REPORT

Future Port Talbot Marine Ground Investigations

Written Scheme of Investigation

Client:	Mott MacDonald (on behalf of Associated British Ports)
Reference:	PC4820-RHD-XX-XX-RP-EV-1000
Status:	Draft/01
Date:	18 September 2024

HASKONINGDHV UK LTD.

Westpoint
Peterborough Business Park
Lynch Wood
Peterborough
PE2 6FZ
United Kingdom
Water & Maritime
VAT registration number: 792428892

Phone: +44 1733 3344 55
Email: info@uk.rhdhv.com
Website: royalhaskoningdhv.com

Document title:	Future Port Talbot Marine Ground Investigations
Subtitle:	Written Scheme of Investigation
Reference:	PC4820-RHD-XX-XX-RP-EV-1000
Your reference	TBC
Status:	Draft/01
Date:	18 September 2024
Project name:	WBG Offshore Wind Development Program
Project number:	PC4820
Author(s):	Victoria Boothby
Drafted by:	Victoria Boothby
Checked by:	Sarah Mounce
Date:	17th September 2024
Approved by:	
Date:	
Classification:	Project related

Royal HaskoningDHV

Table of Contents

Table of Figures

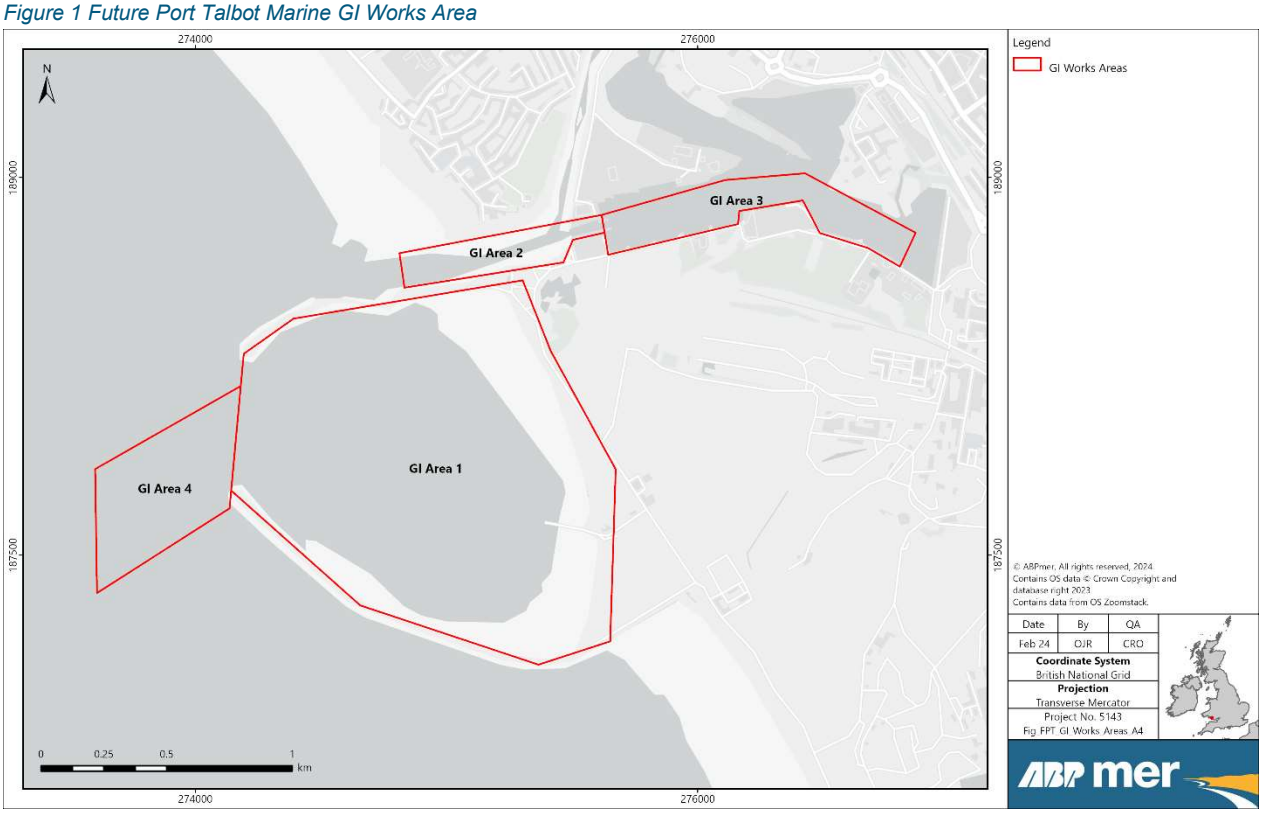
Appendices

1 Background

Future Port Talbot is a proposal by Associated British Ports (ABP) to develop the port to support the transition to a net zero-carbon by providing the facilities to support the construction of Floating Offshore Wind (FLOW) developments. The proposals include construction of new quay walls and stone pads, quayside land reclamation, upgrade of the North Jetty and existing loading jetties, new pontoons and dredging for jack-up operations at Port Talbot. ABP is the Statutory Harbour Authority for Port Talbot.

Marine Ground Investigations (GI) are required to inform the design and to obtain geotechnical and geo-environmental information to inform the Environmental Impact Assessment (EIA) which will be submitted as part of the applications for planning and consent. The project is currently at scoping phase, with a scoping report for the project (Mott MacDonald, 2024) anticipated to be submitted in Q4 2024. The area within which GI works will take place is shown in **Figure 1** below.

Figure 1 Future Port Talbot Marine GI Works Area



A marine licence application for the Port Talbot marine GI works (Ref RML2420) was submitted in February 2024. The application was accompanied by a method statement (ABPmer, 2024a) which set out an overarching approach to addressing potential impacts to the marine historic environment during marine GI works which includes:

- marine geophysical surveys prior to the planned intrusive GI to ensure that the seabed is clear of debris, which could be of archaeological interest;
- Archaeological Exclusion Zones (AEZs) around known wrecks to ensure avoidance during ground investigations;

- a Protocol for Archaeological Discoveries (PAD) to be implemented during ground investigations in order to set out a clear approach for reporting any unexpected discoveries of archaeological material during the works; and
- marine geoarchaeological assessment to be progressed following acquisition of samples.

As part of the consultation process, Julian Whitewright, Senior Investigator (Maritime) with RCAHMW, was consulted by ABP on the proposed ground investigations and confirmed via email (received 19th February 2024) that RCAHMW have no objection to the survey from a marine archaeological point of view.

Following submission of the marine licence application, RCAHMW were formally consulted by Natural Resources Wales (NRW) as the organisation responsible for marine licensing in Welsh inshore areas. RCAHMW confirmed via email on 29th May 2024 that there was no objection to the application on the basis of any impact to marine archaeology and requested a Written Scheme of Investigation (WSI) in order to confirm the approach to delivering the investigation and mitigation measures outlined above.

This document, therefore, has been prepared by the Future Port Talbot retained archaeologist for the marine GI works (Royal HaskoningDHV) in order to provide additional detail on the marine historic environment and the potential impacts during the marine GI works and to provide the WSI as requested during the consultation process.

The WSI was considered further by ABP and their retained archaeologist for the marine GI works (Royal HaskoningDHV) with Julian Whitewright via a meeting on 16th September 2024. The structure and content of this WSI was discussed and agreed during the meeting. It was also agreed that, whilst this WSI applies only to the marine GI works, a WSI for the proposed Future Port Talbot scheme would be submitted alongside the EIA and marine licence application.

2 Marine Historic Environment Summary

There are no designated historic assets recorded within the marine GI works area illustrated on **Figure 1**.

With respect to non-designated historic assets, the summary presented below draws on information provided in the draft scoping report for the proposed Future Port Talbot scheme (Mott McDonald, 2024).

The data sources searched by Mott MacDonald to inform the scoping report are as follows:

- Cof Cymru – National Historic Assets of Wales for data on designated assets pertinent to the marine historic environment, including protected wrecks;
- Heneb (Glamorgan-Gwent Archaeological Trust (GGAT)) Historic Environment Record (HER) database for historic maritime monument records and archaeological events;
- The National Monuments Record for Wales (NMRW) as held by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) for non-designated maritime archaeological sites, find spots and landscapes; and
- Wrecks and obstructions data shared by the UK Hydrographic Office (UKHO) for charted, uncharted, live and dead wrecks and obstructions.

The scoping report (Mott MacDonald, 2024) records 22 non-designated marine historic assets recorded by the HER within the study area (defined as the EIA Scoping red line boundary (RLB) plus a 1km buffer, as shown on **Figure 2**). These include docks, jetties, weirs and shipwrecks. Of these 22 historic assets, 17 are recorded within the RLB. These primarily comprise dock infrastructure and include:

- Jetties (GGAT08800w, GGAT08805w, GGAT08809w);
- A breakwater (GGAT03123w);
- A landing stage (GGAT08813w);
- A lock (GGAT08841w, GGAT03124w); and
- Weirs (GGAT08853w, GGAT08854w).

An additional 30 non-designated marine assets have been identified within the study area through the NMRW data (**Figure 2**). These include documented losses of vessels which have not had remains confirmed to be present at the recorded positions, but which may still be present in the vicinity. These documented losses indicate that there is potential for encountering previously unrecorded wrecks and related debris within the footprint of the GI works. Eight marine assets have been identified within or immediately adjacent to the RLB through the NMRW data. These comprise:

