



Archaeology and Heritage Scoping



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Report No. 577

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Holyhead Waterfront Regeneration Scheme

Archaeology and Heritage Scoping

Prepared For: AXIS

On Behalf of: Conygar Stena Line Ltd

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By

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Date: July 2009



Holyhead waterfront Regeneration Scheme

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1 Introduction

- 1.1 This initial appraisal determines the scale and the scope of the Archaeological and Heritage work to be undertaken as part of a larger Environmental Impact Assessment for the proposed Holyhead Waterfront Regeneration Scheme.
- 1.2 This scoping appraisal has been written by Richard Scott Jones (*BA, MA, MIFA*) of Cambrian Archaeological Projects Ltd (henceforth CAP), following consultation with Gwynedd Archaeological Planning Services (henceforth GAPS), the Royal Commission on Ancient and Historic Monuments of Wales (henceforth RCAHMW) and Cadw.

Overview of the Development

- 1.3 The site comprises circa 57 hectares of partially developed land (and an area of sea), which includes: some industrial buildings and hardstandings, redundant buildings of significant heritage interest, a wooded area, inter-tidal foreshore, seafront promenade and a harbour (lying adjacent to both an existing marina and a working ferry port). The proposed development area extends in a north-westerly direction along Holyhead's waterfront for approximately 1.4km. The proposed on shore development is situated on the northern edge of the town of Holyhead facing the harbour
- 1.4 The site topography ranges from the sea bed, which is to be reclaimed, to inland areas at the southern edge of the development boundary, which vary from 9m – 15m AOD.
- 1.5 In terms of the surrounding features, the dominating development is the existing operational Holyhead Harbour. This is defined on its seaward, north-western, side by the Great Breakwater. To the west is Salt Island, which operates as a ferry port for both Irish Ferries and Stena Line. To the south-east of the site are residential areas of Holyhead, and to the south-west is open grassland with wooded areas and rocky outcrops. To the west of the site is pasture land, a country park, and further areas of coastline.

The Development Proposals

- 1.6 The Holyhead Waterfront Regeneration Scheme is a mixed-use regeneration project. It is centred on a new leisure marina and encompasses: residential, hotel, leisure, retail and commercial development, and associated infrastructure. A significant part of the built development will be constructed on land reclaimed from the sea, within the confines of the harbour.

2 Context

Historical & Archaeological Background

- 2.1 The town of Holyhead, also known as Caergybi, is situated toward the north-western tip of the Island of Anglesey in North Wales. The present population of the town is in excess of 12,500 people. The island's entire rural coastline is designated as an Area of Outstanding Natural Beauty. Holyhead is best known today as the ferry port that links England and Wales

to Ireland via the Irish ports of Dublin and Dun Laoghaire, however the town has a long history.

