





# **Bangor Cornish Quarry, Launceston, Cornwall**

## **Heritage assessment and impact assessment**

<b>Client</b>	<b>CORMAC Solutions</b>
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## Acknowledgements

This study was commissioned by Andy Bartle of CORMAC Solutions Ltd. and was carried out by Cornwall Archaeological Unit, Cornwall Council.

Within CAU, the Project Manager was Dr Andy Jones.

The views and recommendations expressed in this report are those of Cornwall Archaeological Unit and are presented in good faith on the basis of professional judgement and on information currently available.

## Freedom of Information Act

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Cover illustration

*Boundstone on the south east of the quarry at location **10**, marking the medieval parish boundary following a small stream, covered by the old quarry dumps beyond.*

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## Abbreviations

CAU	Cornwall Archaeological Unit
CC	Cornwall Council
CCRA	Cornwall Committee for Rescue Archaeology (precursor of CAU)
CDP	<i>Cornish and Devon Post</i> newspaper
CIfA	Chartered Institute for Archaeologists
CRO	Cornwall Record Office
DBA	Desk-based assessment
EH	English Heritage
HER	Cornwall and the Isles of Scilly Historic Environment Record
HLC	Historic Landscape Character
ICS	Institute of Cornish Studies
MCO	Monument number in Cornwall HER
NERC	Natural Environment Research Council
NGR	National Grid Reference
OD	Ordnance Datum – height above mean sea level at Newlyn
OS	Ordnance Survey
RCG	<i>Royal Cornwall Gazette</i> newspaper



# 1 Summary

Cornwall Archaeological Unit, Cornwall Council (CAU, CC) carried out a Heritage Impact Assessment (HIA) in March-April 2017, for CORMAC Solutions. The HIA was required by the planning authority for a proposal for an asphalt works on the site of Bangor Cornish Quarry, just south of Launceston, previously reused as a waste and recycling centre (planning application PA16/02793/Preapp).

Most of the heritage resource of the proposed development area relates to the past development of the quarry itself, formerly known as Tresmarrow Quarry. The importance of the quarry for the district was documented in the early 19<sup>th</sup> century, when, unusually, descriptions of notable slate products, and dated dialect verses mentioning the site, were published. Map evidence points to post-medieval or earlier quarrying, still tangible in the landscape through the survival on the east of part of Quarry Lane, which formerly ran north to the important medieval settlement foci of Launceston, St Thomas and St Stephen.

Further maps and other documents attest to the substantial development of the quarry through several major phases in Victorian times, involving deepening of the two main pits. Despite the filling of these with waste in the later 20<sup>th</sup> century, loss of quarry buildings, and other modifications, the scale and some of the methods of past working can be seen, particularly around the south side with continuous high scarps of spoil largely undisturbed. In the centre of the north side, some time depth is evident, with an old quarry track earthwork and low remains of an unmapped, early powder house or similar building. Other wall footings or similar traces of structural elements of the later 19<sup>th</sup> century workings, and of earlier phases, may survive below ground. These may provide evidence of organisation and techniques, and examples of the slate itself.

The site has acquired additional significance as a woodland, 'semi-natural' because supported by rock waste created by human agency. Again, this is well-preserved all around the south side, on the spoil scarp falling to the stream. The dump edges on the south, west and north are faced with the quarry stone, contributing to local distinctiveness. On the south east, a stone marks the parish boundary overwhelmed by the quarry dumps, conveying a sense of their age. There is demonstrable potential for identifying slate produced here in the wider locality, and also for further documentary study.

In addition to the quarry with its early access lane, the site captures, on the west, a small but well-preserved part of an abandoned route, considered to be an approach to Trebursye flanked by trees recorded over two hundred years ago. This feature is significant as an articulating element of an ornamental landscape, leading to a predecessor of the Georgian mansion Trebursye House.

The assessment identifies the main potential impacts on the heritage resource expected to result from the proposed development. In several areas, the works could remove or disturb buried traces remains of documented significant quarry infrastructure, or obscure the extant part of the former approach to Trebursye. Elsewhere the planned works adjoin areas with significant upstanding and/or buried remains, meaning there is potential for inadvertent collateral damage to these. The taller structures planned would also have an adverse visual impact.

Measures proposed to avoid or mitigate for this, subject to approval by the planning authority, include archaeological watching brief to allow recording of buried remains at specified locations; and monitoring for particular peripheral areas of quarry spoil, to ensure these remain undisturbed with their earthworks and buried remains, and mature woodland with intrinsic and screening value.

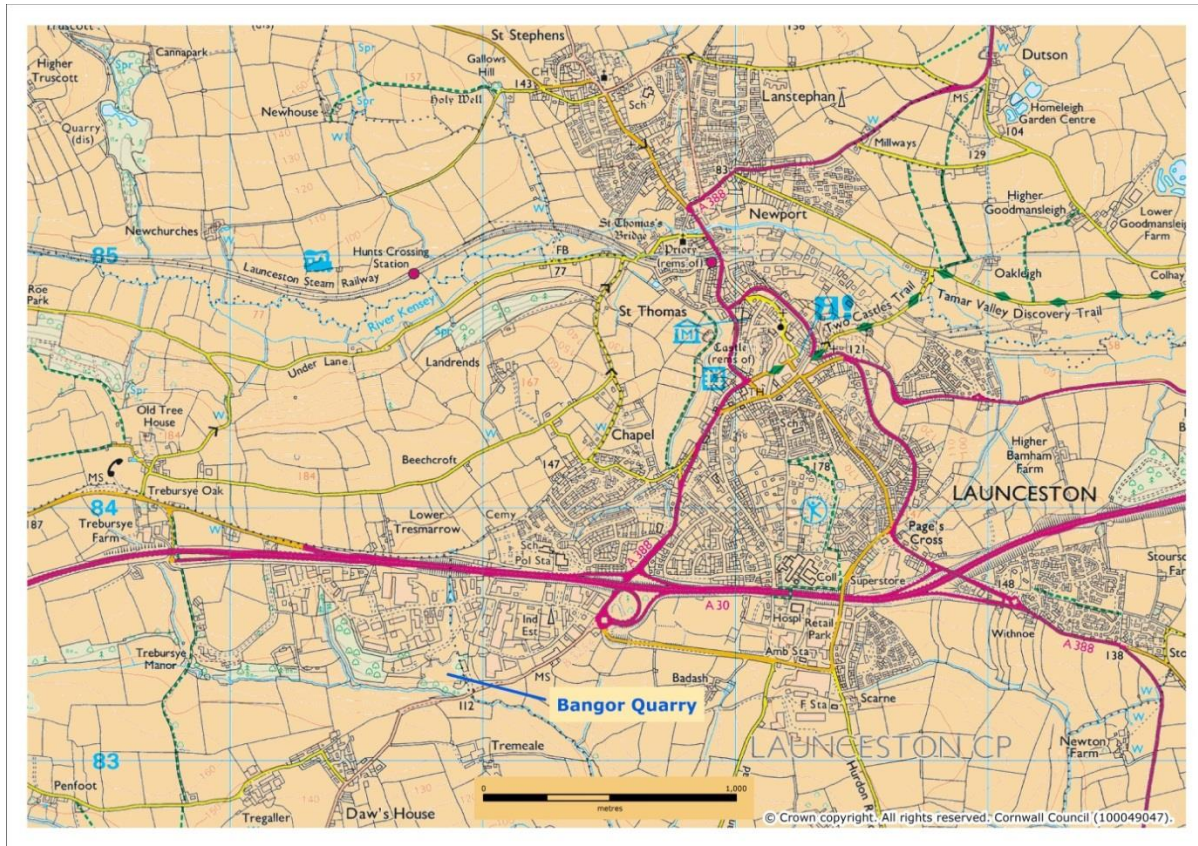


Fig 1 Map locating the site proposed for an asphalt plant at the former Bangor Quarry, near the town of Launceston and the A30 trunk road, north Cornwall.