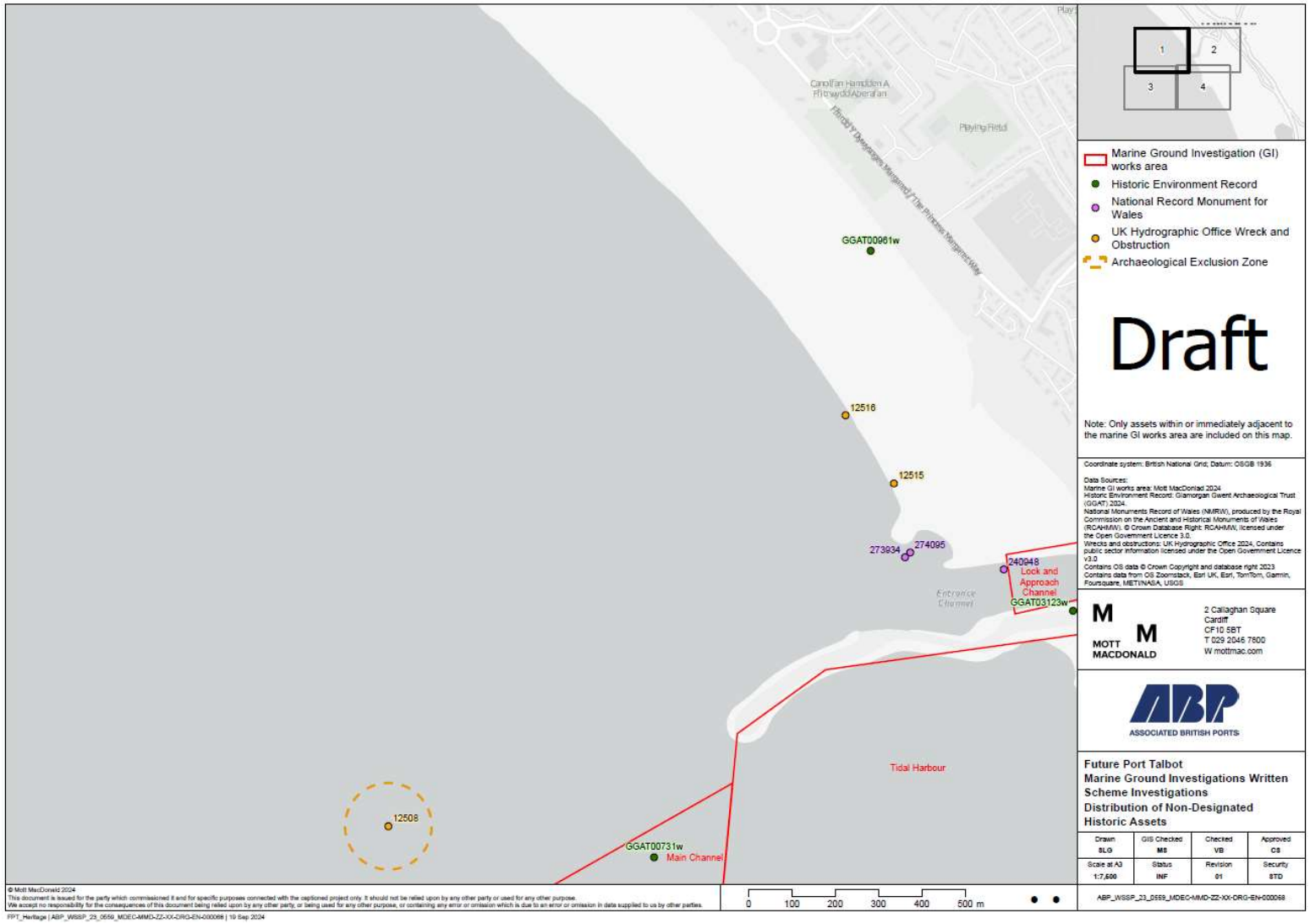
- The possible wreck of the *Carola* (273982), which is a 19th century wooden barque recorded just inside the RLB at the entrance to the tidal harbour near the breakwater.
- The possible wreck of the *John Stroud* (240948), which is a 19th century wooden brig recorded within the RLB at the entrance to the Afon (river) Afan.
- The possible wreck of the *Windermere* (273934), which is a 19th century steam ship recorded immediately adjacent to the RLB at the entrance to the Afon (river) Afan.
- The possible wreck of the *James Stevens No 12* (274095), which is self-righting lifeboat recorded immediately adjacent to the RLB at the entrance to the Afon (river) Afan.
- The possible wreck of a 20th century crane barge named *Jumbo* (515495), recorded within the RLB in the impounded dock.
- The possible wreck of the *Eva* (506806), which is a 20th century fishing vessel recorded within the RLB within the impounded docks.
- Roman Milestone (307252) recovered from within the RLB in the impounded dock.
- Peat deposit (524727) recorded within the RLB in the impounded dock.

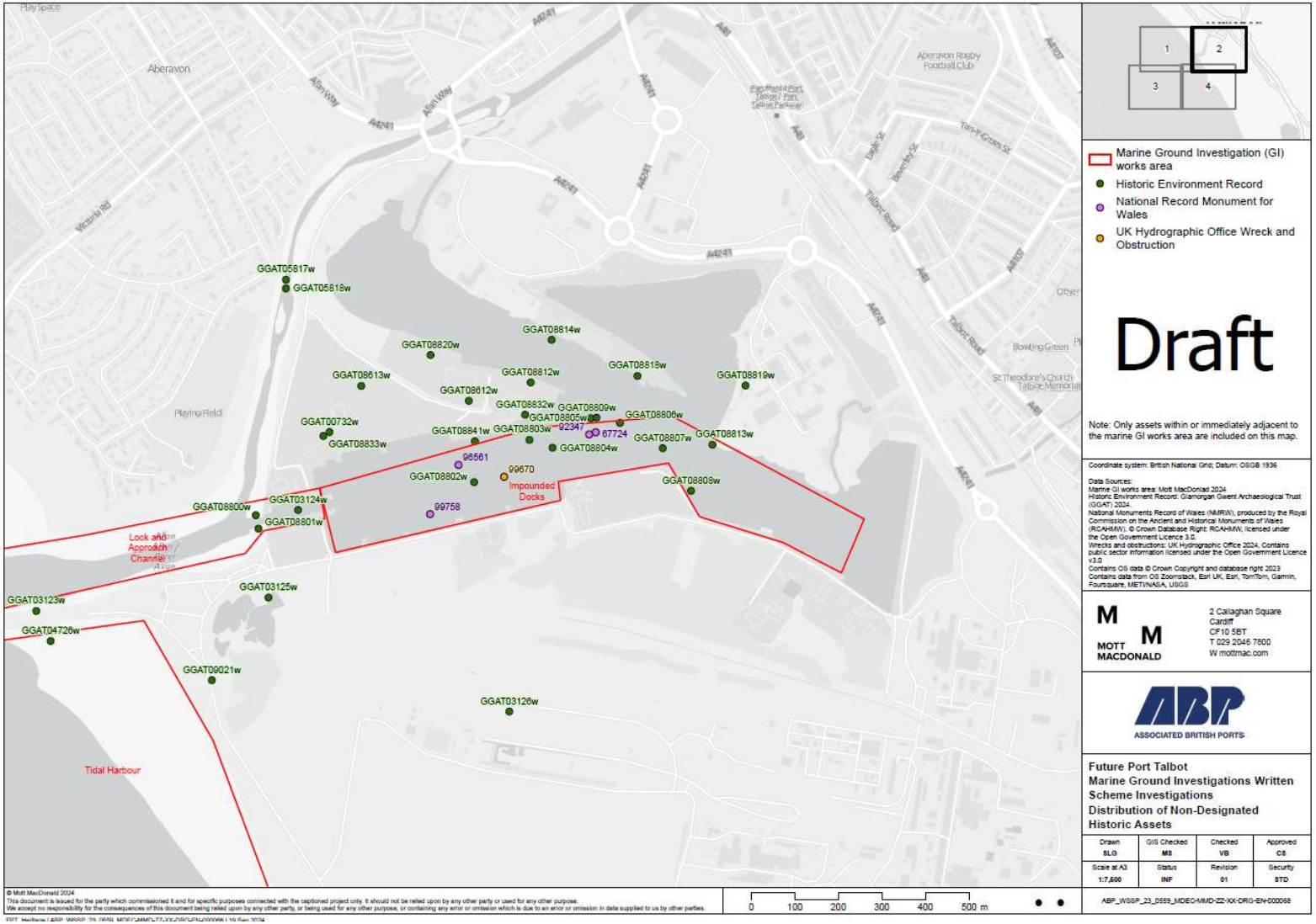
A review of the UKHO wrecks and obstructions data shows the presence of a recorded wreck within the Port Talbot inner dock (UKHO ID 99670). Only the dimensions are provided (7 x 4.6 x 0.78 m) for this feature, recorded during an ABP Survey in 2022. This has been confirmed by the former Port Talbot Harbour Master as a sunken small work boat and is not of archaeological interest (pers. comm R. Lewis (2024)).

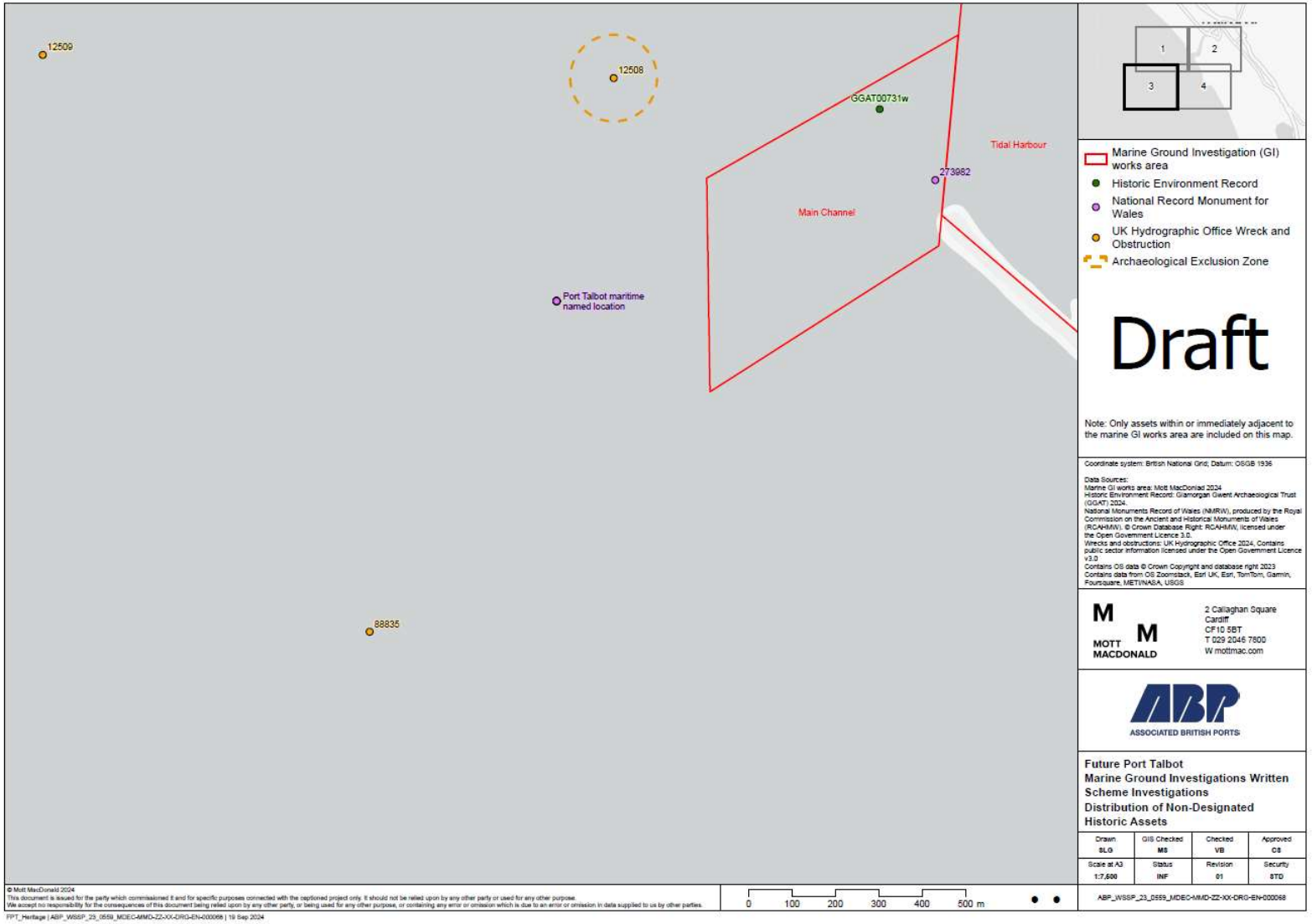
The UKHO also records the wreck of the steamship *Stalheim*, located outside of the entrance to the harbour. The wreck (UKHO ID 12508) has been recorded with dimensions of 81.3 x 19.8 x 3.4m and the wreck is recorded as degraded with a debris field on the NW side of the wreck. *Stalheim* was lost on 31st July 1940 after detonating a German-laid aerial magnetic mine, whilst carrying 1,876 tons of anthracite from Port Talbot and Barry to St Johns, Newfoundland.

