KEYBRIDGE WEIR
KEYBRIDGE
BLISLAND
CORNWALL

Archaeological Monitoring and Recording

South West Archaeology Ltd. report no. 211119

ARCHAEOLOGICAL SERVICES & HISTORIC BUILDING RECORDING
SOUTHWEST ARCHAEOLOGY

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Keybridge Weir, Keybridge, Blisland, Cornwall
Archaeological Monitoring and Recording

By F. Balmond and E. Wapshott
Draft issued: 25th November 2020
Finalised: 25th November 2021

Work undertaken by SWARCH for
The West Country Rivers Trust (The Client)

SUMMARY

South West Archaeology Ltd. was commissioned to archaeological monitoring and recording during the demolition of Keybridge Weir, located to the north of Tregaddick, Blisland, Cornwall. This work was undertaken on behalf of the West Country Rivers Trust as part of a proposal to remove the weir to facilitate fish movement. An impact assessment had previously been undertaken.

Keybridge Weir lies along the De Lank River, a tributary of the River Camel, bounded to the south and east by Tregaddick House and to the north/west by an enclosed agricultural field.. Tregaddick House was constructed in 1886 as a summer residence for Sir Warwick Morshead and designed by famed architect Silvanus Trevail. Keybridge Weir appears to have been constructed at the same time as or just after Tregaddick and is considered to be a feature of a designed landscape garden. The weir is likely to be of local importance although if it has also had a role in facilitating water supply to Tregaddick House or elsewhere, utilising innovative technology for the period then it may be of regional importance.

The monitoring of the demolition appears to confirm the historic mapping that Keybridge Weir was constructed at the same time, or just after Tregaddick and is a feature of the designed landscape garden. It is possible it may have some other recreational use associated with the utilisation of Tregaddick as a summer house, such as sport fishing and clearly the house became a hotel in the 20th century, where this may have become a more important part of its function. Again the monitoring was able to confirm aesthetic elements of the structure – not needed for its function, highlighting its Gentry associations. The character of the stone, drilling holes, pins and staples confirm its 19th century build and probably the influence of the local De Lank quarrymen – who provided the stone for the house and may also have been involved with the weir.

Whilst the weir was removed the recommendations from the impact assessment were followed and two large piles of stone were formed to either bank – creating potential otter holts and allowing some semblance of narrative to be retained of there having once been a structure here.

November 2021

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WEST COUNTRY RIVERS TRUST
LAND OWNER FOR ACCESS
CORNWALL COUNCIL HISTORIC ENVIRONMENT AND PLANNING ADVICE OFFICERS

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1.0 INTRODUCTION

LOCATION:	KEYBRIDGE WEIR
PARISH:	BLISLAND
COUNTY:	CORNWALL
NGR:	SX08818 73750
PLANNING APPLICATION:	PA20/07087
OASIS NUMBER:	SOUTHWES1-405680
SWARCH REF:	BKTW20

1.1 PROJECT BACKGROUND

South West Archaeology Ltd. (SWARCH) was commissioned by the West Country Rivers Trust (the Client) to undertake archaeological monitoring and recording during the removal of Keybridge Weir, Blisland to help facilitate fish movement on the De Lank River. This work was undertaken in accordance with a Written Scheme of Investigation (WSI), drawn up in consultation with Cornwall Council (see Appendix 3).

1.2 TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

Keybridge Weir is located along the De Lank River, a tributary of the River Camel, just to the north of Tregaddick House and to the south of Keybridge, approximately 1.3km north-west of Blisland. It lies at height of c.60m AOD. The soils of this area are the well-drained fine loamy over slate or slatestone rubble of the Denbigh 2 Association (SSEW 1983), which overlie the slate and siltstones of the Trevose Slate Formation and Rosenum Formation with superficial deposits of clay, silt, gravel and sand alluvium (BGS 2020).

1.3 HISTORICAL & ARCHAEOLOGICAL BACKGROUND

Keybridge Weir lies in the parish of Blisland, in the hundred of Trigg and deanery of Trigg-Minor, just to the north of Tregaddick. Tregaddick House is documented as being constructed in 1886 as a holiday home for Sir Warwick Morshead and his second wife and was designed by the Cornish architect Silvanus Trevail. The Cornwall and Scilly HER records that the house was extended to add an additional four bedrooms shortly after its construction and it remained in the family until 1943 when it was sold and became a hotel. It was purchased in 1990 in a near derelict condition and restored to being a family home. The adjacent stable building was converted to accommodation after this date. The settlement at Keybridge appears to date to the post medieval period, with the earlier, medieval settlement in the locality at Tregenna, just to the east of Keybridge. A settlement is documented here from 1244; its name contains the Cornish element 'tre' meaning estate or farmstead and may imply an earlier medieval origin. Traces of the medieval field pattern surrounding the farmstead survive today.

The manor of Blisland was granted by Henry VII to the Stanhopes before passing through the Parker, Reynolds, Spry and Molesworth families (Lysons 1814). By the early 19th century the Morshead family were evidently significant landowners in the area as Lysons records that the manors of Barlandew, Cassacawen and Trehudreth had been purchased in 1809 from Sir John Morshead, who had inherited them by marriage to the sole heiress of the Treise family, by John Wallis Esq. The brother of Sir John Morshead is recorded as living at Lavethan, formerly the seat of the Kemps prior to it passing to the Treises, which is to the east of Keybridge and Tregaddick (Lysons 1814).

The tithe map and apportionment for Blisland show that the land on which Tregaddick House was later built formed part of an enclosed agricultural landscape, which in 1839 lay largely within the

landholding of Tregenna and was owned by the Morshead family. The two fields along the eastern bank of the De Lank River in the area in which the Keybridge Weir lies were in the ownership of Davies Gilbert at this date however and formed part of Keybridge Tenement, leased to John Burnard. The weir is not depicted on the tithe map although Keybridge is both depicted and labelled. The De Lank River forms the boundary between the parishes of Blisland and St Breward.

It is suggested that Keybridge Weir was constructed either as a feature of the designed landscape at Tregaddick or with the function of providing water to the house by means of a hydraulic ram or similar. Plans by the architect Silvanus Trevail for the house at Tregaddick are held by Kresen Kernow (EN/LIB/512/350/1-2; AD396/629) however there appears to be no mention of the weir or its function. The first map to clearly indicate the presence of a weir at Keybridge Weir is the 1905 Ordnance Survey Second Edition map, the Ordnance Survey First Edition map having been surveyed in 1880, prior to the construction of Tregaddick. This would appear to confirm that the weir has an association with the construction of Tregaddick House. The weir and Tregaddick are not subject to any statutory designations however a number of crosses of medieval date which have been re-sited from elsewhere to the grounds at Tregaddick are Grade II listed. Keybridge Bridge and sundial, to the north of the weir are also Grade II listed, along with a guidepost, farmhouse and farmbuilding at Keybridge.

1.4 SITE LOCATION

Keybridge Weir is located c.150m to the south of Keybridge and c.65m to the north of Tregaddick House (Figure 1); c.1.3km north-west of Blisland and c.7km north east of Bodmin.

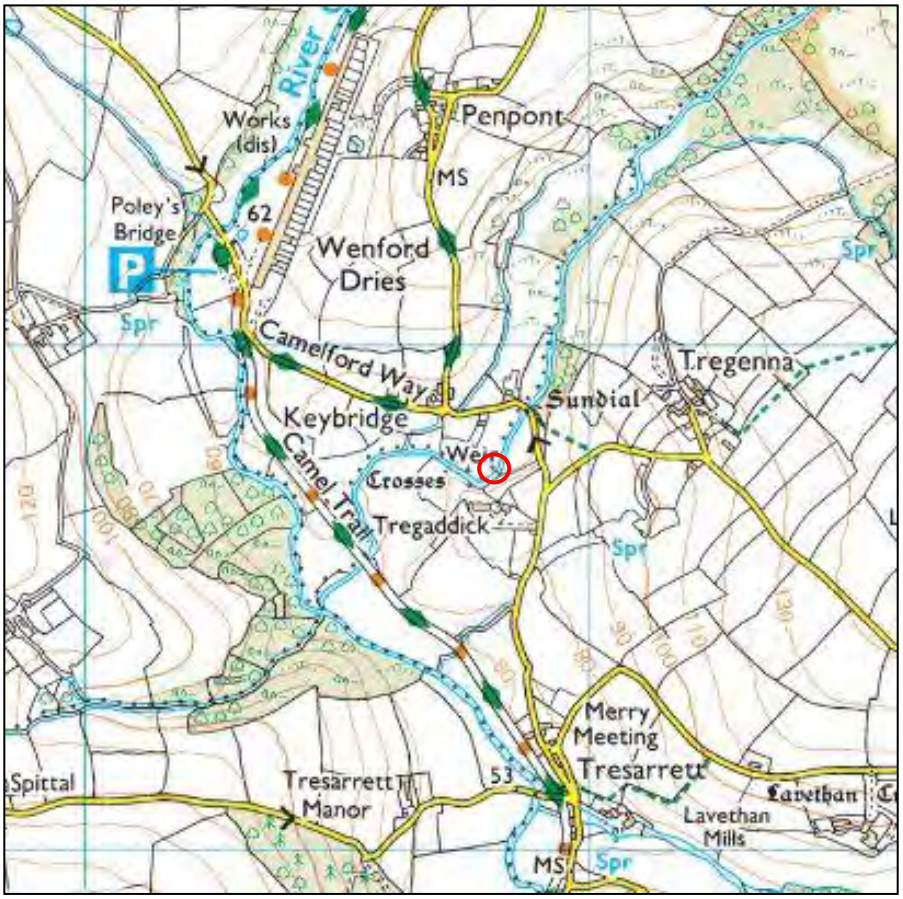

FIGURE 1: LOCATION MAP. THE WEIR IS RINGED IN RED.

