

Written Scheme of Investigation for a Programme of Archaeological Mitigation: Mumbles Sea Front

Final

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Amey Consulting

JBA Project Manager- Juan Pablo Villagra Sar

Salts Mill, Victoria Road, Saltaire, Shipley, West Yorkshire, BD18 3LF.

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Contract

This report describes work commissioned by Amey Consulting. Matt Amy of JBA Consulting carried out this work.

Prepared by Matt Amy BA (Hons)
Consultant Archaeologist

Reviewed by Phil Moore BA (Hons)
Senior Archaeology and Heritage Consultant

Approved by Juan-Pablo Villagra Sar
Senior Engineer

Purpose

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1 Introduction

This document is being prepared to support a planning application for construction of a flood defence scheme on the Mumbles sea front near Swansea. The Mumbles Coastal Protection Project is a flood alleviation scheme designed to manage long-term coastal flood risk in Mumbles. This is to be achieved through the upgrading of the existing coastal infrastructure along a c.1.1km frontage to manage the current condition of the defences and also raise crest levels, as required. A programme of archaeological mitigation is required consisting of a pre-construction archaeological walkover survey, walkover surveys following any significant storm events, the creation of archaeological exclusion zones to protect assets that will be preserved in situ (PIS), evaluation trenching and a window sample survey.

This Written Scheme of Investigation (WSI) was prepared by Matt Amy of JBA Consulting on behalf of Amey Consulting. The WSI has been prepared in accordance with the requirements of Rob Dunning, Planning Officer for The Glamorgan-Gwent Archaeological Trust (GGAT), who provide archaeological development control advice on behalf of Swansea City Council (SCC).

This WSI for archaeological mitigation covers the above work only. It does not address any additional mitigation that may be required. The document has been prepared with reference to the Historic Environment (Wales) Act 2016 and Planning Policy Wales (Edition 11) (2018), with particular reference to Chapter Six paragraphs 6.1 to 6.1.32, and Technical Advice Note 24 (TAN 24) (2017): The Historic Environment.

2 Site Location and Description

The site area is located along the seafront at Mumbles, Swansea and is located to the north-east of Mumbles Road (Appendix A; Figure 1). The proposed scheme extends from NGR SS 6158 8848 to NGR SS 6242 8773 from Knab Rock slipway in the south-west to Oystermouth Square and the Dairy Car Park in the north (Appendix A; Figure 1).

The site is generally flat, lying at approximately 6m to 8m AOD in the terrestrial area and 0m to -2m AOD on the seashore. The area is that of a seaside resort with a promenade running along the current line of sea defences and a road separating it from the main residential areas of the town. There are numerous car parking areas along the sea front split in places by smaller residential and commercial development and recreational areas such as a bowling green and tennis courts in the northern area of the site. The foreshore is accessed from the promenade in various places along the site via steps and slipways.

3 Proposals

The existing infrastructure includes both primary and secondary sea defences, with the primary defence line directly behind the existing foreshore. Mean High Water Spring (MHWS) level is typically above foreshore level and so the primary defence forms the MHWS boundary. The existing primary defences consist of a length of vertical concrete seawall and a length of sloped concrete revetment. The development also includes proposed public realm improvement works that will take place along and behind the promenade at Mumbles sea front.

The proposed works generally have continuity with the structural form and line of the existing defences. The project will be completed in a single phase, but the working area will change along the frontage over time. The extent of the proposed works is depicted on drawing CH1101-AMEY-HGN-XX-DR-CH-0106_GA. The works will be constructed in segments moving along the foreshore, so relatively short lengths of construction will be underway on the foreshore at any one time. In total, the construction phase is expected to last between 12 and 18 months and once complete, the improvements will provide additional protection for Mumbles that will last 50 to 100 years.

Where the existing defence is a vertical seawall, a concrete facing, concrete stepped apron and sheet pile toe is intended to be constructed (below MHWS). Works on the vertical seawall are split into two types, Section Type A and Type B. In total, these works will extend approximately 4.5m to 5m forward of the current wall. In Section Type A and B, the stepped revetment will be installed to a depth of 1.0mAOD; the steel sheet pile toe will be installed at the bottom of this revetment. Behind the sea defence on the landward side, a 3m corridor is to be excavated to a depth of 1.5m and the fill replaced with a lightweight material.

