

20 ONSHORE CULTURAL HERITAGE

20.1 The table below provides a list of all the supporting studies which relate to the onshore cultural heritage impact assessment. All supporting studies are provided on the accompanying CD.

Details of study	Location on supporting studies CD
Inner Sound, Canisbay Onshore Cultural Heritage Environmental Impact Assessment (ORCA, 2012)	ONSHORE\Onshore Cultural Heritage
Inner Sound Canisbay, Caithness Geophysical Survey 2011 Final Report. Report for MeyGen Ltd (ORCA, 2011b)	ONSHORE\Onshore Cultural Heritage

20.1 Introduction

20.2 This section addresses the potential impacts on the onshore historic environment assets by the Project. The assessment has been undertaken by the Orkney Research Centre for Archaeology (ORCA).

20.3 The section identifies any sites or areas of cultural heritage significance that might be affected by the Project. Such resources include¹ World Heritage Sites; Scheduled Ancient Monuments (SAMs); Listed Buildings; Gardens and Designed Landscapes; Historic Battlefields; Conservation Areas; Other archaeological sites and monuments; and other non-designated historic environment assets. The potential for the discovery of unknown remains will also be identified.

20.4 The possible effects of the Project on the identified cultural heritage assets are then assessed, including those for both the Ness of Quoyoys and the Ness of Huna. Direct and indirect effects may occur during the construction, operation and decommissioning of the proposed development, and there may be cumulative effects when the proposed development is considered along with others proposed in the area. Management or mitigation strategies are outlined, addressing any identified issues and impacts concerning the cultural heritage resource.

20.5 The assessment of indirect impact issues including setting incorporates information provided by other studies, including that presented in Sections 19 (Landscape, Seascape and Visual) and 23 (Noise and Dust).

20.2 Assessment Parameters

20.2.1 Rochdale Envelope

In line with the Rochdale Envelope approach, this assessment considers the maximum ('worst case') project parameters. Identification of the worst case scenario for each receptor (i.e. Environmental Impact Assessment (EIA) topic) ensures that impacts of greater adverse significance would not arise should any other development scenario be taken forward in the final scheme design. Table 20.1 describes the detail of the project parameters that have been used in this assessment and explains why these are considered to be worst case. The potential impacts from alternative Project parameters have been considered in Section 20.9.

Project parameter relevant to the assessment	'Maximum' Project parameter for impact assessment	Explanation of maximum Project parameter
Onshore Power Conversion Centre (PCC)	Construction, operation/maintenance and decommissioning	Maximum potential footprint of both Ness of Quoyoys and Ness of Huna (at EIA commencement); daytime working for Power Conversion Centre (PCC) construction and decommissioning

¹ See Scottish Planning Policy 2010, paragraphs 110-124, and the Historic Environment (Amendment) (Scotland) Act 2011, sections 11 & 14 for definitions.

Project parameter relevant to the assessment	'Maximum' Project parameter for impact assessment	Explanation of maximum Project parameter
		construction and impacts on historical setting from the long term presence of the new onshore infrastructure. Potential physical impacts from construction of permanent access road, temporary hard standing using a light excavator, dumper truck and roller. The topsoil will be removed and scraped down to the bedrock; some rock breaking (by excavator breaker) may be required to level the site for PCC foundations.
	Noise from construction, and decommissioning	Noise from construction of the PCC at either Ness of Quoyoys or Ness of Huna; daytime working for PCC construction Use of a light excavator, dumper truck and roller. Some rock breaking (by excavator breaker) may be required. Daytime working only assumed for PCC construction and decommissioning activities.
	Noise from operation	Operating noise from the PCC at either Ness of Quoyoys or Ness of Huna; 24 hour operation of PCC Assessment of potential impacts associated with the operation of the PCC at both Ness of Huna and Ness of Quoyoys. PCC will be operational 24 hours a day and PCC equipment noisiest when the tide running fastest.
Onshore cable routes between PCC and SHETL substation	Construction, operation/maintenance and decommissioning	All potential cable corridors between PCC locations and SHETL substation proposed at Phillips Mains (see Figure 2.1) (at EIA commencement) Assessment of potential impacts associated with cable installation and long term presence along all potential cable corridors identified between PCC locations and SHETL substation proposed at Phillips Mains. Impact assessment limited to potential physical impacts as no long term visible infrastructure associated with underground cable routes.
	Construction and decommissioning noise	All potential cable corridors between PCC locations and SHETL substation proposed at Phillips Mains (see Figure 2.1) (at EIA commencement); daytime working for cable installation and decommissioning Use of single tractor and cable plough (ploughing method) or single light excavator (cut and backfill method) to bury the cables. Daytime working only assumed for cable installation and decommissioning activities.
Cable landfall	HDD site construction and reinstatement	Maximum potential footprint at both Ness of Quoyoys and Ness of Huna (at EIA commencement); daytime working for PCC construction and reinstatement Construction of temporary access off the permanent access road, temporary hard standing for the Horizontal Directional Drilling (HDD) compound using a light excavator and dumper truck. The topsoil will be removed and scraped down to the bedrock; some rock breaking (by excavator breaker) may be required to level the site. The HDD compound will move to new positions for each different phase of drilling. A new compound area prepared for each phase and the previous area reinstated. Daytime working only assumed for HDD site construction and reinstatement activities.
	HDD bores	A single HDD bore required for each turbine cable – i.e. 86 Maximum potential footprint of both Ness of Quoyoys and Ness Assessment of potential impacts associated with the HDD of the cable bores, during the Project construction phase. As the HDD bores will be drilled underground through the

Project parameter relevant to the assessment	'Maximum' Project parameter for impact assessment	Explanation of maximum Project parameter
	of Huna (at EIA commencement)	intertidal zone, the potential physical impacts on archaeology in the intertidal zone have not been considered. Impact assessment limited to potential physical impacts as no long term visible infrastructure associated with underground cable routes.
	HDD noise	24 hour working during the drilling of 86 bores
Offshore Project components	Installation vessel physical presence	1 Dynamic Positioning (DP) vessel for the duration of the installation for year 1 and 2 2 DP vessels for year 3 installation Installation activities will be carried out by a single DP vessel during year 1 and 2, all installation activities to be undertaken using a single DP vessel. If other smaller vessels used to undertake some of the work of the DP vessel, no concurrent multiple vessel activities will take place, i.e. no more than one vessel on site at any one time. Year 3 installation will require a maximum 2 DP vessels for TSS installation. These two vessels may be present on site at the same time during year 3.
	Maintenance vessel physical presence	1 DP vessel present every 2.8 days Based on a maximum 86 turbine array, 1 DP vessel will be present a maximum of 130 times (i.e. single slack tide operation) per year i.e. the DP vessel present on site every 2.8 days.

Table 20.1: Rochdale Envelope parameters for the onshore cultural heritage assessment

20.2.2 Area of assessment

- 20.6 The focus of the onshore cultural heritage assessment is the potential impacts of the Project infrastructure on the areas that could be directly impacted and on the setting of adjacent areas and historic environment receptors within the Zone of Theoretical Visibility (ZTV) as defined during the visual impact assessment (Section 19).
- 20.7 The worst-case scenario approach required the assumption in the EIA that the whole of the onshore development option areas, including all possible cable routes would be subject to intrusive ground clearance and thus the magnitude of direct impact on any identified cultural remains within the area will be high (for sites partly within the development area) or very high (for sites completely within the development area), with occasional lower magnitudes of impact assigned if the site is almost completely outwith the development area. Thus, in many cases, this approach has resulted in the over-rating of how significant many of the impacts will be in reality, since the project design has taken into account the results of the assessment.
- 20.8 In terms of considering impact on setting, as part of the worst case scenario the EIA assumed that the buildings in the two PCC locations will be 13m high and, with ancillary car park, hard-standing and security fencing, spread across the full area. This will clearly not be the case, shown by the project design and site layout in Section 5. The assessment of the significance of residual impacts on setting in 20.7.2 below also takes this into account.
- 20.9 It should be noted that this assessment was completed on a more extensive geographical project area as defined in 2011 (Figure 20.1) and this has since been refined to a smaller footprint at both the Ness of Quoy and Ness of Huna PCC sites and to a single cable corridor to the SHETL substation option areas. Therefore, the quantity of significant impacts identified in this section is greater than that of the final project design in reality. The final project is described in Section 5 and shown in Figure 5.2; the selection process for these is discussed in Section 4.

- 20.10 Following the completion of the EIA, landowner consultation has identified potential issues with small areas of the proposed cable route. It has therefore been necessary to include areas outside that surveyed for the onshore impact assessments. The area is 0.50km² and is shown in Figure 2.1. Unfortunately this issue was not identified at the time of ES compilation and therefore is not addresses in this document. Work to survey and assessment of any changes required to the original impact assessment as a result of the altered cable route is ongoing and will be provided in an ES addendum.

20.3 Legislative Framework and Regulatory Context

20.3.1 Legislation

International and European

- 20.11 The *European Convention on the Protection of the Archaeological Heritage* (revised), (the *Valletta Convention*), was ratified by the UK Government in 2000, This contains provisions for the identification and protection of archaeological heritage both under water and on land, preferably *in situ*, but with provisions for appropriate recording and recovery if disturbance is unavoidable.
- 20.12 The *European Landscape Convention*, ratified by the UK Government in 2006, promotes the protection, management and planning of landscapes in Europe, including the historical and cultural aspects of landscapes.
- 20.13 European Directives on environmental impact assessment incorporated into UK legislation by various regulations, including the *Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011*. This includes the requirement that the historic environment be included in the process to identify the environmental effects of development proposals to prevent, reduce and offset any adverse impacts resulting from them.

UK and Scottish

- 20.14 The *Ancient Monuments and Archaeological Areas Act 1979* (AMAAA), concerns sites that warrant statutory protection due to being of national importance and are Scheduled under the provisions of the Act. The Act is administered in Scotland by Historic Scotland (HS). Such sites or areas may include any "monument which in the opinion of the Secretary of State is of public interest by reason of the historic, architectural, traditional, artistic or archaeological interest attaching to it". A monument is defined within the Act as:
- "any building, structure or work above or below the surface of the land, any cave or excavation; any site comprising the remains of any such building, structure or work or any cave or excavation; and any site comprising or comprising the remains of any vehicle, vessel or aircraft or other movable structure or part thereof" (Section 61 (7)), with the addition of "any thing, or group of things, that evidences previous human activity" from Section 14 of the Historic Environment (Amendment) (Scotland) Act 2011.*
- 20.15 The criteria for the determination of national importance are contained in Historic Scotland's *Scottish Historic Environment Policy* (SHEP) 2011.
- 20.16 The *Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997* and amendments governs the listing and protection of buildings and areas of special architectural or historic interest. The Act requires planning authorities, when determining applications for planning permission or listed building consent, to have regard to preserving the building or its setting or any features of special architectural or historic interest which it possesses.
- 20.17 Planning authorities are required prior to granting planning permission to consult Scottish Ministers (through HS) on any development proposals that may affect the site or setting of a Scheduled Monument, an A-Listed building, an Inventoried Garden or Designed Landscape or an Inventoried Historic Battlefield.

20.3.2 Policy and guidance

National

- 20.18 Scottish Ministers' vision and strategic policies for the historic environment are set out in Historic Scotland's *Scottish Historic Environment Policy* (SHEP) 2011. More detailed guidance is provided the Managing Change in the Historic Environment guidance series, to be found at the HS website². The Scottish Ministers' key policy principles include that:

"there should be a presumption in favour of preservation of individual historic assets and also the pattern of the wider historic environment; no historic asset should be lost or radically changed without adequate consideration of its significance and of all the means available to manage and conserve it" (para 1.14);

that the conservation of the historic environment should:

"have regard to retaining, or where appropriate enhancing, the setting of the site, monument, building or landscape; ensure that, where change is proposed, it is appropriate, carefully considered, authoritatively based, properly planned and executed, and (if appropriate) reversible;" (para 1.15);

and that there should be

"provision for recording where continued preservation is no longer possible or where loss is taking place through change or ongoing decay, and ensure that all records are retained in readily accessible archives" (para 1.15).

- 20.19 Scottish Planning Policy (SPP 2010), with the companion Planning Advice Note (PAN 2/2011): *Planning and Archaeology* 2011, sets out the Scottish Government's planning policy on how the historic environment should be handled under the development plan and development control systems, and incorporates the above policy principles.

Local

- 20.20 The primary means by which Local Authorities must determine applications for planning consent is through the Local Development Plan Framework. Currently, the Highland Council's *Caithness Local Plan* (2002) and The Highland Council's *Structure Plan* (2001) set out the strategic framework for development of land in Caithness³. These will be supplemented and eventually superseded by the Highland-wide Local Development Plan (HwLDP), the September 2010 proposed version of which is a material planning consideration⁴. These plans encourage appropriate developments while at the same time protecting *inter alia* archaeology and built heritage (see HwDLP Appendix 6.2 for definitions).

- 20.21 Structure Plan policies BC1-5 are specifically concerned with the built and cultural heritage of the Highlands. For example, Highland Structure Plan Policy BC1: "Archaeological sites [and in Strategic Policy G2 their setting] affected by development proposals should be preserved, or, in exceptional circumstances where preservation is impossible, the sites will be recorded at developers' expense to professional standards. Provision will be made in Local Plans for the appropriate protection, preservation and enhancement of archaeological sites"; Policy BC4 "The Council will seek to preserve historic gardens and designed landscapes identified in the published inventory and in any additions to it. Local Plans will contain policies for their protection"; and Policy BC5 "The Council will seek to preserve Highland's buildings and groups of buildings of historic or architectural interest, some of which may be at risk from neglect, by the identification in Local Plans of opportunities for their productive and appropriate use".

- 20.22 The draft HwLDP includes Policy 58, which states that

*"All development proposals will be assessed taking into account the level of importance and nature of heritage features, the nature and scale of development, and any impact on the feature and its setting. The following criteria will also apply: 1. For features of **local/regional importance** we will allow developments*

*if we believe that they will not have an unacceptable impact on the amenity and heritage resource. 2. For features of **national importance** we will allow developments that can be shown not to compromise the amenity and heritage resource. Where there may be any significant adverse effects, these must be clearly outweighed by social or economic benefits of national importance. It must also be shown that the development will support communities in fragile areas who are having difficulties in keeping their population and services."*

20.4 Assessment Methodology

20.4.1 Scoping and consultation

- 20.23 Consultation on onshore cultural heritage issues has been ongoing since the commencement of the Project. Table 20.2 summarises all consultation relevant to onshore cultural heritage. In addition, relevant comments from the Scoping Opinion are summarised in Table 20.3 together with responses to the comments and reference to the ES sections relevant to the specific comment. As the project has progressed, many concerns have been incorporated into the project design in order to reduce potentially significant impacts.

