9 Cultural heritage

9.1 Introduction

9.1.1 Since the submission of the previous application for Beaw Field, there have been no changes to the cultural heritage baseline and given that the infrastructure of the Consented Development is not changing, there would be no additional cultural heritage effects. The findings of the previous cultural heritage assessment therefore remain valid, and the previous cultural heritage chapter is set out in full below, with a brief update included in relation to planning policy. The cumulative assessment section and conclusions have been updated to reflect the changes to the cumulative position since the original EIA for the Consented Development.

9.1.2 This chapter addresses the issues associated with the potential cultural heritage effects of the proposed Beaw Field Wind Farm, Yell (hereafter referred to as the 'Proposed Development'). The Consented Development is for a wind farm with up to 17 wind turbines with a maximum tip height of 145m and is described in detail in Chapter 3.

9.1.3 This chapter identifies the archaeological and cultural heritage value of the Study Area (Figure 9.1) as well as any assets contained therein. The assessment also identifies all designated assets up to 5km from the Site and selected designated assets at greater distances, up to 15km from the Site, with the potential for significant effects on their setting. The assessment includes descriptions of the context of the assessment; methodology; baseline conditions; potential effects (both direct and indirect) and mitigation. The assessment considers the construction, operational and decommissioning phases of the Consented Development in detail. An assessment of potential cumulative effects is also made.

9.1.4 This chapter has been produced by AOC Archaeology Group. AOC is a Registered Archaeological Organisation of the Chartered Institute for Archaeologists (CIfA). The scope of this assessment meets the requirements of current planning regulations and guidance set out in SPP[1], SHEP[2] and PAN2/2011[3]. This chapter conforms to the standards of professional conduct outlined in the Chartered Institute for Archaeologists' Standards and Guidance for Desk Based Assessments[4] and follows IEMA's EIA Guidelines[5]

Planning legislation, policy and guidance

9.1.5 Chapter 4 of the EIAR sets out the planning policy framework that is relevant to the Environmental Impact Assessment and includes policy updates which have arisen since the original application was submitted.

Legislation

9.1.6 The statutory framework for heritage in Scotland is outlined in the Town and Country Planning (Scotland) Act 1997[6], as amended in the Planning (Listed Buildings and Conservation Areas) (Scotland) Act[7], and The Ancient Monuments and Archaeological Areas Act 1979[8], both of which are modified by the Historic Environment (Amendment) (Scotland) Act[9]. The Planning (Scotland) Act 2019 is also of relevance.

9.1.7 The Ancient Monuments and Archaeological Areas Act[10] provides the legal framework regarding ancient monuments and makes provision for the investigation, preservation and recording of matters of archaeological or historical interest.

9.1.8 A new development must not impact upon the area of a Scheduled Monument without the prior formal consent of Historic Environment Scotland (formerly Historic Scotland). A development may not have a direct, i.e., physical, impact upon a Scheduled Monument without Scheduled Monument Consent.

National policy and guidelines

9.1.9 The implications of the acts noted above with regard to local government planning policy are described within the National Planning Framework, Scottish Planning Policy (SPP), Scottish Historic Environment Policy (SHEP) and Planning Advice Note 2/2011 (PAN 2). SPP and SHEP 'Scottish Historic Environment Policy' deal specifically with planning policy in relation to heritage. SPP expresses the following policy principles:

"The planning system should:

promote the care and protection of the designated and non-designated historic environment (including individual assets, related settings, and the wider cultural landscape) and its contribution to sense of place, cultural identity, social well-being, economic growth, civic participation, and lifelong learning; and enable positive change in the historic environment which is informed by a clear understanding of the importance of the heritage assets affected and ensure their future use. Change should be sensitively managed to avoid or minimise adverse impacts on the fabric and setting of the asset, and ensure that its special characteristics are protected, conserved, or enhanced"[11]

9.1.10 The setting of Scheduled Monuments is also a key consideration when determining applications. This principle is outlined in SPP:

"Where there is potential for a proposed development to have an adverse effect on a scheduled monument or on the integrity of its setting, permission should only be granted where there are exceptional circumstances. Where a proposal would have a direct impact on a scheduled monument, the written consent of Scottish Ministers via a separate process is required in addition to any other consents required for the development"[12]*.*

9.1.11 SPP also notes the importance of preserving the settings of Listed Buildings, stating that "*The layout, design, materials, scale, siting, and use of any development which will affect a listed building, or its setting should be appropriate to the character and appearance of the building and setting. Listed buildings should be protected from demolition or other work that would adversely affect it or its setting*"[13].

9.1.1 National Planning Framework 4[14] is under preparation and will include all aspects of national planning policy as per the provisions of the Planning (Scotland) Act 2019. The NPF4 'Position Statement' was published in November 2020 and a consultation draft NPF4 was issued in autumn 2021.

9.1.2 Draft Policy 19 from the draft NPF4 sets out requirements in relation to Green Energy. Requirements relevant to onshore wind and historic environment impacts are:

k) Specific considerations will vary relative to the scale of the proposal and area characteristics but development proposals for renewable energy developments must take into account:

- *Impacts on historic environment assets, including scheduled monuments, listed buildings, and their settings.*

9.1.3 Further information on draft NPF4 is set out in the updates to Chapter 4.

9.1.4 SHEP sets out the Scottish Executive's policy for the sustainable management of the historic environment. Key principles of the policy note 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*".

9.1.5 SHEP Policy was updated in 2019 and includes 6 policies for managing the historic environment. Of relevance to the Consented Development are:

- *''HEP1 – Decisions affecting any part of the historic environment should be informed by an inclusive understanding of its breadth and cultural significance;*
- *HEP2 – Decisions affecting the historic environment should ensure that its understanding and enjoyment as well as its benefits are secured for present and future generations; and*
- *HEP4 – Changes to specific assets and their context should be managed in a way that protects the historic environment. Opportunities for enhancement should be identified where appropriate. If detrimental impact on the historic environment is unavoidable, it should be minimised. Steps should be taken to demonstrate that alternatives have been explored, and mitigation measures should be put in place.''*

9.1.6 PAN 2/2011 expresses a general presumption in favour of preserving heritage remains *in situ*. Their "preservation by record" (i.e., through excavation and recording, followed by analysis and publication, by qualified archaeologists) is a less desirable alternative[15].

Local policy and guidelines

9.1.7 The Shetland Islands Local Development Plan[16] sets out a Vision and Spatial Strategy for the development of land in the Shetland Islands over the next 10 to 20 years. The following policies contained within the plan pertain to cultural heritage and are of relevance to the Proposed Development:

"HE1 Historic Environment – The Council should presume in favour of the protection, conservation and enhancement of all elements of Shetland's historic environment, which includes buildings, monuments, landscapes and areas."

"HE2 Listed Buildings – Development affecting a listed building, or its setting, should preserve the building, its setting, and any features of special architectural or historic interest that it possesses. The layout, design, materials, scale, siting, and use of any development should be appropriate to the character and appearance of the listed building and its setting. Proposals for the total or substantial demolition of a listed building should only be supported where it can clearly be demonstrated that every effort has been made to retain it."

"HE4 Archaeology – Scheduled monuments, designated wrecks and other identified nationally important archaeological resources should be preserved in situ, and within an appropriate setting. Developments that have an adverse effect on scheduled monuments and designated wrecks or the integrity of their settings should not be permitted unless there are exceptional circumstances. All other significant archaeological resources should be preserved in situ wherever feasible. Where preservation

in situ is not possible the planning authority should ensure that developers undertake appropriate archaeological excavation, recording, analysis, publication and archiving in advance of and/or during development."

9.1.8 Draft Supplementary Planning Guidance (SPG)[17] on Historic Environment Strategy was drafted in 2012 and awaits formal adoption by Shetland Islands Council. This supplementary guidance is intended to complement Policies HE1-4 of the adopted Shetland Local Development Plan. The following additional policy within the SPG is of relevance to the Proposed Development:

"Policy SGHE 3 Archaeological assessment – Where archaeological remains are known or thought likely to exist the developer may be requested to supply a report of an archaeological evaluation prior to determination of a planning or listed building consent application."

Consultation

9.1.9 An EIA Scoping Opinion was received from Shetland Amenity Trust on 20th April 2015. This indicated that it was content with the broad methodology of assessment set out in the Scoping Report. It specified that walkover survey transects should be spaced at a maximum of 20m apart to ensure adequate coverage of the Study Area. Owing to perceived accuracy problems with hand-held GPS, it was suggested that Differential Global Positioning System DGPS be used to locate features in the field. Further concerns were raised regarding the application of impact tables, and it was suggested that each feature '*should be evaluated in a more meaningful way'*.

9.1.10 AOC Archaeology Group and the Applicant met with Val Turner and Chris Dyer of the Shetland Amenity Trust on 23rd June 2015 to discuss the Proposed Development. AOC noted that, due to aforementioned concerns regarding accuracy of hand-held GPS, the walkover survey would be undertaken with the aid of a Trimble GeoXR DGPS. The applicability of geophysical survey to a site such as Beaw Field Wind Farm where standing water, peat cutting and peat erosions would limit the practicality of survey was discussed, as were the implications of peat depth significantly affecting the meaningfulness of results. It was agreed that despite best efforts to assess the potential for archaeology on large peat-covered sites such as Beaw Field Wind Farm, the methods used such as walkover survey, geophysical survey and/or coring could not rule out the potential for discovery of archaeological features and/or deposits. An archaeological watching brief will be required during the construction phase. The potential archaeological implications of habitat and road infrastructure improvement plans were discussed, and it was agreed that these would be reviewed from an archaeological perspective as part of the EIA process.

9.1.11 Historic Scotland issued an EIA Scoping Opinion on 6th May 2015. It confirmed that the potential for direct impacts on heritage assets covered by its remit appeared unlikely. With regards to indirect impacts, Historic Scotland stated that there was potential for impacts on the settings of designated heritage assets including Scheduled Monuments and Listed Buildings. Historic Scotland indicated that it would be helpful if the Environmental Statement included appropriate visualisations such as photomontages and wireframes, and that cumulative impacts from similar developments should be considered. Historic Scotland identified the following individual assets requiring further assessment:

- Head of Brough, broch, West Yell (Index no. 2071);
- Wester Wick of Copister, broch (Index no 2901);
- Burra Voe, broch (Index no. 2052);
- Gossabrough, broch and settlement (Index no. 2069); and

- The Snuti, fort (Index no. 2085).

9.1.12 Historic Scotland confirmed that it was broadly content with the search areas and scope for assessment as detailed in the Scoping Report. It issued detailed comments on the proposed methodology and the significance of effect criteria, which it stated were at times unclear and focussed on issues it did not consider primary issues in assessing significance of impacts. These concerns have been addressed within the Methodology section.

9.2 Methodology

Baseline survey

9.2.1 Each heritage feature referred to in the text is listed in the Gazetteer in Appendix 9.1. Each has been assigned a 'Site No.' unique to this assessment, and the Gazetteer includes information regarding the type, period, grid reference, NMRS number, SMR number, statutory protective designation, and other descriptive information, as derived from the consulted sources.

Assessment area

9.2.2 All heritage assets within the Site and a distance of up to 5km from the edge of the Site were identified as part of the baseline survey. This included Scheduled Monuments and Listed Buildings, as well as non-designated archaeological sites and features. In addition, Scheduled Monuments, Listed Buildings and Inventory Gardens and Designed Landscapes, at greater distances (between 5km and 10km) from the proposed turbine area were examined. Designated heritage assets which have the potential to be highly sensitive to changes to their setting and lie within the Zone of Theoretical Visibility (ZTV) up to 15km have also been identified. The terms Site and Study Area as applied within this Chapter refer to the area enclosed by the Application Boundary as shown on Figures 9.1 and 9.2.

9.2.3 This chapter should also be read with reference to the following figures:

- Figure 9.1: Heritage features within and adjacent to the Study Area;
- Figure 9.2 Heritage features located within 5km surrounding the Study Area;
- Figures 9.3 and 9.4 relevant designated heritage assets up to 15km from the Site included in the detailed assessment;
- Figures 9.5 and 9.6 Historic Ordnance Survey mapping showing the Study Area;
- Figure 9.7 Photomontage from Gossabrough Broch;
- Figure 9.8 Photomontage from Snuti Fort;
- Figures 9.9 – 9.19: Wirelines showing the Consented Development from selected heritage assets;
- LVIA VP 2: Photomontage from Burravoe (Burravoe Old Haa); and
- LVIA VP 3: Photomontage from Hamnavoe (B9081 at Whirly).

Desk study

9.2.4 The following sources were consulted for the collation of data:

- Shetland Amenity Trust Sites and Monuments Record (SMR);

- The National Monuments Record of Scotland (NMRS);
- Ordnance Survey maps (principally First and Second Edition), and other published historic maps held in the Map Library of the National Library of Scotland;
- Unpublished historic maps and documents held by the National Archives of Scotland;
- Unpublished historic maps and documents held by Shetland Museum and Archives;
- Vertical and oblique aerial photographs held by Royal Commission Ancient and Historical Monuments Scotland (RCAHMS) (now Historic Environment Scotland);
- Published bibliographic sources, including historical descriptions of the area (Statistical Accounts, Parish Records);
- The Scottish Palaeoecological Database; and
- The Historic Land-use Assessment Data (HLAMap) for Scotland (Historic Environment Scotland).

Walkover survey

9.2.5 An archaeological walkover survey of the Study Area was undertaken with the aim of identifying any previously unknown archaeological features. All known and accessible heritage features were assessed in the field to establish their survival, extent, significance and relationship to other sites. Weather and any other conditions affecting the visibility during the survey were also recorded. All heritage features encountered were recorded and photographed. A Trimble GeoXR GPS with a maximum error of ±1m, mostly ±0.2m, for X and Y National Grid co-ordinates was used to record and confirm the position of each feature and also to record the route of the survey. All features were marked on plans, at a relevant scale keyed by means of Grid References to the Ordnance Survey mapping.

9.2.6 The walkover survey also identified areas of standing water, peat erosion and areas of former peat cuttings. Exposed peat hags and peat cuttings were examined for evidence of buried land surfaces.

Limitations of assessment

9.2.7 This assessment is based upon data obtained from publicly accessible archives as described in the Data Sources Section and a walkover survey of areas of proposed infrastructure. National Monument Record data was downloaded from the NMRS in March 2015, and the Sites and Monuments Record (SMR) was checked for new records in March 2015. This assessment does not include any records added after this date.

9.2.8 No intrusive archaeological evaluation has been undertaken to inform this assessment, as such there is the potential for hitherto unknown archaeological remains to survive within the Study Area and to be disturbed by the works associated with the Proposed Development. This limitation is taken account of in the Mitigation Section where measures to avoid or minimise any such effects are provided.

Impact assessment methodology

9.2.9 This assessment distinguishes between the term ‘impact’ and ‘effect’. An impact is defined as a physical change to a heritage feature, whereas an effect refers to the significance of this impact. The first stage of the assessment involves establishing the value and importance of the heritage feature and assessing the sensitivity of the feature to change (impact). Using the proposed design for the Proposed Development, an assessment of the magnitude of that impact is made and a judgement regarding the level and significance of effect is arrived at.

Direct effect assessment

9.2.10 Potential direct effects on known heritage features and unknown buried archaeological remains, in the case of the Proposed Development, relate to the possibility of disturbing, removing or destroying in situ remains and artefacts during ground breaking works (including excavation, construction and other works associated with the Proposed Development) within the Site.

Establishing cultural heritage importance

9.2.11 The definition of cultural significance is readily accepted by heritage professionals both in the UK and internationally and was first fully outlined in the Burra Charter, which states in article one that 'cultural significance' or 'cultural heritage value' means aesthetic, historic, scientific, social or spiritual value for past, present or future generations[18]. This definition has since been adopted by heritage organisations around the world, including Historic Environment Scotland (formerly Historic Scotland). In the SHEP, Historic Scotland notes that to have cultural significance an asset must have a particular "*artistic; archaeological; architectural; historic; traditional (factors listed in the 1979 Act); aesthetic; scientific; [and/or] social [significance] – for past, present or future generations*"[19]. Heritage assets/features also have value in the sense that they "...*create a sense of place, identity and physical and social wellbeing, and benefit the economy, civic participation, tourism and lifelong learning*"[20]. For clarity and to avoid confusion with the EIA term 'significant', the term 'cultural value' will be used throughout this assessment though, as outlined above, it is acknowledged that this is the same as 'cultural significance' as defined in SHEP[21].

