Truro Northern Access Road, Cornwall;
West Langarth Phase: Hedge Breaks Report

Cornwall Archaeological Unit

Report No: 2023R010

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West Langarth phase: Hedge Breaks Report

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This study was carried out by Cornwall Archaeological Unit, Cornwall Council.

Site supervisor was Richard Mikulski.

The Project Manager was Dr Fiona Fleming.

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.

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Abbreviations

CAU	Cornwall Archaeological Unit
CIfA	Chartered Institute for Archaeologists
HE	Historic England
HER	Cornwall and the Isles of Scilly Historic Environment Record
LPA	Local Planning Authority
MCO	Monument number in Cornwall HER
NGR	National Grid Reference
OD	Ordnance Datum – height above mean sea level at Newlyn
OS	Ordnance Survey
SDOHE	Senior Development Officer (Historic Environment)
WSI	Written Scheme of Investigation

1 Summary

Cornwall Archaeological Unit (CAU) was commissioned to undertake a programme of watching briefs during the breaching of several historic Cornish hedges as part of the preparatory works for construction of the Truro Northern Access Road, West Langarth. This work was carried out to satisfy condition 17 of planning application PA20/09631.

A total of 31 hedge-break interventions impacting a minimum of 25 separate hedges were recorded. In addition, a photographic record and written description of the historic stone stile between fields 2 and 3 was produced.

Many of the hedges are from field boundaries recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin. Some of the boundaries closest to the north side of the current A390 road are first recorded on the OS 1st Edition map *c*1880s and would appear to relate to mid to late 19th century enclosure of a strip of surviving open downland, some bordering previously open trackways through this area.

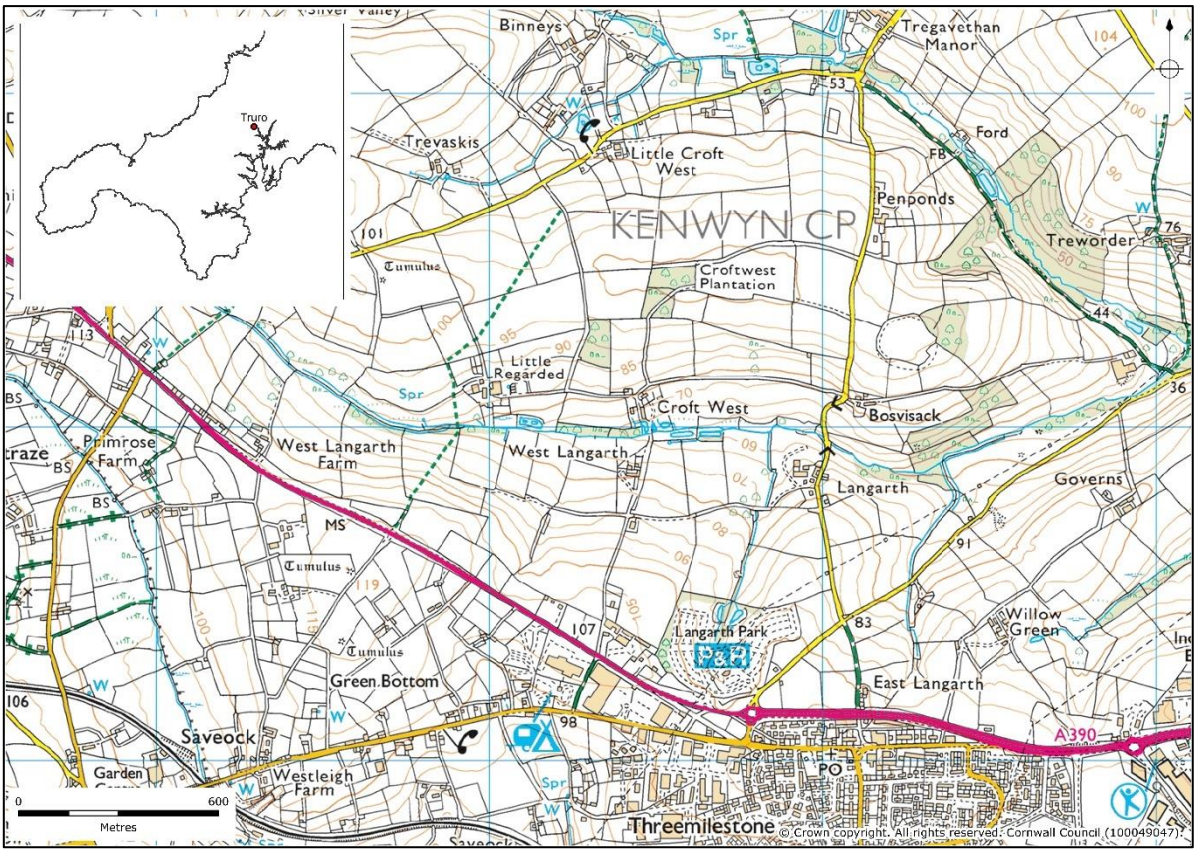

Fig 1 Location map.

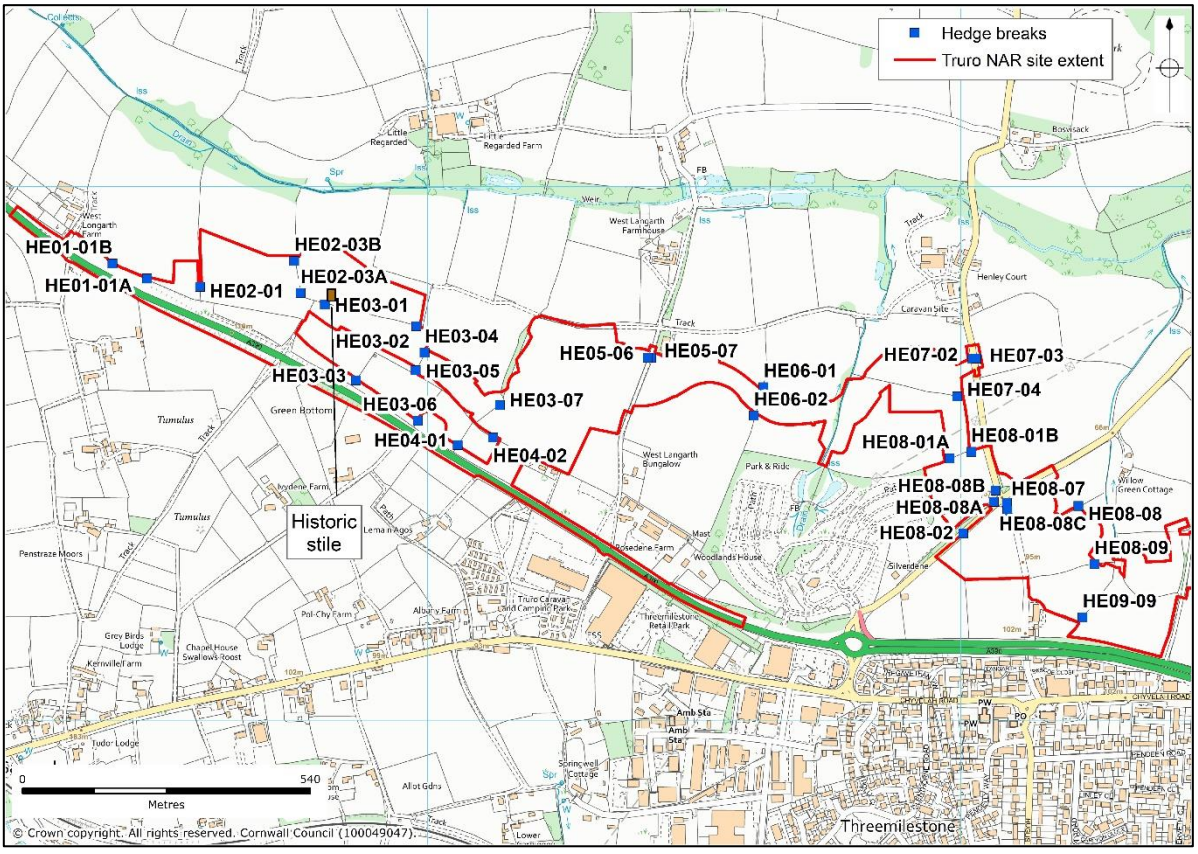

Fig 2 Site Extent.

2 Introduction

Cornwall Archaeological Unit (CAU) was commissioned to undertake a programme of watching briefs during the breaching of several historic Cornish hedges as part of the preparatory works for construction of the Truro Northern Access Road, West Langarth (see Fig 1). This work was carried out to satisfy condition 17 of planning application PA20/09631.

Further details of the background and the aims and methods of the project can be found in the Written Scheme of Investigation (WSI) (Fleming 2022 – see Appendix 2). The aim of this report is to present a record of the hedge breaches, with details of description and methods of construction, to serve both as a record of the hedge types and to inform any intended reconstruction as part of the construction phase of the works.

3 Location and setting

The area of works is located on the west side of Truro, Cornwall, in Kenwyn parish and comprises fields on the north side of the current A390 road between East and West Langarth Farms NGR SW 78130 45199 and NGR SW 176318 45897 (Figs 1 and 2). The fields are located along the route of the Truro Northern Access Road. The fields are located within the north facing slopes of a stream valley, forming part of the River Kenwyn. The predominant Historic Landscape Character (HLC) of the site is Anciently Enclosed Land (Farmland; Medieval). This is ancient agricultural heartland which has been settled and farmed since prehistory but whose field and settlement patterns were formalised during the medieval period, although often preserving older boundary lines. Farming settlements are typically documented before the 17th century AD (source, Institute of Cornish Studies place-names index) and field patterns are morphologically distinct from the generally straight-sided fields of later enclosure (Cornwall County Council 1996; Herring 1998).

Along sections of the A390 road corridor on the south side of the site, the HLC is that of Recently Enclosed Land (Farmland; post-medieval). This is land enclosed in the 17th, 18th and 19th centuries, usually from land that was previously Upland Rough Ground and often medieval commons (Herring 1998).

A total of 25 historic hedges were breached, with 31 breached sections recorded in total (Fig 2). Some hedge boundaries were impacted by more than one breach (HE-01-01A and HE-01-01B; HE-02-03A and HE-02-03B; HE-03-01 and HE-03-02; HE-08-01A and HE-08-01B). Alternatively, as in the case of breach HE-08-08A and HE-08-08B, a single breach impacted two separate hedge boundaries. In two instances, breaches either side of an extant gateway (HE-03-04 and HE-03-05; HE-06-01 and HE-06-02) likely impacted what were originally single continuous hedge boundaries, with the extant gateways likely constituting old breaches. A historic stone stile was also recorded.

Many of the hedges are from field boundaries recorded on the *c*1840s Kenwyn Tithe map, indicating an early 19th century or earlier origin. Some of the boundaries closest to the north side of the current A390 road are first recorded on the OS 1st Edition map *c*1880s and would appear to relate to mid to late 19th century enclosure of a strip of surviving open downland, some bordering previously open trackways through this area.

4 Working methods

The evaluation was undertaken according to the Chartered Institute for Archaeologists (CIfA) guidance (CIfA 2020a; 2020b) and following the CIfA Code of Conduct (2019). The Chartered Institute for Archaeologists is the professional body for archaeologists working in the UK. Hedge boundary description and classification followed Cornwall Council's Historic Environment Planning Archaeology's draft guidance note (Dudley 2022), with recording also informed by Johnson's wall and bank types for the Bodmin Moor archaeological survey (Johnson and Rose, 1994, p17). In addition to the recording of the boundaries, a photographic record and written description of the historic stone stile between fields 2 and 3 was produced.

Hedge-breaks were numbered following references provided by the principal contractor, Cormac Ltd (see Tables 1.1 and 1.2 in Appendix 1). The sections to be removed were first strimmed of vegetation by the principal contractor. As well as deterring wildlife in advance of hedge removal, this work also helped in some cases to reveal more of the underlying hedge boundary structure for recording.

Hedge boundaries to be impacted by the works were initially recorded with both elevations photographed from multiple angles (including one metre scales) in addition to context photographs being taken where appropriate. Where possible, the line of the hedge boundary was also recorded using photographs taken along the top of the hedge in both directions.

Where any hazards or obstructions were identified, work was halted, and the principal contractor was immediately informed. Work re-commenced once the hazard/obstacle had been assessed and the area deemed safe. Following this, work commenced to remove the hedge using a mechanical excavator using a toothless grading bucket to remove all disturbed soil and ploughsoil horizons down to the level of any archaeological horizons or the level within the natural geological surface required by the principal contractor, whichever was encountered first. The cleaning and recording of any identified archaeological features then proceeded by hand and was undertaken as outlined in the WSI (Fleming 2022). At least one cut section of each hedge was subsequently investigated, with post excavation photographs taken and a written description produced recording any evidence and details of structural elements. Written descriptions of the sections were supported by sketches where appropriate and measurements of the maximum height, the width of the main boundary bank at the base, and the maximum width of the boundary including ditches where this was visible.

Where the equipment was available, the lengths of removed hedge boundary were recorded using a Leica GPS device.

5 Archaeological results

The results from the hedge-break watching brief are presented here in hedge-break number sequence.

A total of 30 hedge-breaks and one historic stile were recorded.

5.1 HE-01-01A

Date excavated: 05/10/2022

Description: Stone-faced earth wall (Cornish hedge) field boundary, first recorded on OS 1st Edition *c*1880 (Figs 3 and 4).

Stone facing to north-facing elevation consists of large basal quartz and killas slabs or blocks vertically laid and irregularly coursed; these were overlain towards the top by smaller rough-hewn angular quartz cobbles, loosely coursed. Southern elevation was not visible as the A390 road embankment immediately abuts the southern side of hedge.

Vegetation was strimmed in advance but included blackberry/ brambles and occasional trees, which were left *in situ*. As time allowed, an area of the south facing elevation was exposed by hand (see Fig 4).

N.B. This large hedge-break took place with the cut sections immediately obscured prior to an archaeologist being on site. As a result, the section was not recorded. A section across a second hedge-break further to the west, considered to be a breach of the same hedge boundary, was recorded (see HE-01-01B). However, the southern elevations associated with this hedge boundary (Figs 4 and 5) suggest a slight change in the stone facing (most notably the basal courses) between the east and west ends in this area.

Max height: 1.2m

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: Not visible (not inc. ditch/es)

Fig 3 HE-01-01. North-facing elevation in area of hedge-break HE-01-01A, with badger sett visible behind. 1m Scale.

Figure 4 HE-01-01. North-facing elevation to east of hedge-break HE-01-01A (vegetation removed). 1m scale.

5.2 HE-01-01B

Date excavated: 18/10/2022

Description: Stone-faced earth wall (Cornish hedge) field boundary, first recorded on OS 1st Edition *c*1880 (Figs 5 and 6).

The stone facing to north-facing elevation consisted of rough-hewn angular killas/shale blocks, vertically and horizontally set in loose horizontal coursing (see Fig 5). It was uncertain whether there was any dressing to the southern elevation as that side was under heavy vegetation.

The internal earth bank or wall core appeared to be of single-phase construction, consisting of a light reddish brown silty clay with occasional small quartz and shale/shillet stone. The uppermost part was heavily rooted, appeared slightly darker and was overlain by a thick humic layer due to the heavy overlying vegetation (Fig 6).

A section of stone facing to the northern elevation of HE-01-01 was exposed just east of HE-01-01B break – this demonstrated a basal horizontal course of large angular killas blocks, overlain by a mixture of irregular angular killas blocks, demonstrating both horizontal and vertical laid rough courses. The upper quarter of the stone facing consisted of smaller more consistent angular killas cobbles, generally vertically laid in more regular but still rough courses (Fig 5).

Vegetation was strimmed in advance, but clearly included blackberry/ brambles and occasional trees, which were left *in situ*.

Max height: 1.1m

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 1.8m (not inc. ditch/es)

Figure 5 HE-01-01. North-facing elevation to west of hedge-break HE-01-01A and east of hedge-break HE-01-01B (vegetation removed). 1m scale.

Figure 6 HE-01-01. Post-excavation photograph of west-facing section of hedge-break HE-01-01B. 1m scale.

5.3 HE-02-01

Date excavated: 21/09/2022

Description: Stone-faced earth wall (Cornish hedge) field boundary with ditch either side. Some evidence of stone facing to both sides (Figs 7-9). The hedge appears to be the southern end of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier boundary.

Rough horizontal coursing was indicated but it was difficult to confirm detail due to vegetation cover (see Fig 7). The stone dressing included rough cobbles and small angular blocks of killas and quartz.

Single ditches were evident on both the east and west sides but were not visible following the break. The level between fields was noted as fairly even. The earthen bank was roughly symmetrical and appeared to be of single-phase construction, consisting of a light reddish brown silty clay with moderate large angular shale/killas pebbles. The uppermost part of the bank was heavily rooted (Figs 8 and 9).

Vegetation was strimmed in advance but included hedgerow on top (mainly hawthorn/blackthorn), with occasional trees which were left *in situ*.

Max height: 1.35m (N-facing section), 1.3m (S-facing section)

Max width @ base: Not visible

Bank width @ base: 2.2m (N-facing section, not inc. ditch), 1.7m (S-facing section, not inc. ditches)

Figure 7 HE-02-01. Pre-excavation photograph of east-facing elevation. 1m scale.

Figure 8 HE-02-01. Post-excavation photograph of north-facing section of hedge-break. 1m scale.

Figure 9 HE-02-01. Post-excavation photograph of south-facing section of hedge-break. 1m scale.

5.4 HE-02-03A

Date excavated: 13/09/2022

Description: Stone-faced earth wall (Cornish hedge) field boundary with ditch either side (Figs 10-11 and 80). The hedge appears to be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

There was evidence of stone facing to both sides, particularly evident on the west-facing elevation. This was roughly horizontally laid in eight horizontal courses to approximately 1m height. The stone consisted of slate, killas, quartz and other (elvan?) – stained by the earthen wall core to a mid-yellowish brown hue. Single ditches were present on both the east and west sides.

The level between fields was noted as fairly even. The internal earthen bank was considered to be symmetrical and of single-phase construction, consisting of mid yellowish brown silty clay with occasional shale/killas (angular pebbles and small angular cobbles). Animal burrowing (rabbits) had impacted the eastern side, resulting in slumping (Figs 10 and 11).

Vegetation was strimmed in advance but included hedgerow (mainly hawthorn/blackthorn) and occasional trees which were left *in situ*.