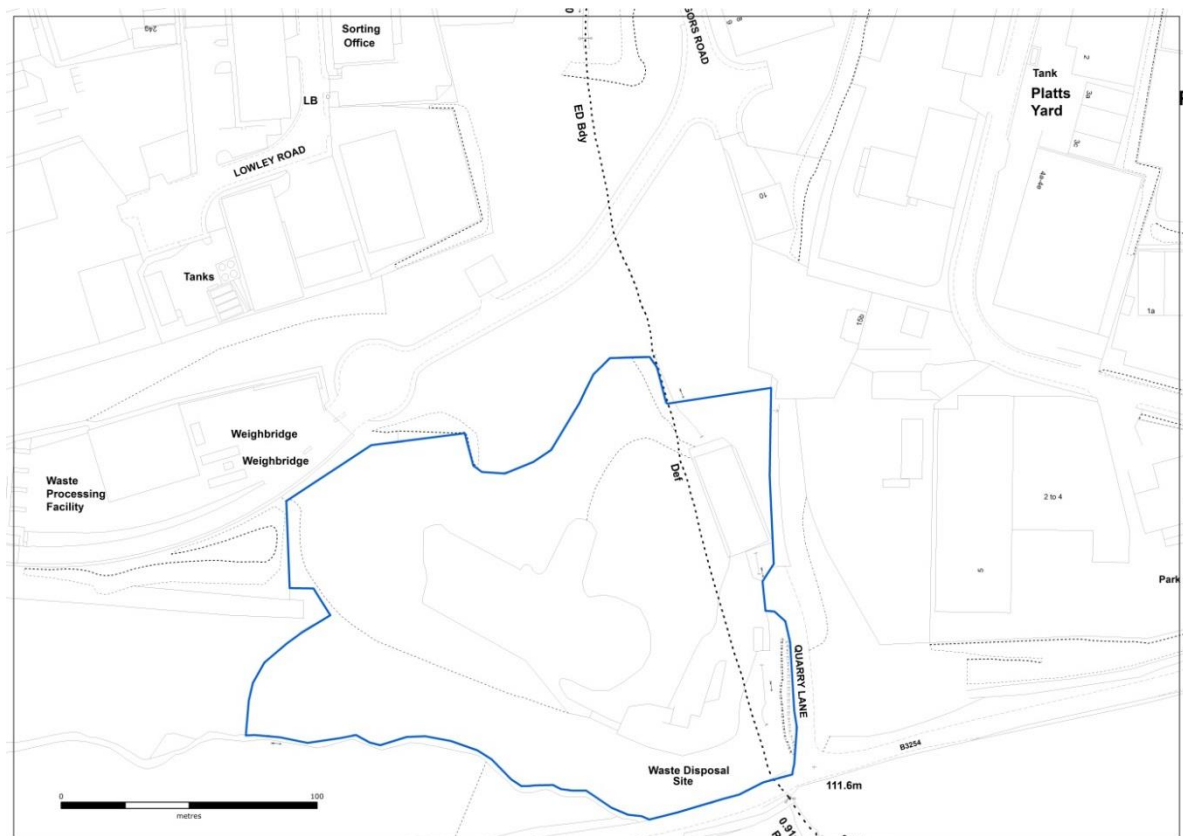


Fig 2 Plan of the Bangor site with the assessment study area outlined in blue.

## 2 Introduction

### 2.1 Project background

CORMAC Solutions propose the conversion of a former waste transfer station and household waste recycling centre (HWRC) on the site of a disused slate and sandstone quarry just to the south of Launceston into a roadstone coating plant (Fig 31). Planning application PA16/02793/Preapp applies.

As part of the pre-application advice supplied to CORMAC Solutions, the Development Officer (Historic Environment) stated:

*'Thank you for consulting HEP Archaeology on this application. We have consulted the Cornwall & Isles of Scilly Historic Environment Record and note that the application area lies within the site of a post-medieval quarry, Bangor Cornish Quarry, MCO22647, shown on the c1880 OS mapping and probably on the c1840 South Petherwin Tithe Map. A number of ancillary buildings shown on the historical mapping may survive.'*

*We recommend that a full application should be supported by a Heritage Impact Assessment that will summarise the historical development of the quarry, include a walkover component to identify surviving heritage assets, assess their significance, assess the impacts of the proposal on the assets, and propose measures to mitigate these impacts. The application should not be determined before this assessment is received and we have had an opportunity to comment further. This assessment should be carried out by a suitably qualified organisation or individual in accordance with accepted national guidelines. This would be in accordance with the provisions of NPPF Section 12, paragraph 128.'*

CAU were contacted by Andy Bartle of CORMAC Solutions on 14 March 2017 with a request for a method statement and costs for undertaking an HIA to meet the SDOH(E)s requirements.

### 2.2 Aims

The principal aim of the study is to gain an understanding of the development of Bangor Cornish Quarry, to assess to what degree the quarries and their associated historic infrastructure survive, to determine the significance of the site, to assess the impact of the current proposals on it, and to propose any relevant mitigation measures.

The objectives are to produce a written report on the findings of the HIA for the client and to produce an entry to the Historic England ADS Online OASIS database of archaeological projects.

### 2.3 Methods

All recording work was undertaken according to the Chartered Institute for Archaeologists *Standards and Guidance for Archaeological Investigation and Recording*. Staff will follow the CIfA *Code of Conduct* and *Code of Approved Practice for the Regulation of Contractual Arrangements in Archaeology*. The Chartered Institute for Archaeologists is the professional body for archaeologists working in the UK.

#### 2.3.1 Desk-based assessment

A desk-based assessment was carried out to inform the fieldwork stage. Sources consulted include:

- Published histories;
- Online material;
- Historic maps, including
  - Joel Gascoyne's map of Cornwall (1699);
  - Thomas Martyn's map of Cornwall (1748);
  - OS 1 inch survey (c1810);
  - South Petherwin and Launceston St. Mary Magdalene Tithe Maps (1843);
  - 1<sup>st</sup> and 2<sup>nd</sup> Editions of the OS 25 inch maps (c1880 and c1908);
- Modern maps;
- GIS data accessible to CAU.

### **2.3.2 Fieldwork**

A walk-over survey of the site was undertaken utilising a composite map generated by the DBA. The fieldwork involved recording and assessing the survival, nature, and condition and significance of archaeological features within the project area, and the likely impacts of the proposed development on these features and on the integrity of the historic landscape. Digital colour photographs were taken for illustration purposes.

### **2.3.3 Post-fieldwork**

#### Creation of the project archive

This included:

- Archiving of digital colour photographs (stored according to HER guidelines, and available to the client).
- Completion of the Historic England/ADS OASIS online archive index.

#### Archive report

A written report (this report) has been produced.

A digital (PDF) copy of the report, illustrations and any other files will be lodged with the Cornwall HER. Paper copies of the report will be distributed to the client, to local archives and national archaeological record centres.

#### Archive deposition

An index to the site archive has been created and the archive contents prepared for long term storage, in accordance with CAU standards.

The archiving comprises the following:

1. All correspondence relating to the project, the WSI, a single paper copy of the report together with an electronic copy on CD, stored in an archive standard (acid-free) documentation box.
2. The project archive has been deposited initially at ReStore PLC, Liskeard and in due course (when space permits) will be transferred to Cornwall Record Office.
3. Digital data has been stored on the Cornwall Council network which is regularly and frequently backed up.

### 3 Location and setting

Bangor Cornish Quarry is centred at SX 31827 83335 and extends to 2.1ha. It is located on the south side of Pennygillam Industrial Estate to the south of the A30 at Launceston (Figs 1, 2). The quarry lies mostly within the edge of the ecclesiastical parish of South Petherwin, but extends into that of Launceston St. Mary Magdalene to the east (Figs 6, 7, 8). The relevant postcode is PL15 7PF.

The site lies on a moderate to steep slope, falling from around 132m OD in its north-western corner to 124m OD in the eastern part of the site formerly occupied by the Household Waste Recycling Centre. The topography has been greatly altered. Slate quarry waste dumps have been built out from the slope; more recently these have been levelled across much of the centre and northern half of the site, while the deep quarry pits have been infilled. As a result of the quarry dumping, the southern half of the site slopes from 130m OD at the former location of the south edge of the southern quarry to 116m OD along the line of the Lowley Brook below.

The underlying bedrocks are classified by the British Geological Survey (BGS) as the mudstones, siltstones and sandstones of the Carboniferous Holsworthy Group, part of the Culm Measures. The quarry's dumps, and documentation of its products (see further Section 5, and Fig 16), show that it produced a blue-grey slate. Soils are the Denbigh 2 series of typical brown earths (Soil Survey of England and Wales).

Being a very substantial quarry, the site is defined in the county-wide mapping of Historic Landscape Character (HLC) as an area where the predominant HLC type is 'Industrial, disused'. No public rights of way traverse it.

Cornwall Council mapping records several areas of Japanese knotweed around the periphery of the site.

### 4 Designations

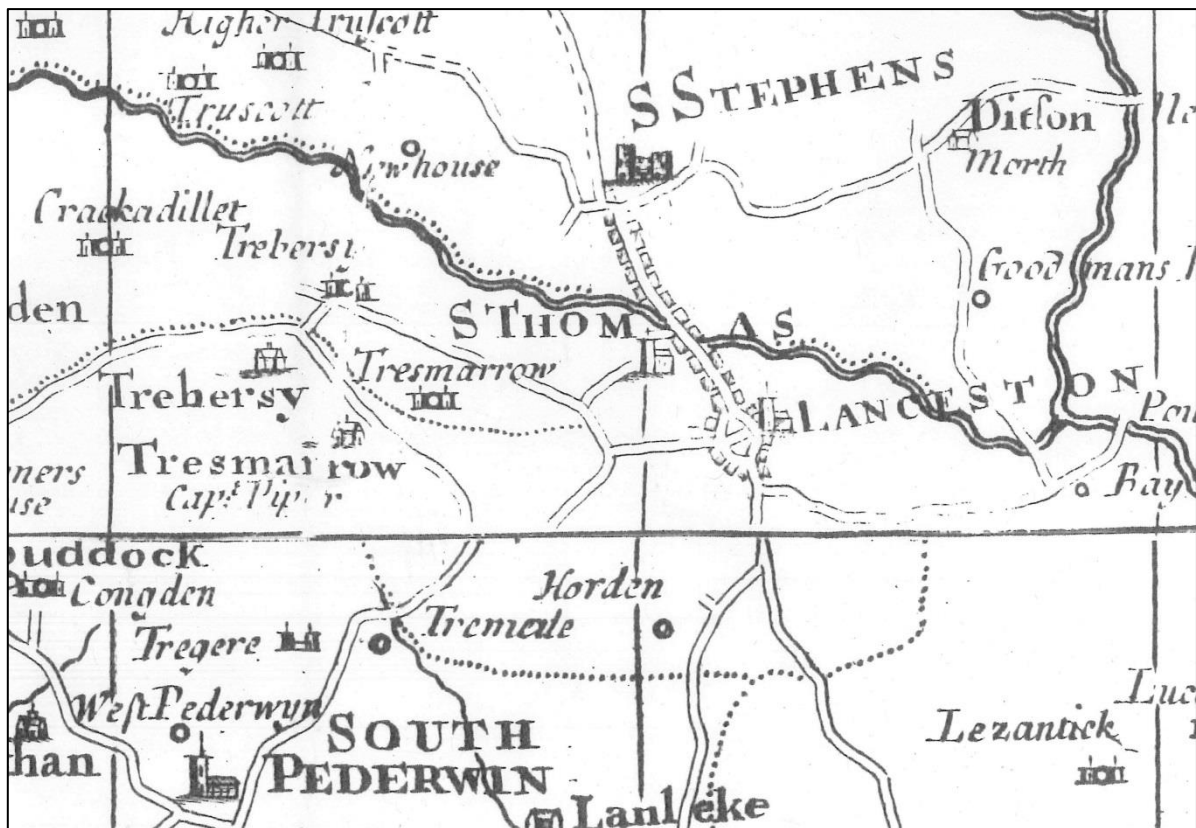
No National, Regional, County or Local designations apply to the site. The parish boundstone on the roadside south of the quarry is considered potentially of equivalent to national importance, though it is not designated as such.