9.2.12 All heritage assets/features have some value, however some assets are judged to be more important than others. The level of that importance is, from a cultural resource management perspective, determined by establishing the asset's capacity to inform present or future generations about the past. In the case of many heritage assets their importance has already been established through the designation (i.e. scheduling, listing and inventory) processes applied by Historic Environment Scotland.

9.2.13 The criteria used to rate importance of heritage assets/archaeological features in the Study Area are presented in Table 9.1 below and relate to the criteria set out in Appendices 1-6 of SHEP[22] which outline the criteria for establishing National Importance.

Table 9.1: Criteria for establishing cultural heritage importance

Importance	*Criteria*
International and National	World Heritage Sites; Scheduled Monuments (actual and potential); Category A Listed Buildings; Inventory Gardens & Designed Landscapes; Inventory Battlefields; Fine, little-altered examples of some particular period, style or type.
Regional	Category B Listed Buildings; Conservation areas; Major examples of some period, style or type, which may have been altered; Features of a type which would normally be considered of national importance that have been partially damaged (such that their ability to inform has been reduced).
Local	Category C Listed Buildings; Lesser examples of any period, style or type, as originally constructed or altered, and simple, traditional sites, which group well with other significant remains, or are part of a planned group such as an estate or an industrial complex; Features of a type which would normally be considered of regional importance that have been partially damaged or asset types which would normally be considered of national importance that have been largely damaged (such that their ability to inform has be reduced).
Negligible	Relatively numerous types of remains; findspots or artefacts that have no definite archaeological remains known in their context; Features of a type which would normally be considered of local importance that have been largely damaged (such that their ability to inform has been reduced).

Direct impact magnitude

9.2.14 Potential direct impacts on known heritage features, and unknown buried archaeological remains, in the case of the Consented Development relate to the possibility of disturbing, removing or destroying in situ remains and artefacts during ground breaking works (including excavation, construction and other works associated with the Proposed Development) within the Site.

9.2.15 The predicted magnitude of the direct impact upon heritage features caused by the Consented Development is guided by the classifications and criteria outlined in Table 9.2.

Table 9.2: Criteria for establishing magnitude of direct impact

High	*Criteria*
High	Major loss of information content resulting from total or large-scale removal of deposits from a site whether or not the site is associated with a monument. Major alteration of a feature's baseline condition.
Medium	Moderate loss of information content resulting from material alteration of the baseline conditions by removal of part of a site whether or not the site is associated with a monument. Moderate alteration of a feature's baseline condition.
Low	Minor detectable impacts leading to the loss of information content. Minor alterations to the baseline condition of a feature.
Marginal	Very slight or barely measurable loss of information content. Loss of a small percentage of the area of a site's peripheral deposits. Very slight and reversible alterations to a feature.
None	No physical impact anticipated.

Level of direct effect and significance

9.2.16 The predicted level of direct effect and significance of effect upon each heritage feature is determined by considering its importance in conjunction with the impact magnitude predicted on it. The method of deriving the effect significance classifications is shown in Table 9.3. A qualitative descriptive narrative will also be provided for each feature to summarise and explain each of the professional value judgements that have been made.

Table 9.3 Criteria for establishing level of direct effect

Magnitude of impact	*Negligible*	*Local*	*Regional*	*National*
High	Minor-Moderate	Moderate	Moderate-Major	Major
Moderate	Minor	Moderate	Moderate	Moderate-Major
Low	Negligible	Minor-Moderate	Moderate	Moderate
Marginal	Negligible	Minor	Minor-Moderate	Moderate
None	No Effect	No Effect	No Effect	No Effect

9.2.17 Using professional judgment and with reference to the *Planning Circular 3/2011 Guidance on The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011*[23], this chapter considers moderate and greater effects to be significant, while minor-moderate and less, effects are considered not significant.

Indirect effects assessment

9.2.18 Indirect effects in the case of the Proposed Development, primarily relate to changes to the setting of designated heritage assets within the vicinity of the Study Area. Assessments of impacts upon the setting of heritage assets have been informed by site visits, GIS analysis, ZTV mapping and visualisations as necessary.

Relative sensitivity

9.2.19 Determining the relative cultural value of an asset is essential for establishing its importance. As set out in SHEP[24] a determination of value can be made with reference to the intrinsic, contextual, and associative characteristics of an asset. SHEP indicates that the relationship of an asset to its setting or the landscape makes up part of its contextual characteristics. The Xi'an Declaration[25] set out the first internationally accepted definition of setting with regard to cultural heritage assets, indicating that setting is important where it forms part of or contributes to the significance of a heritage asset. SPP[26] does not differentiate between the importance of the asset itself and the importance of the asset's setting. Indeed, under the section on Scheduled Monuments it states that *'where there is potential for a* Consented *development to have an adverse effect on a scheduled monument or on the integrity of its setting, permission should only be granted where there are exceptional circumstances*'[27]. However, it is widely recognised[28] that the importance of an asset is not the same as its sensitivity to changes to its setting. Elements of setting may make a positive, neutral, or negative contribution to the value of an asset[29]. Thus, in determining the nature and significance of impacts upon assets and their settings by the Proposed Development, the contribution that setting makes to an asset's value and importance and thus its sensitivity to changes to setting need to be considered.

9.2.20 This approach recognises the importance of preserving the integrity of the setting in the context of the contribution that setting makes to the experience, understanding and appreciation of a given asset. It recognises that setting is a key characteristic in understanding and appreciating of some, but by no means all, assets. Indeed, a nationally important asset does not necessarily have high sensitivity to changes to its setting (e.g., does not necessarily have a high relative sensitivity). An asset's relative sensitivity to alterations to its setting refers to its capacity to retain its ability to inform this and future generations in the face of changes to its setting. The ability of the setting to contribute to an understanding, appreciation and experience of the asset and its value also has a bearing on the sensitivity of that asset to changes to its setting. While all nationally important heritage assets are likely to be sensitive to direct impacts, not all will have a similar sensitivity to impacts on their setting; this would be true where setting does not appreciably contribute to their value or importance. Assets with high sensitivity to indirect settings impacts may be vulnerable to any changes that affect their settings, and even slight changes may reduce their information content or the ability of their settings to contribute to the understanding, appreciation and experience of them. Less sensitive assets will be able to accommodate greater changes to their settings without material reduction in their ability to inform and in spite of such changes the relationship between the asset and its setting will still be legible.

9.2.21 The criteria for establishing an asset's relative sensitivity is detailed in Table 9.4. This table has been developed based on AOC's professional judgement and experience in assessing setting impacts. It has been developed with reference to the policy and guidance noted above including SPP[30], SHEP[31], the Xi'an Declaration[32] Historic Scotland's guidance on the setting of heritage[33], and Lambrick's study[34].

Table 9.4 Criteria for establishing relative sensitivity

Relative sensitivity	*Criteria*
High	An asset whose setting contributes significantly to an observer's understanding, appreciation and experience of it should be thought of as having high sensitivity to changes to its setting. This is particularly relevant for assets whose setting, or elements thereof, contribute directly to their significance (e.g., form part of their Key or Contextual Characteristics[35]). For example, an asset which retains an overtly intended relationship with its setting and the surrounding landscape. These may in particular be, but are not limited to, assets such as ritual monuments which have constructed sightlines to and/or from them or structures intended to be visually dominant within a wide landscape area e.g., castles, tower houses, prominent forts etc. Setting is the way in which the surroundings of a historic asset or place contribute to how it is experienced, understood and appreciated[36]. Therefore, an asset, which relies heavily on its modern surroundings for its understanding, appreciation, and experience, is of high sensitivity. In particular an asset whose setting is an important factor in its protection and in retention of its cultural value (as per SPP[37] definition of setting).
Medium	An asset whose setting contributes moderately to an observer's understanding, appreciation, and experience of it should be thought of as having medium sensitivity to changes to its setting. This could be an asset for which setting makes a contribution to value but whereby its value is derived mainly from its other qualities[38]. This could for example include assets which had an overtly intended relationship with their setting and the surrounding landscape but where that relationship (and therefore the ability of the assets' surroundings to contribute to an understanding, appreciation, and experience of them) has been moderately compromised either by previous modern intrusion in their setting or the landscape or where the asset itself is in such a state of disrepair that the relationship cannot be fully understood. An asset, the current understanding, appreciation, and experience of which, relies partially on its modern aesthetic setting regardless of whether or not this was intended by the original constructors or users of the asset. An asset whose setting is a contributing factor to its protection and the retention of its cultural value.
Low	An asset whose setting makes some contribution to an observer's understanding, appreciation, and experience of it should generally be thought of as having low sensitivity to changes to its setting. This may be an asset for which an understanding of it is mainly derived from its other characteristics and whereby changes to its setting will not materially diminish our understanding, appreciation, and experience of it. This could for example include assets which had an overtly intended relationship with their setting and the surrounding landscape but where that relationship (and therefore the ability of the assets' surroundings to contribute to an understanding, appreciation, and experience of them) has been significantly compromised either by previous modern intrusion to its setting or the landscape or where the asset itself is in such a state of disrepair that the relationship cannot be determined.
Marginal	An asset whose setting makes minimal contribution to an observer's understanding, appreciation and experience of it should generally be thought of as having marginal sensitivity to changes to its setting. This may include assets for which the fundamental relationship with their surroundings has been lost, possibly having been compromised

by previous modern intrusion, but which still retain cultural value in their intrinsic and possibly wider contextual characteristics.

9.2.22 The determination of an asset's sensitivity to changes to its setting is first and foremost reliant upon the identification of its setting, including those elements that appreciably contribute to an understanding, appreciation, and experience of it. The criteria set out in Table 9.4 are intended as a guide. Assessment of individual assets is informed by knowledge of the asset itself; of the asset type if applicable and by site visits to establish the current setting of the assets. This allows for the use of professional judgement and each asset is assessed on an individual basis. It should be noted that individual assets may fall into a number of the sensitivity categories presented above, e.g., a country house may have a high sensitivity to alterations within its own landscaped park or garden, but its level of sensitivity to changes may be less when considered within the wider landscape context.

9.2.23 In establishing the relative sensitivity of an asset to changes to its setting, the setting must first be identified. Appendix 9.2 outlines the range of factors considered when establishing the setting of an asset and therefore determining sensitivity. These have been used as a guide in assessing each asset from known records and in the field.

Indirect magnitude of impact

9.2.24 The magnitude of indirect impact by the Consented Development is an assessment of the magnitude of changes to the setting of any given asset, in particular those elements of the setting that inform its cultural value. Table 9.5 outlines the main factors requiring consideration when assessing magnitude of indirect (setting) impact.

Table 9.5 Factors affecting magnitude of setting impact

Site details	***Importance***
1) Proximity to Consented Development (distance to nearest turbine)	Increasing distance of an asset from Consented Development will, in most cases, diminish the effects on its setting.
2) Visibility of development (based on ZTV model, site visits, photomontages, and wireframes where appropriate)	The number of turbines that will be intervisible with the asset and the height to which each turbine will be visible will directly affect the magnitude of impact on its setting. The proportion of the view from each asset which will feature turbines will also affect the magnitude of impact. The existence of features (e.g., tree belts, forestry, landscaping or built features) that could partially or wholly obscure the development from view will also affect the magnitude of impact.
3) Complexity of landscape	The more visually complex a landscape is, the less prominent the new development may appear within it. This is because where a landscape is visually complex the eye can be distracted by other features and will not focus exclusively on the new development. Visual complexity describes the presence, extent, character and scale of the existing built environment[39] and the extent to which there are various land types, land uses, and built features producing variety in the landscape and how the Consented Development compares to and fits in with this.

Table 9.5 Factors affecting magnitude of setting impact

Site details	*Importance*
4) Design of development.	This refers to the perceived scale of the proposed change relative to the scale of the historic asset or place and its setting. Depending on the individual asset, the design of the consented development could affect the perception of dominance or foci of a particular asset and its relationship with other cultural and natural features within the landscape.[40] For example whether the turbines would be seen against the skyline or against a backdrop of hills may affect the perception of the prominence of an asset and/or the Consented Development.

9.2.25 It is acknowledged that Table 9.5 primarily deals with visual factors affecting setting. While the importance of visual elements of settings, e.g., views, intervisibility, prominence etc., are clear, it is also acknowledged that there are other, non-visual factors which could potentially result in setting impacts. Such factors could be other sensory factors, e.g., noise or smell, or could be associative[41]. Where applicable, these are considered in coming to a conclusion about magnitude of impact.

9.2.26 Once the above has been considered, the prediction of magnitude of impact upon setting will be based upon the criteria set out in Table 9.6. In applying these criteria, particular consideration will be given to the relationship of the Consented Development to those elements of setting which have been defined as most important in contributing to the ability to understand, appreciate and experience the heritage assets and its value. Historic Scotland's guidance on setting indicates that adverse impacts upon the setting of a heritage asset will result from changes to that setting which would affect the ability to understand experience and appreciate an asset[42]. It notes a number of ways in which developments might impact upon the setting of heritage assets. Table 9.6, uses AOC's professional judgement and experience to set out a guide to establish the extent to which changes can compromise setting such that the ability to understand, appreciate and experience the asset in question and its cultural value is reduced.

Table 9.6 Criteria for establishing magnitude of setting impact

Relative Sensitivity	*Criteria*
High	Direct and substantial visual impact on a key sightline to or from a ritual monument or prominent fort; Direct and substantial visual impact on a key 'designed-in' view or vista from a Designed Landscape or Listed Building; Direct severance of the relationship between an asset and its setting; and An impact that changes the setting of an asset such that it threatens the protection[43] of the asset and the understanding of its cultural value.
Medium	Oblique visual impact on an axis adjacent to a key sightline to or from a ritual monument but where the key sightline of the monument is not obscured; Oblique visual impact on a key 'designed-in' view or vista from any Designed Landscape or Listed Building; Partial severance of the relationship between an asset and its setting; Notable alteration to the setting of an asset beyond those elements of the setting which directly contribute to the understanding of the cultural value of the asset; and An impact that changes the setting of an asset such that the understanding of the asset and its cultural value is marginally diminished.
Low	Peripheral visual impact on a key sightline to or from a ritual monument, designed landscape or building; Slight alteration to the setting of an asset beyond those elements of the setting which directly contribute to the understanding of the cultural value of the asset; and An impact that changes the setting of an asset, but where those changes do not materially affect an observer's ability to understand, appreciate and experience the asset.
Marginal	All other setting impacts
None	No setting impact anticipated

Level of indirect effect and significance

9.2.27 The significance of effect on the setting of cultural heritage assets is judged to be the interaction of the asset's sensitivity and the magnitude of the impact and also takes into consideration the importance of the asset as outlined in the tables above. In order to provide a level of consistency in the assessment of sensitivity, the prediction of magnitude of impact and the assessment of significance of impact will be guided by pre-defined criteria. A qualitative descriptive narrative is also provided for each asset to summarise and explain each of the professional value judgements that have been made. The interactions determining significance of effect on settings of the assets in question by the Consented Development is shown in Table 9.7.

Table 9.7: Criteria for establishing level of indirect (setting) effect

	Relative sensitivity			
Magnitude of impact	***Marginal***	***Low***	***Medium***	***High***
High	Minor	Minor-moderate	Moderate	Major
Moderate	Negligible	Minor	Minor-moderate	Moderate
Low	Negligible	Negligible	Minor	Minor-moderate
Marginal	No effect	No effect	Negligible	Minor
None	No effect	No effect	No effect	No effect
The impacts recorded in grey highlighted cells are considered to be 'significant' [44]				

Requirements for mitigation

9.2.28 The Consented Development has been designed where possible to avoid direct impacts upon known heritage features through careful siting of infrastructure. Where possible, impacts upon the setting of heritage assets have been avoided or minimised during the iterative design process. Where impacts cannot be entirely avoided, the assessment will make further suggestions for minimising impacts. Where this is not possible, the potential to offset impacts will be identified in line with EIA Guidelines[45] and PAN1/2013[46].

Assessment of residual effects

9.2.29 An assessment of residual effects will be undertaken for those assets where a potential effect of minor significance or greater from the Consented Development has been identified. This will be undertaken in a similar manner to the assessment of potential effects and will take into consideration proposed mitigation measures.

Assessment of cumulative effects

9.2.30 The assessment of cumulative effects is undertaken in a similar manner to that of the operational effects but takes into consideration other operational, consented or application developments. Developments within scoping are not considered. Cumulative effects relating to cultural heritage are for the most part limited to indirect effects upon the settings of heritage assets.