- 2.2 Early settlement in the surrounding landscape dates from prehistoric times with circular huts, burial chambers and standing stones featuring among the highest concentration in Britain. Holyhead town centre is built around the Church of Saint Cybi founded in the 6th century AD, which itself is built inside the walls of a Roman fort and naval base, which was founded in the late 3rd Century in an attempt to control and command trade via the Irish Sea.
- 2.3 As is evident in medieval documentary sources, the church of St. Cybi has suffered a violent history over the years, being sacked by the Vikings in the 10th Century and by the English during the Glyndwr Rebellion in the 15th Century. Henry IV's army invaded Anglesey from Ireland and, sadly, when Henry's men returned to Dublin, they took with them St. Cybi's shrine and relics. Another assault on the church took place in the 17th Century when Cromwell's soldiers systematically destroyed the interior windows, font, tombs and statues.
- 2.4 It wasn't until the mid 19th century, however, that the town firmly established itself as the largest portal town in the county.
- 2.5 The growth of Holyhead as it is seen today is due essentially to the necessity in the early-mid 19th century for a reliable Royal Mail Service from London to Ireland. This requirement prompted several large engineering projects, including the construction of the Menai Suspension Bridge designed by Thomas Telford, and the Conwy Suspension Bridge, to help facilitate the mail service by both rail and road. In 1848 the Chester and Holyhead Railway opened and work also began on the construction of a large pier and an improved refuge harbour. These improvements included a north and east breakwater, known today as the Holyhead Great Breakwater, which was completed in 1876, widely considered to be the finest in Britain.
- 2.6 With the arrival of the railway and a reliable water link to and from Ireland, Holyhead grew into a prosperous shipping and tourist town. This is reflected in the long maritime history of the town and the presence of several hotels around the harbour and along the waterfront.
- 2.7 From the years 1848 – 1993, over 70 ships have operated on the Holyhead to Ireland crossing and in this time there have been many sea tragedies in which many lives have been lost, either by accident or through an act of war. A few of the worst of these disasters are included here.
- 2.8 In 1884 the steamship known as the 'Holyhead' sunk just off the South Stack lighthouse following collision with a German cargo ship, the 'Alhambra', which sunk with the loss of all 18 of the crew. During the First and Second World Wars Holyhead lost four vessels due to enemy action. The SS Hibernia was torpedoed by a U35 in 1915 with the loss of 12 lives. Another ship, the 'Anglia' was hit by a mine laid by the UC5 in 1915. However, the greatest tragedy associated with Holyhead was the sinking of the RMS Leinster when it was torpedoed by the U123 in 1918 with the loss of 501 lives (this tragedy is recorded as the greatest loss of life that has ever occurred in the Irish Sea). Another ship, the SS Scotia was bombed from the air in 1940 and all crew died.
- 2.9 A quick search of the RCAHMW GIS database of wrecks in the vicinity of the harbour produces some 80 records and three Maritime Named Locations in close proximity to Holyhead Harbour. The strategic position of Holyhead with regard to Irish trade/communication links and its role as a harbour of refuge suggests that this number of recorded incidents is just the tip of the iceberg in relation to its true potential. Also, there have been many reports over the years by divers of the remains of wrecks close to the Holyhead

Breakwater, but none of these reports have been confirmed by any official investigation (*pers comm. RCAHWW*).

- 2.10 Following consultation with Gwynedd Archaeological Planning Services (GAPS) and Cadw, the Historic Environment Record (HER) shows that there are no Scheduled Ancient Monuments (SAMs) recorded within the proposed development area. The closest SAM sites include the length of a former Roman Wall Surrounding St Cybi's Churchyard (SAM No.AN301), which once formed part of a Roman Fort, located approximately 500m southwest of Salt Island, and the remains of the Roman walled Hillfort of Caer y Twr (SAM No.AN019) and prehistoric settlement complex (SAM No. AN016), both situated on top of Holyhead Mountain, approximately 1.6km southwest of Soldiers Point House.
- 2.11 Other than these, however, there are eight (8) Grade II Listed Buildings within the proposed development area that will potentially be impacted upon by the proposals. These include:
- 1) Soldiers Point House, Soldiers Point (LB No.14760)
 - 2) Screen Wall to Soldiers Point House, Soldiers Point (LB No.14761)
 - 3) Porthyfelin House, Soldiers Point (LB No.14759)
 - 4) Trinity Yard Small Workshop, Beach Road (N Side) (LB No. 14732)
 - 5) Trinity Yard Large Workshop, Beach Road (N Side) (LB No. 14731)
 - 6) Trinity House Office, Beach Road (N Side) (LB No. 14730)
 - 7) Zodiac Restaurant, Beach Road (N Side) (LB No. 14729)
 - 8) Holyhead Breakwater, Soldiers Point (LB No. 5743)
- 2.12 Five (5) further Grade II Listed Buildings, although outside of the proposed development plans, will potentially be indirectly impacted upon by the proposals in terms of visual impact. These include:
- 1) Lighthouse on Holyhead Breakwater (LB No. 5744)
 - 2) Lighthouse on Admiralty Pier, Salt Island (LB No. 14758)
 - 3) Admiralty Pier, including the sea wall between Salt Island Bridge and George IV arch (LB No. 14757)
 - 4) Customs House, Salt Island (LB No. 5771)
 - 5) Harbour Office, Salt Island (LB No. 5772)
- 2.13 As well as these high value sites, which will have to be given consideration in the ES chapter, there are also numerous undesignated archaeological remains recorded in the Historic Environment Record that will also have to be considered. These consist of historic shipwreck sites, maritime industrial buildings, World War II military remains and post-medieval coastal remains. There is also good potential for the survival of as yet unknown archaeological remains above-ground, below ground, in the inter-tidal zone and in the open water of the development area from the prehistoric through to the post medieval periods.
- 2.14 The study area does not fall within a registered historic landscape, nor has any Historic Landscape Characterisation exercise been undertaken for the locality. The south-eastern part of the site area does, however, comprise part of the Holyhead Beach Conservation Area.