Where the existing defence is a sloped revetment, a new concrete revetment is intended to be constructed as a replacement. Works in this area are referred to as Type C. The slope and alignment are intended to roughly match the existing revetment, but the works footprint will be extended further onto the foreshore due to the desired toe depth for the concrete revetment. A sheet pile toe is intended to be installed at the bottom of the revetment, but along with the bottom portion of the revetment, this will be buried based on recent beach levels. The extent of the exposed existing revetment currently varies between approximately 3m and 10.5m although this is influenced by local beach levels. The proposed revetment will extend out approximately 11.5m, although a proportion of this extent is not normally expected to be visible.

Construction compounds will be located on pre-existing tennis courts close to Oyster Wharf, and on a boat storage area adjacent to Southend Gardens. Access to the site will be gained via Mumbles Road. Access to the foreshore will be via three locations; Access 1 will be via the slipway adjacent to Southend Gardens, Access 2 via the slipway from the boat storage area to the immediate west of Verdi's Restaurant and Access 3 via the slipway from Knab Rock car park to the immediate east of Verdi's Restaurant. Two temporary material stockpiles will be located on the foreshore, one to the immediate west of the Access 1 slipway and one to the immediate west of the Access 2 slipway.

4 Archaeological and Historic Background

A desk-based assessment (DBA) has been prepared in advance to support the forthcoming planning application (JBA 2021a). The archaeological and historic background reported below has been lifted from that text. Relevant HER numbers are presented in parenthesis.

Prehistoric

There are no heritage assets or sites of Palaeolithic or Mesolithic date located in the vicinity of the site.

Two Neolithic axes (00469w and 02616w) were found, approximately 250m inland of the site and within the site boundary on the foreshore respectively, although there is little information pertaining to their provenance.

Evidence dating from the Bronze Age includes two wooden structures on Oystermouth foreshore (06699w and 06700w) eroding out of a peat shelf at Brynmill, which have been interpreted as a trackway dating to the late Bronze Age. Further trackways have been identified as eroding out of the Oystermouth peat shelf (Sherman 2011 in GGAT 2019a, 13). In addition to these trackways, artefactual evidence has been recovered which includes a Bronze Age sword (03192w) and a Middle Bronze Age dirk ('Swansea Bay Sword'; 00912w).

Seven heritage assets located on the foreshore in the vicinity of the site have been attributed to the Iron Age period. These are all located within the intertidal area, c.0.3km to the west of the site and have been attributed to this period due to their presence within dated peat deposits. They include a large recumbent timber (06672w), a footprint (06673w), two parallel recumbent timbers (06674w), a possible section of tree roots (06675w), a hollowed out recumbent log (06676w), a possible worked timber (06677w) and worked wood (06678w).

In addition, an unidentified asset formed of timber features embedded into the peat in the foreshore (07537w) has been attributed to a general Prehistoric date. However, it is located in close proximity to the other features attributed to the Iron Age, and it is probable this feature is of a similar date.

Roman

The remains of a Roman tessellated pavement or mosaic were found during building work in the late 19th century (00466w) at Church of All Saints (00472w). This site is located to the south-west of the site and has been interpreted as a villa. Whilst this interpretation is speculative, it has been suggested that it may have been a mansion or residence for visiting officials (Crowley 1990 in GGAT 2019a, 14).

Further evidence of activity within the study area is attested by two Roman coins (02969w and 03186w) which have also been recovered from the foreshore.

Medieval

During the medieval period the area was utilised by a large fishing community, focused around the cottages that lined the narrow street that led up to Mumbles Hill. Oystermouth Castle is known to have existed as a stone structure since the 12th century, and documentary sources state a wooden castle preceded this.

Post-medieval and Modern

On the foreshore/intertidal area, the HER/NMRW records extant timber stakes forming the remains of a groyne depicted on the 1898 OS mapping (05799w), a large wreck (05800w), a piece of iron ship wreckage (06500w), two oak timber wrecks (06721w and 06722w) and a landing place (NPRN 544057). Fifteen wreck sites of post-medieval date are also recorded on the NMRW in the intertidal area. These wrecks may be associated with the oyster fishing industry which was the primary employment in Mumbles in the post-medieval period.

A horse-drawn carriage tramway (03107w) was constructed in Mumbles in the early 19th century, and began carrying passengers in 1807, making it the first fee paying passenger railway in the world. The railway increased the tourist trade in Mumbles, which became a holiday destination. Steam locomotives were introduced on the railway in 1877, and in 1898 the railway was extended further east (3101w) and a pier was opened. Further heritage assets that date to this period within the site include Dunn's Mansion (02670w), a country house recorded in the HER as destroyed.