Date	Stakeholder	Consultation	Topic/specific issue
7 th April 2011	Marine Scotland and Scottish Natural Heritage (SNH)	Pre-Scoping meeting	EIA surveys and studies required and the data needs for each EIA study.
27 th May 2011	Marine Scotland, statutory consultees and non statutory consultees	Submission of Scoping Report	Request for Scoping Opinion from Marine Scotland and statutory consultees and request for comment from non statutory consultees.
30 th June – 2 nd July 2011	Local stakeholders	Public Event - EIA Scoping	Public event to collate information/opinions on proposed EIA scope.
26 th August 2011	Historic Scotland	Submission of document for comment	Copy of onshore baseline report provided for comment.
30 th August 2011	Highland Council's Historic Environment Team	Submission of document for comment	Copy of onshore baseline report provided for comment.
5 th September 2011	Historic Scotland	Letter	Comments for input to onshore design workshop on 6 th September 2011.
6 th September 2011	The Highland Council (THC), Highland Council's Historic Environment Team, SNH	Onsite Workshop in Caithness	Onsite workshop to discuss the LSVIA and historical setting aspects of the project and agree viewpoints for visual impact assessment.
14 th September 2011	Historic Scotland	Email	No need for a meeting as content that Project will not impact on statutory historic environments.
14 th September 2011	The Highland Council	Meeting	Planning pre application meeting. Presentation on overall project and results of EIA studies to date. Included discussion on building design / development extent sustainable design additional viewpoints required.
27 th September 2011	Highland Council's Historic Environment Team	Submission of document for comment	Provision of report detailing results of geophysical survey investigation and proposed mitigation strategy going forward for Ness of Quoy and Ness of Huna sites.
31 st September 2011	Marine Scotland, The Highland Council, statutory consultees and non statutory consultees	Receipt of Scoping Opinion	Receipt of response to Scoping Report and other comments from non statutory consultees.
6 th October 2011	The Highland Council's Historic Environment Team	E mail	Confirmation on acceptance of proposed mitigation strategy going forward for Ness of Quoy and Ness of Huna sites.
10 th October 2011	Highland Council	Receipt of pre application advice	Receipt of pre application advice from Highland Council.

² <http://www.historic-scotland.gov.uk/index/heritage/policy/managingchange.htm>

³ Still in force at the time of EIA and ES compilation.

⁴ Not adopted at the time of EIA and ES compilation.

Date	Stakeholder	Consultation	Topic/specific issue
6 th – 7 th December 2011	Local stakeholders	Public Event – pre application consultation	Public event to communicate the findings of the EIA to local stakeholders.

Table 20.2: Consultation undertaken in relation to onshore cultural heritage

Name of organisation	Key concerns	Response	ES section within which the specific issue is addressed
Historic Scotland	That an assessment is made of the direct impact of the development on cultural heritage assets including: Castle Mestag, fortified sea stack, Stroma (Index No. 9763); St John's Point, fort and site of St John's Chapel (Index No. 2689); Castle of Mey (HB No. 1797) and grounds, as included in the Inventory of Gardens and Designed Landscapes; Canisbay Parish Church (HB No. 1795).	Full assessment has been made in the EIA.	Section 20.5 Baseline description and sections 20.6, 20.7 and 20.8 Impact assessment
	That an assessment is made of the indirect impact of the development on cultural heritage assets, including those listed above.	Full assessment has been made in the EIA.	Section 20.7 Impact assessment
	That in assessing impact upon the setting of cultural heritage assets, Managing Change in the Historic Environment is consulted for guidance.	The document has been consulted and the guidance used.	Section 20.3 Policy and guidance
	That permanent development at Ness of Quoys would potentially impact on the setting of the Category A listed Canisbay Parish Church (HB No. 1795) and associated churchyard, together with the fields to the north and east which provide an open landscape setting around the monument.	After further consultation, HS stated that "the current proposals do not appear to raise significant issues for our statutory historic environment interests (i.e. scheduled monuments and their setting, category A listed buildings and their setting, Inventory designed landscapes and designated wrecks)".	Section 20.7 Impact assessment
	That three new SHETL substation options could potentially impact on the setting of the Castle of Mey (HB No. 1797) and grounds, as included in the Inventory of Gardens and Designed Landscapes, particularly as they would appear in the designed vista to the south of the castle.	The SHETL substations do not form part of this development (the impacts associated with the SHETL substations are subject of an EIA presently being undertaken by SHETL) and therefore are not considered except in terms of cumulative impact.	Section 20.10 Cumulative impacts
	That the impact on cultural heritage assets by the proposed development be duly considered.	Full assessment has been made in the EIA.	Section 20.5 Baseline description, sections 20.6, 20.7 and 20.8 Impact assessment
Highland Council Historic Environment Team (HC HET)	That, where possible, cultural heritage assets be preserved in situ.	MeyGen are in agreement with this approach and onshore site layout design will seek to wherever possible avoid cultural heritage assets (within the technical constraints of the project)	Section 20.5 Baseline description

Name of organisation	Key concerns	Response	ES section within which the specific issue is addressed
	That a full assessment of historic environment assets above and below ground be undertaken.	Full assessment has been made in the EIA	Sections 20.6, 20.7 and 20.8 Impact assessment
	That the building and landscape design be sympathetic to the landscape and historic environment.	The appearance and design of the buildings and landscaping are being formulated with this in mind and in consultation with Highland Council Historic Environment Team (amongst others).	Sections 19 LSVIA and section 20.7 impact assessment
	That where avoidance of archaeological remains is not practicable or possible that an appropriate mitigation strategy is put in place.	Appropriate mitigation strategies have been formulated	Sections 20.6, 20.7 and 20.8 Impact assessment
	That the most significant cultural heritage issue remains the setting of Canisbay Kirk. This issue should be given precedence over other similar issues when considering the siting and design of the development.	Impact and mitigations addressed in the EIA. The appearance and design of the buildings and landscaping are being formulated to address this issue.	Section 20.7 Impact assessment
Caithness Archaeological Trust	No concerns raised	-	-
Caithness Field Club	Raised no specific concerns. Provided information on local assets and recommended the consultation of the Caithness Coastal Survey undertaken in the 1980s by Colleen Batey and the further investigation of a purported Cromwellian battery and magazine at the Ness of Quoys.	The Caithness Coastal Survey report was used as a main source for the baseline assessment. If the design layout cannot avoid it, it is proposed to evaluate the Battery to investigate the identification and propose further mitigation if appropriate.	Section 20.5 Baseline description, and sections 20.6, 20.7 and 20.8 Impact assessment
Public Meetings	Concerns were raised concerning the landscape and visual impacts of the development, including the use of overhead cables for the connection of substations.	Visual and setting impacts have been considered in the EIA. MeyGen propose to underground all onshore cables.	Section 20.7 Impact assessment

Table 20.3: Scoping comments relevant to onshore cultural heritage

20.4.2 Desk based assessment

- 20.24 The desk based assessment (DBA) was executed in accordance with the Institute for Archaeologists (IfA) *Standard and Guidance for archaeological desk-based assessment* (revised 2008, at www.archaeologists.net) and the relevant parts of The Highland Council's *Guidance for Archaeological Contractors* (available at www.highland.gov.uk).
- 20.25 The DBA covered the area of mainland Caithness as shown in Figure 20.1. This was to identify any sites that might be directly affected by the proposed development and their immediate context. The DBA reviewed the following sources:
- The National Monuments Record of Scotland, using the Canmore and Pastmap database websites; <http://www.rcahms.gov.uk/> ;

- The local Sites and Monuments Record using the Highland Council website; <http://her.highland.gov.uk/>;
 - Ordnance Survey maps including County Series 1:2500 (25" to 1 mile) 1st edition 1877, Caithness-shire; County Series 1:2500 (25" to 1 mile) 1st Revision (second edition) 1907, Caithness-shire; OS Explorer Map, 1: 25 000, 2007 edition, Thurso and John o' Groats;
 - Relevant historic maps available on the National Library of Scotland website;
 - The Canisbay parish entries in the *Old and New Statistical Accounts of Scotland*, 1791-99 and 1834-45 respectively, via the Edina website; stat-acc-scot.edin.ac.uk;
 - Statutory lists, registers and designated areas, including List of Scheduled Ancient Monuments, Listed Buildings, Inventories of Gardens & Designed Landscapes and Historic Battlefields, and local authority Conservation Areas;
 - High resolution aerial photographs of the study area supplied by Xodus;
 - The Bulletins of the Caithness Field Club, available at <http://www.caithness.org/caithnessfieldclub/bulletins/linkindex.htm>;
 - Information in the scoping responses from various organisations (see Section 20.3.1); and
 - Various other readily available archaeological and historical reports, databases and publications were consulted for information about the study area (such as Barber 2006, Batey *et al* 1993, Calder 1887, Davidson & Henshall 1991, Omand 1989) and, where used, will be cited in the report.
- 20.26 Each cultural heritage site, monument, area and building identified within the assessment area was assigned an individual site number, prefixed by ORCA (e.g. ORCA 25). All sites identified by the DBA and the importance and significance of each individual site, are shown on Figures 20.2 and 20.3 and presented in detail in the supporting onshore archaeology EIA report (ORCA, 2012), provided on the supporting studies CD.

20.4.3 Walkover survey

- 20.27 The walkover survey was executed in accordance with the relevant sections of the Institute for Archaeologists (IfA) *Standard and Guidance for Archaeological Field Evaluation* (revised 2008, at www.archaeologists.net) and the relevant parts of The Highland Council's *Guidance for Archaeological Contractors* (available at www.highland.gov.uk).
- 20.28 The area fieldwalked was the Project area only as shown on Figure 20.1. Any features or sites identified were assigned an individual site number, in the same sequence as the sites identified in the DBA. All sites identified by the walkover survey and the importance and significance of each individual site, are shown on Figures 20.2 and 20.3 and presented in detail in the supporting onshore archaeology EIA report (ORCA, 2012), provided on the supporting studies CD.
- 20.29 Any sites identified by the DBA within the development area were also visited to evaluate their nature, condition and potential impacts of the proposed works. Subsequently, targeted geophysical surveys have been undertaken over potentially sensitive sites in the Ness of Quoys and Ness of Huna areas in order to inform appropriate mitigation measures (ORCA, 2011b) and some of the results are discussed in Section 20.5. The report of the geophysical survey is also provided on the accompanying supporting studies CD (ORCA, 2011b).

20.4.4 Zones of Theoretical Visibility

- 20.30 The Zones of Theoretical Visibility (ZTV) for the Ness of Quoys and Ness of Huna were established by a process described in Section 19, and photomontages from cultural heritage viewpoints / viewpoints relevant to cultural heritage assets are included in Section 19 and the Technical Appendix to that section.

Several sites within the ZTVs for were visited for the consideration of setting issues. Each archaeological or historical site, monument and building identified within the ZTV of each potential HDD and PCC location was assigned an individual site number in the same sequence as those identified by the DBA and walkover survey. Identified sites and the importance and significance of each individual site within the ZTVs are shown on Figure 20.6 and Figure 20.7 and presented in detail in the supporting onshore archaeology EIA report (ORCA, 2012), provided on the supporting studies CD.

- 20.31 Guidance indicates that if a historic asset is not within the visual envelope of a development then most factors contributing to the setting of the asset will not be affected.⁵ Thus it is not considered that the underground cable routes will have an effect on setting. The distance from which a development is seen is important in considering the impact on setting, which has resulted in the potential impact of the development on the setting of heritage assets being assessed in zones: within 2km of the PCC, 2-5km away and 5-10km away. Beyond this it is most unlikely that the Project will have an impact.

20.4.5 Significance criteria

- 20.32 Where appropriate, the methodology used follows that outlined in Section 8. Variations from this are explained in the following sections.**

Criteria for importance, significance and sensitivity

- 20.33 The importance and significance attributed to each identified area, site or feature will be determined using the criteria in Table 20.4 which incorporate general guidelines and values relating to a site's intrinsic, contextual and associative characteristics⁶ used by statutory agencies such as HS, outlined in SHEP 2011, SPP 2010 and PAN 2/2011. It should be noted that a site that has not been statutorily designated can still be of national importance and that although Listed Buildings have a hierarchy of relative importance, in law all listed buildings receive equal legal protection, and protection applies equally to the interior and exterior of all listed buildings regardless of category⁷. Features that would require considerable further work to interpret them have been recorded as of uncertain importance and significance.
- 20.34 The level of significance usually correlates a site's importance, as in Table 20.4. However, some professional judgement may be needed when assessing significance, using factors such as:
- The relative rarity of the archaeological feature concerned;
 - The completeness of the feature / whether it is a particularly good example of its type;
 - The historical or cultural associations of the feature;
 - The value given to the feature by the local community;
 - The potential value of the feature as an in situ educational or research resource; and
 - The potential value of retaining the feature for tourism or place-making".⁸
- 20.35 Although there is no statutory definition, 'setting' is an important consideration in assessing changes to the historic environment in the planning process (SPP 2010, para 113). Setting is defined in various guidance and policy documents.⁹

⁵ <http://www.historic-scotland.gov.uk/setting-2.pdf>, sections 2 to 4

⁶ See SHEP 2011 Annexes 1-6 for detailed explanations of such criteria.

⁷ <http://www.historic-scotland.gov.uk/index/heritage/historicandlistedbuildings/listing.htm>

⁸ PAN 2/2011, para 6

⁹ E.g. SPP2010, para 113; <http://www.international.icomos.org/xian2005/xian-declaration.htm>