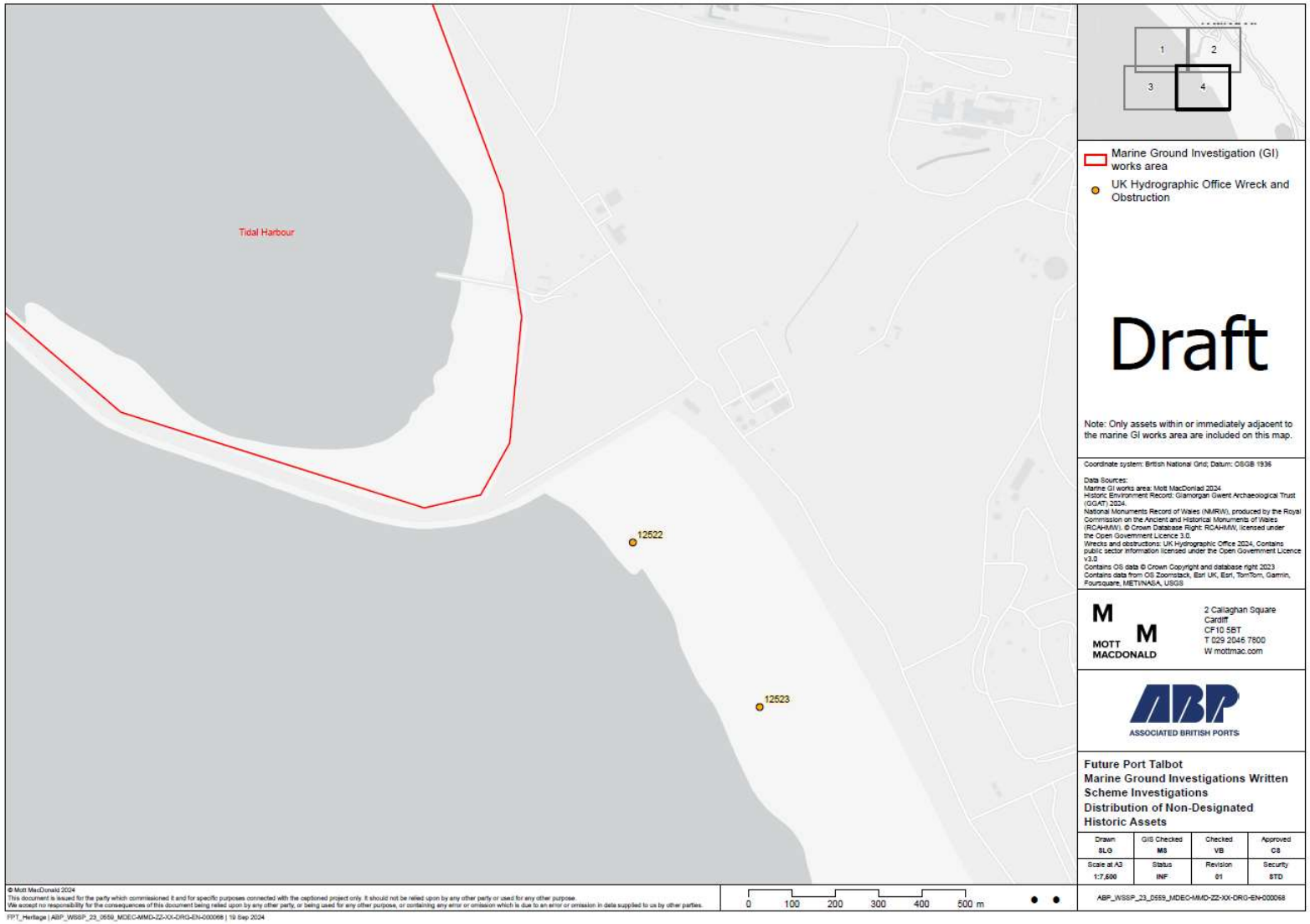
In addition, although there are no documented losses of aircraft within the study area, there may also be potential for previously unrecorded aircraft crash sites within the vicinity of the study area which could be encountered during GI works.

Figure 2 Distribution of Non-designated Historic Assets




Aberavon
Aberavon Rugby Football Club
Playing Field
Lock and Approach Channel
Impounded Docks
Tidal Harbour
GGAT05817w
GGAT05818w
GGAT08814w
GGAT08820w
GGAT08818w
GGAT08613w
GGAT08812w
GGAT08819w
GGAT08612w
GGAT08832w
GGAT08809w
GGAT08805w
GGAT08806w
GGAT00732w
GGAT08841w
GGAT08803w
92347
67724
GGAT08807w
GGAT08813w
GGAT08833w
GGAT08804w
96561
99670
GGAT08802w
GGAT08808w
GGAT08800w
GGAT03124w
GGAT08801w
99758
GGAT03125w
GGAT03123w
GGAT04726w
GGAT09021w
GGAT03126w
Marine Ground Investigation (GI) works area
Historic Environment Record
National Record Monument for Wales
UK Hydrographic Office Wreck and Obstruction
Draft
Note: Only assets within or immediately adjacent to the marine GI works area are included on this map.
Coordinate system: British National Grid; Datum: OSGB 1936
Data Sources:
Marine GI works area: Mott MacDonald 2024
Historic Environment Record: Glamorgan Gwent Archaeological Trust (GGAT) 2024.
National Monuments Record of Wales (NMRW), produced by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW). © Crown Database Right. RCAHMW, licensed under the Open Government Licence 3.0.
Wrecks and obstructions: UK Hydrographic Office 2024, Contains public sector information licensed under the Open Government Licence v3.0
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack, Esri UK, Esri, TomTom, Garmin, Foursquare, METI/NASA, USGS
MOTT MACDONALD
2 Callaghan Square
Cardiff
CF10 5BT
T 029 2046 7800
W mottmac.com
ASSOCIATED BRITISH PORTS
Future Port Talbot
Marine Ground Investigations Written Scheme Investigations
Distribution of Non-Designated Historic Assets
Drawn SLG
GIS Checked MS
Checked VB
Approved CS
Scale at A3 1:7,500
Status INF
Revision 01
Security STD
ABP_WSSP_23_0559_MDEC-MMD-ZZ-XX-DRG-EN-000068
© Mott MacDonald 2024
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.
0 100 200 300 400 500 m


12509
12508
GGAT00731w
Tidal Harbour
273982
Main Channel
Port Talbot maritime named location
88835
1
2
3
4
Marine Ground Investigation (GI) works area
Historic Environment Record
National Record Monument for Wales
UK Hydrographic Office Wreck and Obstruction
Archaeological Exclusion Zone
Draft
Note: Only assets within or immediately adjacent to the marine GI works area are included on this map.
Coordinate system: British National Grid; Datum: OSGB 1936
Data Sources:
Marine GI works area: Mott MacDonald 2024
Historic Environment Record: Glamorgan Gwent Archaeological Trust (GGAT) 2024.
National Monuments Record of Wales (NMRW), produced by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW). © Crown Database Right: RCAHMW, licensed under the Open Government Licence 3.0.
Wrecks and obstructions: UK Hydrographic Office 2024. Contains public sector information licensed under the Open Government Licence v3.0
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack, Esri UK, Esri, TomTom, Garmin, Foursquare, METI/NASA, USGS
MOTT MACDONALD
2 Callaghan Square
Cardiff
CF10 5BT
T 029 2046 7800
W mottmac.com
ASSOCIATED BRITISH PORTS
Future Port Talbot
Marine Ground Investigations Written Scheme Investigations
Distribution of Non-Designated Historic Assets
Drawn SLG
GIS Checked MS
Checked VB
Approved CS
Scale at A3 1:7,500
Status INF
Revision 01
Security STD
ABP_WSSP_23_0559_MDEC-MMD-ZZ-XX-DRG-EN-000068
© Mott MacDonald 2024
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.
0 100 200 300 400 500 m
FPT_Heritage | ABP_WSSP_23_0559_MDEC-MMD-ZZ-XX-DRG-EN-000068 | 19 Sep 2024


Tidal Harbour
12522
12523
1
2
3
4
Marine Ground Investigation (GI) works area
UK Hydrographic Office Wreck and Obstruction
Draft
Note: Only assets within or immediately adjacent to the marine GI works area are included on this map.
Coordinate system: British National Grid; Datum: OSGB 1936
Data Sources:
Marine GI works area: Mott MacDonlad 2024
Historic Environment Record: Glamorgan Gwent Archaeological Trust (GGAT) 2024.
National Monuments Record of Wales (NMRW), produced by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW). © Crown Database Right: RCAHMW, licensed under the Open Government Licence 3.0.
Wrecks and obstructions: UK Hydrographic Office 2024. Contains public sector information licensed under the Open Government Licence v3.0
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack, Esri UK, Esri, TomTom, Garmin, Foursquare, METI/NASA, USGS
MOTT MACDONALD
2 Callaghan Square
Cardiff
CF10 5BT
T 029 2046 7800
W mottmac.com
ASSOCIATED BRITISH PORTS
Future Port Talbot
Marine Ground Investigations Written Scheme Investigations
Distribution of Non-Designated Historic Assets
Drawn SLG
GIS Checked MS
Checked VB
Approved CS
Scale at A3 1:7,500
Status INF
Revision 01
Security STD
0 100 200 300 400 500 m
ABP_WSSP_23_0559_MDEC-MMD-ZZ-XX-DRG-EN-000068
© Mott MacDonald 2024
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.
FPT_Heritage | ABP_WSSP_23_0559_MDEC-MMD-ZZ-XX-DRG-EN-000068 | 19 Sep 2024

3 Potential Impacts and Mitigation

The scope of the marine GI includes:

- 16 no. Cable Percussive/Sonic Core (CP/SC) boreholes taken to a maximum depth of 25.0 m.
- 16 no. Cable Percussive/Sonic Core with Rotary Core follow-on (CP/SC+RC) boreholes will be taken to a maximum depth of 40.0 m.
- 33 no. Vibrocores taken to a maximum depth of 5.0 m below seabed level.
- 15 no. Van Veen Grab (VVG) samples to a maximum depth of 1.0 m below seabed level.
- 19 no. Seismic Cone Penetration Tests with Piezocone (SCPTu) taken to a maximum depth of 25.0 m.
- For each of the exploratory holes Standard Penetration Testing (SPT) and sampling will be carried out.

