



Energy

PEEL Wind Farms (Yell) Ltd

Beaw Field Wind Farm

Gate Check 1

December 2015



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Introduction

Peel Wind Farms (Yell) Ltd (the Applicant) submitted a Scoping Report for the proposed Beaw Field Wind Farm, to the Energy Consents and Deployment Unit (ECDU), Scottish Government, in April 2015. The Proposed Development is an onshore wind farm of capacity greater than 50MW, which would be located to the north and west of Burravoe, Yell, on the Shetland Islands. The application area, referred to in this report as the 'Site', is approximately 1135ha (Figure 2 illustrates the extent of the Site and identifies the proposed Application boundary).

Wardell Armstrong LLP has prepared this report on behalf of the Applicant. This report informs the Gate Check 1 process, set out by the ECDU for applications for developments submitted under Section 36 of the Electricity Act 1989. This report has been prepared following pre-application discussions with officials from the ECDU and describes how the issues raised in the scoping opinion have been considered and included in the environmental studies undertaken for the Environmental Impact Assessment (EIA). Further consultation since the scoping opinion was published has also been identified. This report also considers the iterative design process to achieve the final turbine layout design.

The structure of this Gate Check 1 report provides information as follows:

- Outline description of the Proposed Development;
- Design evolution and issues addressed by design and location of turbines;
- Summary of other issues raised in scoping that informed the design process; and
- Roadmap for submission of the Environmental Statement (ES).

Proposed Development

The Proposed Development is the product of an iterative design process that has considered environmental issues at each stage. Further details of the design process are provided below and will be set out in more detail in the ES.

At design freeze, the Proposed Development comprises:

- 17 wind turbines with a maximum tip height of 145m;
- 17 crane pads and laydown areas one for each turbine;
- Access tracks;
- Extraction of aggregate from up to four borrows pits located within the Site;
- Temporary construction compound area and Site office;
- Electrical substation and control building;
- Underground electrical and communication cabling;
- Permanent anemometry mast; and a
- Radio receiving tower

Design Evolution

The objective of the design process has been to define the layout of turbines that take account of the environmental characteristics within and surrounding the Site and to maximise the electricity generating capacity of each turbine, through the spacing and orientation of the wind farm. The design has taken account of the proximity of the wind farm to the Otterswick and Graveland Special Protection Area (SPA), Scatsta Airport, nearby residential communities and all other environmental and technical factors considered during the scoping phase of the EIA. The layout has also taken account of a number of communication links that pass through the Site.

The design iteration of the Proposed Development involved four main stages that took into account the following factors:

- To be consistent with the relevant development plan policies that help determine the suitability of sites for wind farms, together with national guidance and planning policy notes and statements.
- To be consistent with the management objectives of the Otterswick and Graveland SPA and Otterswick SSSI, with specific attention to the red-throated diver population (a qualifying species of the SPA) together with their breeding habitat and the assemblage of upland breeding birds identified in baseline surveys.
- To design the turbine layout to take account of the Obstacle Limitation Surface (OLS) for Scatsta airport.
- To avoid interference with microwave links operated by British Telecom (BT), Vodafone and Shetland Islands Council (SIC). With respect to an Airwave link that passes through the wind farm, a separate solution involving rerouting the link and a hop site will be required.
- To maintain residential amenity, in particular the potential impacts of turbines with respect to visual impact, noise and shadow flicker on the closest residential properties within the settlements of Hamnavoe, Burravoe and Gossabrough.
- To take account of scale and nature of the landscape in which the wind farm is located.
- To minimise potentially adverse visual impacts from key viewpoints taking account of landscape, cultural and historic receptors.
- To minimise the potential impact on peat, blanket bog habitats and groundwater dependent terrestrial ecosystems, through location and design of operations required to construct and operate the wind farm, including borrow pits, construction compound hardstanding areas and access tracks.
- To develop a habitat management plan to mitigate the loss of peat and associated habitat (in particular habitat that would support an increase in the population of red-throated divers).

Further analysis of the design iterations will also be considered within the ES Chapter 5: Design evolution and a separate Design and Access Statement, to be submitted with the application.

