

Wylfa Newydd Project

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11 Cultural heritage

11.1 Introduction

- 11.1.1 This chapter describes the assessment of potential cultural heritage effects resulting from the construction, operation and decommissioning of the Power Station, other on-site development (as described in chapter A1, introduction, Application Reference Number: 6.1.1), Marine Works and the Site Campus within the Wylfa Newydd Development Area.
- 11.1.2 Please refer to chapter B11 (cultural heritage) (Application Reference Number: 6.2.11) for the technical basis for the assessment including a summary of legislation, policy and guidance; key points arising in consultation that have guided the cultural heritage assessment; and assessment methodologies and criteria.

11.2 Study area

- 11.2.1 This section describes the study area(s) relevant to the cultural heritage assessment for the Power Station, other on-site development, Marine Works and the Site Campus within the Wylfa Newydd Development Area, and the Disposal Site.
- 11.2.2 The study area for terrestrial archaeological remains, historic buildings and the historic landscape was defined as the Wylfa Newydd Development Area and a buffer that extended 6km from its boundary (see figures D11-1 to D11-17, D11-20 and D11-21, Application Reference Number: 6.4.101).
- 11.2.3 For the Marine Works, the study area for marine archaeological remains was defined as an area which extended from the Mean High Water and covers an offshore area that extends 1.2km north of Wylfa Head, bounded to the west by the western side of Cemlyn Bay and to the east by the eastern side of Cemaes Bay (see figure D11-18, Application Reference Number: 6.4.101).
- 11.2.4 For the Disposal Site, which includes the Micro-site for rock disposal, the study area for marine archaeological remains comprised the former Holyhead Deep (IS040) disposal site and a 1km buffer around it (see figure D11-19, Application Reference Number: 6.4.101).
- 11.2.5 Justification for the extent of these study areas is provided in chapter B11 (Application Reference Number: 6.2.11).

11.3 Baseline environment

- 11.3.1 This section provides a summary of the baseline conditions for cultural heritage within the study area described in section 11.2.
- 11.3.2 The cultural heritage baseline has been established through a number of desk-based surveys and walkover surveys, non-invasive investigations (for example geophysical surveys and dive surveys), and invasive investigations (for example archaeological trial trenching). The results, or

summaries of the results of these surveys and investigations, can be found in the following appendices.

- Appendix D11-1 Wylfa Newydd Proposed New Nuclear Power Station Cultural Heritage Baseline Report (Application Reference Number: 6.4.68). This report collates information from desk-based surveys, walkover surveys, non-invasive investigations and invasive investigations. This appendix includes a gazetteer of heritage assets which provides detailed information on each heritage asset identified, including a description of the setting of each and the contribution made to the value of each heritage asset by its setting.
- Appendix D11-2a Wylfa Newydd Isle of Anglesey – Archaeological Trial Trenching Vol. 1 to 3 (Application Reference Number: 6.4.69).
- Appendix D11-2b Wylfa Newydd Proposed Nuclear Power Station: Archaeological trial trenching Post-excavation assessment and updated project design (Application Reference Number: 6.4.70).
- Appendix D11-3a Wylfa Newydd Proposed New Nuclear Power Station Marine Archaeology Baseline Report Revision 2 (Application Reference Number: 6.4.71).
- Appendix D11-3b Wylfa Newydd Proposed New Nuclear Power Station Marine Archaeological Survey Report (Application Reference Number: 6.4.72).
- Appendix D11-3c Holyhead Deep Disposal Site – Marine Archaeological Baseline Report (Application Reference Number: 6.4.73).
- Appendix D11-3d Holyhead Deep Disposal Site - Micro-site for rock disposal: Archaeological Assessment of Marine Geophysical Survey Data (Application Reference Number: 6.4.74)
- Appendix D11-4 Assessment of the Significance of Cestyll (Grade II) Registered Historic Park and Gardens Final Report (Application Reference Number: 6.4.75).
- Appendix D11-5 Assessment of the Significance of Dame Sylvia Crowe's Landscape Design at the Existing Power Station (Application Reference Number: 6.4.76).

11.3.3 These appendices are cross-referenced in the text where relevant.

11.3.4 While reports are not yet available, information from the results of the archaeological investigations undertaken in 2017 was used to inform the assessment of value for the following archaeological remains:

- Pennant Enclosure and Cist Cemetery (Asset 205);
- Tregele Romano-British Settlement (Asset 540);
- Romano-British Settlement, East of Tyddyn Gele (Asset 547);
- Romano-British Settlement, North-east of Tyddyn Gele (Asset 566)

- Roman Settlement, North-west of Tregele (Asset 567);
- Stone Trackway, North-west of Tregele (Asset 568);
- Porth yr Ogof Roman Settlement (Asset 573);
- Linears, Pits and Postholes, West of Porth Wylfa (Asset 575);
- Roman Industrial Activity, West of Porth Wylfa (Asset 577);
- Neolithic Flint Processing Site, West of Porth Wylfa (Asset 579);
- Porth Wylfa Cist Cemetery (Asset 580); and
- Ditch and Pits, South of Porth Wylfa (Asset 587).

11.3.5 Based on sources identified in appendices D11-1 to D11-5 (Application Reference Number: 6.4.68 to 6.4.76), a total of 932 heritage assets are considered as part of the cultural heritage baseline, comprising 514 terrestrial archaeological remains, 99 marine archaeological remains, 302 historic buildings, and 17 Historic Landscape Types (HLTs). The locations of heritage assets are shown on figures D11-1 to D11-21 (Application Reference Number: 6.4.101). A summary of the value of heritage assets is presented in table D11-1 and a summary of the basis for the assessment of value is provided below.

Table D11-1 Summary of the value of heritage assets

Subtopic	High	Medium	Low	Negligible	Unknown
Terrestrial archaeological remains	33	109	189	183	0
Marine archaeological remains	2	14	0	0	83
Historic buildings	22	92	149	39	0
Historic landscape types	6	8	3	0	0
Total	63	223	341	222	83

Archaeological remains

Terrestrial archaeological remains

Terrestrial archaeological remains of high value

11.3.6 Thirty-three archaeological remains have been assessed to be of high value.

11.3.7 The promontory fort of Dinas Gynfor (Asset 5), is designated as a Scheduled Monument (see figure D11-6, Application Reference Number: 6.4.101). In consideration of this designation, and of the potential of this heritage asset to contribute to research objectives related to the chronology and diversity of function of defended Iron Age or Romano-British sites [RD1]; [RD2], Asset 5 has been assessed to be of high value.

11.3.8 Located on Ynys y Fydlyn, Asset 336 is another possible promontory fort and has also been assessed to be of high value due to its potential to address research objectives related to the chronology and diversity of function of defended Iron Age or Romano-British sites [RD1]; [RD2] (see figure D11-8, Application Reference Number: 6.4.101).

11.3.9 Located within the Wylfa Newydd Development Area, Asset 579 comprises three Neolithic structures with sunken clay-lined floors associated with large quantities of flint tools and flint debitage, which indicate *in situ* flint working (see figure D11-5, Application Reference Number: 6.4.101). Archaeological sites of this date and nature are rare and based on this and its potential to address research objectives related to prehistoric settlement and/or funerary activity [RD3], this asset has been assessed to be of high value.

11.3.10 Asset 315 is the site of a hill-top enclosure associated with ring ditches which may be the remains of burial mounds of Early Bronze Age date or could be the remains of hut circles (see figure D11-5, Application Reference Number: 6.4.101). The shape, size and hill-top location of the enclosure suggests comparison with enclosures of Later Bronze Age or Early Iron Age date in southern England but not previously identified in north-west Wales. Evidence for Neolithic activity was also recovered from this site. Due to its rarity and potential to address research objectives related to prehistoric settlement and/or funerary activity [RD1]; [RD2]; [RD3], this asset has been assessed to be of high value.

11.3.11 Evidence for prehistoric burial and funerary activity within the study area for terrestrial archaeological remains, historic buildings and the historic landscape is provided by Pennant Enclosure and Cist Cemetery (Asset 205, figure D11-4, Application Reference Number: 6.4.101) which comprises of a large enclosure with approximately 30 internal cists and a square structure located amongst the cists, a barrow cemetery at Carrog (Asset 330, see figure D11-10, Application Reference Number: 6.4.101), the remains of Pen-y-Morwydd Round Barrow (Asset 372, see figure D11-10, Application Reference Number: 6.4.101), a Scheduled Monument, a barrow located to the south-east of Rhosbeirio (Asset 386, see figure D11-11, Application Reference Number: 6.4.101) and a possible barrow to the north of Llanfaethlu (Asset 827, see figure D11-12, Application Reference Number: 6.4.101). As a result of their potential to contribute to the analysis of the ritual landscape [RD3], and the potential survival of funerary remains able to contribute to research objectives related to burial practices in the early prehistoric period [RD1]; [RD3], Assets 205, 330, 372 and 386 and 827 have been assessed to be of high value.

11.3.12 Six standing stones, designated as Scheduled Monuments, have been identified within the study area for terrestrial archaeological remains, historic buildings and the historic landscape (Asset 689, see figure D11-6; Assets 433 and 441, see figure D11-9; Assets 342 and 344, see figure D11-10; Asset 690, see figure D11-11; Application Reference Number: 6.4.101). All are situated in prominent positions with intervisibility between Assets 342 and 344, and Assets 433 and 441. In consideration of their designation as Scheduled Monuments, their potential to contribute to the

analysis of the ritual landscape [RD3] and the group value of Assets 342 and 344, and Assets 433 and 441, these heritage assets have been assessed to be of high value. Asset 442 is the former location of a standing stone recorded by the Historic Environment Record (HER), which may have formed part of an alignment with Assets 433 and 441 and so has been assessed to be of high value due to its association with these Scheduled Monuments, and the potential for unknown archaeological remains to be present at this location (see figure D11-9, Application Reference Number: 6.4.101). Maen Arthur Standing Stone, Mynydd Mechell (Asset 446, see figure D11-10, Application Reference Number: 6.4.101) and Standing Stone, Mynydd-Blewog (Asset 507, see figure D11-15, Application Reference Number: 6.4.101) are other possible sites of standing stones within the study area for terrestrial archaeological remains, historic buildings and the historic landscape assessed to be of high value.

- 11.3.13 Located on the southern slope of Pen-y-Morwydd, Asset 392 is the remains of an enclosure defined by a ditch and two banks (see figure D11-10, Application Reference Number: 6.4.101). This asset dates from the 2nd to the 4th centuries AD. This asset is designated as a Scheduled Monument and has potential to contribute to research objectives related to Romano-British settlement [RD4]. Asset 392 has been assessed to be of high value.
- 11.3.14 Tregele Romano-British Settlement (Asset 540) is a large fortified enclosure inside which are located a number of internal trackways and buildings (see figure D11-4, Application Reference Number: 6.4.101). A large number of circular pit features that may be temporary ovens are located outside the enclosure. An associated, enclosed, ancillary structure is located to the north of the enclosure. This is a well-preserved example of a rare site-type and based on this its potential to contribute to research objectives related to Romano-British settlement [RD4], Asset 540 has been assessed to be of high value.
- 11.3.15 Located south of Porth yr Ogof, Asset 573 is the remains of a possible Roman-British settlement with well-preserved archaeological remains (see figure D11-5, Application Reference Number: 6.4.101). This asset has been dated through radiocarbon dating to the 2nd to 3rd centuries AD and based on its potential to contribute to research objectives related to Romano-British settlement [RD4], Asset 573 has been assessed to be of high value.
- 11.3.16 Assets 547, 566 and 567 comprise the remains of a large, well-preserved complex settlement of Roman-British date (see figure D11-10, Application Reference Number: 6.4.101). Sites of this scale, complexity and type with this level of preservation are very rare and based on these and their potential to contribute to research objectives related to Romano-British settlement on Anglesey [RD4], they have been assessed to be of high value. Asset 568 is the remains of a large stone built trackway running across a boggy area (see figure D11-10, Application Reference Number: 6.4.101). This heritage asset appears to be associated with Asset 547, 566 and 567 and therefore has also been assessed to be high value.

11.3.17 Following recent archaeological fieldwork, a hilltop enclosure located just under 1.6km to the west of the Wylfa Newydd Development Area has been reinterpreted as a Roman fortlet (Cemlyn Roman Fortlet, Asset 289, see figure D11-4, Application Reference Number: 6.4.101). As with sites on mainland Wales and in Cornwall and Devon, this may have functioned as an outpost for a yet-to-be identified Roman fort in central Anglesey, possibly with an additional role as a signal station associated with shipping. Due to its possible rarity as a military site dating from around the time of the Roman conquest of Anglesey in the 1st century AD, and its potential to have been associated with other possible Roman remains including a watch tower on Pen Bryn yr Eglwys (Asset 290, high value, see figure D11-3, Application Reference Number: 6.4.101), Asset 289 has been assessed to be of high value.

11.3.18 Located within the Wylfa Newydd Development Area, Porth Wylfa Cist Cemetery (Asset 580) is a cemetery of approximately 300 cist burials of Early Roman to Early medieval date (see figure D11-5, Application Reference Number: 6.4.101). Surrounded by large, well-built stone built walls, surfaces and structures as well as a number of sunken floored post built structures, the cemetery appears to form part of a wider ritual complex. A pit containing two polished stone axe heads was also excavated. This heritage asset has been assessed to be of high value.

11.3.19 The Scheduled Monument of Castell Crwn (Asset 426) comprises a small motte dating from the 12th century, which may have been surmounted by a timber castle (see figure D11-9, Application Reference Number: 6.4.101). As a result of its designation as a Scheduled Monument, and its potential to contribute to research objectives related to the chronological development of castles, their role as defensive and administration sites [RD5] and to national research relating to the transition from earthwork to masonry castles [RD6], Asset 426 has been assessed to be of high value.

11.3.20 Porth Wen Brickworks (Asset 24), a Scheduled Monument, dates from the turn of the 20th century. Remains include kilns, boiler houses, chimneys and drying sheds, as well as an incline (Asset 22), remains of a crane (Asset 40) and a loading quay (Asset 41). Asset 24, along with Assets 22, 40 and 41 have been assessed to be of high value (see figure D11-6, Application Reference Number: 6.4.101).

Terrestrial archaeological remains of medium value

11.3.21 A total of 109 archaeological remains assessed to be of medium value have been included within the study area for terrestrial archaeological remains, historic buildings and the historic landscape.

11.3.22 Asset 104 and 161 are the possible locations of intertidal peat deposits (see figure D11-4 and D11-3, respectively, Application Reference Number: 6.4.101). While the description in the Historic Environment Record casts doubt on the presence of these deposits at the locations shown, such deposits could inform our understanding of past environments, and could also preserve archaeological remains and have therefore been assessed to be of medium value.

11.3.23 Asset 324 is the possible site of a chambered tomb located near Llanfechell (see figure D11-10, Application Reference Number: 6.4.101). While records of visits in the early 19th century suggest that a chambered tomb was located here, and more recent results of evaluation indicate Neolithic or Bronze Age activity, the evidence is inconclusive and this site has largely been destroyed. Other heritage assets with a possible funerary or ritual function and of potentially prehistoric date include possible barrows (Asset 431, see figure D11-9; Assets 384 and 699, see figure D11-11; Application Reference Number: 6.4.101), cist burials and cremations (Asset 187, see figure D11-5; Assets 36, see figure D11-6; Asset 284 and 370, see figure D11-11; Application Reference Number: 6.4.101) and possible standing stones (Assets 328, see figure D11-3; Asset 696, see figure D11-6; Asset 656 and 666, see figure D11-9; Application Reference Number: 6.4.101). While heritage assets of this type have the potential to contribute to research objectives related to prehistoric ritual and funerary activity [RD3], due to their poor state of preservation, these assets have been assessed to be of medium value.

11.3.24 More secure evidence for Neolithic activity within the Wylfa Newydd Development Area in the form of pottery from this period recovered from a cluster of pits (Asset 532), has been revealed by archaeological trial trenching (see figure D11-5, Application Reference Number: 6.4.101). Pottery, possibly dating to the Neolithic or the Bronze Age, has also been recovered from concentrations of pits and postholes (for example Asset 517, see figure D11-5, Application Reference Number: 6.4.101) within the Wylfa Newydd Development Area (appendices D11-2a, Application Reference Number: 6.4.69; and D11-2b, Application Reference Number: 6.4.70). These assets provide further evidence for prehistoric activity within the Wylfa Newydd Development Area and therefore have been assessed to be of medium value.

11.3.25 A number of burnt mounds or possible burnt mounds, some with associated features, have been assessed as part of the cultural heritage baseline (Asset 320, see figure D11-3; Assets 71, 212, 245, 251, 311, 314, 515, 516, 520, 525, 528, 529, 530, 535, 536, 537, 538 and 549, see figure D11-4; Asset 145, 539, 553 and 578, see figure D11-5; Asset 546, see figure D11-9; Asset 291, see figure D11-11; Application Reference Number: 6.4.101). The majority of burnt mounds in north-west Wales have been dated to the Bronze Age [RD7] although earlier and later examples are not unknown. The Late Neolithic date (appendix D11-2b, Application Reference Number: 6.4.70) for a possible burnt mound north of Ty-croes (Asset 553), the dating of Asset 145 through radiocarbon dating to the end of the Middle Bronze Age (appendix D11-2a, Application Reference Number: 6.4.69) and the dating of Asset 578 to the Bronze Age (appendix D11-2b, Application Reference Number: 6.4.70) supports this date range. While the burnt mounds identified are not as rare as was once thought, they are characteristic of Bronze Age activity in the region and so can contribute to our understanding of the chronology and function of burnt mounds and to our understanding of prehistoric activity and they have, therefore, been assessed to be of medium value.

11.3.26 Other evidence for prehistoric activity in the form of ditches, pits and postholes and other associated features has been recovered from Assets 523, 590 (see figure D11-4, Application Reference Number: 6.4.101), 531 and 559 (see figure D11-5, Application Reference Number: 6.4.101). Pottery of Early Bronze Age date was recovered from Asset 559. These assets provide further evidence for prehistoric activity within the Wylfa Newydd Development Area and have been assessed to be of medium value.

11.3.27 Archaeological remains identified within the study area for terrestrial archaeological remains, historic buildings and the historic landscape of potentially prehistoric or Romano-British date include enclosures (Assets 209, 272 and 281, see figure D11-4; Asset 121, see figure D11-5; Assets 120 and 236, see figure D11-6; Asset 354, see figure D11-9; Assets 319, 340, 351, 428 and 429, see figure D11-10; Assets 252 and 275, see figure D11-11; Asset 493, see figure D11-12; Asset 489, see figure D11-13; Asset 710, see figure D11-14; Asset 504, see figure D11-15; Application Reference Number: 6.4.101), hut circles (Assets 12 and 38, see figure D11-6; Asset 718, see figure D11-8; Application Reference Number: 6.4.101), and ring gullies which, despite the lack of artefactual evidence indicating domestic activity, have been interpreted as the possible remains of round houses (Asset 127, see figure D11-5; Assets 207 and 534, see figure D11-4; Application Reference Number: 6.4.101). These heritage assets have potential to contribute to our understanding of prehistoric and Romano-British activity within the study area for terrestrial archaeological remains, historic buildings and the historic landscape and have been assessed to be of medium value.

11.3.28 Asset 121 has been dated through radiocarbon dating to Romano-British periods (appendix D11-2a, Application Reference Number: 6.4.69). While based on the date of pottery recovered, Asset 281 has been dated to the same period and while comparably more finds were recovered than from the other enclosures, it is not a particularly rare site type. This heritage asset has therefore been assessed to be of medium value.

11.3.29 Porth Wylfa Gully and Postholes (Asset 581; see figure D11-5, Application Reference Number: 6.4.101) comprises a group of discrete archaeological features, which exhibited evidence of *in situ* burning, and has been dated through radiocarbon dating to the Roman period (appendix D11-2b, Application Reference Number: 6.4.70). These assets have the potential to contribute to research objectives related to Romano-British settlement on Anglesey [RD4] and have been assessed to be of medium value.

11.3.30 Located at the base of a large rock outcrop to the west of Porth Wylfa, Asset 577 (see figure D11-5, Application Reference Number: 6.4.101) was interpreted as a pit (appendix D11-2b, Application Reference Number: 6.4.70). The pit noted in the trial trenching is part of a larger complex of features with a potential industrial function and of Late Roman or Early medieval date. This asset has been assessed to be of medium value.

11.3.31 Prehistoric settlement activity to the north of Llanfaethlu (Asset 847) is a multi-period site with activity dating to the Neolithic, Late Bronze Age and

Iron Age (see figure D11-13, Application Reference Number: 6.4.101). In consideration of its potential to contribute to our understanding of the Neolithic and later periods on Anglesey [RD1]; [RD2]; [RD3], Asset 847 has been assessed to be of medium value.

11.3.32 Two possible promontory forts (Assets 105 and 158) have been identified on Cemlyn Bay (see figure D11-4, Application Reference Number: 6.4.101). If confirmed, they could make a significant contribution to the development of a chronology for this monument type and contribute to our understanding of their function at a regional level. Based on this, Assets 105 and 158 have been assessed to be of medium value.

11.3.33 Assets 87 (see figure D11-6, Application Reference Number: 101), 468 (see figure D11-8, Application Reference Number: 6.4.101), 448 (see figure D11-9, Application Reference Number: 6.4.101), 470, 712 (see figure D11-13, Application Reference Number: 6.4.101), and 499 (see figure D11-15, Application Reference Number: 6.4.101) are the sites of long cists potentially dating to the early medieval period of which no above-ground remains now survive. Asset 499 is an inscribed stone dating to the 6th century AD, which was formerly situated at the farmhouse of Llanol, but which is now in the Bangor Museum. The inscription on the stone originally read *Ettorigi ldc lacet* (translated as “the stone of Enorix he lies here”). Such assets have the potential to contribute to research objectives related to the early medieval period [RD5]; [RD6] and, in the case of the long cists, may indicate the survival of other long cists in the area. Due to their poor preservation or relocation, these assets have been assessed to be of medium value.

11.3.34 Archaeological remains of potentially medieval date and assessed to be of medium value are characterised by:

- religious sites including the sites of chapels comprising Assets 10, 108 (see figure D11-6, Application Reference Number: 6.4.101), 443 (see figure D11-8, Application Reference Number: 6.4.101), 444, 454 (see figure D11-9, Application Reference Number: 6.4.101), 455 (see figure D11-10, Application Reference Number: 6.4.101) and 502 (figure D11-13, Application Reference Number: 6.4.101), a holy well (Asset 18) and an incised stone (Asset 27), both shown on figure D11-5 (Application Reference Number: 6.4.101);
- the former sites of mills comprising Assets 449, 459 (figure D11-9, Application Reference Number: 6.4.101), 366 (see figure D11-10, Application Reference Number: 6.4.101), 450, 457 and 469 (see figure D11-16, Application Reference Number: 6.4.101); and
- the former site of a house (Asset 438, see figure D11-9, Application Reference Number: 6.4.101), a possible grange (Asset 297, see figure D11-3, Application Reference Number: 6.4.101), a curvilinear field system (Asset 345, see figure D11-9, Application Reference Number: 6.4.101), and the possible remains of strip fields (Asset 419, see figure D11-8, Application Reference Number: 6.4.101).

11.3.35 While these heritage assets have some potential to contribute to research objectives related to medieval activity within the study area for terrestrial archaeological remains, historic buildings and the historic landscape [RD5]; [RD6], due to their poor state of preservation they have been assessed to be of medium value.

11.3.36 Assets 13 and 16 are quarries associated with Porth Wen Brickworks (Asset 24, high value, see figure D11-6, Application Reference Number: 6.4.101). While such heritage assets are not rare, due to their group value with this Scheduled Monument, these assets have been assessed to be of medium value.

11.3.37 Two early 19th century pilot beacons are located on the northern coastline of Carmel Head (Assets 222 and 223, see figure D11-3, Application Reference Number: 6.4.101), and one further beacon is located on West Mouse (Asset 51, see figure D11-3, Application Reference Number: 6.4.101). All three assets are designated as Grade II Listed Buildings. Asset 51, Asset 222 and Asset 223 have been included under the archaeological remains sub-topic as a result of their strong association and intrinsic relationship with navigation aids, landing points and other maritime archaeological sites. In consideration of their group value and designation as Grade II Listed Buildings, these heritage assets have been assessed to be of medium value.

11.3.38 The place name Pen y Fynwent at Gwerthyr, near Amlwch (Asset 700, see figure D11-11, Application Reference Number: 6.4.101) may indicate the site of a cemetery, while the 'Castell' place names near Amlwch (Asset 49, see figure D11-6, Application Reference Number: 6.4.101) and near Cemaes (Asset 130, see figure D11-4, Application Reference Number: 6.4.101) may indicate the presence of former fortified sites. While these place names may indicate the potential for the presence of significant archaeological remains, due to the lack of other evidence they have been assessed to be of medium value.

11.3.39 The potential crash site of a Bristol Beaufighter VI X8194 aircraft (Asset 185, see figure D11-5, Application Reference Number: 6.4.101) is recorded by the National Monuments Record of Wales. Its location is not precisely known. It is known that the plane came down close to Llanbadrig and, while any surviving remains associated with the plane would automatically be designated a Protected Place under the Protection of Military Remains Act 1986, these are likely to be fragmentary and would make a limited contribution to our understanding of military archaeology. Based on this, Asset 185 has been assessed to be of medium value.

11.3.40 Asset 527 (see figure D11-4, Application Reference Number: 6.4.101) may be the remains of a prehistoric wetland/mere indicated by the presence of peat and alluvium in some archaeological trial trenches (appendix D11-2a, Application Reference Number: 6.4.69). The results of the trial trenching indicate that the peat and alluvium are shallow (up to 0.52m deep) with a limited geographical extent. As such, any palaeoenvironmental remains within the deposits are likely only to be able to provide information on the

past environment for the local or regional area. Based on this, Asset 527 has been assessed to be of medium value.

Terrestrial archaeological remains of low and negligible value

11.3.41 A total of 189 archaeological remains assessed to be of low value have been included within the study area for terrestrial archaeological remains, historic buildings and the historic landscape.

11.3.42 Dating to the prehistoric period, Assets 701 and 702 (see figure D11-17, Application Reference Number: 6.4.101) are the sites of burnt mounds east of Penciw which were partially excavated in advance of a pipeline, while Asset 848 (see figure D11-12, Application Reference Number: 6.4.101) comprises linear features identified by geophysical survey to the west of, and possibly associated with, Llanfaethlu Neolithic Settlement (Asset 749, see figure D11-12, Application Reference Number: 6.4.101; see below).

11.3.43 Assets 262, 318 (see figure D11-3, Application Reference Number: 6.4.101), 162 (see figure D11-4, Application Reference Number: 6.4.101), 394 (see figure D11-9, Application Reference Number: 6.4.101) and 505 (see figure D11-15, Application Reference Number: 6.4.101) comprise isolated field boundaries, remains of ridge and furrow and terracing which may be of medieval date. As the overall contribution that these assets make to specific research objectives is limited, they have been assessed to be of low value.

11.3.44 Assets 737 (see figure D11-5, Application Reference Number: 6.4.101) and 703 (see figure D11-17, Application Reference Number: 6.4.101) are the possible locations of Garn township and Cemaes township respectively, but given the lack of physical remains associated with these heritage assets they have been assessed to be of low value.

11.3.45 Numerous field boundaries were identified by a geophysical survey and/or trial trenching and are likely to form part of relict (as yet undated) field systems (for example, Assets 168, 182, 204, 239, 242, 293 and 304, see figure D11-4; Asset 166, see figure D11-5, Application Reference Number: 6.4.101). While these can contribute to a general understanding of landscape development and provide a context for the other archaeological remains identified above, given the paucity of artefactual or palaeoenvironmental deposits within these features (where they have been subject to trial trenching), they have been assessed to be of low value.

11.3.46 The remaining archaeological remains generally date to the post-medieval and modern periods and comprise the following.

- Archaeological remains associated with agriculture and agri-industry within the study area for terrestrial archaeological remains, historic buildings and the historic landscape including banks, field boundaries, clearance cairns, drains, post-medieval field systems, ridge and furrow, pillow mounds, mills, mill leats and terraced ground.
- Evidence for post-medieval settlement comprises the sites of smallholdings and farm buildings, relict gardens from larger farmsteads

and estate houses, and hollow ways and trackways connecting rural settlements.

- Archaeological remains associated with the sea include a boathouse, coastguard station, shipyard, beacons, flagpoles, harbours, landing points and navigation aids.
- Industrial archaeology sites relating to Anglesey's local and commercial extractive and mining industries. These comprise copper mines, ironworking sites, mine shafts and quarries.
- Former military remains associated with World War II, especially those associated with a Chain Home radar defence station which was established on Wylfa Head.

11.3.47 While heritage assets of this type can contribute to local research and our understanding of the post-medieval and modern landscape, these types of heritage assets are not rare, are already well understood and have, therefore, been assessed to be of low value.

11.3.48 A total of 183 archaeological remains included in the baseline have been assessed to be of negligible value. These heritage assets fall into the same categories identified above, but are of more recent date or are less well preserved, reducing further their contribution to local research objectives. Included in this value category is Asset 495 (see figure D11-16, Application Reference Number: 6.4.101), the findspot of a quern stone of possible prehistoric date, and Assets 118, 128, 133, 188 (see figure D11-5, Application Reference Number: 6.4.101), 400 (see figure D11-8, Application Reference Number: 6.4.101), 481, 497 (see figure D11-15, Application Reference Number: 6.4.101), 466 and 482 (see figure D11-16, Application Reference Number: 6.4.101) which are findspots mainly of Roman-British date. While these heritage assets provide general evidence for prehistoric, Roman or Roman-British activity, the overall contribution that they can make to specific research objectives is limited and they have therefore been assessed to be of negligible value. Also included in this value category is Llanfaethlu Neolithic Settlement at Ysgol Rhyd y Llan (Asset 749; see figure D11-13, Application Reference Number: 6.4.101) which has been fully excavated. While no remains of this asset now exist, it does indicate the potential for other unknown Neolithic activity in the area and therefore has been assessed to be of negligible value.

Potential for unknown terrestrial archaeological remains

11.3.49 Trial trenching has been undertaken in the majority of fields within the Wylfa Newydd Development Area. Depending on land access, ownership and condition between 4% and 12% of each field was trenched. Despite the extensive nature of the non-invasive and invasive archaeological investigations there is still some potential for the presence of unknown archaeological remains. Based on the results of the archaeological investigations (please refer to appendices D11-1, Application Reference Number: 6.4.68; D11-2a, Application Reference Number: 6.4.69; and D11-2b, Application Reference Number: 6.70) the areas with the highest

potential for the presence of unknown archaeological remains within the Wylfa Newydd Development Area are located:

- in the valley of Nant Caerdegog Isaf (Concentration of Remains (CORE) 1 identified by Wessex Archaeology (figure 6.3 in appendix D11-2a, Application Reference Number: 6.4.69));
- immediately to the east of CORE 1 and south and west of the Cemlyn Road (CORE 2; identified by Wessex Archaeology (figure 6.4 in appendix D11-2a, Application Reference Number: 6.4.69));
- immediately to the north-east of The Firs (CORE 3 identified by Wessex Archaeology (figure 6.5 in appendix D11-2a, Application Reference Number: 6.4.69));
- to the south of Tre'r Gof (CORE 4; identified by Wessex Archaeology, (figure 6.6 in appendix D11-2a, Application Reference Number: 6.4.69));
- immediately to the west of Cemaes, around Park Lodge (CORE 5 identified by Wessex Archaeology (figure 6.7 in appendix D11-2a, Application Reference Number: 6.4.69)); and
- on Wylfa Head.

11.3.50 As no physical works would be undertaken outside of the Wylfa Newydd Development Area, there is no potential for effects on unknown archaeological remains. An assessment of the potential of areas outside of the Wylfa Newydd Development Area for the presence of unknown archaeological remains has therefore not been undertaken.

Marine archaeological remains

11.3.51 A total of 99 heritage assets have been identified within the study areas for marine archaeological remains. These comprise three known named wreck sites, three potential wreck sites, 84 geophysical anomalies of uncertain origin, but of possible archaeological interest, and nine palaeogeographic features. The locations of these marine archaeological remains are shown on figures D11-18 and D11-19 (Application Reference Number: 6.4.101). None of the wrecks are designated as Protected Wrecks. A summary of information on these assets is provided below and more information can be found in appendix D11-3a (Application Reference Number: 6.4.71). Please note that in the following sub-sections marine archaeological remains within the study area for the Disposal Site, which also includes the Micro-site for rock disposal, have been prefixed with WA to distinguish them from marine archaeological remains that are located within the study area for marine archaeological remains for the Wylfa Newydd Development Area.

11.3.52 Although 36 Recorded Losses have been identified within the study areas for marine archaeological remains, they have not been considered as part of the baseline and are not illustrated on figures D11-18 or D11-19 (Application Reference Number: 6.4.101). This is because their locations do not, except by chance, represent material on the seabed. For example, the Recorded Loss of the Mary Sutherland was located within the Wylfa

Newydd Development Area. While no trace of a wreck was identified by the geophysical survey (appendix D11-3a, Application Reference Number: 6.4.71), as a precaution a dive survey of the location of this Recorded Loss was undertaken. No trace of any archaeological material was identified by this dive survey (appendix D11-3b, Application Reference Number: 6.4.72).

11.3.53 Please note that the dive survey confirmed that two anomalies (Asset 7038 and Asset 7042) located within the Wylfa Newydd Development Areas and previously identified by the geophysical survey as being potentially of archaeological interest were non-archaeological in origin (appendix D11-3b, Application Reference Number: 6.4.72). These have therefore been excluded from the baseline.

11.3.54 A geoarchaeological review of the results of the marine geotechnical investigation within the Wylfa Newydd Development Area, was also undertaken. The results of the review indicate that the sediments comprise bedrock and Pleistocene glacial and recent marine sediments which are unlikely to contain *in situ* terrestrial archaeological material. In addition, no terrestrial sediments that would be suitable for further palaeoenvironmental work were identified in any of the boreholes (appendix D11-3a, Application Reference Number: 6.4.71).

Marine archaeological remains of high value

11.3.55 Two known wrecks, the Abbotsford (Asset 7033) and the Earl of Chatham (Asset 7048), have been assessed to be of high value based on their accessibility through the historic record, the condition of their physical remains on the seabed and the fact that the wreck sites are regularly dived (see figure D11-18, Application Reference Number: 6.4.101).

Marine archaeological remains of medium value

11.3.56 One known wreck, the Olinda (Asset 7049) has been assessed to be of medium value as while it is accessible through the historic record, and has been identified by divers, the remains of this wreck are dispersed (see figure D11-18, Application Reference Number: 6.4.101).

11.3.57 While they do not correlate to the locations of any known wrecks, two anomalies (Assets 7009 and 7024, see figure D11-18, Application Reference Number: 6.4.101) identified by geophysical survey have been interpreted as wrecks and have been classified as of archaeological interest (please refer to appendix D11-3a, Application Reference Number: 6.4.71). These are located within the study area for marine archaeological remains for the Wylfa Newydd Development Area. On the assumption that these are the remains of wrecks, Assets 7009 and 7024 have been assessed to be of medium value.

11.3.58 Two magnetic anomalies of uncertain origin but of possible archaeological interest (Asset WA7000 and Asset WA7001, see figure D11-19, Application Reference Number: 6.4.101) have also been identified within the Micro-site for rock disposal. Based on the assumption that these are marine archaeological remains, but taking into account that they are small, discrete anomalies which do not appear in the sidescan sonar or bathymetry

surveys, Asset WA7000 and Asset WA7001 have been assessed to be of medium value.

11.3.59 Two palaeogeographic features of archaeological potential (Asset WA7600 and Asset WA7601, see figure D11-19, Application Reference Number: 6.4.101) have been identified within the Micro-site for rock disposal. Asset WA7600 is a shallow channel with an unstructured fill which has interpreted as belonging to the Western Irish Sea Formation (Unit 3). This unit has been assessed to have a low to moderate potential of being of archaeological origin as it could contain both *in situ* and derived archaeological artefacts and/or preserved palaeoenvironmental material (please refer to appendix D11-3d, Application Reference Number: 6.4.74), and therefore has been assessed to be of medium value.

11.3.60 Asset WA7601 is also a shallow channel with a single phase of distinct, layered fill. This heritage asset has been interpreted as belonging to Surface Sands Formation (SL2) (Unit 4). Unit 4 has been assessed to have a moderate potential of being of archaeological origin as it could contain both *in situ* and derived archaeological artefacts and/or preserved palaeoenvironmental material (please refer to appendix D11-3d, Application Reference Number: 6.4.74), and therefore has been assessed to be of medium value.

11.3.61 Seven other palaeogeographic features have been identified within the study area for the Disposal Site (Assets WA7500 – WA7507). These assets have a moderate potential of being of archaeological origin as they could contain both *in situ* and derived archaeological artefacts and/or preserved palaeoenvironmental material (please refer to appendix D11-3c, Application Reference Number: 6.4.73). Assets 7500 – 7507 have therefore been assessed to be of medium value.

Marine archaeological remains of low and negligible value

11.3.62 No marine archaeological remains of low or negligible value were identified within the study areas for marine archaeological remains

Marine archaeological remains of unknown value

11.3.63 Asset WA2001 is a potential wreck site observed as a sonar contact in 1945 but not found on hydrographic surveys in subsequent years (see figure D11-19, Application Reference Number: 6.4.101). As a result, Asset WA2001 has been amended to dead (i.e. a wreck that has not been detected by repeated surveys, therefore considered not to exist) by the United Kingdom Hydrographic Office, although the potential for buried or fragmentary remains to exist at its charted location should not be discounted. In addition, 82 geophysical survey anomalies have been identified that may represent marine archaeological remains on, or within, the seabed. Given the lack of information on these heritage assets, they have been assessed to be of unknown value.

Historic buildings

11.3.64 A total of 302 historic buildings have been identified within the study area for terrestrial archaeological remains, historic buildings and the historic landscape. The majority of these date to post-medieval and modern periods and typically comprise farmsteads, domestic and industrial buildings of varying scale, status and function. A small number of farmhouses, churches and chapels which retain medieval building fabric are also present. Further detailed information on these historic buildings is provided in appendix D11-1 (Application Reference Number: 6.4.68), including a description of the key attributes of the setting of these historic buildings where it contributes to their value. The location of all historic buildings is shown on figures D11-1 to D11-17 (Application Reference Number: 6.4.101).

Historic buildings of high value

11.3.65 Twenty-two historic buildings have been assessed to be of high value.

11.3.66 The Grade I Listed Building of St. Mary's Church (Asset 423, see figure D11-9, Application Reference Number: 6.4.101) is the earliest surviving historic building within the study area for terrestrial archaeological remains, historic buildings and the historic landscape. The church dates to the late 11th century and forms a core element in the historical setting of Llanfair-yng-Nghornwy. As a result of its surviving medieval building fabric, the quality of its architecture, and its designation as a Grade I Listed Building, Asset 423 has been assessed to be of high value.

11.3.67 Four 12th and 13th century churches designated as Grade II* Listed Buildings are included in the cultural heritage baseline. They comprise St. Patrick's Church (Asset 26, see figure D11-5, Application Reference Number: 6.4.101), St. Rhwydrys' Church (Asset 155, see figure D11-3, Application Reference Number: 6.4.101), St. Mechell's Church (Asset 369, see figure D11-10, Application Reference Number: 6.4.101) and the Church of St Pabo (Asset 673, see figure D11-15, Application Reference Number: 6.4.101). These churches underwent phases of alteration in the later medieval and post-medieval periods as liturgical practice and church architecture developed. Due to their surviving medieval fabric, cohesive vernacular character and their designation as Grade II* Listed Buildings, Assets 26, 155, 369 and 673 have been assessed to be of high value.

11.3.68 Felin Gafnan Corn Mill (Asset 137, see figure D11-4, Application Reference Number: 6.4.101) is also designated as a Grade II* Listed Building. The mill dates from the early 19th century and retains much of its internal machinery dating to the 1840s. It forms part of a complex including a corn-drying house (Asset 141) and mill house (Asset 144); (both medium value, see figure D11-4, Application Reference Number: 6.4.101), situated adjacent to the Grade II Registered Historic Park and Garden, of Cestyll Garden (HLT 2, high value, see figures D11-20 and D11-21, Application Reference Number: 6.4.101), and is framed in views from the garden. As a result of its designation as a Grade II* Listed Building, and preservation of historic mill machinery, Asset 137 has been assessed to be of high value.

Key elements of setting which contribute to the value of this heritage asset comprise the relationship of the mill to the corn-drying house (Asset 141) and mill house (Asset 144), its coastal position and relationship to the Afon Gafnan which provided power for the mill, and views of the structure from Cestyll Garden where it is seen against the backdrop of the rocky coast.

11.3.69 Designated as a Grade II* Listed Building, Caerau House, Llanfairynghornwy (Asset 337, see figure D11-3, Application Reference Number: 6.4.101) is a large house with a complex development and ground plan, comprising two main blocks, dating to the late 17th and mid-18th centuries with later ranges added in the 19th century. Carreglwyd House, Llanfaethlu (Asset 675, see figure D11-12, Application Reference Number: 6.4.101) is also a Grade II* Listed Building dating to the 17th and mid-18th centuries. In consideration of their designations, both these assets have been assessed to be of high value.

11.3.70 The present house at Plas Bodewryd (Asset 425, see figure D11-11, Application Reference Number: 6.4.101) consists of a late 15th century or early 16th century central block with a south wing added or rebuilt in the early 17th century. A small wing was added to the east side of the central block in the early 18th century while a large wing was added in the late 19th century. Due to its designation as a Grade II* Listed Building and as a good example of a multi-period gentry house retaining substantial surviving historic fabric, this asset has been assessed to be of high value.

11.3.71 Assets 14, 19, 20, 23, 25, 28, 29, 30, 32, 33, 34, 35 and 39 are historic buildings associated with the Porth Wen Brickworks Scheduled Monument (Asset 24; high value) (see figure D11-6, Application Reference Number: 6.4.101). These buildings form an integral part of the Scheduled Monument and as such have been assessed to be of high value.

Historic buildings of medium value

11.3.72 Ninety-two historic buildings have been assessed to be medium value within the cultural heritage baseline and are characterised by churches and chapels and rural domestic, agricultural, and agri-industry buildings. Sixty-three of these are designated as Grade II Listed Buildings. Examples of buildings in this value category are described below.

11.3.73 Churches assessed to be of medium value include St. Peirio's Church, East of Tai Hen (Asset 338) and the Church of St Mary at Bodewryd (Asset 436, see figure D11-11, Application Reference Number: 6.4.101). Both are Grade II Listed Buildings, originally medieval in date but restored in the 19th century. Chapels assessed to be of medium value included the Grade II Listed Bethel Hen Methodist Chapel (Assets 456 and 462, see figure D11-10; Asset 483, see figure D11-12; Asset 473, see figure D11-13; Asset 467, see figure D11-16; Application Reference Number: 6.4.101) which, while not designated, provide an interesting localised study detailing the development of this type of asset within Anglesey.

11.3.74 The corn-drying house at Felin Gafnan (Asset 141) and mill house at Felin Gafnan, Cylch-y-Garn (Asset 144, see figure D11-4, Application Reference Number: 6.4.101) and the windmills at Cemaes Mill (Asset 258, see figure

D11-5, Application Reference Number: 6.4.101), Melin Cefn Coch (Asset 355, see figure D11-9, Application Reference Number: 6.4.101) and Melin Drylliau (Asset 683; see figure D11-12, Application Reference Number: 6.4.101) are associated with small-scale corn milling during the 18th and 19th centuries, and along with the Grade II Listed limekiln at Carreglwyd (Asset 674; see figure D11-12, Application Reference Number: 6.4.101) are representative examples of localised industry on Anglesey. As a result of their designation as Grade II Listed Buildings, Assets 141, 144, 258, 355, 674 and 683 have been assessed to be of medium value.

11.3.75 Plas Cemlyn farmhouse (Asset 213), the Old Farmhouse (Asset 215), a cowshed range (Asset 221) and an agricultural range (Asset 228) are designated as Grade II Listed Buildings (see figure D11-4, Application Reference Number: 6.4.101). Dating from the post-medieval period, these buildings are representative of the local vernacular style of farm buildings, demonstrating characteristic features such as rubble-wall construction, small slates to the roof, and rendered gables. Other designated examples include the Courtyard Stable Block (Asset 300), the Cornbarn-cowhouse Range (Asset 303) and Stable-cartshed Range (Asset 309) at Mynachdy (see figure D11-3, Application Reference Number: 6.4.101), and the farmhouse and barn range at Tyddyn Waen (Assets 487 and 488, see figure D11-13, Application Reference Number: 6.4.101). As Grade II Listed Buildings constructed according to local building traditions, these heritage assets have been assessed to be of medium value.

11.3.76 Late 18th or early 19th century cottages identified within the study area for terrestrial archaeological remains, historic buildings and the historic landscape and designated as Grade II Listed Buildings include Assets 439 (see figure D11-8, Application Reference Number: 6.4.101), 486 (see figure D11-12, Application Reference Number: 6.4.101), 492 (see figure D11-15, Application Reference Number: 6.4.101), 498 (see figure D11-13, Application Reference Number: 6.4.101), 463, 474, 476 and 477 (see figure D11-16, Application Reference Number: 6.4.101). Given their small size many have been modified with later additions and as such are an increasingly rare classification of monument. Examples include: Cottage at Orsedd Goch (Asset 439; Grade II Listed Building) and Pant-y-cryntach (Asset 464, Grade II Listed Building, see figure D11-16, Application Reference Number: 6.4.101). These cottages are constructed in a local vernacular style and typically comprise lime-washed rubble walls, heavily grouted small slates to the roof, narrow stone gable copings, dripstones and gable end chimneys. These assets provide good examples of the local vernacular building tradition and based on this, and their designation as Grade II Listed Buildings, have been assessed to be of medium value.

11.3.77 Cafnan House and Outbuildings (Asset 181) comprises a two-storey Georgian house located in its own walled gardens, with associated outbuildings and barns (see figure D11-4, Application Reference Number: 6.4.101). Nant Orman, Cemaes (Asset 138), and Tre'r Gof Uchaf, Cemaes (Asset 163, see figure D11-5, Application Reference Number: 6.4.101), are examples of smaller 18th century farmhouses. Although these three heritage assets are undesignated, all are good examples of Anglesey

farmhouses built according to the regional vernacular architectural style and, as a result, have been assessed to be of medium value.

11.3.78 Cemaes Bay Conservation Area (Asset 124) comprises an historic fishing village, clustered to the south-west of the harbour and extending along High Street to the south (see figure D11-5, Application Reference Number: 6.4.101). It is characterised by historic buildings of late 18th and 19th century date, typically comprising two-storey double-fronted fishermen's cottages arranged as either detached properties or as short terraces. In consideration of its architectural and historic interest, and designation as a conservation area, Asset 124 has been assessed to be of medium value.

11.3.79 Llanfechell Conservation Area (Asset 371, see figure D11-10, Application Reference Number: 6.4.101) comprises a small rural settlement centred on the medieval St. Mechell's Church (Asset 369, Grade II* Listed Building, high value), and adjacent market square. Buildings are predominantly two-storey vernacular workers' cottages of 17th to 19th century date and include a small number of detached or semi-detached houses, a post office, a hotel and a war memorial. As a result of its designation as a conservation area, and historic interest as a well-preserved rural village, Asset 371 has been assessed to be of medium value.

Historic buildings of low and negligible value

11.3.80 A total of 149 historic buildings assessed to be of low value have been identified within the study area for terrestrial archaeological remains, historic buildings and the historic landscape. These comprise industrial buildings, structures associated with the sea, bridges, communications, and religious, domestic, agricultural and garden structures. All historic buildings assessed to be of low or negligible value are shown on figures D11-1 to D11-17 (Application Reference Number: 6.4.101).

11.3.81 Industrial buildings within the study area for terrestrial archaeological remains, historic buildings and the historic landscape date from the post-medieval period. These include clay and brickworks, quarries, limekilns, and buildings associated with copper mining. These heritage assets contribute to our understanding of post-medieval industry at a local level, are common asset types within Anglesey and/or relate to industries which are well understood. These assets have therefore been assessed to be of low value.

11.3.82 The close association of the study area for terrestrial archaeological remains, historic buildings and the historic landscape with the sea is reflected in the presence of a number of lifeboat stations dating from the 19th and early 20th centuries, a 20th century coastguard lookout (Asset 42, see figure D11-5, Application Reference Number: 6.4.101) and a flagstaff (Asset 103, see figure D11-4, Application Reference Number: 6.4.101) marking rocks along the coast. As these heritage assets are only of interest as evidence of local maritime safety measures, they have been assessed to be of low value. Also located on the coast are the remains of a Chain Home radar defence station established during the Second World

War. These heritage assets are poorly preserved and therefore have been assessed to be of low value.

11.3.83 Religious, domestic and agricultural buildings within the study area for terrestrial archaeological remains, historic buildings and the historic landscape include chapels, a church, villas, cottages, a hotel, smallholdings, farm buildings, wells, a gate lodge, and garden structures including gateposts, a walled garden and more than one ha-ha. These structures date from the 19th or 20th centuries, are typical of the local area and have either been frequently subject to alteration or are in poor condition. As these structures form a characteristic element of the local built environment, they have been assessed to be of low value.

11.3.84 The 39 historic buildings assessed to be of negligible value generally fall into the same categories as those assessed to be of low value, but have been heavily modified or are poorly preserved, reducing their architectural and historic interest.

Historic landscape types

11.3.85 The dominant landscape pattern classification from the historic landscape layer in LANDMAP was used to identify 13 HLTs within the study area for terrestrial archaeological remains, historic buildings and the historic landscape (please refer to figures D11-20 and D11-21, Application Reference Number: 6.4.101). Three additional HLTs, Cestyll Garden (HLT 2), Dame Sylvia Crowe's Landscaping Area (HLT 3) and Carreglwyd Park and Garden (HLT 17), have been identified within the study area for terrestrial archaeological remains, historic buildings and the historic landscape and one HLT, Amlwch and Parys Mountain Registered Landscape of Outstanding Historic Interest in Wales (HLT 1), located outside the study area for terrestrial archaeological remains, historic buildings and the historic landscape has been included due to the potential for effects on its setting. Cestyll Garden (HLT 2) and Carreglwyd Park and Garden (HLT 17) were identified from the Register of Parks and Gardens of Special Historic Interest in Wales, while the extent of Dame Sylvia Crowe's Landscaping Area (HLT 3) was defined based on the results of consultation of desk-based sources and a site inspection. Amlwch and Parys Mountain Registered Landscape of Outstanding Historic Interest in Wales (HLT 1) was identified from the Register of Landscape of Historic Interest in Wales.

11.3.86 A total of 17 HLTs have therefore been considered as part of the baseline and information on these is presented below.

11.3.87 Another element of the historic landscape is historic place names. These provide an insight into how people interacted with and perceived their landscape, and can provide information on topography, previous land use and function, past events and other historical associations and linguistic evolution. Place names also have intrinsic value in documenting the status and use of the Welsh language and culture in the Wylfa Newydd Development Area.

11.3.88 Place names within the Wylfa Newydd Development Area have topographical associations or describe landscape characteristics, such as

Pen-yr-allt meaning ‘top of the hillside’ or Penrhyn meaning ‘promontory’. They are also linked to people, for example Tyddyn-Goronwy or ‘Goronwy’s Cottage’, or linked to a function such as Ysgubor Ddegwm which translates as ‘tithe barn’. For some place names, while the name is preserved in the landscape, such as Porth Wnal, any associations would have been forgotten or lost.

11.3.89 The historic place names identified from historic i.e. pre-1951 mapping within the Wylfa Newydd Development Area are presented in table D11-2. As no physical works would be undertaken outside of the Wylfa Newydd Development Area, there is no potential for effects on historic place names outside of it. Historic place names outside of the Wylfa Newydd Development Area have therefore not been included in this chapter.

Table D11-2 Historic place names within the Wylfa Newydd Development Area and their translation

Place name	Translation
Caerdegog Isaf	Lower beautiful fort
Cae'r-ffynnon	Field of the spring
Cafnan	Beautiful dwelling near a stream
Cestyll	Castle
Derwyddfa	Druid's place
Groes-fechan	Small cross
Mynydd y Wylfa	Lookout mountain
Nant-y-Torman	Brook of the small gap
Pen-lôn	Head lane
Pennant	Top brook
Penrallt	Top of the hillside
Penrhyn	Promontory
Pentre'r-gof-bâch	The small smith's village
Pen-y-groes	Top of the cross
Pen-yr-allt	Top of the hillside
Pont cafnan	Bridge of the beautiful dwelling near a stream
Porth Wnal	Wnal harbour
Porth y Felin	Mill harbour
Porth y Gwartheg	Cattle harbour
Porth y Ogof	Cave harbour
Porth y Wylfa	Lookout harbour
Porth-y-pistyll	Waterfall harbour

Place name	Translation
Rhwng-dau-fynydd	Between two mountains
Simdda-wen	White chimney
Tai-hirion	Long houses
Tan-y-fron	Under the brow
Tan-yr-allt	Under hill
Tregele	Hamlet of the leeches
Tre'r-gôf-isaf	Lower smith's village
Tre'r-gôf-uchaf	Upper smith's village
Ty-croes	Cross house
Tyddyn-bâch	Little cottage
Tyddyn-du	Black cottage
Tyddyn-gele	Leech cottage
Tyddyn-Goronwy	Goronwy's cottage
Ty'n-y-maes	House in the field
Ty-Sarah	Sarah's house
Wylfa	Lookout point
Ysgubor Ddegwm	Tithe barn

Historic landscape types of high value

11.3.90 Six HLTs have been assessed to be of high value.

11.3.91 Amlwch and Parys Mountain (HLT 1) is designated as a Registered Landscape of Outstanding Historic Interest in Wales. This landscape includes opencast copper mines and precipitation pits which date to the 18th and 19th centuries. This landscape has been used as a mining and industrial site since the Roman period. As a result of its designation, the survival of distinct historic character areas within it, and its evidential and historic value, HLT 1 has been assessed to be of high value.

11.3.92 Cestyll Garden (HLT 2), which originally formed part of the grounds of Cestyll House (now demolished), is designated as a Grade II Registered Historic Park and Garden (GD45). The three main elements of the garden comprise the valley garden, the remains of the kitchen garden, and the former site of Cestyll House.

11.3.93 The valley garden was planted from 1922 onwards by the Honourable Violet Vivian. Princess Victoria (the fourth child and second daughter of Edward VII and Alexandra of Denmark, and the younger sister of George V), a close friend of Violet Vivian, designed part of the garden. It is notable for being informally planted with tender plants that are well-suited to its location in a sheltered but rocky valley, which is protected from harsh coastal winds by a shelter-belt of trees. While the kitchen garden is now

overgrown with little evidence of the original features and structures, 12 fruit trees, including a specimen of the historic 'Lady's Finger of Lancaster' apple variety, are present.

11.3.94 The Register of Parks and Gardens of Special Historic Interest in Wales defines an area around the garden as part of its Essential Setting and defines two Significant Views towards Porth-y-pistyll, one from the valley garden and one from the former site of Cestyll House, which are shown on figure D11-21 (Application Reference Number: 6.4.101) and the Significant View from the valley garden is illustrated by the photomontage from Viewpoint 15 (see appendix D10-8 Photomontage Views, Application Reference Number: 6.4.65). Cestyll House was demolished in 1991 and its former location comprises a semi-circle area bounded by a high wall and contributes little to the significance of the asset. While the kitchen garden is not unusual, and several similar gardens can be found attached to many of the minor gentry houses on the island, the value of Cestyll Garden (HLT 2) derives from the valley garden and its historical associations, the sensitive use of topography to create a naturalistic setting, the collection of plants and the views seaward. Cestyll Garden (HLT 2) has therefore been assessed to be of high value.

11.3.95 Fieldscape, Central Eastern Mon (HLT 4), is a large area which occupies most of the island. It is characterised by small irregularly-shaped fields with generally straight field boundaries some of which have been amalgamated to form larger fields, with small dispersed farmsteads and settlements. LANDMAP identifies HLT 4 to be of outstanding national value as a broad landscape area containing many disparate patterns which illustrate and exemplify Anglesey's evolution as a primarily rural area. HLT 4 has therefore been assessed to be of high value.

11.3.96 Wylfa (HLT 8) comprises a series of modern buildings associated with the primary phases of construction and development of the Existing Power Station between 1963 and 1973. LANDMAP identifies HLT 8 to be of outstanding national value due to its rarity, as a striking and dominant landscape and as a location for a controversial type of power plant. HLT 8 has therefore been assessed to be of high value.

11.3.97 As an example of a post-medieval settlement with demonstrable medieval origins, Llanddeusant HLT 14 has been assessed to be of high value. HLT 14 is shown of figure D11-20 (Application Reference Number: 6.4.101).

11.3.98 Carreglwyd (HLT 17) is a Grade II* designated historic park and garden on the Cadw Register of Parks and Gardens of Special Historic Interest in Wales. Located approximately 6km to the south-west of the Wylfa Newydd Development Area, this historic landscape briefly comprises: a lawn and lake surrounded by ornamental woodland, a walled kitchen garden and some areas of parkland. These elements are interspersed and surround the 17th century mansion, Carreglwyd House, Llanfaethlu (Asset 675; high value), and associated 18th century ranges and outbuildings (for example, Assets 678, 680, 681 and 682; all of medium value). The landscape is of interest as an example of good use of space, water and woodland backdrops, with the elements linked by planned pathways which create

walks around the whole garden, woodland and lakeside. The kitchen garden remains partially in use, and is square in plan with stone wall surrounds, dated to the 18th century, and box-hedge edged walkways. A sundial (Asset 677; medium value) is located in the centre and is thought to be of contemporary date to the garden. The Register of Historic Parks and Gardens identifies an extensive area around Carreglwyd as its Essential Setting and three Significant Views, one to the north-west, one to the north-east and one to the south-east. In consideration of its designation as a Registered Historic Park and Garden, HLT 17 has been assessed to be of high value.

Historic landscape types of medium value

11.3.99 Eight HLTs of medium value have been identified within the study area for terrestrial archaeological remains, historic buildings and the historic landscape.

11.3.100 Dame Sylvia Crowe's Landscaping Area (HLT 3), located to the south-east of the Existing Power Station, was designed in the 1960s to complement the power station buildings (HLT 8). HLT 3 is characterised by an undulating wooded landscape cut by paths and comprising two significant mounds (man-made drumlins) and a plantation of coniferous, broad-leaved trees and two stone walls to the south-west and north-east. Crucial components in the creation of this landscape were the introduction of nature trails, a landscaped viewing platform looking out to sea, the retention of native plant species and the incorporation of the Anglesey Coastal path. Due to its historical association with Dame Sylvia Crowe, an internationally renowned landscape architect, HLT 3 has been assessed to be of medium value.

11.3.101 Cemaes (HLT 7) and Llanfechell (HLT 13) have elements of medieval and post-medieval settlement morphology evident in their existing layouts, and the street plans mapped in the early 1880s remain legible. Assessed to be of regional value by LANDMAP as a fishing village, a shipbuilding centre and harbour, and a mainly 19th century village settlement respectively, HLT 7 and HLT 13 have been assessed to be of medium value.

11.3.102 Five HLTs (HLT 5, HLT 6, HLT 10, HLT 11 and HLT 12) comprising enclosed fields form have been identified within the study area for terrestrial archaeological remains, historic buildings and the historic landscape. These types result from varying processes of enclosure and enlargement undertaken from the 18th to the 20th century. While fields are bounded by historic drystone walls, banks, cloddiau and hedgerows, the legibility of historic field boundary patterns has been eroded by the establishment of fencing and hedgerows during the 20th century. A total of 54 hedgerows, identified as Important Hedgerows under the Hedgerows Regulations 1997, form elements of HLT 9 and HLT 10 (see figures D11-20 and D11-21, Application Reference Number: 6.4.101). LANDMAP identifies HLT 5 to be of regional value and the other HLTs to be of regional value. These HLTs have therefore been assessed to be of medium value.

Historic landscape types of low value

11.3.103 Cemlyn Coastal Strip (HLT 9) and Penrhod Lastra (HLT 15) are disparate areas, of improved and indistinct fields and scattered farms; the former encompasses the western half of the Wylfa Newydd Development Area whereas the latter is located approximately 5km to the south-east. Bull Bay Area (HLT 16) is located approximately 7km to the east of the Wylfa Newydd Development Area and comprises a largely post-medieval landscape characterised by the 19th century lifeboat station and 20th century golf course designed by Herbert Fowler. Due to the nature of these landscapes as examples of limited historic interest, HLT 9, HLT 15 and HLT 16 have been assessed to be of low value.

Historic landscape types of negligible value

11.3.104 No HLT assessed to be of negligible value have been identified within the study area.

Evolution of the baseline

11.3.105 Long-term changes from the cultural heritage baseline are likely to result from changes in climate which could remove, or result in changes to the form of existing heritage assets through erosion (which could also lead to new heritage assets being exposed) or the construction of coastal defence or flood defences. This could result in changes to the fabric of historic buildings through adaptations to meet climatic change. In addition, changes in crop, stock or species viability, could result in removal of, or changes to, heritage assets.

11.4 Design basis and activities

11.4.1 This section sets out the design basis for this assessment of effects. It sets out where any assumptions have been made to enable the assessment to be carried out at this stage in the evolution of the design. This section also identifies the embedded and good practice mitigation that will be adopted to reduce adverse effects as inherent design features or by implementation of standard industry good working practice.

11.4.2 As described in chapter D1 (proposed development) (Application Reference Number: 6.4.1) the application for development consent is based on a parameter approach. The assessment described within this chapter has taken into consideration the flexibility afforded by the parameters. A worst case scenario has therefore been assessed from a cultural heritage perspective within the parameters described in chapter D1. The principal cultural heritage effects are related to physical effects on heritage assets located within or partially within the development footprint within the Wylfa Newydd Development Area, and are therefore not affected by flexibility afforded by the parameters. However, consideration has also been given to the outputs of the noise and vibration and landscape and visual assessments (please refer to in chapters D5 (air quality) (Application Reference Number: 6.4.5), D6 (noise and vibration) (Application Reference Number: 6.4.6), and D10 (landscape and visual) (Application Reference

Number: 6.4.10) in relation to potential implications of the parameters being sought on the setting of heritage assets. Each of those topic chapters has assessed parameter conditions that are representative of the worst case from the range of parameter variables presented in chapter D1 (Application Reference Number: 6.4.1). A worst case scenario has therefore been assessed from a cultural heritage perspective within the parameters described in chapter D1 (Application Reference Number: 6.4.1).

Construction

Basis of assessment and assumptions

11.4.3 Effects on heritage assets during construction could result from their removal or partial removal, and from the introduction of noise and visual intrusion by machinery into their setting, where this makes a significant contribution to their value. In addition to removal or partial removal through the Marine Works, effects on marine archaeological remains may also result from changes in coastal processes or from crushing or smothering of marine archaeological remains from marine disposal. Cestyll Garden (HLT 2) may also be affected by changes to air quality, the deposition of dust, and change to hydrology.

11.4.4 The potential loss of information resulting from the removal of archaeological remains would affect our understanding of Welsh culture. Further information on the effects on Welsh culture is presented in the Welsh Language Impact Assessment (Application Reference Number: 8.21).

11.4.5 The following buildings will not be removed:

- Pen Carreg and Maen y Bugael (Asset 172; low value);
- Pont Cafnan (Asset 173; low value); and
- Cafnan House (Asset 181; medium value).

11.4.6 Based on the information presented in the Parameter Plans, parameter tables and chapter D1 (Application Reference Number: 6.4.1) the following design assumptions have been made to facilitate assessment:

- Works would not take place within the boundary of Tre'r Gof Site of Special Scientific Interest (SSSI) or within the buffer zones surrounding Tre'r Gof SSSI.
- Temporary buildings in the compounds would be no more than four storeys in height.
- The super heavy lift crane has a maximum height of 292m Above Ordnance Datum (AOD).
- The dimensions of the bulk Marine Off-Loading Facility (MOLF) and Roll-on Roll-off MOLF Quay would be no more than the extents of Zone 1F-7 shown on the Parameter Plans.
- The West Breakwater would have a crest length no longer than 402m with a maximum height of 14m AOD at its northern end.

- The East Breakwater and Shore Protection would have a crest length of no longer than 240m, with a maximum height of 13m AOD.
- The temporary bridge over the access road to the Existing Power Station would be no more than 6.5m high.
- Building platform levels would be no more than 34m AOD.

Embedded mitigation

11.4.7 For the purposes of this chapter the following embedded mitigation has been identified:

- Peats and other deposits at Tre'r Gof SSSI with the potential for the presence of archaeological and palaeoenvironmental remains have been preserved *in situ* through the avoidance of works within the SSSI boundary and buffer zones, and through the minimisation of any new drainage within this area.
- The wooded mounds forming part of the landscape design for the Existing Power Station by Dame Sylvia Crowe would be retained.
- Phased implementation of landscape mounding, seeding of pasture and woodland planting to include early creation of the outer slopes of the linear landscaped mound adjacent to Tregele, and landscape mounding on the edge of Cemaes.
- To avoid effects on Assets WA7000 and WA7001, no rock disposal would take place within 50m of these anomalies.

11.4.8 Embedded mitigation is set out in the relevant Works Plans (Application Reference Number: 2.3), Design and Access Statement (Application Reference Number: 8.2.2), and for marine archaeological remains by the Marine Works sub-Code of Construction Practice (sub-CoCP) (Application Reference Number: 8.8), being secured through Development Consent Order (DCO) requirements.

Good practice mitigation

11.4.9 While no good practice mitigation is required for effects on cultural heritage assets, the construction good practice mitigation identified in chapters D5 (air quality) (Application Reference Number: 6.4.5), D6 (noise and vibration) (Application Reference Number: 6.4.6), D8 (surface water and groundwater) (Application Reference Number: 6.4.8) and D10 (landscape and visual) (Application Reference Number: 6.4.10) would also help to mitigate potential effects on terrestrial and marine archaeological remains, historic buildings and HLTs, such as the measures to reduce noise and vibration and dust generation as set out in sections 7, 8, 10 and 11 of the Wylfa Newydd Code of Construction Practice (CoCP) (Application Reference Number: 8.6), Main Power Station Site sub-CoCP (Application Reference Number: 8.7) and the Marine Works sub-CoCP (Application Reference Number: 8.8) being secured through DCO requirements.

Operation

Basis of assessment and assumptions

11.4.10 The presence of the Power Station, MOLF and breakwater structures has the potential to have an effect on the setting of heritage assets.

11.4.11 Based on the information presented in the Parameter Plans, parameter tables and chapter D1 (Application Reference Number: 6.4.1) have been made to facilitate assessment:

- the maximum height of the stacks would be 98m AOD;
- the tallest buildings on-site would be 63m AOD; and
- the operational life of the Power Station is approximately 60 years.

Embedded mitigation

11.4.12 Embedded mitigation measures during the operational phase relevant to cultural heritage are identified below:

- New tree and shrub planting will be undertaken to restore characteristic field pattern with traditional boundary types including hedgerows, to integrate the Power Station into the landscape.
- Landscape mounding and woodland planting would be provided to help soften views of the Power Station and to help integrate the Power Station into the landscape. Where practicable, excess land would be returned to agriculture, in conjunction with proposed ecological enhancement measures, as part of the landscape restoration scheme for landscape integration of the Power Station.
- To offset the effects on archaeological remains and historic buildings through provision of interpretation, a total of six simple interpretation boards providing information on topics including archaeological remains and historic building would be provided. These would be located at:
 - Wylfa Head (top of Porth yr. Ogof);
 - Site of the proposed Visitor and Media Reception Centre;
 - Porth yr. Felin;
 - Mound C;
 - New Fisherman's car park; and
 - Near Penrhyn access point.

Please refer to chapter D4 (public access and recreation) (Application Reference Number: 6.4.4) for more information on the interpretation boards.

11.4.13 Embedded mitigation is set out in the relevant Works Plans (Application Reference Number: 2.3), Wylfa Newydd Code of Operational Practice (Application Reference Number: 8.13) and Landscape and Habitat Management Strategy (Application Reference Number: 8.16) being secured through the DCO requirements.

Good practice mitigation

11.4.14 No good practice mitigation is required for operation.

Decommissioning

Basis of assessment and assumptions

11.4.15 The decommissioning of the Power Station has the potential to affect the setting of heritage assets.

11.4.16 Based on the information presented in chapter D1 (Application Reference Number: 6.4.1) the following design assumptions have been made to facilitate assessment:

- both reactors would be decommissioned simultaneously;
- all plant and equipment would be removed prior to demolition, and all structures down to 1m below ground level would be removed;
- structures more than 1m below ground level would be left *in situ* and backfilled or grout-filled, including the discharge water channel and the discharge water tunnels;
- the removal of structures would be carried out using the same type of equipment as for construction;
- the site would be restored to equivalent land use;
- landscape mounds and breakwater would not be removed by decommissioning; and
- main decommissioning activities would be completed within 20 years of the end of power generation.

Embedded mitigation

11.4.17 No embedded mitigation has been identified for decommissioning.

Good practice mitigation

11.4.18 The details of good practice mitigation for decommissioning are not known at this time. To facilitate the assessment of effects on cultural heritage assets it is envisaged that this would be the same as that proposed for construction including good practice mitigation identified in chapters D5 (Application Reference Number: 6.4.5), D6 (Application Reference Number: 6.4.6), D8 (Application Reference Number: 6.4.8) and D10 (Application Reference Number: 6.4.10), such as measures to reduce noise vibration and dust generation, as set out in sections 7, 8, 10 and 11 of the Wylfa Newydd CoCP (Application Reference Number: 8.6) and the Main Power Station Site sub-CoCP (Application Reference Number: 8.7).

11.5 Assessment of effects

11.5.1 This section presents the findings of the assessment of effects associated with the construction, operation and decommissioning of the Power Station,

other on-site development, Marine Works and the Site Campus within the Wylfa Newydd Development Area, and of disposal at the Disposal Site.

Construction

Terrestrial archaeological remains

11.5.2 Construction is predicted to affect 204 of the 514 archaeological remains assessed as part of the baseline. The majority of these effects would result from the removal of archaeological remains (and therefore the information that they contain which could contribute to our understanding of past human activity and the development of Welsh culture), resulting from activities such as site clearance works and ground improvement works, topsoil clearance and storage, and construction of haul roads, plant compounds, car parks and offices. Noise and visual intrusion also has the potential to affect the setting of archaeological remains, where setting makes a contribution to their value.

11.5.3 Effects on 47 archaeological remains have been assessed to be of major adverse significance and effects on six archaeological remains have been assessed to be of moderate adverse significance during construction, these are described below and presented in appendix D11-6 (Effects on heritage assets) (Application Reference Number: 6.4.77). Effects on an additional 72 archaeological remains have been assessed to be of minor adverse significance and effects on 79 archaeological remains have been assessed to be of negligible adverse significance. These effects are not discussed below but a full description and assessment is presented in appendix D11-6 (Application Reference Number: 6.4.77).

Major significance of effect

11.5.4 Construction works would remove the following nine archaeological remains assessed to be of high value:

- Pennant Enclosure and Cist Cemetery (Asset 205);
- Tregele Romano-British Settlement (Asset 540);
- Romano-British Settlement, East of Tyddyn Gele (Asset 547);
- Romano-British Settlement, North-east of Tyddyn Gele (Asset 566);
- Roman Settlement, North-west of Tregele (Asset 567);
- Stone Trackway, North-west of Tregele (Asset 568);
- Porth yr Ogof Roman Settlement (Asset 573);
- Neolithic Flint Processing Site, West of Porth Wylfa (Asset 579); and
- Porth Wylfa Cist Cemetery (Asset 580).

11.5.5 Construction works would remove the following 38 archaeological remains assessed to be of medium value:

- Rhwng y Dau Fynydd Burnt Mound (Asset 71);
- Park Lodge Enclosure (Asset 121);

- Park Lodge Ring-ditch (Asset 127);
- Burnt Mounds and Pits (Asset 145);
- Rhwng y Ddau Fynydd Burnt Mound and Ring Ditch (Asset 207);
- Rhwng Dau Fynydd Enclosure (Asset 209);
- Possible Burnt Mound, Cafnan (Asset 212);
- Caerdegog Isaf Burnt Mount (Asset 245);
- Burnt Mound, Rhwng Dau Fynydd (Asset 251);
- Penrallt Curvilinear Enclosure (Asset 272);
- Neuadd Rectilinear Enclosure (Asset 281);
- Possible Burnt Mound, Neuadd (Asset 311);
- Possible Burnt Mound, Penrallt (Asset 314);
- Possible Burnt Mound (west) (Asset 515);
- Possible Burnt Mound (east) (Asset 516);
- Tyddyn-Goronwy Prehistoric Settlement Site (Asset 517);
- Pennant Burnt Mound and Possible Settlement Site (Asset 520);
- Caerdegog Isaf Ditches and Pit (Asset 523);
- Possible Burnt Mound, South of The Firs (Asset 525);
- Linear Anomalies and Burnt Mounds (Asset 528);
- Tregele Prehistoric Settlement and Burnt Mound 1 (Asset 529);
- Tregele Prehistoric Settlement and Burnt Mound 2 (Asset 530);
- Pits and Linear Features 1, Ty-croes (Asset 531);
- Prehistoric Pits, Tyddyn-Goronwy (Asset 532);
- Ring Gully and Pits, Pennant (Asset 534);
- Burnt Spreads and Pits (Asset 535);
- Three Burnt Mounds, Caerdegog Isaf (Asset 536);
- Ring-ditch and Burnt Mound, Tyddyn-gele (Asset 537);
- Burnt Mounds, Rhwng y Ddau Fynydd (Asset 538);
- Burnt Mound and Field Boundaries, Tre'r Gof Uchaf (Asset 539);
- Burnt Mound and Ditch System, Groesfechan (Asset 546);
- Burnt Mound, East of Caerdegog Isaf (Asset 549);
- Ring-gully, Rhwng Dau Fynydd (Asset 550);
- Possible Burnt Mound, North of Ty-croes (Asset 553);
- Pit, Postholes and Stakeholes, South-east of Tyddyn-Goronwy (Asset 559);
- Roman Industrial Activity, West of Porth Wylfa (Asset 577);
- Possible Burnt Mound, West of Porth Wylfa (Asset 578); and
- Porth Wylfa Gully and Postholes (Asset 581).

11.5.6 As these archaeological remains would be completely removed, the magnitude of these permanent effects has been assessed to be large and the significance of these effects major adverse.

Moderate significance of effect

11.5.7 Construction works would remove the following five archaeological remains assessed to be of medium or low value:

- Aerial Photograph site, Cemaes Bay (Asset 78; low value);
- Cafnan Field System (Part of) (Asset 162; low value);
- Palaeoenvironmental Assessment Area 2 (Asset 527; medium value);
- Ditch and Pits, South of Porth Wylfa (Asset 587; low value); and
- Prehistoric Pit, North-east of Neuadd (Asset 590; medium value).

11.5.8 As these archaeological remains will be completely removed the magnitude of these permanent effects has been assessed to be large and the significance of these effects moderate adverse.

11.5.9 Asset 185 is the possible crash site of a Bristol Beaufighter VI X8194, assessed to be of medium value. Although the location of surviving remains of the aircraft is unknown, and none were identified by the geophysical survey or the trial trenching, topsoil stripping would have the potential to remove any surviving remains. If remains are encountered, these would automatically be designated as a Protected Place under the Protection of Military Remains Act 1986, and a licence would be required from the Secretary of State before any further disturbance of the remains could be undertaken. If remains associated with the plane are encountered and removed under licence and during works, the magnitude of this permanent adverse change has been assessed to be large, and the significance of effect would be moderate adverse.

11.5.10 While the magnitude of change resulting from the removal of Asset 527 has been assessed to be large, due to the limited potential for this asset to contribute to our understanding of the palaeoenvironment at anything other than at a local or regional level (please refer to section 3 of this chapter), the significance of effect has been assessed to be moderate adverse.

11.5.11 Asset 590 is single pit which has been assessed to be of medium value due to the presence of Neolithic pottery in its single fill. As this pit would be removed the magnitude of effect has been assessed to be large, however as it is an isolated feature without structural associations the significance of effect has been assessed to be moderate adverse.

Marine archaeological remains

11.5.12 Marine archaeological remains could be removed or damaged by Marine Works (which only take place within the Wylfa Newydd Development Area) or damaged by rock disposal at the Disposal Site. Marine Works or rock disposal could also increase scour or result in changes in sediment dynamics. Increases in scour could also damage marine archaeological remains, while changes in sediment dynamics could also result in damage

through adversely changing the preservational environment in which marine archaeological remains are located.

- 11.5.13 There are no marine archaeological remains within Wylfa Newydd Development Area to be removed or damaged by Marine Works. In addition, given the distances of the marine archaeological remains from Marine Works and the localised and small changes predicted to result from these works (see chapter D12 (coastal processes and geomorphology) (Application Reference Number: 6.4.101), no effects on marine archaeological remains resulting from changes of erosion or deposition are predicted.
- 11.5.14 Whilst the wreck of the Abbotsford (Asset 7033, see figure D11-18, Application Reference Number: 6.4.101) is located close to the boundary of the Wylfa Newydd Development Area, it is located approximately 200m to the north of the proposed cooling water outfall. No effects from the construction of the outfall on this heritage asset are therefore predicted. In addition, as a result of construction and operation of the existing outfall, the potential for unknown marine archaeological remains in its vicinity has been assessed to be negligible and therefore no effects on unknown remains are predicted to result from the construction of the outfall.
- 11.5.15 Disposal would disturb the upper layers of Asset WA7600 and Asset WA7601 which are located within the Micro-site for rock disposal. As these effects have been assessed to be of minor adverse significance they are not discussed further in this chapter but an assessment is presented in appendix D11-6 (Application Reference Number: 6.4.77).
- 11.5.16 Due to the localised effects, no effects on marine archaeological remains located outside of the Disposal Site are predicted from scouring or changes to sediment dynamics resulting from disposal. For more information, please refer to appendix D13-12 (Marine Hydrodynamic Modelling Report - Disposal Site) (Application Reference Number: 6.4.94).
- 11.5.17 As no temporary anchorages are proposed, there would be no effects on marine archaeological remains from surface vessels.

Historic buildings

- 11.5.18 Effects of major adverse significance has been assessed for one historic building (Felin Gafnan Corn Mill, Asset 137). Effects on seven historic buildings have been assessed to be of moderate adverse significance during construction, these are described below. These effects are described below and presented in appendix D11-6 (Application Reference Number: 6.4.77).
- 11.5.19 Effects on 111 historic buildings identified within the study area for terrestrial archaeological remains, historic buildings and the historic landscape have been assessed to be of minor adverse significance and effects on 28 historic buildings have been assessed to be of negligible adverse significance. These effects are not discussed below but a full description and assessment is presented in appendix D11-6 (Application Reference Number: 6.4.77).

11.5.20 No effects are predicted on the remaining 155 historic buildings during construction.

Major significance of effect

11.5.21 There is the potential for damage to the historic fabric of Felin Gafnan Corn Mill (Asset 137), resulting from vibration (for more information on this effect please refer to chapter D6, Application Reference Number: 6.4.6). Should this damage occur it would be permanent and has been assessed to be of large magnitude and major adverse significance.

11.5.22 Construction of Power Station and the Marine Works would introduce noise and visual intrusion into the setting of the mill, transforming its tranquil coastal setting and introducing intrusion into the views of the mill from Cestyll Garden (HLT 2, high value) and the Anglesey coastal path. The association of the mill with the Corn drying house at Felin Gafnan (Asset 141, medium value) and the Mill House at Felin Gafnan, Cylch-y-Garn (Asset 144, medium value) would be maintained. These would be adverse short-term effects. The magnitude of this short-term effect has been assessed to be large and the significance major adverse.

Moderate significance of effect

11.5.23 Construction would remove Nant Orman, Cemaes (Asset 138; medium value), Tre'r Gof Uchaf, Cemaes (Asset 163; medium value) and Tyddyn Gele, Garage and Outbuildings (Asset 263; low value). The magnitude of these permanent effects has been assessed to be large and the significance of these effects moderate adverse.

11.5.24 Construction activities and the Site Campus would be visible in views on approach to St Patrick's Church, Llanbadrig (Asset 26) as well as in views over the roof of the church from the east extension of the graveyard. Noise from construction activities would also detract from the quietness of this heritage asset's setting. The magnitude of this short-term effect has been assessed to be large and the significance of this effect moderate adverse.

11.5.25 Construction would introduce new large-scale elements of infrastructure, as well as lighting, noise and visual intrusion from construction works into the setting and the associated corn drying house and mill house (Assets 141 and 144; medium value). It would also change the tranquil and coastal character of the setting of these heritage assets, and would be prominent in views of these heritage assets from the Anglesey Coastal Path. While the Existing Power Station forms part of the setting of these assets, the proximity and scale of construction activities would transform this setting. There would however be no physical change or the ability to understand the relationship between them. The magnitude of this short-term change has therefore been assessed to be medium and the significance of effect has been assessed to be moderate adverse for these assets.

11.5.26 Construction activities would introduce new large-scale elements of infrastructure, as well as lighting, noise and visual intrusion from construction works into the setting of Cafnan House and Outbuildings (Asset 181; medium value) changing their rural landscape setting. The

magnitude of this short-term change has therefore been assessed to be medium and the significance of effect has been assessed to be moderate adverse.

Historic landscape types

- 11.5.27 Effects on Cestyll Garden (HLT 2) have been assessed to be of major adverse significance. The effect on Dame Sylvia Crowe's Landscaping Area (HLT 3) has been assessed to be of moderate adverse significance. These effects are described below and presented in appendix D11-6 (Application Reference Number: 6.4.77).
- 11.5.28 Permanent effects of minor adverse significance resulting from the removal of historic landscape elements are predicted for four HLTS. Short-term effects of minor adverse significance resulting from noise intrusion are also predicted for these four HLT and an additional two HLTS. As these effects have not been assessed to be significant they are not described below, however an assessment of these effects is presented in appendix D11-6 (Application Reference Number: 6.4.77).
- 11.5.29 Effects on the Amlwch and Parys Mountain Registered Historic Landscape (HLT 1), have been assessed to be of negligible adverse significance. The assessment has been informed by an Assessment of the Significance of the Impact of Development on the Historic Landscape (ASIDOHL2) (please refer to appendix D11-7 Assessment of the Significance of the Impact of Development on the Historic Landscape for the Wylfa Newydd Power Station (ASIDOHL2) (Application Reference Number: 6.4.78). As the effect on this HLT is predicted to be negligible due to its distance from the Wylfa Newydd Development Area (it lies approximately 9km to the east of the Wylfa Newydd Development Area) it is not discussed further in this chapter. An assessment of this effect is presented in appendix D11-6 (Application Reference Number: 6.4.77).
- 11.5.30 No effects are predicted on the remaining eight HLTS during construction.
- 11.5.31 For an assessment of the effects during construction on the landscape and heritage special qualities of the Isle of Anglesey Area of Outstanding Natural Beauty (AONB) please see appendix D11-8 (Integrated Landscape, Heritage and Architecture Plan for the Wylfa Newydd Project) (Application Reference Number: 6.4.79).

Major significance of effect

- 11.5.32 Construction activities would have a physical effect on Cestyll Garden Grade II Registered Historic Park and Garden (HLT 2; high value) through the removal of the kitchen garden, the plot of land where Cestyll House formerly stood, and part of its Essential Setting.
- 11.5.33 In addition, there is also a potential for plants to be affected due to changes in air quality, in particular an increase in the deposition of NOx, increased nitrogen deposition and acid deposition (see chapter D5, Application Reference Number: 6.4.5). Increases in nitrogen deposition can result in the increase in cover of competitive, more nutrient-demanding plants such as grasses and the consequent loss of less competitive species, often

resulting in an overall reduction in species diversity. Acid deposition, which is often linked to nitrogen deposition, alters the pH of the soil and can result in the yellowing of leaves in the short term or the death of plants unable to cope with such conditions in the long term.

11.5.34 Plant responses to increased NO_x concentrations are typically growth stimulus of aerial shoots and increased fruit yield. At higher concentrations (≥ 200 ppb), growth can be inhibited or physiological damage can occur [RD8]; [RD9].

11.5.35 Due to construction lasting a relatively short period of time in the lifespan of woody species and the ability of the soil to buffer against acidification from increased nitrogen deposition the effects of changes in air quality on woody species are likely to be limited. Such effects are most likely to manifest as enhanced growth [RD10].

11.5.36 Species such as rhododendrons and azaleas may benefit from an increase in nitrogen and acidity levels due to their preference for soils with a low pH, between 4.5-6.0, and these species can also survive healthily down to pH levels around 3.5 although growth rates would be likely to be slowed [RD11]. The soil sampling results showed that current soil pH ranges between 4.75-5.91 (see appendix D11-4, Application Reference Number: 6.4.75) which indicates that even with the potential for soil acidification, the pH is likely to remain within a healthy range for these types of plants.

11.5.37 However, there is some potential for other plant species present within the valley garden plants to be affected due to changes in air quality, in particular an increase in the deposition of NO_x, increased nitrogen deposition and acid deposition.

11.5.38 The magnitude of the permanent effect resulting from removal of the kitchen garden, the plot of land where Cestyll House formerly stood, and part of its Essential Setting and potential effects on vegetation resulting from changes in air quality in the valley garden has been assessed to be large and the significance of effect has been assessed to be major adverse.

11.5.39 In addition, construction of the temporary causeway, proposed breakwaters and the MOLF would introduce a source of noise and visual intrusion into the valley garden and the Essential Setting of the garden, significantly detracting from its tranquil character, and the temporary causeway and the breakwater would be dominant and incongruous in the Significant View from the garden. The magnitude of these short-term effects has been assessed to be large and the significance of effect has been assessed to be major adverse.

11.5.40 No effects on Cestyll Garden are predicted due to changes to surface water or groundwater that may result from construction activities (see chapter D8, Application Reference Number: 6.4.8).

Moderate significance of effect

11.5.41 Construction would remove elements of Dame Sylvia Crowe's Landscaping Area (HLT 3; medium value) comprising areas of woodland located to the south-east of the southern landscape mound and to the south of the

Existing Power Station, and stone walls which formed part of the original landscape design to the south-west and north-east of the Existing Power Station. This would modify and remove key elements in the design, slightly reducing the extent of Dame Sylvia Crowe's woodland planting, change its relationship with the Existing Power Station and result in intrusion into key views of Dame Sylvia Crowe's landscape. While the visual relationship between the Existing Power Station and Dame Sylvia Crowe's Landscaping Area (HLT 3; medium value) would be maintained, construction activities would introduce visual intrusion into key views of Dame Sylvia Crowe's landscaping when approaching the Existing Power Station. The construction and use of the Site Campus would also be a dominant new feature in key coastal views from the viewing platform.

11.5.42 The magnitude of these permanent effects has been assessed to be medium and the significance of effect has been assessed to be moderate adverse.

Operation

Terrestrial archaeological remains

11.5.43 No effects on archaeological remains have been assessed to be moderate adverse or above during operation. Effects on five archaeological remains have been assessed to be of minor adverse significance and effects on eight archaeological remains have been assessed to be of negligible adverse significance. These effects are not discussed below but an assessment is presented in appendix D11-6 (Application Reference Number: 6.4.77). No effects are predicted on the remaining 502 archaeological remains during operation

Marine archaeological remains

11.5.44 The wreck of the Abbotsford (Asset 7033; see figure D11-18) is located approximately 200m to the north of the proposed cooling water outfall. Any changes in coastal processes predicted to result from increased volumes of cooling water discharge (see chapter D12, Application Reference Number: 6.4.12), would be localised and small and therefore no effects on this heritage asset are predicted during operation.

11.5.45 Due to the localised and small effects predicted to result from changes of coastal processes, no effects on marine archaeological remains located outside of the Disposal Site are predicted.

Historic buildings

11.5.46 Effects on four historic buildings have been assessed to be of moderate adverse significance during operation, these are described below and in appendix D11-6 (Application Reference Number: 6.4.77). Effects on 17 historic buildings identified within the study area have been assessed to be of minor adverse significance and effects on 56 historic buildings have been assessed to be of negligible adverse significance. These effects are not discussed below but an assessment is presented in appendix D11-6

(Application Reference Number: 6.4.77). No effects on the remaining 225 historic buildings during construction are predicted.

11.5.47 Of the 77 effects on historic buildings identified during operation four have been assessed to be potentially significant effects and are presented in table D11-6 and described below. An assessment of effect for the other 73 historic buildings is presented in appendix D11-6 (Application Reference Number: 6.4.77).

Major significance of effect

11.5.48 No effects assessed to be of major significance are predicted for historic buildings during operation.

Moderate significance of effect

11.5.49 The continued presence of the Power Station during operation, and the marine breakwaters and the MOLF, would continue to affect the settings of Felin Gafnan Corn Mill (Asset 137; high value), and the associated corn-drying house and mill house (Assets 141 and 144; medium value). The magnitude of this medium-term effect has been assessed to be medium and the significance of effect to be moderate adverse for all three assets.

11.5.50 The presence of the Power Station during operation would continue to affect the setting of Cafnan House and Outbuildings (Asset 181; medium value) changing its rural landscape setting. The magnitude of this medium-term effect has been assessed to be medium and the significance of effect moderate adverse.

Historic landscape types

11.5.51 In addition to the effects resulting from visual intrusion, effects on HLT during operation include the effect of the loss of the historic place names identified table D11-2.

11.5.52 During operation, the effect of major adverse significance has been assessed for Cestyll Garden (HLT 2) and the effect on Dame Sylvia Crowe's Landscaping Area (HLT 3) has been assessed to be of moderate adverse significance, these are described below and in appendix D11-6 (Application Reference Number: 6.4.77). Effects on two HLTs have been assessed to be of minor adverse significance during operation and effects on two HLTs have been assessed to be of negligible adverse significance. These effects are not discussed below but an assessment is presented in appendix D11-6 (Application Reference Number: 6.4.77). No effects are predicted on the remaining eleven HLTs during operation.

11.5.53 For an assessment of the effects during operation on the landscape and heritage special qualities of the Isle of Anglesey AONB please see appendix D11-8 (Application Reference Number: 6.4.79).

Major significance of effect

11.5.54 During operation, the Power Station would be a dominant feature in the setting of Cestyll Garden (HLT 2; high value), and the breakwater would be

a continued presence in the Significant View from the valley garden as illustrated by the photomontage from Viewpoint 15 (see appendix D10-8, Application Reference Number: 6.4.65). The magnitude of this medium-term effect has been assessed to be large and the significance of effect to be major adverse.

Moderate significance of effect

11.5.55 The Power Station and new landscaping and woodland planting would form dominant elements in key views of Dame Sylvia Crowe's Landscaping Area (HLT 3; medium value). The magnitude of this medium-term effect has been assessed to be medium and the significance of effect to be moderate adverse.

Decommissioning

Terrestrial archaeological remains

11.5.56 No effects on archaeological remains have been assessed to be moderate adverse or greater during decommissioning. Effects on five archaeological remains have been assessed to be of minor adverse significance and effects on eight archaeological remains have been assessed to be of negligible adverse significance. These effects are not discussed below and assessment is presented in appendix D11-6 (Application Reference Number: 6.4.77).

Historic buildings

11.5.57 Effects on four historic buildings have been assessed to be of moderate adverse significance during decommissioning, these are described below and in appendix D11-6 (Application Reference Number: 6.4.77). Effects on 18 historic buildings identified within the study area have been assessed to be of minor adverse significance and effects on 81 historic buildings have been assessed to be of negligible adverse significance. These effects are not discussed further but an assessment is presented in appendix D11-6 (Application Reference Number: 6.4.77). No effects on the remaining 199 historic buildings during decommissioning have been identified.

Major significance of effect

11.5.58 No effects assessed to be of major significance are predicted for historic buildings during decommissioning.

Moderate significance of effect

11.5.59 Decommissioning activities would result in noise and visual intrusion within the setting of Felin Gafnan Corn Mill (Asset 137; high value), the associated corn drying house and mill house (Assets 141 and 144; medium value). Decommissioning activities such as the operation of plant, the removal of Power Station structures and restoration of the site would dominate the setting of the assets, and result in intrusion in views of the mill from Cestyll Garden (HLT2; high value), and in views from the principal elevation of the mill house. These effects are short-term and adverse. The magnitude of

this change has been assessed to be medium and the significance of effect has been assessed to be moderate adverse.

11.5.60 Decommissioning activities would result in noise and visual intrusion within the setting Cafnan House and Outbuildings (Asset 181; medium value) and the landscaping mounds would continue to form an intrusive element in the setting. The magnitude of this short-term change has been assessed to be medium and the significance of effect has been assessed to be moderate adverse.

Historic landscape types

11.5.61 A permanent effect on Cestyll Garden (HLT 2) has been assessed to be of moderate adverse significance during decommissioning, this effect is described below. In addition, and as presented in appendix D11-6 (Application Reference Number: 6.4.77), short-term effects of minor adverse significance resulting from noise and visual intrusion from decommissioning activities are predicted for Cestyll Garden (HLT 2) and Dame Sylvia Crowe's Landscaping Area (HLT 3), while permanent adverse effects of negligible significance resulting from the continued presence of landscaping mounds after decommissioning are predicted for an additional three HLTs. Effects on the Amlwch and Parys Mountain Registered Historic Landscape (HLT 1), have also been assessed to be of negligible adverse significance. These effects are not discussed below but an assessment is presented in appendix D11-6 (Application Reference Number: 6.4.77). No effects resulting from decommissioning are predicted on the remaining eleven HLTs.

11.5.62 For an assessment of the effects resulting from decommissioning on the landscape and heritage special qualities of the Isle of Anglesey AONB please see appendix D11-8 (Application Reference Number: 6.4.79).

Major significance of effect

11.5.63 No effects assessed to be of major significance are predicted for HLTs during decommissioning.

Moderate significance of effect

11.5.64 After decommissioning, the proposed breakwater would continue to be visible in the Significant View from the valley garden, part of Cestyll Garden (HLT 2; high value). The magnitude of this permanent change has been assessed to be medium and the significance of effect has been assessed to be moderate adverse.

Transboundary effects

11.5.65 As the effects are localised, no transboundary effects have been identified for the topic considered in this chapter.

11.6 Additional mitigation

11.6.1 In accordance with chapter B1 (introduction to the assessment process) (Application Reference Number: 6.2.1), embedded and good practice mitigation measures relevant to cultural heritage were taken into account when determining the 'pre-mitigation' significance of effects. These are detailed in the design basis and activities section of this chapter.

11.6.2 Additional mitigation measures would be implemented to address potential significant effects identified in the assessment of effects section. These additional mitigation measures are summarised in table D11-2 and table D11-4 for construction and operation respectively. No additional mitigation measures have been identified for decommissioning. Additional mitigation measures would be secured through inclusion in section 12 of the Wylfa Newydd CoCP (Application Reference Number: 8.6), the Main Power Station Site sub-CoCP (Application Reference Number: 8.7) and the Marine Works sub-CoCP (Application Reference Number: 8.8), being secured through DCO requirements or would be secured through the Section 106 Agreement to be entered into between Horizon, the Isle of Anglesey County Council (IACC) and others that have an interest in the land.

Construction

Terrestrial Archaeological Remains

11.6.3 The *Overarching National Policy Statement for Energy (EN-1)* [RD12] states that there should be a presumption in favour of the conservation of designated heritage assets. The more significant the designated heritage asset, the greater the presumption in favour of its conservation should be. Technical Advice Note 24 [RD13] likewise sets out a presumption in favour of preservation *in situ* of Scheduled Monuments or other nationally significant archaeological remains. Where the significance of archaeological remains does not merit preservation *in situ*, a programme of archaeological recording may be undertaken, including analysis and publication of the results [RD13].

11.6.4 Where it is not feasible to preserve them *in situ*, archaeological recording in advance of or during construction for physically affected archaeological remains would be undertaken. Archaeological recording, followed by a programme of reporting, analysis, publication, dissemination and archiving would be undertaken to make a permanent record of these remains and/or their settings. In this way the amount of information that might otherwise be lost through the removal of the archaeological remains or changes to their settings would be reduced in comparison to the situation where recording was not undertaken. This reduces the magnitude of change and significance of residual effect.

11.6.5 The archaeological remains for which archaeological recording is proposed are identified in table D11-5 and in appendix D11-6 (Application Reference Number: 6.4.77) and would comprise one or more of the following:

- Archaeological earthwork surveys. This is the production of a scale plan of the above ground remains of an archaeological site, which along with the written and photographic record makes a permanent record of the site and aids in its interpretation.
- Photographic surveys to record the present setting of archaeological remains.
- Palaeoenvironmental assessment followed by palaeoenvironmental analysis if required. This mitigates effects on areas of palaeoenvironmental potential through undertaking a preliminary assessment to identify the most appropriate mitigation measure. This could consist of sampling deposits, for example through recovery of one or more cores. The samples recovered are then subject to a suite of scientific analysis and dating to record the deposits and extract information that can be used to inform of understanding of past environments.
- Archaeological excavations. Archaeological excavations are “a programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area” [RD14]. Excavation, along with an associated programme of assessment, reporting, analysis, publication and dissemination makes a permanent record of remains before they are removed.
- Strip, map and sample. This is an archaeological mitigation technique that entails stripping extensive areas under archaeological supervision, then planning and selectively excavating significant deposits. Again this makes a record of archaeological remains before they are removed. In addition to mitigating the effects on identified assets, strip, map and sample of the areas with the highest potential for the presence of unknown archaeological remains identified in section 11.3.49 would also be undertaken.
- Targeted watching briefs. A watching brief is “a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons” [RD15].
- Development of an archaeological mitigation strategy which would be developed in consultation with relevant stakeholders, to undertake a series of mitigation works which could potentially include targeted archaeological watching brief, targeted excavation and targeted strip map and sampling.

11.6.6 Archaeological recording would be undertaken in accordance with relevant guidance provided by the Chartered Institute for Archaeologists, e.g. [RD14] [RD15], and Written Schemes of Investigation which would be agreed with Gwynedd Archaeological Planning Service (GAPS). All archaeological recording would include a programme of assessment,

reporting, analysis, publication and dissemination commensurate with the value of the terrestrial archaeological remains removed, submission of reports to the Historic Environment Record and National Monument Record of Wales, and the preparation of an ordered archive which would be submitted to an appropriate repository.

Marine archaeological remains

- 11.6.7 No effects on any marine archaeological remains resulting from the construction, operation and decommissioning of the Power Station have been identified and therefore no mitigation is required.
- 11.6.8 Effects on Assets 7000 and 7001 would be avoided through no rock being disposed within 50m of these anomalies, which, as identified in section 11.4, is an embedded mitigation measure. No additional mitigation measures are therefore required.
- 11.6.9 As the significance of effects on Assets 7601 and 7602 are predicted to be minor adverse (please refer to appendix D11-6, Application Reference Number: 6.4.77) no additional mitigation is proposed.
- 11.6.10 Horizon would ensure that appropriate arrangements for unexpected marine archaeological remains, for example a Protocol for Archaeological Discoveries is a requirement of the methods of working.

Historic buildings

- 11.6.11 In order to mitigate effects on historic buildings, one or both of the following would be undertaken:
 - Photographic surveys to provide a permanent visual record of the current conditions of historic buildings and/or their settings.
 - Level 1, 2 or 3 Historic Building Recording (as defined by *Understanding Historic Buildings: A Guide to Good Recording Practice* [RD16] and determined on a case by case basis). This comprises making a written, drawn and photographic record which makes a permanent record of the historic building and aids in its interpretation.
- 11.6.12 Photographic survey and historic building survey would be undertaken in accordance with relevant good practice guidance such as [RD16]; [RD17]; and [RD18] and Written Schemes of Investigation which would be agreed with GAPS. The level of archaeological building recording and reporting would be commensurate with the value of the historic buildings affected, and would include submission of reports to the Historic Environment Record and National Monument Record of Wales and the preparation of an ordered archive which would be submitted to an appropriate repository.
- 11.6.13 The potential effects from vibration on Felin Gafnan Corn Mill (Asset 137) would be mitigated through undertaking a vibration risk assessment as part of the Section 61 application for any construction activity involving vibratory or impact equipment to be used. The assessment would establish safe working distances for receptors in relation to construction vibration. This would allow the identification of machinery that could potentially have

adverse vibration effects and the location of this equipment away from any sensitive receptors, so that any effects on such receptors can be reduced to negligible. Where works are required within the safe working distances, alternative equipment or working methods would be used to reduce vibration levels on sensitive receptors to the greatest extent practicable. Appropriate vibration monitoring would be carried out at the closest receptors to determine the success of these requirements. Please refer to chapter D6 (Application Reference Number: 6.4.6) for more information on this mitigation.

11.6.14 More detail on the historic buildings for which this type of mitigation would be undertaken is provided in table D11-6 and in appendix D11-6 (Application Reference Number: 6.4.77).

Historic landscape types

11.6.15 Historic landscape surveys [RD19] would be undertaken to mitigate the effects on HLT, including historic hedgerows that form part of them, through creating a permanent documentary record (written, drawn and photographic) of their current form. More detail on the HLT for which this type of mitigation would be undertaken is provided in table D11-7 and in appendix D11-6 (Application Reference Number: 6.4.77).

11.6.16 In addition to historic landscape survey the following additional mitigation would be implemented to mitigate the effects on Cestyll Garden (HLT 2; high value):

- Archaeological earthwork survey of any surviving remains of Cestyll House, Former Site of (Asset 132).
- Level 2 historic building recording [RD16] of surviving structures.
- A photographic survey to provide a permanent visual record of the garden in its current form and condition and Significant Views and provide a detailed visual record of the garden, providing a comprehensive record of its existing form, appearance, setting and key views. This would include the former site of Cestyll House.
- Translocation of 'Lady's Finger of Lancaster' apple trees from Cestyll Garden kitchen garden.
- Work with the landowners and other interested parties to consider appropriate enhancement measures such as greater interpretation including on-site interpretation boards at the valley garden, enhanced public access to the valley garden, regular maintenance and restoration of the valley garden.
- Agree with National Trust, Cadw and GAPS the design of appropriate landscape measures to restore and/or enhance the former location of kitchen garden.
- Consult with the landowner to implement appropriate monitoring of soil pH and a visual inspection of the condition of plants during the bulk earthworks of the construction period.

11.6.17 The photographic survey, historic building survey and historic landscape surveys would be undertaken in accordance with relevant good practice guidance (such as [RD16]; [RD17]; [RD18] and [RD19]) and Written Schemes of Investigation which would be agreed with GAPS. The level of reporting would be commensurate with the value of the historic landscape affected, and would include submission of reports to the Historic Environment Record and National Monument Record of Wales, and the preparation of an ordered archive which would be submitted to an appropriate repository.

11.6.18 A summary of proposed additional mitigation measures for cultural heritage during construction is presented in table D11-3.

Table D11-3 Additional mitigation measures – construction

Additional mitigation measures	Objective	Achievement criteria and reporting requirements
Archaeological earthwork survey.	To provide a permanent documentary record (written, drawn and photographic) of above ground archaeological remains in their current form and setting.	Completion of reporting publication (if required), other dissemination of results, submission of an ordered archive to an appropriate repository.
Archaeological excavations. Strip, map and sample. Targeted watching briefs.	To make a permanent record of archaeological remains, disseminate and arrange for permanent storage of the record.	Completion of reporting, publication (if required), other dissemination of results, submission of an ordered archive to an appropriate repository.
Palaeoenvironmental assessment followed by palaeoenvironmental analysis if required.	To confirm the value of palaeoenvironmental remains at Palaeoenvironmental Assessment Area 2 (Asset 527) and, if required, recover deposits and analyse to retrieve information on the environment in the past.	Completion of reporting, dissemination of results, submission of an ordered archive to an appropriate repository.
Development of an archaeological mitigation	To make record of archaeological	Undertaking the archaeological work(s)

Additional mitigation measures	Objective	Achievement criteria and reporting requirements
strategy which would be developed in consultation with relevant stakeholders, to undertake a series of mitigation works which could potentially include targeted archaeological watching brief, targeted excavation and targeted strip map and sampling	remains prior to their removal	identified in the agreed archaeological mitigation strategy, dissemination of results, submission of an ordered archive to an appropriate repository
Make appropriate arrangements for the discovery of unexpected marine archaeological remains, for example a Protocol for Archaeological Discoveries.	To allow appropriate mitigation identified and put in place should unexpected archaeological remains be identified during Marine Works.	Requirements agreed with GAPS, IACC, Cadw and the Royal Commission on the Ancient and Historical Monuments of Wales and included in the contractor's method of working.
Photographic survey.	To provide a permanent visual record of the current conditions of archaeological remains, historic buildings, historic landscapes and/or their settings.	Completion of reporting, dissemination of results, submission of an ordered archive to an appropriate repository.
Historic Building Recording.	To provide a permanent documentary record (written, drawn and photographic) of historic buildings in their current form and setting.	Completion of reporting, publication (if required), other dissemination of results, submission of an ordered archive to an appropriate repository.
Undertake a vibration risk assessment as part of the Section 61 application for any construction activity involving vibratory or impact equipment to be used. The assessment would establish safe	Avoid accidental damage from vibration to Felin Gafnan Corn Mill, Porth y Felin (Asset 137).	Requirements agreed with GAPS, IACC, Cadw and the National Trust.

Additional mitigation measures	Objective	Achievement criteria and reporting requirements
<p>working distances for receptors in relation to construction vibration. This would allow the identification of machinery that could potentially have adverse vibration effects and the location of this equipment away from any sensitive receptors, so that any effects on such receptors can be reduced to negligible. Where works are required within the safe working distances, alternative equipment or working methods would be used to reduce vibration levels on sensitive receptors to the greatest extent practicable. Appropriate vibration monitoring would be carried out at the closest receptors to determine the success of these requirements. Please refer to chapter D6 (Application Reference Number: 6.4.6) for more information on this mitigation.</p>		
<p>Translocation of 'Lady's Finger of Lancaster' apple tree from Cestyll Garden kitchen garden.</p>	<p>Preserve the variety through grafting, whereby scion wood from the 'Lady's Finger of Lancaster' apple tree is combined with rootstock from another tree selected for its vigour.</p>	<p>Completion of the grafts and replanting of the combined tree at a location to be identified in the archaeological mitigation strategy, which will be produced in consultation with relevant stakeholders.</p>
<p>Work with the landowners and other</p>	<p>To offset the effects through maintaining</p>	<p>Implementation of measures. Reporting</p>

Additional mitigation measures	Objective	Achievement criteria and reporting requirements
interested parties to consider appropriate enhancement measures such as greater interpretation including on-site interpretation boards at the valley garden, enhanced public access to the valley garden, regular maintenance and restoration of the valley garden.	and enhancing the value of Cestyll Garden (HLT2; high value).	requirements would be agreed with GAPS, IACC, Cadw and the Welsh Historic Gardens Trust.
Consult with the landowner to implement appropriate monitoring of soil pH and a visual inspection of the condition of plants during the bulk earthworks of the construction period.	Identify any changes in pH or deterioration in the quality of plants within the valley garden that may result from construction.	Implementation of measures. Reporting requirements would be agreed with GAPS, IACC, Cadw, National Trust and the Welsh Historic Gardens Trust

Operation

Archaeological remains and historic buildings

11.6.19 No additional mitigation is proposed for archaeological remains or historic buildings during operation.

Historic landscape types

11.6.20 The following additional mitigation would be implemented to offset the operation effects on Cestyll Garden (HLT 2; high value):

- Undertake discussions with the landowners and other interested parties to consider appropriate enhancement measures such as greater interpretation including on-site interpretation boards at the valley garden, enhanced public access to the valley garden, regular maintenance and restoration of the valley garden.
- Agree with National Trust, Cadw and GAPS the design of appropriate landscape measures to restore and/or enhance the former location of the kitchen garden.

11.6.21 A summary of proposed additional mitigation measures for cultural heritage during operation is presented in table D11-4.

Table D11-4 Additional mitigation measures – operation

Additional mitigation measures	Objective	Achievement criteria and reporting requirements
<p>Identify appropriate enhancement measures such as greater interpretation including on-site interpretation boards at the valley garden, including interpretation boards that are visible from the Wales Coast Path, enhanced public access to the valley garden, including signage from the Wales Coast Path, regular maintenance and restoration of the valley garden.</p> <p>Agree with the National Trust, Cadw and GAPS the design of appropriate landscape measures to restore and/or enhance the former location of the kitchen garden.</p>	<p>To offset the effects through maintaining and enhancing the value of Cestyll Garden (HLT 2; high value).</p>	<p>Implementation of measures. Reporting requirements would be agreed with GAPS, IACC, Cadw, National Trust and the Welsh Historic Gardens Trust.</p>

Decommissioning

11.6.22 No additional mitigation is proposed for archaeological remains, historic buildings or historic landscape types during decommissioning.

11.7 Residual effects

11.7.1 This section describes the residual effects for cultural heritage having taken into account the embedded, good practice and additional mitigation described above. Tables D11-5, D11-6 and D11-7 below provide a summary of significant residual effects identified either prior to and post application of additional mitigation for archaeological remains (construction), historic buildings (construction) and historic landscapes (construction and operation).

11.7.2 All effects on cultural heritage assets are identified in appendix D11-6 (Application Reference Number: 6.4.77). Additionally, all effects of minor

significance or greater identified in the assessment of effects section are summarised in appendix I3-1 (master residual effects table) (Application Reference Number: 6.9.8).

- 11.7.3 After the application of mitigation, no significant effects on any known archaeological remains during construction, operation or decommissioning are predicted. Residual effects for all archaeological remains are presented in appendix D11-6 (Application Reference Number: 6.4.77).
- 11.7.4 During construction, after the application of additional mitigation the permanent residual effects for Felin Gafnan Corn Mill, Porth y Felin (Asset 137) has been assessed to be of moderate adverse significance. A short-term effect on this historic building resulting from noise and visual intrusion has been assessed to be major adverse. The significance of residual effect during operation and decommissioning for this historic building has been assessed to be moderate adverse.
- 11.7.5 During construction the significance of the residual effect on St Patrick's Church, Llanbadrig (Asset 26) has been assessed to be moderate adverse, largely as result of construction noise. The significance of residual effect on this historic building during operation and decommissioning has been assessed to be negligible adverse.
- 11.7.6 During construction, operation and decommissioning the significance of residual effects for the following three historic buildings would be moderate adverse:
 - Corn-drying house at Felin Gafnan (Asset 141);
 - Mill house at Felin Gafnan, Cylch-y-Garn (Asset 144); and
 - Cafnan House and Outbuildings (Asset 181).
- 11.7.7 Residual effects for all other historic buildings have been assessed as minor or negligible adverse and are presented in appendix D11-6 (Application Reference Number: 6.4.77).
- 11.7.8 During construction and operation, the significance of residual effect for Cestyll Garden (HLT 2) is predicted to be major adverse, and during decommissioning moderate adverse.
- 11.7.9 During operation the significance of residual effect for Dame Sylvia Crowe's Landscaping Area (HLT 3) has been assessed to be moderate adverse.
- 11.7.10 Residual effects for all other historic landscape types have been assessed as minor or negligible adverse and are presented in appendix D11-6 (Application Reference Number: 6.4.77).
- 11.7.11 The major adverse residual effect on Cestyll Garden (HLT 2) during construction has been assessed to constitute substantial harm as described by the *Overarching National Policy Statement for Energy (EN-1)* [RD12] as this would result in a permanent and substantial loss of the value (significance) of this heritage asset. The justification for substantial harm on Cestyll Garden is provided in the Planning Statement (Application Reference Number: 8.1).

- 11.7.12 No other effects have been assessed to constitute substantial harm. While the major adverse medium-term residual effect on Cestyll Garden (HLT 2) during operation is a significant effect, it would not result in a permanent and substantial loss of the value (significance) of this heritage asset and therefore has not been assessed to be substantial harm.
- 11.7.13 In addition, while the major adverse short-term residual effect on Felin Gafnan Corn Mill, Porth y Felin (Asset 137) during construction is a significant effect, as it is not permanent it would not result in a permanent and substantial loss of the value (significance) of this heritage asset and therefore has not been assessed to be substantial harm.
- 11.7.14 For more information on substantial harm please refer to chapter B11 (Application Reference Number: 6.2.11).

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Table D11-5 Summary of residual effects for archaeological remains

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Construction								
Rhwng y Dau Fynydd Burnt Mound (Asset 71)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Aerial Photograph site, Cemaes Bay (Asset 78)	Low	Removal	Adverse Local Permanent	Large	Moderate adverse	Archaeological Excavation	Negligible	Negligible adverse
Park Lodge Enclosure (Asset 121)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Park Lodge Ring-ditch (Asset 127)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Burnt Mounds and Pits (Asset 145)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Cafnan Field System	Low	Removal	Adverse Local Permanent	Large	Moderate adverse	Archaeological Excavation	Negligible	Negligible adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
(Part of) (Asset 162)								
Bristol Beaufighter VI X8194 (Asset 185)	Medium	Removal	Adverse Regional Permanent	Large	Moderate adverse	Toolbox talks. Recording and removal of the remains of the asset under licence if discovered.	Negligible	Negligible adverse
Pennant Enclosure and Cist Cemetery (Asset 205)	High	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Rhwng y Ddau Fynydd Burnt Mound and Ring Ditch (Asset 207)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Rhwng Dau Fynydd Enclosure (Asset 209)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Possible Burnt Mound, Cafnan (Asset 212)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Caerdegog Isaf Burnt Mount (Asset 245)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Burnt Mound, Rhwng Dau Fynydd (Asset 251)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Penrallt Curvilinear Enclosure (Asset 272)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Neuadd Rectilinear Enclosure (Asset 281)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Possible Burnt Mound, Neuadd (Asset 311)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Possible Burnt Mound, Penrallt (Asset 314)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Possible Burnt Mound (west) (Asset 515)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Possible Burnt Mound (east) (Asset 516)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Tyddyn-Goronwy Prehistoric Settlement Site (Asset 517)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Pennant Burnt Mound and Possible Settlement Site (Asset 520)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Caerdegog Isaf Ditches and Pit (Asset 523)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Possible Burnt Mound, South of The Firs (Asset 525)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Palaeoenvironmental Assessment Area 2 (Asset 527)	Medium	Removal	Adverse Regional Permanent	Large	Moderate adverse	Palaeoenvironmental assessment followed by palaeoenvironmental analysis if required	Negligible	Negligible adverse
Linear Anomalies and Burnt Mounds (Asset 528)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Tregele Prehistoric Settlement and Burnt Mound 1	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Development of an archaeological mitigation strategy which	Small	Minor adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
(Asset 529)					would be developed in consultation with relevant stakeholders, to undertake a series of mitigation works which could potentially include targeted archaeological watching brief, targeted excavation and targeted strip map and sampling			
Tregele Prehistoric Settlement and Burnt Mound 2 (Asset 530)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Pits and Linear Features 1, Ty-croes (Asset 531)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Prehistoric Pits, Tyddyn-Goronwy (Asset 532)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Ring Gully and Pits, Pennant (Asset 534)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Burnt Spreads and Pits (Asset 535)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Development of an archaeological mitigation strategy which would be developed in consultation with relevant stakeholders, to undertake a series of mitigation works which	Small	Minor adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
						could potentially include targeted archaeological watching brief, targeted excavation and targeted strip map and sampling		
Three Burnt Mounds, Caerdegog Isaf (Asset 536)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Ring-ditch and Burnt Mound, Tyddyn-gele (Asset 537)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Development of an archaeological mitigation strategy which would be developed in consultation with relevant stakeholders, to undertake a series of	Small	Minor adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
						mitigation works which could potentially include targeted archaeological watching brief, targeted excavation and targeted strip map and sampling		
Burnt Mounds, Rhwng y Ddau Fynydd (Asset 538)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Development of an archaeological mitigation strategy which would be developed in consultation with relevant stakeholders, to undertake a series of mitigation works which could	Small	Minor adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
						potentially include targeted archaeological watching brief, targeted excavation and targeted strip map and sampling		
Burnt Mound and Field Boundaries, Tre'r Gof Uchaf (Asset 539)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Tregele Romano-British Settlement (Asset 540)	High	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Burnt Mound and Ditch System, Groesfachan (Asset	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
546)								
Romano-British Settlement, East of Tyddyn Gele (Asset 547)	High	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Burnt Mound, East of Caerdeogog Isaf (Asset 549)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Ring-gully, Rhwng Dau Fynydd (Asset 550)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Possible Burnt Mound, North of Ty-croes (Asset 553)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Development of an archaeological mitigation strategy which would be developed in consultation	Small	Minor adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
						with relevant stakeholders, to undertake a series of mitigation works which could potentially include targeted archaeological watching brief, targeted excavation and targeted strip map and sampling		
Pit, Postholes and Stakeholes, South-east of Tyddyn-Goronwy (Asset 559)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Romano-British Settlement, North-east of Tyddyn Gele (Asset 566)	High	Removal	Adverse Regional Permanent	Large	Major adverse	Strip, map and sample	Small	Minor adverse
Roman Settlement, North-west of Tregele (Asset 567)	High	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Stone Trackway, North-west of Tregele (Asset 568)	High	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Porth yr Ogof Roman Settlement (Asset 573)	High	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Roman Industrial Activity, West of Porth Wylfa (Asset 577)	Medium	Removal	Adverse Local Permanent	Large	Major adverse	Archaeological excavation	Small	Negligible adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Possible Burnt Mound, West of Porth Wylfa (Asset 578)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Neolithic Flint Processing Site, West of Porth Wylfa (Asset 579)	High	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Porth Wylfa Cist Cemetery (Asset 580)	High	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Porth Wylfa Gully and Postholes (Asset 581)	Medium	Removal	Adverse Regional Permanent	Large	Major adverse	Archaeological Excavation	Small	Minor adverse
Cooking Pits, South of Porth Wylfa (Asset 587)	Low	Removal	Adverse Regional Permanent	Large	Moderate adverse	Archaeological Excavation	Small	Minor adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Prehistoric Pit, North-east of Neuadd (Asset 590)	Medium	Removal	Adverse Regional Permanent	Large	Moderate adverse	Recording undertaken during trial trenching has mitigated the impact on this asset.	Negligible	Negligible adverse

Table D11-6 Summary of residual effects for historic buildings

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Construction								
St Patrick's Church, Llanbadrig (Asset 26)	High	<p>Construction activities and Site Campus would form an intrusive element in views on approach to the church and over the roof of the church from the east extension of the graveyard.</p> <p>Construction noise would detract from the quietness that forms part of this heritage asset's setting.</p> <p>Construction activities would be seen in the context of the Existing Power Station, and would be screened from the church and historic graveyard by local topography.</p> <p>Construction also would not affect key attributes of the asset's</p>	Adverse National Short-term	Medium	Moderate adverse	Photographic survey	Medium	Moderate adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
		setting, comprising its coastal location and views northwards out to sea, or its relationship to the lychgate and churchyard.						
Felin Gafnan Corn Mill, Porth y Felin (Asset 137)	High	Potential for physical damage from vibration due to the use of the vibratory pile hammer in close proximity to this heritage asset.	Adverse National Permanent	Large	Major adverse	Undertake a vibration risk assessment as part of the Section 61 application for any construction activity involving vibratory or impact equipment to be used on the Wylfa Newydd Development	Small	Moderate adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
					Area. This assessment would establish safe working distances for receptors in relation to construction vibration. This would ensure that any equipment that is identified as having potentially adverse vibration effects can be located sufficiently away from any sensitive receptors, so that any			

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
					effects on such receptors can be reduced to negligible. Where works are required within the safe working distances, alternative equipment or working methods would be used to reduce vibration levels on sensitive receptors to the greatest extent practicable. Appropriate vibration			

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
						monitoring would be carried out at the closest receptors to determine the success of these requirements. Please refer to chapter D6 (Application Reference Number: 6.4.6) for more information on this additional mitigation measure.		

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
		Construction of Power Station buildings, the MOLF, temporary causeway and breakwater would introduce noise and visual intrusion into the setting of the mill, transforming its tranquil coastal setting and introducing intrusion on the views of the mill from Cestyll Garden (HLT 2, high value) and the Anglesey coastal path. The association of the mill with the Corn drying house at Felin Gafnan (Asset 141, medium value) and the Mill House at Felin Gafnan, Cylch-y-Garn (Asset 144, medium value) would be maintained.	Adverse National Short-term	Large	Major adverse	Photographic survey to document current setting	Large	Major adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Nant Orman, Cemaes (Asset 138)	Medium	Removal	Adverse Regional Permanent	Large	Moderate adverse	Level 3 Historic building recording has already been undertaken. Development of an archaeological mitigation strategy which would be developed in consultation with relevant stakeholders, to undertake a series of mitigation works which could potentially include targeted archaeological	Small	Minor adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
						Visual watching brief, targeted excavation and targeted strip map and sampling		
Corn-drying house at Felin Gafnan (Asset 141)	Medium	Construction of Power Station buildings, the MOLF, temporary causeway and breakwater would introduce noise and visual intrusion on the setting of the corn-drying house and transform its tranquil coastal setting. The association of the asset with the Corn Mill, Felin-Gafnan (Asset 137) and the Mill house at Felin Gafnan, Cylch-y-Garn (Asset 144) would be maintained.	Adverse Regional Short-term	Large	Moderate adverse	Photographic survey to document current setting	Large	Moderate adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Mill house at Felin Gafnan, Cylch-y-Garn (Asset 144)	Medium	Construction of the Power Station, the MOLF, temporary causeway and breakwater would transform its tranquil rural coastal setting, introduce noise and visual intrusion on the setting of the mill house, and intrusion on views from its principal elevation. The association of the mill house with the Corn Mill, Felin-Gafnan (Asset 137) and the Corn drying House at Felin Cafnan (Asset 141) would be maintained.	Adverse Regional Short-term	Large	Moderate adverse	Photographic survey to document current setting	Large	Moderate adverse
Tre'r Gof Uchaf, Cemaes (Asset 163)	Medium	Removal of asset	Adverse Regional Permanent	Large	Moderate adverse	Level 3 Historic building recording has already been	Small	Minor adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
						undertaken		
Cafnan House and Outbuildings (Asset 181)	Medium	Construction activities and infrastructure, including the heavy lifting crane, would be very intrusive within the setting of this asset, resulting in noise and visual intrusion and transforming the rural character of its setting. When complete, the Mounds D and D1 would reduce visual intrusion from the construction works.	Adverse Regional Short-term	Large	Moderate adverse	Photographic survey and Level 2 Historic Landscape Recording to document current setting	Large	Moderate adverse
Tyddyn Gele, Garage and Outbuildings (Asset 263)	Low	Removal of asset	Adverse Local Permanent	Large	Moderate adverse	Level 3 Historic buildings recording	Negligible	Negligible adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Operation								
Felin Gafnan Corn Mill, Porth y Felin (Asset 137)	High	The Power Station and breakwater would form intrusive and dominant elements within the asset's setting, transforming its coastal character (please refer to WNDA Development Photomontage Viewpoint 27 in appendix D10-8, Application Reference Number: 6.4.65) and intruding on views of the mill from Cestyll Garden (HLT13) (please refer to WNDA Development Photomontage Viewpoint 15 and K in appendix D10-8, Application Reference Number: 6.4.65). The relationship between the asset and associated mill	Adverse National Medium-term	Medium	Moderate adverse	None proposed	Medium	Moderate adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
		buildings (Assets 141 and 144) would be maintained.						
Mill house at Felin Gafnan, Cylch-y-Garn (Asset 144)	Medium	The presence of the Power Station would transform the setting of this asset, dominating views to the north and east, and altering its rural, coastal setting. The relationship with other mill buildings (Assets 137 and 141) would be maintained.	Adverse Regional Medium-term	Medium	Moderate adverse	None proposed	Medium	Moderate adverse
Cafnan House and Outbuildings (Asset 181)	Medium	The presence of the Power Station, landscape mounds and planting would dominate the setting of the asset, transforming its rural character.	Adverse Regional Medium-term	Medium	Moderate adverse	None proposed	Medium	Moderate adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Decommissioning								
Felin Gafnan Corn Mill, Porth y Felin (Asset 137)	High	Decommissioning works would result in noise and visual intrusion on the setting of the asset as a result of the operation of demolition plant, the removal of Power Station structures and remediation of the site. These works would be prominent and intrusive within the asset's setting.	Adverse National Short-term	Medium	Moderate adverse	None proposed	Medium	Moderate adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Corn-drying house at Felin Gafnan (Asset 141)	Medium	Decommissioning activities would result in noise and visual intrusion on the setting of the asset as a result of the operation of demolition plant, the removal of Power Station structures and remediation of the site. These activities would be prominent and intrusive within the asset's setting.	Adverse Regional Short-term	Medium	Moderate adverse	None proposed	Medium	Moderate adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Mill house at Felin Gafnan, Cylch-y-Garn (Asset 144)	Medium	Decommissioning activities would result in noise and visual intrusion on the setting of the asset as a result of the operation of demolition plant, the removal of Power Station structures and remediation of the site. These activities would be prominent and intrusive within the asset's setting.	Adverse Regional Short-term	Medium	Moderate adverse	None proposed	Medium	Moderate adverse
Cafnan House and Outbuildings (Asset 181)	Medium	Noise and visual from decommissioning activities.	Adverse Regional Short-term	Medium	Moderate adverse	None proposed	Medium	Moderate adverse

Table D11-7 Summary of residual effects for historic landscape types

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Construction								
Cestyll Garden (HLT 2)	High	Removal of historic landscape elements including the kitchen garden and parts of its Essential Setting. Potential for effects on plants resulting from changes in air quality.	Adverse National Permanent	Large	Major Adverse	Level 2 Historic building recording. Level 2 Historic Landscape survey. Photographic survey. Translocation of Lady's Finger of Lancaster apple trees from Cestyll Garden kitchen garden. Horizon would work with the landowner to implement appropriate monitoring of	Large	Major Adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
						soil pH and a visual inspection of the condition of plants during the bulk earthworks of the construction period.		
		Visual intrusion into the Essential Setting of the Registered Historic Park and Garden. Noise from construction would result in noticeable intrusion into the setting of this asset, detracting from the quietness of	Adverse National Short-term	Large	Major Adverse	Work with the landowners and other interested parties to consider appropriate enhancement measures such as greater interpretation including on-site interpretation boards at the valley	Large	Major Adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
		the garden.			garden, including interpretation boards that are visible from the Wales Coast Path, enhanced public access to the valley garden, including signage from the Wales Coast Path, regular maintenance and restoration of the valley garden.			

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
Dame Sylvia Crowe's Landscaping Area (HLT 3)	Medium	Removal of designed landscape elements. Visual intrusion into views of Dame Sylvia Crowe's landscape. Noise from construction activities would result in intrusion into this HLT.	Adverse Regional Permanent	Medium	Moderate adverse	Level 2 Historic Landscape survey and photographic survey.	Small	Minor adverse
Operation								
Cestyll Garden (HLT 2)	High	Visual intrusion into the setting and Significant Views of the Registered Historic Park and Garden (please refer to WNDA)	Adverse National Medium-term	Large	Major adverse	Work with the landowners and other interested parties to consider appropriate enhancement measures such as greater	Large	Major adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
		Development Photomontage Viewpoint 15 and Viewpoint K in appendix D10-8, Application Reference Number: 6.4.65).				interpretation including on-site interpretation boards at the valley garden, including interpretation boards that are visible from the Wales Coast Path, enhanced public access to the valley garden, including signage from the Wales Coast Path, regular maintenance and restoration of the valley garden.		

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
						Agree with National Trust, Cadw and GAPS the design of appropriate landscape measures to restore and/or enhance the former location of kitchen garden.		
Dame Sylvia Crowe's Landscaping Area (HLT 3)	Medium	Visual intrusion into views of Dame Sylvia Crowe's landscape (please refer to WNDA Development Photomontage Viewpoint in 14 appendix	Adverse Regional Medium-term	Medium	Moderate adverse	None proposed	Medium	Moderate adverse

Receptor (or group of receptors)	Value of receptor(s)	Description of potential effect	Nature of effect	Potential magnitude of change	Potential significance of effect	Additional mitigation	Post-mitigation magnitude of change	Significance of residual effect
		D10-8, Application Reference Number: 6.4.65).						
Decommissioning								
Cestyll Garden (HLT 2)	High	Continued presence of the breakwater in a Significant Views from the valley garden.	Adverse National Permanent	Medium	Moderate adverse	None proposed	Medium	Moderate adverse

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11.8 References

Table D11-8 Schedule of references

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RD9	Takashi, M. & Morikawa, H. 2014. <i>Nitrogen dioxide is a positive regulator of plant growth</i> . <i>Plant Signalling & Behaviour</i> 9: e28033.
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ID	Reference
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RD12	Department of Energy and Climate Change. 2011. <i>Overarching National Policy Statement for Energy (EN-1)</i> . London: The Stationery Office.
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