3 Approach

- 3.1 As the appraisal of the historic and archaeological sources shows, the proposed development area has significant archaeological potential. In accordance with national planning guidance (*Planning Policy Guidance Wales 2002*), Welsh Office Circular 60/96 (*Planning and the Historic Environment: Archaeology*) and Welsh Office Circular 61/96 (*Planning and the*

Historic Environment: Historic Buildings and Conservation Areas), the Cultural Heritage chapter will form an essential element in any future Environmental Impact Assessment in order to assess the impact of the proposals on the historic environment.

- 3.2 A staged programme of archaeological work should be carried out in accordance with the Standards and Guidance of the Institute for Archaeologists (IfA). Project designs / specifications for each phase of work should be agreed in advance with the regional archaeological curator at Gwynedd Archaeological Planning Service (GAPS) and Cadw.
- 3.3 The study will be conducted in compliance with the *Codes of Practice* of the Institute of Field Archaeologists (IfA 2000), and will follow *IfA Standards and Guidance for Desk-Based Assessment* (IfA 1999).
- 3.4 The Cultural Heritage chapter will consist of a full desk based archaeological assessment (henceforth DBA) and site visit.
- 3.5 The purpose of the DBA, in accordance with standards and guidance as laid down by the Institute of Archaeologists (IfA), is to gain information about the known or potential archaeological resource within the given area (including presence or absence, character and extent, date, integrity, state of preservation and relative quality of the potential archaeological resource), in order to make an assessment of its merit in context, leading to one or more of the following:
 - the formulation of a strategy to ensure the recording, preservation or management of the resource,
 - the formulation of a strategy for further investigation, whether or not intrusive, where the character and value of the resource is not sufficiently defined to permit a mitigation strategy or other response to be devised,
 - the formulation of a proposal for further archaeological investigation set within a programme of research. This may lead to one or several of the following archaeological programmes being undertaken: intrusive evaluation work, geo-physics, watching briefs, standing building recording work, or palaeo-environmental sampling.
- 3.6 In order to undertake the DBA to the standards required by the Institute of Archaeologists (IfA), the following repositories will have to be consulted
 - Historic Environment Record at Gwynedd Archaeological Planning Services (GAPS).
 - National Monuments Record (NMR) at the Royal Commission on Ancient and Historic Monuments of Wales (RCAHMW), Aberystwyth (inc. Maritime Records)
 - National Library of Wales, Aberystwyth.
 - Cadw.
 - Anglesey County Records Office.
 - National Maritime Museum.
 - Local libraries and museums.
- 3.7 The DBA should include an assessment of the direct and indirect, visual impact (setting issues) of development on all designated structures within the development boundary, paying particular attention to the Holyhead Breakwater, a grade II* listed structure (LB No. 5743) considered to be of international significance. The considerable size of the Holyhead Breakwater defines an extensive setting, and any development within the harbour area will have an impact on it. The assessment area should incorporate a buffer of 500m around the development area for all designated and undesignated remains and should take into account the potential visual impacts on more distant Scheduled Ancient Monuments (SAM), such as the Roman Hillfort of Caer y Twr (SAM No. AN019) and the Roman Wall Surrounding St

Cybi's Churchyard (SAM No.AN301). The impact on both the known and unknown potential archaeological resource should also be considered within the cultural heritage chapter.