Stage 1: Site identification

The Applicant acquired the Proposed Development as a project that had initially been considered by Enertrag Ltd in October 2014. The Stage 1 layout, was an unconstrained development within the Site and was based on a candidate wind turbine with a maximum rotor blade tip height of 145m. The Site

had a total area of 1,266 ha, within which a total of 65 turbines could provisionally be located (see Figure 1: Stage 1). This layout was based on a 5x3 rotor diameter wake separation and represented the maximum potential development available.

Stage 2: Preliminary design and survey assessment

The first design iteration took place up to January 2015, following an assessment of the wind resource, together with feedback presented in the 2012 scoping opinion provided to the previous developer Enertrag by the ECDU. Vantage point surveys conducted during breeding bird seasons in years 2011 and 2012 identified the primary protection buffers required for ornithology. The buffer included the Otterswick and Graveland SPA, together with Aris Dale, the Hill of Arisdale and the Hill of Canisdale and comprised a total area of 628ha. Approximately 280ha of the ornithological constraint buffers are within Site (see Figure 1: Stage 2). Following the implementation of this constraint a total of eleven turbines were removed from the scheme, leaving a 52 turbine scheme.

Stage 3: Peat depth, Scatsta Airport, landscape, ornithology data (2014) and traffic

The preliminary peat depth survey, based on a sampling density of 250m spacing, identified the areas of deep peat present within the Site, together with a survey of the flora present within the peatland habitats and observations on the impact of sheep grazing. Further baseline data relating to peat depth, hydrology and ground water dependent terrestrial ecosystems, (GWDTEs) was obtained during site surveys later during 2015. The data from these baseline surveys identified that the constraint buffers previously identified for ornithology and aircraft navigation also contained areas of sensitive peatland habitats, which had therefore already been excluded from the development footprint of the wind farm.

Prior to finalising the layout submitted in the Applicant's scoping report, the Obstacle Limitation Surface (OLS) area adjacent to Scatsta Airport was defined in relation to the turbine layout of the wind farm. The outer boundary of the OLS excluded further turbines, previously identified in the Stage 2 iteration; with a number of layout options ranging from 28 to 20 turbines. The OLS defines a safeguarding buffer to avoid the infringement of the approach surface area with the potential to adversely impact on the safety margins of runway 24 (see Figure 1: Stage 3). The radar assessment concluded that the primary surveillance radars were not affected by interference from the Stage 3 design layout iteration.

Desk study analysis of landscape and cultural heritage receptors identified potentially sensitive receptors and indicated the requirement for a detailed assessment to inform the detailed design and turbine layout, including the distance between the nearest turbines to the coastline. This reduced the scheme to 20 turbines that were identified in the Scoping Report (April 2015). The Application boundary was also defined, within an area of 1,135 ha, excluding the part of Otterswick and Graveland SPA that was included in the Stage 1 and 2 designs (See Figure 1 Stage 3)

Traffic assessments identified that access to the Site could be taken from the B9081 road via a new access junction situated to the west of Hamnavoe and a number of discussions were undertaken with Shetland Islands Council, the port operator on Shetland to inform the suitability of this access.

The turbine layout developed was published in the Scoping Report, April, 2015 (see Figure 1: Stage 3).

Stage 4: Design Freeze

Further design iterations took account of the feedback issued in the Scoping Opinion from May 2015 together with primary baseline data surveyed during the period from May to September 2015. These design elements included the following feedback on the design at scoping stage:

- Public consultation at scoping stage provided feedback on the turbine layout and resulted in the removal of the eastern most turbine, increasing the distance between properties in Burravoe and the wind farm.
- Four turbines have been relocated to increase the minimum distance to residential dwellings in Burravoe and Gossabrough.
- Breeding bird surveys from 2015 informed the baseline conditions with respect to the range of upland ground nesting species within the Site. These defined the presence of non-SPA breeding red-throated divers to the east of the Site (on Litla Water) and a constraint buffer for the breeding site and observed flight lines was defined around Litla Water, towards the coast. The constraint buffer resulted in the removal of 2 turbines from the scheme, these turbines were located to the east of Horse Water and Swarta Shun respectively.
- Detailed peat probe data informed engineering requirements for construction and the preferred options for access track design, the indicative foundation requirements for turbines and location of borrow pits.
- Baseline surveys for archaeology and cultural heritage identified specific features within the Site which have been avoided in design freeze.
- A 1500m protection buffer has been applied to the Gossabrough Brock Scheduled Ancient Monument to preserve its setting.
- A minimum distance equal to the tip blade height has been defined for the turbines adjacent to the B9081.
- Protection buffers have been identified to minimise potential impacts on blanket bog habitat and GWDTE, although it has not been possible to avoid the disturbance of unmodified blanket bog habitat during the construction phase.
- In consultation with BT regarding the final design layout, a microwave link that had not been revealed at scoping stage was identified, as crossing the Site and accommodated in the design freeze layout.
- Consultation with SIC regarding a microwave link, confirmed no technical interference on the link from the designed layout of turbines.
- Consultation with Airwave identified a microwave link that had not been revealed at scoping stage. The link crossed south to north through the site and the alignment of the link would be affected by interference from the position of two turbines to the west of the wind farm.