2.0 DOCUMENTARY HISTORY

2.1 HISTORICAL TIMELINE

Keybridge Weir is first depicted on the 1905 Ordnance Survey map which correlates with its postulated construction as part of the development of Tregaddick House, designed by Silvanus Trevail and constructed in 1886. Prior to this the land around the area of the De Lank River in which the weir sits was enclosed agricultural land, much of which appears to have been part of the Tregenna land holding. The Morshead family who commissioned the construction of Tregaddick held significant land in this area, including a large part of the land around Tregenna, by the early 19th century. The two fields immediately adjacent to the eastern bank of the De Lank River in the area in which the Keybridge Weir lies were in the ownership of Davies Gilbert at this date however and formed part of Keybridge Tenement, leased to John Burnard. The census data for 1901 and 1911 shows that the Pethick family with their two unmarried adult daughters were resident in Tregaddick Lodge and employed as gardener, caretaker, housemaid and cook respectively. The Morshead family appear to have been away from Tregaddick at the date of all the available census returns.

2.2 CARTOGRAPHIC SOURCES

This first map available to this study is the 1805 Surveyors Draft map for Bodmin (Figure 2) which shows Keybridge as a small settlement at this date and Tregenna as a sizeable settlement. The De Lank River is labelled and the road is clearly depicted crossing over the river at Keybridge Bridge. The area in which Keybridge Weir sits is a mix of enclosed fields and partially wooded combes.

FIGURE 2: EXTRACT FROM THE 1805 SURVEYORS DRAFT MAP (BL). THE LOCATION OF THE WEIR IS INDICATED

The 1840 Blisland Tithe Map (Figure 3) does not depict a weir below Keybridge Bridge, although the settlement is labelled. The De Lank River forms part of the boundary of Blisland parish. The land around the weir is shown as enclosed fields. The two plots immediately adjacent to the river bank where Keybridge Weir is located are plot numbers 1083 (Bridge Meadow) and 1084 (Hill), known as Keybridge Tenement, owned by Davies Gilbert and leased by John Burnard. The land

surrounding these plots to the south and west was in the ownership of the Morshead family at this date.

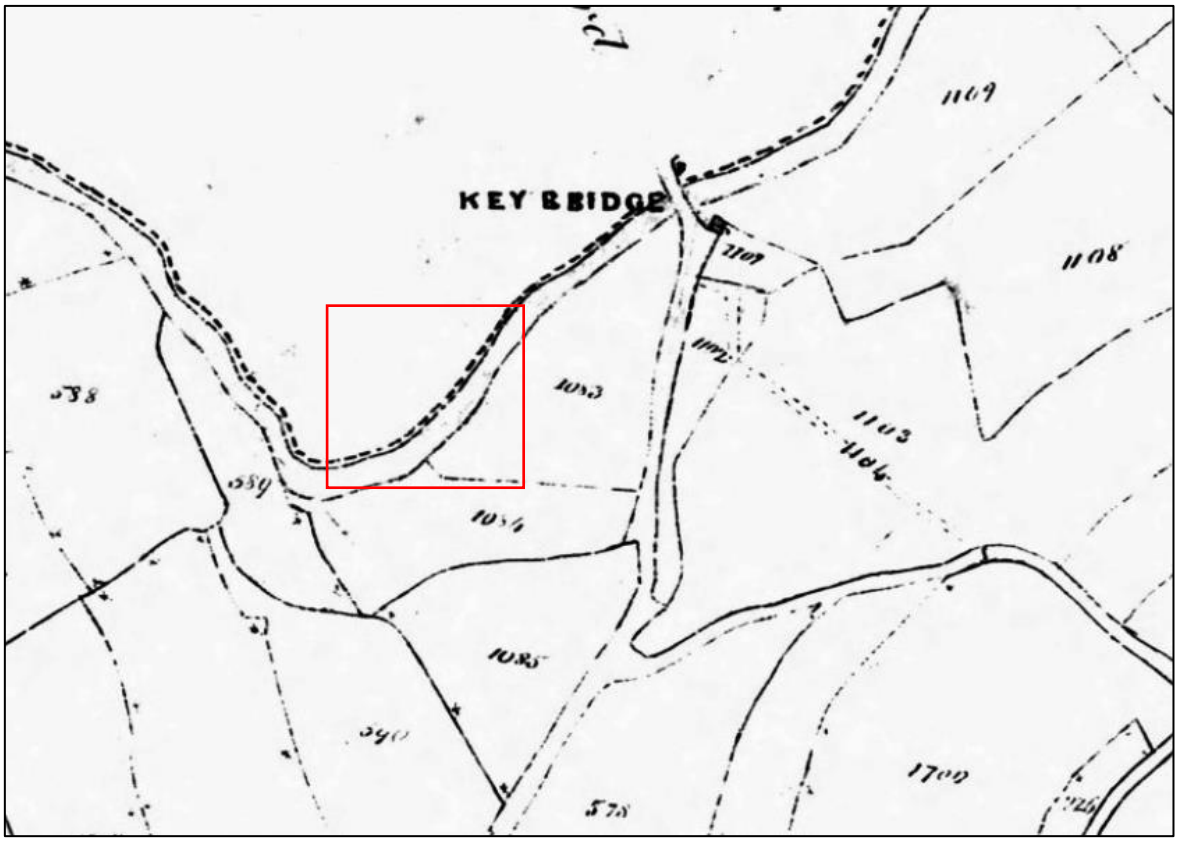

FIGURE 3: EXTRACT FROM THE 1840 TITHE MAP (TNA).

The 1880 Ordnance Survey First Edition map (Figure 4) does not show Keybridge Weir, supporting the assertion it was built alongside the house at Tregaddick in 1886 or after. The field pattern has remained similar to that seen on the tithe map although the area along the riverbank to the south of the weir location is shown as wooded by this date. A small building, apparently constructed partially over the river bank is shown on this map on the Keybridge side of the river. It is accessed by a footpath from Keybridge. It is possible this could be a short lived mill or pump house as it is not shown on the 1840 tithe map nor is it depicted by the 1905 Ordnance Survey Second Edition map (Figure 5) which shows the construction of Tregaddick House, Stables and Lodge with associated gardens. The gardens appear to consist of wooded areas with the stone cross fragments relocated from elsewhere also marked on this map. The weir is clearly depicted and labelled and a footpath appears to run alongside the river bank from a small garden building to immediate north of Tregaddick House around the bend in the river and up as far as the weir. This may add some weight to the idea that is was a garden feature, although access may also have been required for maintenance. Subsequent historic mapping (not depicted) shows no change to the weir or the land immediately surrounding it although the river bank appears to have become gradually more vegetated in the last few decades. A postcard from Tregaddick House during its time as a hotel and taken from Keybridge shows its dramatic location overlooking the river valley with the river in the foreground. The weir is not clearly visible in the photograph due to the direction and the presence of trees at its location.