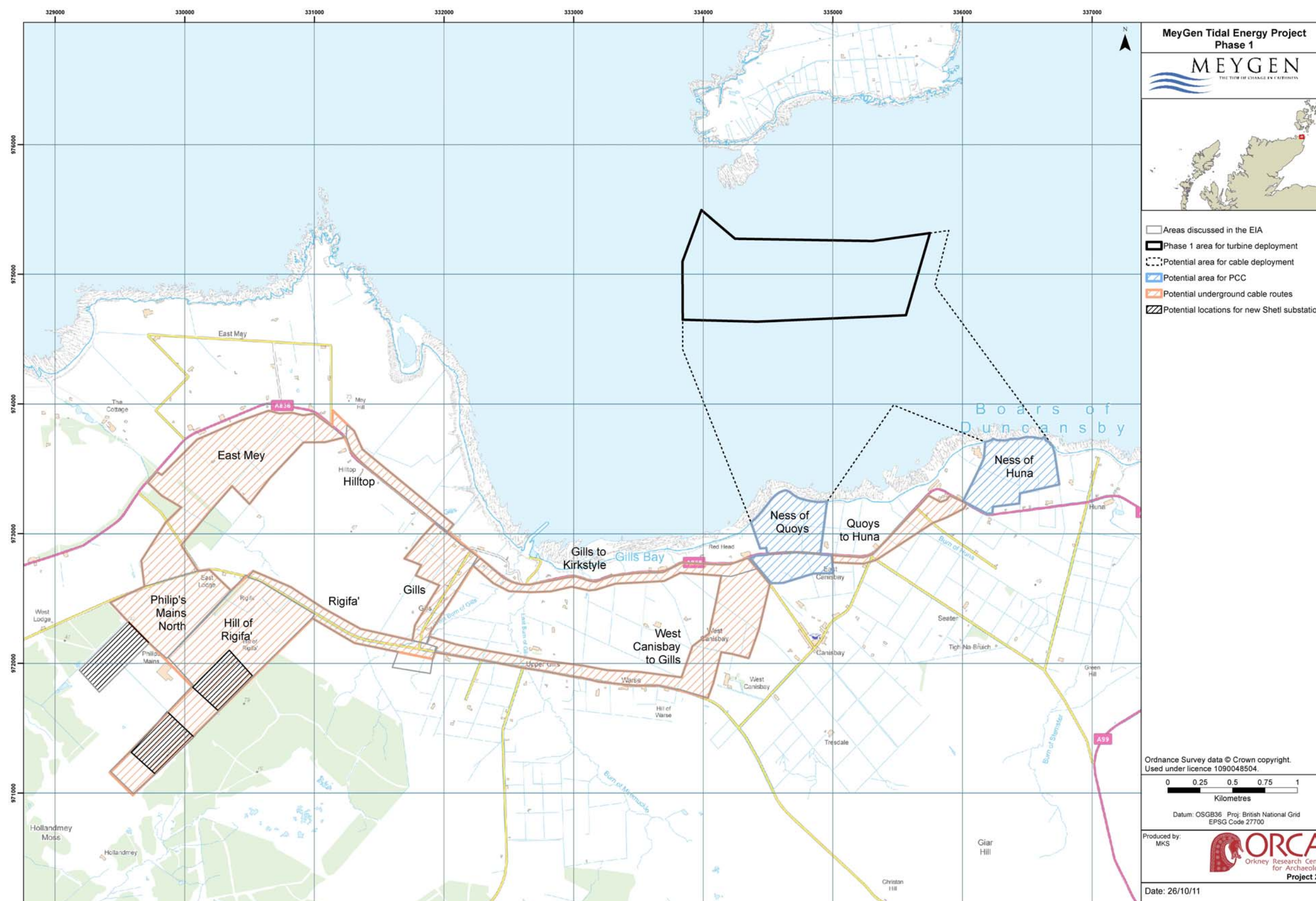


Figure 20.1: The onshore cultural heritage assessment area

Level of asset significance	Importance criteria
Very High	<ul style="list-style-type: none"> Archaeological and historical sites or areas of international importance, such as World Heritage Sites, and may also include some Category A Listed Buildings, Scheduled Ancient Monuments, Designed Gardens & Landscapes and Historic Battlefields that are not only of national but of international importance.
High	<ul style="list-style-type: none"> Archaeological and historical sites or areas of national importance, Scheduled Ancient Monuments, Category A and some Category B Listed Buildings, Inventoried Designed Gardens & Landscapes, Inventoried Historic Battlefields.
Medium	<ul style="list-style-type: none"> Sites and areas of regional importance, Some Category B Listed Buildings and Category C(s) Listed Buildings.
Low	<ul style="list-style-type: none"> Locally important archaeological sites or areas and unlisted buildings/structures which may have elements of architectural value.
Negligible	<ul style="list-style-type: none"> Features that have been recorded but assessed as of no or negligible archaeological or historical importance, such as modern clearance cairns, 18th to 20th-century dykes and buildings that have been demolished or have been so altered or ruined that they no longer have any features of any historic merit.
Uncertain	<ul style="list-style-type: none"> Features or sites that cannot be identified without further or detailed work, but potentially may be of some interest; findspots, which may represent an isolated find, or could represent the location of a hitherto unknown site. An estimate may be given of maximum likely potential significance, depending on field survey evidence.

Table 20.4: Definitions of importance and significance of cultural heritage assets

20.36 The HS 2010 guidance on setting in the *Managing Change in the Historic Environment* series¹⁰ defines it as how monuments were:

“deliberately positioned with reference to the surrounding topography, resources, landscape and other monuments or buildings. These relationships will often have changed through the life of a historic structure. Setting can be thought of as the way in which a historic structure’s surroundings contribute to how it is experienced, understood and appreciated. Setting often extends beyond the immediate property boundary of a historic structure into the broader landscape”.

20.37 A range of factors may contribute to the setting of a site, and their assessment will ultimately rely on professional judgement. The HS guidance note (Section 3) lists ten factors and indicates this is not exhaustive:

- Current landscape or townscape context;
- Visual envelope, incorporating views to, from and across the historic structure;
- Key vistas, framed by rows of trees, buildings or natural features that give a structure a context, whether or not intentional;
- The historic structure's prominence in views throughout the surrounding area;
- Character of the surrounding landscape;
- General and specific views including foregrounds and backdrops;
- Relationships between both built and natural features;
- Aesthetic qualities;

- Other non-visual factors such as historical, artistic, literary, linguistic, or scenic associations, intellectual relationships (e.g. to a theory, plan or design), or sensory factors; and
- A ‘Sense of Place’: the overall effect formed by the above factors.

20.38 All but the last three of the factors listed above are visual or landscape-related and it is usually only necessary to address these to filter out all but the significant effects. It is clear that if a cultural heritage asset is not visible on the ground surface, then none of these factors apply and it is unlikely that its setting is sensitive, unless it is part of a proven subsurface landscape of archaeological deposits.

20.39 The level of sensitivity to change of the setting of cultural heritage assets can be broadly defined as in Table 20.5, with any other factors particular to a site (such as noise, see Section 23) addressed separately when appropriate.

Setting Sensitivity	Landscape guideline criteria	Visual guideline criteria
Very High	Areas of landscape that are critical in their contribution to a site's appreciation or understanding, unique or distinctive historic landscapes, or considered susceptible to any changes because a heritage site is a critical part of it, World Heritage landscapes.	Receptors from or to which (or for whom) the view is critical and where any changes would be particularly noticed. For example, World Heritage Sites and Areas, some Inventoried Designed Landscapes, Historic Battlefields, SAMs and Listed Buildings, where the view in question is of historic or heritage importance and critical to it; sites that have or are a highly visible part of critical views; sites that are a critical element of an Inventoried designed landscape.
High	Areas of landscape that are highly valued in their contribution to a site's appreciation or understanding, particularly rare or distinctive historic landscapes, or considered susceptible to small changes because a heritage site is a key part of it.	Receptors from or to which (or for whom) the view is important and where changes would be particularly noticed. For example, the setting of nationally important sites such as SAMs, where the view in question is of historic or heritage importance and relevant to it; highly visited sites; sites that have or are a clearly visible part of highly valued or key views; sites that are a major element of an Inventoried designed landscape.
Medium	Areas of landscape that are moderately valued in their contribution to a site's appreciation or understanding, are considered of historic value locally, are tolerant of moderate levels of change because heritage sites are not key to the landscape.	Receptors for whom or from which or to which the change in the view is a small element in the overall view, not critical to the visual setting, or where the nature of the view is of secondary importance. For example, sites that have or are part of little valued, secondary or minor views; sites that are little visited or usually only seen from moving vehicles (except tourist attractions or feature on tourist routes); sites that are a secondary element of a designed landscape, or hardly visible in highly valued or key views.
Low	Areas of landscape that are generally more commonplace and/or contribute little to a site's appreciation or understanding, are considered potentially tolerant of noticeable change, or undergoing substantial development such that their character is one of change and heritage sites within it have therefore experienced much change to their surroundings.	Receptors from/to which or for whom the change is of little importance.
Negligible	Areas of landscape that are commonplace and/or contribute nothing to a site's appreciation or understanding (especially if the site is completely sub-surface), are considered tolerant of noticeable change, or have undergone substantial development such that their character is one of complete change and heritage sites within it have no relation to their surroundings.	Receptors from/to which or for whom the change is irrelevant, including assets that do not show on the ground surface.

¹⁰ <http://www.historic-scotland.gov.uk/setting-2.pdf>

Setting Sensitivity	Landscape guideline criteria	Visual guideline criteria
Unknown	Areas of landscape where it is uncertain how they contribute to a site's appreciation or understanding, because the feature or asset itself could not or has not been understood or interpreted.	Receptors that are not understood or interpreted, so that it is uncertain how visual factors relate to them.

Table 20.5: Definitions of setting sensitivity

Criteria for assessing magnitude and likelihood of impact

20.40 The magnitude of any potential adverse impact on a cultural heritage asset and the historic environment caused by the development proposals was determined using the criteria shown in Table 20.6.

Magnitude of impact	Direct / Construction impact criteria	Indirect / Setting / Operational impact criteria
Very High	Works would result in the complete loss of a site.	The removal of, or a fundamental and irreversible change to, the relationship between a heritage asset and a historically relevant landscape. Major change to a highly sensitive or valued landscape, which removes or prevents appreciation of characteristics key to a heritage asset, or permanent change to or removal of less sensitive or valued landscape. The proposed development overpowers, dominates and radically alters or removes the view and completely changes its character and quality. For example, the development is the only view in the near-ground; lies directly in the foreground removing a line of view to which the site has been deliberately oriented or designed. An irreversible and radical change to the setting, removing or preventing appreciation of key characteristics of a highly sensitive asset.
High	Works would result in the loss of an area, features or evidence fundamental to the historic character and integrity of the site. Severance would result in the complete loss of physical integrity.	A noticeable change to a key relationship between a heritage asset and a highly sensitive, valued or historically relevant landscape over a wide area or an intensive change to a less sensitive or valued landscape over a limited area. The proposed development dominates the view and substantially changes its character and quality. This is more likely to be the case for the setting of sites in the ZTV within 2km. For example, the development in full view in the near-ground; lies directly in the near-ground of the line of view to which the site has been deliberately oriented or designed; it projects well above the horizon or skyline in the near- or middle-ground A fundamental or key change to the setting of a highly sensitive asset.
Moderate	Works would result in the loss of an important part of the site or some important features and evidence, but not areas or features fundamental to its historic character and integrity. Severance would affect the integrity of the site, but key physical relationships would not be lost.	Noticeable change to a landscape not key to a heritage asset, tolerant of moderate levels of change. Small changes to the relationship between a heritage asset and a historically relevant landscape over a wide area or noticeable change over a limited area. The proposed development is clearly noticeable in the view and affects its character or quality, but is not critical to the receptor. This is more likely to be the case for the setting of sites in the ZTV within 2-5km. For example, the development is in full view in the middle-ground of an otherwise open view; lies in the middle ground of a designed view, but does not block or completely dominate or badly break the skyline. A material but non-fundamental change to the setting.
Low	Works or the severance of the site would not affect the main features of the site. The historic integrity of the site would not be significantly affected.	Very minor changes to the relationship between a heritage asset and a historically relevant landscape over a wide area or minor changes over a limited area. Minor changes to a landscape considered tolerant of change in relation to heritage asset. The proposed development does not affect the character and quality of the view, or it is a minor element likely to be overlooked by the casual observer. This is more likely to be the case for the setting of sites in the ZTV within 5-10km. For example, the development visible in the background or part of a wide view. A detectable but non-material change to the setting.

Magnitude of impact	Direct / Construction impact criteria	Indirect / Setting / Operational impact criteria
Negligible	Works or the severance of the site would be confined to a relatively small, peripheral and/or unimportant part of the site. The integrity of the site, or the quality of the surviving evidence would not be affected.	Changes to a historically relevant landscape cannot be discerned or perceived in relation to the heritage asset. The proposed development cannot be discerned in views relevant to the setting of heritage assets. No detectable change to the setting.
Unknown	Groundbreaking works over features that have not been fully interpreted would reduce the chance of interpretation in the future. In the event of significant features this would constitute impact of high magnitude; for sites of lesser significance it is less problematical. Nevertheless, it remains an issue where features have not been or could not be interpreted.	Changes to a landscape, views or other possible setting factors where it is uncertain how these contributes to a site's appreciation or understanding, because the feature or asset itself could not or has not been understood or interpreted.

Table 20.6: Definitions of magnitude of impact

Criteria for assessing significance of impact

20.41 The calculation of the significance of any potential adverse impacts from the development proposal on any cultural heritage assets, prior to the application of any management or mitigation strategies, has been determined by combining the magnitude of the impact with the significance of each cultural heritage asset, as shown in Table 20.7, similar to the way consequence is derived in ES Section 8.

20.42 Under EIA Regulations, impacts of moderate or higher significance are considered to be significant effects that may require consideration by the competent authorities and will require control, management and mitigation¹¹. However, it should be noted that impacts of minor significance may still require some management or mitigation to remain within acceptable levels (see ES Section 8, Table 8.2).

Asset significance or sensitivity	Magnitude of impact					
	Very High	High	Moderate	Low	Negligible	Uncertain
Very High	Severe	Severe	Major	Moderate	Minor	Uncertain/ Severe
High	Severe	Major	Moderate	Minor	Negligible	Uncertain/ Major
Medium	Major	Moderate	Moderate	Minor	Negligible	Uncertain/ Moderate
Low	Moderate	Minor	Minor	Negligible	Negligible	Uncertain/ Minor
Negligible	Minor	Negligible	Negligible	Negligible	Negligible	Uncertain/ Negligible
Uncertain	Uncertain/ Severe	Uncertain/ Major	Uncertain/ Moderate	Uncertain/ Minor	Uncertain/ Negligible	Uncertain/ Negligible

Table 20.7: Determination of significance of impact

¹¹ See Scottish Planning Series Planning Circulars 8-2007: *The Environmental Impact Assessment (Scotland) Regulations 1999*, and 3-2011: *The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011*,

20.4.6 Assessment limitations

- 20.43 The cultural heritage impact assessment has been produced with the assumption that identified receptors of uncertain significance have been assigned the highest likely significance until or unless further investigation proves otherwise. Some targeted geophysical surveys have been undertaken in the PCC and HDD areas and the results incorporated into the Project design, reducing the risk of impacts on cultural heritage assets at the earliest possible opportunity (ORCA, 2011b).
- 20.44 It is assumed that there will be no direct impacts on the historic environment during reinstatement and decommissioning, because all direct effects are likely to have occurred during construction and it is assumed that decommissioning works will not go outside the ground-breaking footprint of the construction phase. The effects of reinstatement are considered to be neutral since work will restore what was there before, rather than improve on what was there before.