Design freeze was based on the review of turbine layouts that took account of technical and environmental constraints identified through the process of desk based and field surveys (see Figure 1: Stage 4). At design freeze, the layout of the wind farm comprises 17 turbines with a maximum height to tip of 145m. The location and dimensions of the temporary construction compound, substation and borrow pits were progressed on the basis of the turbine layout at design freeze. The concept engineering designs for these elements of wind farm construction has been used to inform the EIA process (see Figure 2).

EIA Scoping and Consultation

The Applicant submitted an EIA Scoping Request to Scottish Ministers in April 2015 and a Scoping Opinion was subsequently issued in May 2015. The individual comments of all consultees have been considered in developing the baseline surveys and the EIA methodology, where appropriate these have been followed up by meetings and specific discussions to inform ongoing studies and the consultation process. Appendix 1 is a summary of the key issues identified by each consultee during scoping and provides a commentary with respect to studies for the planning, environmental, social and economic aspects considered in the EIA.

The Scoping process has been designed to ensure the EIA is sufficiently comprehensive to enable thorough consultation at the planning stage, with particular emphasis on the environmental effects of the Proposed Development. The Scoping Report was prepared to enable the ECDU to undertake preliminary consultations with the relevant departments and organisations (statutory and non-statutory consultees). Table 1 lists the statutory and non-statutory consultees that the ECDU consulted and received responses from prior to the end of the consultation period on 8th May 2015. No response from the John Muir Trust, Mountaineering Council of Scotland or the Association of Salmon Fishery Board has been received to date.

Table 1: List of Statutory and Non-statutory Consultees Consultation since Scoping

Statutory Consultee	Non-statutory Consultee
Shetland Island Council (SIC)	Scottish Water
Scottish Environment Protection Agency (SEPA)	The Scottish Rights of Way and Access Society
Scottish Natural Heritage (SNH)	Highlands and Islands Airport Limited (Sumburgh Airport)
Royal Air Force (RAF) – Civil Aviation Authority	NATS (formally National Air Traffic Service)
The Crown Estate	Serco – Scatsta Airport
Ministry of Defence (MOD)	Shetland Amenity Trust
Historic Environment Scotland (HES)	Royal Society for the Protection of Birds (RSPB)
Marine Scotland Science	BT
Transport Scotland	The Joint Radio Company Ltd
	Scottish Wildlife Trust (SWT)
	Visit Scotland
	Forestry Commission Scotland
	Vodafone
	British Horse Society (BHS)

Table 1: List of Statutory and Non-statutory Consultees Consultation since Scoping

Statutory Consultee	Non-statutory Consultee
	Airwave Solutions Ltd.
	Sportsscotland

Consultation since Scoping

Since receipt of the Scoping Opinion, direct consultation has taken place and this has been summarised in Table 2. It should be noted that this will be ongoing and will continue to inform the EIA and design process and will be updated in the Gate Check 2 report.

Table 2: Consultation Undertaken Since Scoping

Topic	Consultee	Form of Consultation (Email/Phone/Letter/ Meeting)	Purpose & Outcome
Landscape and Visual	Scottish Natural Heritage (SNH), Shetland Islands Council (SIC)	Meetings June 22 nd 2015 with follow up meetings and emails	Review requirements of scoping opinion and agree the details of the baseline survey, including viewpoints and photomontage viewpoints.
Ornithology	SIC	Meeting 15 th July 2015 minutes	The Applicant confirmed that the baseline ornithology surveys extended for a period in excess of two years. Additional vantage point and breeding bird surveys are going to take account of the turbine layout. It was considered that the baseline survey data would be completed at the end of the bird breeding season, 2015.
Noise, Air Quality and Amenity	SIC	Meeting 22 nd June 2015 and subsequent emails	Nothing further to add to scoping opinion at this stage. Require further information on ancillary operations: transport noise and borrow pits, construction requirements.
	SIC	Meeting 15 th July 2015 minutes	The Applicant confirmed that the SIC Environmental Health Officers had been present when noise monitoring equipment was installed. Further discussions and an exchange of data agreed, once the baseline survey was completed.
Recreation and Access	SIC	Meeting 22 nd June 2015 and subsequent emails	There may be opportunities for longer term recreational and crofting access. Consider joining access tracks for circular routes.
Hydrology and Hydrogeology	Scottish Environment Protection Agency (SEPA)	Emails	Information request relating to surface water and groundwater conditions, abstraction licences and discharge consents. SEPA provided all available information requested.
		Meeting 3 rd July 2015 and subsequent emails	SEPA queried whether the requirement for, and location of, potential watercourse crossings had been discussed with local fishing interests. Contact details of fishing interest provided.
	SIC	Emails	Information request relating to private water supplies. Information provided.

Table 2: Consultation Undertaken Since Scoping

Topic	Consultee	Form of Consultation (Email/Phone/Letter/ Meeting)	Purpose & Outcome
Public Utilities and Services	Scottish and Southern Energy, Scottish Water, Scottish Gas Networks, Ofcom, Cable & Wireless Broadband, Telecommunications, BT, JRC, Airwave, Vodafone and MOD	Emails	Request for utility plans in and adjacent to the Site. Plans were provided by the consultees and taken into account in the constraints mapping process where applicable. Following design freeze layout the co-ordinates of the turbines were re-consulted with network providers and MOD (see EMI consultation).
Peat and Soils	SEPA	Meeting 3 rd July 2015 and subsequent emails	<p>50m intervals of peat probing locations focusing on infrastructure areas only was agreed, based on the grid survey that was submitted with the Scoping report.</p> <p>SEPA confirmed that peat extraction and disposal/storage would be considered a licensed activity that SEPA would regulate, during the construction phase.</p> <p>It was considered that there were limited opportunities for positive re-use of peat on Yell and non-hazardous landfill, with appropriate lining, may need to be considered.</p> <p>Possible to re-use some peat for borrow pit restoration but the design would need to carefully consider quantities involved to see whether this was for restoration purposes or disposal and thus potentially subject to a waste management licence.</p> <p>Peat habitat management plan to consider the potential for the reuse of peat where erosion has taken place. To be integrated in the design of access tracks, foundations and hardstanding required for turbine construction.</p>
	SIC	Meeting 22 nd June 2015 and subsequent emails	Potential for betterment, through habitat management plans. Peat cutting may also continue, therefore habitat restoration is not necessarily appropriate.
	SIC	Meeting 15 th July 2015 minutes	Proposals for peat re-use, whether to backfill void spaces or for ecological enhancement should be clearly explained and justified in ES.

Table 2: Consultation Undertaken Since Scoping

Topic	Consultee	Form of Consultation (Email/Phone/Letter/ Meeting)	Purpose & Outcome
Community Involvement	SIC	Meeting 22 nd June 2015 and subsequent emails	Peel Energy provided feedback from public consultation.
Ecology	SIC	Meeting 22 nd June 2015 and subsequent emails	Electrofishing survey locations to be agreed and undertaken in August 2015. Marine fisheries assessment should assume that both the Outer salmon hatchery and Inner Mussel bed are in full commercial production (Hamnavoe).
Traffic and Transport	SIC	Meeting 22 nd June 2015 and subsequent emails	To discuss sufficient capacity of ferries, availability of dockside areas, engineering improvements to B class and unclassified roads. Any improvements, including passing places would require approval and landowner consent. The improvements would form part of the adopted highway, subject to Highways Department of SIC's approval.
Cultural Heritage	Shetland Islands Trust	Meeting 22 nd June 2015 and subsequent emails	The approach to baseline surveys discussed and agreed together with the methodology to be used for impact assessment and the requirements for archaeological monitoring during construction phase.
	SIC	Meeting 15 th July 2015 minutes	The Applicant has adopted the methodology suggested by HES in scoping. Archaeology surveys have identified some interest within the Site. These areas of interest are not located within the footprint of the turbines and associated infrastructure.
Construction Environment Management Plan (CEMP)	SEPA	Meeting 3 rd July 2015 and subsequent emails	SEPA confirmed that they would review a draft CEMP prior to finalisation of this document and suggested that this should be sufficiently detailed that it could almost be used as a basis for a contractor to tender for the works. The CEMP would be prepared after determination of this application.
Trees/Woodland	Forestry Commission Scotland	Email 11/08/2015	No objection

Table 2: Consultation Undertaken Since Scoping

Topic	Consultee	Form of Consultation (Email/Phone/Letter/ Meeting)	Purpose & Outcome
EMI	OFCOM	Email 13/10/2015	Confirmed the presence of microwave links within 500m search area of the turbine layout within the wind farm,
	BT	Emails and telephone discussion (14/10/2015- 21/10/2015)	Confirmed the presence of BT link from Symbister to Mid Yell, Turbine T13 and T12 were relocated to the north and east, to provide an agreed buffer between the microwave link and the tip of the turbine blades.
	SIC	Emails and telephone discussion (20/10/2015 – 14/11/2015)	Confirmed the presence of the Swinster Hill to Gallow Hill link. Further investigation of the position of the link, identified that there was sufficient buffer between the nearest turbine and the link, to avoid interference
	Airwave	Correspondence, emails 3/11/2015 to 11/10/2015 and telephone discussions	Confirmed the presence of the Airwave link from Bressay to Mid Yell. The link would be affected by interference from Turbine T3 & T8. Following discussion with Airwave, it has been confirmed that there are options to divert the link to avoid the wind farm. There is no resultant change to turbine layout; however the potential for a new radio receiving tower has been included in the Proposed Development
	Vodafone	Email 20/10/2015	No objection
	Joint Radio Company Ltd	Email	No objection
Borrow pits	SEPA	Meeting 3 rd July 2015 and subsequent emails	<p>The feasibility of using onsite borrow pits as a source of aggregate for construction purposes was considered to be the most preferable option given the island location of the Site.</p> <p>A number of potential borrow pits were being considered including the possibility of extracting material from a now disused quarry on the southern boundary of the Site. This option will be discussed with the Council and others as appropriate.</p>

Table 2: Consultation Undertaken Since Scoping

Topic	Consultee	Form of Consultation (Email/Phone/Letter/ Meeting)	Purpose & Outcome
	SIC	Email	SIC provided information on former landfill sites.
Socio- Economic	SIC, HES, Sportsscotland and BHS	Emails	The methodology for assessing impacts on socio-economic, tourism and recreational facilities assessed.
General	SNH	Meeting 6 th July 2015 and subsequent emails	To discuss design constraints and elements of the Proposed Development such as alternative for access road design including floating roads, the design of borrow pits and the alternatives for re-use of peat

Summary of further environmental considerations informing the design process

Baseline surveys were completed by end of September 2015 and a comprehensive set of environmental constraints have been developed to inform the design freeze (see Figure 1: Stage 1 to 4). The details of the methodology adopted to assess potential impacts and derive mitigation measures will be defined within each ES Chapter.

Further analysis of the environmental constraints not specifically included at the design freeze layout (as shown on Figure 1) but considered during the design iteration will also be reported in the ES. These considerations have been outlined in the following sections.

Borrow pit design and potential impacts associated with extraction and restoration

SIC and SEPA require details of the design, operation and restoration of borrow pits so that the potential impacts associated with noise, dust, blasting and visual effects can be assessed. Chapter 3: Project Description will provide details of the options analysis and design details of four proposed onsite borrow pits. The design and operational details of aggregate extraction from the borrow pits has been included in the relevant impact assessment chapters of the ES. Due to the distance of the borrow pits from the coastline (>3km), the potential impact on marine mammals has been scoped out of the EIA.