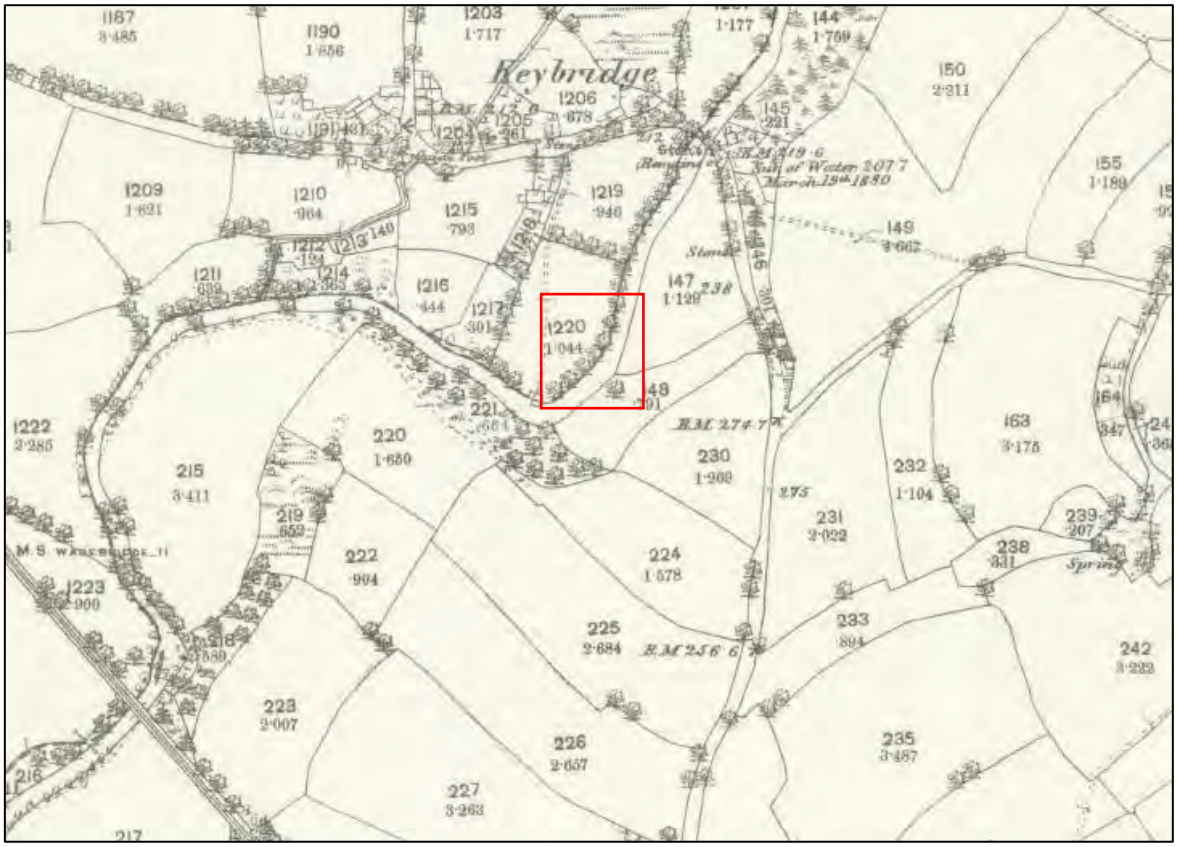

FIGURE 4: EXTRACT FROM THE 1880 FIRST EDITION 25" OS MAP (NLS). THE WEIR LOCATION IS INDICATED

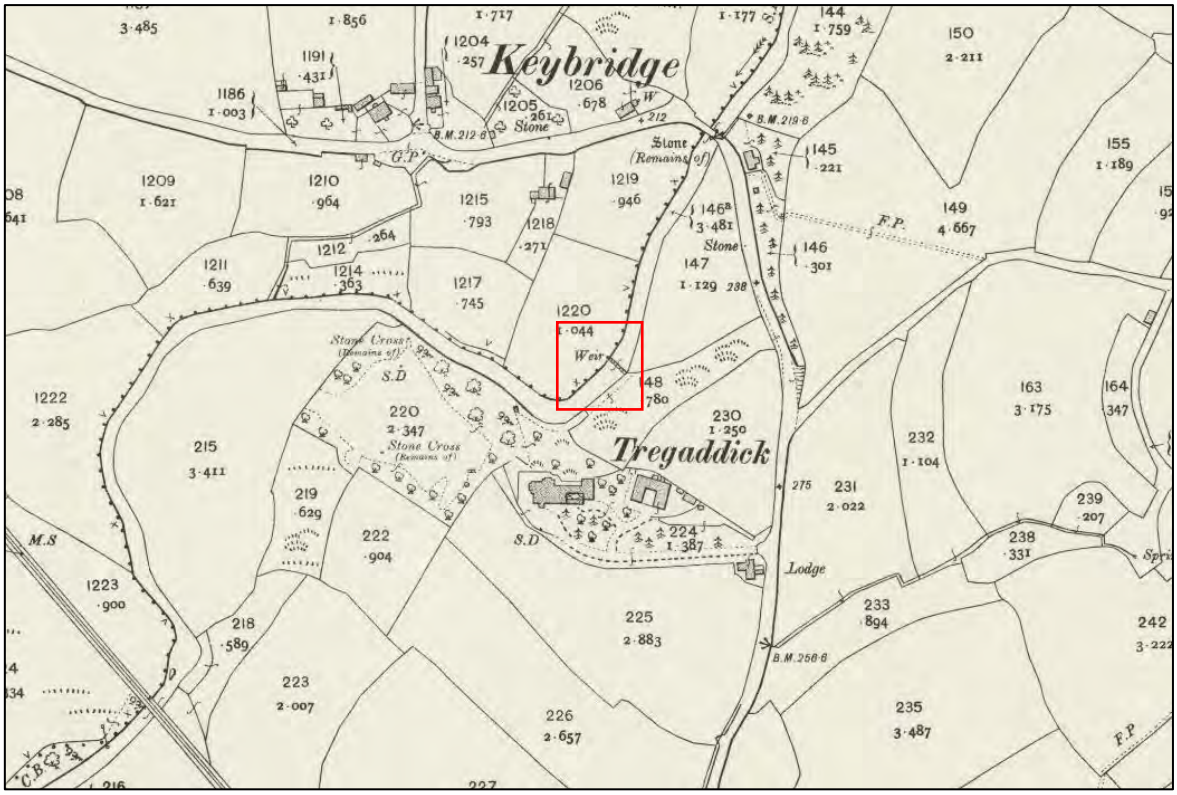

FIGURE 5: EXTRACT FROM THE 1905 SECOND EDITION 25" OS MAP (NLS). THE WEIR LOCATION IS INDICATED

FIGURE 6: POSTCARD OF TREGADDICK HOUSE AS A HOTEL TAKEN FROM KEY BRIDGE WITH THE RIVER IN THE FOREGROUND (EBAY.CO.UK)

2.3 SITE DESCRIPTION

The weir is not publicly accessible, but was approached via the adjacent fields, with permission from the land owner. The setting of the weir is split, to the east there are the wooded grounds and gardens of Tregaddick House, to the north-east and west the river is bounded by open pasture fields. Generally the setting to the west is of simple 'working agricultural' character; the setting to the east was intended to be of Gentry character although now overgrown. The weir can be said to be disconnected with the landscape to the west, fenced off from the fields with a substantial three-strand barbed wire and timber post fence, between the fence and river bank to keep animals from the banks, which are steep. The weir more obviously associates with the eastern bank and woodlands, to which it is open.

The banks of the river between the weir and Keybridge are overgrown and now quite enclosed with young trees and scrub, reducing views, indeed there is now, no direct inter-visibility between the bridge and weir in spring and summer, with foliage on the trees; although, in winter there may be glimpses back to the bridge from the general location of the weir.

The in-river location and nature of the weir and nature of the wooded banks mean the weir has no landscape level of presence and there are no wider views of it, outside of its immediate setting. There are direct views up to the house from the west bank, parallel with the weir and when the house was built in the Victorian period the slopes were probably less wooded; the site inspection confirming that there may once have been direct inter-visibility, the weir acting like a parkland-style eye-catcher for the garden terrace in front of the house.

FIGURE 7: THE VIEW ALONG THE RIVER, TOWARDS THE WEIR, FROM LISTED KEYBRIDGE BRIDGE AND SUNDIAL; FROM THE NORTH.

A terraced, landscaped path can be seen running down the slope, through the trees, from the direction of the house; this is lined by planted bamboo bushes and some ornamental shrubs like rhododendrons and possibly camellias, as well. This path clearly terminates at a wide platform, retained by boulders along the riverbank; this level area contains a sub-oval structure base, of more small boulders; this is colloquially noted as a former 'fishing hut'. The east bank then narrows by the weir itself, with one large sycamore tree, which may have self-seeded, right on the edge of the weir. The bank here can be seen to be retained and/or formed by smallish boulders forming a naturalised flank wall. Beyond, just to the north the bank has been dropped, clearly forming a short ramp or similar into the river and beyond the retaining wall continues, tapering out, the bank reverting to natural form.

The west bank is much higher and steeper, it is supported or retained in places with boulders but opposite the weir the whole bank has been covered by a large arranged pile of granite boulders. This forms an attractive rockery style effect, now quite overgrown with brambles; believed to potentially house otter. This 'rockery' is angled ever so slightly to present to the east bank of the river and would frame the weir in all views from that bank, whereas it obscures views and access to the structure from the west bank. Some boulders hve tumbled from this pile over time and possibly due to overgrowth action, as it also does not appear to be fixed in any way. These boulders now lie next to the weir, in the water.

There is no evidence of the small earlier building noted on the 1880s historic mapping, further south on the curve of the bend of the river. The adjacent field does have a defined overgrown and silted up channel running across the field, potentially an over-flow from the river/winterbourne.

FIGURE 8: THE CURRENT WIDER SETTING OF THE WEIR, WITH THE WOODED SLOPES ENCLOSING IT AND THE HOUSE ABOVE, AS SEEN ACROSS THE ADJACENT FIELD; FROM THE NORTH-WEST.

2.4 WEIR DESCRIPTION

The weir runs between the banks at a slight but definite oblique angle; south-east to north-west, with a very slight crank to the centre, known as a *diagonal weir*, at approximately a 45 degree angle to the banks. This means the weir forms a shallow v-shape in the channel, designed to maximise the crest length and reduce water level variations. This can be seen as there is a very slow head of 'quiet' water above the weir.

This weir presents the longest face to the east bank. It is built of massive granite boulders, the famous De Lank quarry being just upstream; these are braced by long slabs behind, held in place by large iron pins, in the form of staples. It does not appear to be mortared and certainly is intended to have a naturalised 'rapids' style appearance.

Its profile is irregular due to the nature of the boulders but it effectively has a wide flattish *broad crest,* which slightly slopes to the north and is shallow on the north face. To the east side, on the south face it is stepped with two or three upright larger boulders breaking the line of the profile; this creates a rapid style white-water effect, which catches the light in the morning and would also catch light from the sunset; when the slopes were less wooded this effect may have been visible from the garden terraces of the house. This also makes a lot of noise at it breaks up the flow of the water, the curving nature and steep sides of the valley at this point mean this sound echoes along and upwards and may have been a key part of the weir's designed landscape function.

To the west side, on the south face, there is clearly a channel or notch, with a vertical or straight drop form; framed on the east side by a larger upright boulder, this carries much faster water, smooth in flow and empties into a deep pool, which again appears to have been excavated from the river bed, to serve this notch/channel. It is suggested this may have been intended for a

fishing function, to have made the fish 'jump'; also being a visual spectacle from the eastern riverbank, visible from the platform at the terminus of the woodland path.

FIGURE 9: THE WEIR, AS VIEWED ABOVE SHOWING ITS SHAPE AND PROFILE, WITH 2M SCALE; FROM THE WEST BANK (WITH THANKS TO WESTCOUNTRY RIVERS TRUST STAFF FOR HELP).

FIGURE 10: WATER LEVEL VIEW ALONG THE WEIR, SHOWING THE FAST FLOWING NOTCH AND TUMBLED WHITE-WATER CHARACTERISTICS TO EACH END; FROM THE WEST BANK; WEST-SOUTH-WEST.

2.5 HISTORIC PHASING OF THE WEIR

The weir appears to be little altered and of one phase of construction. It has no definitive dateable features or details, but the large pins/staples which hold the boulders and slabs in place have a certain industrial/quarry-style character and are likely to be 19th century in date. The proximity of the famous De Lank quarry could suggest this is the source of the form of the build.

The way the weir presents to the wooded slopes and gardens and presence of the path, platform and possible fishing hut on the east bank would suggest this feature directly relates to the laying out of the grounds around Tregaddick. It was therefore likely constructed at the same time, or just after the house. Documentary and mapping evidence confirms a date for the house of 1886 and it is considered an appropriate date to ascribe to the weir as well, although there may be a year or two's difference in the woods, gardens, weir etc being laid out after the house was built.