Each of these GI activities has the potential to directly impact archaeological material located on, or buried within, the seabed.

The wreck of the steamship *Stalheim* (UKHO ID 12508) will be avoided through the application of an AEZ prohibiting GI works within the vicinity of the wreck (see **Section 4.3** below).

However, as outlined in **Section 2** above, there is potential for previously undiscovered archaeological remains to be encountered during the GI works which could include in-situ wrecks, aircraft or submerged prehistoric sites as well as isolated maritime, aviation or prehistoric finds.

In order to prevent, as far as possible, unintentional impacts to archaeological material the seabed will be confirmed clear of debris, including Unexploded Ordnance (UXO) at each location prior to works commencing (see **Section 4.4** below).

In addition, given the known presence of peat in the intertidal zone that may be impacted by the development, and the potential for further deposits of geoarchaeological interest, a marine geoarchaeological assessment will be progressed following acquisition of samples (see **Section 4.5** below).

Finally, in the event of unexpected discoveries a PAD will be implemented during the works as outlined in **Section 4.6**. The full version of the PAD, for distribution to all relevant staff and contractors is included in **Appendix A1**.

4 Written Scheme of Investigation

4.1 Approach

This WSI and PAD has been prepared with reference to available standards and guidance including:

- Archaeological Written Schemes of Investigation for Offshore Wind Farm Projects (The Crown Estate, 2021).
- Managing the Marine Historic Environment of Wales (Cadw, 2020);
- The Assessment and Management of Marine Archaeology in Port and Harbour Development (Cooper, V and Gane, T, 2016);
- Protocol for Archaeological Discoveries: Offshore Renewables Projects (The Crown Estate, 2014);

- Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for the Renewable Energy Sector (Gribble and Leather, 2011);
- JNAPC Code of Practice for Seabed Development (Joint Nautical Archaeology Policy Committee and The Crown Estate, 2006); and
- Protocol for Reporting Finds of Archaeological Interest (BMAPA, English Heritage and Wessex Archaeology, 2005).

As outlined in **Section 3** above, the primary means of mitigation are avoidance (**Section 4.3**), informed by marine geophysical assessment (**Section 4.4**), and geoarchaeological assessment of the marine GI data (**Section 4.5**) supported by a PAD (**Appendix A1**) to ensure that unexpected discoveries are addressed in a timely manner. However, it is also possible that further investigative works may be required in the event of an unexpected discovery of archaeological significance for example. The approach to further site investigation is not covered by this WSI. Additional investigation or mitigation will be considered on a case-by-case basis in consultation with archaeological curators and could include:

- Implementation of a Temporary Exclusion Zone (TEZ) prohibiting activities within its boundaries until further investigation can be carried out and appropriate mitigation agreed. TEZs may only be removed in consultation with RCAHMW.
- High resolution geophysical survey and archaeological interpretation of data from the location of the discovery.
- Investigation to establish the nature, extent and archaeological interest of any material which may remain on the seabed using a Remote Operated Vehicle (ROV) or divers.
- Recording and excavation of archaeological material or relocation of material beyond the area of works.

In the event that additional mitigation is required, each package of archaeological work will be subject to a work package specific WSI setting out the approach for agreement with stakeholders. The WSIs would be drafted by the retained archaeologist, or a specialist archaeological contractor engaged by ABP to undertake the work, and each WSI will be submitted by the retained archaeologist, on behalf of ABP, to RCAHMW in advance of the archaeological works commencing. This will be in accordance with a timeframe agreed between ABP and RCAHMW should further archaeological works be required.

The approach to each work package will adhere to standards and guidance, as set out in The Crown Estate (2021) guidance on Archaeological WSIs, and with specific considerations as relevant to each work package and set out in the corresponding WSI.

4.2 Roles and Responsibilities

Overall responsibility for the implementation of this WSI lies with ABP (as the licence holder) who will ensure that its agents and contractors are contractually bound to adhere to the terms of the WSI and to implement the PAD (**Section 4.6** and **Appendix A1**). The key contact for the historic environment at ABP is:

- Claire Stephenson, FPT Consent and Planning Lead, ABP
- Email: claire.stephenson@abports.co.uk
- Tel: +44 (0)7803 824358

The regulatory body responsible for enforcing conditions specified in the marine licence is NRW. NRW's advisor on the marine historic environment and RCAHMW for heritage matters offshore (below Mean High Water Springs) is RCAHMW.

For each package of archaeological works, ABP or their agents will, as required, procure the services of specialist archaeological contractors with the requisite experience and expertise to undertake the necessary works. In addition, ABP, via their consultants Mott MacDonald, have retained the services of marine archaeological and geoarchaeological specialists at Royal HaskoningDHV to ensure the effective implementation of the WSI/PAD and other contractual commitments in relation to archaeology for the marine GI works. The key contact at Royal HaskoningDHV is:

- Victoria Boothby (Principal Marine Heritage Consultant)
- Email: victoria.boothby@rhdhv.com
- Tel: 07775 536772

The responsibilities of the retained archaeologist include:

- Compiling, reviewing and updating this WSI following consultation with ABP and the regulators (NRW) and archaeological curators (RCAHMW);
- Advising ABP on their responsibilities regarding the implementation of the WSI and the PAD (**Appendix A1**);
- If required, compiling, agreeing and issuing work package specific WSIs for archaeological contractors to adhere to, following consultation with ABP and the regulators and curators;
- Advising ABP on the necessary interaction with the regulators, curators and other third parties;
- Supporting ABP in procuring, monitoring the work of, and liaising with specialist archaeological contractors (if required);
- Monitoring the preparation and submission of archaeological reports as appropriate and making them available to the regulators and curators for review and approval; and
- Advising ABP on any final requirements and arrangements for further assessment, analysis, archive deposition, publication and popular dissemination.

All agents and contractors engaged by ABP will:

- Familiarise themselves with the requirements of this WSI and make it available to their staff, explaining the requirements and need for strict adherence;
- Familiarise themselves with the PAD (**Appendix A1**) and ensure the implementation of and adherence to the protocol by their staff, including ensuring staff awareness of the PAD and making staff available for toolbox talks, if requested;
- Assist and afford access to the archaeological contractors as advised by ABP and the retained archaeologist; and
- Inform the retained archaeologist and/or archaeological contractors of any environmental or health and safety constraints of which they may be aware that is relevant to archaeologist's activities on site.

4.3 Avoidance (Archaeological Exclusion Zones)

The principal objective of an AEZ is to prevent damage to or disturbance of a wreck, aircraft or feature on the seabed during activities that may cause direct impacts to a historic asset. AEZs, therefore, preclude project-related activities from taking place within their boundaries, thereby avoiding significant impacts to assets contained within.

A single AEZ is currently proposed around the wreck of the steamship *Stalheim* (UKHO ID 12508) prohibiting marine GI works within the vicinity of the wreck. As the archaeological assessment of the marine geophysical data is yet to be progressed (see **Section 4.4** below) the boundary of the wreck as it appears on the seabed is yet to be established. As such, in order to ensure that the full extent of the wreck (recorded with the dimensions 81.3 x 19.8 x 3.4m) is encapsulated within the AEZ, a 100m buffer is recommended around the recorded point location (200m diameter) (**Figure 2**).

New AEZs can be proposed (in the event of an unexpected discovery for example) and, once established, existing AEZs can be reduced, enlarged or removed in agreement with RCAHMW if further relevant information becomes available. There is no fixed, industry standard for the size and extent of AEZs. Rather, the requirements for each AEZ will be assessed on an individual, case-by-case basis and agreed with RCAHMW. Each AEZ will incorporate a buffer in order to ensure that all material associated with that asset is encapsulated within its boundary, as well as to reduce the risk of unintentional impacts. The size of the buffer zone will also take into account local bed conditions, such as the prevailing current, the nature of the activity for which mitigation is required and will also allow for an appropriate margin of error in the positioning of an asset.

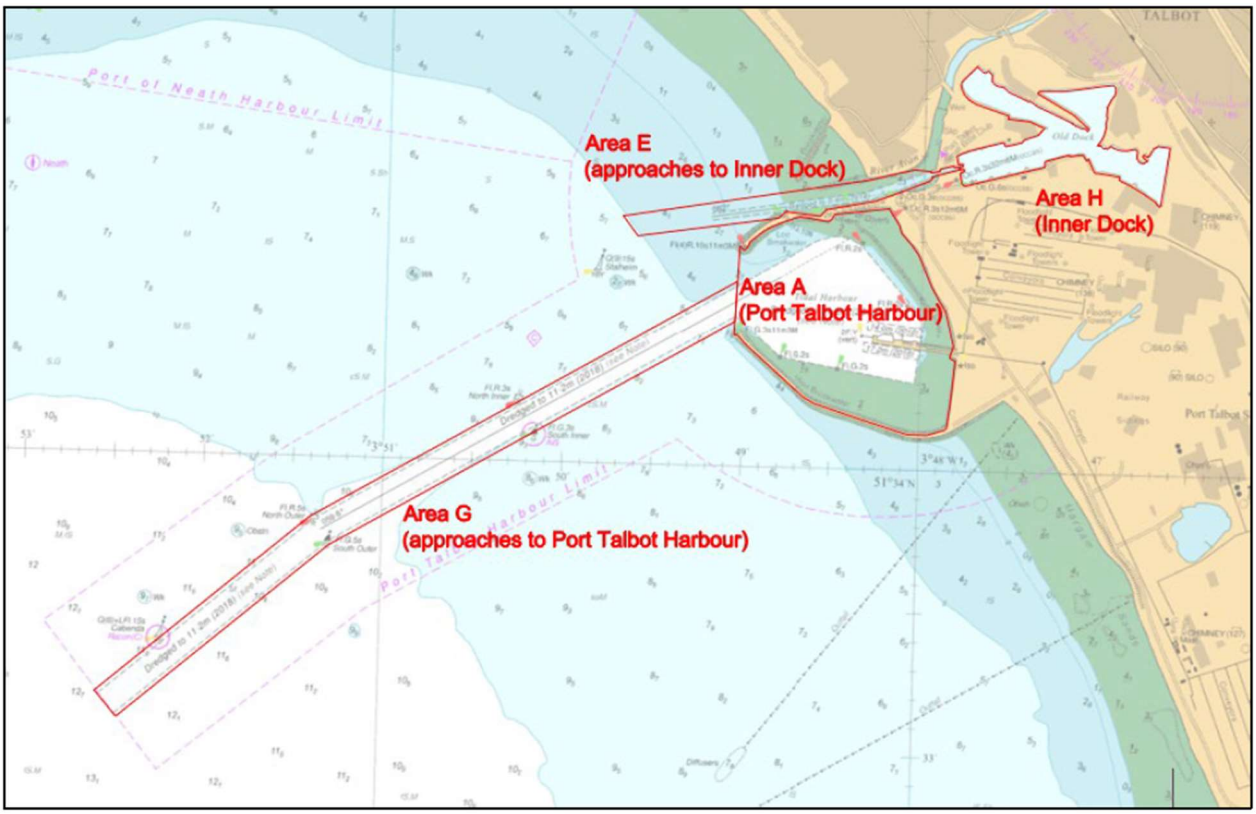
During GI activities, should any previously unreported wrecks (vessel or aircraft) or other sites of archaeological interest become apparent within the area of works these will be excluded as soon as they are discovered through the implementation of a TEZ. As for an AEZ, a TEZ precludes all activities from taking place within its boundary until further archaeological advice has been obtained and additional investigation and recording (e.g. the acquisition of further marine geophysical data, or investigation using a ROV or divers) will be required, accompanied by desk-based research, to establish the origin of the find and inform requirements for additional mitigation. The removal of a TEZ will occur only following consultation, and in agreement, with RCAHMW.