9.2.31 Those heritage assets which have been included in the detailed setting assessment, under operational effects for the Consented Development, will also be considered when assessing the potential for cumulative effects. However, only those assets which were judged to have the potential to be subject to significant cumulative effects have been included in the detailed cumulative assessment. In assessing cumulative effects all operational, consented and application schemes within 35km of the Consented Development have been considered. While all have been considered, only those which contribute to, or have the possibility to contribute to, cumulative effects on specific heritage assets are discussed in detail in the text.

9.2.32 As there are no specific guidelines with regard to undertaking cumulative assessment for heritage assets, this assessment has been guided by the SNH document 'Assessing the Cumulative Impact of Onshore Wind Energy Developments'[47]. Following the criteria for assessing setting impacts as set out in Table 9.6, the assessment of cumulative effects considers whether there would be an increased impact upon the setting of heritage assets as a result of adding the Consented Development to a baseline, which may include operational, consented or application developments.

Assessment of decommissioning effects

9.2.33 Impacts on cultural heritage arising from the process of decommissioning have been scoped out of this assessment. An assessment of the cultural heritage impacts of decommissioning the Consented Development has not been undertaken as part of the EIA because: (i) the future baseline conditions (environmental and other developments) cannot be predicted accurately at this stage; (ii) the detailed proposals for decommissioning are not known at this stage, and (iii) the best practice decommissioning guidance methods will likely change during the lifetime of the Consented Development and so cannot be predicted at this stage. Nevertheless, the Applicant commits to an additional consultation with the statutory regulators one year in advance of the year of decommissioning and to implement best practice decommissioning methods at the time of decommissioning.

9.3 Baseline

Context

9.3.1 As described in Chapter 3, the Study Area is currently largely occupied by open rolling moorland with minor summits including Beaw Field at c. 120mAOD, Mossy Hill at 100mAOD and Atli's Hill at 127mAOD. Several watercourses cross the area, including Burn of Hamnavoe, Burn of Evra Water and Green Burn. Large water bodies within the Study Area include Evra Water, Litla Water and Horse Water. There are also numerous unnamed smaller lochans. Historic map and aerial photographic evidence indicates that the Study Area has remained undeveloped and entirely covered by open moorland, with extensive peat cutting and smaller areas of quarrying throughout the 19th and 20th centuries.

Prehistoric (pre-AD43)

9.3.2 Prior to the walkover survey a single heritage feature of prehistoric date was known at Markna Geo (Site 69) on the eastern boundary of the Study Area where a small cairn comprising an amorphous scatter of stone c.4m across with four upright stones protruding is recorded[48]. 19th century records document these stones as marking the graves of shipwrecked mariners[49].

9.3.3 Walkover survey undertaken as part of this assessment has identified a number of additional features of probable prehistoric date within the Study Area. These include four possible cairn features (Sites 109, 110, 111 and 132). Although, as discussed above, the date and nature of these features cannot be ascertained without further investigation, the location of these possible cairn features within the Study Area is consistent with locations of cairn features across Shetland, with all four being located on locally prominent knolls or local summits but not on the highest piece of immediately local ground[50]. In addition to the possible cairn features noted above, a further three small mounds of some antiquity were recorded during the walkover survey, these that may be representative of clearance or small burial cairns of possible prehistoric date (Sites 128, 129 and 136).

9.3.4 The remains of a possible prehistoric feature also identified during the walkover survey are located in the Alin Knowes area (Site 93). This feature is oval in shape with an apparent entrance in its northeast side. The walls survive as low banks of earth and stone and in this respect are similar to prehistoric house features recorded elsewhere in Shetland[51] [52] [53] [54]. The extent of peat growth around the feature and its generally denuded form prevents more certain interpretation of the type of structure without further investigation and survey. The remains of a stone and turf built sheepfold on the eastern bank of the Burn of Hamnavoe (Site 50), while clearly in use in more recent times, also has the potential to be prehistoric in origin. An oval feature eroding from the peat was recorded on the Hill of Neepaback (Site 131) and may be prehistoric. The remains of two possible prehistoric dykes (Site 88 and 116) were also identified within the Study Area. There is a possibility that such dykes may mask a prehistoric palaeolandscape, as is evidenced elsewhere in Shetland[55].

9.3.5 Within 5km of the Study Area, a possible oval stone house associated with stone tools and pottery was exposed following a landslide at the cliff at Gossabrough (Site 61). A stone axe was found at Arisdale (Site 28) and another at Ulsta (Site 55). A cairn of unknown date is recorded at Ward of Otterswick (Site 19), north of the Study Area.

9.3.6 The unscheduled remains of a prehistoric chambered cairn (Site 23) were discovered at Houlland south of the Study Area[56]. A number of other cairns are also located in the vicinity of the Study Area and include chambered cairns at Littlester (Site 20) and Hamnavoe (Site 23) and heel-shaped cairns at Heoga Ness (Site 60) and Upper Neapabeck (Site 66). A round cairn contained by a kerb of large stones and a possible inner kerb is located at the southern extent of Heoga Ness (Site 59).

9.3.7 A stone row, consisting of five stones set on end[57] is recorded at Aiths Hamar (Site 68) and the base of a standing stone (Site 62) is recorded at Kettlester. A possible souterrain has been identified at Hellia Dale (Site 72) and a prehistoric dyke is located west of Burravoe[58] (Site 74). The amorphous scattered remains of an island broch linked by a causeway to the mainland are recorded close to the southern boundary of the Study Area on the Loch of Kettlester (Site 2). Although the date of this particular monument is unknown, brochs are typically of Iron Age date.

9.3.8 The broch at Burravoe (Site 41), south of the Study Area, survives as a prominent turf-covered mound with traces of wall visible on the west side. The Scheduled remains of a broch comprising a grassy mound with traces of stone walls and ramparts occupy a small island known as Wester Wick of Copister (Site 37) south of the Study Area. The broch was evidently subject to significant destruction in the 19th century when William Pole of Delting is recorded as having floated stones of the broch across from Yell to Burraness as part of a building project[59]. The remains of a prominent broch mound at Ness of Gossabrough (Site 45) are surrounded on the north-east side by earthwork remains indicative of extensive associated ancillary structures.

9.3.9 The Snuti (Site 47), which is located north-east of the Study Area, has been classified as a promontory fort because of three unusually large earthen ramparts located across the neck of the promontory. However, it has been suggested that the structure at the seaward end may be the remains of a broch, although its character cannot be confirmed without excavation and it might represent another type of later prehistoric structure, such as a block house. The name ‘brough’ is commonly thought to be indicative of a broch site[60]. Brochs are recorded at the Head of Brough (Site 46) and also incorporated into the Snuti fort at Brough of Stoal (Site 47). It is thus also possible that the ‘Old Hall of Brough’ (Site 38), currently occupied by an 18th century structure, marks the site of a broch.

9.3.10 There are three further Scheduled brochs located between 5km and 10km of the Study Area. South-west of the Study Area the remains of an Iron Age broch are located on the north-facing coast of the

Mainland at Fugla Ness (Site 83), associated with the remains of building foundations of possible contemporary date. The brochs at Windhouse (Site 147), north of the Study Area, and Infield (Site 150), south of the Study Area, are also associated with contemporary structural remains.

9.3.11 A burnt mound (Site 3) standing up to 2m high is located at Roseville, Burravoe, south of the Study Area, and the Scheduled remains of two substantial burnt mounds are located at Auchensalt (Site 148) and Norden (Site 149) on the Mainland. All three of these burnt mounds lie close to water sources and are crescent-shaped mounds constructed of heaps of burnt and fire-cracked stone. Although burnt mounds often occur as isolated features elsewhere in Scotland, burnt mounds in Shetland often occur in association with contemporary settlement remains. The three examples noted here are large features and are likely to date between 2000BC and 1000BC[61].

9.3.12 Known prehistoric remains recorded within 5km of the Study Area and the possible prehistoric features recorded as part of this assessment thus show a concentration of features located close to the coast around the margins of existing settlement and along water courses.

Early historic and early medieval (AD43-1000)

9.3.13 There are no known heritage features of early historic or early medieval date within the Study Area. The site of a mound located near Hamnavoe Burn (Site 27), south of the Study Area, is thought to have been a traditional Norse grave site; the exact location of this mound is now unknown[62]. The remains of a possible monastic settlement occupying a promontory are recorded at Birrier (Site 152), north of the Study Area. East of the Study Area, medieval pottery was recovered from Sand of Gossabrough (Site 56); undated pottery was recovered from nearby at the Wick of Gossabrough (Site 53)[63].

Late medieval (AD1000-1560)

9.3.14 A medieval church was located at Copister (Site 70), south-east of the Study Area. A medieval crucifix grave marker was ploughed up to the east of the site of the church and north of the post-medieval house at Nettlehaa in the 1980s[64]. Within 10km of the Study Area the remains of a small chapel, burial ground and two burial aisles are located at Reafirth (Site 153). Two tombstones suggest that the aisles were built during the 1690s and that the chapel was an earlier structure. Reafirth is one of 22 medieval chapel sites in Yell[65].

Post-medieval (AD1560-1900)

9.3.15 Historic pre-Ordnance Survey (OS) maps of Yell tend to be schematic and lack detail and are thus of limited use. Yell is recorded in Joan Blaeu's Atlas of Scotland of 1654, which although largely schematic, records the settlements of Burravoe or 'Burraw' and Hamnavoe or 'Hamnaw' on the coast and two unnamed lochs within the interior. It is likely that these represent the Lochs of Littlester and Kettlester, south of the Study Area. Various estate maps and documents dating from the 18th and 19th centuries are held within the Shetland and National Archives[66]. These relate to the coastal settlements south of the Study Area and provide little detail about land-use within the centre of the Study Area where development is proposed. As the largest area of moorland in Shetland, Yell was suited to transhumance (summer grazing on hill pastures for milking) but this practice was abandoned before 1600. Tait[67] notes that the Arisdale Valley, the eastern part of which lies within the Study Area, is likely to have contained the best evidence for shielings and transhumance activity but that this has since been removed by agricultural activity.

9.3.16 17th, 18th and 19th century accounts and archive documents relating to Yell frequently also record observations and details of the settlements around the Study Area including Burravoe, Hamnavoe and Gossabrough, but very little is recorded regarding the Study Area itself. There is a description of the scattald marches of Yell[68] by Gilbert Neven, bailie of Yell, which were surveyed by him in the spring of 1667[69], accompanied by a number of witnesses included David Spence of Houlland, Robert Pelinson of Hamnavoe and John Sinclair of Gossabrough: the Study Area was evidently part of the scattald of 'Nipoback' (Neepaback).

9.3.17 The 1791-99 Statistical Account of the Parish of South Yell[70] mentions very little regarding the nature of land use in the parish and its author, the Reverend Andrew Dishington, was clearly disillusioned with his post as evidenced by a letter dated 1779 complaining of '*the barbarous face of this barren land'.*

9.3.18 In a description of an area of free scattald immediately north of the Study Area known as Willa-mina Hoga, Ballantyne[71] makes reference to 'crues' along the Burn of Arisdale within the Nipoback scattald, which presumably refer to Sites 48 and 49, plantiecrubs identified along the Burn of Arisdale from historic mapping. Ballantyne also references possible old foundation stones of a former building on the level ground south of the junction of the burns of Arisdale and Sundrabister, which coincides with the position of Site 21 north of the Study Area, which is recorded in the SMR as being indicative of a structure. The Pund of Sundrabister was one of the boundary points of the scattald of Nipoback[72]. Various mid-19th century archive documents[73] make reference to petitions against Robert Bruce of Burravoe and his attempts to enclose the scattald. A map of land immediately south of the Study Area, dated 1829[74], shows land in the west of the settlement of Houlland belonging to William Mouat whereas that in the east is shown belonging to Robert Bruce of Burravoe. A plan dated 1833 shows the division of the scattald of Nipoback[75]. Various 19th century writers[76] [77] note the quality of the fishing harbours at Burravoe and Hamnavoe and writing in 1882, Hibbert[78] describes the shore of Hamnavoe, south of the Study Area, as being whitened by the numerous bone of the Ca'ing whale.

9.3.19 Although largely located outwith the apparent coastal concentration of settlement, there are a number of remains within the Study Area that attest to its use and settlement in the post-medieval period. For example, the remains of the structures that were part of the township of Houlland recorded in the south of the Study Area during the walkover survey form one of a number of similar abandoned late post-medieval occupation sites in South Yell and have the potential to provide evidence for the nature of post-medieval settlement in and around the Study Area. The remains of two house structures (Sites 142 and 143) and a plantiecrub (Site 144) were recorded on the OS map of 1882 (Site 4) as unroofed and were thus evidently already out of use by the late 19th century. The nearby Site 13, also within the Study Area, includes a complex of ruined buildings adjacent to the Burn of Hamanavoe, some of these are upstanding and others can only be seen as ephemeral earthworks on aerial photographs.

9.3.20 Sites 9-12 in the south of the Study Area comprise a linear sequence of four horizontal mills, positioned along a stretch of the Burn of Evra Water, which at this point is annotated 'Mill Burn' on the OS map of 1882. Four individual mills were built here, and all survive as upstanding remains. The average size of each mill is approximately 5m long by 4m wide and most still stand between 1.5m and 2m high at their gable ends. The walls are primarily rubble-built with stone lintels, but some may have had turf wall-heads. A typical mill would have included a small building containing a lower room (or chamber) where running water was channelled to apply force to a horizontally-rotating paddle wheel. The wheel in turn was connected to a vertical axle and two millstones housed in the upper chamber. This mill belonged to the now abandoned crofting township around Hamnavoe, the ruins of which overlook Houlland. This simple design meant that multiple mills could be built on a length of stream, with a family or small partnership each owning their own mill. Horizontal mills are also recorded at Sites 5, 34, 65 and 115.

Whilst many of the post-medieval farm buildings in Hamnavoe and Houlland have been in use and occupied in living memory, the horizontal mill structures have long since been abandoned and date to the post-medieval period although in some cases they may be earlier (the excavated early medieval watermill at Orphir Orkney closely resembles 19th century Shetland examples[79]). Horizontal mills appear to have been most commonly in use in Shetland in the late 18th and 19th centuries although some remained in use in the early 20th century[80].

9.3.21 Large-scale (25 inch) OS maps are not available for the Study Area as it was located outwith the inhabited areas which were targeted for detailed survey in the 19th century. Sheepfolds are recorded on OS mapping from 1882 (Figure 9.5) within the Study Area at Canis Dale (Site 51) and adjacent to the Aris Dale Burn, which forms the western boundary of the Study Area (Sites 48 and 49). A sheepfold is also annotated on the east side of the Burn of Hamnavoe (Site 50). Although evidently in later use as a sheepfold, as indicated by a modern concrete structure to its south, the walls of this structure are partially buried beneath peat and turf and its form and size are indicative of an earlier house structure.

9.3.22 Unroofed structures outwith the Study Area representing the remains of individual settlements and farmsteads are known, either from depiction on the 1882 OS map (Sites 14, 15, 16, 17, 18, 26, 29, 30, 31, 32, 33, 35 and 36), or from other sources (Site 22); some of these structures have been omitted from later maps. Although the origins of these settlements are unknown, it is likely that they represent later medieval or post-medieval settlement. A number of dykes may also date to the post-medieval period (Sites 22, 63 & 67) though it is possible they are earlier in date. A field boundary running from Gossabrough in the north to meet the line of the B9081 at Burgalstou in the south is shown dissecting the Study Area across The Heogals on OS maps from 1882 (Figure 9.5). This boundary is not shown on later mapping of 1903 (Figure 9.6) and could not be traced during the walkover survey as the area has since been disturbed by peat cutting and small access tracks. Writing in 1874, Cowie[81] makes reference to the division of lands in Yell using wire fencing. Given the absence of this boundary on aerial photographs and later mapping, it is possible that the boundary shown marks the line of a wire and post fence later removed. Other than the absence of this field boundary, the 1903 map shows no changes within the Study Area.

9.3.23 The settlement of Houlland (Site 7), clustered on the lower slopes of Hamars of Houlland overlooking Hamna Voe, includes field systems and enclosures alongside the remains of structures of earlier dwellings which extend north to the upper slopes towards the head dyke that forms the southern boundary of the Study Area and demarcated the 'in-bye'[a] land from the hill and moorland to the north. The settlement now consists of a cluster of five houses with associated outbuildings but was once substantially bigger, with 15 occupied houses in the early 20th century[82].