FIGURE 11: VIEW TO THE EAST BANK AND THE LEVEL PLATFORM, WHERE THE STEEP WOODLAND PATH TERMINATES, JUST BELOW THE WEIR, GIVING A DIRECT VIEW TO THE STRUCTURE; FROM THE WEST BANK; NORTH-WEST.

3.0 MONITORING OF THE REMOVAL OF THE WEIR

Two separate periods of monitoring were undertaken on the weir in Summer 2020 and Summer 2021. The weir was systematically deconstructed and removed from the river and two large piles of stone were fashioned on the banks – to create otter holts, with ecological value and to also create a 'ghost-weir' landscape marker, which will have some signage to indicate its former presence. The demolition was undertaken almost stone by stone using a large machine and toothed bucket – peeling off the top layer then removing the centre and west side – the eastern side was removed in 2021, once a crank could be positioned on that side of the riverbank – as it was too wet for heavy plant-machinery access.

The demolition confirmed two stages/levels of rectangular granite blocks were pinned at perpendicular angles by iron staples and the lower level by some iron pins; the upper layer of stones were narrow, fairly thin and rectangular – even and more regular – providing the smoother profiled crest, below the stones were rectangular and much larger – these were mixed in with more irregular very large stones which anchored the structure. All of the granite displayed the typical drill marks from post-medieval quarrying. Monitoring also confirmed the boulders which created the distinctive profile of the weir were superficial and set to the front of the weir but were not structural, present only for aesthetic effect. The various boulders downstream suggest some of these had been moved loose and lost from the structure over the years. Some sand and gravel packing seemed to come away as the stones were removed but may be sediment build-up trapped within the structure – no formal mortar or bond was observed – the staples, pins and weight of the granite was relied on to hold the weir in place. Upstream of the weir looser, smaller boulders and stone had been backfilled behind the weir structure.

To the east side the stones were smaller and sat on bedrock which protruded through the riverbed – meaning there is only one layer of stones at the eastern end – as it meets the bank. Under this single layer there is earth and rubble packing over the angled ridged bedrock – which has linear fracturing. This rock outcrop defines the location of the weir and is likely the reason for its construction at this point exactly. Several glass bottles and stoneware jars – associated with food and drink and all of later 19th century to early 20th century date were removed from the river in and around the weir, as it was demolished and may relate to its construction and rations for the builders, or from picnickers. Some large handmade bricks were found mixed with loose boulders under the weir at the west side, which appears to be a sort of platform of rubble to balance out the bedrock which was tapering out across the riverbed.

FIGURE 12: THE MACHINE REMOVING INDIVIDUAL SLABS FROM THE CREST OF THE WEIR; JULY 2020, FROM THE EAST RIVERBANK.

FIGURE 13: THE LONG RECTANGULAR CREST STONES AND WIDER, IRREGULAR BASE STONES OF THE WEIR (2M SCALE); JULY 2020.

FIGURE 14: PROFILE THROUGH THE WEIR - TOP CREST LAYER, FAIRLY THIN OVER LONG RECTANGULAR STONES OVER PROJECTING BEDROCK - PACKED TO FRONT AND REAR WITH BOULDERS (2M SCALE): JULY 2021.

FIGURE 15: THE EARTH PACKING AND RUBBLE OVER THE BEDROCK AT THE EAST SIDE OF THE FORMER WEIR; JULY 2021.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

Keybridge Weir lies along the De Lank River, a tributary of the River Camel, bounded to the south and east by Tregaddick House and to the north/west by an enclosed agricultural field. Tregaddick was built in 1886 as a summer residence for Sir Warwick Morshead. It was designed by the Cornish architect Silvanus Trevail.

The monitoring of the demolition appears to confirm the historic mapping that Keybridge Weir was constructed at the same time, or just after Tregaddick and is a feature of the designed landscape garden. It is possible it may have some other recreational use associated with the utilisation of Tregaddick as a summer house, such as sport fishing and clearly the house became a hotel in the 20th century, where this may have become a more important part of its function. Again the monitoring was able to confirm aesthetic elements of the structure – not needed for its function, highlighting its Gentry associations. The character of the stone, drilling holes, pins and staples confirm its 19th century build and probably the influence of the local De Lank quarrymen – who provided the stone for the house and may also have been involved with the weir.

Whilst the weir was removed the recommendations from the impact assessment were followed and two large piles of stone were formed to either bank – creating potential otter holts and allowing some semblance of narrative to be retained of there having once been a structure here.

FIGURE 16: THE WEST BANK OF THE RIVER - WITH DEBRIS FROM THE WEIR LEFT FOR ECOLOGICAL AND NARRATIVE VALUE; JULY 2021.

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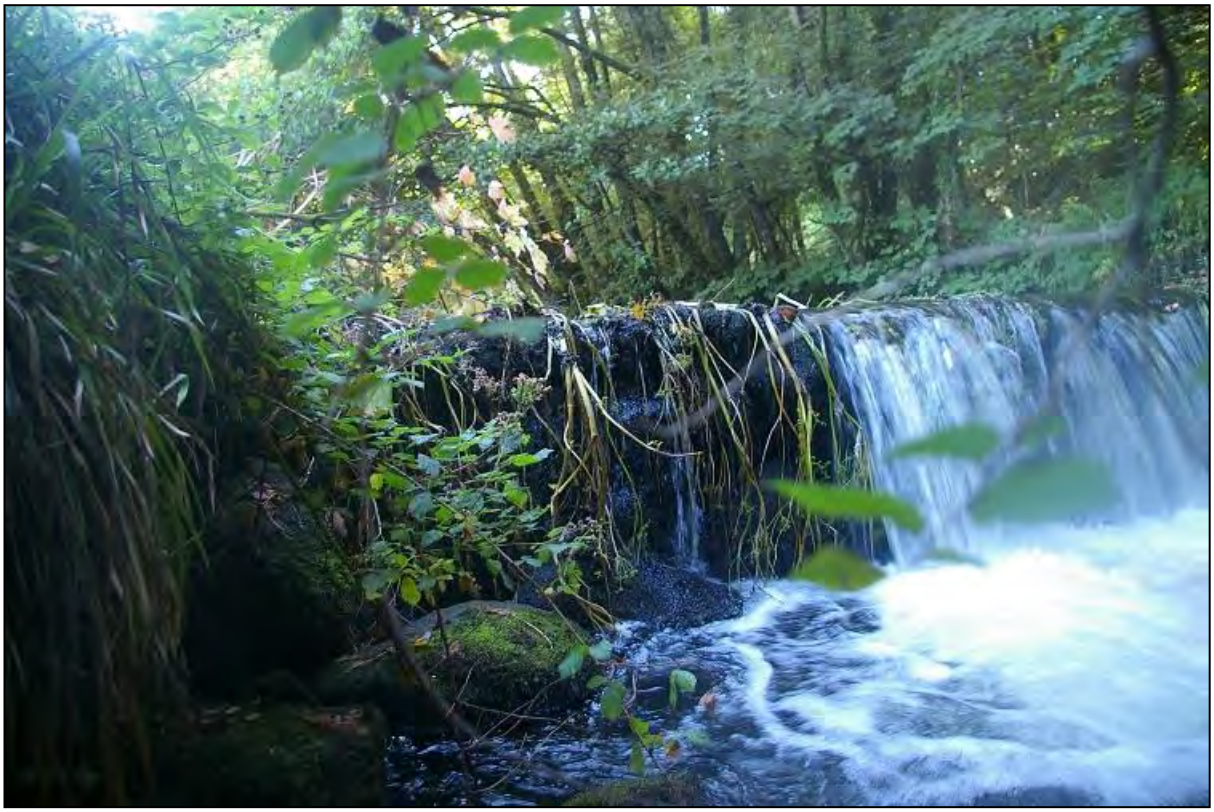
APPENDIX 1: PHOTOGRAPHIC RECORD

1. PHOTOGRAPH OF WEIR, WITH HORIZONTAL 2M SCALE; FROM THE WEST (WITH THANKS TO WESTCOUNTRY RIVER TRUST'S STAFF FOR AIDING IN THIS PHOTOGRAPH).

2. VIEW OF THE HEAD OF SLOW WATER ABOVE THE WEIR (INDICATED); FROM THE WEST.

3. THE BEDROCK OUTCROP SEEN BELOW THE WEIR (INDICATED); FROM THE WEST BANK.

4. LOOSE BOULDERS WITHIN THE RIVER, BELOW THE WEIR, LIKELY HAVING FALLEN OR BEEN WASHED OFF THE STRUCTURE DURING HIGH FLOW PERIODS ON THE RIVER, FROM THE WEST BANK; NORTH-WEST.



5. TUMBLED BOULDERS FROM THE WEST FLANK OF THE WEIR, WHICH IS A LARGE ROCK-STREWN EMBANKMENT FORMING A DECORATIVE ROCKERY STYLE EFFECT; FROM THE WEST BANK; SOUTH-SOUTH-WEST.

6. VIEW TO THE HOUSE, THROUGH THE TREES FROM THE WEST BANK, BY THE WEIR; FROM THE NORTH-WEST (LOOKING UP).

7. WRT STAFF HOLDING 2M SCALE IN RIVER TO SHOW FLOW OVER WEIR JUST BEFORE REMOVAL; FROM THE WEST BANK.

8. REMOVAL USING MACHINE – TAKING ONE LAYER OFF AT A TIME; FROM THE EAST BANK – NORTH-EAST DIRECTION.

9. VIEW ALONG THE FRONT OF THE WEIR AS THE TOP LAYER IS REMOVED – FROM THE EAST BANK.

10. DETAILED SHOT SHOWING THE PARALLEL GRANITE SLABS AND IRON PINS OF THE TOP ROW – REMOVED AND LAID OUT AS FOUND – ALSO SHOWING QUARRY DRILLING MARKS.