- 3.8 Due to the scale of the proposals, consideration should be given to including some assessment of the impact on any conservation areas affected by the proposals, as well as more generally on the historic character of the Breakwater, the Outer Harbour area and the waterfront, which includes several residential dwellings. The Holyhead Harbour Conservation Plan (Donald Insall Associates, September 2003) must be studied in relation to this issue. As yet there have been no urban characterisation exercises undertaken in the Holyhead area by either Cadw or GAPS. However without consideration of these characterisation issues, there is a serious risk that local distinctiveness will be undermined rather than sustained in any regeneration proposals. Cadw have advised *“that the real impact of the proposal on the historic environment of the waterfront cannot be assessed adequately only by considering designated assets, but will need to encompass a broader understanding of the character of the area as a whole”* (Cadw 16th July 2009). Following consultation with GAPS and Cadw regarding this characterisation study, it has been agreed that CAP will undertake the work in consultation with Cadw, but that GAPS will formally curate it, on behalf of Cadw, as part of their normal role within the planning process.
- 3.9 With regard to the proposed off shore work for the new breakwater in the vicinity of the harbour, any sea-bed works, or reclamation work, in and around Holyhead Bay will have a direct impact on the marine archaeological resource, which has the potential to span several thousand years). In this respect, the initial desk based assessment will have to address the following archaeological concerns:
- Locate marine sites (primarily shipwrecks and downed aircraft)
 - Recorded shipping and aircraft losses (which will provide an indication for the density of shipping/flying activity and the archaeological potential of any seabed area)
 - The potential for hitherto unknown prehistoric sites from the Lower and Middle Palaeolithic through to the Bronze Age.
 - The development of the landscape/seascape and its inhabitation during the late Upper Palaeolithic and Mesolithic and the potential for unknown sites.
 - Seafaring and other maritime activity since inundation during the Holocene period, including settlement and industry utilizing foreshore areas, again linking the effects of rising sea levels and what this many mean for the evidence of such activities to be preserved in inter-tidal areas or permanently submerged.
- 3.10 Once the initial desk based research work for the off shore proposals has been undertaken, it will be highly advisable to undertake a full, high quality, baseline marine geophysical survey (side scan sonar, magnetometer and sub bottom profiling/boomer) of the harbour area. It might be possible to do this at a later stage, but such work would undoubtedly be viewed as an essential component of the DBA by GAPS, Cadw and RCAHMW. Although costly, the work would help to design out impact in the early stages of the development. If archaeological advice is sought with regard to the technical specification of hydrographic survey work, it is very likely that this data could be used for both archaeological and civil engineering needs. The results of this survey would be used to formulate a strategy to ensure the recording, preservation or management of the resource.
- 3.11 With regards to the on shore site visit, the main objective, in accordance with the standards and guidance laid down by the Institute of Archaeologists (IfA), is to gain information about the archaeological resource within a given area or site (including presence or absence, character, extent, date, integrity, state of preservation and quality), in order to make an assessment of its merit in the appropriate context, leading to one or more of the following:

- the formulation of a strategy to ensure the recording, preservation or management of the resource.
- the formulation of a strategy to alleviate a threat to the archaeological resource.
- the formulation of a proposal for further archaeological investigation within a programme of research. This may lead to either one or several of the following archaeological programmes being undertaken such as, intrusive evaluation work, geo-physics, watching briefs, standing building recording work, palaeo-environmental sampling.

3.12 The site visit will aim to investigate all of the proposed development area (land bound) focusing on areas of proposed development and re-development.

3.13 All material gathered from the desk-based study and the field study will be combined and assessed. This will help to identify areas where the proposed development may directly impact on the recognised archaeology or elements in the wider historic landscape and, depending on the results of the study, on any potential mitigating circumstances that may arise.

Scope for Mitigation

3.14 With regards all of the on-shore work, all practical and reasonable measures that can be implemented to mitigate any detrimental impacts associated with construction of the proposed scheme will be considered.

3.15 Wherever possible, archaeological interests and historic landscape elements should be preserved in situ, although preservation by record may also be deemed appropriate.

3.16 Opportunities for the enhancement of heritage features in the vicinity of the site will be recommended where appropriate.

3.17 In terms of mitigation, the underlying principles for the offshore areas are the same as those located on land, namely preservation *in situ*, and where this is not possible, preservation by record. The key concepts are avoidance, reduction, remedying and offsetting:

Avoidance and reduction - based on the results of archaeological analysis of the marine geophysical data, one should be able to identify sensitive areas and development exclusions zones around concentrations of significant remains. Ongoing mitigation would include provisions for monitoring the effectiveness of the exclusion zones. Repeat hydrographic surveys at specified intervals as part of their ongoing environmental monitoring plan can be used to check for disturbance and change in the preservation state of the wreck.