ABP will ensure that details of the AEZs are supplied to all agents and contractors and will retain responsibility for ensuing adherence to the AEZs throughout the licence period.

4.4 Marine Geophysical Investigations

Geophysical data were acquired from the survey area for the proposed Future Port Talbot development by ABPmer (2024b) in April and May 2024. The survey was undertaken within the Port Talbot harbour and approaches and the Port Talbot Inner Dock and approaches, as shown on **Figure 3** below, in order to inform the project consenting and design phases.

Figure 3 Geophysical Survey Areas (ABPmer, 2024b)



Side scan sonar (SSS), sub-bottom profiler (SBP) and magnetometer (MAG) data were acquired by ABPmer onboard the survey vessel, *Wessex Explorer* with multibeam bathymetry (MBES) and backscatter operations conducted by UK Dredging Ltd (UKD) onboard the *UKD Resolution*.

The ABPmer (2024b) results report describes that occasional boulders were interpreted within the survey areas but, for the most part, the seabed is flat and featureless, particularly within existing dredged areas. Numerous items of debris and infrastructure associated with the harbour area and the inner dock were interpreted from the data and ninety MAG anomalies, without corresponding SSS anomalies have been interpreted as possible buried debris.

Within Area A (Port Talbot Harbour), rockdumps (the boulder and shingle toe of the breakwaters), depressions, seabed scars and harbour infrastructure were observed. The largest item of debris is a 5.1 m x 0.4 m x 0.1 m item of linear debris. Sixteen of the magnetic anomalies have been interpreted within Area A. The largest of these is 86 nanoTesla (nT) in size.

Within Area E (approaches to Inner Dock) numerous items of debris have been interpreted, the largest being a 4.6 m x 0.5 m x 0.1 m item of linear debris. Harbour infrastructure is also clearly visible within the data. Thirty of the magnetic anomalies have been interpreted within Area E and the largest of these is 99 nT in size.

Within Area G (approaches to Port Talbot Harbour) occasional drag marks and seabed scars are observed within the southern portion, attributed to previous dredging activity. Occasional items of debris have been observed in the SSS data with two large items of debris towards the centre of Area G, either side of the dredged area, interpreted as possible fishing gear measuring around 24-40 m in length. Forty-one of the magnetic anomalies have been interpreted within Area G and the largest of these is 134 nT in size.

Within Area H (Inner Dock) occasional boulders have been interpreted along with numerous items of debris. The largest is 5.8 m x 0.7 m x 0.2 m item of debris. Harbour infrastructure is also clearly visible within the data. Three significant magnetic anomalies have been interpreted within Area H and the largest of these is 94 nT in size.

The locations of the planned marine GI have been finalised following completion of the marine geophysical survey in order to ensure that the seabed is clear of debris, which could be of archaeological interest. In addition, each location has also been reviewed against the MAG data to ensure that any buried ferrous material, which could represent UXO or buried wreck or aircraft material, for example, will also be avoided.

No evidence for the wreck *Stalheim* (UKHO ID 12508) extending into the approach channel (Area G) has been recorded in the geophysical interpenetration (ABPmer, 2024b).

In order to inform the EIA for the proposed Future Port Talbot development, ABP will retain the services of a suitably experienced and qualified archaeological contractor to progress archaeological assessment of the marine geophysical data acquired in 2024. The primary aim of the archaeological assessment will be to assess the geophysical survey dataset in order to identify any material of possible archaeological and cultural heritage significance present within the area within which activities related to the proposed Future Port Talbot development may be undertaken. The results of the assessment will inform the design of the project as part of overall engineering and design objectives for the scheme.

The ‘raw’ geophysical data, together with vessel and sensor tracks and factual reporting, will be provided to ABP’s contractor for assessment as necessary to meet archaeological objectives. Data will be provided in the following formats:

- SSS data in the form of raw, un-mosaicked files in *.xtf format or similar (including corrected navigational data or details thereof);
- Bathymetry data (MBES), in the form of cleaned, de-spiked and tidally corrected (including navigational data) ASCII (x,y,z) files per line or Bathymetry xyz files gridded at 1m cell size or less, if practical;
- Magnetometer data as cleaned, de-spiked ascii text (including easting, northing, nT and altitude as minimum) files per line, including layback, and raw data files;
- Shallow seismic SBP data as SEG-Y files or similar, including navigational data and layback; and
- Track plots as shapefiles or *.dgn files, survey logs (e.g. as *.xls or *.pdf), if available.

Initially, a data audit would be undertaken to ensure that all expected data is present and suitable for archaeological assessment and interpretation.

The SSS data will be processed and interpreted using appropriate software and the data will be interpreted to identify any objects of possible anthropogenic origin. The position and dimensions of any such objects will be recorded in a gazetteer.

The magnetometer data will also be processed and interpreted using appropriate software to allow the identification of magnetic anomalies which may be due to the presence of anthropogenic material with archaeological potential.

The MBES data will be analysed to identify any unusual seabed structures that could be shipwrecks or other anthropogenic debris. The interpretation will be correlated with the SSS and magnetometer interpretation.

The SBP data will be interpreted in order to identify any features or horizons relevant to an assessment of palaeolandscape/submerged prehistoric potential. The extents of any such features will be recorded, and full descriptions (including feature type, possible fill and archaeological potential) will be recorded in a gazetteer. This will be integrated with the results of the geoarchaeological assessment and reporting as discussed in **Section 4.5** below.

The interpreted geophysical datasets will be compared within the project GIS workspace to determine any correlation between the data sets, and anomalies from the different data sets will be grouped together with previously recorded historic assets. A single ID number will be assigned to each individual object (which may be associated with multiple anomalies from different data sources).

The results of further geophysical interpretation will be compiled as an archaeological technical report consistent with the methodologies for reporting set out in The Crown Estate (2021) guidance and will form part of the project archive as set out in **Section 0**. The resulting spatial interpretation data, such as the locations and extents of identified features and/or deposits of archaeological potential, will be provided alongside the compiled report in a suitable digital format, such as GIS shapefiles or CAD drawing files as agreed with ABP and, where appropriate RCAHMW. All reports and digital deliverables relating to the assessment will be available for subsequent data interpretations within the life cycle of the project.

In the event of an unexpected discovery during the marine GI works, further marine geophysical investigations may be required to acquire further information on the nature and extent of any obstructions or features that may be encountered on the seabed to inform requirements for further investigation and recording (e.g. diver/ ROV survey) and mitigation (e.g. AEZs or TEZs or excavation and recording).

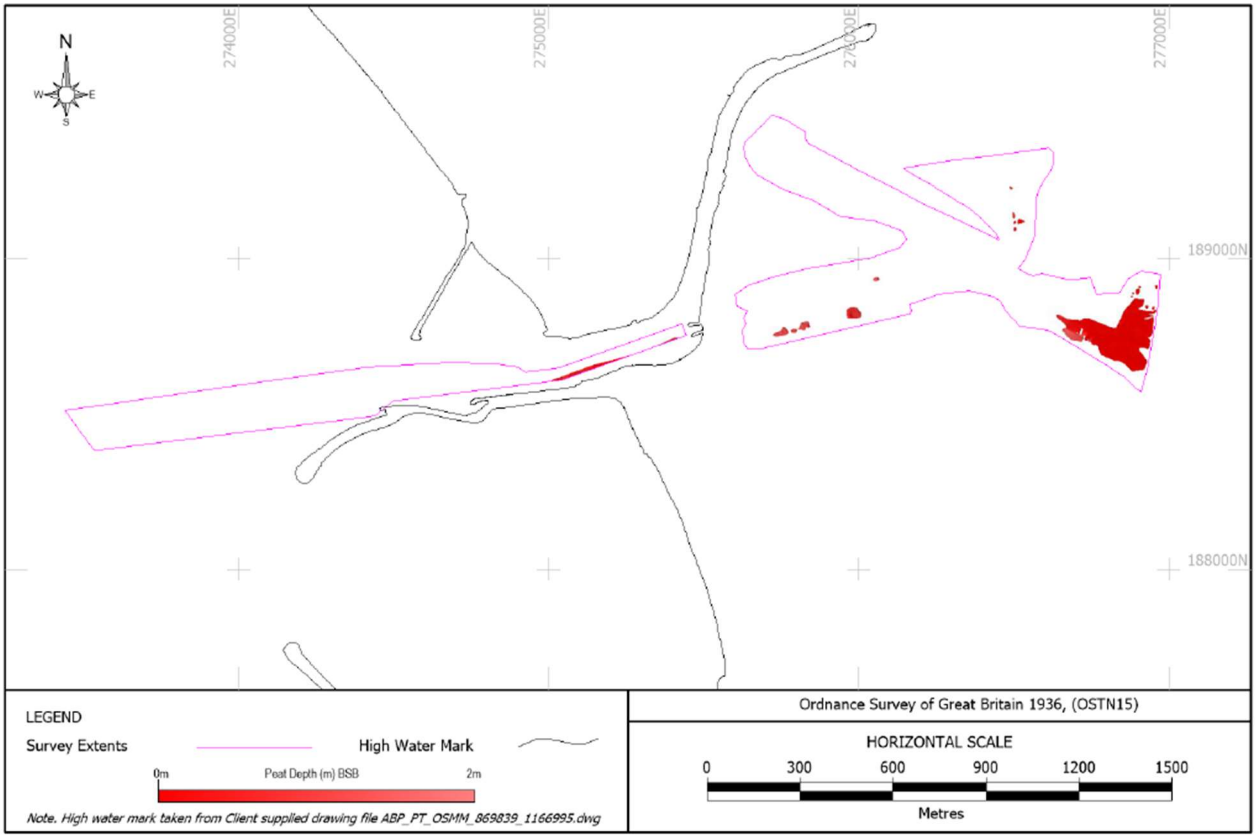
Any survey undertaken for the purposes of meeting specific archaeological objectives will be designed by an archaeological geophysicist. The specification and level or volume of data to be acquired and assessed will depend on the objectives of the survey and subsequent interpretation. However, for all aspects of archaeological marine geophysical investigations, ABP and its contractors will adhere to good practice as set out in industry guidelines (including for example Plets R., Dix J. and Bates R. (2013) Marine Geophysical Data Acquisition, Processing and Interpretation).