11. ONE OF THE FEW FROGLESS HANDMADE BRICKS FOUND IN THE RUBBLE PACKING BENEATH THE WEIR (1M SCALE).

12. VIEW OF THE CENTRAL CLEARED CHANNEL AFTER THE FIRST PHASE OF WORKS; FORM THE WEST BANK – SHOWING SOME OF THE WEIR SURVIVING TO THE EAST SIDE.

13. VIEW OF THE 2ND PHASE REMOVAL – REMOVING INDIVIDUAL STONES WITH A CRANK FROM THE EASTERN SIDE; FORM THE WEST BANK.

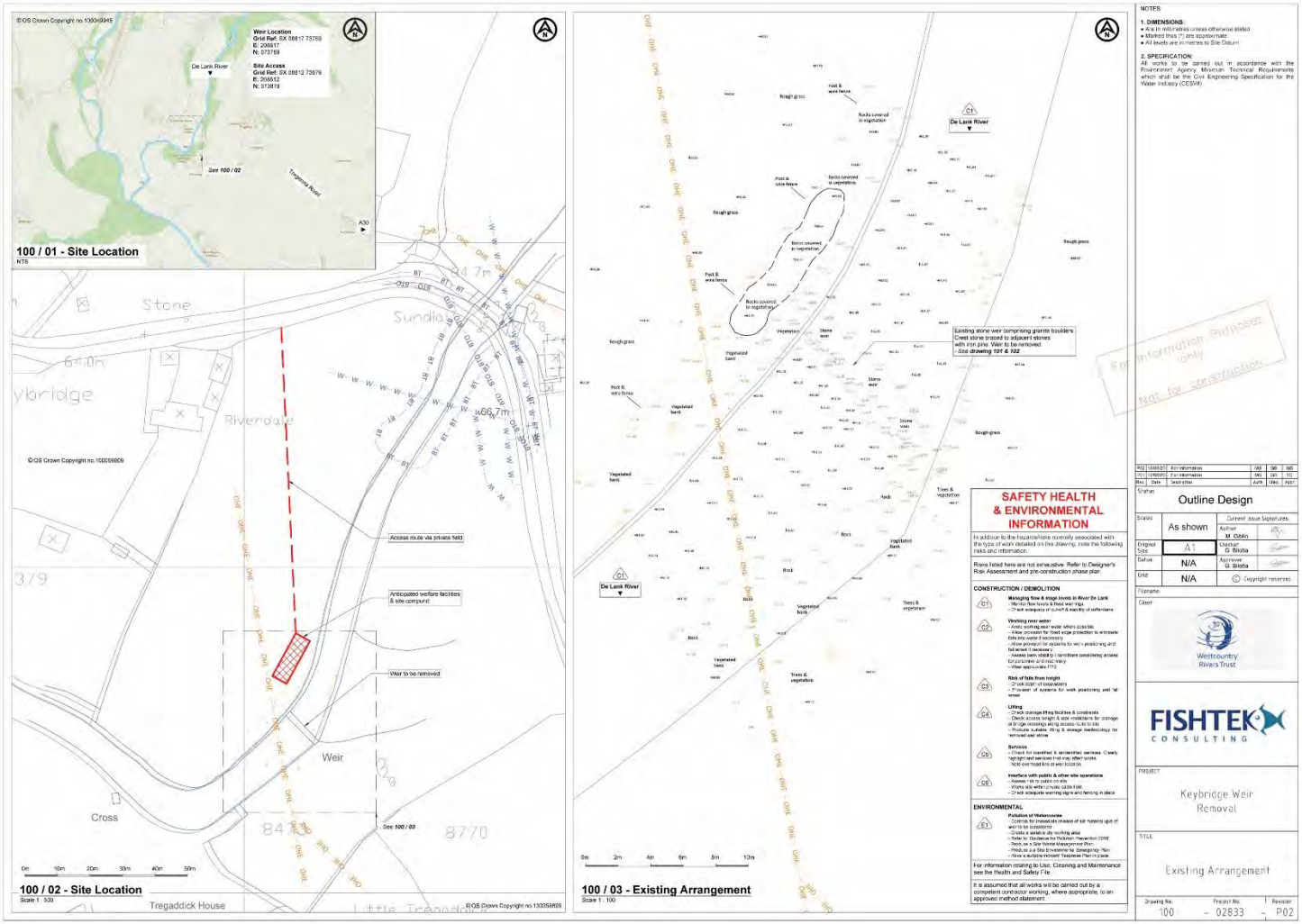
14. WESTCOUNTRY RIVERS TRUST PHOTOGRAPH – AFTER REMOVAL IN LATE SUMMER 2021 – SHOWING NATURALISED BOULDER BANKS LEFT TO THE WEST AND A CLEAR CENTRAL CHANNEL FOR THE RIVER – WHICH IS NO LONGER BACKED-UP; VIEWED FROM THE SOUTH.

15. WESTCOUNTRY RIVERS TRUST PHOTOGRAPH - WORKING SHOT SHOWING BANK PREPARATION ON THE EAST RIVERBANK – BUILDING THE OTTER HOLT; FROM THE SOUTH-WEST.

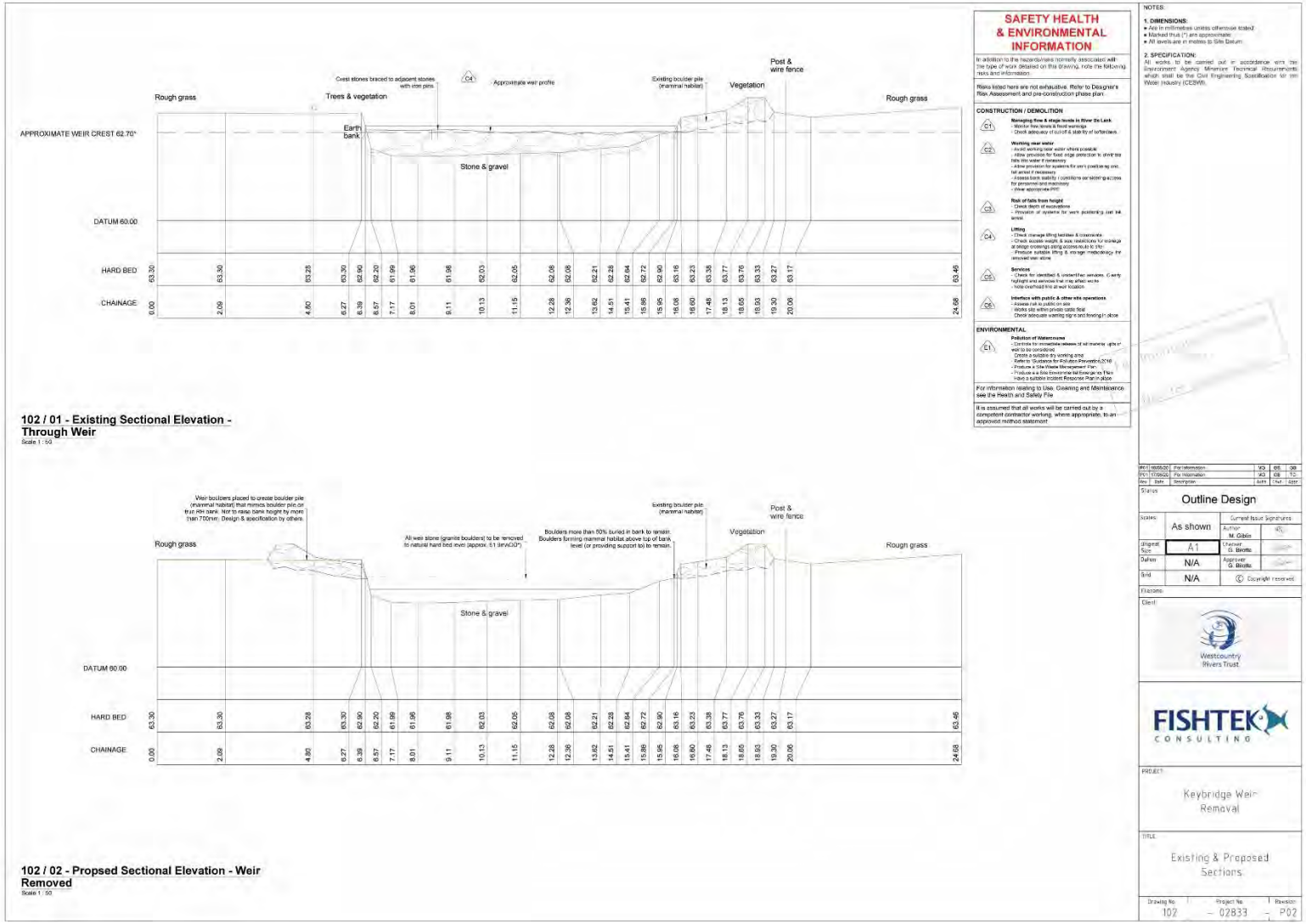
16. WESTCOUNTRY RIVERS TRUST PHOTOGRAPH - THE OTTER HOLT ONCE CONSTRUCTED USING STONE FROM THE WEIR.

17. WESTCOUNTRY RIVERS TRUST PHOTOGRAPH– NATURALISED FINISHED STRUCTURE WITH SOME TURF AND PLANT SEEDING.

APPENDIX 2: DRAWINGS AND PLANS OF THE WEIR – BY FISHTEK CONSULTING FOR THE WESTCOUNTRY RIVERS TRUST



PLAN OF WEIR – AS EXISTING IN 2020.



SECTIONS (HYPOTHETICAL) THROUGH WEIR – AS EXISTING 2020.

PLAN FOR REMOVAL AND CREATION OF OTTER HOLTS – 2020.