Commercial aquacultural activities in Burravoe and Hamnavoe

SIC and Marine Scotland Science (MSS) required the potential for over siltation of watercourses and potential impacts on fish populations to be considered. The design freeze layout of the wind farm has considered a 50m buffer to protect watercourses except for crossing points. Potential impacts on water quality and aquatic fauna will be addressed in Chapter 15: Hydrology and Hydrogeology and Chapter 11: Ecology, respectively. The socio-economic elements of the aquacultural operations consider the current level of commercial activity and take into account the potential for future expansion of the industry. This will be addressed in Chapter 6: Socio-Economic, Tourism and Recreation Assessment.

Peatland habitats

SIC, SNH, RSPB, SWT and SEPA required a detailed assessment of the loss of habitat and associated peatland to augment and inform potential impacts of the Proposed Development on ornithology. The design freeze layout avoids areas of deep peat where possible, based on data from the peat depth grid survey across the Site. Detailed data on peat depths was obtained from 50m point and transect surveys on or near to access tracks, turbine bases and hardstanding areas. NVC surveys have also been undertaken, to inform the position of turbines. The impact of the Proposed Development on terrestrial ecology, ornithology and peat resources will be assessed in Chapter 11: Ecology, Chapter 10: Ornithology and Chapter 12: Soils and Peat of the ES.

A Peatland Restoration and Management Plan (PRMP) will be required to manage the extraction, reuse and restoration of disturbed peat and the details of this would be prepared and agreed prior to the commencement of construction. To minimise the volume of peat disturbed, appropriate measures will be defined in the PRMP, in accordance with SNH and SEPA guidelines

Carbon emissions associated with disturbance of peat during construction will be addressed in Chapter 14: Carbon Balance, which will rely on best practice guidance to be detailed in the PRMP, which will detail preventive measures avoiding the drying or oxidation of peat during construction.

Water quality, groundwater abstractions, water environment and flood risk protection

A data request to SEPA confirmed that there were no groundwater abstractions within 250m of the construction footprint, within the Proposed Development. Access tracks have been designed to minimise the number of new watercourse crossings required and avoid sensitive habitats. Six watercourse crossings have been identified (see Figure 2) to achieve access requirements for design freeze. Watercourse crossings will be designed to allow for continued passage of otters and fish.

Flood Risk Assessment will be considered within Chapter 15: Hydrology and Hydrogeology, which considers the requirements of drainage to facilitate construction.

Amenity, recreation, cultural heritage and access

SIC, SNH and HES required an analysis of the visibility of the Proposed Development from a number of residential and cultural heritage features such as listed buildings. Chapter 7: Landscape and Visual Impact Assessment and Chapter 9: Cultural Heritage will consider the visibility and impact of identified receptors in their assessments.

SIC and The Scottish Rights of Way and Access Society have identified the potential to improve the interconnections within the Site to facilitate pedestrian access. This will be discussed in Chapter 6: Socio-Economic, Tourism and Recreation Assessment. Formal and informal routes have been identified and mitigation measures to improve access for recreation will be defined.

Traffic and transport

SIC advised the consideration of the turbine manufacturer's haulage route guidelines and the support of evidence in photographic and video format to determine the state of the road network. Chapter 18: Highways and Transportation, will consider the Transport Assessment Guidance produced by Transport Scotland in 2012 to establish suitable routes for importation of turbine components.

Roadmap for submission of the Environmental Statement (ES)

It is the Applicant's intention to submit the Section 36 application and ES for Beaw Field Wind Farm in February 2016. As Appendix 1 details, the comments and advice received during the scoping process have been integral to progress the design for the Proposed Development together with ongoing consultation with key stakeholders and the local community. This process will continue throughout the pre-application process to ensure that a robust application and ES is submitted.

Notice of the application submission through appropriate advertisements will be issued circa week commencing 22nd February 2016, to be discussed and agreed in advance with the ECDU as part of the Gate Check 2 process. Once published the ES will be available for viewing at Burravoe Village Hall and the Shetland Island Council offices in Lerwick.

Conclusion

Peel Wind Farm (Yell) Ltd welcomes any comments that the ECDU or statutory consultees may have in relation to this Gate Check 1 Report for the proposed Beaw Field Wind Farm. The Applicant also offers a round-table meeting, hosted and facilitated by the ECDU, to provide an opportunity for the statutory consultees to further discuss any issues they believe are not being adequately addressed.