Max height: 1.35m (HE-02-03A, S-facing section), 1.525m (HE-02-03A, N-facing section), 1.4m (HE-02-03B)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 1.8m (HE-02-03A, S-facing section, not inc. ditch/es)

2m (HE-02-03A, N-facing section, not inc. ditch/es)

Figure 10 HE-02-03. Post-excavation photograph of north-facing section of hedge-break HE-02-03A. 1m scale.

Figure 11 HE-02-03. Post-excavation photograph of south-facing section of hedge-break HE-02-03A. 1m scale.

5.5 HE-02-03B

Date excavated: 21/09/2022

Description: Stone-faced earth wall (Cornish hedge) field boundary with ditch either side (Figs 12-14 and 80). The hedge appears to be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

The stone facing consisted of poorly sorted material, including small to very large slabs, fist-sized quartz cobbles and 1m+ shillet slabs, roughly coursed with no specific order or pattern (Fig 12). An area of possible disturbance/repair was noted to the east-facing elevation of the hedge south (uphill) of the hedge-break. This section was later removed during an extension of the break.

The level between fields was again fairly even. The internal earthen wall core appeared near symmetrical and of possible multi-phase construction with tip lines in mounded curves, representing banked earth with pockets of redeposited material, evident in the north-facing section (Fig 14 and see Fig 80). The upper part of the wall core consisted of looser mid brown heavily rooted silty clay with moderate shale/killas angular pebbles. This overlay a deposit of mid yellowish brown silty clay with moderate shale/killas (angular pebbles and small angular cobbles). Beneath this was a mid reddish brown silty clay layer with moderate shale/killas, possibly an old land surface. Slumping to both sides of the bank was noted, particularly evident on the western side (see Figs 13-14 and 80).

Vegetation was strimmed in advance but included hedgerow (hawthorn/blackthorn) and occasional trees which were left *in situ*.

Max height: 1.4m

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 2.25m (HE-02-03B, not inc. ditch/es)

Figure 12 HE-02-03. Pre-excavation photograph of east-facing elevation in area of hedge-break HE-02-03B. 1m scale.

Figure 13 HE-02-03. Post-excavation photograph of south-facing section of hedge-break HE-02-03B. 1m scale.

Figure 14 HE-02-03. Post-excavation photograph of north-facing section of hedge-break HE-02-03B. 1m scale.

5.6 HE-03-01

Date excavated: 14/09/2022

Description: Earth wall or bank field boundary, likely with a single ditch (Figs 15-17). The hedge appears to be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

There was no stone facing evident, only an earthen bank, which appeared to be of single-phase construction, consisting of a light slightly yellowish brown silty clay with occasional angular killas and quartz pebbles (Figs 16 and 17).

A possible old land surface consisting of mid reddish brown silty clay with frequent angular shale/killas was present in the west-facing section, however, tipping downwards towards the north. This may have been a natural linear ridge, or possibly an earlier, perhaps medieval, lynchet, before it was developed into a field boundary (see Fig 17).

There was a single ditch to the south side (upslope of bank), which is possibly the same feature as that identified crossing the top of field 2 in SMS1, recorded during the SMS investigations (context [1016]. There was a pronounced drop in level going downhill south to north (approx. 1m over 5m).

Vegetation was strimmed in advance but included hedgerow (mainly blackberry/brambles).

Max height: 0.85m (E-facing section), 1.05m (W-facing section)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 3.3m (E-facing section, not inc. ditch/es)

2.8m (W-facing section, not inc. ditch/es)

Figure 15 HE-03-01. Pre-excavation photograph of north-facing elevation in area of hedge-break. 1m scale.

Figure 16 HE-03-01. Post-excavation photograph of east-facing section of hedge-break. 1m scale.

Figure 17 HE-03-01. Post-excavation photograph of west-facing section of hedge-break. 1m scale.

5.7 HE-03-02

Date excavated: 20/09/2022

Description: Earth wall or bank field boundary very similar to HE-03-01 (Figs 18-20 and 81). The hedge appears to be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

There was no stone facing evident, only an earthen bank, which appeared to be of single-phase construction, consisting of a mid, slightly reddish brown silty clay with frequent shale/shillet.

The breached sections indicated a slight sloping northward, with partial slumping on both sides, the tip lines clearly evident (Figs 19 and 20).

A possible old land surface consisting of a light yellowish brown silty clay with moderate small angular quartz pebbles was clearly present in the east-facing section tipping downwards towards north (Figs 19 and 81).

It is thought likely that there were ditches to both sides but only the northern ditch was evident, which appears to have cut the old land surface (see Figs 19, 20 and 81).

Vegetation was strimmed in advance but included hedgerow (mainly blackberry/brambles) and occasional trees which were left *in situ*.

Max height: 1.15m (E-facing section), 1.1m (W-facing section)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 2.1m (not inc. ditch/es)

Figure 18 HE-03-02. Pre-excavation photograph of north-facing elevation in area of hedge-break. 1m scale.

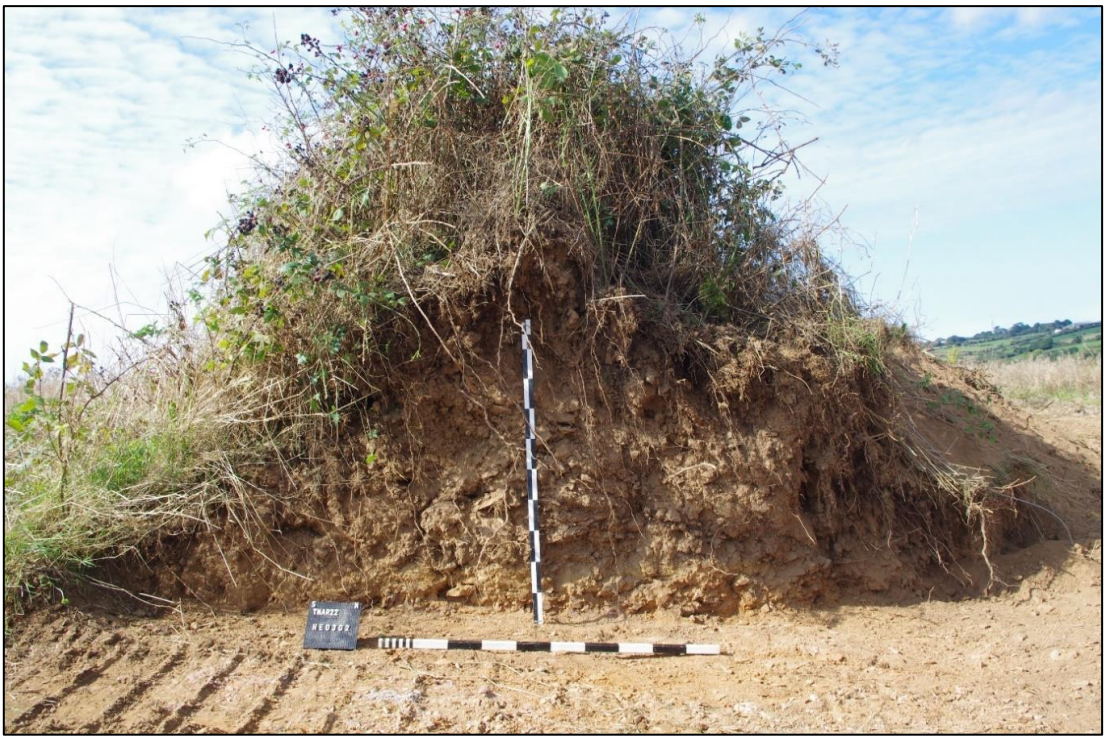

Figure 19 HE-03-02. Post-excavation photograph of east-facing section of hedge-break. 1m scale.

Figure 20 HE-03-02. Post-excavation photograph of west-facing section of hedge-break. 1m scale.

5.8 HE-03-03

Date excavated: 22/09/2022

Description: Stone-faced earth wall (Cornish hedge) field boundary with at least partially stone-faced elevations and ditch either side (Figs 21-23). The hedge forms part of a field boundary first recorded on the OS 1st Edition *c*1880 map, indicating a mid to late 19th century origin.

There was evidence of the remnants of a stone facing to the eastern side, consisting of several large angular quartz cobbles and one larger angular block at the base, with the suggestion of rough horizontal coursing (see Fig 23).

The earthen wall core consisted of two layers suggestive of a phased construction. A loose mid slightly reddish brown friable silty clay sat over a more compact darker mid reddish brown silty clay with frequent small shillet and quartz pebbles. The bank had been subject to heavy root activity (see Figs 22 and 23).

Although ditches were evident on both sides these were not clearly defined by the hedge-break.

Vegetation was strimmed in advance but included hedgerow (mainly blackberry/brambles) and occasional trees which were left *in situ*.

Max height: 1.05m (S-facing section)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 2.7m (S-facing section, not inc. ditch/es)

Figure 21 HE-03-03. Pre-excavation photograph of east-facing elevation of hedge-break. 1m scale.

Figure 22 HE-03-03. Post-excavation photograph of north-facing section of hedge-break. 1m scale.

Figure 23 HE-03-03. Post-excavation photograph of south-facing section of hedge-break. 1m scale.

5.9 HE-03-04

Date excavated: /10/2022

Description: Earth wall or high bank field boundary with at least partially stone-faced elevations in places (Figs 24-25). The hedge forms part of a field boundary first recorded on the OS 1st Edition *c*1880 map, indicating a mid to late 19th century origin.

There was no significant evidence of stone facing to either side of the hedge, although there was some possible quartz facing to the east-facing elevation just north of the hedge-break (rough quartz cobbles, which appeared vertically aligned).

The internal earthen bank was of single-phase construction consisting of a mid reddish brown friable silty clay with frequent small shale/shillet and occasional small angular quartz pebbles.

No ditches were evident following hedge-break.

Max height: 1.1m (S-facing section)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base 2m (not inc. ditch/es)

Figure 24 HE-03-04. Pre-excavation photograph of west-facing elevation in area of hedge-break. 1m scale.

Figure 25 HE-03-04. Post-excavation photograph of south-facing section of hedge-break. 1m scale.

5.10 HE-03-05

Date excavated: 27/09/2022

Description: Probable stone-faced earth wall (Cornish hedge) field boundary (Figs 26-28) with at least partially stone-faced elevations, possibly with ditch either side. The hedge forms part of a field boundary first recorded on the OS 1st Edition *c*1880 map, indicating a mid to late 19th century origin.

Intermittent stone facing was identified, consisting of large quartz cobbles/blocks on both sides. The surviving areas of stone dressing appeared vertically coursed on both the east- and west-facing elevations (see Fig 26).

The ground level dropped significantly from the western field to the eastern field, with the hedge significantly lower on its east-facing side. The vertical stone facing was well-preserved at the southern end of the cut for the hedge-break, visible on the east side of the north-facing section (see Fig 27).

The earthen wall core was relatively stone-free at the top (except for extant facing), where the soil was loose, possibly the result of casting up and consisted of a mid brown silty clay; lower down the bank consisted of a more compact, mixed matrix, but still appeared to have been of single-phase construction, consisting of a mid reddish brown silty clay, mottled with mid yellowish brown silty clay (suggesting the incorporation of redeposited material) with occasional small angular quartz. There was also the suggestion of an old land surface beneath the bank indicated by a slightly darker reddish brown silty clay with frequent small angular quartz (see Figs 27 and 28).

N.B. The south-facing section (Fig 28) demonstrates the character of a stone-faced bank (Johnson, 1994, p17) rather than a stone-

faced earth wall, with a ramped profile to the eastern side. This may however be due to significant slumping on the eastern side, or alternatively a build-up of earth against the hedge on this side.

There were only hints of ditches on either side of the bank, but it was difficult to be certain. The stone facing/dressing appeared to sit on top of the potential ditches, suggesting the possibility of a more recent re-coursing/re-working of the boundary.

Vegetation was strimmed in advance but likely included hedgerow (mainly blackberry/brambles).

Max height: 1.4m

Max width @ base: 2.9m (inc. ditch/es)

Bank width @ base: 2.9m max but not totally clear (not inc. ditch/es)

Figure 26 HE-03-05. Pre-excavation photograph of west-facing elevation in area of hedge-break. 1m scale.

Figure 27 HE-03-05. Post-excavation photograph of north-facing section of hedge-break. 1m scale.

Figure 28 HE-03-05. Post-excavation photograph of south-facing section of hedge-break. 1m scale.

5.11 HE-03-06

Date excavated: 22/09/2022

Description: Earth wall or bank field boundary with ditch either side (Figs 29-31). The hedge forms part of a field boundary first recorded on the OS 1st Edition *c*1880 map, indicating a mid to late 19th century origin.

There was no evidence of any stone facing to the bank.

The earthen wall/bank was of single-phase construction consisting of a mid brown friable silty clay with occasional small angular quartz and a few larger quartz cobbles.

The north facing section revealed an old land surface, with a slightly mounded profile sloping downwards to west which appears to have been cut by the western ditch (Fig 30). There was also some slumping evident to both sides of the bank.

The ditches either side of the bank were evident but not clearly defined by the hedge-break.

Vegetation was strimmed in advance but included hedgerow (mainly blackberry/brambles) and occasional trees which were left *in situ*.

Max height: 0.95m (N-facing section)

Max width @ base: *c*3m (inc. ditch/es)

Bank width @ base: 1.7m (not inc. ditch/es)

Figure 29 HE-03-06. Pre-excavation photograph of west-facing elevation in area of hedge-break. 1m scale.

Figure 30 HE-03-06. Post-excavation photograph of north-facing section of hedge-break. 1m scale.

Figure 31 HE-03-06. Post-excavation photograph of south-facing section of hedge-break. 1m scale.

5.12 HE-03-07

Date excavated: 09/01/2022

Description: Road-side earth wall or bank field boundary with at least partially stone-faced elevations (Fig 32). The hedge forms part of a field boundary first recorded on the OS 1st Edition *c*1880 map, indicating a mid to late 19th century origin.

The extant stone facing consisted of a facing of quartz cobbles to the eastern side which survived beneath heavy slumping. There was possible evidence of a similar quartz facing to the western side, but this was less certain. The style of any stone coursing could not be identified due to the level of vegetation cover.

The earthen wall core consisted of two layers suggestive of a phased construction, consisting of a mid brown friable stone-free silty clay which overlay a mid-light brown silty clay mottled with reddish brown clay. An old land surface, represented by a thick darker brown silty clay layer, was suggested at what was considered to be the base of the hedge. Beneath this, the section also indicated a further deposit consisting of a yellowish red clay (Fig 32).

N.B. The hedge line was non-existent immediately to the south of this 'break'. The hedge line appeared to have been disturbed with extra soil built-up north of the break.

Max height: 1.4m (S-facing section)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 1.7m (not inc. ditch/es)

Figure 32 HE-03-07. Post-excavation photograph of south-facing section of hedge-break. 1m scale.

5.13 HE-04-01

Date excavated: 23/09/2022

Description: Earth wall or bank field boundary with ditch either side (Figs 33-35). The hedge forms part of a field boundary first recorded on the OS 1st Edition *c*1880 map, indicating a mid to late 19th century origin.

There was no evidence of any stone facing.

The earthen wall/bank was likely of single-phase construction and consisted of a light reddish brown silty clay with moderate small angular quartz. There was some evidence of slumping on either side of the south-facing section (Fig 35).

The ditches either side of the bank were evident but not easily defined in section.

The ground level sloped downwards from west to east between the fields.

Vegetation was strimmed in advance but included hedgerow and scrub (mainly blackberry/brambles and hawthorn/blackthorn). There was heavy vegetation remaining despite strimming so pre-ex elevations were not visible (see Fig 33).

Max height: 1m (N-facing section)

Max width @ base: 2.3m (inc. ditch)

Bank width @ base: 1.4m (not inc. ditch)

Figure 33 HE-04-01. Pre-excavation photograph of east-facing elevation in area of hedge-break. 1m scale.

Figure 34 HE-04-01. Post-excavation photograph of north-facing section of hedge-break. 1m scale.

Figure 35 HE-04-01. Post-excavation photograph of south-facing section of hedge-break. 1m scale.

5.14 HE-04-02

Date excavated: 23/09/2022

Earth wall or bank field boundary with ditch either side (Figs 36-38). There was no evidence of a stone facing. The hedge forms part of a field boundary first recorded on the OS 1st Edition *c*1880 map, indicating a mid to late 19th century origin.

The earthen wall/bank was likely of single-phase construction, consisting mainly of a mid reddish brown silty clay, mottled with a lighter yellowish brown silty clay, with moderate small angular quartz pebbles – likely incorporating redeposited material. There was evidence of significant slumping on both sides of the west-facing section, with evidence of significant animal (rabbit?) burrowing to its southern aspect.

N.B. There was a significant amount of quartz pebbles and some quartz cobbles at the base of the earthen bank which seemed to underlie the hedge along this stretch. The possibility of an underlying feature (e.g., a quartz-filled trackway similar to that observed at SMS1) could not be ruled out.

Vegetation was strimmed in advance but included hedgerow and scrub (mainly gorse, blackberry/brambles, hawthorn/blackthorn). There was heavy vegetation remaining despite strimming so pre-ex elevations were not visible (see Fig 36).

Max height: 0.75m (W-facing section)

Max width @ base: 2.5m (inc. ditch/es)

Bank width @ base: 1.6m (not inc. ditch/es)

Figure 36 HE-04-02. Pre-excavation photograph of south-facing elevation in area of hedge-break. 1m scale.

Figure 37 HE-04-02. Post-excavation photograph of west-facing section of hedge-break. N.B. southern side had been subject to severe animal burrowing. 1m scale.

Figure 38 HE-04-02. Post-excavation photograph of east-facing section of hedge-break. 1m scale.

5.15 HE-05-06

Date excavated: 09/01/2023

Description: Lane-side earth wall or bank field boundary with no evidence for any stone dressing (Figs 39 and 40). The hedge forms part of a field boundary on the west side of a historic lane- recorded as an open trackway on the c1840 Kenwyn Tithe Map. The field boundary itself is probably that recorded on the OS 1st Edition *c*1880 map, indicating a mid to late 19th century origin.

The earthen wall/bank comprised two deposits, potentially indicating a phased construction. The uppermost deposit consisted of a mid brown friable stone-free silty clay. The lower deposit consisted of a mid-light reddish brown silty clay with occasional large quartz pebbles.

Overlying the main bank there was a modern(?) vegetation layer comprising a dark blackish brown friable humus-rich silty clay.