20.5 Cultural Heritage Baseline Description

20.5.1 Historic landscape and setting

- 20.45 The **modern landscape** in the locality of the development is described and characterised in Section 19¹².
- 20.46 The Ness of Quoy site is dominated by the Canisbay Kirk and adjacent Kirkstyle farmstead to the south west and the large agricultural shed at Quoy farm to the southeast. The west side of the Ness of Huna site is dominated by the derelict Huna House and surrounding new farm buildings, including a farm house, banks of bulldozed earth and flattened vehicle turning areas. This activity has compromised the modern setting of any historic asset here and in the 1980s partly destroyed the Norse settlement to the west (ORCA 76-79).
- 20.47 The **historic landscape**¹³ is one of late 18th- and 19th-century rectilinear fields and farming and crofting (including many abandoned croft houses). There are both active and relict areas of peat cutting, especially between the Hills of Mey and Rigifa' and several small abandoned flagstone quarries. Certain buildings dominate the historic landscape, especially the late 18th- and early 19th-century two-storey houses, such as the derelict Huna House (ORCA 80), the John o' Groats House Hotel, the B-Listed West Canisbay House (ORCA 62) and East Canisbay Manse (ORCA 59), and the A-Listed Canisbay Kirk and its graveyard (ORCA 53 and 55). Some, such as Huna House and Canisbay Kirk, were used as navigational aids, as is the early 20th-century Duncansby Head lighthouse, which has no significant architectural merit. There are some 19th century piers and boathouses, as at John o' Groats, Huna House and Gills and other buildings representing activities of times gone by, such as the B-Listed mill complex west of John o' Groats (ORCA 85-89), the ruined distillery (ORCA 51) and the old school (ORCA 435) at Kirkstyle and the 18th-century bridges over West and East Burns of Gills (535 and 536). Stroma, on the north side of the sound, has a similar landscape, and includes the late 17th-century B-Listed dovecote and burial vault (ORCA 490).
- 20.48 Although sites earlier than the 18th century sites are known, few are as prominent as the Stroma dovecote or Canisbay Kirk, and many hardly visible on the surface (such as the Norse sites at Huna (ORCA 76-79) and Robertshaven east of John o' Groats). Other than those already mentioned, the most evident sites are the Scheduled promontory fort and early Christian chapel site of St John's Point (ORCA 21 and 22) and the Scheduled fortified seastack of Castle Mestag (ORCA 486) at the south-western tip of Stroma. However, their prominence is more due to being cliff-girt headlands, rather than archaeological sites. There are two possible standing stones of uncertain date (ORCA 352 and 407), which appear to have no particular prominence and there are known Iron Age broch sites in the vicinity, which are now low and much disturbed mounds (ORCA 20, 40, 46, 54, 70), all of them surviving in a continually changing landscape. It is only the open moorland (ignoring the extensive peat cutting and relict quarries) sweeping round from St John's Point and Mey Hill to Warth Hill surmounted by Neolithic or Bronze Age burial cairns (ORCA 475 and 476) that is most likely to remain something like it appeared in the Iron Age, Norse and mediaeval periods when the brochs were built, the Vikings settled and the Kirk was built.

¹² See also Stanton, C., 1998. Caithness and Sutherland Landscape Character Assessment, SNH commissioned report No. 130 Available at <http://www.snh.org.uk/publications/on-line/LCA/CaithnessSutherland.pdf>

¹³ as defined on Historic Land-use Assessment maps, produced by HS and RCAHMS <http://hla.rcahms.gov.uk>

20.5.2 Identified cultural heritage assets and cultural heritage potential

- 20.49 The types of sites identified within the different parts of the onshore development area and their significance is summarised in Table 20.8 and Table 20.9 and shown in Figure 20.2 and Figure 20.3. There are no designated sites, monuments, areas or buildings within the development area, although there are some nearby (see Section 20.5.1 above).

Ness of Quoy: Identified cultural heritage assets

- 20.50 Four sites of potentially moderate or higher significance were identified. A mound (ORCA 64) at the centre of the area, which also shows as a geophysical anomaly (ORCA 2011b) has the potential to be of archaeological significance. At the point of the Ness, a rectilinear dry stone enclosure (ORCA 414) at the shoreline has been identified as a magazine related to a Cromwellian gun battery (not visible) some 50m to the west (Pottinger 1993). However, this identification remains to be proven. A stone spread (ORCA 416) found on the coastal slope, may be part of an earlier site eroding out from the land. Norse sites have been observed eroding out along this coast, particularly in the vicinity of Huna. A small area of possibly connected geophysical anomalies have been identified 30-40m to the south east in the development area. It is possible that the Lyrequoy well (ORCA 242), a formalised spring that could contain waterlogged artefacts, has some longevity of use, and may even be associated with ecclesiastical use given its proximity to Canisbay Kirk.
- 20.51 Sites of low and negligible significance include a roadside well used by local families and wayfarers (ORCA 412), a possible flag tank structure, the location of a grave marker probably removed by coastal erosion (ORCA 65), 19th Century dykes and stone clearance piles.

Ness of Quoy: cultural heritage potential

- 20.52 Canisbay Kirk (ORCA 53) is first mentioned in the 13th-century and it seems likely that the mound on which it sits is a large broch site (ORCA 54), dating to the Iron Age, and prehistoric finds have been found in the graveyard. There is extensive evidence for the continuity of use of Iron Age sites into the Norse and later period in Caithness as noted by Batey (Smith and Banks 2002: 185 – 190). The kirk and mound sit just outside the south west corner of the Ness of Quoy development area, and geophysical survey has indicated that it is possible that associated archaeological remains extend east and south east into it (ORCA 2011b). South of the kirk the geophysical anomalies extend some 30m south of the main A836 road in the corner formed with the minor road from Canisbay, and they extend some 30m east of the graveyard in a band some 15m wide on the north side of the main A836 road.

Ness of Huna: Identified cultural heritage assets

- 20.53 Two sites of moderate or higher significance were identified. An enclosure containing mounds (ORCA 84) seen on a 1946 aerial photograph could not be identified on the surface as this area has been intensively plough-cultivated, but could remain truncated below ground. It did not show in geophysical survey results, which could indicate that the site has been ploughed away or that the site is non-domestic in nature (ORCA, 2011). The precise location of a supposed "Picts Village" (ORCA 82) is unknown and nothing indicating the presence of such a site was visible here on the surface. The lack of evidence from geophysical survey indicates that this site does not exist or the oral tradition relates to the enclosure in the adjacent field (ORCA 84) or the Norse settlement (ORCA 76, 78, 79) west of Huna House.
- 20.54 The remaining sites are viewed to have a negligible significance – these include peat cuttings, dumps of modern material, an old fenceline and a small quarry.

Ness of Huna: Cultural heritage potential

- 20.55 Although bypassed by the modern road, in the 19th century Huna was an important place to the islanders of Stroma and to seafarers in the Pentland Firth. The area may have been occupied from at least the later prehistoric period, indicated by the enclosure (ORCA 84) and the oral tradition of the "Picts Village" (ORCA 82). Immediately to the west of Huna House (ORCA 80), a series of Norse sites including a ship burial and settlement evidence (ORCA 76, 78, 79) indicate the remains of significant Norse activity within this vicinity, although a significant amount of this may have been destroyed (Batey 1993: 152).

Geophysical survey indicates that subsurface remains associated with it do not extend eastwards into the development area (ORCA, 2011).

Underground Cable Routes: Identified cultural heritage assets

20.56 The discussion of the cable route options is organised into areas (see Figure 20.1 for area names), so that the potential effects using different cable routes can be compared.

▪ **Philip's Mains North**

20.57 Two sites of uncertain significance were identified. An elongated mound (ORCA 371) respected by ridge and furrow may be of archaeological significance. A hole with stone in the sides may indicate the location of a post-medieval collapsed well or drain or an older archaeological feature (ORCA 374).

20.58 The sites of low and negligible significance include late post-medieval ridge and furrow (ORCA 366, 370), field boundaries, enclosures, stone clearance heaps, a small flagstone construction of uncertain date (ORCA 376) and a relict late 18th-century stone quarry (ORCA 148).

▪ **East Mey**

20.59 Six sites of potentially moderate or higher significance were identified. A low ridge with visible stone (ORCA 389) may indicate an archaeological site. Three mounds (ORCA 379, 382 and 383) in an unimproved, boggy field may be of some antiquity as may another mound (ORCA 391). East Lodge and its gate piers (ORCA 18) are not part of the Mey Estate Inventoried Designed Landscape, but do represent an extension to this estate, possibly dating to the 14th Earl's activities in the mid-late 19th century (Houston 1996:399-401).

20.60 The sites of low and negligible significance include 19th- to 20th-century pre-enclosure land divisions including turf dykes (ORCA 380, 381), stone clearance heaps, farmsteads, both occupied and abandoned, but all with some vernacular elements (ORCA 137, 140, 163), flag and stone dykes, quarries, areas of peat cutting, a stone tank and a well.

▪ **Hilltop**

20.61 Only two sites were identified, both of low significance, one a relict quarry (ORCA 171), the other the Marl Well, reputedly built by Cromwell's troops (ORCA 167).

▪ **Gills**

20.62 Two sites of unknown significance were identified. Both were mounds (ORCA 397, 400) near boggy areas and thus have some potential for being prehistoric features such as burnt mounds.

20.63 The sites of low significance and negligible significance include farmsteads, both occupied and abandoned, but all with some vernacular elements (ORCA 178, 193, 195, 198, 199 and 396), clearance piles, a pre-mid 19th-century well (ORCA 200) and two dammed ponds with sluices (ORCA 184 and 185).

▪ **Gills to Kirkstyle**

20.64 One site of unknown significance was identified. This is a mound (ORCA 404) in close proximity to Canisbay Kirk, and has the potential to be of archaeological significance.

20.65 The sites of low significance and negligible significance include a well, perhaps a formalized spring (ORCA 249), flag dykes and a milestone (ORCA 403) displaced early in WW2 due to fear of German invasion (Houston 1996: 29).

▪ **Ness of Quoys to Ness of Huna**

20.66 Six sites of low significance were identified, comprising four farmsteads or crofts that were cleared in the 19th century (ORCA 260, 261, 262, 264) and an occupied house (ORCA 266), perhaps the old farmstead modernised or possibly a new house on the cleared site.

▪ **West Canisbay to Gills**

20.67 Three sites of potentially moderate or higher significance were identified. A slab of stone (ORCA 419) may have once stood upright and could be associated with a nearby mound (ORCA 422), which may have archaeological potential. A trackway (ORCA 410), edged with flags and overgrown formal beech and hawthorn hedging, is part of the designed landscape of the B-Listed West Canisbay house and estate (ORCA 62).

20.68 The sites of low and negligible significance include a relict 19th-century quarry, possibly associated with the construction of the B-Listed West Canisbay House, a well, bridge and peat cuttings.

▪ **Rigifa'**

20.69 No significant sites were identified. The sites of low and negligible significance comprised areas of peat cuttings, showing deep and extensive peat.

▪ **Hill of Rigifa'**

20.70 Two sites of uncertain significance were identified. A standing stone with initials carved into it (ORCA 352) may be 19th-century rather than prehistoric. A small rectangular cropmark (356) may have archaeological potential, but could be from recent farming practices.

20.71 The sites of low and negligible significance include 19th-century pre-enclosure agricultural practices, such as a ruined farmstead with vernacular elements (ORCA 152) and sections of three late pre-enclosure turf dykes (ORCA 346, 347 and 351), quarries and stone clearance mounds.

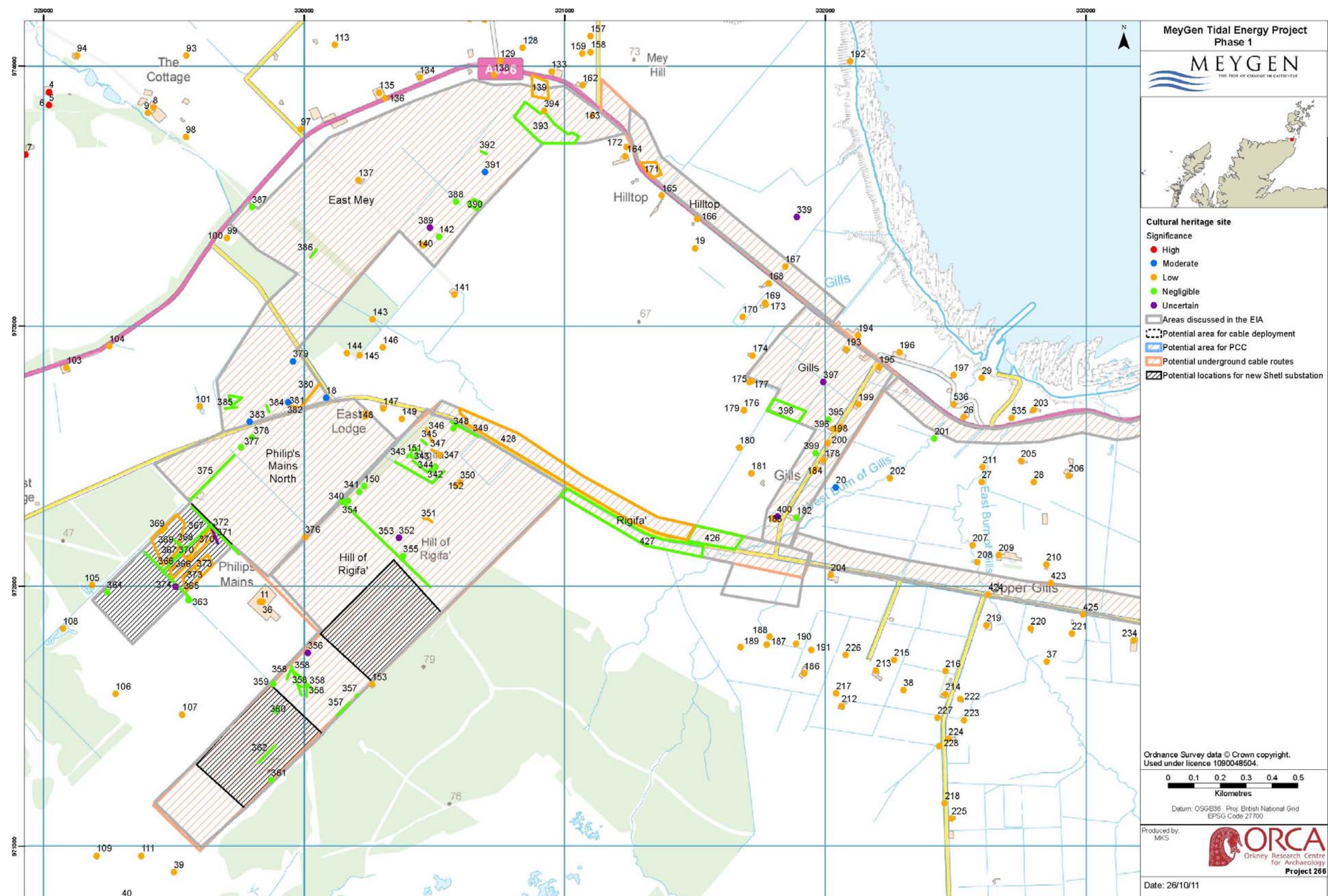


Figure 20.2: Western half of assessment area: identified cultural heritage assets