APPENDIX 3: WRITTEN SCHEME OF INVESTIGATION (WSI)

KEYBRIDGE WEIR
KEYBRIDGE
BLISLAND
CORNWALL

Written Scheme of Investigation – Archaeological Monitoring

South West Archaeology Ltd. WSI no. BKTW20WSIv1

ARCHAEOLOGICAL SERVICES & HISTORIC BUILDING RECORDING
SOUTHWEST ARCHAEOLOGY

www.swarch.net Tel. 01769 573555
01872 223164

Keybridge Weir, Keybridge, Blisland, Cornwall
Written Scheme of Investigation – Archaeological Monitoring

By Natalie Boyd
Checked by Dr. Samuel Walls MCIfA
Issued: 15th October 2020

Produced by SWARCH for The West Country Rivers Trust (The Client)

Non-Technical Summary

This Written Scheme of Investigation (WSI) has been prepared by South West Archaeology Ltd. on behalf of the West Country Rivers Trust. It has been drawn up in consultation with the LPA and details the archaeological mitigation strategy and methodology to be employed for the archaeological monitoring and recording of the removal of the weir at Keybridge Weir, Keybridge, Blisland, Cornwall.

Keybridge Weir lies along the De Lank River, a tributary of the River Camel, bounded to the south and east by Tregaddick House and to the north/west by an enclosed agricultural field and the historic Grade II Listed Keybridge and associated sundial. Tregaddick House was constructed in 1886 as a summer residence for Sir Warwick Morshead and designed by architect Silvanus Trevail. Keybridge Weir appears to have been constructed at the same time as or just after Tregaddick and is considered to be a feature of a designed landscape garden. The weir is of local importance, and is an undesignated heritage asset, with added group value as part of the former Tregaddick Gardens.

A heritage assessment was carried out by SWARCH in August 2020. The weir is noted as being of unusual form and design, a stepped series of massive granite boulders, held together by parallel slabs and iron pins. It forms a naturalised appearance and has two clear functions; to the west a channel for faster water, framed by a deep pool on its southern edge, to the east side a stepped form, shallower in depth, with raised boulders, creating whitewater. These elements were likely built to have both visual (and aural) and practical fishing purposes. The weir is angled across the river, framed by a rockery of granite boulders on the west bank and it appears to directly present to the base of a steep path leading from Tregaddick House; where there is a flat platform and possible stone base of a presumed folly/fishing hut. It would appear from the planting of bamboo, rhododendron and camellia within the woodland landscape and the positioning of the path that the weir is very much part of a valley-landscape with marked Himalayan or 'plantsman' characteristics, possibly with a secondary sport fishing function.

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FIGURES

1.0 INTRODUCTION

SITE NAME:	KEYBRIDGE WEIR
PARISH:	BLISLAND
COUNTY:	CORNWALL
CENTROID NGR:	SX 08818 73750
PLANNING REFERENCE:	PA20/07087
OASIS NUMBER:	SOUTHWES1-405680

1.1. PROJECT SCOPE

This document is the Written Scheme of Investigation (WSI) for Keybridge Weir, Keybridge, Blisland, Cornwall. It has been produced by South West Archaeology Ltd (SWARCH) on behalf of the West Country Rivers Trust (the Client). It sets out the methodology for the archaeological works to be undertaken during the proposed works, and for related off-site analyses and reporting. The WSI and the schedule of work it proposes were drawn up in consultation with the LPA.

1.2. PLANNING CONTEXT

Works on this site are being undertaken as part of a planning application PA20/07087 for the removal of an existing stone weir, the making good of the adjoining riverbanks and the provision of an artificial lay-up for otters.

1.3. PLANNING CONDITION(S)

In accordance with paragraph 199 of the *National Planning Policy Framework* (2019), and the Local Development Framework Policy on archaeology, Cornwall Local Plan Policy 24, outline consent may be granted, conditional upon a programme of archaeological work being undertaken. The standard Cornwall Council condition wording states:

A) No development shall take place until a programme of archaeological recording work including a Written Scheme of Investigation has been submitted to and approved by the local planning authority in writing. The scheme shall include an assessment of significance and research questions, and:
1. The programme and methodology of site investigation and recording
2. The programme for post investigation assessment
3. Provision to be made for analysis of the site investigation and recording
4. Provision to be made for publication and dissemination of the analysis and records of the site investigation
5. Provision to be made for archive deposition of the analysis and records of the site investigation
6. Nomination of a competent person or persons/organisation to undertake the works set out within the Written Scheme of Investigation
B) No development shall take place other than in accordance with the Written Scheme of Investigation approved under condition (A).
C) The development shall not be occupied until the site investigation and post investigation assessment has been completed in accordance with the programme set out in the Written Scheme of Investigation approved under condition (A) and the provision made for analysis, publication and dissemination of results and archive deposition has been secured.
D) The archaeological recording condition will normally only be discharged when all elements of the WSI including on site works, analysis, report, publication (where applicable) and archive work has been completed.

1.4. PUBLIC AND ECONOMIC BENEFIT[1]

1.4.1 Social benefit can arise through learning and development, and community strength and local identity can be enhanced through contact with the historic environment.

1.4.2 Social benefit also arises from the net contribution to human knowledge (the *research dividend*) made by investigative works.

1.4.3 Economic benefit can arise from the regeneration of historic places, leading to the revitalisation of communities and neighbourhoods. Archaeology can make a meaningful

[1] CIfA 2015: *Professional Archaeology: a guide for clients.*

contribution to place-making, which in turn enhances the image of a place and makes it a more desirable place in which to live.

1.4.4 Economic benefit can also arise from beneficial publicity, particularly through outreach, but also via public appreciation of due corporate diligence and care for the historic environment.

2.0 BACKGROUND INFORMATION

2.1 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Keybridge Weir lies along the De Lank River, a tributary of the River Camel, bounded to the south and east by Tregaddick House and to the north/west by an enclosed agricultural field and the historic Grade II Listed Keybridge and associated sundial. Tregaddick House was constructed in 1886 as a summer residence for Sir Warwick Morshead and designed by architect Silvanus Trevail. Keybridge Weir appears to have been constructed at the same time as or just after Tregaddick and is considered to be a feature of a designed landscape garden. The weir is of local importance, and is an undesignated heritage asset, with added group value as part of the former Tregaddick Gardens.

A heritage assessment was carried out by SWARCH in August 2020[2]. The weir is noted as being of unusual form and design, a stepped series of massive granite boulders, held together by parallel slabs and iron pins. It forms a naturalised appearance and has two clear functions; to the west a channel for faster water, framed by a deep pool on its southern edge, to the east side a stepped form, shallower in depth, with raised boulders, creating whitewater. These elements were likely built to have both visual (and aural) and practical fishing purposes. The weir is angled across the river, framed by a rockery of granite boulders on the west bank and it appears to directly present to the base of a steep path leading from Tregaddick House; where there is a flat platform and possible stone base of a presumed folly/fishing hut. It would appear from the planting of bamboo, rhododendron and camellia within the woodland landscape and the positioning of the path that the weir is very much part of a valley-landscape with marked Himalayan or 'plantsman' characteristics, possibly with a secondary sport fishing function.

The comments from the HET are detailed and read as follows:
The application by virtue of total demolition of the weir, a non-designated heritage asset, and the loss of a feature of the landscaped gardens fails to comply with NPPFP184, 189 and 197, and policies 12 and 24 of the Cornwall Local Plan and Historic Environment Good Practice Advice in Planning Note 2 Managing Significance in Decision-Taking in the Historic Environment 2015 and Historic Environment Good Practice Advice in Planning Note 3, The Setting of Heritage Assets (2nd Edition).

The weir is considered a non-designated heritage asset and is protected under NPPFP197. To the northeast is Keybridge with its sundial, both listed grade II. To the south is Tregaddick House, Coach House and lodge design and built be Silvanus Trevail for Sir Warwick Morshead as a summer residence in 1886.
From the submitted draft HIA, the weir would appear to be built as part of the garden design and leisure activities of such a summer residence. The gardens incorporate three listed fragments of stone crosses, planted landscape with paths leading to a platform with an oval area suggesting a folly or fishing building. The rockery style embankment on the west east of the weir suggest again garden landscaping. The weir is an attractive structure built in an unusual manner, but at the time probably technically well designed, creating pools for fishing in, visually and audibly creating white after. It is in good condition according to the HIA.

'The aim of the weir removal project is to improve fish passage for fish within the SSSI/SAC designated De Lank River, including the Atlantic Salmon. The works will also benefit other notable species within the designation such as Bullhead and otter, resulting in the overall long-term restoration to the functioning of the whole river ecosystem' However, this would be the total loss of a non-designated heritage asset and this would be contrary to policy NPPFP197 which states: "The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the

[2] Balmond, F. & Wapshott, E. 2020: *Keybridge Weir, Keybridge, Blisland, Cornwall: Heritage Assessment*; SWARCH Report No. 200807.

application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset."

Part of the job of a HIA is to inform the proposals and suggest mitigation to minimise the harm. There are other options which the HIA has explored states; "It is suggested that one option could be to allow for the ghost of the structure to survive, compromises could include inserting a fish pass, which could adapt the current west notch or channel in the weir, or even leave a small stub at one side, to retain the weirs physical presence, although its meaning would be largely lost, as it would no longer be a clear visual/aural feature in a designed landscape." So, it is requested that this proposal is withdrawn, and other potions considered and submitted.

These options could be a fish pass removing only a section of the weir or leaving the ghost of the weir. It is preferred to remove one small section as recommended in the HIA, utilised the existing design of the weir, the current west notch, pools and banks, to allow the fish free movement, but retain the majority of the weir, it is suggested as least 75%, as a decorative feature, as a part deliberately ruined, in keeping with the landscape grounds of Tregaddick House. Whilst these grounds are currently over grown, restoration of the Edwardian garden could be carried out at any time, and the removal of the weir would be substantially harmful. However, by retaining much of it, would allow the wirer to be read as part of the landscaped gardens, but allow free movement of fish, to encourage and assist the otter population.