### 5 Site history and archaeology

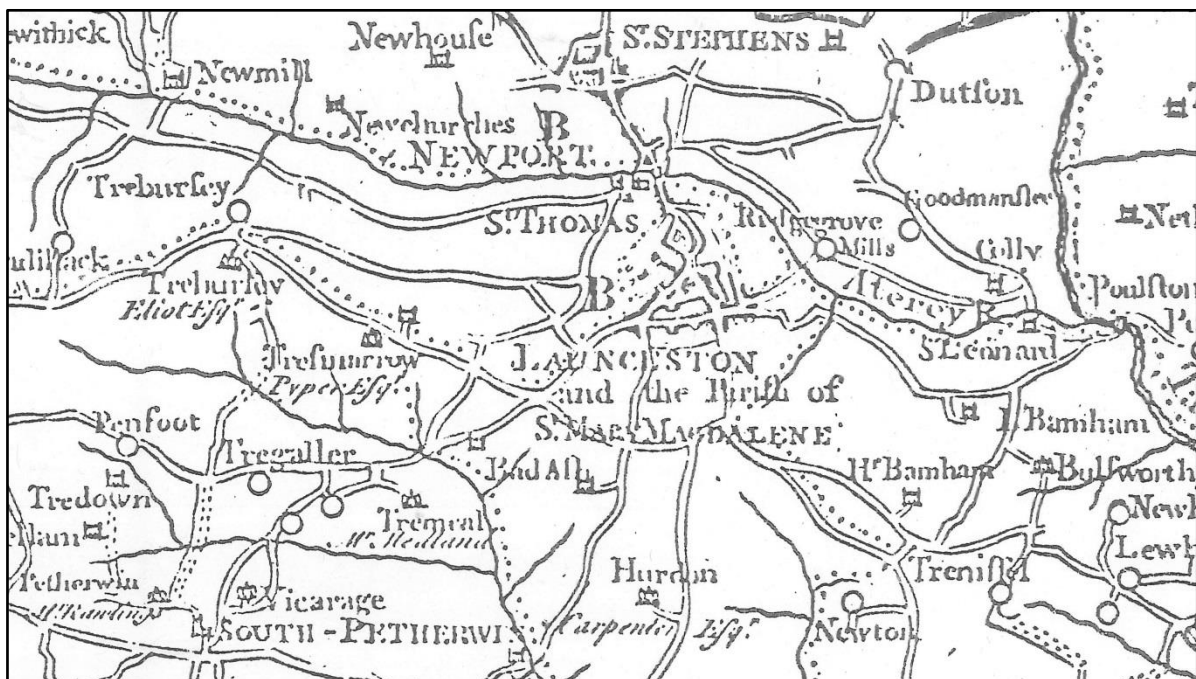
*Note; Numbers in bold refer to principal areas of archaeological significance or potential, identified for the purposes of the assessment; see map, Figure 31.*

Bangor Cornish Quarry (site MCO22647 in the Cornwall and Scilly Historic Environment Record or HER) has a long history, being worked and developed from at least the 18<sup>th</sup> century, and possibly from medieval times. It was in operation as Tresmarrow Quarry in the early 19<sup>th</sup> century, expanded in the middle and later decades of that century when it acquired a series of different names, and was slightly further extended during the early 20<sup>th</sup> century.

Joel Gascoyne's map of Cornwall (Fig 3), published in 1699, is the first accurate county-wide map of Cornwall. Gascoyne's map shows Tresmarrow and the local road network, but no indications of industrial activity. However, this need not mean that the quarry was not in existence. Although Gascoyne depicts the coastline, rivers and roads of Cornwall, together with its towns, villages and hamlets, churches and major houses, he omits other features (including the famous very large slate quarry of medieval origin at Delabole, north Cornwall).



*Fig 3 The area south west of Launceston as mapped by Gascoyne, c1699.*



*Fig 4 The area as it appears on Martyn's survey of 1748.*

Gascoyne does show a public road, later extinguished, west of the present study area, curving across the Lowley Brook valley, from the Launceston-South Petherwin road near (later) Daw's House to the manorial centre of Trebursye. This road was linked at some point to a direct, tree-lined approach to Trebursye from the east which ran along on the northern shoulder of the Lowley valley.

This approach is of particular interest in terms of the history of the quarry, since its east end lay on the site. It is not marked on the survey by Gascoyne or on that made by Martyn in 1748 (Fig 4). At present it is not clear whether this was because it did not exist in 1748, or because it was disused long before then. If the former it must have been made soon after 1748, as it appears as a double row of trees on the OS drawing of 1806 and OS map of 1809 (Fig 5); other parts of the route, by then non-continuous, are captured by the South Petherwin survey of 1843 and the OS map of c1880 (west of the study area).

Remains of the Trebursye approach survive on the shoulder of the valley immediately west of the quarry, partly within its modern fenced boundary, in Area 1 (Fig 12). It has a road platform 4m-5m wide, now mostly covered in leaf mould or grass, and stone-faced edges, lined with trees at intervals. The revetment on the north, cut into the valley side, rises to around 1.4m above the track, and that on the south, levelled out from the slope, is c0.7m high where better preserved. Large mature trees (or stumps, west of the quarry property) stand along the sides of the route. These include a beech inside the study area, measuring some 2.75m around the trunk at c1.4m from the ground. The revetments flanking the roadway are of rough slate slabs measuring c0.4m square and 4cm thick, set vertically in rough courses (unlike the quarry dump revetment walls, where the stones are laid). The colour and texture of these slates, matching others in the dumps, indicate they are from the locality, and they may have come from an early quarry on the site.

As shown by the 1843 survey and especially by the more detailed OS map of c1880 (Fig 7), the east part of this early approach to Trebursye, incorporated in the quarry site, was formerly respected by some of the quarry dumps and buildings. This strongly suggests the track served as a cart track or tramway for the quarry before being dug away and buried by it. A notable feature of the east part of the approach (as indicated by the positions of these former quarry structures) is that it bent to the south towards its end; and the south end of Quarry Lane bent to the east in a similar area, before it was re-aligned.

Both these ways may then have respected an early quarry on the east, perhaps in the ground extending from the vicinity of the present entrance to Area 8. Ground levels here have been altered in several phases, partly to provide modern working areas, and there is no evident early pit, though spoil is visible on the ground surface east of the stream which may therefore have been infilled. It is possible that the bend in the Trebursye approach was simply necessitated by the slope there. However, evidence provided by the Launceston tithe map of 1843 (Fig 6), discussed below, tends to confirm that there had been quarrying on the east part of the site well before the mid-19<sup>th</sup> century.

If there was indeed a quarry on the east or elsewhere on the site before the Trebursye avenue was made, it may have been post-medieval, or even earlier. The presence of a road to Launceston, Quarry Lane, formerly connected also to St Thomas and St Stephen north of the town, may be attributed to the need to transport stone from here for use in these important foci of medieval settlement (rather than just on the Tresmarrow or Trebursye estates). Medieval use of large slates is recorded for example at the castle and church at Launceston (MCO 132, 10016) and in Priory Bridge across St Thomas' Water (MCO 9608). Possibly before quarrying changed the topography there was a ridge here with outcropping stone forming a local landmark, adopted as part of the boundary of the parish, and also bounding Launceston's commons at

Pennygillam east of Quarry Lane which were sold for enclosure and farming in the 18<sup>th</sup> century and are now covered by an industrial estate (CRO FS/3/1195).

In the later 20<sup>th</sup> century Quarry Lane was widened along its southern end to facilitate vehicle access to the site, and was blocked further north as a result of the levelling out of the industrial estate of Pennygillam. However, some 65m of it survives north of the site entrance, in Area **9**. It is a hollow way only around 2m wide, cut into the rock by 2m or so on the east, with a traditional stone-faced hedge bank forming its west side (Fig 29).

The Trebursye approach cut by the quarry crosses Tresmarrow land, so was presumably laid out when the latter belonged to Trebursye, possibly for the Eliot family (to whom Trebursye passed through marriage of the heiress from the Gedys in the 17<sup>th</sup> century; Pett 1998, 210-211). John Eliot Esq of Port Eliot sold land forming part of Tresmarrow to Philip Pyper, gentleman of the borough of Launceston, in 1672, and the associated documents state that Eliot had previously acquired this himself (CRO EL/55/11). It is not known at present how that Tresmarrow land related to the site in question.

Returning to Martyn's map of 1748 (Fig 4), this shows information on the locality broadly equivalent to that on Gascoyne's map, except that the Daw's House to Trebursye road had been closed. The east approach to Trebursye using part of that route may have been closed also, or may not yet have been created. Tresmarrow was still the seat of the Piper family. Martyn includes Cornwall's larger extractive pits (he labels the quarry at Delabole), but he does not record one at Tresmarrow, so the quarry here may not have been very large. It may still have been productive and locally important, at least by the later 18<sup>th</sup> century when it was noted that 'At Launceston the houses are mostly faced with slates: some of them three or four feet square' (Marshall 1796, 287). These are likely to have come from Tresmarrow; the rag and scantle slate from here was described as particularly large in 1814 (see further below).

There is potential for further survival of documentation of the quarry from the later 18<sup>th</sup> century. The CCRA/ICS place-names index refers to a detailed survey of the parish of South Petherwin dated 1795 held at the Bodleian Library, at the University of Oxford. It has not been possible to consult this source within the time frame of the present project.

The 1806 2" scale drawing of the district labels the site 'Slate Quarry', and marks its extent; the smaller-scale 1809 map, Fig 5, was based on this. The quarry complex formed an irregular triangle in plan, and had buildings near the south east corner, Area **7**, now under the dumps or modern structures there. The footprint of the site seems to have been similar to that of the present day, except on the west (where it was later expanded and greatly deepened in Area **2**). The quarry of this period was a notable feature of the edge of Launceston, mentioned in humorous verses on a beating of the borough bounds in 1806;

'Near Cortern walls, and by the quarry/Us cumm'd right up beside Tresmarry,/ And just a stugg'd [heavy with mud] was we....' (Anon 1865, 39, 41).

The eastern half of the northern margin of the complex, around Area **5**, may represent part of the edge of the roughly triangular site of 1806. Spoil covers the ground here to a height of several metres, between higher, later dumps; its outer edge has a revetment c1m high of laid slabs some 45cm long (Figs 23, 24). Also visible in this area is walling of a small building, 2.5m long with stubs of return walls at either end, which stood just 2.5m from the site limit, so was probably a powder house placed here for safety reasons (Fig 22). It is made of

the local stone with lime mortar, and does not appear on the historic maps seen (the map of c1908 marks a building to its west which probably served the same purpose), so may have been made in or before the early 19<sup>th</sup> century.

A few years after 1806 the quarry changed hands, 'Tresmarrow stone quarry in South Petherwin' being part of the property bequeathed in 1809 by the will of William Bray of Launceston, printer and stationer (CRO X368/30). Following this it is known to have been operating on a substantial scale. It was reported in 1814 that 'last week a Flooring Slate from Tresmarrow Quarry, was sold by Messrs. Tyeth, Shilson, and Co. the Proprietors of the Quarry, to Mr William Thorne, and was placed opposite to his house, against the Town-Hall, in Launceston. It is two inches thick, and contains 84 superficial feet....This extraordinary stone attracted the attention of hundreds of people, who were astonished at its size. At the same time there was in the Quarry, a Slate 30 feet by 9 feet, containing 270 superficial feet, which it is presumed, is the largest slate that was ever seen in the kingdom. The Rags and Scantle in this Quarry are also remarkably large' (*Royal Cornwall Gazette* May 28<sup>th</sup> 1814, 3).

Being very close to Trebursye, Tresmarrow Quarry may also have provided stone for a new country house there (on a different site from the high-status post-medieval house). The mansion was made after the survey of 1809, and before a history of 1814 (Lysons and Lysons 1814, 265). It was made on a grand scale for the residence of the Hon. William Elliot, MP - though Eliot unexpectedly inherited and moved to the principal family estate of Port Eliot (ibid) - so could have provided a significant stimulus for the quarry.

The quarry also generated large quantities of spoil in the early 19<sup>th</sup> century. The road on the south running to South Petherwin and on to Trekellearn Bridge, now the B3254, was among those improved by the Launceston Turnpike Trust (founded in 1760) in a phase of works enabled by an Act of Parliament of 1815 (turnpikes.org.uk website). The road is partly made up of and edged with quarry waste, visible in the sides of the roadway around 0.5m high (Fig 20).

An unusual boundstone by the side of the turnpike in Area **10** marks the parish boundary overwhelmed above this spot by the quarry spoil heaps (cover photo). The stone is granite, measures up to c45cm across and 0.9m high, and is triangular in section. It has a roughly shaped back, dressed front sides each engraved with the name of one of the two parishes meeting here, and a rounded top. Its shape resembles that of turnpike milestones, and it may have been put up around this time, in the earlier 19<sup>th</sup> century.

The stone reads South Pethwerwin on what is now its east side, and Launceston on its west, whereas the parishes lie the other way round. It might seem therefore to have been moved to its present site, perhaps to protect it from damage by traffic, from just across the Launceston road where it could have faced the road with its legends corresponding with the parishes to either side. However the South Petherwin tithe survey shows a red spot indicating a structure at the present site of the stone, so it may be that it is *in situ*, in which case the inscribed names presumably announce the parish entered from, rather than lying on, each side of it.

The first of the more detailed county-wide maps is that produced by various surveyors as part of the Tithe Award survey, undertaken *circa* 1840 (here dated 1843). Each survey is accompanied by an Apportionment, which lists the owner and occupier of the land, its use, acreage and tithe value. The majority of the site lies within the ecclesiastical parish of South Petherwin, though its easternmost edge falls in the parish of Launceston St. Mary Magdalene (Fig 6).

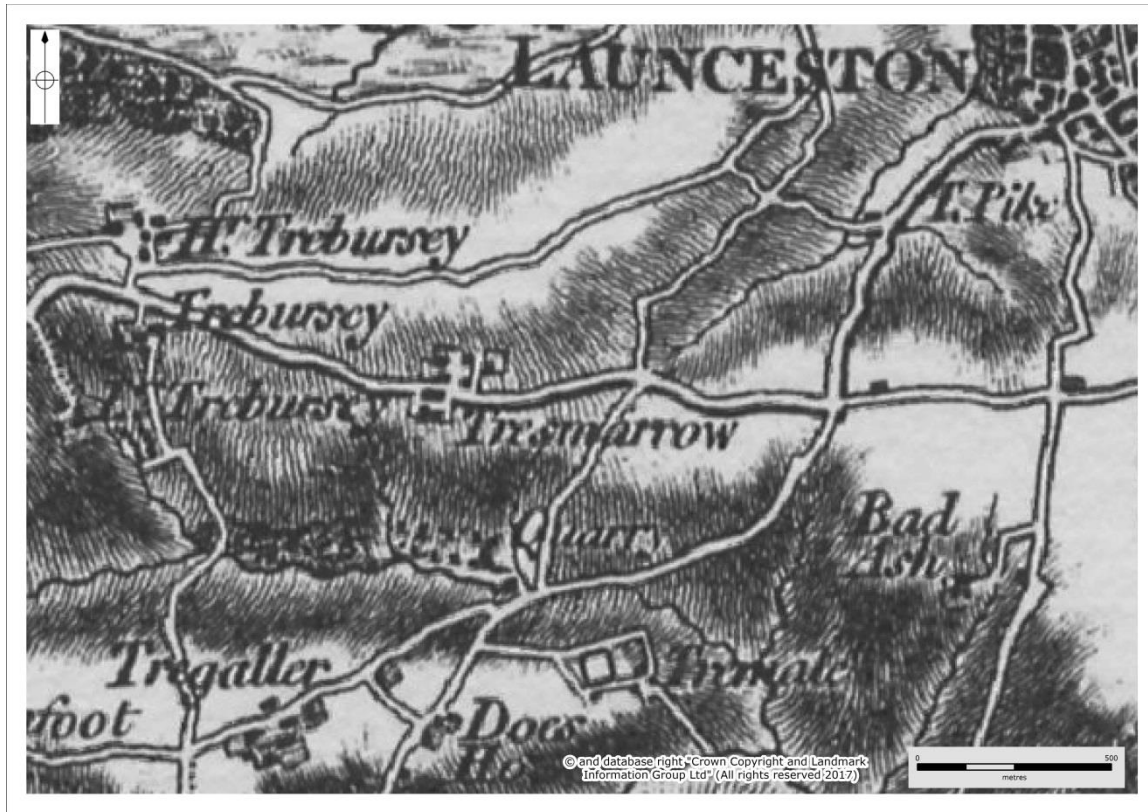


Fig 5 OS map of 1809 marking the quarry and the former Trebursye approach.



Fig 6 Tithe surveys of 1843, outlining the quarry with central building in South Petherwin parish (1455) and former quarry areas in Launceston (200, 201).  
(The study area and quarry edges are offset due to differences in map bases.)

Within the first parish, South Petherwin, the tithe mapping shows an enclosure broadly congruent with the project area as Plot 1455. The tithe apportionment schedule records this as 'Quarry & Plantg', extending to 5 acres, 1 rod and 0 perches, part of the tenement of Tresmarrow, owned by Isaac Dawe, named as Daw on the census returns, probably the 'gentleman farmer' Mr Down who had bought Tresmarrow some decades earlier (Lysons and Lysons 1814, 265). The reference to planting demonstrates that trees were already present on the site, perhaps screening its edges from Tresmarrow and the roads leading there.