9.3.24 Walkover surveys undertaken within the south of the Study Area as part of this assessment recorded 15 plantiecrubs[b] aligned northwest to southeast along the Hamars of Houlland. Each house in the settlement of Houlland owned or had rights of tenancy to one of the 15 plantiecrubs on the Hamars of Houlland to the north of the settlement; occasionally plantiecrubs were sold or rented to neighbouring crofts. The plantiecrubs were used for growing kale and cabbages and were a vital resource for providing crops and animal feed over the winter; most were in use until c.50 years ago[83]. Although well

[a] 'In-bye' is that part of the farm which is used mainly for arable and grassland production and which is not hill and rough grazings it typically has fields that are bounded by a fence, a dyke or a hedge

[b] A plantiecrub' or 'krobb' is a circular or rectilinear stone or turf built feature of post-medieval date constructed to shelter kale which provided sheep fodder. These structures are typically 1.3-1.5m high and constructed without a break in the wall (for further detail see Tait 2012; 440-447)

documented as structures of probable 18th or 19th century date, the presence of plantiecrubs may be suggestive of earlier structures and/or settlement because the structures will have been placed on small patches of good soil[84] and were often sited adjacent to or on sites with availability or rubble from prehistoric ruins[85]. Instances of re-use of stone from older monuments to construct plantiecrubs are documented frequently within 5km of the Study Area. For example, the nearby broch at the Loch of Kettlester (Site 2), where large quantities of stone from the broch have been used to construct plantiecrubs in the centre of the island. Other plantiecrubs recorded within 5km of the Study Area include those at Sites 1, 73, 75 & 76.

9.3.25 The remains of a possible post-medieval house structure were recorded during the walkover survey at Canis Dale (Site 30). Described in a local publication as a "small house", folklore records the last resident of this house as a bachelor who was murdered in Canis Dale by a jealous husband[86]. The west part of the Study Area, which includes Canis Dale, was an area which up to the beginning of the 20th century was used to gather 'floss', rushes which were used for making ropes[87].

9.3.26 In addition to the unroofed remains of structures, there are numerous standing occupied buildings dating to the post-medieval period within 5km of the Study Area. The Category B Listed Lairds House at Brough (Site 38) dates to 1672. Although the current Category B Listed church structure of Magnus Kirk (Site 8) dates to 1838, it replaced an earlier structure on the site, evidenced by an archive document dating to 1779 providing estimates for the repair of a Kirk at Hamnavoe[88]. The Category C Listed Manor House of Burravoe (Site 39) dates to 1860, and St Colman's Episcopal Church (Site 40) dates to 1898. The Category C Listed 19th century Pier House at Ulsta (Site 43), still in use, is a rare surviving example of a once common 19th century focus at a Shetland Pier. The Category C Listed former booth, pier and shop at Burravoe (Site 52), also dating to the 19th century, are now out of use and in a state of disrepair.

Modern (AD1900-present)

9.3.27 Modern features within the Study Area include the site of a former building recorded on aerial photographs from 1967, and the former Scottish Water Facilities building at Beaw Field. Additional sheepfolds (Sites 81 & 83-84) and a tank structure on Beaw Field (Site 85) to the east of the Burn of Hamnavoe are recorded on later mapping. A number of small quarries and/or gravel pits recorded from mapping and aerial photographs also continued in use into the modern period.

9.3.28 Modern features within 5km of the Study Area include the site of a plane crash at Hill of Arisdale (Site 54). A Catalina aircraft crashed in 1942 as a result of engine failure and bad weather[89]. The Telephone Call Box (Site 42) at Burravoe Pier is a Category B Listed Building.

Aerial photographic evidence

9.3.29 A review of aerial photographs held by the Royal Commission for Ancient and Historic Monuments of Scotland (RCAHMS), dating from 1948 to 1988, was undertaken to inform this assessment. The imagery of the Study Area and its immediately surrounding area shows an open moorland landscape, with abundant evidence for post-medieval crofting around the coastal fringes. Quality of the images varies, with cloud cover obscuring much of the west of the Study Area on photographs from 1946 and 1967.

9.3.30 Evidence for modern agriculture within the Study Area includes imagery from 1946 which indicates that the south of the Study Area was utilised for peat cutting[90]. The aerial photography also indicates a large number of natural runoff channels, some of which may have been straightened and utilised for drainage.

9.3.31 There are several roads and tracks visible in the vicinity of the Study Area in images from 1946, mainly connecting what appear to be areas of small quarrying and peat cutting. Aerial photographs from 1946[91] and 1967[92] shows the number of small tracks running north/south towards Horse Water in the vicinity of Sites 130 and 131 to be greater than their current and historically mapped extents, suggesting the temporary construction and use of short access tracks to small quarries and peat cutting in this area throughout the 20th century.

9.3.32 Aerial photography from 1967[93] and 1989[94] shows an increase in the number of short access tracks within the Study Area in the vicinity of The Heogals. Identified circular features are probable plantiecrubs and include a line of circular enclosures in the Hamars of Houlland area (Sites 95-106 and 144-145)[95] as well as two circular features (Sites 81 and 119) on the southern boundary of the Study area at Heights of Ramanago. A gravel pit (Site 79) is shown on the east side of the B9081 road. Sheepfolds were noted at Sites 81, 83 & 84 as well as modern structures at Moss Houll (Site 82) and Beaw Field (Site 85). A rectangular ditch feature (Site 80) was identified abutting the B9081 road and a rectangular structure was identified at Moss Houll (Site 82). A sub-rectangular structure (151) was identified on the south-east boundary of the Study Area at Long-Hevda on aerial photographs from 1967[96]

Walkover survey

9.3.33 The Study Area was visited briefly on 22nd June 2015 in order to confirm ground conditions in advance of a meeting with Shetland Amenity Trust on 23rd June 2015. A walkover survey of the Study Area was undertaken from 24th to 27th June 2015. The weather on the 24th and 25th was fine and dry with excellent visibility. Weather on 26th June was overcast with clear visibility with the exception of a period between approximately 2.30pm and 5.00pm when fine rain decreased visibility and transects were accordingly spaced at a distance of 10m. The weather on 27th June was wet with limited visibility in the morning, with conditions and visibility improving and becoming dry but overcast in the afternoon. The area surveyed was limited to areas of proposed infrastructure and also included an area of land west of Swarta Shun, which was subsequently removed from the Study Area at the design stage. The route of the survey was mapped and measured using a Trimble Geo XR. Transects were spaced roughly 20m apart. The measured transects covered a total distance of 130 linear kilometers. A total of 58 previously unrecorded features were identified and recorded during the walkover survey. Each feature is described briefly below and described in detail in the Site Gazetteer in Appendix 9.1 and shown on Figures 9.1 and 9.2.

9.3.34 The remains of a possible prehistoric dyke (Site 88; Appendix 9.3 Plate 1) were recorded running southwest to northeast from the south boundary of the Study Area at Hamnavoe, towards the summit of Beaw Field (ending c.50 m short of the summit). The dyke was visible as a low earthwork bank with occasional stones protruding from the turf. The alignment of the dyke differs from other visible field boundaries, indicating that it pre-dates the current field system. A short linear feature (Site 130; Appendix 9.3 Plate 2) was recorded at Neepaback in the southeast of the Study Area. Visible as a line of large stones protruding from beneath the peat, it is possible that this feature forms part of a more extensive land boundary now buried beneath the peat. However, a greater number of tracks than are now currently present on site was noted on aerial photographs from 1946[97] so it is more likely perhaps that this feature relates to construction of access tracks in this part of the Study Area in the mid-20th Century. The remains of a wall/field boundary (Site 116; Appendix 9.3 Plate 3) were also recorded running northwest to southeast across the Hamars of Houlland following the alignment of 15 plantiecrubs across the hill. Although probably related to the construction and use of the plantiecrubs, the boundary is reduced to a single course of stones in most places (Appendix 9.3 Plate 4) and is frequently only traceable as a low bank, indicating that it fell out of use before the plantiecrubs. There

is a possibility therefore that the wall pre-dates the construction of the plantiecrubs and it is possible that some of the plantiecrubs have been constructed/maintained from stones robbed from the wall.

9.3.35 At the summit of the Hamars of Houlland (Site 109; Appendix 9.3 Plate 5) is a small walkers'/indicator cairn of rubble construction. The cairn has been constructed from small stones and placed at the summit of a grassy mound. Whilst the rubble cairn itself is of no antiquity, having been constructed within living memory[98], the grassy mound upon which it is located features a number of possible kerb stones about its base as well as numerous stones partially buried beneath the peat. It is clearly of some antiquity and may be a prehistoric burial cairn. The location of this cairn upon the summit of a hill affords it views across the landscape to the cairn on the summit of Arisdale and across Yell Sound to the Crooksetter Cairns on the Mainland (Sites 146 and 154).

9.3.36 A possible chambered burial cairn was recorded at Long Hevda (Site 132; Appendix 9.3 Plate 6) in the east of the Study Area. The cairn is set on a natural rise in the local landform in an area of natural stone outcrop and comprises a mound of small stones, the centre of which contains a possible small rectangular chamber measuring c. 1.5m north/south by 1m east/west not dissimilar in size to the chamber of the cairn on Ronas Hill[99]. The cairn is roughly round in form but its denuded nature prevents certain interpretation of the type of structure without further investigation and survey. In general, the tumble of stones from a heel-shaped or square cairn will approximate to a circular mass over time[100], and as such this mound of tumbled stones may represent a denuded example of a more distinct form.

9.3.37 Located south of the summit at Hamars of Houlland, and partially buried beneath a pile of modern dumping, are the remains of a possible prehistoric cairn feature (Site 110; Appendix 9.3 Plate 7). The feature is sub-oval and mounded in form, measuring 2m by 2.5m and 0.5m in height, with possible kerb stones protruding from beneath the turf. Although partially obscured by wooden pallets, the mounded nature of this feature is consistent with that of a small clearance or burial cairn and the possibility that it is of prehistoric date cannot thus be discounted.

9.3.38 Located on a rocky plateau overlooking Hamna Voe are the remains of another possible prehistoric cairn feature (Site 111; Appendix 9.3 Plate 8). The feature consists of ten orthostats protruding from a roughly circular mound which measures c.4m in diameter and c.0.3m high. Surrounding the mound is a larger, roughly circular, mounded area approximately 12m in diameter from within which a number of smaller stones can be seen protruding. The placement of this feature upon the plateau affords it panoramic views across the landscape, including towards the nearby previously described possible contemporary features at Sites 109 and 110, as well as the more distant cairn on the Hill of Arisdale and the Crooksetter cairns (Sites 146 and 154) on the Mainland.

9.3.39 A sub-oval mounded feature (Site 129; Appendix 9.3 Plate 9) measuring 2.5m by 1.5m, outlined by stones protruding from the peat, was recorded in an area of rough grass and heather moorland at Neepaback in the southeast of the Study Area. Although much denuded and partially buried beneath peat, the mounded form is indicative that this may be a prehistoric cairn. Two mounds (Sites 128; Appendix 9.3 Plate 33 and Site 131: Appendix 9.3 Plate 10) are located at Neepaback in the southeast of the Study Area. Of indeterminate form and date, it is possible that these mound features are of prehistoric date. However, given their proximity to access tracks in an area once populated with a greater number of tracks as observed on aerial photographs[101], it is perhaps more likely that they relate to uplift from the construction of tracks in the early 20th century. Another possible prehistoric feature located on the south-facing slope of the Hamars of Houlland at Site 136 (Appendix 9.3; Plate 11) is almost entirely buried beneath peat. It is sub-rectangular in form and only a single course of stones is visible above the peat.

9.3.40 The remains of a possible prehistoric house were recorded in heather moorland at Alin Knowes (Site 93: Appendix 9.3 Plate 12). The house feature measured 3.5m north to south by 1.5m east to west, with two upright othostats marking a possible entrance in the northeast side. Kerb stones were visible along the east and west sides. A sheepfold, marked on 19th century OS maps (Figure 9.5) on the east bank of the Burn of Hamnavoe (Site 50; Appendix 9.3 Plate 13), although in use in the modern period as evidenced by a concrete addition to its south side, is of drystone and turf construction with a central dividing wall. The shape of the structure is irregular and its walls are partially buried beneath the turf, indicating that it may be of some antiquity.

9.3.41 A linear sequence of 15 plantiecrubs (Sites 94-106, 144-145: Appendix 9.3 Plate 3) was recorded positioned along a 700m stretch of the hill of Hamars of Houlland. The remains of a possible 16th plantiecrub was recorded at Site 108 as a sub-circular feature of tumbled stones. The plantiecrubs vary between sub-circular and sub-oval in shape with most measuring between 3.5 and 4m in diameter. Most survive in good condition to an average height of around 0.5m or eight courses high, with some surviving up to 1.3m. Two plantiecrubs were recorded adjacent to the shore of Evra Water (Sites 90-91; Appendix 9.3 Plate 14). A circular plantiecrub, surviving to full height with capping stones along half of its upper walls, was recorded east of a rough access track at Alin Knowes (Appendix 9.3 Site 92; Plate 15). Circular plantiecrubs were also recorded along the Burn of Hamnavoe at Sites 84 and 87 (Appendix 9.3 Plate 16). A square plantiecrub (Site 86; Appendix 9.3 Plate 17) was recorded adjacent to the southwest boundary of the Study Area at Leidons of Hamnavoe. The presence of plantiecrubs in areas located some distance (up to 1.5km) from nearby settlement is indicative of the existence of patches of good soil too small to turn into a full holding but which were nevertheless useful to crofters[102]. Although plantiecrub structures themselves are likely to be of 18th or 19th century construction, they are often constructed from building stone found nearby and may obscure and/or incorporate earlier features[103].

9.3.42 The remains of two plantiecrubs (Sites 121 and 123) and the probable site of a third (Site 124) were recorded close to an access track west of Swarta Shun in an area now outwith the Site. Also recorded within this area were four mounds of turf covered stones (Site 117, 118, 120 and 125) possibly related to access track construction or small-scale quarrying. The remains of a sub-oval turf and stone feature (Site 122) within this area may also be related to track construction but its form and the fact that its stones are buried beneath the turf are indicative that it may be of some antiquity.

9.3.43 A number of features relating to post-medieval settlement were recorded at the Gardins of Houlland in the south of the Study Area. These included a square turf structure (Site 112; Appendix 9.3 Plate 18) with stone visible at the northeast corner; a sub-rectangular unroofed stone structure with traces of an interior partition wall (Site 113; Appendix 9.3 Plate 19); a square plantiecrub (Site 114; Appendix 9.3 Plate 20) and the remains of a horizontal mill (Site 115; Appendix 9.3 Plate 21).

9.3.44 The remains of a rectangular stone unroofed structure were recorded at Hamars of Houlland (Site 135; Appendix 9.3 Plate 22) adjacent to the access track to a modern quarry. The building survives to an average of eight courses high. Also related to the settlement are the remains of a house structure (Site 142; Appendix 9.3 Plate 23), measuring 3.5m by 8m, now unroofed but surviving to full height at its southern gable end. Traces of an internal partition wall were also recorded. A sub-rectangular unroofed structure (Site 143; Appendix 9.3 Plate 24) and a circular plantiecrub (Site 144; Appendix 9.3 Plate 25) were also recorded in this area. All of these structures relate to the post-medieval settlement of Houlland and are recorded on 19th Century OS maps (see Site 4).

9.3.45 Stone-built remains of a sheepfold were recorded at Site 89 (Appendix 9.3 Plate 26) in an area of rough pasture north of Hamnavoe. A large stone-built square pasture pen or kwi was recorded at Canis Dale (Site 51; Appendix 9.3 Plate 27). It is sited on a bend in the stream with a revetment to protect it from undermining when the stream is in spate[104]. A large stone-built circular sheepfold, still in use, was recorded on the east shore of the loch of Neepaback (Site 127; Appendix 9.3 Plate 28). Also on the east shore of the loch were the remains of a small rectangular turf structure constructed of peats and turves and overgrown with grass (Site 126; Appendix 9.3 Plate 29). A drystone circular sheepfold (Site 133; Appendix 9.3 Plate 30), with entrances in the east and west sides, is located on the north side of the Loch of Kettlester.

9.3.46 The 19th century tracks seen either side of the B9081 on the First Edition OS map of 1882 (Figure 9.5) are still utilised and maintained today and are part of a large network of gravel tracks that cross the moorland and provide access to peat cuttings. Small modern quarries located at the sides of these tracks demonstrate their continued maintenance. Larger quarry scoops, previously noted on aerial photographs adjacent to the B9081 (Sites 79 and 80), were recorded as large depressions. The line of a field boundary (Site 158) noted on the 1882 map could not be located within an area much overgrown by peat and disturbed by peat cutting.