1.5. TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

Keybridge Weir is located along the De Lank River, a tributary of the River Camel, just to the north of Tregaddick House and to the south of Keybridge, approximately 1.3km north west of Blisland. It lies at height of c.60m AOD. The soils of this area are recorded as the well-drained fine loamy over slate or slatestone rubble of the Denbigh 2 Association [3], overlying the undifferentiated slate and siltone of the Trevose Slate Formation and the Rosenum Formation[4].

1.6. SITE LOCATION

Keybridge Weir is located along the De Lank River, a tributary of the River Camel, just to the north of Tregaddick House and to the south of Keybridge, approximately 1.3km north west of Blisland.

2.0 HEALTH & SAFETY AND ENVIRONMENTAL POLICIES

2.1. SWARCH H&S POLICIES

SWARCH is committed to the highest standards of health and safety awareness. Works will be carried out in accordance with the *Health and Safety at Work Act* 1974, the *Management of Health and Safety Regulations* 1992, and other relevant health and safety legislation, regulations and codes of practice. All SWARCH field staff hold current CSCS safety cards and EFAW or FAW qualifications. Specific RAMS and RA have been produced for this site, and will be taken onto site with any SWARCH personnel.

2.2. SPECIFIC HEALTH & SAFETY MEASURES

2.2.1 The site archaeologist will undertake any site safety induction course provided by the Client.

2.2.2 The Client will provide details of all and any known buried services or mining shafts/pits likely to be encountered, and provide specific guidance on how works should be undertaken around those services.

2.2.3 These health and safety requirements will be observed at all times by any archaeological staff working on site, particularly when working with machinery, deep excavations or open water.

2.2.4 Appropriate PPE will be employed at all times. As a minimum: high-visibility jackets, safety helmets and protective footwear. Additional PPE (gloves, glasses) will be worn as required.

2.2.5 If the depth of trenching exceeds 1.2 metres a dynamic risk assessment will be undertaken to determine the stability of the excavation. If necessary, trench sides will be shored or stepped to enable archaeologists to examine and if appropriate record the section of the trench/features.

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[3] Soil Survey of England and Wales 1983: *Legend for the 1:250,000 Soil Map of England and Wales (a brief explanation of the constituent soil associations)*.
[4] British Geological Survey 2020: http://mapapps.bgs.ac.uk/geologyofbritain/home.html.

2.2.6 A robust risk assessment methodology (shoring, stepping etc.) for work in deep trenches will be developed with the Client and the groundcrew to ensure the safest possible working conditions for SWARCH personnel.

FIGURE 17: LOCATION MAP.

2.3. ENVIRONMENTAL POLICIES

2.3.1 SWARCH is committed to the laws, regulations, and other policy mechanisms concerning environmental issues and sustainability. These issues include air and water pollution, solid waste management, biodiversity, ecosystem management, maintenance of biodiversity, the protection of natural resources, wildlife and endangered species, energy or regulation of toxic substances including pesticides and many types of industrial waste.

2.3.2 As a provider of archaeological services, SWARCH, its employees and subcontractors have a responsibility for the protection of archaeological heritage. In line with the CIfA *Environmental Protection Policy* para.1, SWARCH recognises that its responsibilities to the built heritage extend to the environment more generally, and that archaeological activities have the potential to affect the environment[5].

[5] CIfA 2016: *Policy Statements*.

2.3.3 SWARCH will adhere to the environmental policies of the Client, and, if applicable, will take steps to minimise environmental damage or pollution arising from archaeological fieldwork.

3.0 PROJECT AIMS AND TIMETABLE

3.1 PROGRAMME OF WORKS

3.1.1 Undertake archaeological monitoring of the removal of the weir;

5.1.2 ANALYSE AND REPORT ON THE RESULTS OF THE PROJECT AS APPROPRIATE.

3.2 TIMETABLE

Subject to the approval and deposition of this WSI, the monitoring works are expected to take place in the October 2020.

4.0 RESEARCH OBJECTIVES

4.1 RESEARCH OBJECTIVES

6.The monitoring of the works will feed into the following SWARF objectives[6]:

7.Research Aim 4: Encourage wide involvement in archaeological research and present modern accounts of the past to the public.

5.0 METHODOLOGY

5.1 ARCHAEOLOGICAL MONITORING

5.1.1 Monitoring of the site will be carried out in compliance with the relevant guidance[7] (CIfA 2014).

5.1.2 All works associated with the removal of the weir will be monitored. Any archaeological features exposed will be investigated and recorded by the site archaeologist. Should significant features be encountered, the LPA will be consulted to devise a suitable strategy. The weir structure and any further historic building fabric or features revealed during the works will be recorded to level 2/3 of the appropriate guidance[8].

5.2 METHODOLOGY

5.2.1 The Client will provide SWARCH with details of the location of existing services, groundworks within the site area, and of the proposed construction programme.

5.2.2 The Client will provide SWARCH with accurate measured plans and elevation drawings. In the absence of sufficiently detailed plans and elevations, SWARCH will either amend the supplied material, or produce or commission new measured drawings;

5.2.3 A detailed written record will be compiled. All parts of the structure will be investigated, save where they are inaccessible for safety reasons;

5.2.4 A photographic archive will be compiled.

5.2.5 All excavation of exposed archaeological features shall be carried out by stratigraphically by hand and recorded according to CIfA guidelines and best practice.

5.2.6 Where archaeological features are exposed, then as a minimum:

i) Small discrete features will be fully excavated;
ii) Larger discrete features will be half-sectioned (50% excavated);
iii) Long linear features will be sample excavated along their length, with investigative excavations distributed along the exposed length of any such feature, and to investigate terminals, junctions and relationships with other features.

5.2.7 Should the above proportions not yield sufficient information to allow the form and function of archaeological features/deposits to be determined, full excavation of such features/deposits may be

[6] Grove, J. & Croft, B.. (eds.) 2012: *The Archaeology of South West England: South West Archaeological Research Framework; Research Strategy 2012-2017*. Somerset County Council.
[7] CIfA 2014: *Standard and Guidance Archaeological Field Evaluation.*
[8] Historic England 2016: *Understanding Historic Buildings: a guide to good recording practice*.

required. Additional excavation may also be required for the taking of palaeo-environmental samples and recovery of artefacts. Any variation of the above will be undertaken in consultation with the LPA.

5.2.8 If articulated human remains are revealed, these will be left in-situ, covered and protected, and the Coroner notified. Removal will take place in line with the appropriate Ministry of Justice and environmental health regulations. A MoJ licence will be obtained prior to removal.

5.2.9 Any finds identified as treasure or potential treasure, including precious metals, groups of coins or Prehistoric metalwork, will be dealt with according to the Treasure Act 1996 Code of Practice (2nd Revision) (Dept for Culture Media and Sport). Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the finds from theft.

5.3 SAMPLING STRATEGY

5.3.1 Where suitable deposits are exposed then samples will be collected in preparation for scientific assessment/analysis/dating. Sampling will be undertaken in line with the relevant guidance[9]. It is envisaged that samples will either consist of bulk soil samples [sampling 100% or 40 litres, in labelled 5 litre plastic sample tubs] or vertical sediment columns [monolith tins].

5.3.2 Suitable deposits are taken to include contexts where sampling will recover material for dating or palaeo-economic evidence (e.g. sealed pits, basal deposits), or waterlogged/well-preserved sediments with potential for palaeo-enivronmental remains.

5.3.3 Bulk samples will be stored in sealed containers until off-site processing by SWARCH personnel. The flot will be separated and the residue examined for small artefacts/ecofacts/hammerscale. The residue will be disposed of appropriately, and the flot/remnant forwarded for specialist analysis.

5.3.4 Monolith samples will be stored under controlled conditions before delivery to the appropriate specialist.

5.3.5 The project will be organised so that specialist consultants, and the regional Historic England science advisor, can be called upon during the works as necessary.

5.4 RECORDING

5.4.1 Standardised single recording sheets will be employed.urvey drawings in plan, section and profile at 1:10, 1:20, 1:50 and 1:100 will be prepared, as appropriate to the size and/or significance of archaeological features.

5.4.2 A photographic record of the excavation and will be prepared. This will include photographs illustrating the principal features and finds discovered, in detail and in context. The photographic record will also include working shots to illustrate more generally the nature of the archaeological operation mounted. All photographs of archaeological and architectural detail will feature an appropriately-sized scale.

5.4.3 Survey and location of features (metal finds to sub-metre accuracy).

5.4.4 All stratified finds, except when clearly modern, will be retained, bagged and labelled on site. Unstratified post-1800 material may be discarded on site, but a representative sample will be retained.

5.4.5 Spoil will be examined for the recovery of artefacts; a metal detector may be used to enhance the recovery of metal finds.

5.4.6 All retained artefacts will be processed (washed, identified, weighed, counted) and assessed for their stratigraphic and research potential.

5.4.7 Any variation of the above shall be agreed in consultation with the LPA.

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[9] English Heritage 2011: *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation*.

6.0 MONITORING

6.1.1 SWARCH shall agree monitoring arrangements with the LPA and give two weeks' notice, unless a shorter period is agreed, of commencement of the fieldwork. Details will be agreed of any monitoring points where decisions on options within the programme are to be made

6.1.2 If significant or complex archaeological remains are uncovered, SWARCH will liaise with the client and LPA to determine the most satisfactory way to proceed.

6.1.3 Monitoring will continue until the satisfactory completion of an OASIS report.

6.1.4 SWARCH will notify the LPA upon the completion of each stage of fieldwork.

7.0 REPORTING

7.1 REPORTING STRATEGY

7.1.1 Copies of the report(s) detailing the results of these investigations will be submitted to the OASIS (Online Access to the Index of Archaeological Investigations) database under reference southwes1-405680 within 3 months of completion of fieldwork, longer as dictated by specialist reporting, etc. The type of report produced will be agreed with the LPA in light of the results.