On the west the perimeter of the enclosure surveyed in 1843 follows the edges of the major quarry cuts and dumps marked as such on the OS map of c1880 (discussed further below), showing that these were begun in the decades between 1806 and 1843. These cuts and their edges, in Area **2**, are no longer in evidence on the ground, but will remain below ground, having been filled with waste in the 20<sup>th</sup> century. North east of the southern, larger pit on the west side of Area **5** is a linear hollow around 2m wide and 0.5m deep, interpreted as the mid-19<sup>th</sup> century (or earlier) track leading into that quarry; it is marked as an earthwork on the map of c1880, by which time it was obstructed by a dump on its east, and was probably left hanging above the greatly deepened quarry on its west.

Near the centre of plot 1455 in 1843 was a roofed building, square in plan, which does not survive at surface, now part of the working compound at Area **4**. This clearly served the quarry, as it stood in its centre, on an alignment shared by later works (also mapped c1880) thought to respect the line of the early avenue used as a quarry track before spoil dumps encroached. Possibly it was the count house mentioned in an auction notice of 1868 (below).

Within the parish of Launceston St. Mary Magdalene, the project area again closely follows boundaries recorded on the tithe mapping of 1843, being split into two plots – 201 to the north and 200 to the south. The northern plot (201) was part of Little Penygillam, owned and occupied by Isaac Nanscawen Dawe (again probably the same Dawe who owned the main, western part of the site). The plot extended to 2 poles and 31 perches and was named as 'Shilson's Orchard'. It was in use as an orchard, and was covered in fruit trees.

The southern plot on the east in 1843, numbered 200, is shown as open land. This part was also listed as part of the tenement of Little Penygillam, owned and occupied by Dawe. It extended to 2 poles and 6 perches, was named as 'old quarry' and described as 'Scoil &c'. Scoil was probably meant to read 'Spoil' (the long stroke of the 'd' in 'Old Quarry' is also missing). The extent of the 'old quarry' was not defined on the Tithe Map.

Together with other map evidence the 1843 records of these eastern plots could indicate the site of a post-medieval or earlier quarry, in or near Area **8**, as discussed above.

The quarry flourished at least for a while in subsequent decades, its southern pit in Area **2** expanding considerably, supplying flagstones and roofing slates probably widely used in the expansion of Launceston which took place during the second half of the 19<sup>th</sup> century. During this period the quarry was known for some years as the South Petherwin Alexandra Slate and Slab Company Limited. That company was in liquidation in 1868, when the quarry was put up for sale; an auction notice of that date gives details of its main features and plant, summarised below – this complementing the record of the layout provided by the c1880 map, outlined in subsequent paragraphs.

The quarry had been developed prior to 1868 under Captain Beer and had 'a large and magnificent bed of slate exposed', and a poppet head with 700 feet of chain for raising the stone from considerable depths. (A poppet or parapet head was a timber stay with pulley at one end, projecting over the quarry edge, over which chain was passed to haul loads, the other end of the chain being wound round a drum near the source of power; Page 1906, 520.) Associated with the two ponds also recorded on the c1880 map was a 50 foot water wheel, with launders, several hundred feet of piping, and pumps. There were planing and carpenters' sheds and a counting-house, and planing machine, saws, waggons and other equipment (*RCG* July 23<sup>rd</sup> 1868, 4).

The OS 25" map of c1880 (Fig 7) shows two roughly rectangular quarries on the site – that to the north measuring 30m x 18m in plan, that just south of the latter measuring a maximum of 62m x 50m in plan. The southern one in Area **2** appears to be secondary and was very deep, as later accounts show. The map does not indicate any traces of the old quarry on the east recorded in 1843. The northern quarry was approached by a ramped access in its south-eastern corner, the southern one via a ramped access in its north-eastern corner. Finger dumps of spoil extended to the eastern boundary of the site, whilst a substantial dump of spoil extended along the whole of the southern boundary of the site, sloping down to the adjacent Lowley Brook, in Area **3**.

The pair of millponds lay on the stream north of the study area. The stream itself appears to have been culverted. No cranes were labelled, though there was a pair of elongated structures at the centre of the southern edge of the southern quarry which are likely to represent these machines. Further small buildings (possibly splitting sheds, but possibly including a powder magazine) were sited on the spoil dumps in the eastern part of the site. A rather larger building with an attached yard, in the south-eastern corner of the site at Area **7**, may have housed the works office (the earlier building at Site **4** having gone) and/or the sawing shed. A roadway led from the yard around the southern side of the site to the western end of the larger quarry. The mapping suggests that this quarry was in the course of extension to the west in 1877.

Few remains of the buildings mapped c1880 can be seen on the ground. A hollow on the side of a dump towards the north east in Area **6**, measuring c2.6m east-west by 1.8m, could mark the site of one of the smaller ones. It has a slight bank 1.2m wide with some rubble stone and crumbs of lime mortar visible on part its south side, perhaps part of the base of a wall (Fig 25). Traces of other structures probably survive under quarry spoil.

The preservation of the spoil heaps surveyed c1880 varies. As already mentioned, around the centre of the north side of the site in Area **5** they retain an early form. Along the east above the modern working area inside the site entrance they rise to their later 19<sup>th</sup> century height in places and are reduced or dug through in others. Another levelled working area lies on their tops west of centre (Fig 14). On the south and east, all around Area **3**, the scarps of spoil are mostly undisturbed. This area supports mature trees and ground cover of moss, fern, bluebell, primrose and other woodland species (Figs 15, 18). As well as its revetted edges up to c1.7m high, it features a series of dumping runs c2m wide and 0.4m high slanting across the gradient, skilfully made to stabilise the spoil (Fig 17). Part of a track along the crest of the spoil heaps can be seen, though this is generally overlain with modern bunds edging the west/central working area (Fig 19). The grey slate fabric of the dumps including some broken sawn slates can be seen in places (Fig 16).

The business may have been in difficulties in 1878 when the County Petty Sessions adjourned the case of the overseers of South Petherwin against Messrs. Thomas and Charles Bennett for recovery of rates owed (*Cornish and Devon Post* 6<sup>th</sup> July 1878, 4). The Bangor Cornish Slate Company seems to have been formed soon after this, advertising for 'rockmen and splitters' to blast and dress the stone in spring 1881 (*CDP* April 30<sup>th</sup> 1881, 1). This business name may reflect the involvement in the re-opening of the quarry of shareholders from North Wales. Certainly the Bangor region had a national reputation in the mid-late 19<sup>th</sup> century for production of fine slate on a scale unprecedented in Britain, as shown for example by an account of the vast Penrhyn Quarry there (*The Illustrated London News* **XXXII**, no. 913, 17<sup>th</sup> April 1858, 392-393); though around the turn of the next century its slate industry was better known in Cornwall as elsewhere in the country for its turbulent labour relations.

By 1884 the Bangor Cornish Quarry was 'in vigorous work', with a new engine erected and another ordered, raising hopes that it would provide employment for over 60 men (*RCG* 25<sup>th</sup> January 1884, 7). Such a workforce would be a tenth of the size of that employed at the huge quarry of Delabole in North Cornwall in 1850 (Page 1906, 521). Typical products of the quarry advertised in 1885 included rags, and square slates of different sizes. Headstones and tombs, tanks and floor slabs were cut to order (*CDP* 28<sup>th</sup> February 1885, 1). In 1886 some local advocates for road improvements proposed filling the valley with 'any quantity of *debris* at the Bangor Slate Quarry' to allow diversion and regrading of the Launceston to South Petherwin road, but this plan was refused by landowner Charles Gurney of Trebursye (*CDP* 13<sup>th</sup> November 1886, 2).

Preparations for deepening of the existing, already deep rectangular quarries at Area **2** were under way in 1895. 'For years the quarry has been disused and the deep pit [flooded] ....an adit was driven from near the roadway to nearly the bottom of the quarry....which carried off thousands of gallons of water' and pumping had begun for the remaining 3,500,000 gallons, the engineer anticipating that the quarry would be 'A Second Delabole' (*CDP* August 31<sup>st</sup> 1895). The volume of water mentioned as remaining in the part-drained quarry gives an idea of the scale of working, as does a later photo, Fig 9. The drainage adit probably survives, blocked by infill.

At the time of the *circa* 1908 OS revision of the 25" to a mile mapping (Fig 8), although the quarries centred in Area **2** retained almost the same footprints as those shown c1880, the planned deepening of the southern quarry had evidently been achieved, given that a substantial dump of material was depicted to its east. All of the small buildings shown on the c1880 mapping had been over-dumped. A small structure at the centre point of the northern boundary may well have been a replacement powder magazine; two new buildings had been constructed against the eastern site boundary. The structure to the south of the southern quarry was marked as 'crane'.

In the south-eastern part of the site around Area **7** a complex of buildings incorporating a large shed had been built by c1908, with a further crane nearby. The main structure here, formed by doubling the length of the larger of the enclosures of c1880 which had a range of buildings running across it, is likely to have been a covered yard or shed for sawing and finishing. By c1908 the site access was clearly off Quarry Lane; the east part of the truncated earlier approach to Trebursye, which had previously influenced the quarry layout so presumably served as a quarry route, was now scarcely in evidence.