3.18 Remedying and offsetting - where impact is on submerged landscapes it is more difficult to quantify, offsetting might be accomplished by making provision for detailed analysis of vibro-cores and samples taken from the seabed for palaeo-environmental evidence.

3.19 Other measures should include:

- a protocol for reporting finds to the Receiver of Wreck
- an outline of measures to deal with unexpected archaeological discoveries which might require recording, excavation and recovering by suitably qualified diving archaeologists
- provision to establish reporting, publication, artifact conservation and archiving requirements for the products archaeological works (nominally RCAHMW as the national repository for digital and paper archives).

3.20 The Project Design or Written Scheme of Investigation (WSI) WILL provide a benchmark against which Cadw and GAPS can measure compliance with conservation principles.

Continued monitoring of impacts of the archaeological deposits might also be addressed through an overarching Environmental Plan for the port which would also address the continued monitoring of impacts on marine biological communities.

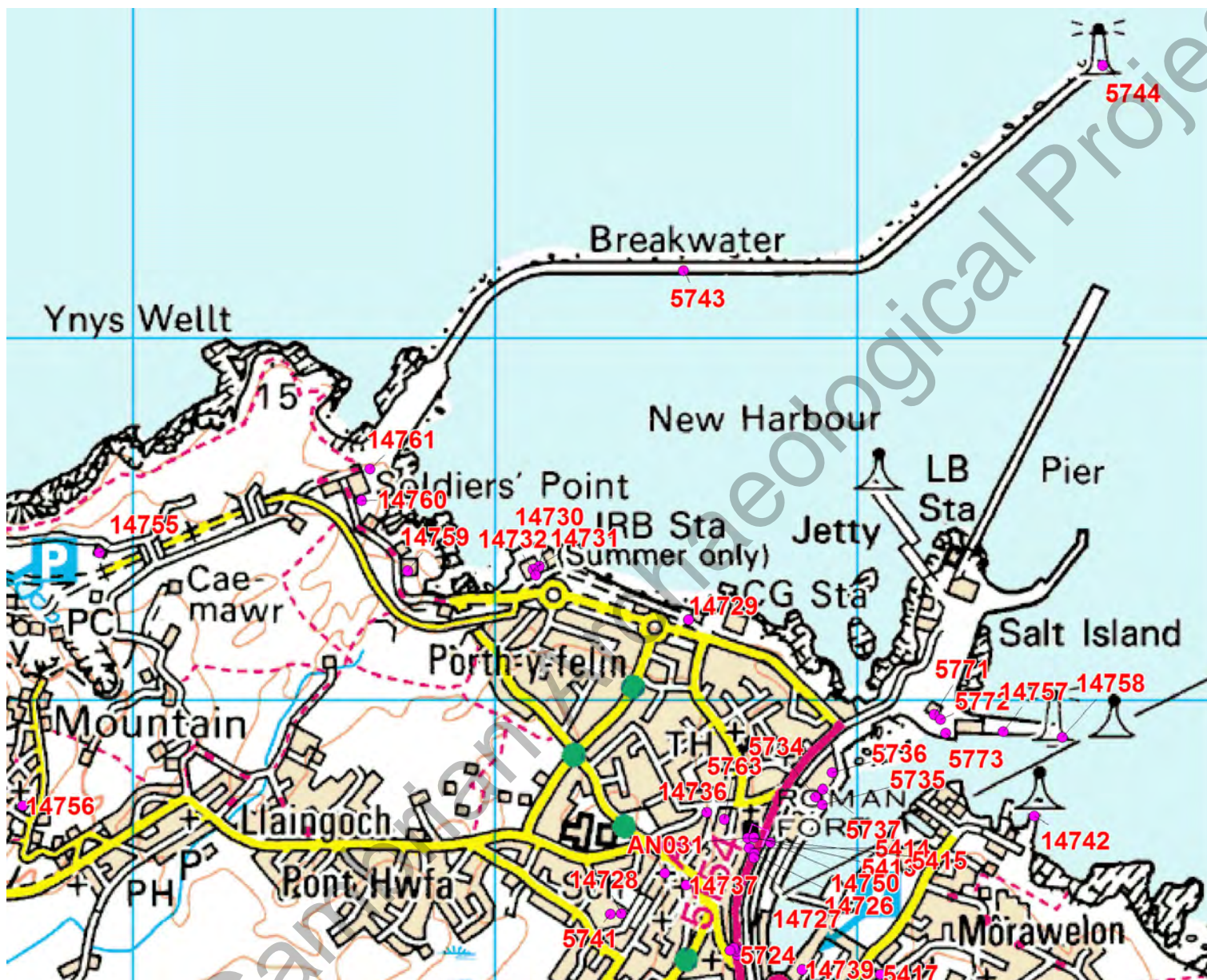
Significance Criteria

- 3.21 The archaeological interests will be categorised in accordance with the only available criteria that are nationally agreed; these are set out in the Department of Transport/Welsh Office/Scottish Office/DoE Northern Ireland Design Manual for Roads and Bridges paragraph 3.4 Vol.11 Section 3 Part 2 (Cultural Heritage – Highways Agency, August 2007). The condition of the sites and the reliability and accuracy of the source data will be considered. The significance of impacts will be based on consideration of the magnitude of the impact and the importance, condition and reliability of the individual interests to be affected, both on and off site.

Future Proposals

- 3.22 With regard any future proposals for the development of a new breakwater to encompass the existing marina, any sea-bed works or reclamation work in and around Holyhead Bay, will have a direct impact on the marine archaeological resource which has the potential to span several thousand years. As well as potential shipwrecks of all historic and prehistoric periods in the immediate area, there is also the high potential for peat deposits and submerged prehistoric landscapes. As such, it is advisable that should these proposals be put forward as part of any future impact assessment, then a full a high quality baseline marine geophysical survey (side scan sonar, magnetometer and sub bottom profiling/boomer) is an urgent essential for any future plans as part of the cultural heritage assessment. The results of this survey would be used to formulate a strategy to ensure the recording, preservation or management of the resource.