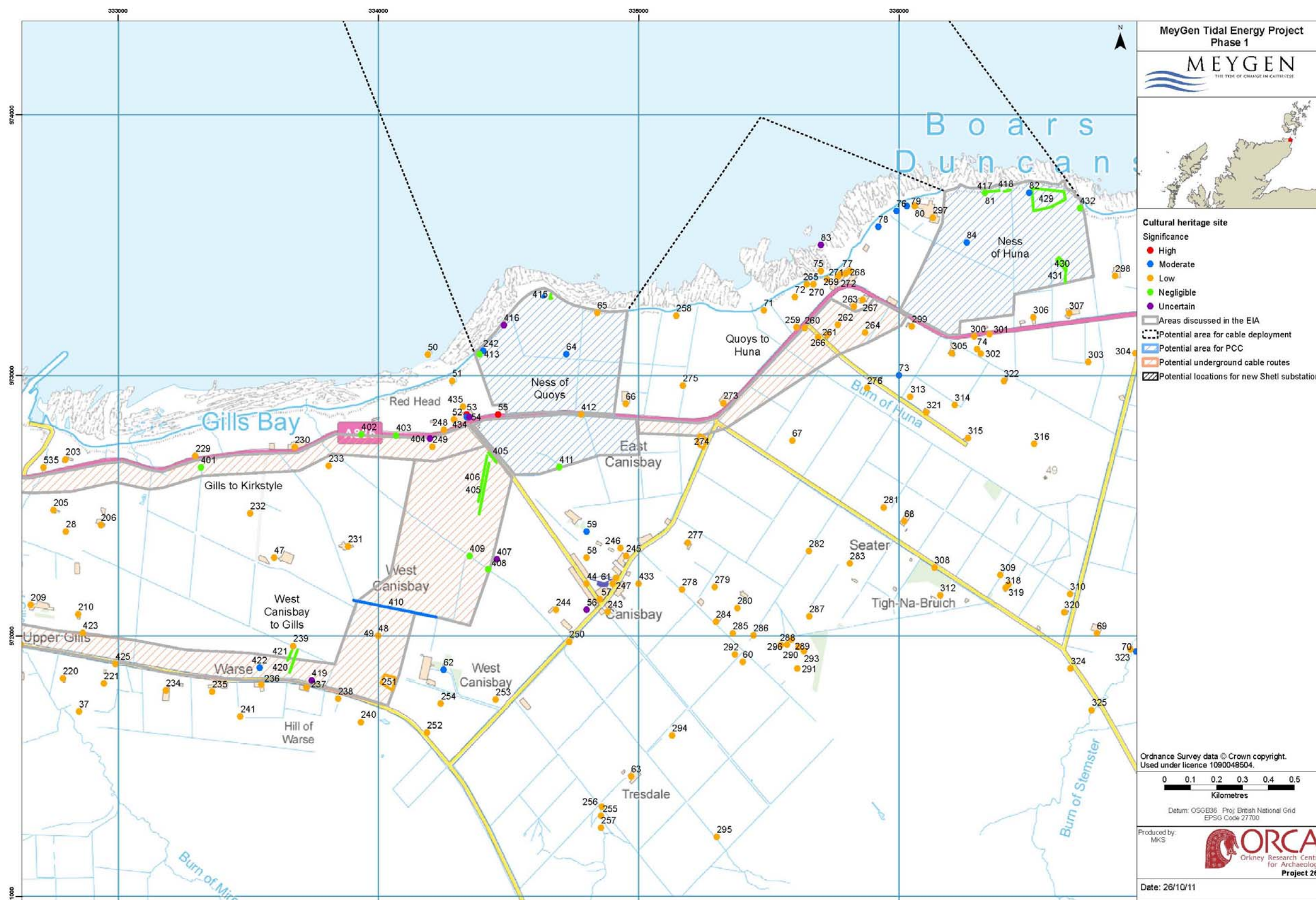


Figure 20.3: Eastern half of assessment area: identified cultural heritage assets

Site type	Philip's Mains North	East Mey	Hilltop	Gills	Gills to Kirkstyle	Quoys to Huna	West Canisbay to Gills	Rigifa'	Hill of Rigifa'	Ness of Quoys	Ness of Huna	Total
Bridge							424					1
Cairn											1	1
Cropmark									356			1
Dam				184, 185								2
Ditch	367, 368											3
Drain									358			1
Enclosure	378								344	414	84	4
Farmstead		137, 140		178, 182, 193, 195, 198, 199, 396		260, 261, 262, 264, 266, 274			151			16
Fence line											431	1
Findspot							48					1
Flag dyke	365, 372, 375	384, 385, 386			401							7
Gravemarker										65		1
Lodge		18										1
Milestone					403							1
Mound	371	379, 382, 383, 391		397, 399, 400	404		422		341, 350	64	81, 432	15
Orthostat							409					1
Peat cuttings		390, 393						426, 427, 428			429	6
Quarry	148	102, 139	171				251		150, 153, 360		430	9
Ridge				398			405, 406		353		417, 418	6
Ridge and furrow	366, 369, 370, 373											4
Spoil heap									349			1
Standing stone									352			1
Stone							419		361			2
Stone dyke		392					420, 421			415		4
Stone pile		388							340, 354, 355, 359	411, 413		7
Stone spread	364, 377	387, 389			402				348, 357	416		8
Strainer				395								1
Structure	376	163					408		152			4
Tank		394										1
Trackway							49, 410					2
Turf dyke		380, 381							342, 343, 345, 346, 347, 351, 362			9
Well	374	142	167	200	249		423			242, 412		8
TOTAL	16	23	2	15	5	6	14	3	27	9	9	129

Table 20.8: Summary totals of identified cultural heritage assets in development areas

Significance	Philip's Mains North	East Mey	Hilltop	Gills	Gills to Kirkstyle	Quoys to Huna	West Canisbay to Gills	Rigifa'	Hill of Rigifa'	Ness of Quoys	Ness of Huna	Total
Very high	0	0	0	0	0	0	0	0	0	0	0	0
High	0	0	0	0	0	0	0	0	0	0	0	0
Moderate	0	18, 379, 382, 383, 391	0	0	0	0	410, 422	0	0	64, 242, 414	82, 84	12
Low	148, 366, 369, 370, 373, 376	137, 139, 140, 163, 380, 381, 394	167, 171	178, 184, 185, 193, 195, 198, 199, 200, 396	249	260, 261, 262, 264, 266, 274	48, 49, 251, 423, 424	428	152, 153, 346, 347, 350, 351	65, 412	0	45
Negligible	364, 365, 367, 368, 372, 375, 377, 378	102, 142, 384, 385, 386, 387, 388, 390, 392, 393	0	182, 395, 398, 399	401, 402, 403	0	405, 406, 408, 409, 420, 421	426, 427	150, 151, 340, 341, 342, 343, 344, 345, 348, 349, 353, 354, 355, 357, 358, 359, 360, 361, 362	411, 413, 4153	81, 417, 418, 429, 430, 431, 432	62
Uncertain	371, 374	389	0	397, 400	404	0	419	0	352, 356	416	0	10
TOTAL	16	23	2	15	5	6	14	3	27	9	9	129

Table 20.9: Summary of significance of identified cultural heritage assets in development areas

Underground cable routes: Cultural heritage potential

- 20.72 No significant post-mediaeval cultural heritage assets were identified and there is a negligible potential for further post-medieval remains of any significance to be undiscovered.
- 20.73 It is possible that significant subsurface remains associated with the prehistoric site (ORCA 54) on which Canisbay Kirk (ORCA 53) is built extend southwest into the east end of the Gills to Kirkstyle area of cable route., since geophysical survey has identified probable archaeological remains extending southeast and east into the Ness of Quoys development area (ORCA 2011b).
- 20.74 Given the evidence for prehistoric and Norse activity in Canisbay, remains may lie hidden beneath the surface where areas have substantial peat cover or have been intensively cultivated, especially in the proximity of known sites. In these cases, the archaeology would only be revealed when the ground is disturbed during development.

20.6 Impacts During Construction and Installation

- 20.75 The visual impacts of the project during construction and installation on the setting of cultural heritage sites are considered too short-term to be significant and are not discussed further. Similarly, it is considered unlikely that there will be any significant vibrations from drilling and construction and thus there will be no adverse impact on the stability of historic buildings or archaeological sites.

20.6.1 Impact 20.1: Construction and drilling noise

- 20.76 The detailed study of predicted construction noise levels, their impact and mitigation is provided in Section 23. No significant impacts on historic assets are predicted for the Ness of Huna or installation of the underground cable. The A-Listed Canisbay Kirk (ORCA 53) is the key historic asset for considering the impact of construction noise levels on the setting of cultural heritage assets. The kirk (called Quoys Church / Kirkstyle in Section 23) is a specifically identified receptor in the study and all impacts and mitigations strategies are detailed in that Section, leading to a minor residual impact intermittent over the 3 year onshore installation and construction phase (Section 23.6). Therefore, this potential impact is not addressed further this section.

20.6.2 Impact 20.2: Direct damage, removal or destruction of onshore cultural heritage assets

- 20.77 The detailed assessment of the magnitude and significance of direct construction and installation phase impacts on cultural heritage assets, caused by the HDD operations, PCC construction (with associated hardstanding, carpark areas, security fencing), and by cable trenching is presented in detail in the supporting onshore archaeology EIA report (ORCA, 2012), provided on the supporting studies CD. This has been assessed in terms of a worst-case scenario (see Section 20.2.1).
- 20.78 The worst-case scenario approach made the assumption in the EIA that the whole of the onshore development option areas, including all possible cable routes would be subject to intrusive ground clearance and thus the magnitude of direct impact on any identified cultural remains within the area would be high (for sites partly within the development area) or very high (for sites completely within the development area), with occasional lower magnitudes of impact assigned if the site is almost completely outwith the development area.
- 20.79 The results of the impact assessment are summarised here in Table 20.10 and shown in Figure 20.4 and Figure 20.5. There are many sites where potentially significant (moderate or higher) impacts could occur (see Table 20.10). There could be a significant impact on subsurface archaeological remains identified by geophysical survey south of Canisbay Kirk and east of the kirkyard in the Ness of Quoys area (ORCA 2011b). It is also possible that there could be a significant impact on subsurface remains associated with the prehistoric site (ORCA 54) on which Canisbay Kirk (ORCA 53) is built if they extend southwest into the east end of the Gills to Kirkstyle area of cable route. Targetted geophysical survey would identify the presence / absence and extent of archaeological remains so that potential impact can be managed or mitigated. Adopting a precautionary approach (consistent with the Rochdale Envelope approach used in this ES) makes impacts on sites of low significance appear to be higher than they warrant, because it is assumed that they will be completely destroyed. It is clear that many of the 129 identified cultural heritage assets will not be impacted to such a degree as predicted, usually because they will be avoided. However, this can only be known when precise cable trench routes and the actual area of drilling and construction are finalised.

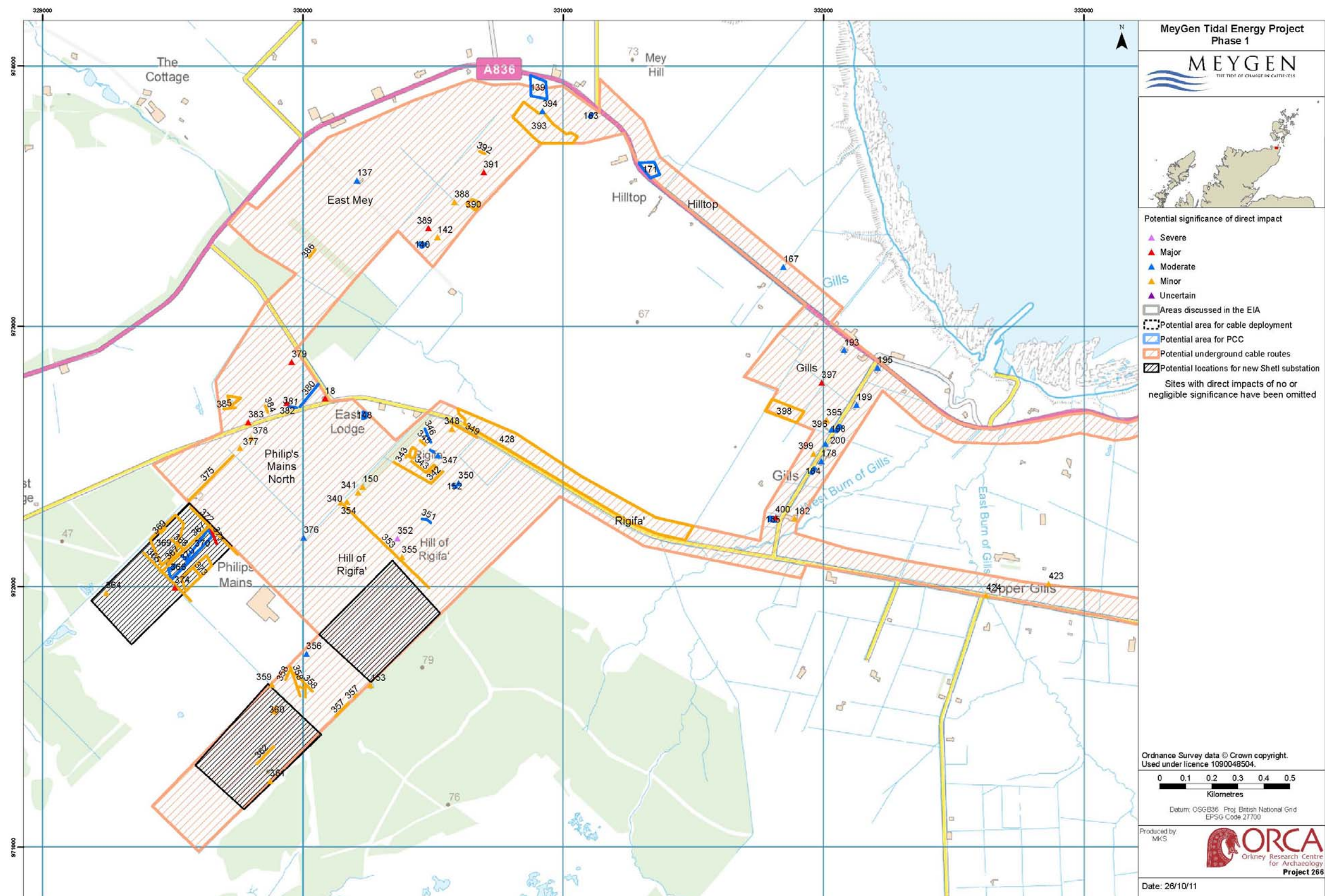


Figure 20.4: Western half of onshore assessment area: potential significance of predicted direct (construction) impacts