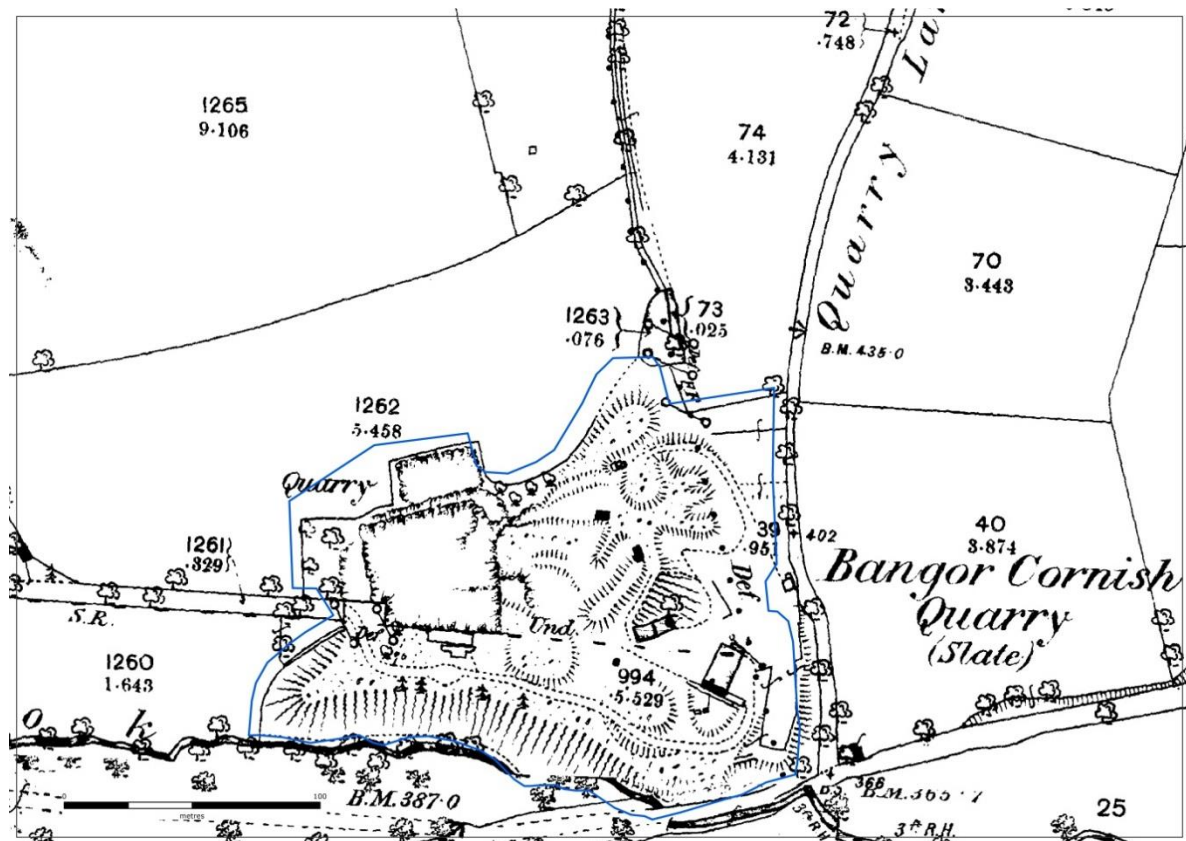


Fig 7 OS map of c1880 recording quarry pits, dumps, structures and trees.

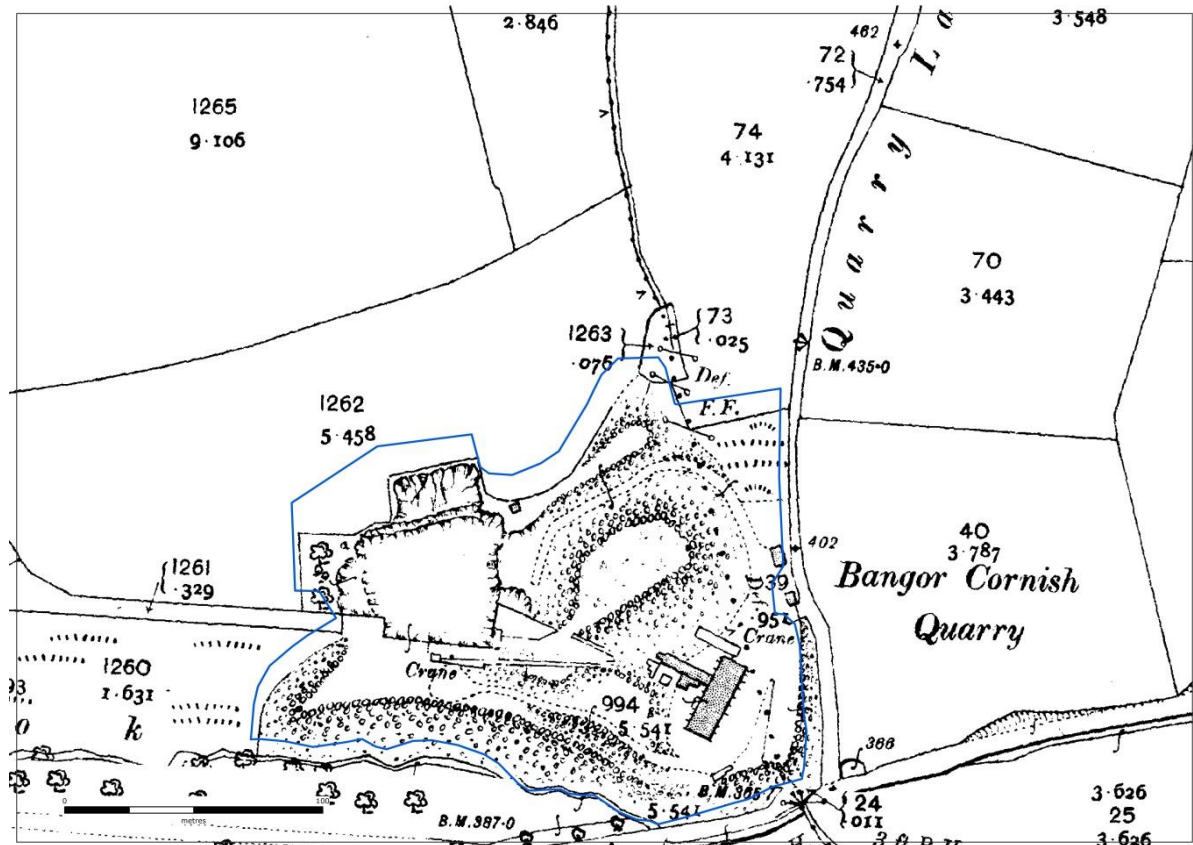


Fig 8 OS map, c1908, showing fewer, larger structures and dumps (individual trees are not plotted on this edition).

Little of this infrastructure surveyed c1908 is now upstanding. The more recent large concrete bay on the south east at Area **7** reuses part of the site of the largest shed of c1908 (itself representing a doubling of the area of a yard with buildings shown on the map of c1880), matching its footprint on the north west side. However the bay was probably formed by digging away the earlier structures (Fig 26). A small concrete or rendered masonry base near the north west corner of the site (outside the proposed development area), though not mapped, is probably of this period, as it stands beside the north west edge (now infilled) of quarry Area **2**, beside the western extension to this mapped c1880 and 1908. It measures c3m east-west by 2m, and is 0.4m high. It has a broad battered side facing the quarry, and was probably one of several winching strong points allowing one winding engine to work in several areas.

In the early 20<sup>th</sup> century the quarry closed, apparently because it became uncompetitive, or strata suitable for cutting into flagstones became exhausted. The BGS geoscience online database indicates that the northern quarry had been abandoned by 1909 and its base was flooded (Fig 9). The site was not remapped at 25" scale by the OS in 1914 or during the 1930s and it is uncertain when operations on site ceased – the most likely date seems to have been in the 1930s. The quarry, clearly disused, was recorded on RAF 1946 aerial photograph E54/5035 (Fig 10). This shows the northern quarry to be completely infilled. The northern deeper section of the southern quarry in Area **2** appears part-flooded. All buildings had been demolished, and the spoil dumps retained the broad form shown on the c1908 OS mapping, suggesting that the site had closed soon after that map horizon.

By the 1950s the quarries were in the process of being infilled having been used for some time as landfill sites, presumably for domestic and other rubbish emanating from Launceston. Infilling continued in the following decades, before they were handed over to Cornwall County Council in the early 1980s. The landfill material had been capped over by the early 1990s. Cornwall County Council aerial mapping dating to 2000 shows the site was under scrub, with trees particularly to the south along the Lowley Brook and along the eastern edge. A small yard had been established in the north-eastern corner of the site, whilst a cleared area with a large loading pit (Fig 26), moderately sized buttressed concrete shed (Fig 30) and some smaller structures were located in its south-eastern corner at Area **7**. No traces of the quarry excavations could be seen, and the spoil dumps appear to have been landscaped. The site was re-photographed from the air for Cornwall County Council in 2005 (Fig 11), its use appears to have been as it was five years previously.

Most recently parts of the site were converted to a waste transfer station and Household Waste Recycling Centre (HWRC) operated by SITA Cornwall. This was closed in 2012, operations being transferred to a purpose-built facility immediately to the north-west. The modern OS MasterMap shows the project area to be relatively blank with two yards flanking the site entrance off Quarry Lane, and the concrete structures near the entrance. Google Maps (2017) shows that a further surfaced area was established in the western central part of the site (over part of the site of the southern of the two quarries in Area **2**) and that the mature tree cover around the periphery of the site had further developed since the time of the 2005 aerial mapping. Google Maps Street View shows that Quarry Lane is now closed off at the site entrance, and that much of the land immediately to the north of the site has been recently developed or landscaped.