Ground levels across the hedge-break were fairly even between the lane and the field.

Vegetation was strimmed in advance but included hedgerow with occasional trees which were left *in situ*. There was heavy vegetation remaining despite strimming so pre-ex elevations were not visible.

Max height: 1.3m (N-facing section)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 2.6m (not inc. ditch/es)

Figure 39 HE-05-06. Post-excavation photograph of north-facing section of hedge-break. 1m scale.

Figure 40 HE-05-06. Post-excavation photograph of south-facing section of hedge-break. 1m scale.

5.16 HE-05-07

Date excavated: 09/01/2023

Description: Lane-side earth wall or bank field boundary with no evidence of a stone facing (Figs 41 and 42). The hedge forms part of a field boundary on the east side of a historic lane- recorded as an open trackway on the *c*1840 Kenwyn Tithe Map. The field boundary itself is probably that recorded on the OS 1st Edition c1880 map, indicating a mid to late 19th century origin.

The earthen wall/bank was of single-phase construction, consisting of a mid yellowish brown friable stone-free silty clay with small lenses of reddish clay, with small angular quartz fragments.

The main bank overlay what may have been an old land surface at the base of the hedge, or possibly the base of an earlier earth bank (see Fig 41). Below this former surface/bank there were a further two earlier deposits. The uppermost of those comprised a light yellow clay focussed towards the eastern (upslope) side of the section, possibly a redeposited natural. This thinned out towards the western side. Beneath was a mottled reddish brown clay layer, possibly degraded natural (see Fig 41).

Overlying the main bank there was a modern(?) vegetation layer consisting of a dark blackish brown friable humus-rich silty clay.

The ground level across the hedge-break sloped slightly downwards from east to west.

Vegetation was strimmed in advance but included hedgerow with occasional trees which were left *in situ*. There was heavy vegetation remaining despite strimming so pre-ex elevations were not visible.

Max height: *c*1m (N-facing section)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: *c*1.5m (N-facing section)

Figure 41 HE-05-07. Post-excavation photograph of north-facing section of hedge-break. 1m scale.

Figure 42 HE-05-07. Post-excavation photograph of south-facing section of hedge-break. 1m scale.

5.17 HE-06-01

Date excavated: 28/09/2022

Description: Stone-faced earth wall (Cornish hedge) field boundary with ditch either side (Figs 43-45). The hedge appears to be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

There was some indication of stone facing (rough quartz cobbles) at the base of the west side of the north-facing section, at the northern end of the cut for the hedge-break (see Fig 44). Both north- and south-facing sections showed slumping/ vegetation build-up on both sides, resulting in a ramped profile, particularly against the east-facing elevation (Figs 44 and 45). There was evidence of old animal burrowing in both hedge -break sections.

The earthen wall core was possibly of multi-phased construction, as evidenced by an interpreted stone tip-line in the south-facing section (Fig 45). However, the section had clearly been subject to severe animal burrowing and the majority of the earth bank consisted of a deposit of mottled, light greyish yellow/light reddish brown, slightly plastic silty clay (likely redeposited natural). There was limited stone within the earthen wall core, except for a single large stone slab in the centre of the north-facing section (Fig 44).

The earth wall core overlay a probable old land surface comprising a slightly greyish brown friable silty clay mottled with mid-reddish brown lenses.

N.B. Both north- and south-facing sections (Figs 44 and 45) demonstrate the character of a stone-faced bank (Johnson, 1994, p17) rather than a stone-faced earth wall, with a ramped profile to the eastern side. This may however be due to either slumping (perhaps a result of the animal burrowing) or build-up of soil against the eastern side.

The vegetation was strimmed in advance. Top vegetation included hedgerow and occasional trees which were left *in situ*.

Max height: 1.2m (N-facing section)

Max width @ base: 4.5m (N-facing section, inc. ditch/es)

Bank width @ base: 2.5m (N-facing section, not inc. ditch/es)

Figure 43 HE-06-01. Pre-excavation photograph of west-facing elevation in area of hedge-break. 1m scale.

Figure 44 HE-06-01. Post-excavation photograph of north-facing section of hedge-break. 1m scale.

Figure 45 HE-06-01. Post-excavation photograph of south-facing section of hedge-break. 1m scale.

5.18 HE-06-02

Date excavated: 28/09/2022

Description: Stone-faced earth wall (Cornish hedge) field boundary with ditch either side (Figs 46-48). The hedge appears to be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

There was some possible evidence of a stone facing at the base of the west-facing elevation on the north side of the cut for the hedge-break, although the stone appeared to have been robbed out. There was evidence of significant animal (rabbit?) burrowing in both sections (Figs 47 and 48).

The earthen wall core was of single-phase construction consisting of a mottled reddish-brown to mid-greenish brown friable silty clay with occasional quartz and occasional slate/shale. The east-facing side had significant build-up of soil/vegetation against it, either the result of slumping, vegetation or deliberate reinforcement – creating a ramped profile on the eastern side (Figs 47 and 48). Both sections suggested a probable old land surface of mid brown friable silty clay preserved at the base of the earthen bank.

N.B. Both north- and south-facing sections (Figs 47 and 48) demonstrate the character of a stone-faced bank (Johnson, 1994, p17) rather than a stone-faced earth wall, with a ramped profile to the eastern side. This may however be due to either slumping (perhaps a result of animal burrowing) or build-up of soil against the eastern side.

Max height: 1.9m

Max width @ base: 4.2m (S-facing section, inc. ditch/es)

Bank width @ base: 2.6m (N-facing section, not inc. ditch/es)

Figure 46 HE-06-02. Pre-excavation photograph of west-facing elevation in area of hedge-break. 1m scale.

Figure 47 HE-06-02. Post-excavation photograph of north-facing section of hedge-break. 1m scale.

Figure 48 HE-06-02. Post-excavation photograph of south-facing section of hedge-break. 1m scale.

5.19 HE-07-02

Date excavated: 09/01/2023

Description: Lane-side earth wall or bank field boundary (Figs 49-51). The hedge appears to be part of a field boundary on the west side of a historic lane leading south from Langarth, recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

There was no significant evidence of a stone facing on either side of the earthen bank, excepting some irregularly set, possibly disturbed, stone courses (including quartz cobbles within the eastern elevation north of the hedge-break (Fig 49).

The interior earthen wall/bank comprised two deposits, potentially indicating a phased construction. The uppermost deposit consisted of a mid reddish brown friable stone-free silty clay. The lower deposit consisted of a mid reddish brown silty clay with lenses of lighter clay and small stones.

Overlying the main bank there was a modern(?) vegetation layer of a mid-dark humus-rich silty clay.

The ground level across the hedge-break sloped slightly from west to east.

Vegetation was strimmed in advance but included hedgerow with occasional trees which were left *in situ*. There was heavy vegetation remaining despite strimming so pre-ex elevations were not visible.

Max height: 1.3m (S-facing section)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 2.6m (S-facing section, not inc. ditch/es)

Figure 49 HE-07-02. Pre-excavation photograph of east-facing elevation to north of area of hedge-break. 1m scale.

Figure 50 HE-07-02. Post-excavation photograph of north-facing section of hedge-break. 1m scale.

Figure 51 HE-07-02. Post-excavation photograph of south-facing section of hedge-break. 1m scale.

5.20 HE-07-03

Date excavated: 09/01/2023

Description: Lane-side earth wall or bank field boundary, with at least partially stone-faced elevations (Fig 52). The hedge appears to be part of a field boundary on the east side of a historic lane leading south from Langarth, recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

The stone facing consisted of a coursed stone facing to the eastern side of the hedge. There was no evidence of any stone facing to the western (lane-side) elevation.

The main earthen wall/bank comprised two deposits, potentially indicating a phased construction. The uppermost deposit consisted of a mid brown, relatively stone-free, friable silty clay. The lower deposit consisted of a mid yellow brown friable silty clay with clay lenses and occasional small quartz (Fig 52).

Overlying the main bank there was a modern(?) vegetation layer of a mid-dark humus-rich silty clay.

The ground level across the hedge-break was fairly even between the lane and the field.

Vegetation was strimmed in advance but included hedgerow with occasional trees which were left *in situ*. There was heavy vegetation remaining despite strimming so pre-ex elevations were not visible.

Max height: 1.45m (N-facing section)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 1.8m (not inc. ditch/es)

Figure 52 HE-07-03. Post-excavation photograph of north-facing section of hedge-break. 1m scale.

5.21 HE-07-04

Date excavated: 29/09/2022

Description: Stone-faced earth wall (Cornish hedge) field boundary with ditch either side (Figs 53-55). The hedge appears to be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

There was a stone facing evident to both sides of hedge, with the stone to the north-facing side consisting of large angular quartz rough blocks/ boulders (Figs 54 and 55). The stone facing to the south side consisted of a section of large angular quartz rough blocks/boulders and a separate section of very large, vertically coursed, killas slabs, suggesting a rebuild to the south-facing side of the hedge (see Figs 55 and 82). One of the slabs appeared to have a possible groove within it.

The earthen wall core consisted of what appeared to be a single deposit of mid slightly yellowish brown friable silty clay, with occasional small angular quartz and shale pebbles and very occasional quartz cobbles. The upper section was very rooty due to the vegetation and may have been a secondary deposit resulting from up-casting, or simply a very disturbed upper level of the primary bank.

Vegetation was strimmed in advance but included hedgerow and frequent trees which were left *in situ*.

Max height: 1.4m (W-facing section)

Max width @ base: 3.5m (inc. ditch/es)

Bank width @ base: 2.1m (W-facing section, not inc. ditch/es)

Figure 53 HE-07-04. Pre-excavation photograph of north-facing elevation in area of hedge-break. 1m scale.

Figure 54 HE-07-04. Post-excavation photograph of west-facing section of hedge-break. 1m scale.

Figure 55 HE-07-04. Post-excavation photograph of south-facing elevation immediately west of hedge-break, showing two possible phases of construction. 1m scale.

5.22 HE-08-01A

Date excavated: 06/10/2022

Description: Stone-faced earth wall (Cornish hedge) field boundary with ditch either side (Figs 56-58). The hedge appears to be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

There was evidence of stone facing to both the north-facing and south-facing elevations – more evident/better preserved on the south-facing elevation (Fig 56). The foundations to the stone facing appeared to have slumped into the ditch in places, suggesting the stone dressing was a secondary addition to the original bank.

The earthen wall core showed evidence of multi-phase construction. The upper half of the bank consisted of a mid slightly reddish brown friable silty clay, relatively stone-free. The lower half consisted of a mid brown relatively compact silty clay mottled with light yellowish brown and mid reddish brown silty clay (likely incorporated redeposited material) with occasional small angular quartz. A possible stone tip line was suggested between the upper and lower parts of the bank. There was also an indication of an old land surface comprising mid brown looser friable silty clay beneath the bank (more evident on the northern aspect of the section), although this was obscured by animal burrowing at this level (Fig 58).

Vegetation was strimmed in advance but included hedgerow (mainly blackberry/brambles).

Max height: 1.55m (W-facing section)

Max width @ base: *c*3.5m (inc. ditch/es)

Bank width @ base: 1.9m (not inc. ditch/es)

Figure 56 HE-08-01. Pre-excavation photograph of south-facing elevation in area of hedge-break HE-08-01A. 1m scale.

Figure 57 HE-08-01A. Post-excavation photograph of east-facing section of hedge-break HE-08-01A. 1m scale.

Figure 58 HE-08-01A. Post-excavation photograph of east-facing section of hedge-break HE-08-01A. 1m scale.

5.23 HE-08-01B

Date excavated: 29/09/2022

Description: Stone-faced earth wall (Cornish hedge) field boundary with ditch either side (Figs 59-61). The hedge appears to be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

There was no significant evidence of stone facing to either side initially as both elevations were covered by heavy vegetation build-up. Subsequently some evidence of a basal stone facing to the south-facing elevation was revealed, with large angular killas blocks evident (Fig 61). There was marked slumping/vegetation build-up on both sides of the hedge (Figs 60 and 61).

As with the other hedge-break to the west, there was some evidence of phased construction. The top of the earthen wall core consisted of a loose, heavily rooted, mid brown silty clay layer which may have been secondary deposition resulting from casting up, or rebuilding/repair, or possibly just loosened upper bank material caused by root action. The lower section of the wall core consisted of a light, slightly yellowish brown friable silty clay, with occasional small shillet/shale (Figs 60 and 61) and potentially represented an earlier boundary bank, later re-built or enlarged. Areas of mottling with dark brown friable silty clay were observed, possibly the result of animal burrowing. A probable old land surface underlying the bank was exposed, represented by a dark brown friable silty clay with few inclusions.

Vegetation was strimmed in advance but included hedgerow and frequent trees, which were left *in situ*.

Max height: 1.35m (W-facing section)

Max width @ base: 3.2m (W-facing section, inc. ditch/es)

Bank width @ base: 0.9m? (not inc. ditch/es)

Figure 59 HE-08-01. Pre-excavation photograph of south-facing elevation in area of hedge-break HE-08-01B. 1m scale.

Figure 60 HE-08-01. Post-excavation photograph of east-facing section of hedge-break HE-08-01B. 1m scale.

Figure 61 HE-08-01. Post-excavation photograph of west-facing section of hedge-break HE-08-01B. 1m scale.

5.24 HE-08-02

Date excavated: 02/09/2022

Description: Road-side earth wall or bank field boundary with ditch on field side (southern side) (Figs 62 and 63). The hedge appears to be a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier boundary. Previous code number HE 085.

There was no obvious evidence of any stone facing. A significant concentration of large killas/quartz angular blocks was recovered from along a small section of the southern elevation, but this was considered likely to be the result of field clearance rather than a deliberate stone dressing to the boundary bank.

The earthen bank appears to have been roughly symmetrical and of single-phase construction, consisting of a light reddish brown silty clay, mottled with light brownish yellow and mid reddish brown silty clay suggesting the incorporation of some redeposited material. Both sections demonstrated significant build-up of soil against the southern elevation, most likely due to ploughing but potentially the result of slumping (see Figs 62 and 63).

Vegetation was strimmed in advance but included hedgerow (mainly blackberry/brambles).

Max height: 1m (E-facing section)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 1.5m (E-facing section, not inc. ditch/es)

Figure 62 HE-02-085 / HE-08-02. Post-excavation photograph of east-facing section of hedge-break. 1m scale. (N.B. Hedge reference on photo board incorrect).

Figure 63 HE-02-085 / HE-08-02. Post-excavation photograph of west-facing section of hedge-break. 1m scale. (N.B. Hedge reference on photo board incorrect).

5.25 HE-08-07

Description: Road-side stone-faced earth wall (Cornish hedge) field boundary (Figs 64 and 65). The hedge appears to be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

The stone facing consisted of a facing of overlapping 'bedded' slate courses on both sides.

The earthen wall core was of multi-phase construction, consisting of two deposits. The uppermost deposit consisted of a mid reddish brown friable stone-free silty clay. This was very loose and rooty and may be the result of subsequent up casting of soil as part of consolidation or repair or more simply the development of soil as part of the vegetative root system. The lower deposit consisted of a mid reddish brown friable silty clay with mid yellow clay lenses and slate and quartz pebbles/cobbles (Figs 64 and 65). This lower deposit potentially continued deeper beneath the ground level of the hedge-break section, with the stone courses on the western side of the hedge continuing below the level of the road tarmac.

Max height: 1m (N-facing section)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 2m (not inc. ditch/es)

Figure 64 HE-08-07. Post-excavation photograph of north-facing section of hedge-break. 1m scale.

Figure 65 HE-08-07. Post-excavation photograph of south-facing section of hedge-break. 1m scale.

5.26 HE-08-08

Date excavated: 26/09/2022

Description: Stone-faced earth wall (Cornish hedge) field boundary with ditch either side (Figs 66-68). The hedge appears to be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

There was evidence of stone facing to both sides, consisting of roughly coursed angular cobbles and occasional very large blocks (>0.5m x >0.4m).

The earthen wall core was up to 0.9m high and consisted of two deposits, potentially indicating a phased construction and the presence of an earlier earth bank (see Figs 67 and 68). The lower deposit consisted of a thin deposit of light greyish yellow shillet silty clay sitting on compact reddish yellow silty clay natural. Overlying this, the uppermost deposit consisted of mid to dark greyish yellowish red, slightly stony, silty clay, which may be a secondary phase of bank construction. Some of the stone facing at the base of the bank appeared set into the lower deposit, perhaps indicating the upper deposit is contemporary with the facing of the bank in stone; there may have been some slumping of stone into the ditch edges, which may suggest the ditches were part of the earliest phase of build (see Figs 67 and 68).

Vegetation was strimmed in advance but included hedgerow scrub (mainly hawthorn/blackthorn) which was left *in situ*.

Max height: 1.4m, 1.3m (W-facing section)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 1.9m (not inc. ditch/es), 2m (W-facing section, not inc. ditch/es)

Figure 66 HE-08-08. Pre-excavation photograph of south-facing elevation in area of hedge-break. 1m scale.

Figure 67 HE-08-08. Post-excavation photograph of east-facing section of hedge-break. 1m scale.

Figure 68 HE-08-08. Post-excavation photograph of west-facing section of hedge-break. 1m scale.

5.27 HE-08-08A

Date excavated: 09/01/2023

Description: Road-side stone-faced earth wall (Cornish field) field boundary (Figs 69 and 70). The hedge appears to be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

The stone facing consisted of a mixture of large angular metamorphic mudstone, killas and quartz cobbles and blocks evident to the lower halves of both the northern and southern elevations at least (Figs 69 and 70). There was some indication the roadside southern elevation demonstrated at least rough horizontal coursing but heavy overlying vegetation hindered observation of the majority of the hedge and the northern elevation was not visible.

The earthen wall core consisted of two deposits, potentially suggesting a phased construction. The uppermost half consisted of a mottled mid and dark reddish brown friable silty clay, relatively stone-free. The lower half consisted of a lighter reddish brown friable silty clay, with occasional stone. This lower deposit overlay an old land surface at the base of the hedge, where there was some indication of animal burrowing (rabbit?) to the northern aspect.

Max height: 1.4m (E-facing section)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 1.7m (not inc. ditch/es)

Figure 69 HE-08-08A. Post-excavation photograph of east-facing section of hedge-break. 1m scale.