If required, the specific approach to geophysical survey and assessment would be set out in a survey-specific WSI setting out the specific details of the survey and the methodology for archaeological assessment in order to inform consultation with RCAHMW. Data will be processed, assessed and interpreted by a suitably experienced and qualified archaeological contractor. The primary output from the assessment work will be an illustrated, archaeological survey report detailing the results of the data interpretation and including recommendations for further work (e.g. AEZs/TEZs and further investigation using a diver/ROV).

4.5 Marine Geoarchaeological Investigations

An initial interpretation of the shallow geology within the study area has been undertaken by ABPmer (2024b) using the acquired SBP data (sparker and innomar) from the study area alongside British Geological Survey charts and lithological descriptions. Unit 1 and Unit 2 are expected to be lithologically very similar, both comprising sandy clay. Unit 3 is expected to comprise Till. The bedrock in the area is expected to comprise undifferentiated Carboniferous rock. Peat is also interpreted to be present in a small area to the east of Area E (approaches to Inner Dock) and just below the seabed in an area to the east of Area H (Inner Dock) (**Figure 4**). Other smaller, isolated occurrences of peat have been interpreted throughout Area H.

Figure 4 Interpreted Distribution of Peat Showing Depth Below Sea Bed in Areas E and H (ABPmer, 2024b)



The potential for prehistoric archaeology associated with the sandy clay and till deposits, interpreted to be present across most of the surveyed area, is anticipated to be low. However, given the known presence of peat in the intertidal zone that may be impacted by the development, and the potential for further deposits of geoarchaeological interest, a marine geoarchaeological assessment will be progressed following acquisition of samples.

To this end, archaeological advice in planning the survey has been provided by Royal HaskoningDHV's marine geoarchaeologist. In the first instance, all preliminary borehole/vibrocore logs will be reviewed by a geoarchaeological specialist at Royal HaskoningDHV in advance of any destructive testing on undisturbed samples or vibrocores. Following review, should any deposits of palaeoenvironmental interest be encountered, recommendations for geoarchaeological assessment would be agreed with RCAHMW.

In accordance with The Crown Estate (2021) guidance, and other industry guidance such as Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for the Renewable Energy Sector (Gribble and Leather, 2011), the approach to assessment will follow a staged approach as follows:

- Following desk-based review, if deposits of archaeological interest are identified, access will be provided by the geotechnical contractor to allow a geoarchaeologist to record and log selected samples. This may require a geoarchaeological contractor to attend the geotechnical contractor's laboratory in person to record cores/samples and acquire sub-samples. Alternatively, and depending upon the potential geoarchaeological interest of the identified deposits, the geoarchaeologist may request photographs and descriptions to be sent by the geotechnical contractor, so that appropriate sub-samples can be retained and sent to the geoarchaeologist for recording and further analysis.

- Dependent upon the results of the geoarchaeological recording, palaeoenvironmental assessment may be required. Assessment will comprise laboratory analysis of the samples to a level sufficient to enable the value of the palaeoenvironmental material surviving within the samples to be identified. Sub-samples will also be taken and/or retained at this stage in case scientific dating is required during the next stage. Some scientific dating (e.g. radiocarbon or Optically Stimulated Luminescence (OSL)) may be undertaken at this stage to provide chronological context. A report will set out the results of each laboratory assessment together with an outline of the archaeological implications of the combined results and will indicate whether any further work is warranted.
- Full palaeoenvironmental analysis of samples will only be undertaken if warranted by the results of the preceding stage. This would typically include scientific dating (e.g. radiocarbon or OSL) of suitable sub-samples.

The results of geoarchaeological interpretation will be compiled as archaeological reports consistent with **Section 0** and will form part of the project archive. Individual reports will represent the stage of analysis that is agreed with RCAHMW and would include a broad chronological framework for the completed analysis. The approach to each stage of assessment, including specific research questions in line with relevant research frameworks, will be set out in the preceding report for agreement with RCAHMW.

If warranted by the significance of the findings, the final stage of assessment will comprise the production of a final report of the results of the previous phases of work for publication in an appropriate journal.

4.6 Protocol For Archaeological Discoveries

Although impacts will be avoided as far as possible through the measures outlined above, a PAD will also be implemented during the marine GI works in order to set out a clear protocol for reporting any unexpected discoveries of archaeological material during the works so that these can be addressed in a timely manner.

The approach taken in implementing the PAD during the marine licence duration will follow that set out in the Marine Aggregates Industry (MAI) Protocol for reporting finds of archaeological interest (BMAPA, English Heritage and Wessex Archaeology, 2005) and the Offshore Renewables Protocol for Archaeological Discoveries (ORPAD) (The Crown Estate, 2014).

Under the PAD, each vessel or worksite team has a Site Champion, a single person who is responsible for reporting discoveries to a Nominated Contact within the Developer's organisation. The Nominated Contact would report any new discoveries to the retained archaeologist.

ABP will ensure that all staff and contractors are aware of their responsibilities under the protocol through mobilisation briefings.

The PAD which will be implemented during the marine GI works is included as **Appendix A1**.

4.7 Archaeological Recording, Samples and Artefacts

The Crown Estate (2021) guidance sets out high-level methodologies for:

- Indexing and recording systems.
- Position-fixing and levelling.
- Environmental sampling strategies.
- Environmental samples: handling, labelling, packaging, and storage.

- Artefacts: handling, labelling, packaging, and storage.
- Discovering and recording ordnance.
- The reporting, recording and deposition of human remains.
- The reporting and recording of aircraft wrecks.
- The reporting and recording of Wreck.
- The recovery of materials and their conservation and storage.

Any archaeological remains or environmental samples that are encountered during activities associated with the marine GI works would be treated in accordance with these methodologies and with best practice as set out in industry standards and guidance documents including, but not limited to:

- Standards and guidance for the collection, documentation, conservation, and research of archaeological materials (CIfA, 2020a); and
- First Aid for Underwater Finds (Robinson, 1998).

Isolated discoveries of artefacts that may come to light during the development would be dealt with through the PAD as set out in **Appendix A1**. In the event of a discovery of archaeological material provision for post-fieldwork assessment would be set out in the work package specific WSI produced to detail the approach to any further investigation for agreement with RCAHMW.

A general summary of key requirements is included below.

Any finds recovered or exposed during archaeological works would, at the point of discovery, be held by the archaeological contractor in appropriate conditions pending further recording, investigation, study, or conservation. All finds would be recorded and labelled appropriately. Where it is impracticable to recover finds these would need to be recorded.

Contingency would be made for specialist conservation advice from an appropriately qualified and experienced archaeological conservator should unexpected, unusual, or extremely fragile and delicate objects be recovered. All retained finds would be processed in accordance with the CIfA‘s Standard and guidance for the collection, documentation, conservation and research of archaeological material (CIfA, 2020a).

Recovered objects would be selected, retained, or disposed of in accordance with the policy agreed with the institution receiving the archive, and in consultation with the archaeological contractors.

Should ordnance be discovered, it should be treated with extreme care as it may still be active. Guidelines on addressing UXO discoveries provided to contractors by ABP must be followed prior to any recording of items for archaeological purposes.

In the case of the discovery of human remains, which are subject to special legal requirements under the Burial Act 1857, at all times, human remains must be treated with respect and dignity. Where practical, human remains will be left in situ, covered and protected. Any suspected human bone would be reported to the Police and the Coroner. If deemed archaeological, and released by the Coroner, remains will be assessed by an osteoarchaeologist and addressed in line with the Guidelines to the Standards for Recording Human Remains (Mitchell and Brickley, 2017) and follow best practice as appropriate (BABAO 2019; Mays et al. 2013).

With respect to human remains suspected to originate from military wrecks or aircraft crash sites, all discoveries would be reported to the Ministry of Defence through the Historic Casework Section of the Joint Casualty and Compassionate Centre at RAF Innsworth in Gloucestershire, whose primary concern is the protection and respectful treatment of human remains.

Regarding the remains of crashed aircraft, most aircraft wrecks are military and so fall under the legal protection of the Protection of Military Remains Act 1986. These would be avoided unless further investigation under licence is deemed necessary following advice from RCAHMW.

All archaeological artefacts that have come from a ship are wreck for the purposes of the Merchant Shipping Act 1995. Under this Act, all wreck material recovered from UK territorial waters, and any wreck material brought into the UK from outside UK territorial waters, must be reported to the Receiver of Wreck, including:

- Wreck material found in or on the sea.
- Wreck material washed ashore in tidal waters.
- Material recovered from a wreck site - regardless of age, size or apparent importance or value.

As advised in the Maritime and Coastguard Agency Guidance on Wreck and Salvage Law, wreck material can take many forms, including, for example, portholes, bells, compasses, fixtures and fittings, personal belongings, cargo material, medieval pots, gold coins, cannon, etc. and also includes the remains of aircraft. ABP, via its retained archaeologist, should ensure that the Receiver of Wreck is notified within 28 days of recovery for all items of wreck that have been recovered.

All recovered materials would be subject to a conservation assessment to determine whether special measures are required while the material is being held. This conservation assessment would be carried out by the retained archaeologist or an archaeological contractor with an appropriate level of expertise, with advice from appropriate specialists. The retained archaeologist or archaeological contractor with appropriate expertise will implement recommendations arising from the conservation assessment. Where no special measures are recommended, finds will be conserved, bagged, boxed and stored in accordance with industry guidelines.

Decisions regarding the scope of post-fieldwork assessment will be made by agreement between ABP and RCAHMW following submission of investigation reports and based on the possible importance of the results in terms of their contribution to archaeological knowledge, understanding or methodological development. On the basis of recommendations made by the post-fieldwork assessment, and as agreed by RCAHMW, mitigation requirements will be satisfied by carrying out analysis and reporting of the post-fieldwork assessment. If appropriate, this may include publication of important results in a recognised peer-reviewed journal or as a monograph.

Recovered objects will be selected, retained or disposed of in accordance with the policy agreed with the institution receiving the archive, and in consultation with RCAHMW.

4.8 Data Management, Reporting and Archive

All data management will take place with account of the approaches set out in The Crown Estate (2021) guidance and CIfA's Dig Digital (2019) guidance on digital archives. The retained archaeologist has overall responsibility for all matters related to archaeological data management. Issues regarding data storage and management, such as how long and in what format data should be stored, will be confirmed through discussions between the retained archaeologist and ABP.

Each package of archaeological works will be accompanied by written reports pursuant to the requirements of those works and demonstrating appropriate planning, recording and data management and commitment to archiving and public dissemination of results.