9.3.47 Five quarry scoops (Sites 137-141; Appendix 9.3 Plate 31) were identified in the south of the Study Area in the vicinity of the Hamars of Houlland and on the north side of an access track; they presumably relate to its construction. A quarry scoop (Site 134; Plate 32) was recorded on the west side of the B9081 at Moss Houll.

9.3.48 A linear feature visible variously as a slight depression or change in vegetation from heather to grassland was recorded crossing the Site from southwest to northeast. It is marked with concrete posts spaced at intervals along its length and marks the route of installation of a new water main by Scottish Water. The site of a former building noted on aerial photographs from 1963 at Moss Houll was found to be located in an area of general dumping.

9.3.49 The walkover survey has thus demonstrated that there is a potential for discovery of further archaeological remains within the Study Area and has revealed a pattern of distribution of settlement and archaeological features. As shown on Figures 9.1 and 9.2, archaeological features within the Study Area are clustered in the south of the Site, close to the coast, and within the valleys of the burn systems that cross the Site. The use of relatively massive angular stone blocks in archaeological monuments throughout Shetland makes it difficult to attribute the features identified during the walkover survey unequivocally to one type or another and thus types attributed here must be treated with caution.

Archaeological and cultural heritage importance

9.3.50 A total of 73 cultural heritage features have been identified within the Study Area. The Cultural Heritage Importance of the heritage features known within the Study Area has been classified according to the method shown in Table 9.1 and the results are shown in Table 9.8 below.

Table 9.8 Archaeological and cultural heritage importance of features within study area

Site No	*Name*	*Description*	*Importance*
4	Hamars of Houlland	Structure	Local
5	Burn of the Gardins	Mill, structures	Local
6	Burn of the Gardins	Structures	Local
9	Hamnavoe	Horizontal Mill	Local
10	Hamnavoe	Horizontal Mill	Local
11	Hamnavoe	Horizontal Mill	Local
12	Hamnavoe	Horizontal Mill	Local
13	Burn of Hamnavoe	Structures	Local
48	Burn of Arisdale	Sheepfold	Local
49	Burn of Arisdale	Sheepfold	Local
50	Burn of Hamnavoe	Sheepfold/house	Regional
51	Burn of Hamnavoe	Sheepfold	Local
69	Markna Geo	Cairn	Regional
79	Moss Houll	Gravel Pit	Negligible
80	Sukka Mires	Ditch/quarry scoop	Negligible
81	Neepaback	Plantiecrub	Local
82	Moss Houll	Modern structure	Negligible
84	Burn of Hamnavoe	Plantiecrub	Local-Regional
85	Beaw Field	Modern structure	Negligible
86	Hamnavoe	Plantiecrub	Local-Regional
87	Burn of Hamnavoe	Plantiecrub	Local-Regional
88	Hamnavoe	Field boundary	Regional
89	Hamnavoe	Plantiecrub	Local-Regional
90	Evra Water	Plantiecrub	Local-Regional
91	Evra Water	Plantiecrub	Local-Regional

Table 9.8 Archaeological and cultural heritage importance of features within study area

Site No	*Name*	*Description*	*Importance*
92	Alin Knowes	Plantiecrub	Local-Regional
93	Alin Knowes	Cairn (possible)	Regional
94	Hamars of Houlland	Plantiecrub	Local-Regional
95	Hamars of Houlland	Plantiecrub	Local-Regional
96	Hamars of Houlland	Plantiecrub	Local-Regional
97	Hamars of Houlland	Plantiecrub	Local-Regional
98	Hamars of Houlland	Plantiecrub	Local-Regional
99	Hamars of Houlland	Plantiecrub	Local-Regional
100	Hamars of Houlland	Plantiecrub	Local-Regional
101	Hamars of Houlland	Plantiecrub	Local-Regional
102	Hamars of Houlland	Plantiecrub	Local-Regional
103	Hamars of Houlland	Plantiecrub	Local-Regional
104	Hamars of Houlland	Plantiecrub	Local-Regional
105	Hamars of Houlland	Plantiecrub	Local-Regional
106	Hamars of Houlland	Plantiecrub	Local-Regional
107	Hamars of Houlland	Circular feature (probable plantiecrub)	Local
108	Hamars of Houlland	Circular feature (probable plantiecrub)	Local
109	Hamars of Houlland	Cairn	Regional
110	Hamars of Houlland	Cairn	Regional
111	Hamars of Houlland	Cairn (possible)	Regional
112	Gardins of Houlland	Turf structure	Local
113	Gardins of Houlland	Unroofed buildings	Local
114	Gardins of Houlland	Plantiecrub	Local-Regional
115	Gardins of Houlland	Horizontal m ill	Local

Table 9.8 Archaeological and cultural heritage importance of features within study area

Site No	*Name*	*Description*	*Importance*
116	Hamars of Houlland	Wall	Regional
119	Neepaback	Plantiecruib	Local
126	Loch of Neepaback	Turf structure	Local
127	Loch of Neepaback	Sheepfold	Local
128	Hill of Neepaback	Cairn (possible)	Regional
129	Hill of Neepaback	Sub-oval feature	Local
130	Neepaback	Linear feature	Local
131	Neepaback	Oval feature	Local
132	Long Hevda	Chambered cairn (possible)	Regional
133	Loch of Kettlester	Sheepfold	Local
134	Moss Houll	Quarry scoop	Negligible
135	Hamars of Houlland	Unroofed structure	Local
136	Hamars of Houlland	Cairn (possible)	Regional
137	Hamars of Houlland	Quarry scoop	Negligible
138	Hamars of Houlland	Quarry scoop	Negligible
139	Hamars of Houlland	Quarry scoop	Negligible
140	Hamars of Houlland	Quarry scoop	Negligible
141	Hamars of Houlland	Quarry scoop	Negligible
142	Hamars of Houlland	House	Local
143	Hamars of Houlland	Structure	Local
144	Hamars of Houlland	Plantiecrub	Local-Regional
145	Hamars of Houlland	Plantiecrub	Local-Regional
151	Long-Hevda	Sub-rectangular structure	Local
158	The Heogals	Field boundary	Negligible

9.3.51 The fragmentary remains of a linear feature (Sites 88), interpreted as a possible prehistoric field boundary, have been identified within the Site. It consists of a linear alignment of large stones protruding

from beneath the turf. The alignment does not appear to relate to post-medieval and later field boundaries also visible in the landscape and as such it is possible that it predates the current system of land division and may be prehistoric in origin. As such, this feature has the potential to inform about previous systems of land division and organisation within the Study Area and is judged to be of Regional cultural heritage importance. The more substantial remains of a second field boundary or wall (Site 116) were identified running northwest to southeast across the Hamars of Houlland, aligned with 15 plantiecrubs along the hillside. The wall is likely to relate to the construction and use of the plantiecrubs during the post-medieval period. The poor survival of the wall when compared to the plantiecrubs may indicate that some of its stones have been robbed to maintain the plantiecrubs. The partial submersion of the wall beneath the peat may indicate that it pre-dates the use of the plantiecrubs. This feature has the potential to inform about post-medieval and potentially earlier land divisions within the Consented Development and is consequently judged to be of Regional importance.

9.3.52 A possible chambered cairn (Site 132) has been identified at Long Hevda. Although much denuded in form and surviving as a dispersed mound of tumbled stones, the identification of a possible rectangular chamber in the centre of this feature is indicative that this monument may retain information relating to prehistoric burial practices and may seal beneath it evidence for contemporary land-use. It is judged to be of Regional importance. A further two possible burial cairns were identified at the Hamars of Houlland (Sites 109 and 110). Site 109 is located on the summit of the hill and although topped by a modern indicator cairn, which partially conceals its form, it is visible as a distinct grassy mound. Site 110, located on a plateau south of the summit, although also denuded retains ten apparently in situ orthostats and is roughly circular and mounded in form. Both cairns have the potential to inform about prehistoric burial practices and are judged to be of Regional Importance. A further four cairns which are less distinct in form but which also have the potential to be of prehistoric date and inform about prehistoric practices within the Study Area were located at Alin Knowes (Site 93); Hamars of Houlland (Sites 111 and 136), and Hill of Neepaback (Site 128). These are also judged to be potentially of Regional importance. The cairn at Markna Geo (Site 69) on the eastern boundary of the Study Area was not visited during the walkover survey owing to its location over 1km from proposed infrastructure. It is recorded variously as an amorphous scatter of stones, a cairn or the grave of shipwrecked mariners. Although its exact nature is unknown, its associated buried deposits are likely to contain information relating to its use and it is judged to be of potential Regional Importance.

9.3.53 The remains of a structure and sheepfold on the eastern banks of the Burn of Hamnavoe (Site 50) are representative of a common type of medieval or later rural settlement characteristic of Shetland. Although evidently later re-used as a sheepfold, the structure is partially buried beneath the peat and is comparatively well preserved and may preserve evidence for earlier settlement within this part of the Study Area. As such, it is judged to be of Regional importance. A further seven plantiecrubs (Sites 84, 86-87, 90-92 and 114) and the remains of two probable plantiecrubs (107-108) identified within the Study Area are judged to be of Local-Regional importance. Although individually of Local importance it is recognised, as discussed above, that plantiecrubs are indicative of fertile land and often sited on, or in close proximity to, prehistoric settlement thus they have the potential to be of Regional importance.

9.3.54 15 plantiecrubs (Site 94-106 and 144-145) aligned along the Hamars of Houlland are judged individually to be of Local importance due to their ability to inform about local land-use and settlement. However, the distinctive alignment of such a large number of plantiecrubs across the hillside and their direct relation to the settlement to the south is rare, if not unique, and as such they are judged to have a Regional group importance.

9.3.55 A small oval feature at Neepaback (Site 131) and a sub-oval feature at Hill of Neepaback (Site 129) are of unknown date and are so encroached upon by peat that their original forms are difficult to identify. Nevertheless, both features are likely to retain evidence relating to their original form and function which in turn may inform about land-use and settlement in the area, and they are judged to be of at least Local and potentially of Regional importance.

9.3.56 The upstanding remains of five horizontal mill structures (Sites 9-12 and 115) were identified in the south of the Study Area. They are relatively common features in this part of Yell and have the potential to inform about local land use and practices within the Study Area and are judged to be of Local importance.

9.3.57 The remains of drystone enclosures, house structures at Burns of the Gardins (Sites 5-6), Gardins of Houlland (Sites 112-113), Burn of Hamnavoe (Site 13) and Hamars of Houlland (Sites 4, 135, 142-143), as well as sheepfolds at Loch of Kettlester (Site 133), Burn of Arisdale (Sites 48-49), Burn of Hamnavoe (Site 51) and Loch of Neepaback (Site 127) are judged to be of Local importance, given their ability to inform regarding the post-medieval pastoral economy. A short linear feature protruding from beneath the turf at Neepaback (Site 130) is located in an area seen on aerial photographs as previously populated by access tracks and is probably related to their construction. Nevertheless, its partial burial beneath peat may be indicative of earlier origins and it is judged to be of Local importance due to its potential to inform about land-use in this area.

9.3.58 Two circular probable plantiecrub features (Sites 81 and 119) and a sub-rectangular structure (Site 151), recorded from aerial photography, were not visited during the walkover survey as they are located beyond the area of proposed site infrastructure works. Although their state of survival and condition is currently unknown, they are judged to be of probable Local importance due to an ability to inform about local land use and economy. The line of a former field boundary dissecting the Site north to south across The Heogals is shown on OS maps from 1882 but not on any later mapping. This feature could not be traced on the ground during the walkover survey suggesting that it has been removed. The line of this boundary has subsequently been disturbed by peat cutting and small-scale quarrying activity. Remains of this feature such as may still exist have limited potential to inform about post-medieval land divisions beyond that already recorded on 19th century mapping and it is judged to be of Negligible importance.

9.3.59 Other features identified within the Study Area relate to more recent activity and include quarry scoops adjacent to tracks and roadways and evidently related to their construction (Site 80, 134 and 137-141) and are judged to be of Negligible importance. A gravel pit at Moss Houll (Site 79), the site of modern buildings at Moss Houll (Site 82) and the upstanding former Scottish Water facilities structure at Beaw Field (Site 85) are also judged to be of Negligible importance.

9.4 Assessment of impacts

Construction effects

9.4.1 Construction effects on cultural heritage receptors are limited to direct impacts on heritage features and deposits. Indirect impacts upon the setting of designated heritage assets are considered under operational effects.

9.4.2 The Consented Development has been designed to avoid direct impacts on known heritage assets where possible and a buffer of at least 10m around the edge of known heritage features was applied at

the design stage. Of the 73 known heritage features within the Site, it is predicted that there would be potential impacts upon two linear features as summarised in Table 9.9

Table 9.9 Predicted level of direct effect on known features within Study Area

Site No	*Name*	*Description*	*Importance*	*Magnitude of impact*	*Significance of effect*
88	Hamnavoe	Field boundary (possibly prehistoric)	Regional	Moderate	Moderate
158	The Heogals	Field boundary (identified from 19th century mapping)	Negligible	Moderate	Minor

9.4.3 The access track for the Consented Development dissects the line of a possible prehistoric field boundary (Site No 88) (see Figure 9.1) within an area of semi-improved grassland north of Hamnavoe. The remains of the boundary where the access track will cross are visible as large boulders protruding from beneath the surface. Dissection of this feature by the proposed access track, although impacting on only a small proportion of the overall line of the feature would result in at worst a moderate alteration of the feature's baseline condition.

9.4.4 The line of a former field boundary at The Heogals (Site No 158) could be impacted by a proposed borrow pit. The ground disturbance associated with the borrow pit would potentially remove any remains associated with this feature. However, as discussed above, no trace of this feature was identified during the walkover survey or on aerial photographs and its cultural value now largely resides within the record of it as shown on 19th century mapping. The borrow pit is located within an area already disturbed by small-scale quarrying, peat cutting and access tracks which are likely to have disturbed and/or destroyed remains of this feature to some degree. The borrow pit would impact upon a small proportion of the overall trajectory of this feature. This would constitute a minor alteration to the baseline condition of this feature The Study Area and surrounding landscape is rich in cultural heritage remains from the prehistoric period onwards and as such there is potential for the existence of hitherto unknown remains to be present within the Site. Map regression and aerial photographic analysis have shown that, with the exception of peat cutting, small scale quarrying and the recent installation of a water pipeline, the Site has been undisturbed moorland since at least the 19th century and as such it is likely that any remains that survive below ground surface within the Site will be relatively undisturbed. Therefore, there is the possibility of disturbing hitherto unknown buried archaeological remains during groundworks associated with the Proposed Development. A mitigation strategy will be required to safeguard and, where necessary, record such remains.

9.4.5 The Consented Development may also impact on the palaeoenvironmental deposits. Peat deposits in excess of 1m depth were identified throughout the Site, and have been subjected to modern peat extraction in places. This cutting activity will have damaged palaeoenvironmental deposits within these areas. However, where deeper deposits of peat survive within the area there is potential for prehistoric palaeoenvironmental deposits. Such deposits have the potential to provide information on vegetation change over time. Given the relatively small construction footprint of the Proposed Development, it is considered that the magnitude of impact on the palaeoenvironmental deposits will be 'low'.

Operational effects

9.4.6 Operational effects include impacts upon the settings of assets such as Listed Buildings, Scheduled Monuments, Conservation Areas, Inventory Gardens and Designed Landscapes and Inventory Battlefields. While there are no designated heritage assets within the Site, this assessment has identified four Scheduled Monuments within 5km of the Site (Figure 9.3): Wester Wick of Copister, broch (Scheduled Monument 2091) (Site 37); Burra Voe, broch (Scheduled Monument 2052) (Site 41); Gossabrough Broch (Scheduled Monument 2069) (Site 45) and Head of Brough, broch, West Yell (Scheduled Monument 2071) (Site 46). All of these, with the exception of Head of Brough broch (Site 46) are located within the ZTV of the Proposed Development. In addition, a further ten Scheduled Monuments are located within 5-10km of the Site. Of these, two Reafirth (Site 161) and Birrier (Site 152) would not be intervisible with the Consented Development and these have been excluded from further assessment. Two Category A Listed Buildings (Sites 156 and 157) are located within 10km of the Site but outwith the ZTV and have also been excluded from further assessment.