There is also the potential for structures associated with WWII era defences to survive on the foreshore with a number of assets being recorded in previous surveys of the area along this stretch of coast. Mumbles Hill was the site of a HAA623 coastal anti-aircraft gun battery and there are nine heritage assets that relate to this defensive site including six-gun emplacements (06268w, 06269w, 06270w, 06330w, 06331w and 06333w), a command bunker (06332w) and concrete and brick foundations which may relate to temporary Nissen or Romney huts and/or an ablutions building (06413w). A linear earthen bank (06414w), which stands to over 1.8m in height may relate to this battery and represent a former blast wall. Additionally, a military building (03099w) of World War II date is recorded on the HER to the south-east of the HAA623 battery, however, no further information is known about this structure and an upright section of vertical metal posts was recorded on the foreshore and interpreted as a WWII anti-landing defensive complex (07544w).

Palaeoenvironmental

Exposed peat shelves have been recorded in the area since the 17th century, with investigations over the latter 20th and early 21st centuries revealing further deposits of peat as well associated features. The peat deposits of Swansea Bay, have been suggested by George of forming a horizontal bed that thins and disappears against the rises of drift (Sherman 2011, 2). George also suggests this indicates a hinterland of rising ground, located a considerable distance from the sea.

Within the site, a thin exposure of peat (059801w) which may extend for c.150m as a shallow curving crescent was exposed. It was recorded as being covered by a course sediment at the landward end and did not exceed 0.2m in depth (Sherman 2011, 4). Two wooden structures were identified in 2009/10 (06699w and 06700w), with a sample of timber from 06700w being submitted for radiocarbon dating and returned a late Bronze Age date (Cal BC 1040-910). Samples of clay which pre-dated a trackway and peat which post-dated the trackway, in addition wood from the trackway were analysed. The plant macrofossils recovered from the deposits suggest the presence of swamp with swallow water and areas of drier fen in the area of the trackway. Common nettle was present in the samples which may be associated with defecating animals and suggests that the trackways may have been used to move cattle around the wetlands (Sherman 2011, 18). The wood forming the trackway was identified as Alder and indicates exploitation of a wet woodland (Sherman 2011, 15-16).

4.1 Previous Investigations

The area of the proposed sea defences scheme has been subject to numerous archaeological surveys, a full list of which is included in the previous DBA (JBA 2021a). These walkover and desk-based surveys have recorded features such as peat shelves, wrecks, wooden structures and timbers on the foreshore along with built heritage assets on the sea front.

A previous programme of ground investigation works was completed in 2019 which comprised a series of boreholes and test pits excavated on the foreshore and promenade along the full extent of the proposed scheme. The logs show that sequences of peat survive along some sections of the beach, whilst in other areas the borehole logs encountered no peat deposits. Peat was located in seven boreholes (BH07, 10, 17, 18, 20, 21 and 22) and three test pits (TP28, 29 and 30) at depths between 2.5mAOD and -3mAOD (COGL00000009-JBAU-00-XX-DR-GT-9120-S0-P01.01-Geotechnical_long_section_Sheet1 and 2). The only area of peat shallow enough to be impacted by construction is that located between investigations TP28 and TP30, the top of which undulated between 2.1mAOD and 0.5mAOD with its full extent being extrapolated from these investigations.

5 Aims

The aim of the proposed archaeological mitigation at the Mumbles Sea Front is to record the location, extent, date, nature, character and relationships of any surviving archaeological remains where they may be impacted by construction works. Along with these general aims, more specific aims are to:

- In advance of construction, record any archaeological remains which may have become exposed on the intertidal area since previous walkover surveys and then conduct walkover surveys following any further significant storm events;
- Protect any assets identified in the walkover surveys that can be preserved in situ from damage by site traffic by providing constraints map illustrating exclusion zones;
- Investigation by the excavation of two archaeological trial trenches to determine whether any remains associated with Dunn's Mansion are present within the site boundary;
- Investigate peat deposits located within the area of the beach to be impacted by excavation and recover sleeved samples for further scientific analysis and specialist dating based on the potential; and,
- And to produce a report on the findings of the archaeological mitigation.

6 Strategy and Methodology

A programme of archaeological mitigation has been proposed for the scheme in consultation with GGAT. Parts of this mitigation will proceed pre-construction and during construction works. Each form of mitigation is listed and described in detail separately in the below sections.

6.1 Site Walkover Surveys

An archaeological walkover survey of the foreshore, within the boundary of the scheme, will be completed prior to the commencement of the construction works. The aim of this survey is to locate and record any archaeological assets which may have been uncovered by tidal erosion or storm events. Further walkover surveys should be completed following any additional and significant storm events or spring tides which have shifted sand from the foreshore and may have exposed further assets. Assets should be photographed, assigned a number following the previous system used in the JBA DBA and their location recorded with a handheld GPS.