For all aspects of recording, reporting, data management and archiving, ABP, their agents and archaeological contractors will adhere to standards and guidance as set out in The Crown Estate guidance on archaeological WSIs (The Crown Estate, 2021) and with specific considerations as relevant to each work package and set out in the corresponding WSI to be prepared by the retained archaeologist, or archaeological contractor, and agreed with RCAHMW in advance of each package of works.

Each archaeological report will satisfy the requirements of the corresponding WSI for the investigation and will present the project information in sufficient detail to allow interpretation without recourse to the project archive. Reports will typically include:

- A non-technical summary.
- The aims and methods of the work.
- The results of the work including finds and environmental remains.
- A statement of the potential of the results.
- Proposals for further analysis and publication (if appropriate).
- Illustrations and appendices to support the report.

Each archaeological report will be submitted in draft to the retained archaeologist for submission to ABP. If the report is prepared by the retained archaeologist, it will be submitted directly to ABP.

It is accepted practice to keep project archives, including written, drawn, photographic and artefactual elements (together with a summary of the contents of the archive) together wherever possible and to deposit them in appropriate receiving institutions once their contents are in the public domain. Archives will be developed in line with guidance including:

- Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives (CIfA, 2020b);
- Environmental Guidelines for the Permanent Storage of Excavated Material from Archaeological Sites (Institute of Conservation, 1984); and
- Guidelines for the preparation of excavation archives for long-term storage (Walker, 1990).

ABP, RCAHMW and the archaeological contractor will agree with the receiving institution a policy for the selection, retention and disposal of excavated material, and confirm requirements in respect of the format, presentation and packaging of archive records and materials, and will notify the receiving institution in advance of any fieldwork.

The archaeological contractor or retained archaeologist will produce an OASIS (Online Access to the Index of archaeological investigations) form for any completed and agreed archaeological reports produced as a result of this WSI and ensure that a copy is submitted as a PDF file. Notification of the completion of the OASIS form will be automatically sent to RCAHMW to enable compliance with any relevant consent. Additionally, a summary of archaeological data will be compiled in a format suitable for submission of Monument, Event and Source records to the National Marine Heritage Record and the relevant local HER.

5 References

ABPmer (2024a) Future Port Talbot Ground Investigations Method Statement and Supporting Information. Document Reference: 4474.

ABPmer (2024b) Future Port Talbot Geophysical Survey Report. Document Reference: 4557.

BABAO (2019). British Association of Biological Anthropology and Osteoarchaeology: Code of Practice. Available at URL: https://babao.org.uk/wp-content/uploads/2024/01/BABAO-Code-of-Practice.pdf.

BMAPA and English Heritage (2005). Protocol for reporting finds of archaeological interest. Prepared by Wessex Archaeology. Available at URL: http://www.wessexarch.co.uk/files/projects/BMAPA-Protocol/protocol_text.pdf.

Cadw (2020) Managing the Marine Historic Environment of Wales. Available at URL: https://cadw.gov.wales/sites/default/files/2020-03/39705%20Managing%20Marine%20E%20WEB.pdf.

Chartered Institute for Archaeologists (2019) Dig Digital Work Digital. Think Archive. Create Access. A guide to managing digital data generated from archaeological investigations. Available at URL: https://www.archaeologists.net/sites/default/files/downloads/selection-toolkit/digdigital_full_guidance.pdf.

Chartered Institute for Archaeologists (2020a) Standards and guidance for the collection, documentation, conservation and research of archaeological materials. Available at URL: https://www.archaeologists.net/sites/default/files/CIfAS%26GFinds_2.pdf.

Chartered Institute for Archaeologists (2020b) Standards and guidance for the creation, compilation, transfer and deposition of archaeological archives. Available at URL: https://www.archaeologists.net/sites/default/files/CIFAS%26GArchives_4.pdf.

Cooper, V and Gane, T (2016) The Assessment and Management of Marine Archaeology in Port and Harbour Development, Wessex Archaeology, Salisbury. Prepared for Historic England. Available at URL: https://historicengland.org.uk/images-books/publications/assessment-management-marine-archaeology-port-and-harbour-development/6801-ports-and-harbours/.

Gribble, J. and Leather, S. (2011). Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for the Renewable Energy Sector. Guidance prepared by Emu and issued by COWRIE. Available at URL: https://www.historicenvironment.scot/media/2376/2011-01-offshore-geotechnical-investigations-and-historic-environment-analysis-guidance-for-the-renewable-energy-sector.pdf

Institute of Conservation (1984) Environmental Guidelines for the Permanent Storage of Excavated Material from Archaeological Sites, Conservation Guidelines No. 3, ICON

Joint Nautical Archaeology Policy Committee and The Crown Estate (2006). Code of Practice for Seabed Development. Available at URL: http://www.jnapc.org.uk/jnapc_brochure_may_2006.pdf

Mays, S., Elders, J., Humphrey, L., White, W. and Marshall, P. (2013). Science and the Dead: A guideline for the destructive sampling of archaeological human remains for scientific analysis. Guidance prepared for Historic England (English Heritage) in association with the Advisory Panel on the Archaeology of Burials in England. Available at URL: https://apabe.archaeologyuk.org/pdf/Science_and_the_Dead.pdf.

Mitchell, P.D. and Brickley, M. eds. (2017). Updated guidelines to the standards for recording human remains. Guidance prepared for Chartered Institute for Archaeologists and BABAO. Available at: https://www.archaeologists.net/sites/default/files/14_Updated%20Guidelines%20to%20the%20Standards%20for%20Recording%20Human%20Remains%20digital.pdf.

Mott MacDonald (2024) Future Port Talbot: Environmental Impact Assessment Scoping Report. Chapter 17: Marne Historic Environment. DRAFT.

Plets, R, Dix, J and Bates, R (2013). Marine Geophysics Data Acquisition, Processing and Interpretation Guidance Notes. Prepared for English Heritage. Available at URL: https://historicengland.org.uk/images-books/publications/marine-geophysics-data-acquisition-processing-interpretation/mgdapai-guidance-notes/.

Robinson, W. (1998). First Aid for Underwater Finds. Archetype Publications Ltd.

The Crown Estate (2014) Protocol for Archaeological Discoveries: Offshore Renewables Projects. Prepared by Wessex Archaeology for The Crown Estate. Available at URL: https://www.wessexarch.co.uk/sites/default/files/field_file/2_Protocol%20For%20Archaeological%20Discoveries.pdf.

The Crown Estate (2021) Archaeological Written Schemes of Investigation for Offshore Wind Farm Projects. Guidance prepared by Wessex Archaeology and issued by The Crown Estate. Available at URL: https://www.thecrownestate.co.uk/media/3917/guide-to-archaeological-requirements-for-offshore-wind.pdf.

Walker, K. (1990). Guidelines for the preparation of excavation archives for long-term storage, ICON.

A1 Protocol for Archaeological Discoveries

A1.1 Approach

Any activities which involve the disturbance of seabed sediments have the potential to reveal archaeological material. These discoveries can help to both understand the past and protect cultural heritage for future generations.

The primary purpose of the PAD is to allow staff and contractors to report unexpected archaeological discoveries in a manner conducive to their day-to-day work. The PAD forms the primary mitigation measure to mitigate potential impacts to any unidentified archaeological remains arising from the marine GI works. The PAD lays out a simple framework through which such finds can be reported, and archaeological advice obtained.

The approach taken in implementing the PAD during the construction phase will follow that set out in the Marine Aggregates Industry (MAI) Protocol for reporting finds of archaeological interest (BMAPA, English Heritage and Wessex Archaeology, 2005) and the Offshore Renewables Protocol for Archaeological Discoveries (ORPAD) (The Crown Estate, 2014). This approach comprises the following structure:

- Briefings provided to staff and contractors in advance of works commencing;
- Discoveries are made on the seabed, on board a vessel or ashore;
- Staff/crew provide first aid to finds and record basic details of the discovery;
- Discoveries are reported to the archaeological contractor who will provide initial advice and seek specialist advice as necessary;
- Measures to address the discovery are established by the archaeological contractor, in consultation with ABP and RCAHMW, as necessary;
- Measures are implemented by staff/crew; and
- A summary report is provided to stakeholders by the archaeological contractor and a MIDAS compliant report is forwarded to national and local authority heritage data archives.

A1.2 Types of Discovery

Discoveries may comprise finds or seabed obstructions located on, or buried within, the seabed. Finds are categorised as:

- Wreck: all artefacts that have originated from a vessel in accordance with the legal definition of ‘wreck’ in the Merchant Shipping Act (1995) and which must be reported to the Receiver of Wreck;
- Aircraft: all artefacts that have originated from an aircraft. The remains of all aircraft that have been lost in military service are automatically protected under the Protection of Military Remains Act 1986 and it is an offence to tamper with, damage, move or remove items without a licence;
- Non-wreck: cultural artefacts that are present within terrestrial contexts and on the seabed as a result of having been lost on land, either at times of lowered sea-level or eroded from the shore, for example; and
- Treasure: artefacts above low water that are not ‘wreck’ and that are considered ‘treasure’ under the Treasure Act 1996 must be reported to the local Coroner, the Portable Antiquities Scheme in Wales (PAS Cymru) and the Amgueddfa Cymru (National Museum Wales).

If discoveries comprise UXO then measures put in place by ABP will take precedence. Historic ordnance, however, may still be of archaeological interest and can still be reported under the PAD once UXO policy has been satisfied.

An obstruction, or 'site', on the seabed may comprise previously undiscovered wrecks or fragments of wrecks, including aircraft, former port and harbour structures or the remains of other structures or installations.

A1.3 Circumstances of Discovery

This PAD addresses finds of archaeological interest, should they be encountered during marine GI activities, including all works which disturb the seabed such as:

- Drilling of boreholes, acquisition of vibrocores or grab samples or CPT tests;
- Use of a track truck to transport the drilling rig in the foreshore; and
- Deployment of a jack-up barge or vessel anchors.

Smaller finds may also be encountered ashore e.g. within samples during laboratory testing.

A1.4 Roles and Responsibilities

A1.4.1 ABP

ABP will retain ultimate responsibility for implementation of the PAD. Specific responsibilities will include:

- Securing the services of an archaeological contractor (Royal HaskoningDHV) to facilitate the implementation of the PAD during the marine GI works;
- Assigning staff to the key roles of Nominated Contact and Site Champions and ensuring their awareness of their responsibilities under the PAD; and
- Ensuring that staff/crew and contractors are briefed on their responsibilities under the PAD.

A1.4.2 Archaeological contractor

Royal HaskoningDHV will facilitate the implementation of the PAD during the marine GI works on behalf of ABP and will be responsible for:

- Providing initial advice to staff/crew in the event of a discovery;
- Undertaking an assessment of archaeological potential;
- Seeking specialist advice to inform the interpretation of discoveries, where necessary;
- Consulting with stakeholders (e.g. the archaeological curators) to agree proportionate measures to address discoveries;
- Producing summary reports and MIDAS compliant reports to disseminate data to stakeholders;
- Ensuring that the Receiver of Wreck is informed in the event of discoveries of wreck material; and
- Ensuring that the local coroner is informed in the event of discoveries of treasure.