5.28 HE-08-08B

Date excavated:	09/01/2023
Description:	Road-side stone-faced earth wall (Cornish field) field boundary (Fig 70). The hedge may be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin; however, this is not certain. There was some evidence of a stone facing, with a mixture of large angular metamorphic mudstone and killas blocks exposed during the hedge-break (Fig 70). However, neither elevation was observable due to heavy overlying vegetation, so the presence of a facing was not confirmed. The earthen wall core appeared to be of single-phase construction consisted of a mid slightly reddish brown friable silty clay, relatively stone-free.
Max height:	1.2m (S-facing section)
Max width @ base:	Not visible (inc. ditch/es)
Bank width @ base:	1.4m (not inc. ditch/es)

Figure 70 HE-08-08B. Post-excavation photograph of south-facing section of hedge-break. 1m scale. (N.B. Cardinal directions incorrect on photo board).

5.29 HE-08-08C

Date excavated: 09/01/2023

Description: Lane-side earth wall or bank field boundary or stone-faced bank, with at least partially stone-faced western (field-side) elevation (Fig 71). The hedge appears to be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

There was some evidence of stone facing to the western (field) side of the hedge, comprising of large mudstone blocks, roughly coursed. There was no evidence of any stone facing to the eastern (roadside) aspect.

The main earthen bank comprised two deposits, potentially suggesting a phased construction. The uppermost deposit consisted of a mid reddish brown friable silty clay, relatively stone-free. The lower deposit consisted of a mottled mid brown friable silty clay with some small stones, generally quartz (Fig 71).

Overlying the main bank there was a modern(?) vegetation layer of dark brown humus-rich silty clay.

The ground level across the hedge-break was fairly even.

Vegetation was strimmed in advance but included hedgerow with occasional trees, which were left in *situ*. There was heavy vegetation remaining despite strimming so pre-ex elevations were not visible.

Max height: 1.2m (S-facing section)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 2.5m (not inc. ditch/es)

Figure 71 HE-08-08C. Post-excavation photograph of south-facing section of hedge-break. 1m scale.

5.30 HE-08-09

Date excavated: 26/09/2022

Description: Stone-faced earth wall (Cornish hedge) field boundary with ditch either side (Figs 72-74 and 81). The hedge appears to be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

There was evidence of stone facing to both sides, consisting of slatey/bedded cobbles/small blocks vertically laid and roughly coursed on the northern side, with more igneous/quartz small blocks, roughly coursed on the southern side. Some water-rounded quartz was included in the stone facing (see Figs 73-74 and 81).

The earthen wall core appeared to be of single-phase construction, consisting of a light brown silty clay mottled with light yellowish brown silty clay towards the base with frequent small angular killas/quartz pebbles, the stone increasing towards the base. The east-facing section showed evidence of animal burrowing and a level old land surface was evident beneath the earthen bank represented by a light brown friable silty clay (Figs 73 and 81).

The hedge was strimmed in advance but the top vegetation of hedgerow scrub (mainly hawthorn/blackthorn) was still in evidence.

Max height: 1.3m (E-facing section)

Max width @ base: Not visible (inc. ditch/es)

Bank width @ base: 1.9m (W-facing section, not inc. ditch/es), 1.8m (E-facing section, not inc. ditch/es)

Figure 72 HE-08-09. Pre-excavation photograph of south-facing elevation in area of hedge-break. 1m scale.

Figure 73 HE-08-09. Post-excavation photograph of east-facing section of hedge-break. 1m scale.

Figure 74 HE-08-09. Post-excavation photograph of west-facing section of hedge-break. 1m scale.

5.31 HE-09-09

Date excavated: 26/09/2022

Description: Stone-faced earth wall (Cornish hedge) field boundary with ditch either side and a granite gate post set into end (Figs 75-76 and 82). The hedge appears to be part of a field boundary recorded on the *c*1840s Kenwyn Tithe Map, indicating an early 19th century or earlier origin.

The Cornish hedge was faced on both sides with horizontal coursed quartz blocks and other metamorphic slabs. The earthen wall core was likely of phased construction, with a very loose, relatively stone-free mid brown friable silty clay above a more compact light slightly reddish brown silty clay with occasional large angular shale and quartz pebbles. There was also evidence of an old land surface beneath the earthen bank comprising a compact lighter slightly yellowish brown friable silty clay with frequent small angular quartz and shillet pebbles (see Figs 76 and 82).

The ditches to either side were cut into compact stony silty clay natural. Both ditches had large angular killas blocks in them; potentially a foundation for the coursed quartz stones above; in that case, the stone facing may be a later repair/refacing post-dating the initial construction.

The granite post had two lengths of ferrous chain attached at corresponding points on either side. There was a large (0.04m) drilled hole to the outward-facing (i.e. facing the gateway) side (see Fig 75). The post also demonstrated two series of drill marks along both back edges (as it was set into the hedge end), approximately 0.01-0.02m in diameter and 0.1-0.12m apart.

The Vegetation was strimmed in advance but included ivy, ferns, blackberry/brambles.

Max height: 1.5m (NE-facing section)

Max width @ base: 2.5m (NE-facing section, inc. ditch/es)

Bank width @ base: 1.4m (NE-facing section, not inc. ditch/es)

Figure 75 HE-09-09. Pre-excavation photograph of northeast-facing end of gateway in area of hedge-break. 1m scale.

Figure 76 HE-09-09. Post-excavation photograph of northeast-facing section of hedge-break, following removal of granite gatepost. 1m scale.

5.32 Historic stone stile between Field 2 and Field 3

Date visited: 09/01/2023

Description: Stone-built stile constructed in the corner of a Cornish hedge terminal and gateway; provides access for current public footpath between south-eastern extension of field 2 and southwestern corner of field 3 (Figs 77-79 and 83). It is positioned within a historic field boundary recorded on the c1840s Kenwyn Tithe map, indicating a potentially early 19th century or earlier origin.

The stile was constructed of multiple large stone slabs, laid horizontally across the access path (Figs 77-79 and 83). The slabs were generally of metamorphosed mudstone with quartz veins (0.55-0.65 x 0.25-0.3 x 0.10-0.2m), although the apex stone was of granite (*c*0.7 x 0.25 x m). There were 5 slabs in total. The central apex granite slab appeared to have been positioned upright, whilst the two slabs to each side of it were positioned 'flat'. The northernmost and southernmost slabs appeared to have been laid flat or set into the ground, with the central two 'flat' slabs positioned above ground (northerly slab 0.18m above ground surface, southerly slab 0.12m above ground surface). The central granite slab was also positioned 0.18m above the ground surface. Together the slabs demonstrated a triangular organisation in profile (Fig 83). It was not possible to see how the floating slabs were supported due to heavy vegetation.

The stone stile was 'embellished' with a wooden fence and raisable wooden bar on both sides (see Figs 77 and 78).

Max. Length: 2m

Max width: 0.65m (N end), 0.55m (S end)

Figure 77 Historic stone stile between fields 2 and 3. Pre-excavation photograph looking south across stile. 1m scale.

Figure 78 Historic stone stile between fields 2 and 3. Pre-excavation photograph looking north across stile. 1m scale.

Figure 79 Historic stone stile between fields 2 and 3. Detail photograph looking south across stile, showing stone slabs. 1m scale.

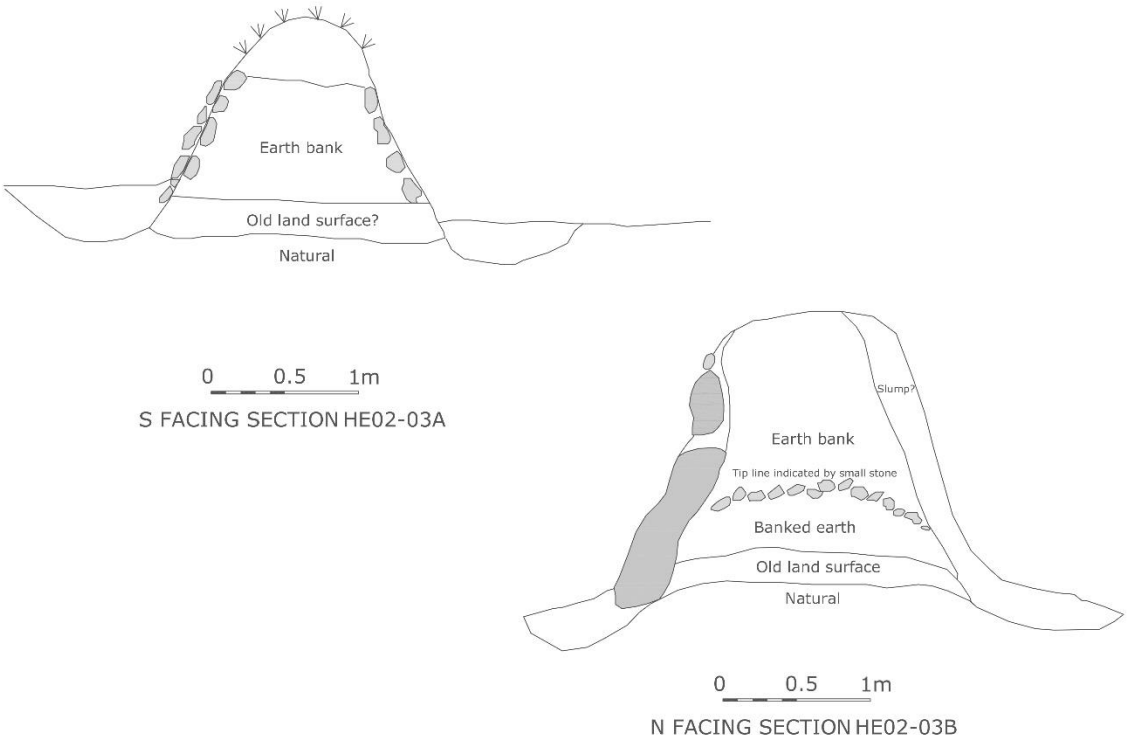

Figure 80 Sketched sections of hedges HE02-03A and HE-02-03B showing old land surfaces.

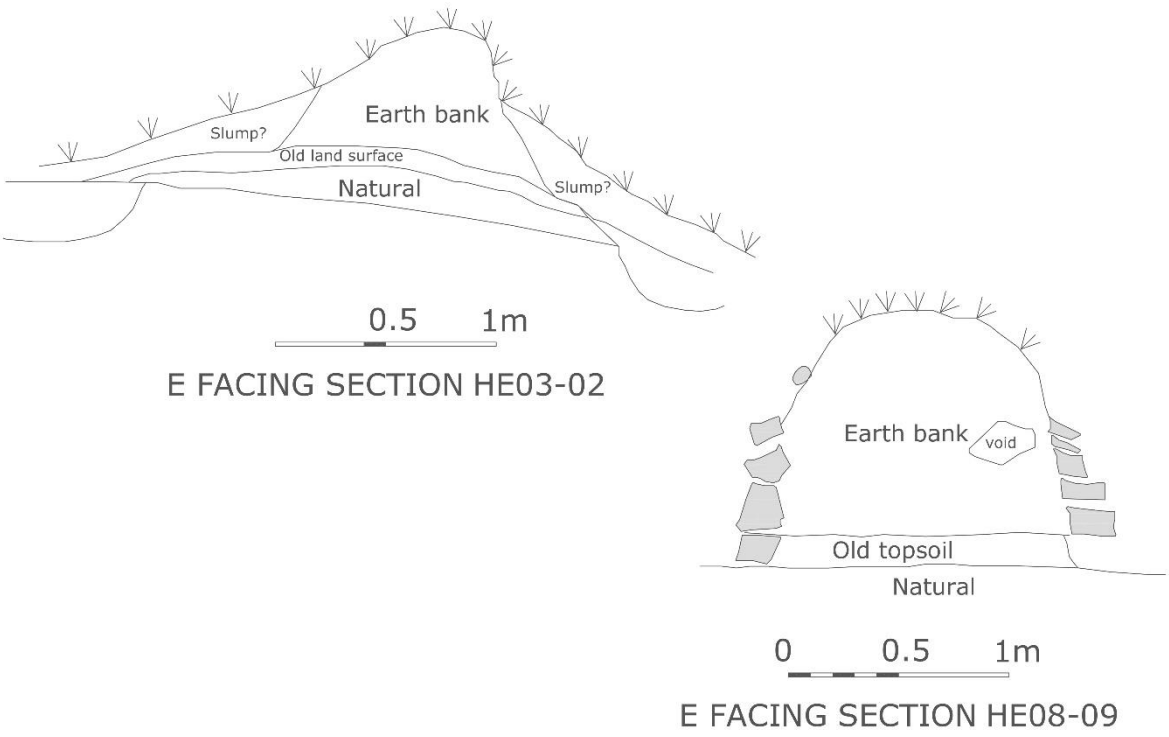

Figure 81 Sketched sections of hedges HE-03-02 and HE-08-09 showing old land surfaces.

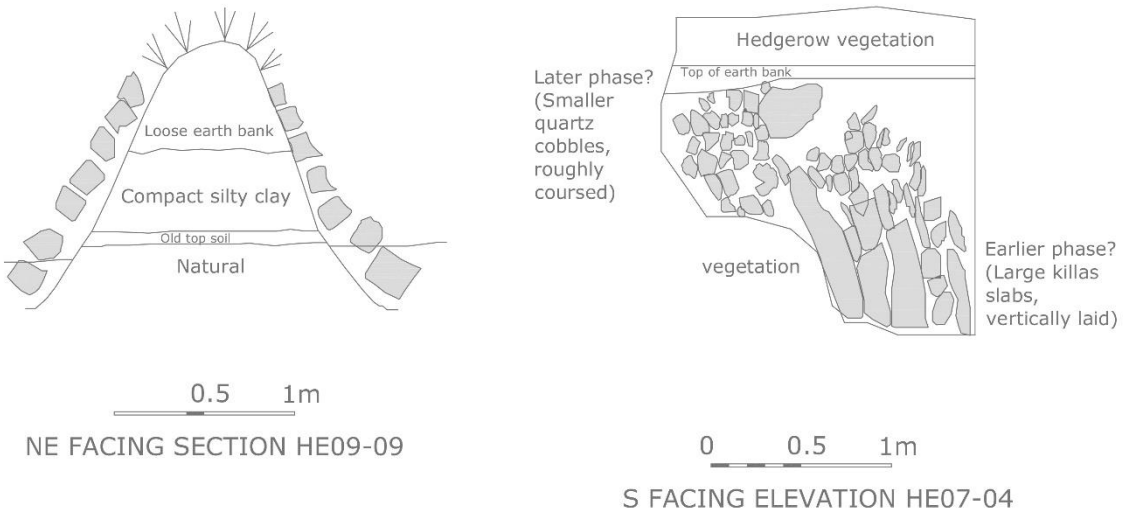

Figure 82 Sketched section of hedge HE09-09 and sketched south-facing elevation of HE-07-04 immediately west of hedge breach.

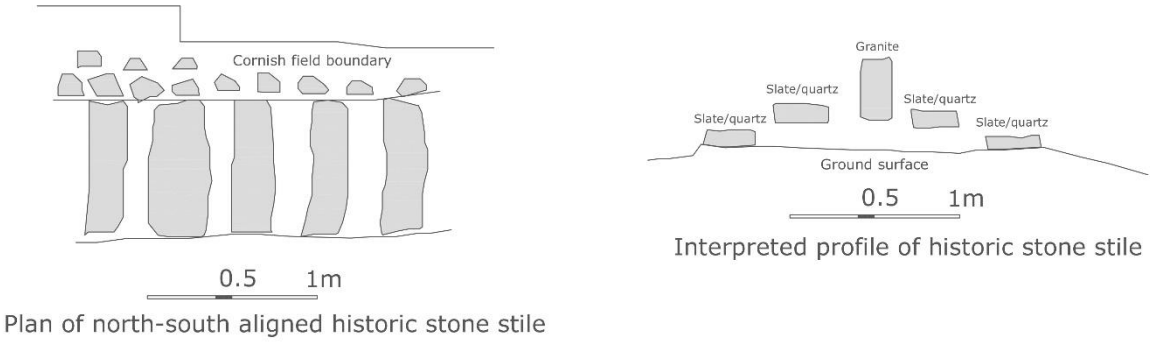

Figure 83 Sketched plan and profile of historic stone stile between fields 2 and 3 (SMS1).

Recommendations

5.33 Hedge reconstruction

Where reconstruction and/or re-instatement of the individual hedge boundaries impacted by the development is intended, or reparatory work is required, reconstructions should follow the structural elements as summarised for each hedge boundary in Tables 1.1 and 1.2 (see Appendix 1).

As a general principle, any hedge to be reconstructed should reuse materials recovered and retained during the breaching works, with stone facing to the hedge elevations following the principal historic construction style documented, where this has been able to be identified. If material from the hedge breaches is not available, materials should be sourced on a 'like for like' basis from as local a source as possible.

Please note it is recommended that an ecologist is also consulted regarding the planting over/around any reconstructed hedge boundaries.

5.34 Historic Stile deconstruction and storage

If the historic stile is to be removed, it is recommended that the individual granite and mudstone slabs be photographed and numbered during removal (see Fig 83). Appropriate

recording should also be made of any other significant structural components not previously visible which may come to light during deconstruction. All structural elements should be retained in appropriate storage if re-siting is anticipated. Perhaps consider an archaeologist being present to record during removal, particularly if re-siting is intended, when a photographic record during reconstruction would also be recommended.

6 References

6.1 Primary sources (in chronological order)

Tithe Map and Apportionment, *c*1840. Parish of Kenwyn (licensed digital copy at CRO)

Ordnance Survey, *c*1880. 25 Inch Map First Edition (licensed digital copy at CAU)

Ordnance Survey, *c*1907. 25 Inch Map Second Edition (licensed digital copy at CAU)

Ordnance Survey, MasterMap Topography

6.2 Publications

CIfA, 2019. *Code of Conduct*. Reading, CIfA

CIfA, 2020a. *Standards and Guidance for Historic Environment Desk-based Assessment*. Reading, CIfA

CIfA, 2020b. *Standard and Guidance for Archaeological Field Evaluation*. Reading, CIfA

Dudley, P, 2022. Cornwall Council, Historic Environment Planning Archaeology (Unpublished draft guidance) Heritage Advice note: Field boundaries and repairs in Cornwall Draft v3 09/05/22

Fleming, F, 2022. Northern Access Road, Langarth, Truro, Written Scheme of Investigation for archaeological watching briefs and strip, map and sample excavations. Truro, Cornwall Archaeological Unit, Cornwall Council.