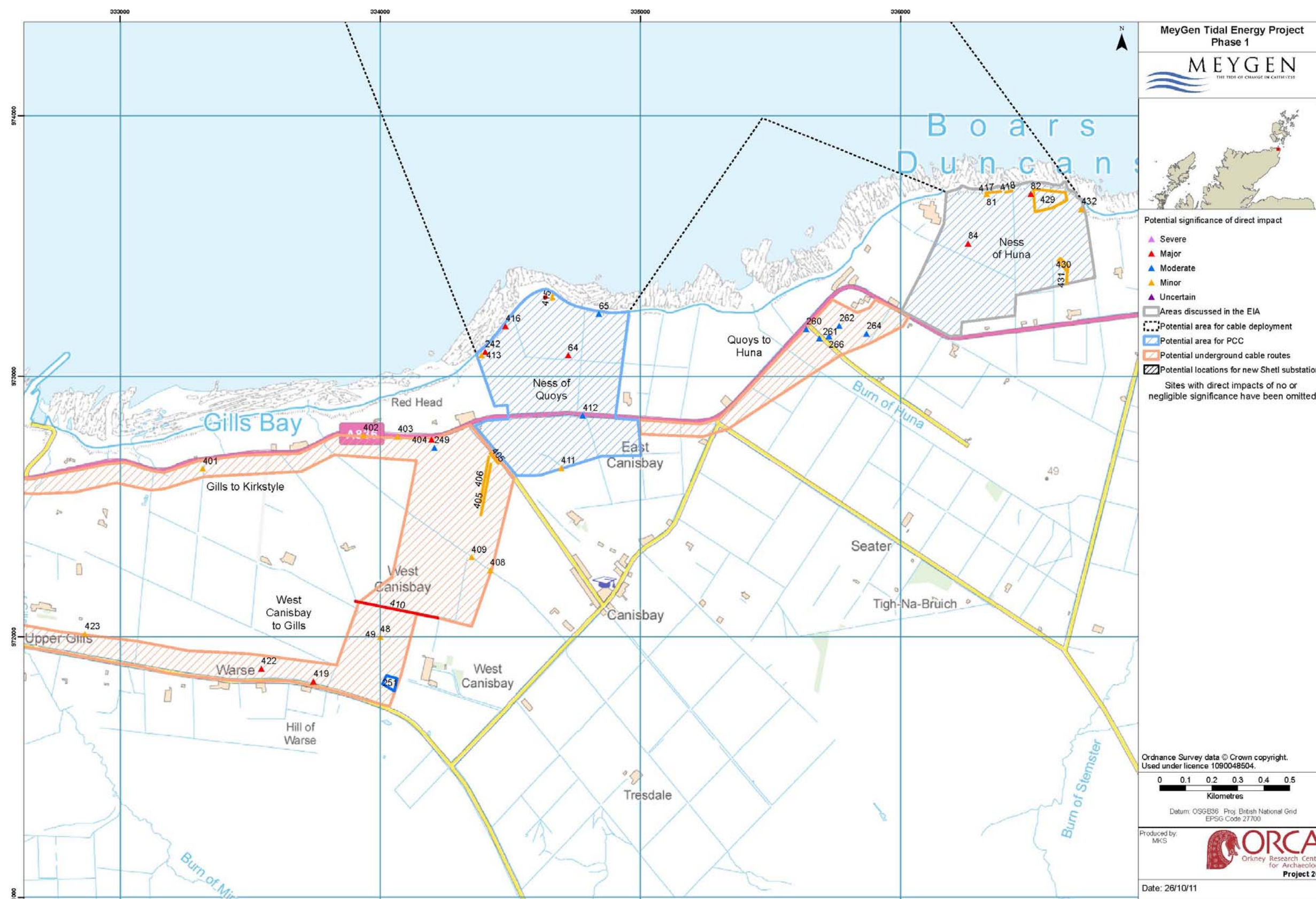


Figure 20.5: Eastern half of assessment area: potential significance of predicted direct (construction) impacts

Construction impact significance	Significance (EIA Regs)	Philip's Mains North	East Mey	Hilltop	Gills	Gills to Kirkstyle	Quoys to Huna	West Canisbay to Gills	Rigifa	Hill of Rigifa	Ness of Quoys	Ness of Huna	Total
Severe	Significant									352			1
Major	Significant	371, 374	18, 379, 382, 383, 389, 391		397, 400	404		410, 419, 422			64, 242, 414, 416	82, 84	20
Moderate	Significant	148, 366, 370, 376,	137, 139, 140, 163, 380, 381, 394,	167, 171	178, 184, 185, 193, 195, 198, 199, 200, 396,	249	260, 261, 262, 264, 266	251		152, 346, 347, 350, 351, 356	65, 412		37
Minor	Not Significant	364, 365, 367, 368, 369, 372, 373, 375, 377, 378	102, 142, 384, 385, 386, 388, 390, 392, 393		182, 395, 398, 399	401, 402, 403		48, 49, 405, 406, 408, 409, 423 424	428	150, 151, 153, 340, 341, 342, 343, 344, 345, 348, 349, 353, 354, 355, 357, 358, 359, 360, 361, 362	411, 413, 415	81, 417, 418, 429, 430, 431, 432,	65
Negligible	Not Significant		387				274	420, 421	426, 427				6
Positive	Not Significant												0
TOTAL SITES	-	16	23	2	15	5	6	14	3	27	9	9	129

Table 20.10: Summary of the significance of potential construction impact (impact 20.2)

20.80 Ideally, it is best to manage the presence of cultural heritage sites by locating building footprints and routeing cables and other infrastructure to avoid them, because preservation of assets *in situ* is the preferred outcome¹⁴. However, where this is not possible various mitigation strategies (which should be conducted according to professional standards and guidelines) can be put in place that preserve the asset by record. The exact measure(s) suggested for each of the 129 sites is included in the supporting onshore archaeology EIA report (ORCA, 2012), provided on the supporting studies CD. The impact on many sites of negligible significance do not require mitigation, although it should be noted that impacts of minor significance may still require some management or mitigation to remain within acceptable levels.

MITIGATION IN RELATION TO IMPACT 20.2

- **Avoidance.** All sites of major significance will be avoided and the cable route will be designed to avoid most cultural heritage assets. Assets in the Ness of Quoys and Ness of Huna will be avoided where possible by the design and layout of the development.
- **Targetted geophysical survey** has already been conducted to identify the presence / absence and extent of archaeological remains at the Ness of Quoys and Ness of Huna in order to manage potential impact. The design will avoid these where possible and intrusive evaluations will be conducted as the next step where it is not. Further survey is recommended at the east end of the Gills to Kirkstyle cable route to identify whether remains extend into it from the prehistoric mound (54) below Canisbay Kirk.
- **Survey.** A detailed topographic / photographic and / or standing building survey of an appropriate level will be conducted for earthworks or vernacular buildings if they cannot be avoided.
- **Intrusive archaeological evaluation** will be conducted if appropriate on remains that cannot be avoided, including those identified by geophysical survey, or to assess the nature and significance of sites that may be of archaeological importance so that appropriate action can be taken.
- **Archaeological Watching Brief.** This will be conducted during ground-breaking construction works if there is a significant potential for but no conclusive proof of archaeological remains, or as a precautionary measure if a site has been identified nearby. The works will allow opportunity for

salvage excavation on remains that cannot be avoided.

- **Archaeological Excavation** may be necessary as a result of evidence gathered by other mitigation strategies if archaeological remains cannot be avoided and if required by HC HET. Agreement should be made with HC HET on the standards and extent of excavation and the provisions for post-excavation work and reporting.
- A **Reporting Protocol** for the accidental discovery of archaeological remains will be instated, the nature of which will be agreed with HC HET.
- MeyGen will ensure that construction contractors have cultural heritage site maps and lists so that they know what is to be avoided; that the construction teams have a cultural heritage induction, especially if reporting protocols are to be used; and that the construction works manager or Environmental Clerk of Works marks off all sites within or close to edge of the development areas to ensure that they are avoided and not accidentally run over or otherwise impacted.

Residual impacts

20.81 In many cases, a precautionary approach has resulted in the over-rating of likely residual impacts (see Section 20.4.6). Despite this, it should be noted that with mitigation the number of cultural heritage assets that may experience a significant direct impact has been reduced from 58 to 19. Details of this can be seen in the supporting onshore archaeology EIA Report (ORCA, 2012), provided on the supporting studies CD, and the residual impact is summarised below in Table 20.11. Since the impact assessment was completed, impacts have been reduced further by the selection of a single cable route and the design of the PCC sites. For example, the number of significant impacts predicted for the cable routes has been more than halved by the selection of a single preferred route.

¹⁴ E.g. PAN2/2011 *Planning and Archaeology*, para 14; Highland Council *Structure Plan* (2001), Policy BC1

PCC Sites

▪ Ness of Quoys

20.82 The identified moderately significant residual impacts are the results of the ongoing process of investigations, which are not yet complete. Final mitigations have yet to be identified dependent on the investigation results and should lead to a further reduction in the level of residual impact, especially if sites such as the Lyrequoy Well (ORCA 242) can be avoided and intrusive evaluation shows stone remains (ORCA 414 and 416) to be of less significance than originally thought.

▪ Ness of Huna

20.83 The identified moderately significant residual impacts are the results of the ongoing process of investigations, which are not yet complete. Final mitigations have yet to be identified dependent on the investigation results and should lead to a further reduction in the level of residual impact, especially if the final analysis of the geophysical survey does show that the supposed Pictish village (ORCA 82) does not exist.

Underground cable routes

20.84 The identified significant residual impacts are often the results of the need ensure avoidance is agreed or to instigate further investigations to identify if further management and mitigation is necessary, which will lead to further reduction in the level of residual impact.

▪ Philip's Mains North

20.85 In the Philip's Mains North area, both of the significant residual impacts (ORCA 371 and 374) are dependent on the need to avoid or investigate further.

▪ East Mey

20.86 In the East Mey area, the five significant residual impacts are dependent on the need to avoid or investigate further the four mounds and stony ridge, all of which may be of archaeological significance. The results of further work will reduce the residual impact.

▪ Hilltop

20.87 No significant residual impacts have been identified for the Hilltop area.

▪ Gills

20.88 In the Gills area, the two significant residual impacts (ORCA 397 and 400) are dependent on the need to avoid or investigate further the mounds, which are of unknown date and function - possibly prehistoric or mediaeval. The results of further work should reduce the residual impact.

▪ Gills to Kirkstyle

20.89 In the Gills to Kirkstyle area, the significant residual impact (ORCA 404) is dependent on the need to avoid or investigate further the mound, which may be of archaeological significance. The results of further work should reduce the residual impact.

▪ Quoys to Huna

20.90 No significant residual impacts have been identified for the Quoys to Huna area.

▪ West Canisbay to Gills

20.91 In the West Canisbay to Gills area, the two significant residual impacts are dependent on the need to avoid or investigate further the large stone slab (ORCA 419) and the mound (ORCA 422), which may be of archaeological significance. The results of further work should reduce the residual impact.

▪ Rigifa'

20.92 No significant residual impacts have been identified for the Rigifa' area.

▪ Hill of Rigifa'

20.93 In the Hill of Rigifa' area, the significant residual impact is dependent on the need to avoid or investigate further the standing stone (ORCA 352), which is of uncertain date and significance. The results of further work will reduce the residual impact.

Residual impact significance	Significance (EIA Regs)	Philip's Mains North	East Mey	Hilltop	Gills	Gills to Kirkstyle	Quoys to Huna	West Canisbay to Gills	Rigifa	Hill of Rigifa	Ness of Quoys	Ness of Huna	Total
Severe	Significant												0
Major	Significant									352			1
Moderate	Significant	371, 374	379, 382, 383, 389, 391		397, 400	404		419, 422			64, 242, 414, 416,	82, 84	18
Minor	Not Significant	148, 376	139, 140, 163, 380, 394	167	184, 185, 198, 200	249	260, 261, 262, 264	251, 410		152, 346, 347, 350, 351, 356	412		26
Negligible	Not Significant	366, 370	18, 137, 381	171	178, 193, 195, 199, 396		266				65		13

Table 20.11: Summary of the residual significance of potential construction impact

20.7 Impacts during Operations and Maintenance

20.94 No significant direct impacts on cultural heritage have been identified from the operational and maintenance aspects of the development. The coastal process modelling indicates that there will be no increased coastal erosion (or deposition) that will affect onshore cultural heritage assets (see Section 9).

20.7.1 Impact 20.3: PCC operational noise

20.95 The detailed study of predicted PCC operational noise levels, their impact and mitigation is provided in Section 23. No significant impacts on historic assets are predicted for the Ness of Huna PCC or the underground cable. The A-Listed Canisbay Kirk (ORCA 53) is the key historic asset for considering the impact of operational noise levels on the setting of cultural heritage assets. The kirk (called Quoys Church / Kirkstyle in Section 23) is a specifically identified receptor in the study and all impacts and mitigations strategies are detailed in that section, leading to a negligible residual impact (Section 23.7). Therefore, this potential impact is not addressed further this section.

20.7.2 Impact 20.4: Setting

20.96 Potential impacts during the operation and maintenance of the proposed development comprise impacts on the setting of historic environment assets from the presence of the PCC and other buildings at each potential landfall, associated hardstanding, car parking, access road and security fencing. These impacts on setting largely relate to landscape and visual factors (noise is addressed separately above). The details of how the installations at the Ness of Huna and Ness of Quoys may appear and sit in the landscape can be found in Sections 5 and 19. Photomontages from cultural heritage viewpoints and viewpoints relevant to cultural heritage assets are included in the Technical Appendix to that section and referred to in Table 20.12 and Table 20.13.

▪ Ness of Quoys

20.97 The historic and current landscape setting of identified cultural heritage sites within the ZTV is summarised in the baseline description above and the sites with potentially affected settings are shown on Figure 20.6.

Site No.	Site name and type	SAM / LB grade	Zone	Section 19 appendix viewpoint / plate	Magnitude of potential impact	Significance of potential impact	Significance (EIA Regs)
21, 22	St John's Point, promontory fort & chapel	SAM	2-5km	VP23; P08	Moderate	Moderate	Significant
53, 55	Canisbay Kirk and graveyard	A	0-2km	VP11; P03	High	Major	Significant
59	East Canisbay Manse	B	0-2km	VP29; P11	Moderate	Moderate	Significant
62	West Canisbay House	B	0-2km	VP15; P05	Low	Minor	Not Significant
85-89	John o' Groats mill complex	B	2-5km	VP7	None	None	Not Significant
475, 476	Warth Hill burial cairn	SAM	2-5km	VP26	None	None	Not Significant
486	Castle Mestag, Stroma	SAM	2-5km	VP18, P7	Moderate	Moderate	Significant
487	Girnieclett mound, Stroma	SAM	2-5km	VP18, P7	Moderate	Moderate	Significant
488	Cairn Hill burnt mound, Stroma	SAM	2-5km	VP19, P7	Low	Minor	Not Significant

Site No.	Site name and type	SAM / LB grade	Zone	Section 19 appendix viewpoint / plate	Magnitude of potential impact	Significance of potential impact	Significance (EIA Regs)
489	Uppertown long cairn, Stroma	None	2-5km	VP19, P7	Moderate	Moderate	Significant
490	Stroma dovecote and burial vault	B	2-5km	VP19, P7	Moderate	Moderate	Significant
0	Castle of Mey & Inventoried Designed Gardens & Landscape	A	5-10km	None	None	None	Not Significant

Table 20.12: Summary of impact of Ness of Quoys PCC on sites with sensitive settings

20.98 Many of the moderately significant sites that in theory could be affected are actually low mounds or potential subsurface archaeology and as such have no significant setting issues, although there may be a potential impact of moderate significance on those sites within the original PCC and HDD area simply because of the proximity of the Project.

20.99 Many of the other theoretically affected sites, often of low or negligible significance are mostly ruined or substantially altered post-medieval buildings such as farmsteads and associated evidence of agricultural practices. The setting of these sites is one of change and no longer seems to be a sensitive or a significant factor in terms of their cultural heritage value.

20.100 This leaves certain sites with more sensitive settings for consideration (including those mentioned by HS) as listed in Table 20.12. Three of these are not in the ZTV due to localised landform and will not be affected.

20.101 In theory, there could be a moderately significant impact on several of the sites with sensitive settings in the ZTV. However, in the 2-5km zone, the Project will blend into the landscape when seen from Stroma (ORCA 486-490) even more than is indicated by the visualization shown for VP 20 (Section 19 and Technical Appendix, to that section), which is some 2km closer to the development. While visible from part of St John's Point (ORCA 21 and 22), the development will be in a narrow and insignificant view that is not key to the monument and will not break the horizon. The main façade of West Canisbay House (ORCA 52) is oriented to the south away from the site, and views to the site from the rear of the house are screened in summer and filtered in winter by mature sycamore.