A1.4.3 Nominated contact

A member of staff from ABP will be nominated to act as the single point of contact for all communications regarding archaeology. The Nominated Contact will be responsible for:

- Co-ordinating reports of discoveries from site champions and ensuring that appropriate ‘first aid for finds’ is carried out and that initial data is recorded;
- Reporting discoveries to the archaeological contractor and to the Receiver of Wreck or Coroner, if required;
- Communicating appropriate measures to site staff as advised by the archaeological contractor; and
- Ensuring that measures are implemented as appropriate.

A1.4.4 Site champion

The Nominated Contact will identify a Site Champion, or Champions as appropriate, to act as a single point of contact for staff on site/on board. The Site Champion will be responsible for:

- Implementing a TEZ where the location of the discovery is known;
- Ensuring observation of the TEZ by all staff and contractors;
- Compiling Preliminary Record sheets for discoveries; and
- Reporting discoveries to the Nominated Contact.

A1.4.5 All staff/crew and contractors

On making a discovery all staff and contractors have a responsibility under the terms of the PAD to:

- Safeguard finds:
  - Handle with care;
  - Leave marine growth, rust, sediment or concretion intact; and
  - Undertake appropriate first aid measures, such as immersing waterlogged finds in seawater in a clean, covered container.
- Undertake initial recording:
  - Record the position of the discovery;
  - Photograph finds in the condition in which they were recovered; and
  - Label finds with a unique ID number as advised by the archaeological contractor.
- Report the discovery to the Site Champion.

All staff and contractors also have a responsibility to observe mitigation measures agreed by ABP with the RCAHMW such as the implementation of a TEZ at the location of a discovery.

A1.4.6 Reporting discoveries

Staff/crew or contractors making a discovery will report the find or obstruction to the Site Champion.

If the discovery comprises a site or obstruction on the seabed, and the position is known, then intrusive works will cease in the vicinity of this position and the position of the obstruction will be recorded. Works will not recommence in this vicinity of the position until archaeological advice has been obtained. The Site Champion will implement a TEZ and ensure observation by staff and contractors.

If the discovery comprises archaeological material, the position of the discovery should be recorded. This will be the position of the find itself, if known, or the position of the jack-up barge or vessel at the time of the discovery.

The find should be photographed in its discovery condition, including an appropriate scale in the photograph. If photographs are not possible then a drawing or other record may be used as an alternative.

Measures will be taken by staff to safeguard the find including first aid conservation:

- Marine growth, rust, sediment or concretion should be left intact;
- Waterlogged finds should be immersed in seawater in a suitable clean and covered container; and
- Dry finds should be placed in a suitable container and stored in a cool, dark place.

The Site Champion will ensure that safeguarding has taken place and will compile a Preliminary Record (see **Annex 1**) and pass this, along with any photographs, drawings or other records, to the Nominated Contact.

On receiving the report of a discovery, the Nominated Contact will confirm the details of the Preliminary Report with the Site Champion and inform the archaeological contractor as soon as possible. The Nominated Contact will ensure that all staff/crew and contractors that may be required to work in the area are aware of the discovery.

If the find is, or appears to be 'wreck', the Nominated Contact will, as soon as possible, notify the Receiver of Wreck in accordance with the Merchant Shipping Act (1995).

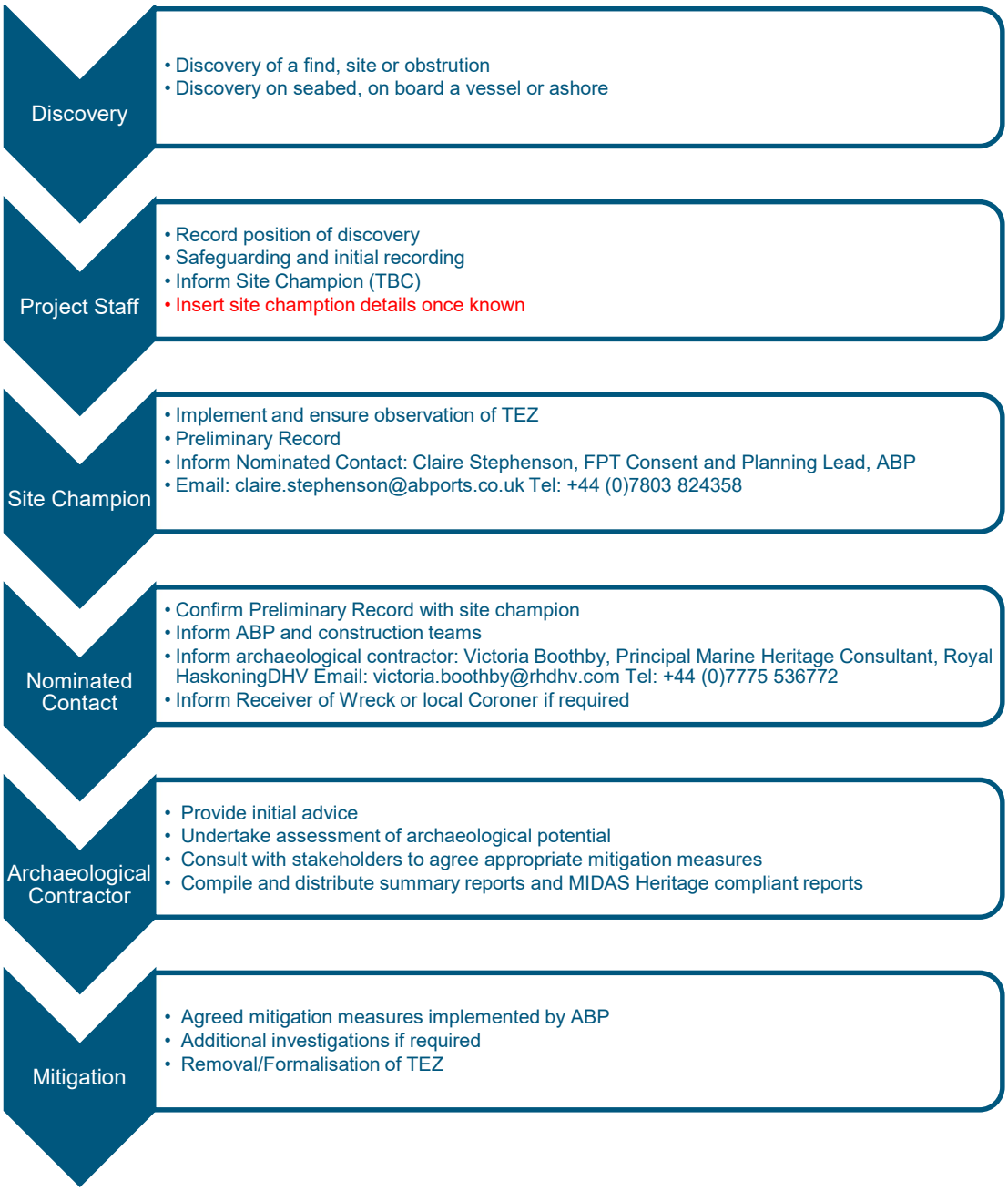
The archaeological contractor will advise the Nominated Contact of any further actions that may be required such as:

- Advice on first aid conservation or actions to be taken in respect of a find;
- Advice on the identification of finds and proposals to further evaluate discoveries; and
- Advice to prevent further impacts, such as the implementation of an exclusion zone.

The archaeological contractor will undertake an assessment of the archaeological potential of discoveries and will liaise with RCAHMW, ABP and other stakeholders as relevant, to agree measures to address the discovery, if required. The archaeological contractor will advise ABP on any additional work required to stabilise, conserve or record recovered finds.

Following identification, evaluation and the agreement of measures to address the discovery, if required, the archaeological contractor will compile a summary report for the discovery for distribution to stakeholders, as well as a MIDAS compliant report to submit details of the discovery to national and local authority heritage data archives.

A flow chart illustrating the reporting protocol as described above is included below.



A1.4.7 Timing

Action will be taken immediately following a discovery so that the precise position of a discovery can be calculated and recorded and to minimise disruption to works.

Measures to safeguard finds, including the application of first aid conservation, will be implemented as soon as possible following discovery, in accordance with health and safety and practical requirements.

The initial record, including photographs, will be compiled and forwarded by the Site Champion to the Nominated Contact on the same working day that the discovery is made.

On receiving the report, the Nominated Contact will report the discovery to the archaeological contractor within two working days.

An initial response will be provided by the archaeological contractor to the Nominated Contact within two working days of receiving the initial report.

A timetable for implementing measures to address the discovery will be agreed following the initial response as appropriate to the archaeological interest of the discovery.

A1.4.8 Temporary Exclusion Zones

A TEZ will be implemented by the Nominated Contact if the position of an obstruction, anomaly or find is known with reasonable certainty.

A TEZ precludes all activities from taking place in the vicinity of the obstructions, anomaly or find until further archaeological advice has been obtained.

In the event that, following further investigation, it can be reasonably concluded that there is no important wreck or other feature present within the TEZ then it will be revoked.

The TEZ may be formalised as an AEZ if:

- an important wreck or other site or feature is confirmed to be present on the seabed; or
- if ABP does not wish to undertake additional investigation to confirm the nature of the discovery.

The removal or formalisation of a TEZ will occur only following consultation and in agreement with the RCAHMW.

Additional investigations to determine the nature of material within a TEZ could include:

- high resolution geophysical survey;
- diver survey; or
- ROV survey.

Where additional investigations are carried out, they will be undertaken in accordance with specifications to be agreed by ABP with RCAHMW, as advised by the retained archaeologist. A report detailing the results of the investigation will be submitted to the archaeological curator to inform discussions concerning the removal or formalisation of a TEZ.

If archaeological remains are confirmed and it is not possible to implement a formal AEZ then, subject to agreement with RCAHMW, ABP may implement alternative forms of mitigation such as a programme of recording and/or recovery. These measures will be detailed in a work package specific WSI and agreed with RCAHMW as necessary.

Annex 1: PAD Preliminary Record Form

Future Port Talbot Marine Ground Investigations Discoveries Preliminary Record Form	
Finder Details	
Vessel/Team/Contractor Name:	
Work Package:	
Date:	Time of compiling information:
Name of compiler (site champion):	
Name of finder (if different to above):	
Discovery Details	
Time at which discovery encountered:	
Original position of discovery on seabed (if known):	
• Latitude:	
• Longitude:	
• Datum (if different from WGS84):	
Position of vessel:	
• Latitude:	
• Longitude:	
• Datum (if different from WGS84):	
Notes on accuracy of position:	
Description of the find/site/obstruction:	

Size/extent:
Details of finds recovered:
Details of photographs, drawings or other records:
Details of treatment given to find(s):
Any other notes:
Date and time at which nominated contact informed:
Signed: Date: