results of an archaeological assessment carried out in advance of blanket bog restoration work at Winney's Down Area 2 in northern Dartmoor (Fig. 1). The restoration work is scheduled to take place in September 2012. The archaeological assessment includes the results of a desk-based assessment and a walkover survey of the site and access route. This work was commissioned by the Dartmoor Mires Project, who will be carrying out the restoration work.

1.2 Aims of the assessment

The aim of the desk-based assessment is to determine the known or potential archaeological resource within the restoration area and the access route. The purpose of a walkover survey is to re-identify any known archaeological features and to identify and record any archaeological remains which may not have been previously recorded.

2. Background

2.1 Site location and setting

The site at Winney's Down Area 2 (SX616827) is located on the North Moor and encompasses an area of relatively flat upland located 4.7km northwest of Postbridge and 1.6km southwest of Sittaford Tor, in the parish of Dartmoor Forest.

The restoration boundary encompasses an area of high quality blanket bog and covers approximately 4.5 ha (Fig. 2, Plates 1-4). The site is bounded to the west by the East Dart River, which flows 190m to the west of the site, to the north and south by blanket bog and to the southeast by Marsh Hill. It lies 400m west-northwest of Statt's House.

2.2 Previous restoration work

The Dartmoor Mires restoration site known as Winney's Down Area 1 is located approximately 750m to the southeast of Winney's Down Area 2 and south of Marsh Hill (Fig. 3). Restoration work was carried out at that site during the autumn of 2011 and will be completed in September 2012.

3. Methodology

3.1 Desk-based assessment

The desk based assessment included consultation of the relevant cartographic sources including the first (1886-1893) and second (1906-

1907) edition Ordnance Survey 6 inch Maps and Tithe Maps (1840). LiDAR images of the restoration site and access route were also examined for archaeological features. Primary sources consulted included the HER for Dartmoor, SAM, English Heritage Surveys and any other relevant archaeological publications relating to Dartmoor. Aerial photographs of the National Park dating to 1947, 1999, 2006 and 2010 were also carefully examined for archaeological features.

3.2 Fieldwork Methodology

The access route to the site was subject to a route selection process and a stable access route established. A walkover survey was carried out along the route and a 10m buffer zone either side of the route inspected in order to reduce exposure or disturbance of archaeological material during site works. The walkover survey of the restoration site and access route was carried out, by the author, on 20th June 2012.

4. Results of the Desk-based Assessment

4.1 Map regression

The first (1886-1893) and second (1906-1907) edition six inch Ordnance Survey maps and the Tithe Map for the Parish of Lydford (1840), now known as Dartmoor Forest, were examined for evidence of any structures or features that may have been previously extant within the site boundary or along the access route (Fig.s 4-5). All three maps show that this part of Dartmoor was illustrated as open moorland in the nineteenth and early twentieth century and therefore remains unchanged today. With the exception of Whitehorse Leat and the Peat Pass on Marsh Hill no features or structures were recorded on any of the maps within the restoration area or along the access route to the site.

4.2 Prehistoric landscape

The restoration site sits within a monumentally diverse prehistoric landscape with a high density of settlement and ritual monuments including hut circles, stone circles, stone rows, cairns and cists located between 3km and 3.5km to the east and southeast. There are, however, a relatively small number of prehistoric burial monuments within a 1.5km radius of the restoration site (Fig. 6). The possible remains of a cairn (HER 6776) commands the summit of Marsh Hill, 400m east-southeast of the restoration site. Previous surveys of the monument could not establish with certainty that it is a prehistoric burial monument but it is likely that it was a cairn which was robbed out and the stone used to construct a peat cutters hut, which sits within the mound (Jane Marchand pers. comm.). There are also a number of prehistoric burial monuments approximately 1km to the northeast of the restoration area,

including a large but commanding ruined cairn known as Quintin's Man cairn (HER 6765). Other prehistoric monuments recorded in proximity to the cairn include two barrows (HER 27278 and 13033) which are no longer visible on the ground.

4.3 Medieval and Post-medieval landscape

The majority of the archaeological evidence in the landscape within a 1.5km radius of the restoration site is medieval or post medieval in date and is dominated by evidence of stream working. The banks of the East Dart River and its tributaries, west and south of the restoration site, bear the physical scars of stream working, which are testament to the importance of the tin industry for Dartmoor's economy and inhabitants during the medieval and post medieval period.

During the medieval period tinworking was the most important enterprise outside agriculture on Dartmoor (Newman 2011, 142). The first record of tin mining is in the pipe roll of 1156 and its importance confirmed by the first 'stannary' charter for Dartmoor, which was issued by King John in 1202 (*Ibid.*, 143). The tin industry in Devon reached its peak between the mid-thirteenth and the first quarter of the sixteenth century but had ceased by the start of the Civil War in the mid-seventeenth century (*Ibid.*). Mining recommenced between 1673 and 1726 but production levels were at zero by 1750, partly due to the depletion of alluvial deposits, which were of a higher grade and more accessible. From the late eighteenth to the twentieth century, tin mining remained an important industry on Dartmoor but on a smaller scale as accessing the remaining lodes, which were found in deeper sections and were of a poorer grade, required more resources and the risk involved was greater to those involved in its exploitation.

Well preserved and extensive evidence for stream working, including spoil heaps and channels, are clearly visible on the banks of the East Dart River at Broad Marsh (HER 15522) and Sandy Hole Pass, which are located approximately 600m south and 1.1km south-southeast of the restoration site, respectively. They are part of a large complex of streamworks covering 14 hectares along this stretch of the East Dart River (English Heritage Monument No. 1050204). This type of streamworks is reminiscent of medieval or post-medieval tin mining though it is impossible to accurately date this activity without excavation.

The significant number of small rudimentary, ruinous buildings in proximity to the streamworking and the site also reveal the importance of the industry in this particular area. A total of eleven tinner's huts are recorded within the study area and in relative proximity to streamworks. These rudimentary buildings are thought to have provided shelter for the people working in this remote area. They are believed to be eighteenth or nineteenth century in

date though some may be earlier and they were most likely not exclusively used by tanners.

There is also considerable evidence for peat cutting, another of Dartmoor's important industries, in proximity to the restoration site. Peat cuttings are clearly visible radiating from the summit of Marsh Hill, which lies to the east of the site (Fig. 7). The turf ties are linear in form which suggests that they are likely to date to the nineteenth and twentieth centuries and are the result of domestic peat cutting (*Ibid.*, 224). Abandoned and dilapidated buildings in proximity to peat cutting are believed to be peat cutter's huts. These structures provided shelter from the often harsh conditions on the high moor. Two such structures are visible on the summit of Marsh Hill, including Statt's House (HER 7756), a well known landmark on Dartmoor that is a particularly good example with a surviving fireplace and partial doorway. The second structure is located 50m to the south but is not as well preserved and was constructed within a prehistoric cairn, which provided the stone used in its construction. Approximately 300m directly east of the northern end of the restoration area are the ruins of a probable peat cutter's hut (HER 7755) within an area of peat cutting. There is another ruined hut 1.2km southeast of the site, which may be a peat cutter's hut but it has previously been recorded as a possible shepherd's shelter (HER 7771).

Peat cutting and tin working were not mutually exclusive. Documentary evidence indicates that in the mid-thirteenth century, people, known as *carbonarii*, had a right to dig peat to convert into charcoal for sale (Newman 2010, 7). The peat charcoal was used to fire the process of smelting tin. It is more likely that the peat cutting on Marsh Hill is domestic in nature, cut to provide fuel for the inhabitants of Dartmoor. The origins of domestic peat cutting are unknown, however, we know that it was established on a commercial basis by the mid-thirteenth century. It is therefore likely that domestic peat cutting is at least contemporary if not earlier in date.

There is also a peat pass (HER 6763) that runs from Stat's House on the summit of Marsh Hill down to Broad Marsh. These routeways are found at numerous locations across the North Moor and were constructed by Frank Phillpotts during the period 1895 to 1909 (Harris 1972, 164). In common with many of the other peat passes this example has memorial plaques mounted on granite posts at either end.

The above evidence for stream working and peat cutting, in proximity to the restoration site, informs us that this seemingly 'remote' part of Dartmoor was a focus for exploitation of the natural resources throughout the medieval and post medieval periods.

4.4 Palaeoenvironmental Survey of Winney's Down Area 2

Field survey, deposit modelling and radiocarbon dating were carried out at Winney's Down Area 2, prior to restoration, in order to establish dates for peat initiation. Peat depths were obtained at 40 borehole locations across the restoration area. The stratigraphic data from the boreholes was then used to produce a model for bedrock topography and peat thickness (Young, Batchelor and Green 2013, 2). Samples were obtained from two boreholes (BH4 and BH18) and the base of the peat in both samples was radiocarbon dated.

Since there were no identifiable plant macrofossils from the base of the peat sequences, the humin and humic acid fractions of bulk peat samples from boreholes BH4 and BH18 were radiocarbon dated. The dates returned indicated that peat began accumulating at the base of BH4, located at the northern end of the site, during the period 3760 to 3630 cal BC. Peat initiation at the centre of the restoration area (BH18), began at least 600 years earlier during the period 4540 to 4360 cal BC. The dates indicate that peat began accumulating in the Late Mesolithic at the location of BH4 and during the Early Mesolithic at the location of BH18.

4.5 Winney's Down Area 1 Palaeoecological Survey Results

The results of detailed palaeoecological survey of Winney's Down Area 1 provide a profile of the landscape in proximity to Winney's Down Area 2 from the Mesolithic to the recent past. The survey revealed that the date for the onset of peat development was not universal across the site. Data was obtained from two separate cores, both of which were taken from the northern end of the site. The earliest date obtained was from the core taken from the northern edge of the site and indicated that peat growth was initiated around 8100 cal BC at this location. The second core was located approximately 170m to the southeast and indicated that peat began developing in this area around 6300 cal BC (Fyfe et al 2010, 26). Interestingly, the earliest date came from an area where the peat measured 3.3m in depth, while the other sequence came from an area of peat measuring 6.7m in depth indicating that peat initiation was not synchronous across the site.

The pollen sequence from Winney's Down record high levels of arboreal pollen from the later Mesolithic indicating that the landscape was dominated by hazel woodland with oak recorded in the wider landscape. The arboreal landscape continued until a wider upland landscape change in the Late Iron Age when there was a substantial increase in grassland (*Ibid.*, 35). This more open landscape continued until the fourth to sixth centuries AD when there was an increase in scrubby vegetation. This landscape was subject to clearance on Winney's Down during the 10th century AD (*Ibid.*).

These records provide an important insight into the environmental history of the landscape around Winney's Down Areas 1 and 2 since prehistory and illustrate how human activity has influenced the landscape on Dartmoor. They also inform us that the open moorland that defines the North Moor now is a relatively recent phenomena and that peat accumulation continues on the site today.

As part of the survey, a Ground Penetrating Radar (GPR) survey of Winneys Down area 1 was carried out to establish a peat depth model for the site. The GPR survey also has the capacity to identify archaeological anomalies buried within the peat. Some 6.9km of line data was collected on the site, however, no archaeological anomalies or sub-surface structures were identified in the GPR radar lines (*bid.*, 11).

4.6 Access Route

The site is accessed through Fernworthy Forest, the route then follows an established route way across the northern side of the Great Stannon Newtake, up Sittaford Tor and then out onto the open moor (Fig.s 8-10). It is intended that restoration work will be completed on Winney's Down Area 1 prior to work being carried out on Area 2. It is therefore necessary for the access to go through Area 1. The route passes in proximity to a number of prehistoric features within Stannon Newtake, but does not impact upon the monuments. It does, however, traverse Whitehorse Leat (HER 27295) (see Fig. 8).

Just south of the gateway leading from Fernworthy Forest out onto the Great Stannon Newtake is the location of a possible barrow (HER 6766). The English Heritage survey, however, suggests that it is possible that this feature is a duplication of the two cairns which are located to the west-southwest and approximately 80m south of the access route. The larger of the two is a probable ring cairn (HER 20917) with a flat top mound, which measures 15m in diameter with the remnant of an outer bank. The second cairn (HER 20909) is located 4m to the northeast and is composed of mound measuring 4.5m in diameters and 0.7m in height. Approximately 170m to the southwest, 130m south of the access route, are the remains of a round cairn (SAM 21304, HER 6806) which was excavated by the Dartmoor Exploration Committee in the late nineteenth century. The excavations revealed a pit containing a small amount of charcoal.

The access route passes 40m north of the Grey Wethers stone circles (SAM 21304, HER . This well known Dartmoor landmark comprises two stone circles, 6m apart. The site was excavated by the Dartmoor Exploration Committee in 1898, which discovered that the original ground surface was

covered with a layer of charcoal. The circles as we know them today were restored by Burnards in 1909, prior to that only nine stones stood in the northern circle (HER 6758) and seven in the southern circle (HER 6759) (Butler 1991, 165). The diameters of the two circles are very similar in size: the northern circle measuring 31.7m and the southern circle measuring 33m in diameter, respectively.

The route traverses the Whitehorse Leat (HER 27295), approximately 33m northwest of Grey Wethers. This possible nineteenth century leat runs from the North Teign River to the northwest and connects with the Birch Tor and Vitifer Mine Leat 400m south of Grey Wethers.

The route then continues up Sittaford Tor where it passes through a gateway leading onto the open moor. Approximately 150m south-southeast of the gateway are the remains of a kerbed cairn (HER 21894) with a possible central cist.

Once out on the open moor, the preferred access route does not pass in proximity to any further recorded monuments. The access route between the restoration site at Winney's Down, Areas 1 and 2 runs across the western side of Marsh Hill and traverses the peat pass discussed in Section 4.3.

5. Results of the field walking survey

5.1 Access Route

Two previously recorded historic features were identified along the access route. As previously outlined the route traverses the Whitehorse Leat directly northwest of the Grey Wethers stone circle (Plates 5-6). The access route that runs between Winney's Down Areas 1 and 2 traverses the peat pass, which runs perpendicular to Marsh Hill.

No newly identified archaeological sites were identified along the preferred access route.

5.2 Restoration Site

No previously recorded or newly identified archaeological features were observed within the restoration area.

6. Impacts

6.1 Access Route

The preferred access route was selected to avoid impacting the historic environment wherever possible. However, it is impossible to avoid the

Whitehorse Leat and the peat pass as it is necessary to traverse them in order to gain access to the restoration site.

To mitigate any potential damage to the leat or peat pass, the mechanical excavator used for the restoration work is fitted with chamfered, rubber tracks designed to minimise ground disturbance. The machine will be accompanied to and from site by the archaeologist carrying out the watching brief in order to ensure that any impact to the features is minimal.

6.2 Restoration Site

The restoration work will not impact on any previously recorded archaeological features. Restoration work will be carried out on an area of good quality bog. It will involve some disturbance to the uppermost 0.40m of virgin bog and will therefore impact upon relatively recently formed peat. However, the possibility remains that archaeological remains survive within the peat on the site.

7. Recommendations

In order to mitigate the possibility of disturbing previously unknown archaeological remains, within the peat, on the restoration site and along the access routes to and from the site, all groundworks associated with the restoration work will be subject to an archaeological watching brief which will be carried out by a suitably qualified archaeologist.

8. Bibliography

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9. Figures

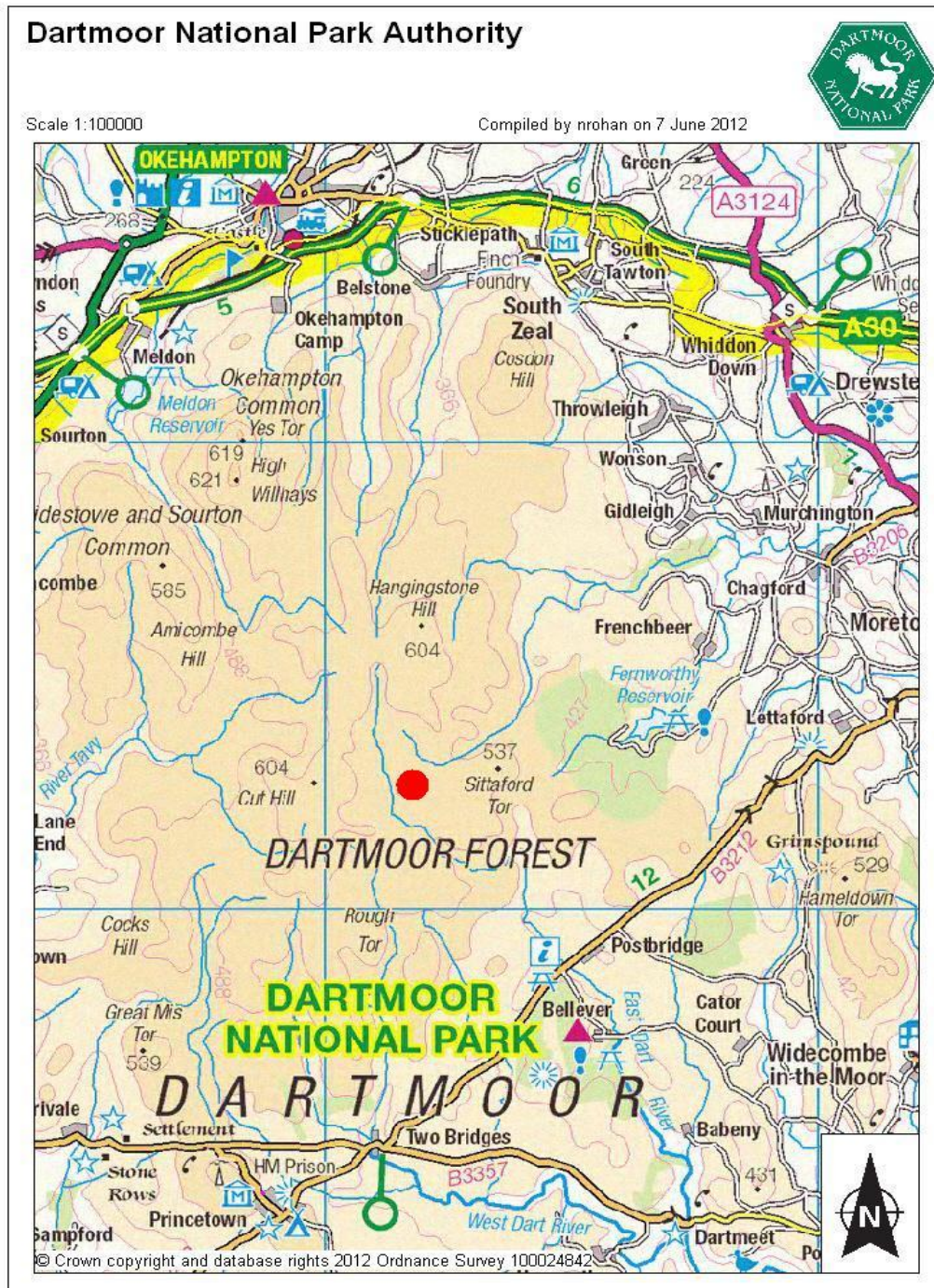


Figure 1 Site location Map showing Winney's Down Area 2

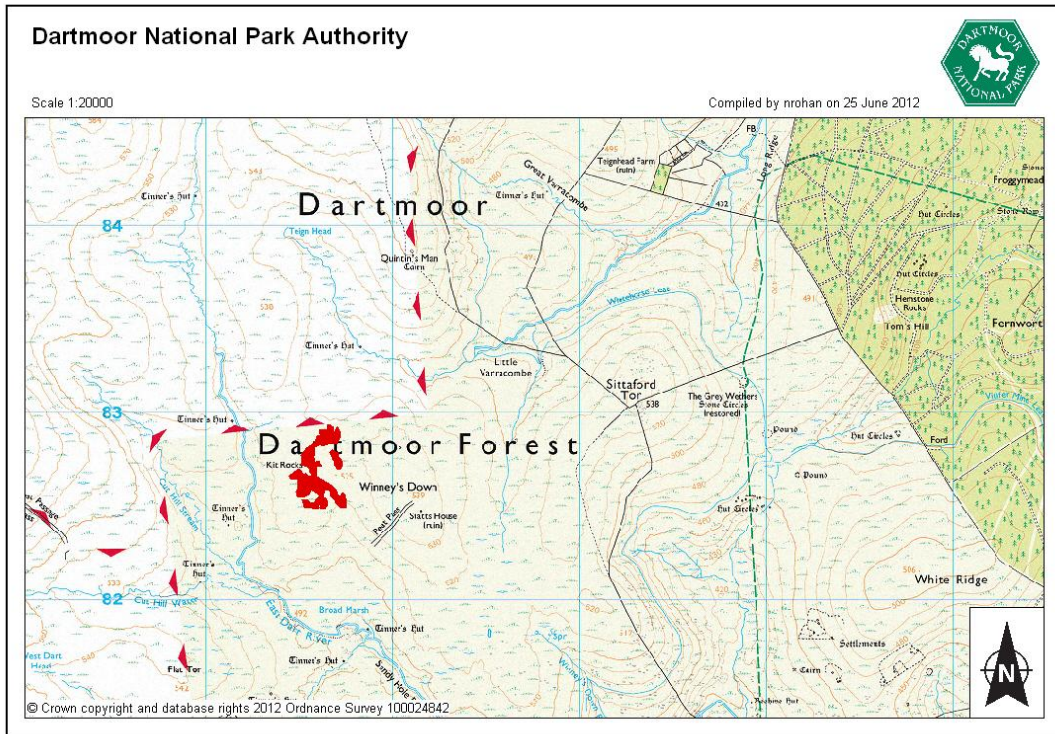


Figure 2 Site location map showing Winney's Down Area 2 (in red) in relation to Fernworthy Forest (right side of map).

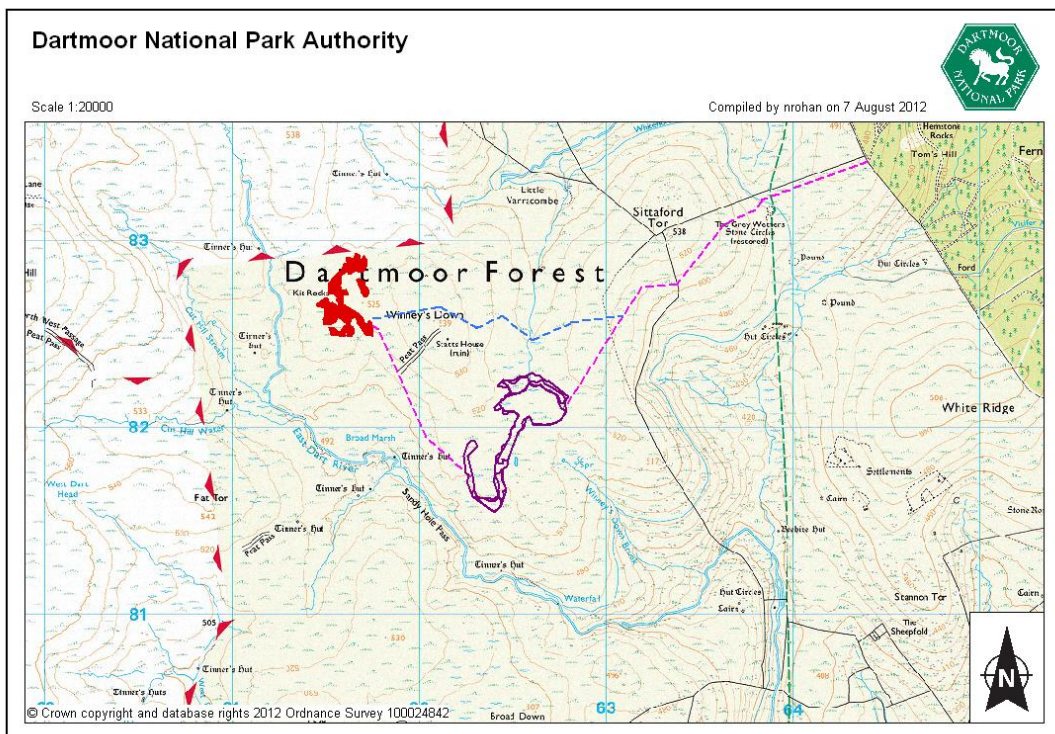


Figure 3 Winney's Down Area 2 showing access routes to/from site (pink and blue dashed lines) and between Areas 1 (purple outline) and 2 (red).

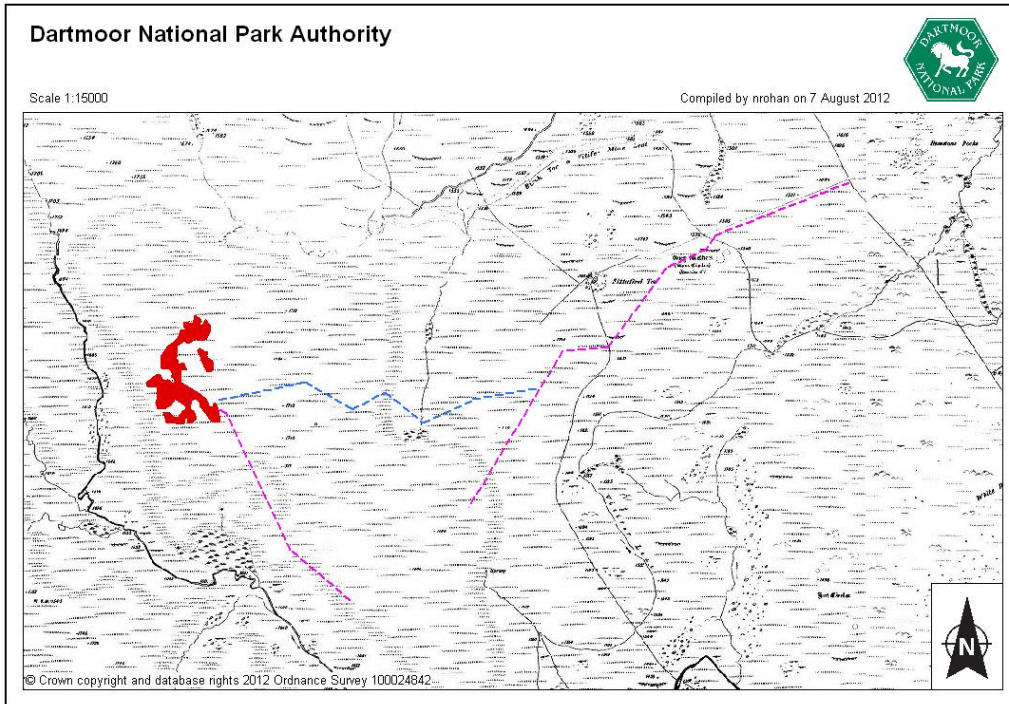


Figure 4 Winney's Down Area 2 and access route on first edition 6-inch Ordnance Survey Map (1886-1893).

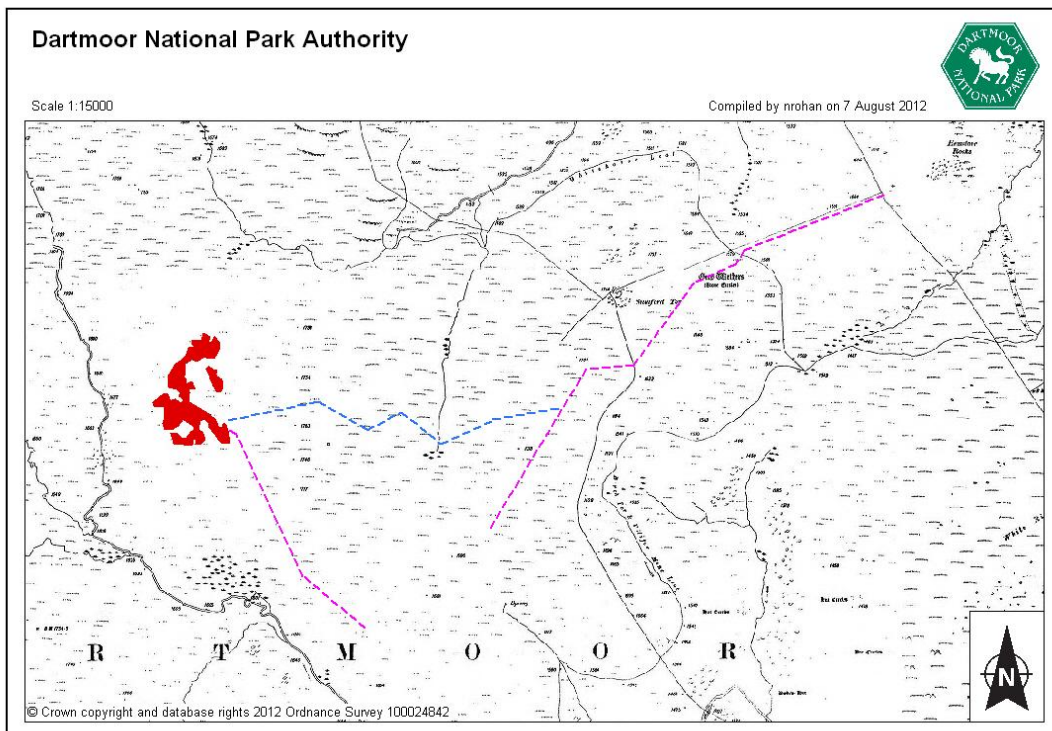


Figure 5 Winney's Down Area 2 and access route on the second edition 6-inch Ordnance Survey Map (1906-1907).

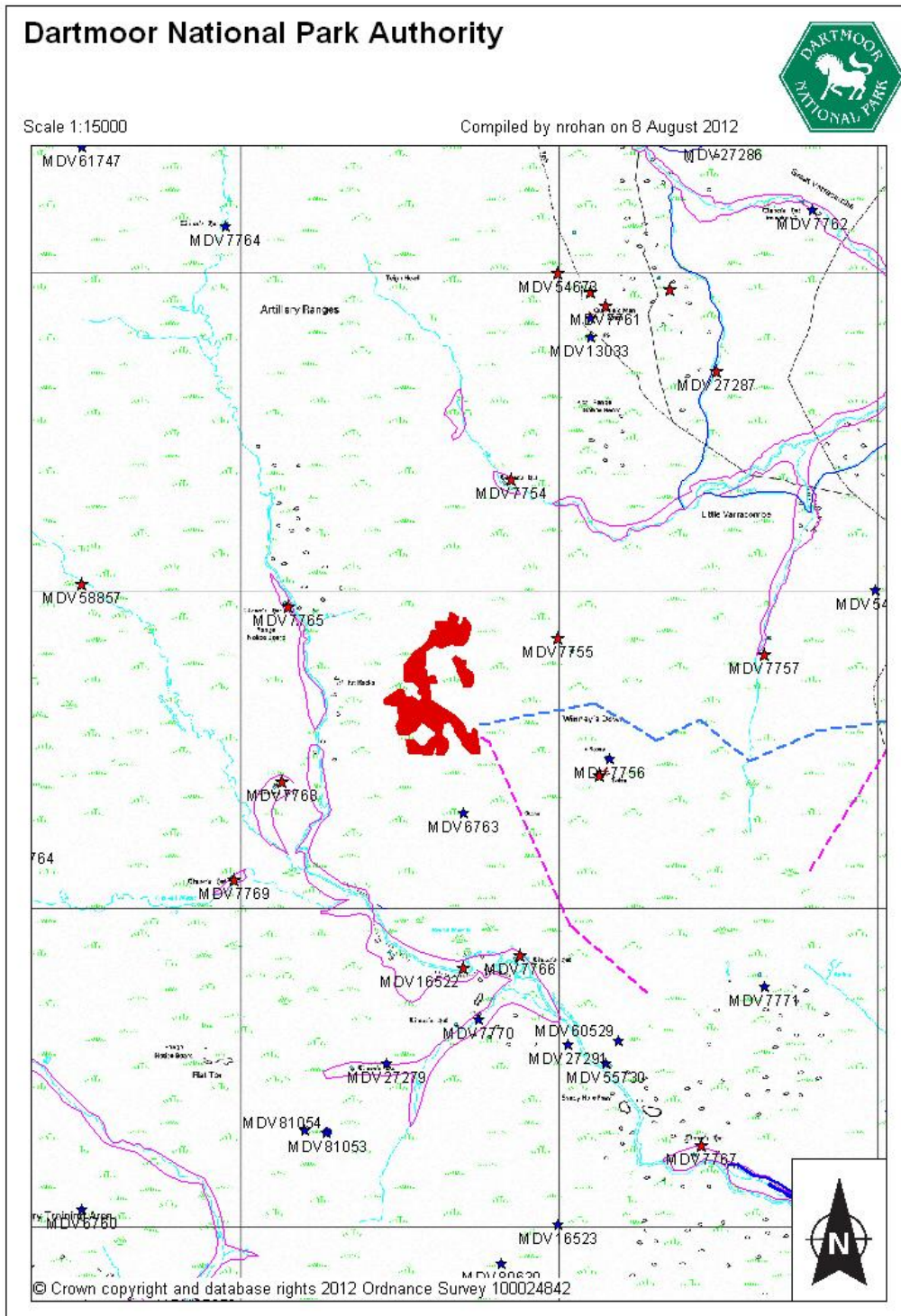


Figure 6 Winney's Down Area 2 and access routes in relation to HER sites (MDV No.s) and English Heritage survey areas (solid pink lines) within a 1.5km radius of the restoration site.

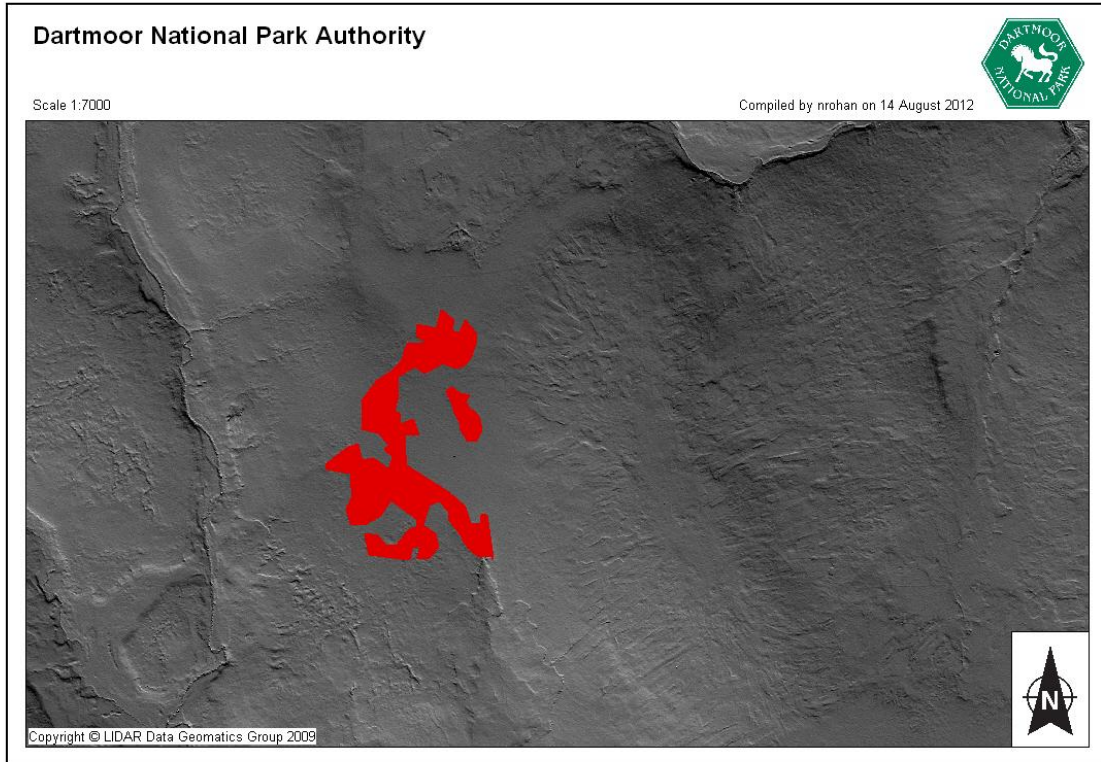


Figure 7 Winney's Down Area 2 on LIDAR image, note peat cutting evident on Marsh Hill to right of site and East Dart River on left of image.

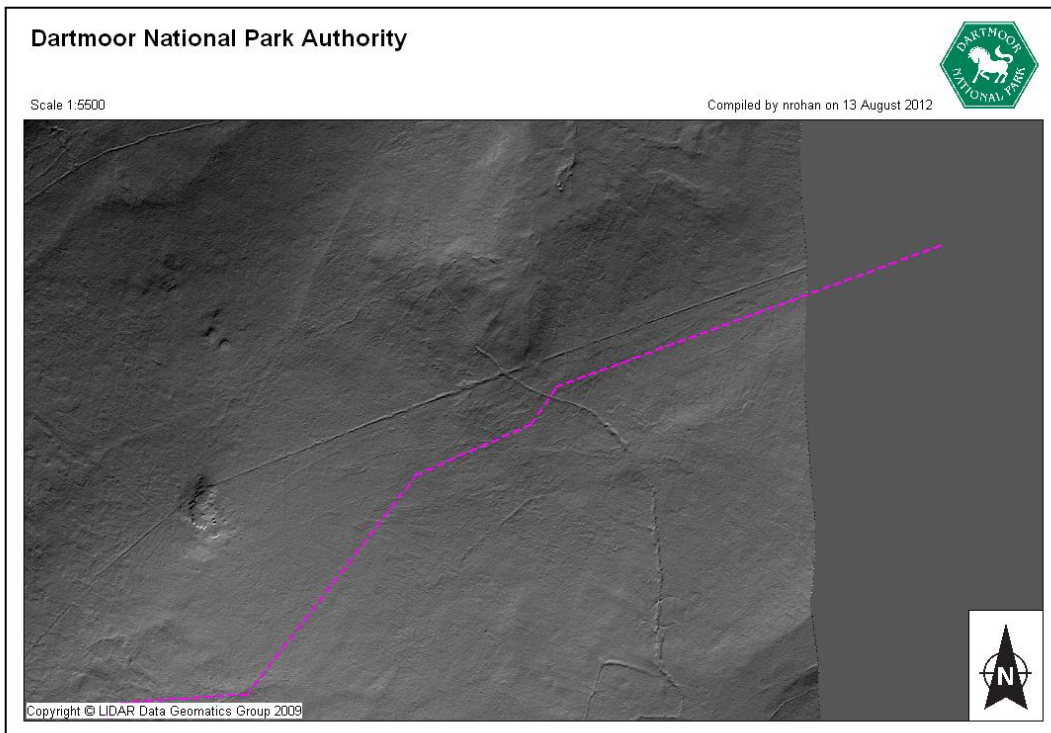


Figure 8 LIDAR image showing access route through Great Stannon Newtake, note Whitehorse Leat running roughly north to south in centre of image and Sittaford Tor in middle left foreground.

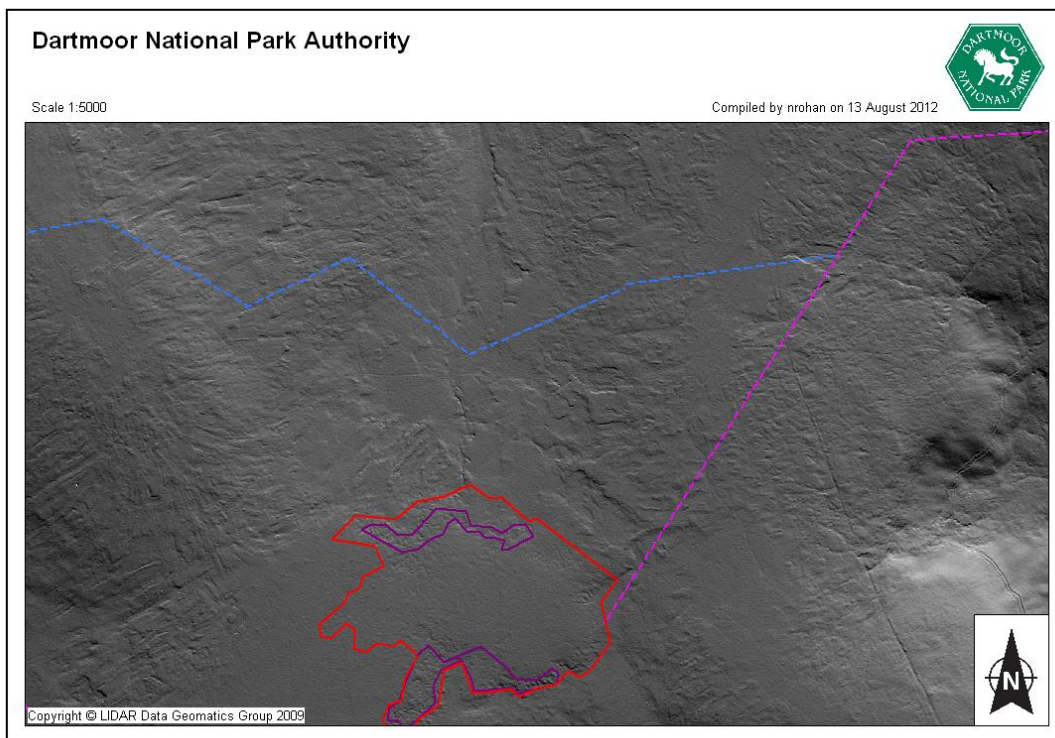


Figure 9 LiDAR image showing access route to Winney's Down Area 1 (pink) and return access route from Area 2 (blue).

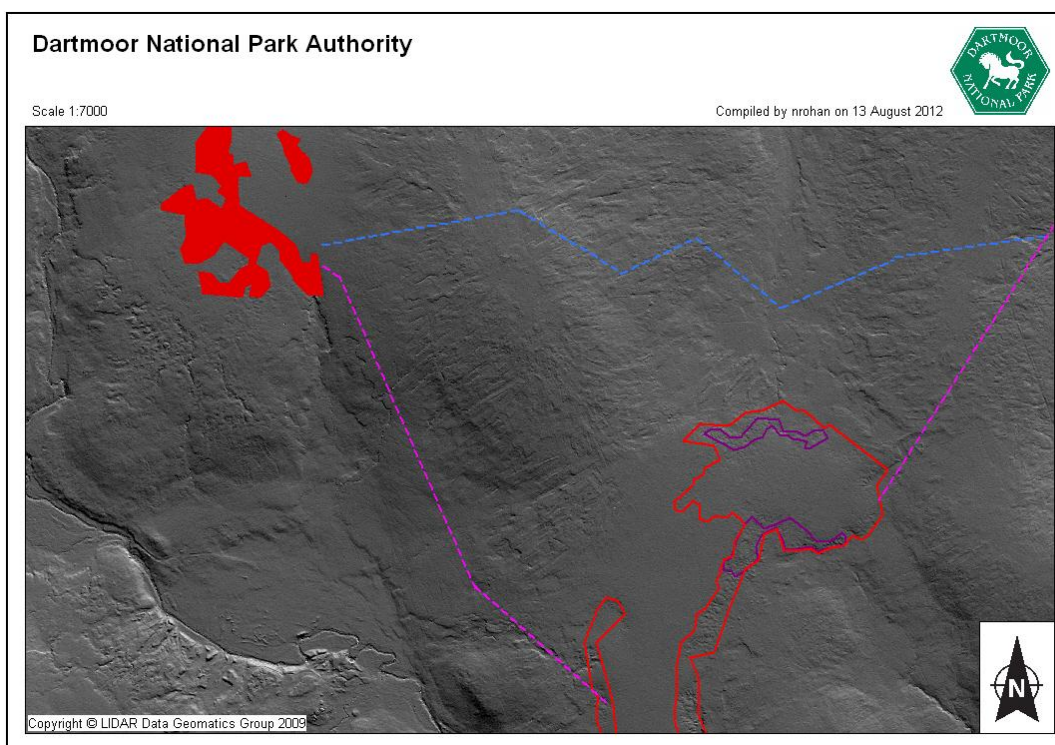


Figure 10 LiDAR image showing access route between Winney's Down Areas 1 and 2 (pink) and return access route from Area 2 (blue).

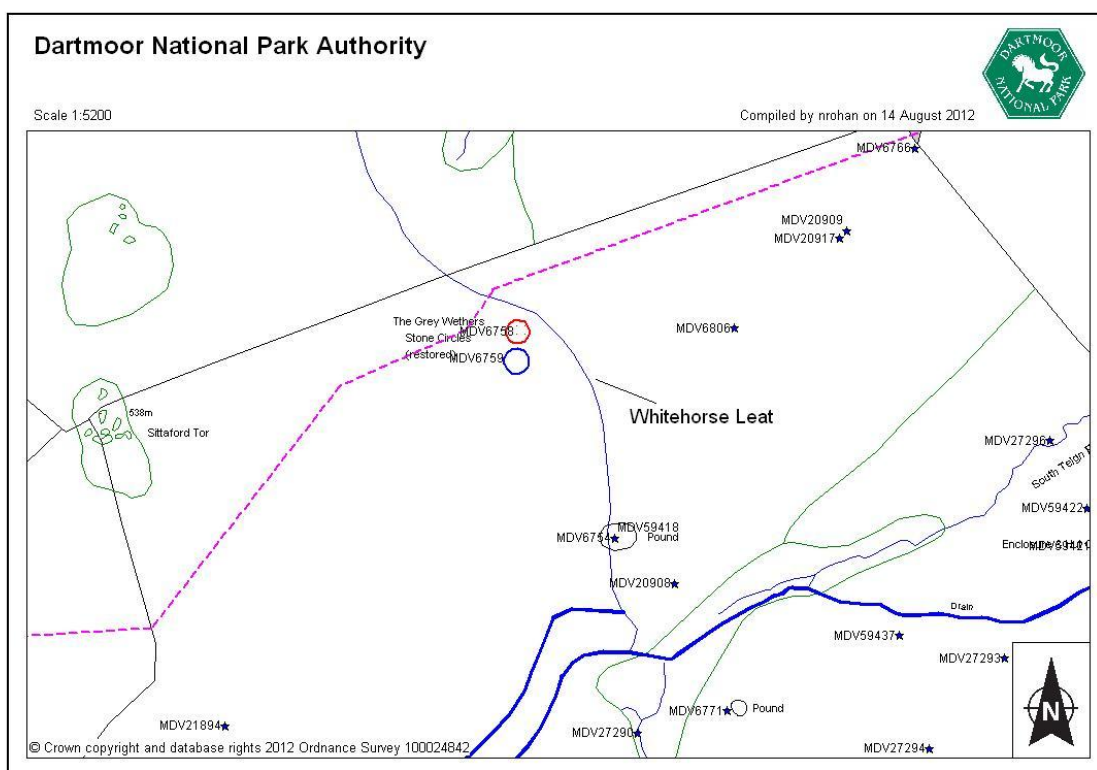


Figure 11 Access route through Great Stannon Newtake showing HER monuments (MDV No.s) in proximity to route.

10. Plates



Plate 1 Winney's Down Area 2 looking northwest from southeast side of site.



Plate 2 Winney's Down Area 2 looking northwest towards Quintin's Man, from the southwest side of the site.



Plate 3 Large gully at southern end of Winney's Down Area 2, looking north.



Plate 4 Erosion gullies on southwest side of Winney's Down Area 2, looking northeast.



Plate 5 Point at which access route traverses Whitehorse Leat, looking southeast (note Grey Wethers in the background).



Plate 6 Access route approaching Whitehorse Leat from northeast.