*Fig 9 Photograph by TC Hall, 1909, indicating the depth of the flooded quarry.  
© NERC; reproduced here for non-commercial use.*



*Fig 10 Air photograph of 1946, RAF E54/5035, showing landfill and tree cover.*

## 6 Significance

*Note; Numbers in bold refer to principal areas of archaeological significance or potential, identified for the purposes of the assessment; see map, Figure 31.*

Most of the heritage resource of the study area at the former Bangor Cornish Quarry relates to the past development of the quarry itself, previously known as Tresmarrow Quarry and by other business names. The site lies on a blue-grey slate, readily fissile and worked into slabs, some quite massive, as well as large rag and scantle slates for roofing and cladding walls. The use and importance of this resource in the district is documented in the early 19<sup>th</sup> century, when, unusually, descriptions of notable products of the quarry, and dated dialect verses mentioning it, were published. Map evidence points to even earlier exploitation of slate on the site, marked in the landscape by its access way, Quarry Lane, on the east. This route leading to the north formerly linked the site to the important medieval settlement foci of Launceston, St Thomas and St Stephen. While it has been largely buried and removed north of the site, the lane survives relatively unaltered here, showing its design for use by pack-horses and so enhancing appreciation of the age of the quarry.

Understanding of the substantial development of the quarry through several major phases in Victorian times, involving deepening of the two main pits, benefits from the evidence of contemporary maps and other documents. These indicate working on a scale roughly a tenth of that of Cornwall's greatest slate quarry, at Delabole. Despite the filling of the main quarries at the site with waste in the later 20<sup>th</sup> century, and other modifications including burial or removal of most historic buildings on the complex, the scale of extraction and some of the working methods can be seen here, particularly around the south side with continuous high scarps of spoil largely undisturbed. In the centre of the north side some time depth is evident with an old quarry track earthwork and low remains of an unmapped, early powder house or similar building.

Other traces of structural elements of the later 19<sup>th</sup> century workings, and of earlier phases, may survive below ground. These may provide evidence of the organisation of quarry working, with small dispersed buildings possibly used by gangs, as well as of technical development and of use of the slate itself.

The site has acquired additional significance as a diverse wooded environment and habitat, 'semi-natural' because supported by the rare large extent of rock waste created by human agency over several centuries, and thus relevant to the archaeological assessment. Again, this is particularly evident all around the south of the site where the spoil scarp falling to the stream is covered in mature trees and woodland plants. The dump edges on the south, west and north are faced with the quarry stone, contributing to local distinctiveness. On the south east a granite boundstone at the foot of the spoil marks the parish boundary overwhelmed by these dumps, evoking a sense of their age. There is demonstrable potential for identifying slate materials and artefacts produced here in the wider locality, and also for further documentary study of the quarry business and development.

In addition to the quarry with its associated lane the east, the site also captures on the west a small but well-preserved part of an abandoned route, considered to be an approach to Trebursye to the west flanked by trees recorded over two hundred years ago. This feature is significant as a major, articulating element of an ornamental landscape, poorly understood at present, associated with a high-status house, the predecessor of the Georgian mansion, Trebursye House.

## 7 Impact assessment

*Note; Numbers in bold denote principal areas of archaeological significance or potential. They can be used for cross-reference to the site map, Figure 31, to other report maps and photographs, and to the historical summary, Section 5.*

The plan for the proposed development of an asphalt plant and ancillary facilities forms the base map for Fig 31 in this report, annotated for the purposes of the assessment with numbered archaeological areas.

The plan for the site shows new structures and plant with associated working areas on the site near the centre and towards the south side, and access routes running around these served by a new entrance from Pennygillam Industrial Estate on the north west. The proposed works are expected to entail cutting and/or making up of the existing ground surface, and the construction of plant buildings on the south east of the site, and associated working or storage areas. Planning documentation indicates that the main building would be c21m high and the exhaust stack c26m high.

The main potential impacts on the known significant elements or areas of the archaeological resource, at the locations shown in Fig 31, are as follows.

- **Area 1** Part of the former approach to Trebursye immediately adjoins the quarry complex on the west, and the proposed operating area extends to this point. Associated works such as grading, dumping, perimeter fencing or tree felling could potentially disturb or obscure the remains here.
- **Area 2** The site of the known excavations of the quarry, two neighbouring pits, the larger of which is centred in the numbered location, would be affected by construction of the new north west entrance, and any related levelling or re-surfacing. However the filling and covering of the quarries with imported domestic and other waste from the mid-20<sup>th</sup> century means that their form, development, recorded deep drainage adit and other features are buried and obscured, and so these impacts are not considered archaeologically significant.
- **Area 3** The plan, Fig 31, indicates that the works would not extend south beyond the tops of the quarry spoil heaps extending around the south and south west sides of the site, which tops are already modified by levelling and re-surfacing (but see **Area 4**). The site would then retain the outer scarps of these spoil dumps, well preserved under mature trees and showing historic features and semi-natural diversity both around the perimeter and within. Retention of the trees here would also help to limit the visual impact of the proposed works (see below).
- **Area 4** As mentioned above the tops of the quarry dumps on the south are already adapted for a relatively recent graded working area. However further ground disturbance could impact any remains of the base of a structure mapped here in 1843. Being the principal works building of the early 19<sup>th</sup> century when the quarry was known for producing large slates, this could retain features of significance such as flooring slabs.
- **Area 5** The crescentic area of tree-covered spoil at the centre of the north side of the site may relate to quarry working of the 18<sup>th</sup> century, and shows some time depth and complexity with remains of an unmapped quarry building and of a hollow way mapped as a redundant feature c1880. The plans show no works affecting this area. As with **Area 3**, retention of its trees here would help screen the works.

- **Area 6.** The proposed works would be served by a loop road in the north west part of the site. The quarry spoil here has been partly cut and levelled probably from the later 20<sup>th</sup> century but substantial grading would be required to complete the loop, this joining ground above and below the sizeable spoil heaps. Sites of dispersed 19<sup>th</sup> century quarry buildings mapped c1880, and perhaps earlier, unmapped ones, could be removed, truncated or covered. While minor structures in terms of size these could provide significant information on aspects of historic large-scale quarrying, such as organisation of gangs within the workforce.
- **Area 7.** The main structures of the proposed works would stand in this south-eastern area known to have been used for quarry infrastructure since before 1806, but extensively redeveloped for the purpose in the later 19<sup>th</sup> century and again around the end of that century. Existing 20<sup>th</sup> century structures here are considered of limited interest and much ground has been dug away to allow their construction. However buried remains of significant features recorded in the 19<sup>th</sup> century, such as a large water-wheel pit or the bases of launders, may survive, and could be disturbed as a result of the building works.
- **Area 8.** The east side of the site was used for quarrying at an early period, but exactly where and how is not known since the ground was part filled and planted by the mid-19<sup>th</sup> century. The location plotted as Area 8 on Fig 31 represents part of a wider potential area of early quarrying, left relatively undisturbed in the 20<sup>th</sup> century when the lower part of the area was levelled to form a working compound north of the present site entrance. The plans for the site show works in the area limited to that compound, so no significant impact is expected here.
- **Area 9.** The undisturbed part of Quarry Lane here, immediately east of the quarry property, appears unaffected by the planned works. However there is a risk that the lane could be adversely affected by associated works or dumping; as it has been to the north of this point as a result of developments on its other, east side in recent years. The lane is significant both as an indicator of the early origins and transport links of the quarry, and as a recorded feature of the historic bounds of the borough of Launceston.
- **Area 10.** The site plans show no works impacting the parish boundstone which stands close to the former turnpike road at the south east margin of the property. The proposed shifting of the site entrance to the north west may have some beneficial effect on the preservation and appreciation of the stone, in that it could reduce the traffic hazards, and potential risk from vehicle damage, common to roadside monuments.
- Besides the above direct potential impacts, the development would have an indirect, visual impact on the historic landscape, through the construction of the taller buildings and exhaust stack, expected to be visible from farmland and turnpike road on the south and the (currently poorly understood) former parkland on the west. This is considered likely to have a moderate adverse impact, limited to some extent by the retention of mature trees around the margins of the quarry. The proposed re-use of the site may be considered broadly appropriate in terms of its predominantly industrial historic landscape character, though quarrying has ceased perhaps as much as a century ago.

## 8 Recommendations

*Note: All measures proposed below are subject to approval by the planning authority.*

- Area **1**. Put measures in place to ensure there is no inadvertent direct impact or lateral damage to the remains of the former approach to Trebursye on the western edge of the site, including the associated flanking trees and their root systems. This might be achieved through attendance of an archaeologist during the laying out and/or execution of any works here, as part of the watching brief recommended for other areas of the site.
- Area **2**. No recommendations.
- Area **3**. Avoid any dumping, ground disturbance or tree damage on the scarps of spoil on the south and south west of the site; limiting any works to the area north or east of the modern bund on their tops. Retention of the woodland here is strongly recommended, both for its intrinsic semi-natural interest, and for its utility in screening views of the site from the rural landscape surrounding it on the south and west.
- Area **4**. Should the ground be disturbed here, archaeological watching brief is recommended to provide for recording and/or other appropriate treatment of any buried remains of the quarry building mapped in 1843.
- Area **5**. Ensure there is no direct impact or lateral damage to the early quarry spoil, associated earthworks and structural remains, and established tree cover in the centre of the north side of the site. As with the proposal for Area **1** this could involve attendance of an archaeologist, as part of the watching brief recommended elsewhere on the site.
- Area **6**. Archaeological watching brief is considered appropriate for any ground disturbing works in this area, to record as necessary any remains of old quarry buildings.
- Area **7**. Archaeological watching brief here would allow for recording of any early or otherwise significant remains of quarry infrastructure such as elements of the water power system.
- Area **8**. No recommendations.
- Area **9**. Ensure the development works, including any associated groundworks such as dumping, perimeter fencing, or tree felling, do not disturb or obscure the remains of the historic Quarry Lane. Again this could be achieved as part of the watching brief recommended elsewhere on the site. Ideally, consider the feasibility re-opening the lane as a footpath, as a historic route on the Launceston borough boundary, giving access to the boundstone in Area **10**; this would involve re-routing the way to the north of here, where it is overlain by the made-up ground below the Pennygillam Industrial Estate.
- Area **10**. No recommendations specific to the proposed works (though see the note below, and also the above suggestion for re-opening a way to the stone re-using the historic Quarry Lane in Area **9**).
- A further recommendation, arising from this assessment, is a review of the protection of two peripheral, potentially important and vulnerable features - the former approach to Trebursye at Area **1**, already affected by landscaping and tree felling on the edge of recent development, and the stone marking the parish boundary by the turnpike road in Area **10**.