Johnson, N, 1994. Field survey, CAU. In Johnson, N and Rose, P, *Bodmin Moor – An archaeological survey, Vol. 1: The human landscape to c 1800*, English Heritage Archaeological report No. 24. London/Truro: English Heritage/Royal Commission on the Historic Monuments of England/Cornwall Archaeological Unit, pp 15-23

6.3 Websites

Heritage Gateway 2012. Heritage Gateway - Home *

Appendix 1: Hedge-Break Summary Tables

Table 1.1: Summary of hedge boundary measurements and presence/absence of stone facing.

Hedge-Break #	Earth bank? (Y/N)	Total width @ base (m)	Bank width @ base (m)	Height (m)	Stone facing? (Y/N)	Both sides? (Y/N)
HE-01-01A	Y	nv	nv	1.2	Y	N?
HE-01-01B	Y	nv	1.8	1.1	Y	N?
HE-02-01	Y	nv	2.2	1.35	Y	Uncertain
HE-02-03A	Y	nv	2	1.525	Y	Y
HE-02-03B	Y	nv	2.25	1.4	Y	Y
HE-03-01	Y	nv	3.3	1.05	N	
HE-03-02	Y	nv	2.1	1.15	N	
HE-03-03	Y	nv	2.7	1.05	Y	N?
HE-03-04	Y	nv	2	1.1	Y?	N?
HE-03-05	Y	nv	2.9	1.4	Y	Y
HE-03-06	Y	3	1.7	0.95	N	
HE-03-07	Y	nv	1.7	1.4	Y?	Y?
HE-04-01	Y	2.3	1.4	1	N	
HE-04-02	Y	2.5	1.6	0.75	N	
HE-05-06	Y	nv	2.6	1.3	N	
HE-05-07	Y	nv	1.5	1	N	
HE-06-01	Y	4.5	2.5	1.2	Y?	N?
HE-06-02	Y	4.2	2.6	1.9	Y?	N?
HE-07-02	Y	nv	2.6	1.3	N?	Uncertain
HE-07-03	Y	nv	1.8	1.45	Y	N
HE-07-04	Y	3.5	2.1	1.4	Y	Y
HE-08-01A	Y	3.5	1.9	1.55	Y	Y
HE-08-01B	Y	3.2	0.9	1.35	Y?	N?
HE-08-02 / HE-085	Y	nv	1.5	1	N	
HE-08-08	Y	nv	2	1.4	Y	Y
HE-08-08A	Y	nv	1.7	1.4	Y	Y
HE-08-08B	Y	nv	1.4	1.2	Y?	Y?
HE-08-08C	Y	nv	2.5	1.2	Y	N
HE-08-09	Y	nv	1.9	1.3	Y	Y
HE-09-09	Y	2.5	1.4	1.5	Y	Y
	Y	nv	nv	1.2	Y	N?

nv = not visible

Table 1.2: Summary of hedge boundary stone facing details and vegetation.

Hedge-Break #	Same both sides? (Y/N/Blank if none)	Type of stone?	Size of stone elements	Coursed?	Laid? (Horizontally/ Vertically?)	Vegetation
HE-01-01A	Uncertain	N elevation: rough-hewn angular quartz cobbles	Cobbles	Roughly coursed	Vertically	Hedgerow (blackberry/ brambles & occasional tree)
HE-01-01B	Uncertain	N elevation: rough-hewn angular killas/shale blocks	Blocks	Roughly coursed	Vertically	Hedgerow (blackberry/ brambles & occasional tree)
HE-02-01	Uncertain	E elevation: Roughly hewn angular killas and quartz small blocks	Roughly hewn cobbles and small angular blocks	Roughly coursed	Uncertain	Hedgerow (hawthorn/ blackthorn)
HE-02-03A	Y?	W elevation: Mix of slate. killas, quartz and elvan? small blocks	Small blocks	Roughly coursed	Horizontally	Hedgerow (hawthorn/ blackthorn & moderate trees)
HE-02-03B	Y?	E elevation: Poorly sorted small to very large slabs of killas, fist-sized quartz cobbles and >1m+ shillet slabs	fist-sized cobbles and small to v. large slabs (>1m)	Roughly coursed	Uncertain, some vertical	Hedgerow (hawthorn/ blackthorn & occasional tree)
HE-03-01						Hedgerow (blackberry/ brambles & occasional tree)
HE-03-02						Hedgerow (blackberry/ brambles & occasional tree)
HE-03-03	N?	E elevation: Large angular quartz cobbles & basal course large block of killas(?)	Cobbles and large block	Roughly coursed?	Uncertain	Hedgerow (hawthorn/ blackthorns/ blackberry/ brambles)
HE-03-04	N?	E elevation: Angular quartz cobbles	Cobbles	Roughly coursed	Vertically	Hedgerow (grass/ blackberry/ brambles)

HE-03-05	Y?	E elevation: large killas blocks on end; W elevation: mix of large angular quartz cobbles/blocks and killas blocks	Large cobbles and blocks	Roughly coursed	Vertically	Hedgerow (grass/ blackberry/ brambles)
HE-03-06						Hedgerow (blackberry/ brambles & occasional tree)
HE-03-07	Y?	E elevation: Quartz cobbles; W elevation: possible evidence of similar quartz facing but less certain	Cobbles	Uncertain	Uncertain	Hedgerow (blackberry/ brambles & occasional tree)
HE-04-01						Hedgerow (blackberry/ brambles & occasional tree)
HE-04-02						Hedgerow (blackberry/ brambles/ gorse)
HE-05-06						Hedgerow (blackberry/ brambles & occasional tree)
HE-05-07						Hedgerow (blackberry/ brambles & occasional tree)
HE-06-01	N?	W elevation: rough quartz cobbles	Cobbles	Roughly coursed?	Uncertain	Hedgerow (blackberry/ brambles & occasional tree)
HE-06-02	N?	W elevation: Robbed out?	Uncertain	Uncertain	Uncertain	Hedgerow (grass/ blackberry/ brambles)
HE-07-02	Uncertain	E elevation: some evidence of stone courses north of the hedge-break (quartz cobbles) but dressing not certain	Cobbles (10-15cm)	Roughly coursed?	Uncertain	Hedgerow (blackberry/ brambles & occasional tree)
HE-07-03	N	E elevation: Coursed shale/killas		Well coursed	Uncertain	Hedgerow (blackberry/ brambles & occasional tree)

HE-07-04	Y?	N elevation: large angular quartz blocks/boulders; S elevation: large angular quartz blocks/boulders overlying section of very large vertically coursed killas slabs	Large blocks and large slabs	Roughly coursed	Vertically	Hedgerow (hawthorn/ blackthorn & moderate trees)
HE-08-01A	Y?	N elevation: Quartz cobbles and larger killas(?) blocks ; S elevation: Quartz cobbles and larger killas(?) blocks	Quartz cobbles (10-15cm), angular killas(?) blocks (15-25cm)	Roughly coursed	Uncertain	Hedgerow (blackberry/ brambles & occasional tree)
HE-08-01B	N?	S elevation: Large rough blocks of killas(?)	Large rough blocks of killas(?) (25-30cm)	Roughly coursed?	Uncertain	Hedgerow (blackberry/ brambles & moderate trees)
HE-08-02 / HE-085						Hedgerow (blackberry/ brambles)
HE-08-08	Y?	Angular quartz and killas cobbles and occasional very large blocks	Cobbles and occasional large blocks	Roughly coursed	Uncertain	Hedgerow (hawthorn/ blackthorn)
HE-08-08A	Y?	Angular metamorphic mudstone, killas and quartz cobbles and blocks	Cobbles and blocks	Roughly coursed	Horizontal	Hedgerow (blackberry/ brambles/ gorse)
HE-08-08B	Uncertain	Angular metamorphic mudstone and killas blocks	Large blocks	S elevation: roughly coursed?	Uncertain	Hedgerow (blackberry/ brambles)
HE-08-08C	N	W elevation: Large mudstone blocks	Large blocks	Roughly coursed	Uncertain	Hedgerow (blackberry/ brambles)
HE-08-09	N	N elevation: slate/bedded stone cobbles and small blocks placed upright on end; S elevation: igneous/quartz small blocks	Cobbles and small blocks	Roughly coursed	Vertically	Hedgerow (hawthorn/blackthorn)
HE-09-09	Y	Quartz blocks and other metamorphic slabs	Blocks (up to 40cm)	Well coursed	Uncertain	Hedgerow (blackberry/ brambles)

Appendix 2: Written Scheme of Investigation

Northern Access Road, Langarth, Truro

Client: Cormac Solutions Ltd – Engineering Design Consultancy

Planning ref (if appropriate): PA20/09631

Project background

This document sets out a Written Scheme of Investigation (WSI) by Cornwall Archaeological Unit (CAU) for a programme of archaeological investigation along the intended route of the new Northern Access Road (NAR) at Langarth, Truro, centred on SW 77000 45700 (Figs 1 and 2).

The work has been requested by Cornwall Council's Senior Development Officer Historic Environment (SDOHE) to inform hybrid outline planning application PA20/09631. Section A of that application comprises a full planning application for construction of the Northern Access Road and associated access junction arrangements onto the A390, new junctions to the quiet lanes and associated infrastructure and earthworks and retaining boundary features. The programme of archaeological work is required to fulfil condition 5 of the planning consent granted to Section A of planning application PA20/09631 by Cornwall Council. The planning condition states that:

A) Prior to the commencement of Construction Works within any stage as agreed under condition 4 (save for Enabling Works) a Written Scheme of Investigation ("WSI"), shall have been submitted to and approved by the Local Planning Authority in writing. The WSI shall include:

1. An assessment of significance including research questions;

2. The programme and methodology of site investigation and recording;

3. The programme for post investigation assessment;

4. Provision for analysis of the site investigation and recording;

5. Provision for publication and dissemination of the analysis and records of the site investigation;

6. Provision for archive deposition of the analysis and records of the site investigation;

7. Nomination of a competent person or persons/organisation to undertake the works set out within the WSI.

B) No development shall take place other than in accordance with the WSI approved under Part (A).

C) Any stage as agreed under condition 4 shall not be used by the public until the site investigation and recording and post investigation assessment for that stage has been completed in accordance with the programmes set out in the WSI approved under Part (A) and the analysis, publication and dissemination of results and archive deposition has also been secured in accordance with details set out in the WSI approved under Part (A).

Reason: To ensure that provision is made to record finds of archaeological interest in accordance with the aims and intentions of Policy 24 of the Cornwall Local Plan Strategic Policies 2010-2030 and paragraph 205 of the National Planning Policy Framework 2021 and. A pre-commencement condition is necessary in this instance due to the need to ensure that a programme and methodology of site investigation and recording of archaeological features is undertaken before physical works commence on site.

Informative: The archaeological recording condition for any stage as agreed under condition 4 will normally only be discharged when all elements of the WSI, including onsite works, analysis, reporting, publication (where applicable) and archive work has been completed.

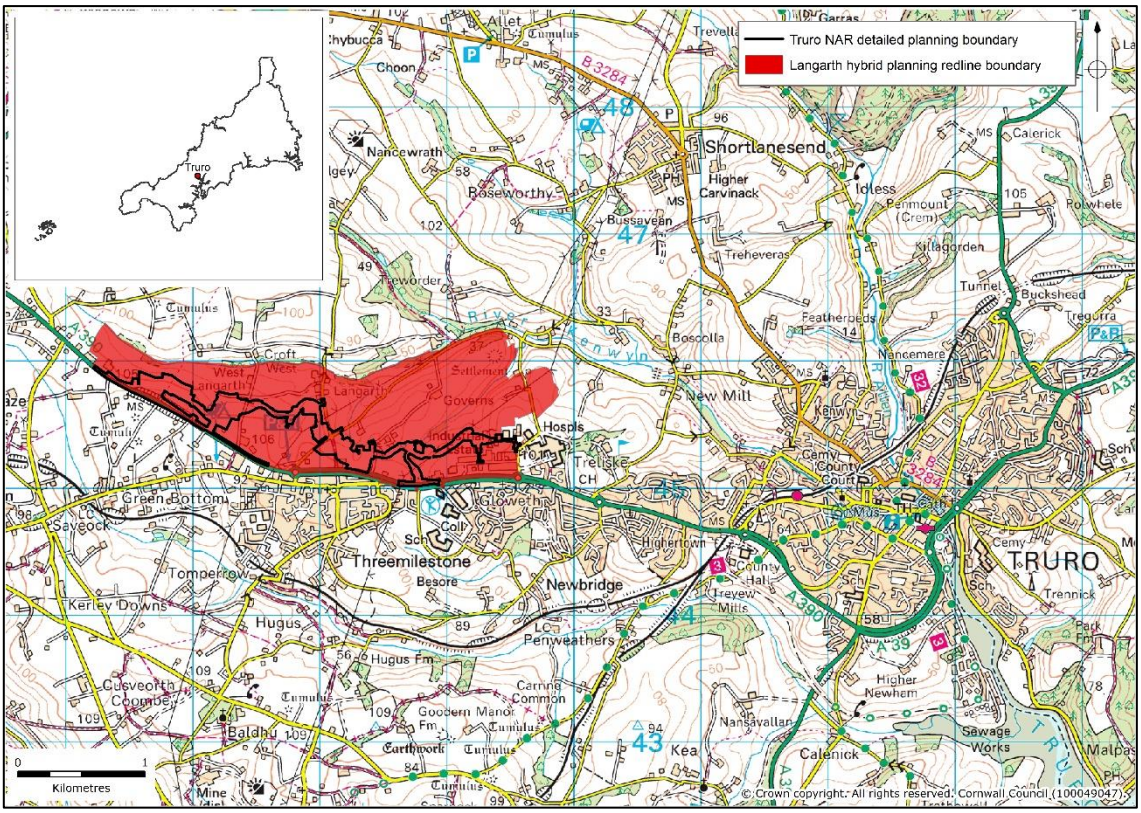

Figure 1: Site location map.

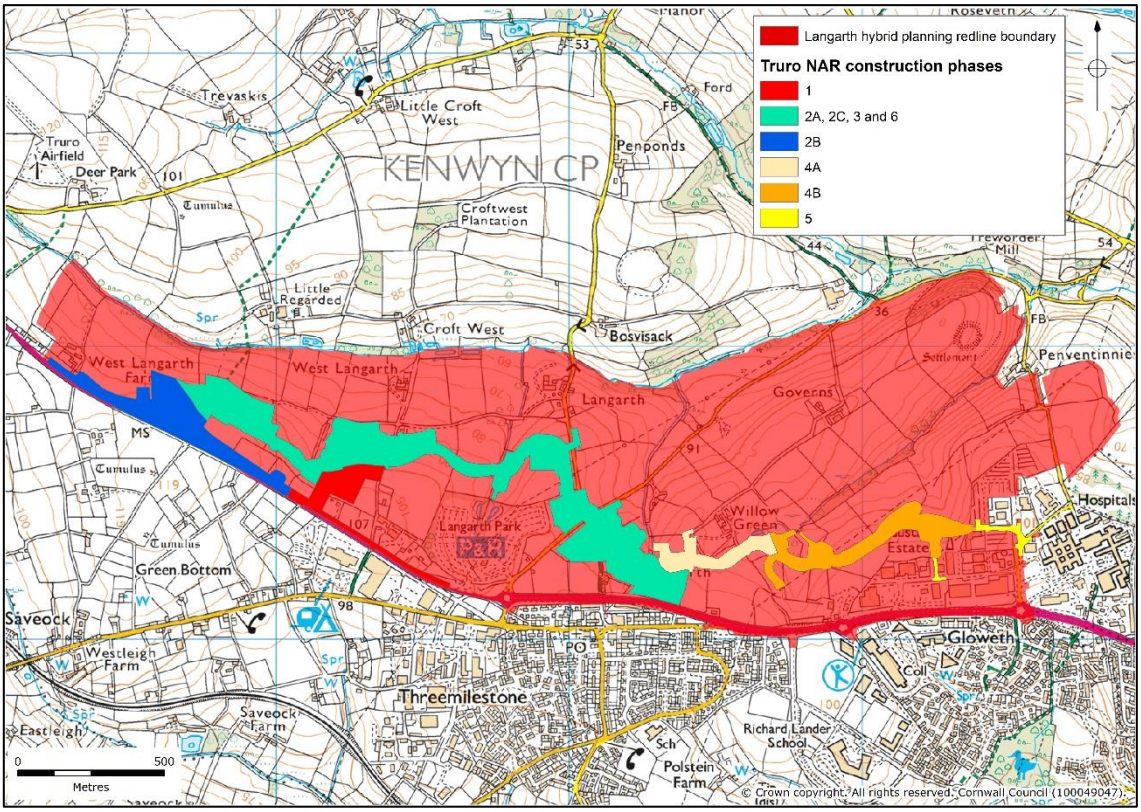

Figure 2: Site extent, showing the Langarth hybrid outline planning redline area and the Truro NAR construction phases.

This WSI refers to a programme of archaeological work agreed with the SDOHE, formed on the basis of existing available geophysical surveys, desk-based assessments and evaluations of the wider planning application area (see Site History, below), indicated by the redline boundary in Figures 1 and 2. This document replaces an earlier version of 20/06/2022, containing revisions to the SMS and watching brief areas within the eastern section of the Truro NAR, following a further programme of archaeological evaluation by South West Archaeology (Morris 2022).

The programme of works for the NAR details six construction phases (see Fig 2):

- Area 1 (interim link road) – previously constructed under a separate planning condition, completion to commence 07/09/2022
- Area 2A; 2C; 3 and 6 to commence 07/09/2022
- Area 2B to commence 07/09/2022
- Area 4A (Maiden Green) to commence 01/09/2023*
- Area 4B (Willow Green) to commence 01/09/2023*
- Area 5 to commence 03/01/2023

* The dates for Areas 4A and 4B could be brought forward, subject to the agreement of the landowner.

This WSI comprises the overarching methodology for the archaeological works associated with each construction phase, presently a combination of archaeological watching brief and SMS excavation, which includes the recording of historic hedge boundary sections, as well as the monitoring of the removal and eventual repositioning of a Listed milestone (NHLE 1136637).

Site history

A desk-based assessment of the proposed development at Langarth has been produced by Arcadis (Latham 2020a) to assess the heritage and archaeological impacts as part of a broader EIA. The document includes the results of walkover surveys and reference to prior geophysical surveys carried out across the site (Bartlett 2011; GSB Prospection, 2011; Richardson 2015). A previous desk-based assessment was undertaken by CgMs in 2018 for land at East Langarth (Petric 2018). A further geophysical survey of a parcel of land within the proposed Langarth development to the north of Threemilestone was carried out by Magnitude Surveys in 2021 (Salmon 2021).