6.2 Archaeological Exclusion Zones

Any assets recorded in the walkover surveys that have the potential to be impacted by the scheme should be included within an archaeological exclusion zone to protect assets from damage during construction works by plant movement. Assets will be surveyed using industry standard GPS which will then be shared with the contractor before construction. The surveyed boundary will form an exclusion zone and this will be disseminated to staff on site via a toolbox talk to a responsible nominated contact. Physical demarcation on site has logistical difficulties and its implementation would be dependent on the significance of the remains encountered and would need to be agreed in consultation with the Client and GGAT and included in the Construction Management Plan. If construction activity needs, at a later stage, to access these exclusions zones in a manner that would negatively impact archaeological remains, then an amendment to this WSI would need to be agreed in advance in order to adequately record those remains, subject to their significance before construction and associated infrastructure could commence in that area.

6.3 Archaeological Trial Trenching

Two evaluation trenches will be excavated on the promenade adjacent to Mumbles car park in the possible location of Dunn's Mansion (02670w). The locations of the trenches are shown on Figures 2 and 3. The aim of these trenches, is to establish if any remains associated with Dunn's Mansion survive in situ in advance of the construction of the new sea defence and, if significant remains are encountered, inform any additional methods of excavation required to adequately record the remains in advance of construction. This work will be completed following ClfA guidelines for archaeological evaluation (ClfA 2020a).

The trenches will be located and set out using industry standard DGPS in accordance with the methodology set out in this WSI. Any deviations to the location should be advised by the Archaeological Contractor to the Archaeological Consultant in advance of excavation who will they supply a justification for the amendment for approval by GGAT.

The client will be responsible, in advance of any ground works, for identifying any buried services, including obtaining service plans and taking all necessary precautions to avoid damage to these services. The location of the trenches will be scanned by a person qualified in the use of a cable avoidance tool prior to excavation commencing.

Once any surfaces such as tarmac or concrete has been mechanically removed, any overburden will be stripped mechanically with a smooth bladed ditching bucket wherever possible unless indurated deposits are present, and stockpiled at a safe working distance from the trench sides. Excavation shall continue under archaeological supervision, removing deposits down to the first significant archaeological horizon or the natural substrate, whichever is encountered first and to a maximum depth of 1.2mBGL. The

machine should be halted when archaeological deposits are encountered. The top of first significant archaeological horizon may be exposed by machine but the horizon will then be cleaned by hand as necessary and inspected for features. All excavated deposits and exposed surfaces will be visually scanned for the presence and collection of possible dating artefacts.

A sufficient sample of any archaeological features and deposits revealed will be hand excavated in an archaeologically controlled and stratigraphic manner, in order to establish their extent, form, date, function and relationship to other features. A sufficient sample should be investigated to understand the stratigraphic sequence of each feature. Features and their key relationships will be investigated in such a way as to minimise unnecessary destruction. All excavated features and deposits will be fully recorded in accordance with CIfA guidelines (2020a) and using industry standard pro-forma recording sheets. The trenches will not be backfilled before GGAT have been offered the opportunity to inspect them and given the Archaeological Consultant written permission to do so. Any open excavations must be adequately fenced to prevent pedestrian access with this to be provided by the Principal Contractor.

Context numbers will be assigned to archaeological deposits, remains and features as required. Where assigned, each context will be described in full on a pro forma context record sheet in accordance with the accepted context record conventions including a 'Harris' matrix where stratified deposits are recorded. Where it aids interpretation, structural remains will also be recorded in elevation.

Archaeological deposits will be recorded using a GPS (minimum accuracy +/- 1cm), with individual features requiring greater detail being hand planned at a larger scale of 1:20. Sections will be drawn to a basic scale of 1:10 or 1:20 depending on the size of the feature. All drawings will be related to Ordnance Datum. Where it aids interpretation, structural remains will also be recorded in elevation.

Photographs of the trenches prior to hand excavation and individual archaeological deposits and features will be taken, as well as work in progress and post-excavation shots of groups of features. This will include general views of entire features and of details such as sections as considered necessary. The photographic register will comprise digital photography of not less than 10 megapixels in resolution.

All finds will be collected and handled following the guidance for archaeological materials (CIfA 2020c). Unstratified material will not be retained, if in the professional judgment of the supervising archaeologist it is of interest. Material discarded as a consequence of this policy will be described and quantified in the field. Finds of particular interest or fragility will be retrieved as Small Finds and located on plans. Other finds, such as those within superficial and modern deposits, and/or extensive or discrete deposits, will be collected as Bulk Finds bagged by material type.