## 9 References

### 9.1 Primary sources

*Notes: These sources are listed in chronological order. All were consulted for the assessment (the first in the form of a CRO summary only), apart from that marked \* which is listed here to show potential for further research on the site.*

John Eliot Esq to Philip Pyper, gentleman, 1672. Bargain and sale of two parts in three of Tresmarrow (CRO EL/55/11)

Joel Gascoyne, c1699. Map of Cornwall

Thomas Martyn, 1748. Map of Cornwall

Ordnance Survey, 1806. 2 inch scaled drawing (British Library website)

Ordnance Survey, 1809. 1 inch map, first edition (licensed digital copy at CAU)

Tithe maps and apportionment schedules, 1843. Parishes of South Petherwin and Launceston St. Mary Magdalene (licensed digital copies at CAU)

\*Unknown, 1865-1884. South Petherwin: Tresmarrow Quarries (CRO PN/291)

Ordnance Survey, c1880. 25 inch map, first edition (licensed digital copy at CAU)

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Ordnance Survey, MasterMap Topography

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Page, W, ed, 1906. *The Victoria History of the Counties of England Cornwall* James Street: Haymarket

Pett, DE, 1998. *The Parks and Gardens of Cornwall* Alison Hodge: Penzance

Spalding, A., Hartgroves, S., Macadam, J. and Owens, D (eds.) 2002. *The Conservation Value of Abandoned Pits and Quarries in Cornwall*, Historic Environment Service, Cornwall County Council: Truro

### **9.3 Websites**

British Library (OS drawings, and British Newspaper Archive)

<http://geocenic.bgs.ac.uk/> (photographic records and details of UK quarries)

<http://www.heritagegateway.org.uk/gateway/> (online database of Sites and Monuments Records, and Listed Buildings)

Turnpikes.org.uk

## **10 Project archive**

The CAU project number is **146675**

The project's documentary, digital, photographic and drawn archive is maintained by Cornwall Archaeological Unit

Electronic data is stored in the following locations:

Project admin, and report : G:\TWE\Waste & Env\Strat Waste & Land\Historic Environment\Projects\Sites\Sites B\Bangor Cornish Quarry, Launceston, HIA 146675

Digital photographs: R:\Historic Environment (Images)\SITES.A-D\Sites B\Bangor Cornish Quarry, Launceston, HIA 146675

Historic England/ADS OASIS online reference: cornwall2-281810



*Fig 11 CC aerial photograph of 2005, before the central working area was made.*



*Fig 12 Slate-faced and tree-lined way to Trebursye, running west from Area 1.*



*Fig 13 Quarry dating from before 1843 under landfill in Area 2, looking north.*



*Fig 14 Central working area extending west onto site of infilled quarry Area 2.*



*Fig 15 West corner of spoil heap on south, Area **3**, with stone edging, and woodland.*



*Fig 16 Small exposure of blue-grey slate spoil fabric of dump on south forming Area **3**.*



*Fig 17 One of a series of slanting runs formed in southern spoil heap Area 3.*



*Fig 18 South side of spoil in Area 3 by the stream, with semi-natural diversity.*



*Fig 19 North side of spoil Area **3** with part of a track along its shoulder mapped c1880 (centre), overlain by a bund bounding the recent central working area.*



*Fig 20 Turnpike below southern dump Area **3** showing formation in quarry spoil.*



*Fig 21 Track in Area 5, part dumped over, running west towards quarry Area 2.*



*Fig 22 Wall c2.5m long, 0.5m wide, 0.35m high, remains of a building, Area 5.*



*Fig 23 Centre of outer, north edge of Area 5, edged with laid slates, looking south east.*



*Fig 24 Cut east edge, Area 5, exposing the 2.5m-3m depth of early spoil there.*



*Fig 25 Edge of tip mapped c1880 in Area 6, with possible site of small building.*



*Fig 26 Large sunken loading bay on site of quarry buildings in Area 7, looking south.*



*Fig 27 Large trees on a hedge bounding former eastern quarry ground, Area 8.*



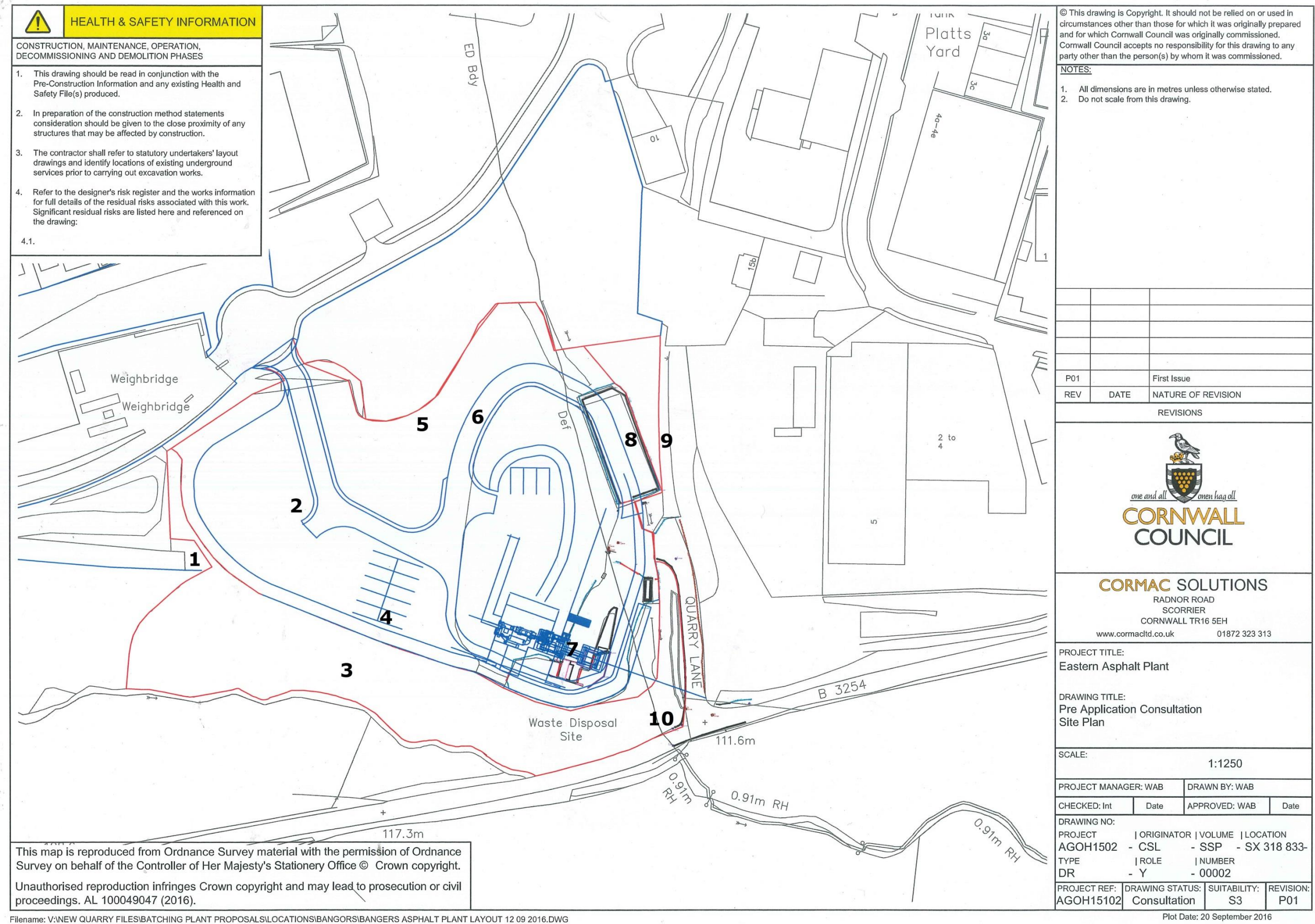
*Fig 28 Early quarry spoil in eastern Area 8, with modern levelled yard below.*



*Fig 29 A well-preserved part of Quarry Lane in Area 9. The lane is cut into rock and only c2m wide. The quarry site shares its western boundary bank (left).*



*Fig 30 Present quarry building south of the eastern entrance, probably 20th century.*



*Fig 31 Planning map, with numbers in bold marking locations of archaeological features or areas, mentioned in the assessments of potential impact, and in the recommendations.*





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