Evaluation trenching and a watching brief were carried out on the Threemilestone Park and Ride site in 2007 by Cornwall Archaeological Unit (Gossip 2007) and more recent programmes of evaluation trenching have been carried out across the breadth of the Langarth development area (Morris 2021; 2022; Passmore 2012; Rainbird 2015). The results of these various assessments, surveys and evaluations have informed the rest of this section.

Site location and setting

The site is located on the west side of Truro, Cornwall, in Kenwyn parish, centred on NGR SW 77000 45700. It extends between West Langarth Farm at its western end, and Treliske Hospital at its eastern end and comprises a mix of rural agricultural land and small farming settlements interspersed with more semi-urban development along the existing A390 road corridor, which includes the Threemilestone Park and Ride and an industrial estate to the north of Gloweth.

The underlying geology of the site is Devonian Period mud and sandstones of the Porthtowan Formation, with superficial alluvial deposits along some watercourses (Geology of Britain Viewer 2022). Soils of this area comprise well-drained loamy brown earths of the Denbigh 2 Association (SSEW 1983).

The predominant Historic Landscape Character (HLC) of the site is Anciently Enclosed Land (Farmland; Medieval). This is ancient agricultural heartland which has been settled and farmed since prehistory but whose field and settlement patterns were formalised during the medieval period, although often preserving older boundary lines. Farming settlements are typically documented before the 17th century AD (source, Institute of Cornish Studies place-names index) and field patterns are morphologically distinct from

the generally straight-sided fields of later enclosure. (Cornwall County Council 1996; Herring 1998). Land designated as Anciently Enclosed Land (AEL) typically has high archaeological potential.

Along sections of the A390 road corridor on the south side of the site and including pockets of land within the eastern portion of the site, the HLC is that of Recently Enclosed Land (Farmland; post-medieval). This is land enclosed in the 17th, 18th and 19th centuries, usually from land that was previously Upland Rough Ground and often medieval commons (Herring 1998).

Known archaeological sites

The area containing the site is rich in prehistoric archaeology, which includes numerous Bronze Age round barrows and barrow cemeteries, in particular those found towards the eastern end of the site at Gloweth (MCO56935; MCO56936; MCO2459; MCO2626) and Treliske Hospital (MCO2459; MCO2626; MCO3676-MCO3683; MCO56935-MCO56936). Structures associated with a Late Bronze Age settlement were recorded during excavations at Mount Pleasant in 2005, now the Richard Lander School site (Gossip 2021).

Iron Age settlement activity is prevalent across the site and its wider environs, with enclosed 'round' settlements close to the north side of the site at Langarth (MCO62159) and Governs (MCO25183). A boundary at West Langarth Farm (MCO31880), present on 18th century historic maps, is suggested as Prehistoric in origin. Within the wider vicinity is an extensive unenclosed Iron Age roundhouse settlement and associated field system (MCO55328) at Mount Pleasant (Gossip 2021), to the south of the site; a potential enclosed 'round' settlement is located closely adjacent to the south of this settlement at Higher Besore (MCO55327). Two particularly prominent and relatively well-preserved Iron Age rounds are located at Bosvisak (MCO7654) and Penventinnie (MCO8352) to the north of the site.

The medieval landscape of the site and surrounding area comprises the remains of numerous medieval field systems. Boundaries still visible as earthworks and/or cropmarks were mapped during the Cornwall and Isles of Scilly NMP project. A probable medieval boundary bank (MCO31896) visible on aerial photographs is recorded at Willow Green. Settlements of medieval or earlier origin are documented at Langarth (MCO) and Penventinnie (MCO16258), to the north of the site, along with the Domesday settlement and manor of Bosvisack (MCO13545).

Sites of post-medieval date within the site include many of rural agricultural character; field boundaries, enclosures, trackways and settlements, including those at Willow Green (MCO62150), Venton Green (MCO62149) and Little Langarth (MCO62156), now West Langarth Farm. Many of the small, scattered smallholdings either side of the A390 at Langarth, Polstraze and Threemilestone probably originated from post-medieval miner's smallholdings and are characteristically self-contained within small boxy historic fields. The site of a possible silver mine is documented on the basis of place-name evidence at Langarth (MCO62165), and a plough-levelled earthwork (MCO55068) mapped from aerial photographs during the Cornwall and Isles of Scilly NMP project may be spoil associated with post-medieval mining activity.

A Listed 18th century milestone (MCO48551) survives on the north side of the A390 SE of West Langarth Farm (NGR SW 7661 4574). Historic map evidence indicates that the milestone was originally located on the southern side of the Turnpike Road and faced east towards Truro. During the construction of the A390 the milestone was probably moved temporarily from its original position and replaced once the road was completed, still in its original position but now on the northern side of the road and turned to face a new direction (Latham 2020b). The intention is to once more remove the milestone prior to the construction of a new road junction between the A390 and the new Northern Access Road and replace it again into its current co-ordinates, albeit at a slightly higher level than at present. It will once more stand on the south side of the road, still marking 4 miles to Truro, as it does now. The removal and relocation of this milestone benefits from Listed Building Consent under application reference PA20/09610.

During the Second World War this stretch of the A390 west of Truro was the location for a string of temporary military camps (e.g., MCO55061; MCO31894; MCO58048; MCO31885) constructed during the build up to the D-Day landings. Plotted from 1940s RAF aerial photographs during the Cornwall and Isles of Scilly NMP project, there has been little material evidence found for these camps to date.

Potential archaeological sites

The results of the geophysical surveys and evaluations undertaken across the site and within the wider redline planning boundary have indicated a range of potential archaeological sites and landscapes, of prehistoric up to post-medieval in date.

Evaluation prior to construction of the Threemilestone Park and Ride site (Gossip 2007) failed to identify a number of geophysical anomalies arising from previous geophysical survey, save for a relict hedge boundary removed prior to 1840. A follow up watching brief of the area identified a further relict hedge boundary, also removed prior to 1840. The results of the archaeological mitigation were concluded to suggest that many of the geophysical anomalies were the result of local geological variation rather than archaeological in nature. The park-and-ride area may have been historically windswept downland unsuitable for domestic settlement, with enclosure of the area probably occurring relatively recently in the 18th and 19th centuries.

Evaluation by AC Archaeology (Passmore 2012) in the eastern portion of the site at Maiden Green and Willow Green (EV6 in Latham 2020a) revealed two possible Bronze Age ring ditches, possible prehistoric or Romano-British field systems/boundaries, and possible prehistoric or Romano-British settlement enclosures with internal features. A large number of further anomalies were thought to be related to historic field systems and associated agricultural practices. Particularly relevant to the NAR site was Area 6, trenches 8, 9 and 10, which revealed features of possible Bronze Age date, as well as features associated with a possible Iron Age/Romano-British field system. Ditches of probable post-medieval date were also recorded in this area and some of the wider rectilinear anomalies revealed on the geophysical survey of this area (GSB Prospection, 2011) represent removed historic hedge boundaries of medieval or post-medieval date.

Evaluation of the central to western sections of the site by Southwest Archaeology (Morris 2021) revealed numerous field ditches of probable post-medieval date, the majority of which were significantly truncated. Several of the linear features evaluated by Southwest Archaeology were remnants of later post-medieval Cornish hedge boundaries depicted on historic mapping from at least the late 18th century and still in use during the 19th century. Some further ditches and boundaries indicated features forming part of the same field system but removed prior to the 18th century (Morris 2021).

One particular ditched feature identified by Morris (2021) in Trench 9, positioned towards the western end of the site over a large curvilinear boundary identified on the Stratascan (Richardson 2015) geophysical survey, was identified as potentially prehistoric in origin (see Fig 3, SMS Area A). Earlier evaluation in this area by Rainbird (2015) did not corroborate or disprove this and the date and origin of the large curvilinear boundary at this western end of the site remains unproven.

A further trench evaluated by Morris (2021), trench 26 in the vicinity of Venton Green, contained 11 features of medieval to post-medieval date. Subsequent evaluation (Morris 2022, trench 27) to the east of Venton Green recorded further features of potentially medieval to post-medieval date, which, alongside the findings of trench 26, may be associated with a medieval to post-medieval farmstead or settlement at this location.

Based on the findings of the various geophysical surveys and evaluations, there appears to be the potential for features of medieval and post-medieval date to be identified across the breadth of the site, predominantly settlement and agricultural in origin. One particular focus of medieval to post-medieval settlement within the site, at Venton Green, has the potential to shed light on the origins and character of settlement there, possibly associated with a former miner's smallholding.

Towards the eastern and western extents of the site there is the potential for foci of prehistoric activity, particularly at the eastern end where a series of Bronze Age and

potentially Iron Age features were identified by Passmore (2012). More targeted investigation of these areas has the potential to shed further light on the origin, date and function of these earlier features, and any identifiable relationships.

There is a strong possibility for some of the geophysical anomalies identified by the various geophysical surveys to be geological rather than archaeological in nature, and there does appear to be significant degradation and truncation of many of the features found through archaeological evaluation, probably the result of repeated plough action in many cases, which may have an impact on the general survival and condition of the buried archaeological resource within the site. Nonetheless there is also high potential for buried remains across all periods from the later prehistoric to the present to survive within the site extent and appropriate recording of these could significantly contribute to the understanding of the historic landscape in this area.

Health and Safety and Environmental Policies

CAU Health and Safety Policies

All works will be carried out in accordance with the Health and Safety Act 1974, the Management of Health and Safety Regulations 1992 and other relevant health and safety legislation, regulations and codes of practice, including Principle 5 of CIfA's Code of Conduct (CIfA 2019). CAU has access to Cornwall Council's online Health and Safety policies and guidance and follows Cornwall Council's *Statement of Safety Policy* (Cornwall Council 2021 - Policy Number PLY001). CAU also has its own rigorous policy for managing health and safety at work (CAU 2019).

All CAU fieldwork staff hold valid CSCS cards and relevant risk assessments are carried out before each fieldwork task. CAU will produce a risk assessment prior to archaeological work commencing. This will include the most up to date assessment of working with Covid. CAU will discuss specific RAMS and RAs produced for the site by the client and will adhere to these whilst on site.

Specific Health and Safety Measures

- The CAU project team will undertake and adhere to any site induction and safety courses provided by the client or on-site agent.
- Any specific known hazards relating to the site will be made known to the CAU project team by the client, along with the relevant guidance and instruction on carrying out work in vicinity of these.
- Appropriate health and safety requirements for general working on site by the CAU project team will be observed. In particular these may relate to:
    - Working near plant and machinery.
    - Working near or within deep excavations.
    - Working with hand-held and/or power tools.
    - Identifying and mitigating environmental hazards (e.g., dust, contaminants).

Environmental Policies

CAU recognises its professional and intellectual responsibilities towards the protection of archaeological heritage and the wider environment generally. All CAU staff undertake carbon literacy training. Archaeological activities have the potential to affect the environment and CAU is resolved to adopting working policies that accord with the laws, regulations and other policy mechanisms concerning environmental issues and sustainability. In particular CAU aligns with CIfA's *Code of Conduct* (2019, Principles 1 and 2) and *CIfA's Environmental Protection Policy Statement* (CIfA 2018, Policy 4). As part of Cornwall Council, CAU aligns with its environmental aspirations in working towards a carbon neutral Cornwall, as set out in the Carbon Neutral Cornwall web page Carbon Neutral Cornwall - Cornwall Council Intranet (cornwallonline.net).

The CAU project team will make themselves aware of, and will adhere to, the environmental policies of the client whilst on site and, if and where necessary, will endeavour to minimise environmental impacts arising from archaeological fieldwork.

Project extent

The initial programme of archaeological mitigation for the site was set out to include a programme of archaeological watching briefs, alongside three areas identified for targeted Strip, Map and Sample (SMS) excavation. This document details a revision to that initial programme, reducing the areas for archaeological watching brief and dividing the areas for SMS excavation into smaller sections, to comprise six SMS areas overall (see Figs 3-5). This WSI relates to the entire scheme for the Northern Access Road (NAR) and updates a previous version to reflect changes to the extents of the watching brief and SMS areas.

Included in the watching briefs will be the photographic recording of all historic hedge boundaries, up to an including those of Early 20th Century date, that are planned for removal, with more detailed survey, drawn records, and possibly sampling, where these are deemed appropriate for more significant features. The watching briefs and SMS excavations will align with the programme of construction Planning Stage Areas identified for the overall scheme of works, as illustrated in Figure 2. The proposed archaeological mitigation is illustrated in relation to the Planning Stage Areas in Figures 3 to 5; Stages 1 and 5 will not require any archaeological mitigation and are excluded from this WSI.

Additionally, there will be appropriate archaeological mitigation (see below, p12) undertaken for a Listed milestone (NHLE 1136637) positioned at NGR SW 76611 45747, and a historic stone stile positioned at SW 76778 45787, which will be removed; discussions on the possible re-siting of the stile remain ongoing at this stage.

Listed Building Consent has been sought by the client for the removal and replacement of the Listed milestone and as noted on p6, has been granted under application reference PA20/09610. Archaeological mitigation will follow the methodology for relocating milestones and boundstones produced by Cornwall Council (Appendix 1).

Archaeological mitigation for the stile will comprise a Level 2 Historic Building Record (HBR) to be made prior to the stile being removed. Should the stile be re-sited, discussion will be had between CAU, the Client and the SDOHE to agree a methodology for archaeological supervision during the works, should this be requested by the SDOHE.

All manner of archaeological mitigation within the NAR redline boundary will be kept under dynamic review and discussion with the client and SDOHE to allow for the most optimal approach and to keep archaeological intervention to the amount required to satisfy the Planning Condition. The current scope of works has been defined against the area of the road corridor itself and all associated permanent infrastructure. Additional to these are three areas of potential archaeological sensitivity currently identified as areas for topsoil deposition and storage (Figs 3-5). It has been agreed by the client that the options for these areas will be kept open. If the approach is for no removal of turf and topsoil in these areas, there will be no archaeological mitigation required. Should this approach need to change, and topsoil removal be required, archaeological watching briefs will also be undertaken in these areas.

Aims and objectives

The principal aim of the study is to gain a better understanding of the archaeology of the development area.

The objectives are to:

- To identify the nature, character, extent and possible date of any archaeological sites and/or features within the site;
- To assess the survival, quality, condition and significance of any archaeological remains;
- To ensure the preservation by record of all archaeological remains revealed during the course of the archaeological evaluation; and
- To prepare an appropriate archaeological archive including the treatment and preservation of any artefacts.

The results of the fieldwork may be expected to feed into the following research objectives set out in the current South West Archaeological Research Framework (Grove and Croft 2012):

21 – Improve our understanding of the environmental aspects of farming.

21a: Development of field systems and intensification of agriculture in the Bronze and Iron Ages.

21b: Medieval and Post-Medieval agriculture.

29 – Improve understanding on non-villa Roman rural settlement.

45 - Broaden understanding of Post-Medieval to Modern technology and production.

49a - Improve knowledge of Neolithic and Early Bronze Age social life.

64 - Improve understanding of the less-researched areas of Post-Medieval to Modern defence and warfare.

Working methods

All recording work will be undertaken according to the Chartered Institute for Archaeologists (CIfA) guidance (CIfA 2020a; 2020b; 2020c; 2020d). Staff will follow the CIfA *Code of Conduct* (2019). The Chartered Institute for Archaeologists is the professional body for archaeologists working in the UK.

Pre-fieldwork

In advance of the fieldwork CAU, will discuss and agree with the client:

- Working methods and programme.
- Health and Safety issues and requirements.
- Transfer of Title for artefacts.
- Obtaining an accession number from the appropriate archive repository.

Fieldwork: strip, map and sample

The SDOHE has advised that strip map and sample (SMS) excavation is now required for six individual areas within the site prior to groundworks to fulfil the planning condition (see below and Figs 3-5). This work will be guided by CIfA's guidance on undertaking archaeological excavation (CIfA 2020d).

Areas to be excavated will be laid out to British National Grid coordinates using a Leica GPS device. The client will be approached for plans of buried services within the individual areas, where these are known and available. The client will be asked to arrange for the areas to be stripped to be scanned by a suitably trained operative with a CAT scanner to identify buried services prior to stripping, where this has not already been carried out. Adjustment of stripped areas that may subsequently be necessary will be confirmed with the SDOHE prior to excavation.

There will be no access onto the SMS area for through traffic or other plant (aside from the excavating machine) whilst archaeological work is taking place, or until they have been signed off by the CAU archaeologist. The SMS areas will be laid out to allow for traffic access routes, in discussion with the client and to accord with their work programme.

Spoil from the areas of SMS excavation will be stored at least 1.0 m from the edge of the area. The areas of SMS excavation will be fenced with plastic Netlon fencing hung on road pins at appropriate spacing, or as advised by a main site contractor if present.

Soil stripping of the excavated areas will be carried out under the control of the archaeologist(s) on site using a machine fitted with a toothless grading bucket. The soil will be stripped cleanly to a level dictated by the archaeologist, at which archaeological features or layers are revealed or the natural substrate, as appropriate. Upon completion of the controlled stripping of the designated archaeological area, CAU, in consultation with the SDOHE, will confirm the extent of excavation/sampling that is required. Typically, this will consist of the following sample levels:

- All small discrete features (postholes, pits, etc <1m in diameter) will be fully excavated (excepting large numbers of very small features such as stakeholes

which will be subject to a lower sampling frequency).
- Larger discrete features (pits >1m) will be half-sectioned.
- Linear/curvilinear features will be sampled at 10-20%, depending on length.
- Spoil will be examined for artefacts visually.
- The opportunity to use a metal detector on site to check features prior to excavation and to monitor spoil heaps will be explored with the client. If agreed on, a suitably experienced metal detectorist will be brought in to carry out this task.

If complex and/or significant archaeological deposits are encountered then the archaeological requirements will be reviewed by the client, the SDOHE, and CAU. **In the event that remains cannot be preserved *in situ* then full-scale excavation may subsequently be required**. A contingency should be allowed to record any significant archaeological remains uncovered during the groundworks. The significance of the remains will be agreed between the client, the SDOHE, and CAU.

If the scale of significant archaeological deposits encountered within any of the SMS area is considered to be very low, this will be reviewed by the client, the SDOHE and CAU to discuss the option to downgrade the archaeological mitigation to that of a continual watching brief. Generally, work progress will be kept under continual review to permit a flexible and proportionate approach to the level of any archaeology encountered.

The areas for SMS excavation have been identified on the basis of the known and potential buried archaeological remains within each area, relevant to the areas of the NAR intended for permanent infrastructure.

Specifically, these include the following:

Area A – A 1.45ha area located towards the western end of the development and straddling construction stage areas 2A and 2B, centred on SW 76756 45824 (Fig 3). The SMS area comprises parts of two historic fields and is positioned to target the large curvilinear geophysical anomaly and potentially associated features in the near vicinity, identified by geophysical survey (Richardson 2015). A 0.05ha extension to the north side of the easternmost field was added to this, aimed at picking up a further curvilinear anomaly, thought likely to be an extension of the feature in the field to the west (see Fig 3).

Area B – A 0.15ha area located at the eastern end of construction stage areas 2A, 2C, 3 and 6 to the south of Venton Green and centred on SW 78307 45221 (Fig 4). The SMS area is positioned to target a concentration of linear anomalies identified by geophysical survey (Richardson 2015), potentially associated with an area of former medieval to post-medieval settlement and field enclosures.

Area B extension – A 1.14ha area located at the western end of construction stage area 4A, forming an extension to SMS Area B, and centred on SW 78355 45260 (Fig 4). The SMS area is positioned to target a series of linear anomalies identified by geophysical survey (GSB Prospection 2011), potentially associated with an area of former medieval to post-medieval settlement and field enclosures. Evaluation by South West Archaeology (Morris 2022, trench 27) revealed features dated by pottery to the late medieval period, potentially associated with the former settlement of Venton Green.

Area C – A 2.9ha area located southeast of Willow Green, at the eastern end of construction stage area 4A, centred on SW 78600 45310 (Fig 5). The SMS area is positioned to target a series of linear anomalies identified by geophysical survey (GSB Prospection 2011), suggested through evaluation (Morris 2022; Passmore 2012) to be features potentially associated with a late or post-medieval farmstead at Willow Green.

Area D – A 2.5ha area located to the southeast of Willow Green centred on SW 78845 45296 (Fig 5). The SMS area is positioned to target a series of linear anomalies identified by geophysical survey (GSB Prospection 2011). This area has not so far seen any evaluation and the features are of unknown date or origin. They may be associated with further features identified to the west (see SMS Area E) that were evaluated by South West Archaeology (Morris 2022). These features could potentially be associated with field boundaries of probable post-medieval date, but also earlier features considered likely to

prehistoric in origin, although there remains a lack or precise dating for these. This area would therefore merit further investigation.

Area E - A 2.5ha area located to the northwest of Treliske Retail Park, centred on SW 79023 45324 (Fig 5). The SMS area is positioned to target a series of linear anomalies identified by geophysical survey (GSB Prospection 2011). Evaluation by South West Archaeology (Morris 2022, trenches 34 and 35) revealed part of a longer feature, possibly a field boundary of potentially prehistoric origin, although no dating material was recovered.

Area F – A 4ha area located to the north of Treliske Retail Park, centred on SW 79244 45387 (Fig 5). The SMS area is positioned to target a series of linear anomalies identified by geophysical survey (GSB Prospection 2011). Evaluation in this area by South West Archaeology (Morris 2022, trenches 37 to 39) and AC Archaeology (Passmore 2012) revealed linear ditches thought likely to form part of a prehistoric field system, which may extend to include features in SMS Area E. An area of potential Bronze Age settlement activity has also been identified just beyond the southwest side of Area F (Passmore 2012, Area 6).

For Areas C through to F, it may be required to open up a 10m wide strip in the first instance, so that an access corridor through these areas can be created. The remainder will be opened up subsequently.

Fieldwork: watching brief

In addition to the areas of SMS (see above), the SDOHE has advised that a continuous watching brief is required across several areas of the site during groundworks to fulfil the planning condition on the remaining parts of the scheme. The WB areas are identified below and incorporate comments from the SDOHE. This work will be guided by CIfA's guidance on undertaking watching briefs (CIfA 2020c).

All groundworks which might potentially contain archaeological features will be undertaken under continuous archaeological supervision. This will include any removal of soil across the site, the excavation of footing or service trenches, or other activities which would result in the lowering of the present site levels. All soil stripping should be undertaken by a machine equipped with a toothless grading bucket where possible. Should archaeological features be revealed, mechanical excavation will be halted, and the exposed features cleaned up by hand to determine their significance prior to either their recording or further mechanical excavation. The developer will allow reasonable time for the excavation and recording of any features thus revealed. Where a temporary stop of work is required the site archaeologist will request this via the developer and the SDOHE.

The watching brief areas comprise:

Area 1: two areas, WB1A and WB1B at the western end of the scheme, focussed on the area around SMS Area A, where a series of linear anomalies identified by geophysical survey may form part of the wider context for the large curvilinear enclosure boundary confirmed in T9 of the South West Archaeology 2021 evaluation (Morris 2021) (Fig 3).

Area 2: Targeted to focus on the broader area surrounding T13 of the South West Archaeology 2021 evaluation (Morris 2021) (Fig 3). This targeted a blank area in the geophysical surveys and identified a group of shallow ditches of unknown origin that would benefit from further investigation.

Area 3: Targeted to test whether Site 780 as identified by geophysical survey (Salmon 2021) extends here (Fig 4). Site 780 (102c in Fraser and Latham 2021; Appendix 12.1, addendum to Geophysical survey 2020-2021) comprises a possible small enclosure immediately to the N of WB Area 3, possibly associated with a nearby spring to the south.

Area 4: Targeted to test a series of linear anomalies identified by geophysical survey (GSB Prospection 2011). No evaluation has been undertaken in this field to date.

Area 5: Targeted to test a blank area on the geophysical survey but where an undated pit was identified through evaluation (Morris 2021, trench 22) (Fig 4).

As mentioned above, three additional areas of potential archaeological sensitivity have been identified that may become subject to an archaeological watching brief should intrusive groundworks be required to create topsoil storage areas. In this case, the work would be undertaken following discussion with the client and the SDOHE (see Figs 3 and 4 for identified areas). The three areas are:

- Topsoil Area 1: Placed on the north and west sides of SMS Area A. Linear anomalies identified by geophysical survey in these areas may be associated with a potentially prehistoric landscape at the western end of the NAR, and with the curvilinear enclosure boundary in particular.
- Topsoil Area 2: Site 782 as identified in the Cultural Heritage Statement (Fraser and Latham 2021; Appendix 12.1, addendum to Geophysical survey 2020 - 2021) may extend here. This is a possible trackway based on the geophysical results 102a and 105a.
- Topsoil Area 3: Adjacent to the south and west of SMA Area B. A broader area of linear anomalies identified by geophysical survey in this area suggest a wider area of potentially medieval or post medieval settlement in this area, perhaps associated with the lost settlement of Venton Green.

Historic hedge Boundary recording

All historic hedge boundaries up to and including those of Early 20th century date that have been identified for removal will be mitigated through an intermittent archaeological watching brief. The hedge boundary sections to be removed will be taken down by machine to expose clean end sections ready for an archaeologist to record. The exposed hedge sections will be kept free of loose materials so that the archaeologist has clear access. Digital photographs will be taken to record the boundary in section and to capture internal features and construction detail. Should a boundary contain features of particular significance (e.g., atypical construction methods, buried palaeosoils) a measured and drawn survey of a boundary section may be made and samples may be taken. The client and CAU will liaise over the programme of boundary removal to agree the most expedient use of time on site.

Fieldwork: removal and replacement of the Listed milestone

The SDOHE has advised that the removal of the Listed milestone (NHLE 1136637) is properly recorded prior to its temporary removal and removed and replaced under continuous archaeological supervision.

Prior to removal the location of the milestone will be recorded using a hand-held GPS and the orientation of the milestone recorded using a compass. The height of the milestone above ground level will be measured and digital photographs taken to record its setting.

For removal the stone will be carefully dug around by hand to loosen before lifting. Using webbing strops and a machine, the stone will be carefully lifted under archaeological supervision and placed in a suitable container for transport and storage.

For replacement of the milestone, its location will be confirmed using a hand-held GPS. A hole will be dug for the setting of the stone, as close as possible to the stone's measurements across at ground level and to the appropriate depth to restore the stone to its rightful orientation (facing east) and depth. A final set of digital photographs will be taken of the milestone in its restored location. The methodology adopted for these tasks will follow the guidelines for relocating milestones and boundstones produced by Cornwall Council (see Appendix 1).

Fieldwork: removal of the historic stone stile

The SDOHE has advised that the prior to the removal of the historic stone stile, a Level 2 Historic Building Record should be made, which will comprise digital photographs and an annotated description. The building record will be carried out during the wider recording of the historic hedge boundaries to be removed under the scheme and this work will be programmed in consultation with the client. Should it be decided to re-site the stile, a methodology for any archaeological supervision required by the SDOHE will be discussed with the client and agreed with the SDOHE before removal, so that the

dismantling and re-construction of the stile can be carried out under agreement of all parties.

Creation of the physical and digital archive

Following review with the CAU Project Manager the results from the fieldwork will be collated as an archive.

This will involve the following.

- All finds, etc., will be washed, catalogued, and stored in a proper manner (being clearly labelled and marked and stored according to CAU guidelines).
- All records (drawings, context sheets, photographs, etc.) will be ordered, catalogued and stored in an appropriate manner (according to CAU guidelines).
- Any black and white negative film will be catalogued and deposited with the site archive.
- Colour digital images taken as part of the site archive will be either converted from colour to black and white negative film and added to the site archive or deposited with the Archaeology Data Service (ADS).
- Completion of the ADS OASIS online archive index.
- All correspondence relating to the project, the WSI, and a single paper copy of the report, stored in an archive standard (acid-free) documentation box.
- Drawn archive storage (plastic wallets for the annotated record drawings).
- Additional digital data (survey, external reports etc).

Archive deposition

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

- The physical archive will go to an accredited archive repository, when a dedicated space becomes available. Until that time material will be stored at CAU offices.
- Digital data will be stored on the Cornwall Council network which is regularly and frequently backed up.
- Digital data (CAU reports, external reports, survey data, geophysics data, digital photographs etc) forming part of the site archive will be deposited with the ADS.

CAU uses the following file formats for stored digital data:

DOCX	Word processed documents
XLSX	Spreadsheets
PDF	Exports of completed documents/reports/graphics
JPG	Site graphics and scanned information
DNG or TIF	Digital photographs
DWG	AutoCAD drawings, measured surveys
MXD	ArcView GIS (electronic mapping) data
AI	Adobe Illustrator graphics

Recording

During the archaeological recording the archaeologist will:

- Identify and record any archaeological features that are revealed; the level of recording will be appropriate to the character/importance of the archaeological remains.
- Site drawings (plans and sections) will be made by pencil (4H) on drafting film; all drawings will include standard information: site details, personnel, date, scale, north-point.
- All features and finds will be accurately located at an appropriate scale.
- All archaeological contexts will be described to a standard format linked to a continuous numbering sequence.
- Photographic recording will comprise colour photography using a digital SLR camera (with a resolution of 10 million pixels or higher; CAU will follow Historic England (2015) guidance on digital image capture and storage. Photographs will

include a record of significant features and general working shots. A metric scale, site and context identifier, and a north arrow where appropriate, will be included in all record shots.

Treatment of human remains

- If human remains are discovered within an archaeological context on the site the client, the SDOHE, and Public Health, Cornwall Council will be informed.
- Any human remains should only be excavated and removed if it is considered that they will contribute towards further scientific understanding.
- If excavation of human remains is proved necessary, the guidance given in the current CiFA guidelines for recording human remains (CIfA 2017) will be followed.
- A coroner's license must be obtained from the Ministry of Justice before any remains are disturbed. A licence to cover the scheme will be arranged by CAU prior to commencement of works.
- Any consents or licenses required will be obtained on behalf of the client by CAU.
- If human remains are uncovered, which require excavation, they will be excavated with due reverence. The site will be adequately screened from public view. Once excavated, human remains must not be exposed to public view. If human remains are not to be removed their physical security will be ensured, by backfilling as soon as possible after recording.

Treatment of finds

The fieldwork is likely to produce artefactual material. The treatment, analysis and archiving of artefactual material deriving from the archaeological works will be co-ordinated by the CAU project manager for the site. The following recording and retention policies will be followed:

- In the event that objects containing precious metal(s) are encountered, the coroner will be informed as per the provisions of the Treasure Act 1996.
- Significant finds in stratified contexts will be plotted on a scaled base plan or with a Leica GPS unit and recorded as small finds.
- All finds will be collected in sealable plastic bags which will be labelled immediately with the site code, the context number or other identifier, the type of material, and the finder's initials. The only exception to this policy will be that large assemblages of modern (post-1800) material may be representatively sampled.
- Modern (post-1800) finds may be disposed of at the cataloguing stage. This process will be reviewed ahead of its implementation.

Treatment of samples

The fieldwork may produce environmental samples. CAU's nominated environmental specialist is Dr Michael Allen (and see below) and CAU will liaise closely with him for ongoing advice throughout the duration of the project. Generally, the following collection, recording and processing policies will be followed:

- Sealed/undisturbed archaeological contexts in the form of buried soils, layers or deposits within significant archaeological features that have the potential to contain palaeoenvironmental evidence and/or material suitable for scientific dating will be sampled.
- Where bulk samples are taken a minimum of 40 litres will be sampled from these deposits where feasible.
- In the event that significant organic remains are encountered, advice may also be sought from the Historic England Regional Advisor for Archaeological Science.
- All samples will be described to a standard format linked to a continuous numbering sequence.
- Bulk samples will be processed using flotation with appropriate mesh sizes.

Outreach opportunities

If significant results emerge from the archaeological works, the opportunity for outreach and public engagement will be explored with the client. A contingency to cover the costs

of any potential outreach will also be discussed with the client when quoting for the work, in the event this should be required.

The SDOHE will notify CAU of such a need during onsite work or within four weeks of receipt of the report, in consultation with the client and CAU.

Reporting

The results from the project will be drawn together and presented in a concise report. The scope of the report will be dependent on the scale and significance of the results from the project.

In the case of negative results, the findings will be presented in a CAU short report format. In the case of limited results, the findings will be presented in a concise archive report. Which type of report is most appropriate will be agreed by CAU and the SDOHE at the conclusion of the fieldwork stage.

In the case of significant and/or extensive results a post excavation assessment report will be produced in accordance with CIfA's (2014c) guidelines for post-excavation assessment. This will include a summary of the site archive and work carried out for assessment, a discussion of the potential of the data, and an updated project design (UPD) setting out proposals for analysis and publication.

The report will include the following elements:

- Summary
- Project background
- Aims and objectives
- Methodology
- Location and setting
- Site history
- Archaeological results
- Chronology/dating evidence
- Interpretation and discussion of the results
- Assessment of the potential of any data for further analysis
- Proposals for publication of the further analysis in an appropriate format
- Conclusions
- References
- Project archive index
- Supporting illustrations: location map, historic maps, plans, elevations/sections, photographs
- WSI as an appendix

Timetable

The study is anticipated to commence during late summer 2022. CAU will require at least 4 weeks' notice before commencement of work, in order to allocate field staff and arrange other logistics.

The archive report will be completed within 6 months of the end of the final phase of fieldwork. The deposition of the archive will be completed within 6 months of the completion of the archive report unless significant remains are uncovered which require further stages of analysis and publication. The deposition of the archive will then become the final stage of an agreed post excavation programme.

Monitoring and Signing Off Condition

Monitoring of the project will be carried out by the SDOHE. Where the SDOHE is satisfied with the archive report and the deposition of the archive, written discharge of the planning condition will be expected.

- The SDOHE will monitor the work and should be kept regularly informed of progress.
- Notification of the start of work shall be given preferably in writing to the SDOHE at least two weeks in advance of its commencement.

- Any variations to the WSI will be agreed with the SDOHE, in writing, prior to them being carried out.
- If significant detail is discovered, all works must cease and a meeting convened with the client and the SDOHE to discuss the most appropriate way forward.

Monitoring points during the study will include:

- Approval of the WSI
- Completion of fieldwork for each construction phase
- Completion of interim reports for each construction phase (if required)
- Completion of archive report
- Deposition of the archive

Regular (e.g., weekly) updates will provided to the SDOHE in areas of significant archaeology.

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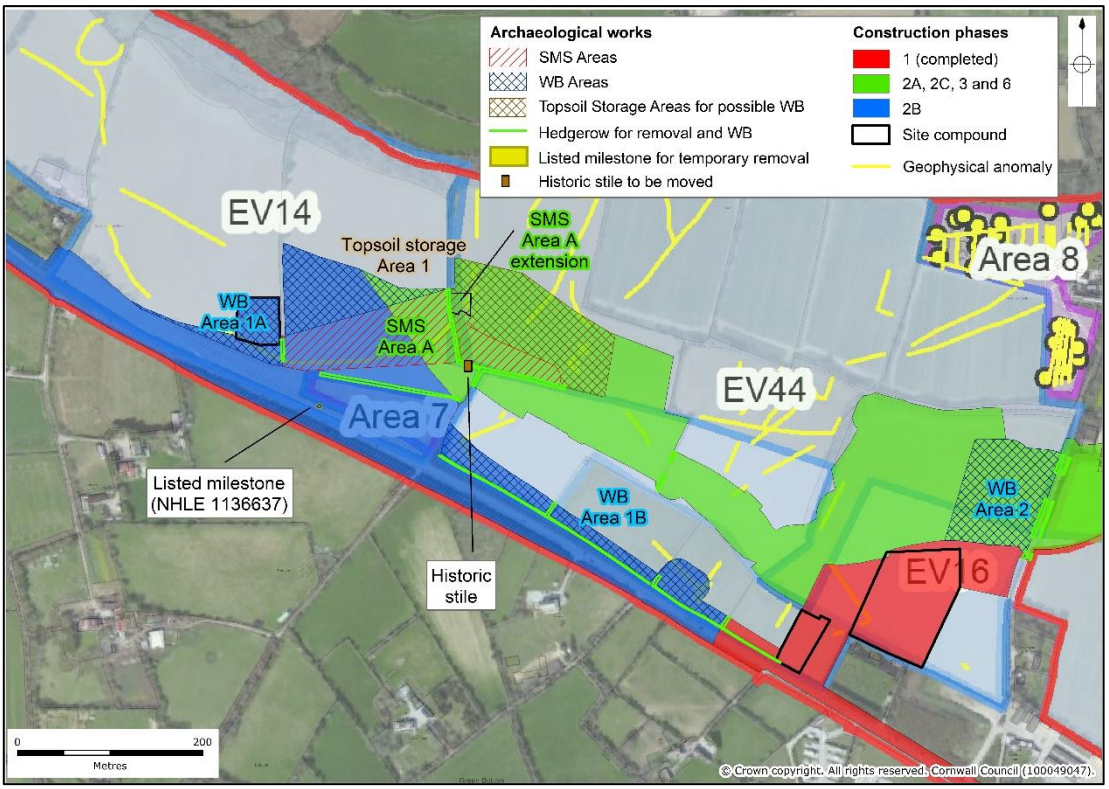

Figure 3 Truro NAR archaeological works against the geophysical survey results (excluding Salmon 2021), West to mid Langarth. Geophysical survey montage © Arcadis 2021.