Date: 28th July 2009



Job Title: Holyhead Waterfront
Regeneration Scheme

Drawing Title:

Date: 20/07/09

Taken By:

Figure 01: Map showing all designated
sites in area of proposed development



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APPENDIX I: Cadw Response



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Eich cyfeirnod
Your reference

Ein cyfeirnod
Our reference

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A-CAM011-09

16 July 2009

01443 336096

Suzanne.whiting@wales.gsi.gov.uk

Dear Mr Scott-Jones

HERITAGE AND ARCHAEOLOGY FEASIBILITY STUDY FOR PROPOSED WATERFRONT REGENERATION SCHEME

Thank you for your letter of 24 June 2009 inviting Cadw to comment on the proposal described above. A apologise for the delay in responding.

Cadw is rather dismayed at what is being proposed, since it introduces new forms which are wholly at odds with the existing character of the harbour and shore-line area.

Any study will need to consider the impact on listed buildings and their settings. Here the very considerable size of the Holyhead Breakwater (which is listed II*) defines an extensive setting and any development within the harbour area will have an impact on it. The lighthouse on the end of the breakwater is separately listed. In addition, Porth y Felin House and Soldiers Point House (with its separately listed screen wall) were built for the engineer and contractor of the breakwater, and Soldiers House also has extensive grounds with contemporary curtilage structures. There is another group of listed buildings in the immediate vicinity of the proposed development at the Trinity House depot and former life-boat house.

Cadw has a serious concern that the impact of this proposal on the historic environment of the harbour area cannot be adequately addressed simply by consideration of the impact on designated assets. There may be features of industrial archaeological, maritime, or military history interest in this area, for example, but there is also the larger issue of historic character in more general terms. In Cadw's view, any proposal of this scale should be informed by a thorough assessment of the historic character of the harbour area, including consideration of the adjacent residential areas. Unless this is done, there is a very serious risk that local distinctiveness will be undermined rather than sustained in any regeneration here. Cadw has no immediate plans to undertake an urban characterisation exercise in Holyhead, but that is what is needed here. The real impact of this proposal on the historic environment of the waterfront cannot be assessed adequately only by considering designated assets, but will need to encompass a broader understanding of the character of the area as a whole.



Yours sincerely

S Whiting

Mrs Suzanne Whiting

Gweinyddu Henebion/Ancient Monuments Administration



Cambrian Archaeological Projects



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APPENDIX II: GAPS Response

**GWASANAETH CYNLLUNIO
ARCHAEOLEGOL GWYNEDD**

**GWYNEDD ARCHAEOLOGICAL
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13th July 2009

Our ref: 0709ab01/D1333

Richard Scott Jones
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Dear Richard,

Re: Heritage feasibility study – Proposed Holyhead Waterfront Regeneration Scheme

Thank you for your recent letter. I have reviewed the details outlined in your consultation document and have commented below.

I can confirm that the proposed development area is one of significant archaeological potential and that a full desk based archaeological assessment (DBA) and site visit should form part of any future Environmental Impact Assessment in accordance with national planning guidance (*Planning Policy Guidance Wales 2002*), Welsh Office Circular 60/96 (*Planning and the Historic Environment: Archaeology*) and Welsh Office Circular 61/96 (*Planning and the Historic Environment: Historic Buildings and Conservation Areas*) in order to assess the impact of the proposals on the historic environment.

The DBA should include an assessment of the indirect, visual impact of development on all designated structures within the development boundary, paying particular attention to Holyhead Breakwater, a grade II* listed structure (Ref. 5743) considered to be of international significance. The assessment area should incorporate a buffer of 500m around the development area for all designated and undesignated remains and should take into account the potential visual impacts on more distant Scheduled Ancient Monuments (SAM), such as Caer Y Twr (Ref. An019), later prehistoric hillfort.

There are no SAMs recorded within the study area but there are 8 Listed Buildings. Numerous undesignated archaeological remains are recorded. These consist of historic wreck sites, maritime industrial buildings, World War II military remains and post-medieval coastal remains. There is good potential for the survival of as yet unknown archaeological remains above-ground, below ground, in the inter-tidal zone and in the open water of the development area. The impact on both the known and potential archaeological resource should be considered within the cultural heritage chapter.

The study area does not fall within a registered historic landscape, nor has any Historic Landscape Characterisation exercise been carried out for the locality. However, due to the scale of the proposals, consideration should be given to including some assessment of the impact on any conservation areas affected by the proposals as well as more generally on the historic character of the Breakwater and Outer Harbour area. The Holyhead Harbour

Conservation Plan (Donald Insall Associates, September 2003) must be studied in relation to this issue.

As well as visiting the regional Historic Environment Record and all other relevant sources, Cadw's view on the proposals should be sought. Both Judith Alfrey, Landscapes and Sian Rees, Marine Environment are useful contacts. In addition, Deanna Groome, Maritime Officer (Royal Commission on the Ancient and Historical Monuments of Wales), should be contacted in relation to the numerous historic wreck sites that are recorded within the locality. Any sea-bed works or reclamation may have a direct impact on the marine archaeological resource.

A staged programme of archaeological work should be carried out in accordance with the Standards and Guidance of the Institute for Archaeologists (IfA). Project designs / specifications for each phase of work should be agreed in advance with the regional archaeological curator at Gwynedd Archaeological Planning Service (GAPS).

These comments are offered without prejudice to any future views GAPS may wish to express in response to any formal planning application or information contained in a supporting document. The comments do not imply GAPS's acceptance, or otherwise, of any future planning application relating to these proposals.

Please do not hesitate to contact me if you have any queries regarding any of the matters outlined above.

Yours sincerely

Ashley Batten
Development Control Archaeologist



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APPENDIX III: RCHAMW Response

Dear Richard,

So sorry not to have responded sooner, I was at the Royal Welsh Show yesterday. It was good to talk to you today instead

Just to summarize some of the things we talked about, I think your scoping study for the offshore areas should try to address the following themes:

- * Located marine sites (wrecks and downed aircraft primarily)
- * Recorded shipping and aircraft losses (which will provide an indication for the density of shipping/flying activity and the archaeological potential of any seabed area)
- * The potential for hitherto unknown sites from the Lower and Middle Palaeolithic (e.g. the potential for surviving evidence of the very early populations such as flint tools within layers comprising the seabed)
- * The development of the landscape/seascape and its inhabitation during the late Upper Palaeolithic and Mesolithic and the potential for unknown sites (e.g. the development of the landscape at end of the Devensian glaciation and changing sea-levels since and how this may have impact on the territory that early hunter-gathers/early farmers may have exploited)
- * Seafaring and other maritime activity since inundation during the Holocene period, including settlement and industry utilizing foreshore areas, again linking the effects of rising sealevels and what this may mean for the evidence of such activities to be preserved in intertidal areas or permanently submerged

An admiralty chart provides a quick approximate was of gauging where the coast might have been say, 9000 years ago when the sea would have been approximately 25m lower. All of Holyhead bay would have been dry land for a few thousand years after the glaciers retreated.

In your bibliographic searches, you may come across this potential useful article which I believe gives relative sealevels for Liverpool Bay/Northern Irish Sea.

Tooley, M J, 1974, Sea level changes during the last 9000 years in the northwest of England in Geographic Journal, vol 140, pg18-42

A quick selection of wrecks from the RCAHMW GIS in the vicinity of the harbour produces some 80 records and three Maritime Named Locations. The strategic position of Holyhead with regard to Irish trade/communication links and its role as a harbour of refuge suggests that this number of recorded incidents is just the tip of the iceberg in relation to its true potential.

I feel that what you should be suggesting to Stena now is that high quality, baseline marine geophysical survey data (side scan sonar, magnetometer and sub bottom profiling/boomer) is an urgent essential for all their plans. They may have some survey data already as part of their role as the port owner/authority? This kind of marine survey work may appear costly upfront, but the potential savings in terms of being able to design out impact in the early stages of development plan formulation is vital. If they seek archaeological advice with regard to the technical specification of hydrographic survey work, it is likely that they will be able to use the data for both archaeological and civil engineering needs - survey once, use

the data twice, makes good sense.

In terms of mitigation, the underlying principles offshore are the same as on land - preserve in situ, but where this is not possible to preserve by record.

The key concepts are avoidance, reduction, remedying and offsetting:

Avoidance and reduction- based on the results of archaeological analysis of the marine geophysical data, one should be able to identify sensitive areas and development exclusions zones around concentrations of significant remains. Ongoing mitigation would include provisions for monitoring the effectiveness of the exclusion zones. Repeat hydrographic surveys at specified intervals as part of their ongoing environmental monitoring plan can be used to check for disturbance and change in the preservation state of the wreck.

Remedying and offsetting - where impact is on submerged landscapes is more difficult to quantify, offsetting might be accomplished by making provision for detailed analysis of vibrocores and samples taken from the seabed for palaeoenvironmental evidence.

Other measures might include a protocol for reporting finds to the Receiver of Wreck; an outline of measures to deal with unexpected archaeological discoveries which might require recording, excavation and recovering by suitably qualified diving archaeologists; provision to establish reporting, publication, artifact conservation and archiving requirements for the products of archaeological works (nominally RCAHMW as the national repository for digital and paper archives).

The overarching document which would set out these measures might be called a WSI - to take a term that is fairly well understood in terrestrial archaeology. In this instance though, the WSI is more likely to be a document generated by Stena's archaeological consultants to provide a statement of what Stena will do in case of the unexpected discoveries. It provides a benchmark against which Cadw/GAT can measure compliance with conservation principles. If you've got it right through the specifying high quality marine geophysical surveys, the archaeological interpretation of the data, and the definition of development exclusions zones, you've got avoidance which is the ultimate aim. Continued monitoring of impacts of the archaeological deposits might also be addressed through an overarching Environmental Plan for the port which would also address the continued monitoring of impacts on marine biological communities.

I was thinking of instigating a workshop on Offshore EIAs following on from the Maritime Workshop we did last year. Your request has prompted me to take another look at when we might do that... will be in touch soon.

A couple of links to recent harbour development projects - one wreck was lifted, the other was designated and remains in situ:

http://www.bournemouth.ac.uk/caah/maritimearchaeology/projects/swash_channel_wreck.html

<http://www.wessexarch.co.uk/projects/marine/thameswreck/index.html>

I have also attached a copy of the recent EH guidance document on port development which may give useful background and context for your Scoping Study.

Hoping the above is helpful...

Sincerely yours,

Cambrian Archaeological Projects