20.102 Potentially, the most affected sites are Canisbay Kirk and graveyard (ORCA 53 and 55) and East Canisbay Manse (ORCA 59). The two are related and the manse is designed to have views to and from the kirk. The kirk is the highest and most prominent building in the area both from land and sea and is set in an open landscape, even though there has been some change to its setting over the centuries – a post-medieval farmstead and ruined schoolhouse stands next to it and it is adjacent to the main road. Many modern buildings, both houses and agricultural buildings, have also been constructed in the general area. During the design process MeyGen recognised that without careful design, the PCC buildings would have the potential to dominate the kirk and graveyard and interrupt both open views and the sightline between the kirk and the manse. Therefore they have engaged in a reflexive consultation process with The Highland Council Historic Environments Team and Historic Scotland regarding the design and layout of the onshore installation in order to address any such concerns, which included a design workshop held in Caithness on 6th September 2011 and subsequent meetings/conference calls to discuss site layout and building design.

20.103 The results of the EIA surveys and studies and ongoing consultation have informed the project design and allowed the refinement (since EIA commencement) of the onshore Project area and design for the planning applications. These have been taken into account when assessing the residual impact.

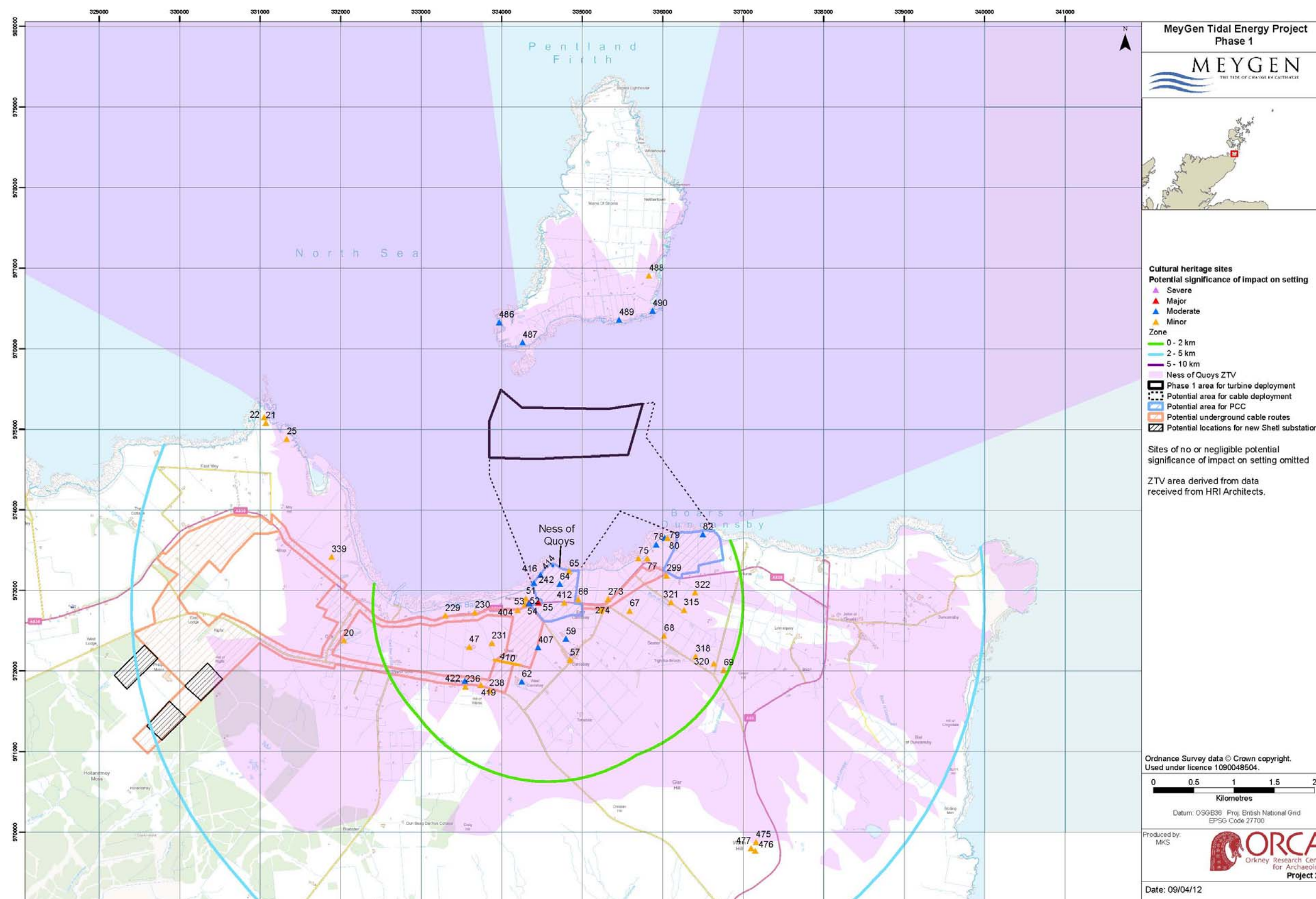


Figure 20.6: Ness of Quoy: Residual impacts on setting of cultural heritage assets in ZTV

■ Ness of Huna

20.104 The historic and current landscape setting of identified cultural heritage sites within the ZTV is summarised in the baseline description above and the sites with potentially affected settings are shown in Figure 20.7.

20.105 Many of the moderately significant sites that in theory could be affected are actually low mounds or potential subsurface archaeology and as such have no significant setting issues. Many of the other theoretically affected sites, often of low or negligible significance are mostly ruined or substantially altered post-medieval buildings such as farmsteads and associated evidence of agricultural practices. The setting of these sites is one of change and no longer seems to be sensitive or a significant factor in anything other than as a general open landscape. The modern farm and activities around Huna House have also significantly compromised the immediate setting of the Ness of Huna.

20.106 This leaves certain sites with more sensitive settings for consideration (including those mentioned by HS) as listed in Table 20.13. Four of these are not in the ZTV due to localised landform and will not be affected.

Site No.	Site name and type	SAM / LB grade	Zone	Section 19 viewpoint / plate	Magnitude of potential impact	Significance of potential impact	Significance (EIA Regs)
21, 22	St John's Point, promontory fort & chapel	SAM	5-10km	VP23; P18	Low	Minor	Not Significant
53, 55	Canisbay Kirk and graveyard	A	0-2km	VP11	Low	Minor	Not Significant
59	East Canisbay Manse	B	2-5km	VP29	None	None	Not Significant
62	West Canisbay House	B	2-5km	VP15; P14	None	None	Not Significant
85-89	John o' Groats mill complex	B	0-2km	VP7	None	None	Not Significant
475, 476	Warth Hill burial cairn	SAM	2-5km	VP26	Low	Minor	Not Significant
486	Castle Mestag, Stroma	SAM	2-5km	VP20; P17	Low	Minor	Not Significant
487	Girnieclett mound, Stroma	SAM	2-5km	VP20; P17	Low	Minor	Not Significant
488	Cairn Hill burnt mound, Stroma	SAM	2-5km	VP20; P17	Low	Minor	Not Significant
489	Uppertown long cairn, Stroma	None	2-5km	VP20; P17	Low	Minor	Not Significant
490	Stroma dovecote and burial vault	B	2-5km	VP20; P17	Low	Minor	Not Significant
0	Castle of Mey & Inventoried Designed Gardens & Landscape	A	5-10km	None	None	None	Not Significant

Table 20.13: Summary of potential impact of Ness of Huna PCC on sites with sensitive settings

20.107 There will be no significant impact on any of the sites with sensitive settings in the ZTV. In the 2-5km zone, the development will blend into the landscape from Stroma (ORCA 486-490) and Warth Hill (ORCA 475 and 476), and while visible from part of St John's Point (ORCA 21 and 22), the development will be in a narrow and insignificant view that is not key to the monument and will not break the horizon..

20.108 The effect on Canisbay Kirk and graveyard (ORCA 53 and 55), is minor, since the Ness of Huna development is at some distance and with many modern buildings breaking up the landscape in between. East Canisbay Manse (ORCA 59) is not in the ZTV.

20.109 The mitigation strategies for impacts on setting are the same for the Ness of Quoys and the Ness of Huna.

MITIGATION IN RELATION TO IMPACT 20.4: Setting

- Reduction of overall site footprint to minimise loss of setting of cultural heritage assets.
- Siting of main PCUBs, Control Building, and other physical infrastructure within the PCC use natural topographic screening to minimise visibility – in terms of both overall visual envelope (ZTV) and actual visibility from key heritage assets.
- Building orientation designed to minimise impact in key view: e.g. orientation of the main PCUBs has been harmonised with the open vistas when viewed from both the Canisbay Kirk and from Stroma.
- Siting, non-alignment and spacing of PCUBs to minimise additional visual confusion and avoid conflict with existing adjacent historic features and buildings.
- Building scale designed to be compatible with scale of landscape and seascape character of site and wider landscape setting.
- Distinctive building form creates strong identity and clear rationale relating to renewable marine energy source.
- Building form and finishes, include use of natural materials, designed to reflect aesthetic qualities associated with landscape and seascape character of site and wider landscape setting.
- Use of local stone walling in harmony with existing uses to help screen buildings.
- Design ensures that the prominence of Canisbay Kirk and its dominance of the local landscape is not challenged by the size and height of the buildings and ensuring that the buildings do not break the horizon when looking to them from the sea.
- Design ensures that the key view between the kirk and the manse is not interrupted.

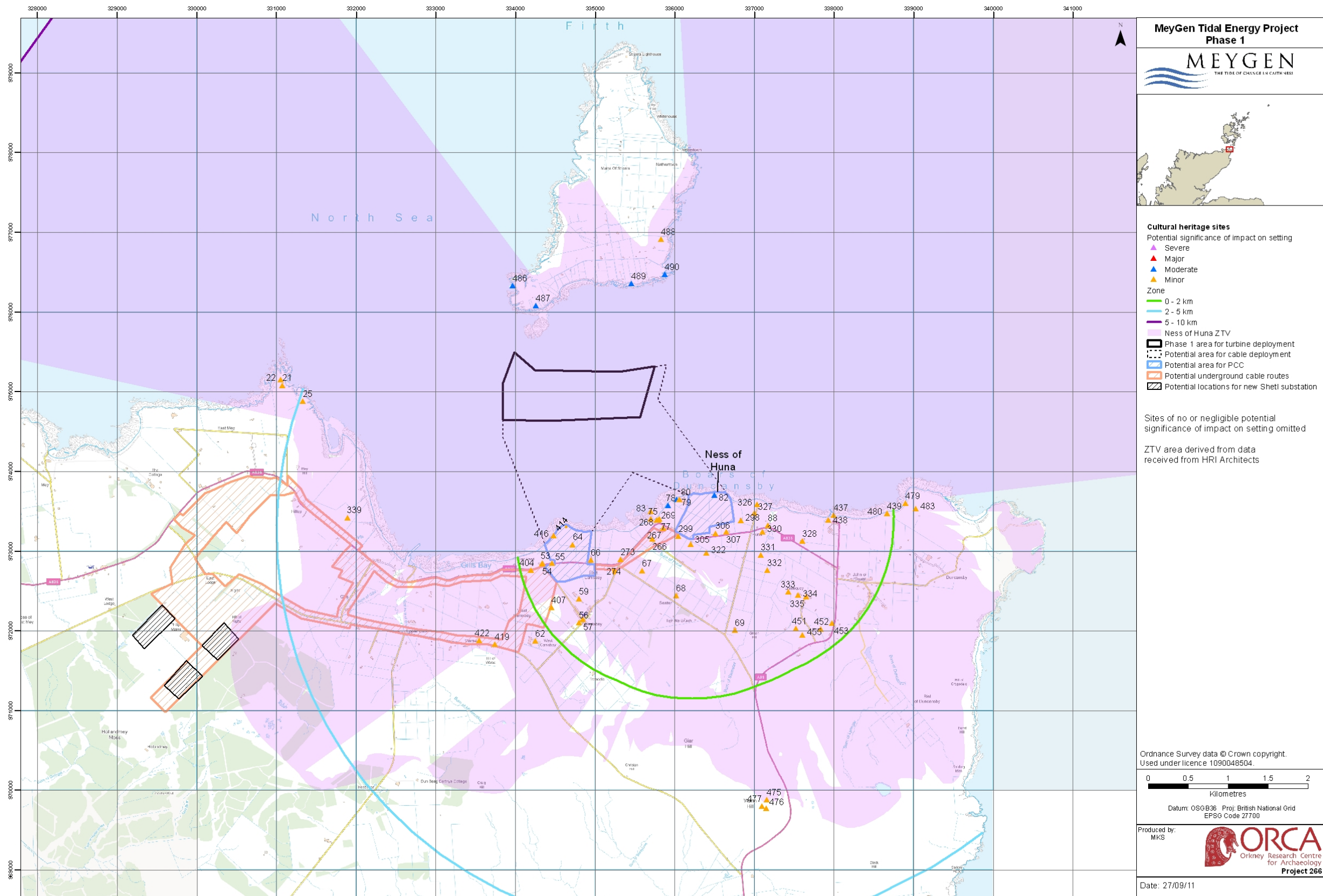


Figure 20.7: Ness of Huna: Potential impacts on setting of cultural heritage assets in ZTV

Residual impact

20.110 With regards to residual impacts, only those potentially significant impacts pre mitigation have been discussed. No potentially significant impacts on setting from the Ness of Huna site have been identified, therefore it is only Ness of Quoys that has been considered further. The mitigation strategies, which have already included geophysical survey identifying that Site 82 does not exist (ORCA 2011b), result in a residual impact on setting with an overall Minor or Negligible Significance on all identified sites except for Canisbay Kirk and Graveyard (Table 20.14). Here there will still be a material change to the setting of major significance. However, it will not be fundamental to the setting, and with the EIA studies and consultations taken into account over the design of the PCC (as in Section 5) will be a change that is at an acceptable level.

20.111 Historic Scotland has stated (in an e-mail dated 14th September 2011) that the proposals do not appear to raise significant issues for their statutory historic environment interests (i.e. scheduled monuments and their setting, category A listed buildings and their setting, Inventory designed landscapes and designated wrecks).

Site No.	Site name and type	SAM / LB grade	Zone	Section 19 appendix viewpoint / plate	Significance of residual impact	Significance (EIA Regs)
21, 22	St John's Point, promontory fort & chapel	SAM	2-5km	VP23; P08	Minor	Not Significant
53, 55	Canisbay Kirk and graveyard	A	0-2km	VP11; P03	Major	Significant
59	East Canisbay Manse	B	0-2km	VP29; P11	Minor	Not Significant
486	Castle Mestag, Stroma	SAM	2-5km	VP18, P7	Minor	Not Significant
487	Girnieclett mound, Stroma	SAM	2-5km	VP18, P7	Minor	Not Significant
489	Uppertown long cairn, Stroma	None	2-5km	VP19, P7	Minor	Not Significant
490	Stroma dovecote and burial vault	B	2-5km	VP19, P7	Minor	Not Significant

Table 20.14: Residual impact of Ness of Quoys PPC site on sensitive settings

20.8 Impacts during Decommissioning

20.112 No adverse impacts have been identified during the decommissioning phase on the assumption that there will be no new areas subject to groundworks that have not already been subject to disturbance during the construction and operation phases. If the onshore buildings are to be decommissioned and removed, and the area fully reinstated, the effects of reinstatement are considered to be neutral since work will restore what was there before, rather than improve on what was there before.