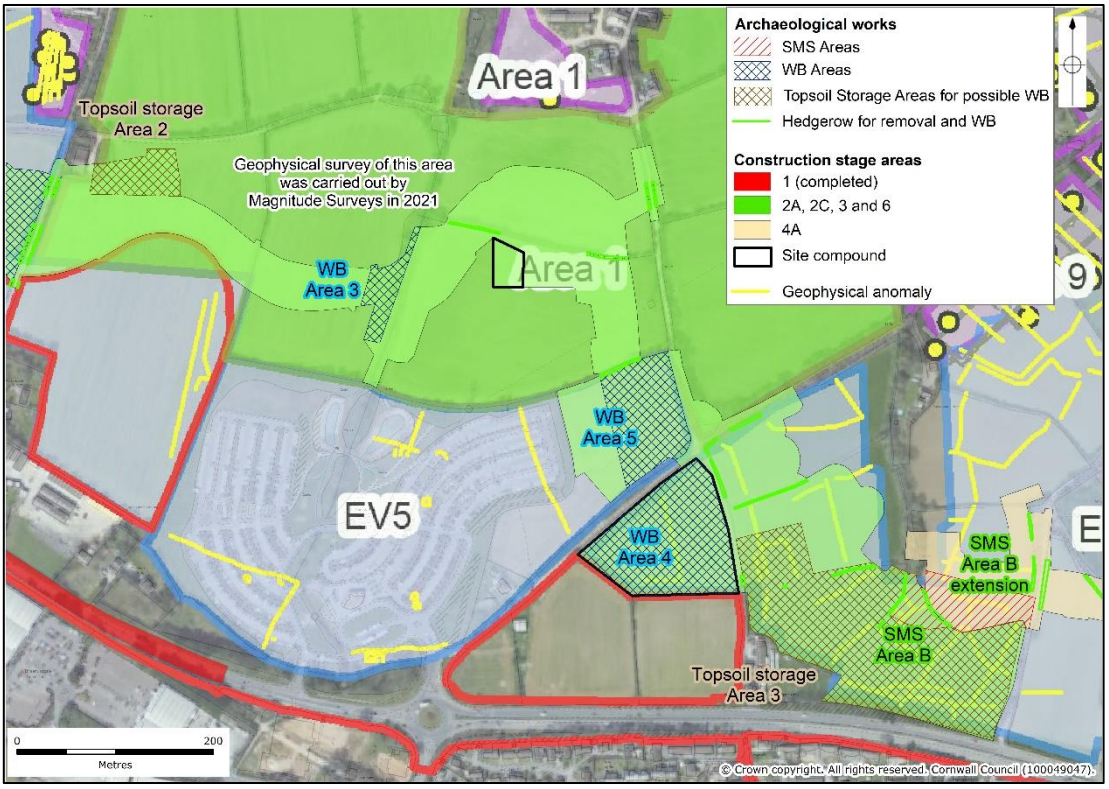

Figure 4 Truro NAR archaeological works against the geophysical survey results (excluding Magnitude Surveys; Salmon 2021), Mid Langarth to Willow Green. Geophysical survey montage © Arcadis 2021.

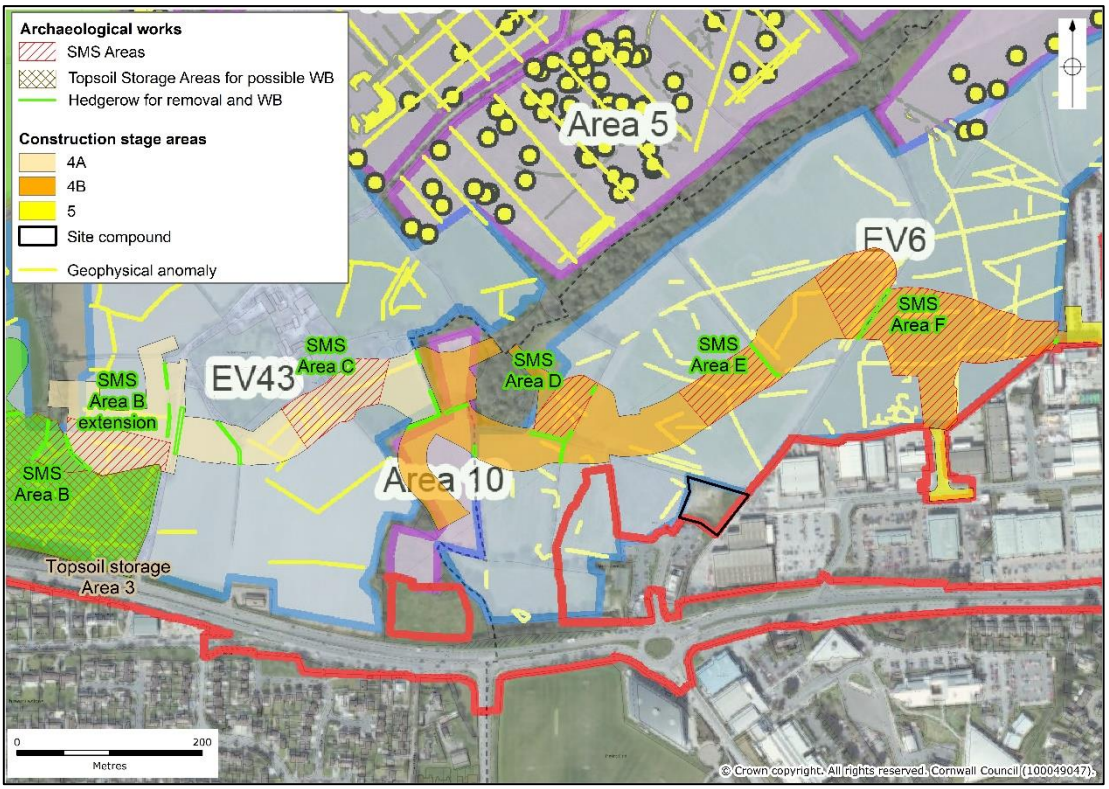

Figure 5 Truro NAR archaeological works against the geophysical survey results, Willow Green to East Langarth. Geophysical survey montage © Arcadis 2021.

Table of Archaeological Events referred to in Figs 3-5 (extracted from Latham 2020):

Latham 2020 Project ID	HER Ref/Unique ID	Event Type	Event Name
EV4	ECO2921	Geophysical Survey	Truro Local Distributor Road
EV4	ECO3568	Truro LDR Stage 3	Truro Local Distributor Road
EV5	ECO1680	Geophysical Survey	Threemilestone park and ride
EV5	ECO1679	DBA, Geophysical Survey	Threemilestone park and ride
EV5	ECO1678	DBA	Threemilestone park and ride
EV5	ECO2512	DBA	Threemilestone park and ride
EV5	ECO2128	Watching Brief and trial trenching	Threemilestone park and ride
EV6	ECO3258	Geophysical Survey	Maiden Green Treliske
EV6	ECO3799	Evaluation	Maiden Green and Willow Green
EV6	ECO3939	EIA	Treliske & Maiden Green
EV6	ECO3284	DBA and Impact Assessment	Governs
EV6	ECO3938	HIA	Willow Green Farm
EV14	ECO4806	Geophysical Survey	1978 - AM Lab
EV14	ECO4276	DBA	West Langarth
EV16	ECO4717	Geophysical Survey	Land at Langarth
EV43		Geophysical survey	East Langarth Farm
EV44		Geophysical Survey and Trial Trenches	Phase 1 and 2 Areas, Land at Langarth Farm, Threemilestone, Cornwall

Cornwall Archaeological Unit

Cornwall Archaeological Unit is part of Cornwall Council. CAU employs 14 project staff with a broad range of expertise, undertaking around 120 projects each year.

CAU is committed to conserving and enhancing the distinctiveness of the historic environment and heritage of Cornwall and the Isles of Scilly by providing clients with a number of services including:

- Conservation works to sites and monuments
- Conservation surveys and management plans
- Historic landscape characterisation
- Town surveys for conservation and regeneration
- Historic building surveys and analysis
- Maritime and coastal zone assessments
- Air photo mapping
- Excavations and watching briefs
- Assessments and evaluations
- Post-excavation analysis and publication
- Outreach: exhibitions, publication, presentations

Standards

CAU is a Registered Organisation with the Chartered Institute for Archaeologists and follows their Standards and Code of Conduct.

http://www.archaeologists.net/codes/ifa

Terms and conditions

Contract

CAU is part of Cornwall Council. If accepted, the contract for this work will be between the client and Cornwall Council.

The views and recommendations expressed will be those of CAU and will be presented in good faith on the basis of professional judgement and on information currently available.

Project staff

The project will be managed by Dr Fiona Fleming who will:

- Discuss and agree the detailed objectives and programme of each stage of the project with the client and the field officers, including arrangements for health and safety.
- Monitor progress and results for each stage.
- Edit the project report.
- Liaise with the client regarding the budget and related issues.

Work will be carried out or supervised by CAU field staff, with assistance from qualified specialists and sub-contractors where appropriate. All staff will follow CAU's Health and Safety Policy and work in accordance with a site-specific risk assessment.

Specialists

Finds Illustration	George Scott
Conservation	Laura Ratcliffe BSc
Environmental sampling	Dr Michael Allan FLS, FSA
Palaeoenvironmental advice	Dr Michael Allan FLS, FSA
Lithics	Anna Lawson-Jones BA
Prehistoric and Roman pottery	Henrietta Quinnell/ Dr Imogen Wood

Medieval ceramics	John Allen/ Dr Imogen Wood
Medieval/post-medieval pottery	Carl Thorpe, CAU
Prehistoric to medieval metalwork	Anna Tyacke
Animal remains	Dr Clare Randall (freelance specialist in faunal analysis and human osteology)
Human remains	Dr Richard Mikulski, CAU

Report distribution

A digital copy of the report will be sent to the client. A paper copy can be supplied on request.

Once verified by Cornwall HER, a digital copy of the report will also be publicly available online via the Archaeology Data Service (ADS) Library.

Copyright

Freedom of Information Act

As Cornwall Council is a public authority it is subject to the terms of the Freedom of Information Act 2000, which came into effect from 1st January 2005.

CAU will ensure that all information arising from the project shall be held in strict confidence to the extent permitted under the Act. However, the Act permits information to be released under a public right of access (a "Request"). If such a Request is received CAU may need to disclose any information it holds, unless it is excluded from disclosure under the Act.

Health and safety statement

CAU follows Cornwall Council's *Statement of Safety Policy*.

Prior to carrying out on-site work CAU will carry out a site-specific Risk Assessment.

Insurance

CAU is covered by Cornwall Council's Public and Employers Liability Insurance, with a policy value of £50m. The Council also has Professional Negligence insurance with a policy value of £10m.

Dr Fiona Fleming
Senior Archaeologist
13/10/2022

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Appendix 1

Methodology for Relocating Milestones and Boundstones

Cornwall Council

Historic Environment Planning

Methodology for Relocating Milestones and Boundstones

1.1 General

The contractor must take care when moving any stone, to ensure that it is not damaged in any way. The stone should be lifted using webbing strops, should be carried rather than dragged along the ground, and should be laid down on pieces of timber, rather than directly onto the ground. Recording and labelling is important, to make sure that the stones can be repositioned as accurately as possible.

1.2 Recording before stones are moved

This is essential for all stones that are to be removed, so that they can be restored as accurately as possible.

1. Using a hand-held GPS, record the grid reference. Do not assume that the grid reference given for the monument is accurate (mistakes can be made!).

2. Record the orientation of the main inscribed faces using a compass.

3. Take photos of the stone from several angles, to record the setting and show how deeply buried it is, its condition prior to removal, and its setting in relation to any features that may help in repositioning it accurately (as far as possible, given the major changes to setting that are about to happen).

4. Measure the height of the stone above ground level so that it can be restored to the correct height.

5. Ensure that this data is stored securely for the duration of the project. This recording should be done by a suitably qualified archaeological contractor in accordance with nationally agreed standards.

1.3 Lifting individual stones

The archaeological contractor will:

1. Dig carefully around the stone to loosen before lifting.

2. Lift the stone with webbing strops, not a chain or rope.

3. Lift using a machine (tractor or digger) with fore-loader.

4. Place the stone carefully in a trailer on at least 75mm x 75mm (3x3 inch) timber posts, or similar, to protect it from damage or abrasion during transport to store or place the stone in a trailer on a pallet so the once in store, the pallet can be lifted from the trailer using a fork lift.

5. Label the stone with its site number, to ensure that the right stone is put back in the right place. This can be done using chalk (not marker pen); or with a label tied securely around the stone.

Note: If a milestone (or similar) is broken in two and joined with stainless steel dowels, or weak in the middle, it must be handled with extreme care.

An archaeological contractor must be present throughout to ensure there is no damage to the stone or post.

1.4 Storing stones

Stones should not be laid directly on the ground but should be laid on pallets or at least 75mm x 75mm (3x3 inch) timber posts and covered with tarpaulin to protect from damage. Special care must be taken not to place any repaired joint of the milestone under any stress.

1.5 Replacing stones

1.5.1 General

The stones should be replaced in their exact original positions or as close to this as possible. This should be determined with the advice of a contracting archaeologist and using GPS.

Before they are repositioned, the archaeologist should consult the initial recording to make sure that the stone is put back in the correct orientation and at the right depth.

All inscriptions should be visible and in the case of a milestone, the depth will be indicated by the finish of the worked masonry.

Where a stone cannot be put back in the same place, it should be repositioned as close as possible to the original location –

- On the same side of the road as previously.
- To the same orientation as previously.
- Where the stone will be visible.
- Where there will be safe access for maintenance.
- Where the stone will be as safe as possible from traffic collision. Any broken or loose boundstone should be set in the ground in order to make it safe from theft, even if it means that only a few inches can be buried in the ground.

1.5.2 Methodology for re-erection

The main contractor will:

1. Dig a hole of appropriate size. This will be advised by the contracting archaeologist and will be as close as possible to the stone's measurements across at ground level, and to a depth which reflects the level to which it should be buried.
2. Lift the stone with webbing strops. Langarth Garden Village Environmental Statement Heritage Impact Assessment on Listed Milestone
3. Lift the stone from the trailer using a tractor or digger with fore-loader.
4. Lower the stone gently into the hole.
5. Check that it is upright, trigging with wooden wedges, small stones or pieces of slate if necessary.
6. Backfill hole, tamping well to ensure the stone is stable and secure. Do not use cement or concrete to fix it.
7. Brush the stone lightly to remove any soil and debris.

Note: To repeat, stones should not be set in concrete or cement.

1.5.3 Gravel margin

The contractor, in discussion with the contracting archaeologist, will consider whether to install a gravel margin, to prevent vegetation from growing back too quickly and to maintain visibility of the stone in future, especially if future maintenance is likely to be a difficulty. This may depend on the final positioning of the stones in relation to the new location or road.

The following specification for forming a gravel margins around a stone is from Historic England's (then English Heritage) 'Guidance on the Conservation of Milestones' (Parry 2006, p12):

"In areas of vegetation the purpose of the margin is to reduce the rate at which new vegetation colonises the ground around the stone. Therefore the margin needs to be as wide as possible, 900mm from the face of the stone on all sides would be a good starting point if space is available. In paved areas the margin is intended as a 'breather zone' and 300 mm will be sufficient."

"The margin should be excavated to a depth of 100mm, exposing the natural substrate, lightly compacted. A treated timber edge board should be fixed on timber stakes to define the perimeter of the margin. The excavated area should be treated with weed killer and overlaid with a geotextile membrane. The margin should then be backfilled with clean pea gravel to the full depth of the excavation."

1.6 Final recording

To be undertaken by the contracting archaeologist.

1. Using a hand-held GPS, record the new grid reference (where it is known to have changed).

2. Take a photo of the stone to record its final restoration. This will be archived and recorded in an archaeological project report as a result of the relocation/restoration project.

1.7 After repositioning

Following reinstatement, some further work may be required. In accordance with advice from the Milestone Society, the following may apply:

Following reinstatement, the milestone may require to be repainted, based on the methodology provided in the English Heritage/Cornwall County Council 'Bridges, Crosses and Milestones Heritage Partnership Agreement' pilot study.

Preparation

- Heavy lichen growth and existing loose paint to be removed with a stiff (nonferrous) brush and then the stonework to be rubbed down with a clean rag. Particular attention should be paid to lettering.

Paint Mixes/Types

- Smooth white matt white masonry paint (e.g., Sandtex) is to be used for the main body of the stone, unless historic evidence suggested a different colour was used.
- Black masonry paint is to be used for lettering, unless historic evidence suggested a different colour was used.

Method

- Apply paint in dry conditions, only.
- Where appropriate, paint stone face with undercoat of masonry paint, leave to dry and follow with topcoat.
- If existing paint is in reasonable condition, then use one coat only of masonry paint.
- Pick out the lettering in black paint (or other, if advised) following the engraving on the stone.

Note: The boundstones must not be painted.

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2. References

English Heritage/ Cornwall County Council 2006. Bridges, Crosses and Milestones Heritage Partnership Agreement pilot

Parkes, C, 2012. A30 dualling Temple to Higher Carblake, Cornwall: Archaeological Assessment, CAU Truro

Parry, S, 2006. A guidance note for the conservation of milestones, English Heritage A30 Temple to Higher Carblake Improvement Team, 2013. A30 Temple to Higher Carblake Improvement Order: environmental statement, Cornwall Council

3. Websites

http://www.heritagegateway.org.uk/gateway/ English Heritage's online database of Sites and Monuments Records, and Listed Buildings

http://www.milestonesociety.co.uk/conservation.html

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