Appendix 1 Summary of Scoping Consultees Responses

Topic	Consultee	Section	Comments	Comment / Action Taken
Policy and Planning (General)	Shetland Island Council (SIC) 7 th May 2015	Policy Context Paragraphs 2.1 to 2.4	The ES should consider the Shetland Local Development Plan (2014), Land Use Planning Policies, Scottish Historic Environmental Policy (December 2011), Planning Advice Note (PAN) 2/2011	Relevant planning policies will be addressed in a dedicated ES chapter and an accompanying planning statement
			Supplementary Guidance (SG) on Wind Farm Development in Shetland is currently being prepared and on adoption will provide specific guidance, which any ES submitted, should take account of.	Meeting has been held with Shetland Charitable Trust and Shetland Council and the minutes circulated.
Socio-economics	SIC 7 th May 2015	Socio-economics Paragraphs 14.1 to 14.2	A targeted socio-economic survey and report considering Shetland/Yell specific activities should be included in the assessment.	Survey of local businesses within 20km of the Proposed Development, details are considered in the Socio-economic chapter.
			Many residents who live in close proximity to wind farm developments cite a reduction in property values as a significant concern. We look forward to reviewing the findings of the study and interviews.	House prices are not a material planning consideration; all studies suggest no impact In question survey with householders house price forms part of the assessment and house price devaluation was not cited as an issue.
	SIC 7 th May 2015	Landscape and Visual Paragraph 3.1	The landscape and visual assessment must be undertaken with due account of all the relevant and contemporary best practice. Furthermore, the developer is advised to closely refer to the report "Landscape Sensitivity and Capacity Study for Wind Farm Developments on Shetland Islands."	Advice noted- assessment will be undertaken in accordance with guidance Consultation has taken place with both SNH and Shetland Island Council to agree the viewpoint locations.
Landscape and Visual	Scottish Natural Heritage (SNH) 8 th May 2015	Section 2a Landscape and Visual Impact	In assessing cumulative impacts we recommend that as well as considering existing and consented large scale wind farms and those subject to planning application, the EIA takes into account single turbines over 50m to blade tip and groups of smaller turbines.	Relevant guidance will be consulted. Cumulative assessment will considered all relevant schemes, based on discussions
	Historic Environment Scotland 6 th May 2015	Scheduled Monuments	Head of Brough, broch, West Yell (Index no. 2071) appears to lie outside the notional ZTV However we recommend the impact of the proposed turbines would have upon this view should be assessed as part of the ES.	To be considered in Cultural Heritage Chapter – wireframe and photomontage from monuments will also be considered in the assessment.
			Wester Wick of Copister, broch (Index no. 20191) is situated on a small island just off the southern tip of Yell. It lies within the notional ZTV with all 20 turbines predicted to be visible. The impact that the proposed turbines would have upon views of the broch from the sea should be assessed as part of the ES.	
			Burra Voe, broch (Index no. 2052) lies on the shore and its setting is likely to be focussed on the coast and Burra Voe itself rather than the hills behind it. It lies within the national ZTV as having all 20 turbines visible, and therefore the impact that the proposed turbines would have upon views of the broch from the sea should be assessed as part of the ES. Viewpoint 2 may help to assess this impact.	
			Gossabrough, broch and settlement (Index no. 2069) lies close to the northern shore of Ness of Gossabrough and its setting is likely to be focussed on the coast and the Wick of Gossabrough itself rather than the hills behind it. It lies within the notional ZTV as having all 20 turbines visible and therefore the impact that the proposed turbines would have upon views of the broch from the sea (of further out on the headland) should be assessed as part of the ES. A photomontage/viewpoint at this location would be useful.	
		Listed Buildings	The Snuti fort (Index no. 2085) occupies a promontory overlooking Colgrave Sound and its setting is likely to be coastal. It lies within the notional ZTV as having all 20 turbines visible, and therefore the impact that the proposed turbines would have upon views of the fort from its adjacent coastline should be assessed as part of the ES. A photomontage/viewpoint at this location would be useful.	
			The category A listed building known as West Sandwick, North Haa (West Sandwick House) appears to lie outside the ZTV. However, should alterations to the scheme in the design process increase visibility from this location, we recommend a ZTV be revised. We recommend that cumulative impacts assessment considers not only impacts where schemes are visible in the same arc of view, but also where there is the possibility of heritage assets becoming surrounded by similar development.	West Sandwick is outside revised ZTV. Comments noted and cumulative impacts will be assessed in the ES.