20.9 Potential Variances in Environmental Impacts

20.113 This assessment has addressed the potential impacts associated with all potential onshore development areas. However, it will only be certain areas within this footprint that will be developed – there will be only one PCC and HDD site and not all of the underground cable routes will be used. Therefore the actual impacts (both direct and indirect) of the Project will be less than those predicted here.

20.10 Cumulative Impacts

20.10.1 Introduction

20.114 MeyGen has in consultation with Marine Scotland and the Highland Council identified a list of projects (MeyGen, 2011) which together with the Project may result in potential cumulative impacts. The list of these projects including details of their status at the time of the EIA and a map showing their location is provided in Section 8; Table 8.3 and Figure 8.1 respectively.

20.115 Having considered the information presently available in the public domain on the projects for which there is a potential for cumulative impacts, the ticked items in Table 20.15 below indicates those with the potential to result in cumulative impacts from an Onshore Cultural Heritage perspective. The consideration of which projects could result in potential cumulative impacts is based on the results of the project specific impact assessment together with the expert judgement of the specialist consultant.

Project title	Potential for cumulative impact	Project title	Potential for cumulative impact	Project title	Potential for cumulative impact
MeyGen Limited, MeyGen Tidal Energy Project, Phase 2	✓	SHETL, HVDC cable (onshore to an existing substation near Keith in Moray)	✗	OPL, Ocean Power Technologies (OPT) wave power ocean trial	✗
ScottishPower Renewables UK Limited, Ness of Duncansby Tidal Energy Project	✓	Brough Head Wave Farm Limited, Brough Head Wave Energy Project	✗	MORL, Moray Offshore Renewables Ltd (MORL) offshore windfarm	✓
Pelamis Wave Power, Farr Point Wave Energy Project	✗	SSE Renewables Developments (UK) Limited, Costa Head Wave Energy Project	✗	SSE and Talisman, Beatrice offshore Windfarm Demonstrator Project	✗
Sea Generation (Brough Ness) Limited, Brough Ness Tidal Energy Project	✗	EON Climate & Renewables UK Developments Limited, West Orkney North Wave Energy Project	✗	BOWL, Beatrice Offshore Windfarm Ltd (BOWL) offshore windfarm	✓
Cantick Head Tidal Development Limited, Cantick Head Tidal Energy Project	✗	EON Climate & Renewables UK Developments Limited, West Orkney South Wave Energy Project	✗	Northern Isles Salmon, Chalmers Hope salmon cage site	✗
SSE, Caithness HVDC Connection - Converter station	✗	ScottishPower Renewables UK Limited, Marwick Head Wave Energy Project	✗	Northern Isles Salmon, Pegal Bay salmon cage site	✗
SSE, Caithness HVDC Connection - Cable	✗	SSE Renewables Developments (UK) Limited, Westray South Tidal Energy Project	✗	Northern Isles Salmon, Lyrava salmon cage site	✗
RWE npower renewables, Stroupster Windfarm	✓	EMEC, Wave Energy test site (Billia Croo, Orkney)	✗	Scottish Sea Farms, Bring Head salmon cage site	✗
SSE, Gills Bay 132 kV / 33 k V Substation Phase 1: substation and overhead cables (AC)	✓	EMEC, Tidal energy test site (Fall of Warness, Orkney)	✗	Northern Isles Salmon, Cava South salmon cage site	✗
SSE, Gills Bay 132 kV / 33 k V Substation Phase 2: HVDC converter station and new DC buried cable	✓	EMEC, Intermediate wave energy test site (St Mary's Bay, Orkney)	✗	Scottish Sea Farms, Toyness salmon cage site	✗
SHETL, HVDC cable (offshore)	✗	EMEC, Intermediate tidal energy test site (Head of Holland,	✗	Northern Isles Salmon, West	✗

Project title	Potential for cumulative impact	Project title	Potential for cumulative impact	Project title	Potential for cumulative impact
Moray Firth)		Orkney)		Fara salmon cage site	

Table 20.15: Summary of potential cumulative impacts

The following sections summarise the nature of the potential cumulative impacts for each potential project phase:

- Construction and installation;
- Operations nad maintenance; and
- Decomissioning.

20.10.2 Potential cumulative impacts during construction and installation

20.116 Phase 2 of the Meygen Project will comprise the deployment of more tidal turbines offshore and associated cables to shore and onshore infrastructure. The exact geographical location, extent and nature of the onshore facilities required for Phase 2 are not yet defined and will incorporate lessons learned from and include technology advancements beyond Phase 1 of the Project. These factors will influence the potential for, nature of and significance of any cumulative impacts. From an onshore cultural heritage perspective the requirement for additional land for onshore infrastructure has the potential for increased direct impacts, although wherever possible important cultural heritage assets will be avoided.

20.117 The exact location of ScottishPower Renewables' Ness of Duncansby Tidal Array's cable landfall, control building/substation compound and grid connection have yet to be defined. However, it has been stated that 'they will be sited sensitively after taking the cultural heritage assets into account' (ScottishPower Renewables: *Proposed Ness of Duncansby Tidal Array Request for a Scoping Opinion* January 2011, Section 4.4.4.5). It is therefore expected that the cumulative effects will be of Minor significance.

20.118 The Scoping Report for Scottish and Southern Energy Power Distribution's Gills Bay 132kV / 33kV Substation and overhead power lines was not available in time for this assessment. There are three potential options for the location of the substation (see Figure 20.1), which may be turned into an HVDC Converter station in Phase 2 if there is sufficient demand. The potential options for the substation / converter station location have differing cumulative effects. The location west of Philips Mains may have a major direct impact on two cultural heritage assets (ORCA 371 and 374 - see Figure 20.2). However, since the MeyGen underground cable will be designed to avoid such direct impacts, the cumulative effect is of Minor significance.

20.10.3 Potential cumulative impacts during operations and maintenance

20.119 The exact geographical location, extent and nature of the onshore facilities required for Phase 2 of the Meygen Project are not yet defined. These factors will influence the potential for, nature of and significance of any cumulative impacts on setting, but potentially may occur.

20.120 The exact location of the onshore infrastructure for ScottishPower Renewables' Ness of Duncansby Tidal Array proposal has yet to be defined. However, it has been stated that 'they will be sited sensitively after taking the cultural heritage assets into account' (see above). It is therefore expected that the cumulative effects on setting will be of Minor significance.

20.121 The overhead power lines for Scottish and Southern Energy Power Distribution's Gills Bay 132kV / 33kV Substation lines will be on 11m high wooden poles and lead away from plantations in the Phillip's Mains

area out of view of Canisbay. It is therefore expected that the cumulative effects on cultural heritage setting in the Canisbay area will be of Minor significance.

20.122 There are unlikely to be cumulative setting effects on the setting of cultural heritage assets in the Canisbay area caused by any of the potential HVDC Converter station locations in Phase 2 of the Scottish and Southern Energy Power Distribution's Gills Bay project. On the assumption that the buildings will not be higher than the tree tops, they will be screened by coniferous plantations and Rigifa Hill.

20.123 Stroupster Windfarm. Consented windfarm of 12 turbines to tip height of 113m. It is likely that the ZTV of this project will overlap with the ZTVs of both Ness of Quoys and Ness of Huna and there may be *simultaneous* or *successive* visibility.

20.124 MORL, Moray Offshore Renewables Ltd (MORL) offshore windfarm and BOWL, Beatrice Offshore Windfarm Ltd (BOWL) offshore windfarm. Assuming a study area of 35km radius from the outer edge of these development areas, there will be overlap with the MeyGen Phase 1 study area and dependent on the ZTVs potentially therefore a minor degree of cumulative impact may occur.

20.10.4 Potential cumulative impacts during decommissioning

20.125 No adverse cumulative impacts have been identified during the decommissioning phases of any of the projects identified for which there is a potential for cumulative impacts in terms of onshore cultural heritage.

20.10.5 Mitigation requirements for potential cumulative impacts

20.126 No mitigation is required over and above the Project specific mitigation.

20.10.6 Potential cumulative setting impacts

20.127 There are unlikely to be significant cumulative effects on the setting of cultural heritage assets in the Canisbay area caused by any of the developments outlined above.

20.11 Proposed Monitoring

20.128 The construction contractors Environmental Clerk of Works (or equivalent) will monitor the construction team to avoid any accidental damage to identified cultural heritage assets. A reporting protocol will be put in place in the event of discovery of previously unknown cultural heritage sites or material. Depending on the significance of the find there may be a requirement for further investigation and recording in line with the mitigation proposed in this Section.

20.12 Summary and Conclusions

20.129 The rich and varied archaeological heritage of the Canisbay area is clearly evident. There are no SAMs, Listed Buildings or other statutorily designated assets within the proposed development areas. However, there are such sites close by and the setting of two of them (the A-Listed Canisbay Kirk and Graveyard and the B-Listed East Canisbay Manse) are key issues. Mitigation in building design and location will ensure that the key aspects of their setting will not be lost and that the change to the setting, although of moderate residual significance, will be of an acceptable nature.

20.130 Both the Ness of Quoys and Ness of Huna landfall and PCC areas have potential for significant archaeology to be present. However, this is being mitigated by targeted geophysical surveys so that archaeological remains will be avoided where at all possible. In consultation with HC HET, intrusive evaluations will be conducted where remains cannot be avoided in order to establish whether or not significant remains do exist and thus identify any risks. The results could lead on to further management strategies, such as excavation or watching briefs, or may indicate that there are no further issues.

20.131 It is clear that there is a moderately high potential for further culturally significant remains to be concealed in some parts of the cable route options, and consideration will be given to the potential for further sites to remain below surface in the vicinity of known significant sites and for peat and intensive cultivation to have

masked remains. It will be possible to route the cable to avoid known remains and further investigations could be targeted at areas thought to present most risk in order to establish whether or not significant remains exist. The results would enable the formulation, if shown to be required, of further management or mitigation strategies, such as avoidance, excavation or watching briefs, or may indicate that there are no further issues. A reporting protocol for the accidental discovery of archaeological remains can also be instated.

- 20.132 No adverse impacts have been identified during the decommissioning phase on the assumption that there will be no new areas subject to groundworks that have not already been subject to disturbance during the construction and operation phases.
- 20.133 Three other developments that may contribute towards a cumulative impact on onshore cultural heritage assets in the area have been identified. All seek to avoid significant cultural heritage assets where at all possible and will formulate mitigation strategies where it is not. Cumulative impacts on setting will be very much dependent on the location of onshore infrastructure, but potentially may occur.
- 20.134 Other than the effect on the setting of Canisbay Kirk, which will be carefully managed, it is therefore concluded that, with the appropriate mitigation strategies, the proposed development will not significantly impact onshore cultural heritage.

20.13 References

- Barber, J. (2006). *Caithness: A River of Stone.*, AOC Archaeology Group, Edinburgh.
- Batey, C.E. (1984). *Caithness Coastal Survey 1980–82: Dunnet Head to Ousdale.* Durham University Department of Archaeology Occasional Paper 3. Durham.
- Batey, C.E. (1993). 'The Viking and Late Norse Graves of Caithness and Sutherland' in Batey C.E., Jesch J. & Morris, C.D. (1993). *The Viking Age in Caithness, Orkney and the North Atlantic.* EUP. Edinburgh. 148-164.
- Batey, C.E. (2002). 'Viking and Late Norse re-use of broch mounds in Caithness' in Ballin Smith B. & Banks, I. (2002). *In The Shadow of the Brochs: The Iron Age in Scotland.* Tempus. Stroud.
- Calder, J.T. (1887). *History of Caithness.* 2nd edn. Online transcription hosted at <http://www.caithness.org/history/historyofcaithness/index.htm>
- Davidson, J.L. & Henshall, A. (1991). *The Chambered Cairns of Caithness,* Edinburgh University Press. Edinburgh.
- Houston, A. (1996). *Lest We Forget: The Parish of Canisbay.* Highland News Group Ltd. Inverness.
- Lambrick (2008). Institute for Archaeologists (IfA) Working Group on the Setting of Cultural Heritage Features' *Setting Standards: A Review.*
- NSA (1834-45) *New Statistical Account of Scotland,* vol 15. Parish of Canisbay, entry by Rev Peter Jolly, 21-34.
- Omand, D. (1989) *The Caithness Book.* Highland Printers. Inverness.
- ORCA (2011b). *Inner Sound Canisbay, Caithness Geophysical Survey 2011 Final Report.* Report for MeyGen Ltd, provided on the supporting studies CD.
- ORCA (2012). *Inner Sound, Canisbay, Caithness: Onshore Cultural Heritage Environmental Impact Assessment.* Report for MeyGen Ltd, provided on the supporting studies CD.
- Ordnance Survey County Series 1:2500 (25" to 1 mile) 1st edition 1877, Caithness-shire, sheets II.8, II.4, II.10, II.11, II. II.14, II.15, II.16; VII. 2, VII.3, VII.4, VII.6, VII.7, VII.8, VII.15, VII.6; III.1, III.5, III.9, III.10, III.11, III.13, III.14, III.15; VIII.1, VIII.2, VIII.3, VIII.5, VIII.6, VIII.7.

Ordnance Survey County Series 1:2500 (25" to 1 mile) 1st Revision (second edition) 1907, Caithness-shire sheets II.8, II.4, II.10, II.11, II. II.14, II.15, II.16; VII. 2, VII.3, VII.4, VII.6, VII.7, VII.8, VII.15, VII.6; III.1, III.5, III.9, III.10, III.11, III.13, III.14, III.15; VIII.1, VIII.2, VIII.3, VIII.5, VIII.6, VIII.7.

Ordnance Survey OS Explorer Map, 1: 25 000 (4 cm to 1 km, 2½ inches to 1 mile), 2007 edition, Thurso and John o' Groats, sheet 451.

OSA (1791-99). *Old Statistical Account of Scotland,* vol 9. Parish of Canisbay entry by Rev John Morison, 142-69.

Pottinger, M. (1993). 'Cromwellian Soldiers in Canisbay, 1652 to 1655'. *Caithness Field Club Bulletin* 1993. Wick. Consulted online at <http://www.caithness.org/caithnessfieldclub/bulletins/1993/cromwelliansoldiers.htm>

Stanton, C., (1998). *Caithness and Sutherland Landscape Character Assessment,* SNH commissioned report No. 130 Available at <http://www.snh.org.uk/publications/on-line/LCA/CaithnessSutherland.pdf>

Thomson, J. (1832). 'Caithness Shire' in *The Atlas of Scotland,* Edinburgh: J. Thomson & Co., <http://maps.nls.uk/atlas/thomson/485.html>

Wilson (2002). *The Landscape Institute and the Institute of Environmental Management and Assessment's Guidelines for Landscape and Visual Impact Assessment.*

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