9.4.7 There are nine Listed Buildings (Sites 8, 25, 38-40, 42-43 and 52) located within 5km of the Site. There are no Inventory Gardens and Designed Landscapes, Conservation Areas or Inventory Battlefields located within 10km of the Site. Assets at a greater distance, up to 15km, from the Site were rapidly considered for the potential for significant indirect effects. The Inventory Garden and Designed Landscapes of Lunna House (Site 159) on the Mainland and Brough Lodge on Fetlar (Site 160) are located within 15km and have been included within the assessment. Additionally, the Scheduled Monuments known as Graven Chambered Cairn (Site 155), Brough Lodge Broch (Sit 161) and The Sna Broch (Site 162) located between 10-15km and within the ZTV are judged to be potentially sensitive to impacts on their settings by the Consented Development and have thus been included for further assessment.

9.4.8 A summary of the predicted impacts and effects upon the settings of designated cultural heritage assets by the Consented Development is provided in Table 9.10.

Table 9.10: Predicted impacts and effects upon the settings of designated cultural heritage assets

Site No	*Name and status*	*No of turbines visible*	*Distance to nearest turbine*	*Main factors affecting setting*	*Relative sensitivity*	*Magnitude of setting impact*	*Operational effect significance*
45	Yell, Ness of Gossabrough, Scheduled Monument 2069	17	1.58km	Prominent local knoll. Panoramic views over the voe to east and across hinterland towards Consented Development to south west.	High	Medium	Moderate
37	Wester Wick Of Copister Scheduled Monument 2091	17	5.5km	Set on a small island in Yell Sound. Understanding of setting focuses on defensive coastal location. Views north towards the Consented Development are open. Turbines would appear on low hills behind Burravoe.	High	Low	Minor-moderate
41	Burravoe Broch Scheduled Monument 2052	17	2.03km	Sited on prominent knoll overlooking the voe. Immediate setting dominated by skjo. Unobstructed views north to Proposed Development.	High	Low	Minor-moderate
47	The Snuti, fort Scheduled Monument 2085	1-17	5.44km	Set on coastal spur in defensive location focussed on coast. Ramparts block views into and out of fort from various locations. Views inland from fort towards Consented Development are open and unobscured.	High	Low	Minor-moderate
83	Fugla Ness,Broch 330m NNW Of Scheduled Monument 2080	17	8.59km	Located on coastal spur overlooking the voe. Key sightline to Wick of Copister broch mound. Open views towards the Site Rising ground would obscure bases of turbines.	High	Low	Minor-moderate

Table 9.10: Predicted impacts and effects upon the settings of designated cultural heritage assets

Site No	*Name and status*	*No of turbines visible*	*Distance to nearest turbine*	*Main factors affecting setting*	*Relative sensitivity*	*Magnitude of setting impact*	*Operational effect significance*
8	Yell, Hamnavoe, St Magnus' Kirk And Kirkyard Listed Building Category B	17	2.39km	Open views northwest towards the Proposed Development. Entrance faces southeast overlooking the voe. Rising topography to the north would obscure bases of all turbines and hubs of most.	Medium	Low	Minor
38	Yell, Old Hall Of Brough, Including Walls. Listed Building B Category	17	1.79km	Sited on prominent knoll overlooking the voe and settlement of Burravoe. Open views towards hills of Site.	Medium	Low	Minor
40	Yell, Burravoe, St Colman's Episcopal Church. Listed Building Category B	17	1.49km	Located in centre of Burravoe settlement. Open unobstructed views south to the voe and north across settlement towards Proposed Development.	Medium	Low	Minor
146	Crooksetter Hill,Chambered Cairn Near NW Summit Of Scheduled Monument 3608	1-5	11.22km	Panoramic views across the landscape including views of Oil Terminal at Sullom Voe and across Yell Sound towards Proposed Development. Key sightline across to Crooksetter Hill, Chambered Cairn At SE Summit Of.	Medium	Low	Minor
147	Windhouse, Broch 75m W Of Scheduled Monument 2093	1-5	8.68km	Open views east, west and south across landscape. Views of Consented Development largely obscured by rising topography.	High	Marginal	Minor

Table 9.10: Predicted impacts and effects upon the settings of designated cultural heritage assets

Site No	*Name and status*	*No of turbines visible*	*Distance to nearest turbine*	*Main factors affecting setting*	*Relative sensitivity*	*Magnitude of setting impact*	*Operational effect significance*
150	Infield, Broch 215m SE of Scheduled Monument 2058	17	9.16km	Broch mound located on coast surmounted by a 19th century lighthouse. Strategic views are out across the voe particularly along the voe to southeast. Open views across Yell Sound to Proposed Development.	Medium	Low	Minor
154	Crooksetter Hill,Chambered Cairn At SE Summit of Scheduled Monument 3576	17	11.21km	Panoramic views across the landscape including views of Oil Terminal at Sullom Voe and across Yell Sound towards Proposed Development. Key sightline across to Crooksetter Hill, Chambered Cairn Near NW Summit Of.	Medium	Low	Minor
162	Sna Brough,broch,Ness of Snabrough Scheduled Monument 2084	17	12.25km	Key views face west over coast and south to Brough Lodge broch. Open distant views towards the Site to the southwest.	High	Marginal	Minor
25	Yell, Hamnavoe, St Magnus' Kirkyard Wall, Post Box Listed Building Category B	17	2.39km	Located within a southwest facing wall thus faces away from the Proposed Development. Open views towards the Consented Development on approach from the south. Rising topography to the north would obscure bases of all turbines and hubs of most.	Low	Low	Negligible

Table 9.10: Predicted impacts and effects upon the settings of designated cultural heritage assets

Site No	*Name and status*	*No of turbines visible*	*Distance to nearest turbine*	*Main factors affecting setting*	*Relative sensitivity*	*Magnitude of setting impact*	*Operational effect significance*
39	Yell, Burravoe, Manor House Of Burravoe Listed Building Category B	1-5	1.77km	Located on low lying land within Burravoe and overlooking the voe. Views north to Consented Development would be largely obscured by rising topography	Medium	Marginal	Negligible
42	Yell, Burravoe, Telephone Call Box. Listed Building Category B	17	1.93km	Located adjacent to shop. Setting localised and relates to village. Unobscured views towards Proposed Development.	Low	Low	Negligible
52	Yell, Burravoe, Pier, Shop And Former Booth Listed Building Category C	17	1.93km	Now out of use and in deteriorating condition. The main elevation of this building faces south over the coast. The cultural value of the building is largely derived from its association with the coast and pier. Views into the interior towards the Consented Development are open.	Low	Low	Negligible
148	Auchensalt, Burnt Mound 85m E Of Scheduled Monument 3556	17	9.02km	Open views across Yell Sound towards the Proposed Development.	Low	Low	Negligible
149	Norden, Burnt Mound 160m ESE Of Scheduled Monument 3557	17	8.99km	Open views across Yell Sound towards the Proposed Development.	Low	Low	Negligible

Table 9.10: Predicted impacts and effects upon the settings of designated cultural heritage assets

Site No	*Name and status*	*No of turbines visible*	*Distance to nearest turbine*	*Main factors affecting setting*	*Relative sensitivity*	*Magnitude of setting impact*	*Operational effect significance*
155	Graven Chambered Cairn 600m SW of Scheduled Monument 3504	17	14.11km	Extensive views across the landscape including views of Oil Terminal at Sullom Voe and across towards Crooksetter Cairns. Views south from the cairn are restricted by topography.	Medium	Marginal	Negligible
159	Lunna House Inventory Garden and Designed Landscape	17	12.04km	Views east and west from Designed Landscape are of greatest significance in understanding its setting and cultural value. Views north are limited by rising topography.	Medium	Marginal	Negligible
160	Brough Lodge Fetlar, Inventory Garden and Designed Landscape.	17	11.39km	The Designed Landscape command views across the Colgrave Sound to the island of Hascosay and inland to the east. Brough Lodge and its ancillary buildings form a distinctive landmark, and are prominent in views from the B9088 to the south east.	Medium	Marginal	Negligible
161	Brough Lodge,broch Scheduled Monument 2806	17	11.8km	Surmounted by a later tower which dominates immediate setting. Intervening Lodge Building and associated walls will obscure views towards Proposed Development.	Medium	Marginal	Negligible
43	Yell, Ulsta, Pier House. Listed Building Category C	1-5	5.6km	Set overlooking the voe and ferry terminal to south. Rising topography to east would obscure all but tips of three turbines of Proposed Development.	Low	Marginal	No effect

Scheduled monuments

9.4.9 Ness of Gossabrough broch (Site 45) is located 1.58km northeast of the nearest turbine overlooking the Wick of Gossabrough. The monument comprises the remains of an Iron Age broch together with the remains of an adjacent settlement. The broch survives as a mound set on a knoll with turf-covered foundations of rectangular structures, east and south which are likely to be the remains of a settlement either of the post-broch Iron Age or, more likely, of the Norse-medieval period. Located on north facing land, the broch is not located in an obvious defensive point in the landscape with the slope of the Ness of Gossabrough rising to the east and southeast obscuring views of the coast in that direction (See Viewpoint CH1 Figure (i) Existing Contextual Photograph-3). Unlike many other brochs across Shetland, Ness of Gossabrough does not have inter-visibility with other known contemporary monuments[c] and as such there are no identifiable key sightlines between monuments. The broch commands extensive views north over the Wick of Gossabrough and also west across adjacent improved agricultural land towards the low hills of the Site. The land between the broch and the Site is likely to have been used for grazing and cultivation by its occupants and the setting contributes towards an understanding of the domestic agrarian functions of the broch although there are no associated features in this view with specific visual links to the broch. The Site is located within the moorland interior of Yell beyond the immediately adjacent improved agricultural land that would have been used by the occupants of the broch and which contributes towards an understanding of its domestic functions. The strategic costal location of the broch contributes to the understanding and appreciation of this defensive prehistoric monument in its current landscape setting and it is of high relative sensitivity to changes in that setting.

9.4.10 The photomontages (Figure 9.7; iv and vi) and wireframe (Figure 9.9) taken from the summit of the broch mound show that all turbines would be visible in views west from the broch. The turbines would be seen arranged along the hillside and would occupy a 70-degree angle of view, they would appear as conspicuous features on the skyline and would change the wider setting of the broch. As a defensive monument, it is arguable that key sightlines from Ness of Gossabrough are focused out to sea away from the Site. The Consented Development would be visible west of the broch and the predicted visibility would not impinge on the monument's critical setting relationships across the Wick of Gossabrough. The Consented Development would be visible behind the broch on approach from the sea, but given its location on a coastal spur, the locations from which simultaneous views of the Ness of Gossabrough and the Consented Development could be obtained would be limited to more distant views from within the Site to the south and across Wick of Gossabrough from the Ness of Queyon to the north. The ability to understand and appreciate the topographic situation of the broch would remain largely unaffected by the presence of the Consented Development and the key characteristics of the monument's setting would not be substantively affected. This is judged to be a notable alteration to the setting of the broch beyond those elements of the setting which directly contribute to the understanding of its cultural value. The magnitude of impact would be medium, and the effect would be Moderate which is significant.

9.4.11 Wester Wick of Copister broch (Site 37) is located on a small island in Yell Sound, 5.5km south of the nearest turbine of the Consented Development. Owing to its island location, it was not visited during the setting assessment and was viewed from the closest available point at Copister in South Yell and also from the Toft to Ulsta ferry. The broch is visible as a prominent grass covered mound from both Copister and the ferry. It is described in the NMRS as being surrounded by a rampart of earth and small stones with a gallery in the upper walling exposed on the east side. Documentary evidence[105] indicates that the broch was subject to a degree of stone robbing in the 19th century and stone foundations west

[c] Smith, B (2015) personal communication during visit to Shetland Archives 23rd June 2015.

of the buildings are described as belonging to a much later structure and may also have re-used stone from the broch. Nevertheless, the surviving mound is a clearly visible structure and its island setting is indicative of its defensive nature. It is of high relative sensitivity to changes to its setting.

9.4.12 Wireframes (Figure 9.12) show all 17 turbines of the Consented Development visible to hub height. The turbines are seen arranged in a linear alignment across the hill and against a backdrop of sky. The Consented Development would be seen behind the intervening landform of the Ness of Copister which would screen the bases of the turbines. The turbines would not be visible in views of the broch from Yell. Although the broch mound is visible from the Mainland on clear days, owing to the distance involved (c 3.1km) it is not readily identifiable as a broch mound at this distance without prior knowledge and its prominence, which is clearly perceivable at close proximity, is not discernible from these distances. However, views of the broch on approach from the south and on approach from the southwest from the ferry would feature turbines behind the broch and may lessen the perception of it as a dominant feature. The placement of turbines of the Consented Development north of the broch would not detract from the ability to understand the defensive island setting of the broch or its function as a strategic defensive monument. The Consented Development would thus constitute an alteration to the setting of the broch beyond those elements that contribute to an understanding of its cultural value. This would be an impact of low magnitude. The effect would be Minor-Moderate and not significant.

9.4.13 Burravoe Broch (Site 41) survives as a prominent turf covered broch mound surmounted by a ruined skjo. There appears to be some damage to the broch on its north side and it is eroding into the sea on its southwest side. The broch commands extensive views south over Greenholm Sound and beyond across Yell Sound. Views to the north are over the settlement of Burravoe towards the low hills of the Site. The broch also has clear views northeast to the Old Hall of Brough (Site 39) which is situated on a large mound. The name 'brough' attributed to this house is indicative that it is sited on a broch mound and would thus have been a key sightline from this broch. Other key sightlines are out across Greenholm Sound to the south. The characteristics of its location are part of a wider pattern in the distribution of late prehistoric fortifications across Yell. The view south over the coast from the broch is considered a key characteristic in understanding the cultural value of this monument, as the broch has been deliberately sited with reference to this view. The skjo sited on the top of the broch somewhat detracts from the scale of the monument although it does further our understanding of the re-use of broch material in later periods[106]. As a defensive structure designed to be a prominent feature within the landscape and with key sightlines across the coast the monument has high relative sensitivity to changes to its setting.

9.4.14 Wireframes (Figure 9.13) show all 17 turbines visible from the broch with hubs of all turbines breaking the skyline. The turbines would be notable when seen from the broch but would appear beyond the broch's immediate setting within the improved grazing land of the settlement of Burravoe. Given the location of the broch on a south facing spur, the Consented Development would only be visible in the same view as the broch on approach to the monument from the coast. There would be clear views of the turbines when viewed north from the broch. However, this would not affect the understanding of the monument as a defensive coastal structure and key views across Yell Sound and along the coast would be maintained. As such the magnitude of impact upon the setting of the cairn and associated post-medieval remains is judged to be low. This would result in a Minor-moderate effect which is not considered significant.

9.4.15 The Snuti (Site 47), which is located 5.44km northeast of the nearest proposed turbine, has been classified as a promontory fort because of three unusually large earthen ramparts located across the

neck of the promontory[107]. However, it has been suggested that the structure at the seaward end may be the remains of a broch and it is probable that features and structures associated with it have been lost to coastal erosion. The large earthen ramparts of the fort are exceptionally well preserved and clearly visible on approach from the north and west. The fort has a coastal setting defined by near vertical drops to the sea on the north, east and south sides. To the west, the setting comprises open low rolling improved pasture with post-medieval deserted settlement. The hills of the Site form part of the wider setting and their low rolling nature forms a contrast to the steep cliffs of the coastal setting in other directions (See Figure 9.8 (i) Existing Contextual Photographs). The steep drop overlooking the coast to the east is likely the principal factor in the choice of this location owing to its suitability as a lookout point from where movement along the coast could be monitored. There is nothing to suggest that the fort was deliberately sited to command a view west, away from the coast, and the view in this direction is therefore much less relevant to its strategic function. The fort is of high relative sensitivity to changes to its setting.

9.4.16 Visibility of the Consented Development would be limited on immediate approach to the The Snuti from the coast given the height of the cliffs, but it would be seen behind the fort from more distant approaches from the sea. The Consented Development would not be visible on approach from the west. The photomontage (Figure 9.8 iv) and wireframes (Figure 9.10) taken from the summit of the central rampart show clear visibility of all 17 turbines. The turbines would be seen aligned along the hillside and all would appear on the horizon breaking the skyline. The Consented Development would not be visible from within the lower lying parts of the fort where the land slopes in the direction of the coast and also where the massing of the ramparts themselves obscure views towards the Site. Given the separation distance between the fort and the Site, the apparent prominence of the ramparts would not be diminished by views of turbines. On balance it is judged the Consented Development would give rise to an impact that would change the setting of the fort. However, the Consented Development would not appear in strategic coastal sightlines and the ability to understand this defensive prehistoric monument associated with contemporary settlement remains would not be materially affected. This would be an impact of low magnitude. The effect would be Minor-Moderate and not significant.