Sampling will be carried out in consultation with the Archaeological Consultant and GGAT as appropriate (e.g. dendrochronology, soil micromorphology, monolith samples, C14, OL etc). Samples will be taken for scientific dating where necessary for the development of subsequent mitigation strategies. Material removed from site will be stored in appropriate controlled environments.

A soil sampling programme will be undertaken for the recovery and identification of charred and waterlogged remains where suitable deposits are identified. The collection and processing of environmental samples will be undertaken in accordance with Historic England guidelines (EH 2011). The Archaeological Contractor will engage Environmental and soil specialists who will be consulted during the course of the evaluation with regard to the implementation of this sampling programme. Soil samples of approximately 40 litres for flotation (or 100% of the features if less than this volume) will be removed from selected contexts, using a combination of the judgement and systematic methodologies.

Industrial activity is not anticipated on this site. If industrial activity of any scale is detected, samples and process residues will also be collected. Separate samples (c. 10ml) will be collected for micro-slugs (hammer-scale and spherical droplets).

6.4 Window Sample Survey

A window sample survey using a Terrier Rig or similar, will be completed on the foreshore in the location of a peat deposit located within the part of the foreshore that will be affected by excavation. The location of the peat deposit is taken from information on peat deposits previously encountered during geotechnical investigations (COGL00000009-JBAU-00-XX-DR-GT-9120-S0-P01.01-Geotechnical_long_section_Sheet1 and 2). This peat deposit has the potential to be impacted by the proposed scheme and has been recorded at depths of between 2.10mAOD and 0.50mAOD in borehole BH17 and test pits TP28, TP29 and TP30 (JBA 2021b), with invasive ground works in this location expected to reach a depth of 1mAOD.

A total of five window samples will be extracted between the extents of the peat deposit as shown on Figure 2 and only within the construction footprint. The locations of the boreholes have been selected to examine peat deposits previously located by the GI. The cores should be located using GNSS. Sleeved cores will be extracted for analysis by a geoarchaeological contractor under laboratory conditions and sub-sampled for scientific analysis and specialist dating based on the potential and professional judgement of the geoarchaeological supervisor. The borehole rationale based on location and potential is as follows:

- WS1- To investigate the extent of the peat deposit based on the extrapolation.
- WS2- To investigate and record the depth and survival of peat in this location and take samples.
- WS3- To investigate and record the depth and survival of peat in this location and take samples.
- WS4- To investigate and record the depth and survival of peat in this location and take samples.
- WS5- To investigate the extent of the peat deposit based on the extrapolation.

The deposits will be recorded by a geoarchaeologist using the Troels-Smith (1955) system of sediment classification (Appendix 1). The scheme breaks down a sediment sample into four main components and allows the inclusion of extra components that are also present, but that are not dominant. Key physical properties of the sediment layers are darkness (Da), stratification (St), elasticity (El), dryness of the sediment (Sicc) and the sharpness of the upper sediment boundary (UB). A summary of the sedimentary and physical properties classified by Troels-Smith (1955) and a stratigraphic breakdown of the deposits will be recorded on proforma log sheets.

6.4.1 Environmental Sampling

Due consideration should be given to the potential for further information to be gained through specialist environmental analysis of deposits, scientific dating or the application of scientific techniques to the study of artefacts. A soil sampling programme will be undertaken for the recovery and identification of charred and waterlogged remains where suitable deposits are identified and considered potentially beneficial. The recovery and sampling of environmental remains from the site should be undertaken in line with current good practice guidelines and the selection of deposits for sampling should be based on a reasoned justification and in accordance with guidance (English Heritage, 2011). Soil samples of approximately 40 litres for flotation (or 100% of the features if less than this volume) will be removed from selected contexts, using a combination of the judgement and systematic methodologies. Material removed from site will be stored in appropriate controlled environments.

Analysis of deposits may be undertaken as part of a further phase of assessment work following the findings of the interim and assessment reporting and based on the recommendations of the geoarchaeological supervisor. The analyses may include/but are not limited to further specialist dating techniques, soil pollen, charred plant macrofossils, land molluscs and faunal remains, especially small mammals and fish. Deposits will be assessed for their potential for radiocarbon, dendrochronological, archaeomagnetic and luminescence dating.

The tubes from the window sample survey will be opened in controlled conditions. Where suitable sediment is present, tubes will be sent unopened for OSL dating. Once dating has been carried out, the remaining material will be subsampled for multi-proxy assessment including: pollen, insects, plant remains, diatoms and ostracods.