7.2 POST-EXCAVATION ASSESSMENT

7.2.1 In the event that works reveal significant archaeological remains with the potential to yield important information, it may be appropriate to undertake a post-excavation assessment and revise this WSI. This document may also fulfil the requirement for an interim report if a substantial publication delay is anticipated. This decision would be taken in collaboration the LPA. If a post-excavation assessment is undertaken, it would include the following elements:

7.2.2 A summary of the project and its background;

7.2.3 A plan showing the location of the site, and plans showing the location of archaeological features and artefactual or palaeo-environmental deposits;

7.2.4 Research aims and objectives;

7.2.5 A method statement, outlining how these aims and objectives will/have been achieved;

7.2.6 Detail the tasks to be undertaken;

7.2.7 The results of specialist assessment reports;

7.2.8 The project team;

7.2.9 The overall timetable, including monitoring points with the LPA; and

7.2.10 Detail of the journal/article in which the material will be published.

7.2.11 The LPA will receive a draft of this report within three months of the completion of the fieldwork, allowing for delays in the preparation of specialist reports.

7.3 ARCHIVE REPORT

7.3.1 If a full report is produced it will include the following elements:

7.3.2 A report number, date and the OASIS record number;

7.3.3 A summary of the project background;

7.3.4 A description and illustration of the site location;

7.3.5 A methodology of the works undertaken, and an evaluation of that methodology;

7.3.6 Plans and reports of all documentary and other research undertaken;

7.3.7 A summary of the results;

7.3.8 An interpretation of the results in the appropriate context;

7.3.9 A summary of the contents of the project archive and its location (including summary catalogues of finds and samples);

7.3.10 A location plan and overall site plan including the location of areas subject to archaeological recording;

7.3.11 Detailed plans of areas of the site in which archaeological features are recognised along with adequate OD spot height information. These will be at an appropriate scale to allow the nature of the features exposed to be shown and understood. Plans will show the site and features/deposits in relation to north. Archaeologically sterile areas will not be illustrated unless this can provide information on the development of the site stratigraphy or show palaeo-environmental deposits that have influenced the site stratigraphy;

7.3.12 Plans will be located using a dGPS with an accuracy of <20mm. Very large features may be recorded entirely using the dGPS and plotted directly into GIS;

7.3.13 Section drawings of deposits and features, with OD heights, at scales appropriate to the stratigraphic detail to be shown and must show the orientation of the drawing in relation to north/south/east/west. Archaeologically sterile areas will not be illustrated unless they can provide information on the development of the site stratigraphy or show palaeo-environmental deposits that have influenced the site stratigraphy;

7.3.14 A description of any remains and deposits identified including an interpretation of their character and significance;

7.3.15 Analysis, as appropriate, of significant artefacts, environmental and scientific samples;

7.3.16 Discussion of the archaeological deposits encountered and their context;

7.3.17 A consideration of the evidence within its wider context;

7.3.18 Site matrices where appropriate;

7.3.19 Photographs showing the general site layout and exposed significant features and deposits referred to in the text. All photographs will contain appropriate scales, the size of which will be noted in the caption;

7.3.20 A summary table and descriptive text showing the features, classes and numbers of artefacts recovered and soil profiles with interpretation;

7.3.21 Specialist assessment or analysis reports where undertaken.

7.3.22 The LPA will receive the report within three months of completion of fieldwork, dependant on the provision of specialist reports, radiocarbon dating results etc, the production of which may exceed this period. If a substantial delay is anticipated then an interim report will be produced and a revised submission date for the final report agreed with the LPA.

7.4 PUBLICATION AND DISSEMINATION

7.4.1 It is not anticipated that the results of this evaluation will merit wider dissemination. Subject to the results of the work a note may be submitted to the journal Cornish Archaeology for inclusion in the recent fieldwork section.

7.5 PUBLIC PARTICIPATION

7.5.1 The relatively short-term and intensive character of this fieldwork, together with health and safety considerations (inherent risk and lack of appropriate training) and CIfA policies on the use of volunteers mean that public participation during the evaluation is not feasible.

7.5.2 The results of the initial monitoring work will inform the need for any subsequent fieldwork. Publicity and public engagement (e.g. open days etc.) are more likely should and if the archaeological value of the site is demonstrated.

8.0 ARCHIVE

8.1.1 On completion of the project an ordered and integrated site archive will be prepared in accordance with the appropriate guidelines[10].

[10] Historic England 2015: *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide*.

8.1.2 The archive will consist of two elements, the material archive and the digital archive.

8.1.3 SWARCH will, on behalf of the Royal Cornwall Museum (RCM) obtain a written agreement from the landowner to transfer title to all items in the material archive to the receiving museum.

8.1.4 If ownership of all or any of the finds is to remain with the landowner, provision and agreement must be made for the time-limited retention of the material and its full analysis and recording, by appropriate specialists.

8.1.5 The material archive, comprising the retained artefacts/samples and the hardcopy paper record (if requested) will be cleaned (or otherwise treated), ordered, recorded, packed and boxed in accordance with the deposition standards and selection strategies of the RCM, and in a timely fashion. Should SWARCH be unable to attain a selection strategy from the Museum, specialists will be consulted to achieve an appropriate strategy in line with best practice.

8.1.6 If the RCM wishes to retain the hardcopy paper archive, it will be deposited with the rest of the material archive under the same accession number. Should the RCM decline the hardcopy paper archive, that archive will be offered to other appropriate museum bodies or LPA. If a suitable third party cannot be found, the hardcopy paper archive will be retained by SWARCH for 3 years and then destroyed.

8.1.7 The digital archive, including copies of all relevant documentation relating to the project and digital copies of all photographs, will be deposited with the Archaeology Data Service (ADS) in compliance with their standards and requirements and according to Historic England guidance[11] for digital photography.

8.1.8 SWARCH will notify the LPA of the deposition of the material (finds) archive with the RCM, and the deposition of the digital archive with the ADS

8.1.9 There will not be a requirement to prepare an archive for fieldwork projects that do not expose deposits of archaeological interest and yield little or no artefactual material. The results of these projects will be held by the HER in the form of the report submitted by SWARCH and the creation of an OASIS entry and uploading of the report, subject to the approval of LPA.

8.1.10 The archive will be completed within 3 months of the completion of the final report.

9.0 PERSONNEL

9.1 SWARCH PERSONNEL

9.1.1 The project will be managed by Samuel Walls BA MA PhD MCIfA (Director at SWARCH 2013-present with 10 years of experience in the commercial sector).

9.1.2 The archaeological monitoring and recording will be undertaken by SWARCH personnel with appropriate expertise and experience, or supervised by SWARCH personnel with appropriate expertise and experience: Bryn Morris BA MA PhD ACIfA (Director at SWARCH 2013-present with 12 years commercial experience); Joe Bampton BA MA (10 years commercial experience); Peter Webb BA MA² (12 years commercial experience).

9.1.3 Where necessary, appropriate specialist advice will be obtained.

9.2 SPECIALISTS

Bone	Hayley Foster MA
Building Recording	Richard Parker
Conservation	Laura Ratcliffe BSc
Curatorial	Thomas Cadbury MA
	Alison Mills
	Fiona Pitt
Environmental Sample Processing	SWARCH personnel
Lithics	Peter Webb MA
Medieval Pottery	John Allan

[11] Historic England 2015: *Digital Image capture and File Storage: guidelines for best practice*.

Metal & Leatherwork	Quita Mould MA
Mills & Hydroelectric Plants	Martin Watts
Plant Macro-Fossils	Wendy Carruthers
Pollen Analysis	Ralph Fyfe PhD
Post Medieval Pottery	Graham Langman Bryn Morris PhD
Prehistoric Pottery	Henrietta Quinnell Imogen Wood PhD
Roman Pottery	Alex Croom Imogen Wood PhD
Wood Identification	Dana Challinor PhD

9.3 TRAINING AND CPD

9.3.1 Where appropriate, SWARCH will seek to provide training opportunities to SWARCH personnel during the archaeological fieldwork and post-excavation process. Training would be undertaken in order to enhance recording and recovery, and maximise the research gain.

9.3.2 SWARCH training plans (PDP) and CPD logs will be updated during the project, as appropriate to need and demand.

9.3.3 It is envisaged that artefact awareness and recognition are likely to receive further training.

10.0 INSURANCES AND QUALITY CONTROL

10.1.1 SWARCH carry Professional Indemnity Insurance cover up to £5 million, Public Liability up to £5 million and Employers Liability up to £10 million.

10.1.2 SWARCH is a Registered Organisation (RO) with the Chartered Institute for Archaeologists (CIfA).

10.1.3 SWARCH is committed to the highest standard of professional ethics and technical standards, and adheres to CIfA and Historic England guidelines in the conduct of our work.

10.1.4 The work undertaken will be carried out by professional archaeologists overseen by supervisors of ACIfA-level competence. The works and products will be overseen and checked by professional archaeologists with MCIfA-level competence.

11.0 CONFLICT WITH OTHER CONDITIONS AND STATUTORY RESTRAINTS

Even where groundworks are being undertaken under the direct control and supervision of SWARCH personnel, it remains the responsibility of the Client - in consultation with SWARCH, the applicant or agent - to ensure that the required archaeological works do not conflict with any other conditions that have been imposed upon the consent granted and should also consider any biodiversity issues as covered by the NERC Act 2006. In particular, such conflicts may arise where archaeological investigations/excavations have the potential to have an impact upon protected species and/or natural habitats e.g. SSSIs, National Nature Reserves, Special Protection Areas, Special Areas of Conservation, Ramsar sites, County Wildlife Sites etc.

ARCHAEOLOGICAL SERVICES & HISTORIC BUILDING RECORDING
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