9.4.17 Fugla Ness, broch 330m NW of (Site 83) is a large, locally prominent, broch mound defined on the west side by a deep ditch and double bank. The upper part of the entrance passage is visible on the east side as are two flanking cells. Other parts of the structure have evidently been lost to coastal erosion. Immediately south of the broch mound are the remains of a substantial sub-rectangular building, possibly of similar date, and slight traces around the mound suggest that other building foundations may lie nearby. Land to the west of the broch slopes gently upwards and features deserted post-medieval settlement. As with all the brochs discussed within this assessment, Fugla Ness commands views across a wide expanse of sea coast. The broch mound of Wick of Copister (Site 37) is visible across Yell Sound to the east and this view forms a key sightline from this monument. As a defensive structure, understanding of which is linked to its strategic coastal setting, this monument is judged to have a high relative sensitivity.

9.4.18 Wireframes from the broch (Figure 9.15) show that all 17 turbine tips would be visible to hub height and against the skyline. The bases of all turbines would be obscured by the intervening landform. The turbines would be seen at a distance of 8.59km beyond the wider coastal setting of the broch and beyond the promontory of Ness of Copister. Key sightlines across Yell Sound and towards Wick of Copister (Site 37) would be maintained. The broch, although locally prominent, is not visible on landward approach until within 100m of it and as such impacts on views on approach to the broch would be limited. The impact on the setting would be beyond those elements that contribute to its cultural

value. The magnitude of impact is judged to be low. The effect would be Minor-Moderate and not significant.

9.4.19 Windhouse, broch 75m W of (Site 147) is located 8.68km north of the nearest turbine of the Proposed Development. It is set within improved pasture west of Windhouse Haa within an area rich in evidence for previous settlement activity including a chambered cairn to the north and immediately adjacent settlement structures. The broch overlooks the voe to the west. Views to the east are dominated by Windhouse Haa. Views south towards the Site from the broch feature the road in the middle distance with dispersed settlement around Windhouse and low rolling moorland hills with peat degradation and erosion apparent on the nearest hillside. As a defensive structure, surrounded by evidence for contemporary and later settlement, Windhouse is of high relative sensitivity to changes to its setting. Wireframes (Figure 9.16) show the extreme tips of three turbines of the Consented Development would be visible from the broch. The tips would be visible beyond the wider setting of the monument. The magnitude of impact would be marginal. The effect would be Minor and not significant.

9.4.20 Infield, broch 215m SE of (Site 150) is located on an east facing spur overlooking Firths Voe. The broch mound is surmounted by a 19th century lighthouse with a post-medieval stone built structure located immediately to its west. The eastern coastal side of the broch structure has been subject to concrete revetting presumably to protect the lighthouse from coastal erosion. Although subject to modern alteration, the broch retains some internal structure and is recognisable as the remains of a broch mound on approach from the west. Given the proximity of the post-medieval structure and placement within it of large stone blocks, it is likely that this building is at least in part constructed from stone robbed from the broch. The setting of the broch is dominated by the lighthouse and adjacent post medieval building to the west with coastal views over Yell Sound to the north and Firths Voe to the east and south. The height and prominence of the lighthouse somewhat lessen the prominence of the broch within the landscape although understanding of its form and function as a defensive structure in a strategic position able to monitor an expanse of sea remains legible. Indeed, the siting of the lighthouse on top of the broch mounds reinforces and understanding of its placement overlooking a large area of sea coast. Infield broch is judged to be of medium relative sensitivity to alterations to its setting.

9.4.21 The wireframe (Figure 9.18) shows that all 17 turbines would be visible from the broch, the nearest at a distance of 9.16km. The turbines would be seen aligned across the hill against a backdrop of sky. The turbines would be visible on approach to the broch from the west on clear days but would be seen beyond the intervening island of Samphrey and promontory of Ness of Copister which obscure the hub of Turbine 7 and most of the towers of Turbines 9-10. The turbines would be seen beyond the coastal setting of Yell Sound and Firths Voe which contribute to the understanding of this defensive structure. The predicted magnitude of impact would be low. The effect would be Minor and not significant.

9.4.22 Two chambered cairns on Crooksetter Hill (Sites 146 and 154) are located 11.22km and 11.21km respectively from the nearest turbine. Crooksetter Hill, chambered cairn at SE summit of (Site 154) is set just below the edge of an escarpment on an outcrop of white quartz which rises behind the cairn to the south towards the Sullom Voe Monument. The formation of peat over the edge of the cairn gives it an irregular shape and it is difficult to identify the orientation of the facade. The cairn has been heightened in relatively recent times by the addition of a rubble indicator/walkers' cairn which lends the monument prominence in the local landscape as well as from more distant viewpoints. The immediate setting of Crooksetter Hill, Chambered Cairn Near NW Summit Of (Site 146) comprises a local knoll on the ridge below the summit. Elements of both the external façade and of the internal facing of the cairn are visible with some stones of the chamber discernible. The external north kerb is also identifiable as is the internal kerb revetment. A rubble indicator/walkers' cairn has been erected on top of the cairn and

may cover the uprights of a chamber. As with Site 154, the addition of a modern cairn lends this monument prominence in the local landscape. The wider setting of both cairns comprises open views in all directions except to the southeast where the summit of the hills behind restricts views to a few hundred metres. From northwest through west to southwest the industrial complex at Sullom Voe is visible in the near ground and dominates the field of view. Scatsta airport is visible somewhat more distantly. Views to the north look out over broken peatlands towards the entrance to Sullom Voe. Views east are over the sea with Yell and the Site visible in the far distance. Although their settings have been somewhat altered by modern development, both cairns appear to have been sited to exploit the extensive views from the hill as well as to be seen from long distances and this element of their setting remains legible. They are judged to be of medium relative sensitivity to changes in their wider settings.

9.4.23 Wireframes (Figure 9.19) show all 17 turbines visible against the skyline from Site 154 and given their relative proximity and similar elevation there would likely be similar visibility from Site 146. While the turbines would be visible from both cairns they would comprise small features in a wide landscape panorama and within a relative complex landscape. The turbines would not impinge upon views of the cairns and they would be located well beyond any land that the cairns could reasonably be said to dominate. It is judged therefore unlikely that the presence of the turbines in the distant landscape would materially affect the ability to understand and appreciate these monuments in their current settings and the magnitude of impact is judged to be low. The effect would be Minor and not significant in both cases.

9.4.24 Sna Brough, broch (Site 162) is located on the west facing coast of Fetlar within semi-improved grassland. The monument survives as a series of earthwork ramparts and ditches and no traces of a broch mound survive. The monument has clear visual and associative links with the broch at Brough Lodge to the south which can be seen against the skyline on approach. The coastal setting contributes to an understanding of the strategic defensive siting of this monument and views west to Hasocosay and south to the broch mound at Brough Lodge. Sna Brough broch is of high relative sensitivity to changes in its setting.

9.4.25 The Consented Development would be located 12.25km to the southwest. The turbines would form distant and minor features in the wider landscape. The turbines would not be located in any of the prevalent views out from the broch nor would they interrupt or distract from views between this broch and others in its vicinity, including the nearby broch at Brough Lodge. As such the impact upon the setting of the broch is judged to be of marginal magnitude. This effect would be Minor and not significant.

9.4.26 The remains of two burnt mounds, Auchensalt, burnt mound 85m east of (Site 148) and Norden, burnt mound 160m ESE of (Site 149), are located in improved pasture which overlooks Tofts Voe with the low hills of Yell and the Site offset to the northeast. Both monuments comprise the substantial turf-covered remains crescent-shaped burnt mounds. The proximity of the two mounds within 100m of one another is unusual and they are likely part of a wider contemporary landscape of settlement and land-use. The immediate setting of the mounds is the improved pasture slope upon which they are located with surrounding evidence for post-medieval settlement. The wider setting comprises views of the rising land towards the Hills of Crooksetter from north through to southwest and views across Yell Sound towards the island of Samphrey to the east. Views east across Tofts Voe feature the settlement of Toft. The placing of burnt mounds was to a large extent determined by their function and proximity to a local water source, though an allowance has to be made for the positioning of the mounds on an east facing slope which may indicate that they were was placed to be prominent within, or exact control over, the adjacent coastal area. Although locally prominent within the landscape neither monument can be seen from across the voe. The burnt mounds are judged to be of low relative sensitivity to changes beyond their immediate settings.

9.4.27 Wireframes (Figure 9.17) from Site 149 show visibility of all 17 turbines, the nearest at a distance of 8.99km. The turbines would be seen aligned along the hillside with some turbines appearing behind others and all breaking the skyline. The intervening landform of the Ness of Copister would obscure the lower parts of the towers of Turbines 5-14. Given the proximity of Site 148 to Site 149 and its similar topographic location, it is likely that the arrangement of turbines seen in Figure 9.17 would be very similar for Site 148. In the case of both monuments, the turbines would be seen beyond those elements of the setting that contribute to the understanding of the prehistoric settlement and impacts would be of low magnitude. The effect would be Negligible and not significant.

9.4.28 Graven Chambered Cairn 600m SW of (Site 155) survives in good condition below the crest of a hill. It has an intimate immediate setting within heather moorland and is not visible on approach from the south until within c.50m. The cairn is visible from some distance across the landscape and commands extensive views over modern developments at Scatsta and Sullom Voe to the north. The cairn also commands extensive views northeast towards the Hill of Crooksetter cairns (Sites 146 and 154) and over Yell Sound towards the Site in the far distance. The cairn is judged to be of medium relative sensitivity to changes to its setting. The turbines would be seen at a distance of 14.11km. The turbines would not interrupt key sightlines to the Crooksetter cairns and at this distance would only be visible on clear days. Distant views of the turbines would be beyond the wider setting of the cairn and would not affect the ability of this and future generations to understand the monument. The magnitude of impact would be marginal. The effect would be Negligible and not significant.

9.4.29 Brough Lodge broch (Site 161) is located within the boundary of the Inventory Garden and Designed Landscape of Brough Lodge on Fetlar. It comprises a prominent turf covered broch mound which is surmounted by a 19th century tower. Understanding of the strategic defensive siting of this monument as broch in a defensive setting overlooking Colgrave Sound remains legible. The current setting of the broch is dominated by the 19th century tower on its summit which lends it associative value with the Designed Landscape at Brough Lodge. The broch mound, along with the tower, forms a focal point for this landscape. As a defensive structure now located within a 19th Century Designed Landscape the broch is judged to be of medium relative sensitivity to changes beyond the Designed Landscape which forms its current setting.

9.4.30 All 17 turbines would be visible at a distance of 11.8km. The turbines would be seen beyond the immediate Designed Landscape setting of the broch and beyond key views out over the island of Hasocosay towards the interior of Mid Yell. At this distance turbines would only be perceptible on clear days and would be beyond any elements of the setting that contribute to understanding the cultural value of the broch. The magnitude of impact is judged to be marginal. The effect would be Negligible which is not considered significant.

Listed buildings

9.4.31 The Old Hall of Brough (Site 38), at Burravoe is sited on a distinctive mound which given the name ‘Brough’ may be a former broch mound. The house forms a distinctive skyline feature in views north along the coast from the Old Haa. The house has been sited on a prominent knoll and overlooks the surrounding settlement and crofting lands over which its former occupiers presumably had control. Although of simple design, the house is much larger and taller than other residential structures in Burravoe lending it a sense of greater prominence within the landscape. Set within improved pasture with a walled and gated entrance, the house overlooks both the voe and the village and the main elevation and windows face south and east in this direction. Views towards the Site are secondary, as reflected in fewer windows facing west, and contribute relatively little to the understanding of this

structure as a Laird's House. The house is judged to have medium relative sensitivity. The Consented Development would not interrupt key views of this structure from the settlement of Burravoe from which it was designed to be viewed and as such its apparent prominence/dominance in the landscape would not be reduced. This would constitute an impact that would change the setting of the building, but where the changes would not materially affect an observer's ability to understand/appreciate it. The impact is judged to be of low magnitude. The effect would be Minor and not significant.

9.4.32 The Category B Listed Episcopal Church at Burravoe (Site 40) is of plain gothic style. It is located at the centre of the settlement of Burravoe, surrounded by evidence for settlement from the prehistoric to the modern period including an adjacent modern concrete school building and a 19th century residential structure to its east (see also LVIA VP2). The immediate setting of the church comprises improved pasture with the wider setting comprising the dispersed residential properties of Burravoe with views towards the Old Haa (Site 39) and Burrra Voe to the south and towards the open moorland hills of the Site to the north. The church is judged to have medium relative sensitivity. The turbines would be seen on approach to the church and in views towards it from the vicinity of the Old Haa. The relationship between the church, the village, voe and open moorland beyond would remain fully legible and the magnitude of impact is judged to be low. The effect would be Minor and not significant.

9.4.33 Hamanavoe Kirk (Site 8) and Post Box (Site 25) are located on the north side of the B9081 south of the settlement of Hamnavoe. The Category B Listed Church is rectangular in plan with white painted rubble walls. It is enclosed by harled rubble walls of the churchyard which taper to the west and feature an Edwardian post box (Site 25) in the southeast corner which is also Category B Listed. The entrance to the church is on its east side which faces towards the settlement of Houlland. The immediate setting of the Kirk and kirkyard comprise the road and immediately adjacent improved agricultural land and dispersed settlement of Hamanavoe and Houlland with the wider setting comprising views over The Vadill towards Hamna Voe to the south and views over the rolling unimproved moorland of the Site to the north. Although of simple design the white painted exterior gives the church an aesthetic appeal and it is a highly visual architectural element on approach to the settlement. It is deemed to be of medium relative sensitivity to changes beyond its immediate village setting. The setting of the post box is largely defined by the Kirk wall in which it is set and it is judged to be of low sensitivity to changes in its setting.

9.4.34 The photomontage (LVIA VP 17) taken from Hamnavoe, and wireframe (Figure 9.11) taken from the Kirk indicates that all 17 turbines would be visible. Of these three would be seen to hub height with all others been largely obscured by intervening landform with only the blade tips showing. The critical relationship between the church and the graveyard and the settlement they serve would not be disrupted. This would be an impact beyond those elements of the setting that contribute to the understanding of the function of the Kirk within its village setting and would be of low magnitude. The predicted effect would be Minor and not significant. The turbines would be located well beyond any land that could reasonably be said to relate to the post box (Site 25) and would constitute at worst a low magnitude of impact. The predicted effect on the post box would be Negligible and not significant.

9.4.35 The Old Haa or Manor House of Burravoe (Site 39) is located in the south of the settlement overlooking the voe to the south and east with views north being across the dispersed settlement of Burravoe. The immediate setting comprises the road, adjacent gardens and the voe with the settlement of Burravoe and the hills of the Site forming part of the wider setting to the north. Although sited in a less prominent location than its successor (Site 38), the function of the Old Haa as the former Laird's House overlooking both the voe and the settlement of Burravoe is still legible within the modern landscape setting. It is deemed to have medium relative sensitivity. The tips of 1-5 of the Consented Development turbines

would be visible from the Old Haa. They would be seen beyond the setting of the village and the surrounding improved agricultural land and coast which contribute to an understanding of the functional and domestic nature of this building. The magnitude of impact is judged to be marginal. The effect would be Negligible and not significant.

9.4.36 The Pier, Shop and Former Booth (Site 52) at Burravoe are located adjacent to the shore in the south of the village. The immediate setting comprises the beach and voe. Views north towards the Site are part of the wider setting of these buildings although it should be noted that the Site is only visible on approach to the shop and pier from the voe or along the coast. The shop is no longer in use although its former function and relationship with the adjacent pier, shoreline and settlement remain clearly legible. This group of structures is judged to be of low relative sensitivity to changes beyond their immediate coastal settings. The Listed Telephone Call Box (Site 42) adjacent to the shop is also no longer in use and has several panes of smashed glass. The setting of the Telephone Call Box relates to the shop and immediately surrounding settlement with wider views contributing little towards its understanding and cultural value. It is deemed to be of low relative sensitivity. The Consented Development would be visible on the hills behind the Pier, Shop and Former Booth and Telephone Call Box and beyond the setting of the village which contributes to and understanding of the cultural value of these two structures. The magnitude of impact would be low in both cases. This would constitute a Negligible effect in both cases and would not be significant.

9.4.37 The setting of the Pier House at Ulsta (Site 43), like the Pier and Shop and Former Booth at Burravoe (Site 52), focuses on the immediately adjacent shoreline and dispersed settlement. Unlike Burravoe, the store at Ulsta is still in use and its location adjacent to the ferry terminal allows for its original function as a trading post, taking advantage of sea trade, to be clearly understood. The ferry terminal with its new concrete pier, car park, petrol station, modern lighting and fencing and the voe form the immediate setting of the Pier House. The wider setting is defined by views across Yell Sound to the Mainland and into the hills of the interior to the north and east. As a functional structure associated with the ferry terminal at Toft it is judged to be of low relative sensitivity to change beyond its immediate coastal setting. Wireframes (Figure 9.14) show that the extreme tips of three turbines would be visible above the intervening landform at a distance of 5.6km. This is judged to be a marginal magnitude of impact. There would be No effect on the setting of this buildings.

Inventory gardens and designed landscapes

9.4.38 Lunna House Inventory Garden and Designed Landscape (Site 159) is situated at the isthmus[d] of the Lunna peninsula, 12.04km south of the Site. The landscape is laid out in characteristic Shetland style with garths, walled enclosures, eyecatchers and ancillary building although it is difficult to determine the full extent of the Designed Landscape, due to the rugged topography and rough grassland extending across the area. Lunna House is sited on high ground in the north of the designated area and follies and eyecatchers are situated on high ground, opposite to the south. From these highpoints there are extensive views over Lunna Sound to the west and Vidlin Voe to the east. The Designed Landscape is of high sensitivity to changes to its setting in these directions and also to changes within its grounds. Views north from the Designed Landscape are limited and the Designed Landscape is of medium relative sensitivity to changes to its wider setting.

9.4.39 The Consented Development turbines would be visible due north of the Designed Landscape. There would be limited visibility from within the centre and south of the Designed Landscape where rising

[d] a narrow strip of land with sea on either side, forming a link between two larger areas of land

topography obstructs views north. Where visible, turbines would be seen beyond the Lunna Ness peninsula and across Yell Sound. At a distance of over 12km the turbines would only be visible on clear days. The turbines would be seen beyond the key sightlines east and west and south from the house to the follies and would not affect the understanding of the Designed Landscape and its setting on the isthmus of the peninsula. The magnitude of impact would be marginal. The effect would be Negligible and not significant.

9.4.40 Brough Lodge Inventory Garden and Designed Landscape (Site 160) lies on the summit and west-facing slopes of a low hill. The Designed Landscape centres on The Tower, the site of an Iron Age broch (Site 161). The parkland extends across the Ness of Brough, to the west of the Lodge. Brough Lodge and its associated grounds command views across the Colgrave Sound to the island of Hascosay and inland to Mid Yell to the east. Views southeast in the direction of the Site are more distant and peripheral but nevertheless extensive. Brough Lodge and its ancillary buildings form a distinctive landmark and are prominent in views from the B9088 to the southeast. Brough Lodge is listed as of outstanding scenic value in terms of both its siting and architectural impact. The site is prominent in the Fetlar landscape and is a major landmark emphasising continuity of settlement. The landscape at Brough Lodge is considered to be highly sensitive to changes within the Inventory boundary and its immediate island setting within Fetlar, but it is less sensitive to changes beyond this. On balance it is judged to be of medium relative sensitivity to changes in the wider landscape.

9.4.41 All 17 turbines would be visible at a distance of 11.39km. The turbines would be seen beyond the immediate island setting of Fetlar and beyond key views out over the island of Hasocosay towards the interior of Mid Yell. At this distance, the turbines would only be perceptible on clear days. The distinctiveness and prominence of this local architectural landmark would not be affected. The turbines would be seen beyond any elements of the setting which contribute to the understanding of the cultural value of the Designed Landscape. The magnitude of impact is judged to be marginal. The effect would be Negligible which is not considered significant.

9.5 Mitigation measures

9.5.1 National planning policies and planning guidance[108] [109] [110] as well as the local planning policies[111] [112]require that account is taken of potential effects upon heritage assets by proposed developments and that where possible such effects are avoided. Where avoidance is not possible these policies require that effects on any significant remains be minimised or offset.

9.5.2 This assessment has identified a significant Moderate direct effect on the remains of a possible prehistoric linear feature (Site 88) within semi-improved pasture which will be dissected by the proposed access track. To mitigate this effect, this feature and its immediate surroundings will be subject to topographical and geophysical survey prior to the commencement of development to record the extent of this and any other associated buried features prior to construction. Following survey, all identified elements relating to the feature, not located within the direct path of the proposed access track, will be fenced off prior to construction to avoid inadvertent damage to them by plant movement. A watching brief during ground-breaking works in the vicinity of this feature will further ensure that any further remains relating to it are recorded.

9.5.3 A Negligible effect of no significance on the alignment of a 19th century field boundary has been identified. The borrow pit construction will result in the removal of part of the line of this former boundary in an area already disturbed by previous access track construction. The boundary is recorded on 19th century maps and was not visible during the walkover survey or on aerial photographs. A watching brief

during groundbreaking works in the vicinity of this feature will ensure that any remains relating to it are recorded and thus preserved by record.

9.5.4 A further seven heritage features lie close to the proposed infrastructure; two sites, a small quarry (Site 79) and the former site of a modern structure (Site 82) are of negligible importance and require no mitigation. The remains of a possible cairn feature (Site 128) identified during the walkover survey adjacent to the access track to the radio communications tower will require to be fenced off under archaeological supervision prior to construction. The upstanding remains of two plantiecrubs (Sites 84 and 89) of local-regional importance located close to the proposed access track will be fenced off under archaeological supervision prior to construction. A further two features (Sites 130 and 131) in close proximity to Turbine 17 are possibly related to access track construction but are of indeterminate nature and possibly of early origin. These features will also be fenced off under archaeological supervision prior to construction. Additionally, any features within 50m of the proposed working areas including all areas to be used by construction vehicles will be fenced off prior to construction. This fencing will be maintained throughout the construction period to ensure the preservation of these features.

9.5.5 Given the potential for presently unknown archaeological remains, in particular of prehistoric and post-medieval date, to survive within the Site a programme of archaeological works will be undertaken prior to the commencement of development. It is acknowledged that despite walkover survey undertaken as part of this assessment, there may be further previously unrecorded subtle archaeological features within the Site. The predominance of peat within the Site means that archaeological features may be buried by peat growth, and therefore undetectable by survey

9.5.6 To mitigate the potential for previously unrecorded features to be impacted during the construction phase, an archaeological watching brief will be undertaken on a representative proportion of groundbreaking works. The purpose of such works will be to identify any archaeological remains threatened by the Proposed Development, to assess their significance and to mitigate any impact upon them either through avoidance or, if preservation in situ is not warranted, through preservation by record. Given the elevation and sloping nature of the ground in the centre of the Site, the potential for unidentified buried archaeological features within these steeper elevated areas is low and archaeological potential is greater at lower elevations and on the more gentle slopes of the access track. Depending upon the results of any watching brief works there is the potential that further works such as excavation and post-excavation analyses could be required. Detail of mitigation will be agreed in consultation with Shetland Amenity Trust through a Written Scheme of Investigation.

9.5.7 Any archaeological fieldwork commissioned in order to mitigate direct effects would result in the production and dissemination of a professional archive, which could add to our understanding of the cultural heritage of the Study Area.

9.5.8 If further groundworks are required during the decommissioning works or if plant movements are required beyond the hardstanding comprising the turbine infrastructure, then all known sites within 50m of the proposed working areas will be fenced off with a visible buffer under archaeological supervision. This will be undertaken prior to decommissioning in order to avoid accidental damage by heavy plant movement.

9.5.9 No direct mitigation is possible for operational (setting) effects. An impact upon setting is an impact upon the ability of the surroundings of an asset to contribute to how that asset is understood, appreciated, and experienced. A Moderate and therefore significant operational effect on the setting of Ness of Gossabrough Broch (Site 45) has been identified. In the case of the Consented Development there is the potential that a programme of works (undertaken as part of a Heritage Access and

Interpretation Plan (HAIP)) could constitute compensatory mitigation to partially offset potential impacts of the Consented Development on the setting of heritage assets in its vicinity. As an impact upon setting is ultimately an impact upon the ability of the surroundings of the monument to contribute to an observer's understanding, appreciation, and experience of the asset, it is argued that compensatory measures which would increase the understanding, appreciation and experience of the asset and the wider archaeology of the area, are an appropriate way to offset such impacts[113]. This assessment has identified a concentration of archaeological features around the summit of the Hamars of Houlland in the south of the Study Area; they include an unusual arrangement of 16 plantiecrubs and numerous cairn features of unknown date. The undertaking of a landscape survey in this area coupled with improved access to and information on the features identified and surveyed will serve to increase both our understanding of the historic landscape of the Hamars of Houlland and increase the knowledge of local communities empowering them in understanding of their local heritage. Interpretation boards describing and interpreting the identified heritage features as well as the wider landscape will also be placed within a marked heritage trail within this part of the Study Area as shown on Figure 3.20, further increasing understanding and appreciation of historic elements of the landscape in and around the Study Area. The effect on Ness of Gossabrough broch would remain significant.

9.6 Residual effects

9.6.1 The Consented Development has been designed, where possible, to avoid direct impacts on known heritage features. The implementation of the above outlined mitigation measures will ensure preservation by record of Site 88 and 158; prevent inadvertent damage to known heritage features; and investigate the potential for previously unknown features. Following the completion of construction and decommissioning works no further groundworks would be undertaken. No significant residual direct effects are anticipated.

9.6.2 The predicted residual impacts on the settings of designated heritage assets will be the same as assessed for the operational effects. All operational effects upon the settings of designated assets would be reversed with the removal of the turbines following decommissioning, leading to a neutral residual effect.

9.7 Cumulative impacts

9.7.1 As set out above, cumulative effects relating to cultural heritage are for the most part limited to indirect effects upon the settings of heritage assets. While there can, in some rare cases, be cumulative direct effects, none are anticipated to result from the construction, operation or decommissioning of the Proposed Development. As such this assessment will consider the potential for cumulative effects upon the setting of heritage assets which have the potential to occur during the operational phase.

9.7.2 With regard to potential cumulative effects on cultural heritage, the assessment considers operational, consented and within-planning developments at distances up to 35km from the Proposed Development. Developments at the scoping stage are not considered. Cumulative effects from the consented Viking Wind Farm to the south and the Proposed Garth (North Yell) wind farm to the north are thus considered.

9.7.3 As indicated in the methodology section only heritage assets which were considered to have the potential for significant cumulative effects are included in the detailed assessment below.

9.7.4 There would be no cumulative intervisibility with the Ness of Gossabrough Broch (Site 45), The Snuti (Site 47) and Fugla Ness Broch (Site 83) and as such there would be no cumulative impacts on these assets.

9.7.5 There would be visibility of the consented Viking Wind Farm from Wester Wick of Copister Broch (Site 37) and Burravoe Broch (Site 41). The Viking Wind Farm would be seen over 15km south of Wester Wick of Copister and over 18km south of Burravoe. The turbines would be seen beyond the key sightlines out from both brochs across Yell Sound and beyond the island of Samphray when viewed from the Wick of Copister and the coastal promontory of Lunna Ness when viewed from Burravoe. At this distance the turbines would only be perceptible on clear days. It would not be possible to see the Consented Development and Viking Wind Farm in the same view on approach to or from either broch or from the brochs themselves. The addition of the Consented Development turbines to those of Viking Wind Farm would not, cumulatively, be any greater than the impact of the Consented Development on its own. As such a marginal magnitude of cumulative impact is predicted. This would result in a Minor cumulative effect which is not considered significant.

9.7.6 In November 2018 Viking Wind Farm LLP produced an updated EIA to assess the effects of increasing tip heights at that scheme from 145m to 155m. The cultural heritage assessment considered cumulative effects including the Consented Development. That assessment focused on the Graven chambered cairn and the Lunna House Garden and Designed Landscape. It found that the effects resulting from the change in tip heights at Viking would be Negligible such that that there would be no increase in the level of cumulative effects.

9.7.7 In 2018 an EIA was concluded for the Energy Isles Wind Farm, which is located approximately 16 km north of the Consented Development, at the closest turbine, and was not assessed in the original Beaw Field Wind Farm EIA. The heritage assessment concluded that there would be no significant cumulative effects resulting from the development in combination with the Consented Development. The Energy Isles development has been under consideration by Scottish Ministers since 2019 and has most recently been revised down to 18 WTGs. The Supplementary Environmental Information supporting the reduction to 18 WTGs finds that there would be no change in cumulative effects. Therefore, Energy Isles along with the Consented Development would result in Minor/Moderate cumulative effects on Brough Holm Broch, Sna Brough Broch, Gallow Hill Chambered Cairn and Heoga Ness Broch. There will be Negligible cumulative effects on Haa of Dalsetter and Sellafirth Church.

9.8 Summary and conclusions

9.8.1 This chapter identified the archaeological and cultural heritage value of the Study Area, assessed the potential both for direct and indirect effects on archaeological features and heritage assets resulting from the construction, operation and decommissioning of the Proposed Development. This chapter also identified measures that should be taken to mitigate predicted adverse effects.

9.8.2 This assessment has identified 73 heritage features of prehistoric to modern date within the Site. The Consented Development has been designed where possible to avoid direct impacts upon known heritage features within the site. Two direct impacts on known heritage features are anticipated; a direct effect of Moderate significance on part of a possible prehistoric field boundary at Hamnavoe (Site 88) and a direct effect of Minor significance on the trajectory of a former field boundary of unknown date at The Heogals (Site 158).

9.8.3 The presence of extensive peat cover across the Study Area indicates the potential for historic environmental evidence to be contained within and underlying the peat that covers the Site. Additionally, remains of prehistoric to post-medieval date in and around the site indicate the potential for sub-surface archaeological deposits and features to exist.

9.8.4 National planning policies and planning guidance[114] [115] [116] as well as the local planning policies[117] [118] require that account is taken of potential effects upon heritage assets by proposed developments and that where possible such effects are avoided. Where avoidance is not possible these policies and guidance documents require that effects on any significant remains be minimised or offset.

9.8.5 All known heritage assets within 50m of the Consented Development will be fenced off with a visible buffer under archaeological supervision prior to the start of the construction phase in order to avoid accidental damage by heavy plant movement. The proposed fencing will include protection of a possible cairn (Site 128) of potential regional importance; two plantiecrubs (Sites 84 and 89) of local-regional importance and two features of indeterminate origin (Site 130 and 131) but of probable local importance. Site 88 and its immediate surroundings will be subject to geophysical and topographical survey to record the extent of this feature and any detectable below ground remains prior to the commencement of development. Following survey, all elements relating to the feature, not located within the direct path of the proposed access track will be fenced off to avoid inadvertent damage to them by plant movement. A watching brief during ground-breaking works in the vicinity of this feature will ensure that any further remains relating to it are recorded. A watching brief during ground-breaking works in the vicinity of an identified feature of Negligible importance (site 158) will ensure that any remains relating to it are recorded.

9.8.6 Given the potential for presently unknown archaeological remains, in particular of prehistoric and post-medieval date, to survive within the Site, a programme of archaeological works to investigate and mitigate against the possibility of uncovering hitherto unknown remains will be undertaken. The predominance of peat within the Site means that archaeological features may be buried by peat growth, and therefore undetectable by survey. To mitigate against the potential for previously unrecorded features to be impacted during the construction phase, an archaeological watching brief will be undertaken on a representative proportion of ground-breaking works. The purpose of such works will be to identify any archaeological remains threatened by the development, to assess their significance and to mitigate any impact upon them either through avoidance or, if preservation in situ is not warranted, through preservation by record. Detail of mitigation will be agreed in consultation with Shetland Amenity Trust through a Written Scheme of Investigation

9.8.7 This assessment for the Consented Development has identified a significant operational effect on the setting of Ness of Gossabrough broch (Site 45). Potential minor-moderate effects have been identified for Wester Wick of Copister (Site 37) Burravoe Broch (Site 41), The Snuti, fort (Site 47) and Fugla Ness, broch (Site 83). In addition, minor effects are predicted upon nine designated heritage assets.

9.8.8 No direct mitigation is possible for operational (setting) effects. However, in the case of the Consented Development there is the potential that a programme of survey works, undertaken as part of an Heritage Access and Interpretation Plan (HAIP) could constitute compensatory mitigation to partially offset potential impacts of the Consented Development on the setting of heritage assets in its vicinity although the effect on Ness of Gossabrough broch would remain significant.

9.8.9 The possibility of cumulative effects, the potential for additional cumulative change, resulting from the effects of the Consented Development in combination with other operational, consented or proposed wind farms has also been considered. No significant cumulative effects were identified.

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