Where appropriate organic units are encountered, radiocarbon dating will be undertaken. In the first instance single entity macrofossils will be selected but if these are not present then bulk sediment dating will be considered.

The samples for assessment will be undertaken by specialists to be determined by the Archaeological Contractor with a list provided to the Archaeological Consultant and GGAT.

6.5 Nomination of a Competent Person / Organisation

The project will appoint an Archaeological Contractor before works commence. The Archaeological Contractor will be a Registered Organisation with CIfA and abide by its Code of Conduct and all its relevant standards and guidance. The geoarchaeologist must be able to demonstrate they have sufficient experience in carrying out this type of work. The nominated contact for the Client must be a responsible post holder. CV's may be requested if required.

6.6 Extensive, Significant or Unexpectedly Complex Discoveries

If, in the view of an appropriately qualified archaeologist, significant remains are present that cannot be dealt with during a short suspension of work, a separate phase of mitigation will need to be agreed. If complex or significant archaeological remains are present, work will cease in this area, the exclusion zone will be extended to encompass the remains and the Archaeological Consultant and GGAT will be informed. No further work will take place in this area until an agreed scheme of mitigation has been devised, the methodology approved, and the mitigation has been implemented to the satisfaction of GGAT.

6.7 Health and Safety

Health and safety will take priority over all archaeological matters. All archaeological work must comply with all Health and Safety Legislation. All archaeologists or archaeological organisations undertaking fieldwork or visiting site should ensure that they, or any proposed sub-contractors, are appropriately qualified and adequately insured to undertake such projects. A CSCS card and site induction will be mandatory. The Archaeological Contractor will prepare and abide by a project and site-specific risk assessment and method statement (RAMS). The contractor providing/operating the Terrier Rig will need to provide a safe system of work and any required certification for their apparatus for review. These documents and method statements will be submitted to the Principal Contractor and Archaeological Consultant for approval prior to works commencing.

7 Reporting

A report shall be required within six weeks of the completion of the archaeological works, unless there are significantly complex remains. The report shall be prepared in accordance with Chartered Institute for Archaeologists (2020a), Historic England (2016) and Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) (WAT 2018).

The report will contain the following:

- A non-technical summary of the results of the work;
- An introduction which will include the planning reference number, grid reference and dates when the fieldwork took place;
- Site location and description;
- Project and planning context;
- Historical and archaeological context;
- Aims and objectives;
- Recording standards;
- Recording and monitoring methodology;
- Documentary research;
- Discussion and conclusions including comparisons with any similar surviving examples;
- A selection of photographs and drawings, including an overall plan of the site accurately identifying the areas monitored, a photo direction plan and contact sheet;
- Details of archive location and destination (with accession number, where known), together with a catalogue of what is contained in that archive;
- References; and
- Appended written scheme of investigation.

Copies of the report will be submitted to the commissioning body, the HER and uploaded to the ADS (also in PDF format), along with the photographic record in jpeg format and contact sheet.

The requirements for archive preparation and deposition will be addressed and undertaken in a manner agreed with the recipient museum. In this instance Swansea Museum is recommended, and an agreed allowance should be made for the curation and storage of this material.

Provision for the analysis and publication of the results will be dependent on subsequent phases of mitigation and consultation with the client, the Archaeological Consultant and GGAT.

The owner of the Intellectual Property Rights (IPR) in the information and documentation arising from the work, would grant a licence to the local authority and the museum accepting the archive to use such documentation for their statutory functions and provide copies to third parties as an incidental to such functions. Under the Environmental Information Regulations (EIR), such documentation is required to be made available to enquirers if it meets the test of public interest. Any information disclosure issues would be resolved between the client and JBA before completion of the work. EIR requirements do not affect IPR.

8 Programme

The Archaeological Consultant shall inform GGAT of the commencement of works as soon as is practicable, and at least one week prior to the commencement of work. Currently the anticipated start date is Spring 2022.

The draft report will be issued six weeks after the completion of the archaeological works. The final report shall be submitted to the Archaeological Consultant one week after comments on the draft report have been made.

9 Contractor and Staffing

Any on-site archaeological works will be undertaken by a suitably qualified Archaeological Contractor. All sub-contractors will be required to hold appropriate levels of Public Liability Insurance and Professional Indemnity Insurance for the project. The Archaeological Contractor should also be able to demonstrate significant experience of managing similar archaeological projects of similar size and complexity for their relevant levels of responsibility.

CVs of the site staff and the name and contact number for the nominated contacts can be provided in advance of the works should GGAT wish to view them. The Archaeological Contractor will also be required to produce a method statement/project design which includes details of staffing and any specialists which may be required.

10 Monitoring

Monitoring does not and should not take the place of proper self-regulation. The project will be monitored as necessary and practicable by GGAT Planning Services in their role as curator of the region's archaeology. The representatives of GGAT Planning Services will be afforded access to the site at any reasonable time, provided that it is safe to do so. Visits can be agreed in advance by notifying the Nominated Contact or the Archaeological Consultant.

11 Archive and HER Enhancement

In accordance with the requirements of this WSI, the digital archive relating to any archaeological discoveries will be deposited with the GGAT Historic Environment Record, along with the National Monuments Record, RCAHMW, including a copy of the final report. The digital archive will include all written, drawn, survey and photographic records relating directly to the investigations undertaken and reference RCAHMW Guidelines for Digital Archives (2015). A copy of the digital archive only will also be lodged with ADS as a digital archive, including a copy of the final report. The physical archive, including any artefacts, will be deposited with an agreed appropriate regional or national museum.

The site archive will be ordered and compiled with reference to the National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales (NPAAW, 2017), Brown 2011 and CIFA Guidance for the creation, compilation, transfer and deposition of archaeological archives (CIFA 2020b). It will be quantified, ordered, indexed and internally consistent. Adequate resources will be provided during fieldwork to ensure that all records are checked and internally consistent.

12 Copyright

Copyright in the documentation prepared by the JBA and specialist sub-contractors should be the subject of additional licences in favour of the repository accepting the archive and East Riding of Yorkshire Council to use such documentation for their statutory and educational functions, and to provide copies to third parties as an incidental to such functions.

Under the Environmental Information Regulations 2005 (EIR), information submitted to the HER becomes publicly accessible, except where disclosure might lead to environmental damage, and reports cannot be embargoed as 'confidential' or 'commercially sensitive'.

Requests for sensitive information are subject to a public interest test, and if this is met, then the information has to be disclosed. JBA should inform the client of EIR requirements and ensure that any information disclosure issues are resolved before completion of the work. Intellectual property rights are not affected by the EIR.

13 Resolution of Issues

In the event of issues arising regarding the implementation of this WSI will be resolved by facilitated through contact with the key stakeholders (GGAT). Should the issue not be resolved remotely, a meeting will be held between key stakeholders to facilitate discussion of the issues and identification of a suitable strategy to be agreed by all parties.

14 Further Information

Further information or clarification of any aspects of this WSI may be obtained from: Matt Amy, Salts Mill, Victoria Road. Saltaire, Shipley, West Yorkshire, BD18 3LF.
01274 714269 matt.amy@jbaconsulting.com.

15 References

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A **Appendices**
Figures



1 Broughton Park
Old Lane North
Broughton
Skipton
North Yorkshire
BD23 3FD
+44 (0)1756 799 919
info@jbaconsulting.com



2020s0838 - Mumbles

— Redline Boundary

Drawn By:	KE	Date:	30/11/2021	Scale:	
Checked By:	MA	Date:	30/11/2021		1:3,500
Approved By:	PM	Date:	30/11/2021		Original at A3
Status:	S1	Revision:	P01		
Figure Title:	Figure 1 - Site Location Plan				

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Skipton
North Yorkshire
BD23 3FD
+44 (0)1756 799 919
info@jbaconsulting.com

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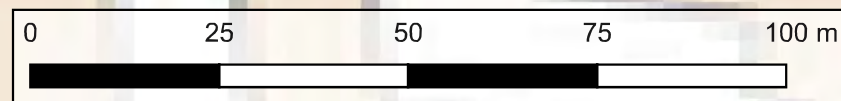


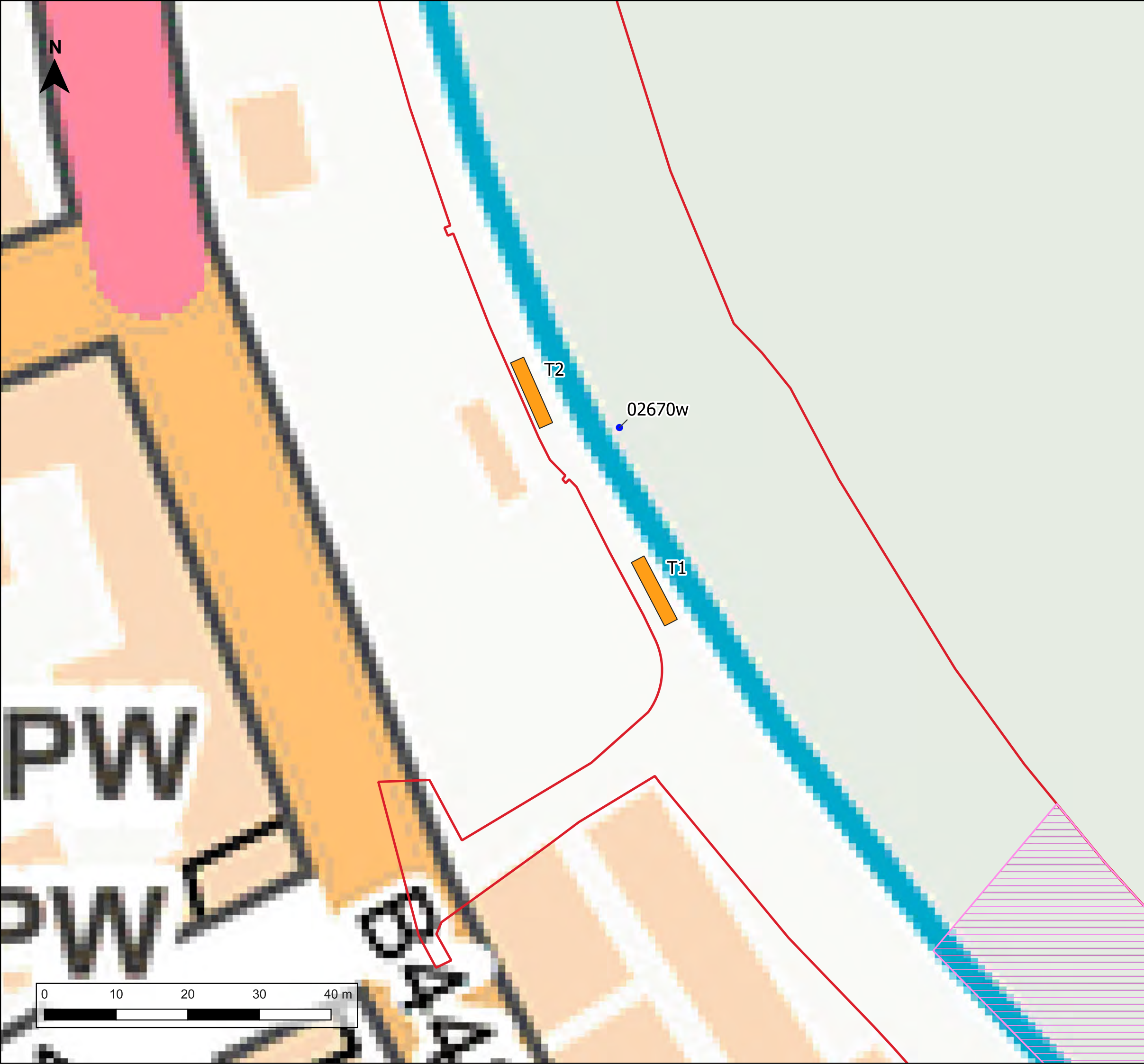
2020s0838 - Mumbles

- Redline Boundary
- Archaeological Trial Trenches
- Window Samples
- Extent of Impacted Peat

Drawn By:	KE	Date:	06/12/2021	Scale:	
Checked By:	MA	Date:	06/12/2021		1:1,000
Approved By:	PM	Date:	06/12/2021		Original at A3
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Figure Title:	Figure 2 - Archaeological Investigation Overview				

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North Yorkshire
BD23 3FD
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- 2020s0838 - Mumbles
- Redline Boundary
 - Dunn's Mansion
 - ▭ Archaeological Trial Trenches

Drawn By:	KE	Date:	30/11/2021	Scale:	1:500
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Approved By:	PM	Date:	30/11/2021		
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Figure Title:	Figure 3 - Dunn's Mansion Trenching Plan				

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BH16
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WS1

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BH17

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WS4

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WS5

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Skipton
North Yorkshire
BD23 3FD
+44 (0)1756 799 919
info@jbaconsulting.com

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- Redline Boundary
- ◆ Window Sample Locations
- ▭ Extent of Impacted Peat

Previous Geotechnical Investigations

- testpit
- ▲ borehole

Drawn By:	KE	Date:	06/12/2021	Scale:	
Checked By:	MA	Date:	06/12/2021		1:1,000
Approved By:	PM	Date:	06/12/2021		Original at A3
Status:	S1	Revision:	P01		
Figure Title:	Figure 4 - Window Samples				

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