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Topic	Consultee	Section	Comments	Comment / Action Taken
Amenity and Recreation	SIC (Outdoor Access Officer) 7 th May 2015	Outdoor Access Paragraphs 8.1 to 8.6	Although the development would not appear to affect any formal route or public rights of way, the introduction of new large engineered structures would influence the character of the surrounding landscape and wild land area. The development borders Access Route ARY06, The Catalina Memorial walk and also the Hill of Arisdale (listed as Marilyn to be ticked off) and The Ward of Otterswick, which all attract walkers to the area. Additionally under the Land Reform (Scotland) Act 2003 the public have a general right to responsible non-motorised access over that hillside.	Impact on wild land is not likely to have a significant effect due to distance separation from the Proposed Development. Due to topography, the wind farm is not visible from the access route and the Catalina Memorial.
	Shetland Island Council (Outdoor Access Officer) 17 th April 2015	Page 1 and 2	When access roads and other infrastructure are designed consideration should be given to suitable interconnection to enable their use for non-motorised outdoor recreation in the area. The applicant should include within the ES an Access Route Plan to show how provision for both formal and informal access in the area has been considered and will be catered for.	Assessment of recreational paths identified in core footpaths considered in Socio- Economic chapter of the ES Formal and informal routes have been identified during site surveys.
	The Scottish Rights of Way and Access Society 14 th May 2015	Page 1 and 2	The National Catalogue of Rights of Way does not show any rights of way affected by the study area, however, there may be routes that meet the criteria but have not been recorded because they have not yet come to our notice. It is our understanding that there are core paths to the immediate south and to the north of the study area. The SIC's access officer may also be able to provide further advice regarding public access in and around the application site.	Core paths and access routes have been agreed with SHETL. Reflected in the representative view point analysis that will be reported in the ES.
			We note that the Scoping Report (p26) identifies views "from receptors such as ... public rights of way and other routes with public access" as a potentially significant effect arising. We thus anticipate that the Environmental Impact Assessment will consider any direct and indirect impacts of the Proposed Development on core paths, access rights of way and their maintenance during construction, operation and decommissioning.	
			Furthermore, Core Paths and general access rights are acknowledged in section 7.11.16 when appropriate receptors regarding air quality are considered.	
	VisitScotland 21 st April 2015	Importance of Scenery to Tourism	The importance of this element to tourism in Scotland cannot be underestimated. The character and visual amenity value of Scotland's landscapes is a key driver of our tourism product: a large majority of visitors to Scotland come because of the landscape, scenery and the wider environment, which supports important visitors activities such as walking, cycling, wildlife watching and visiting historic sites.	Considered in Socio- Economic and tourism chapter
		Taking Tourism Considerations into Account	Planning authorities should also consider the following factors to ensure that any adverse local impacts on tourism are minimised: The number of tourist travelling past en route elsewhere. The views from accommodation in the area. The relative scale of tourism impact i.e. local and national. The potential positives associated with the development.	Meetings and assessment will be reported in the Socio- Economic chapter.
		Conclusions	Given the aforementioned importance of Scottish tourism to the economy, and of Scotland's landscape in attracting visitors to Scotland, VisitScotland would strongly recommend any potential detrimental impact of the Proposed Development on tourism – whether visually, environmentally and economically – be identified and considered in full. This includes taking decisions over turbine height and number. VisitScotland strongly agrees with the advice of the Scottish Government – the importance of tourism impact statements should not be diminished and that for each site considered an independent tourism impact assessment should be carried out. This assessment should be geographically sensitive and should consider the potential impact on any tourism offerings in the vicinity. VisitScotland would also urge consideration of the specific concerns raised above relating to the impact may perceived proliferation of developments may have on the local tourism industry, and therefore the local economy.	Assessment has taken account of the LVIA studies and will be reported in the ES. Cumulative assessment has taken account of other wind development.
	Cultural Heritage and Archaeology SIC 7 th May 2015	Cultural Heritage and Archaeology Paragraphs 10.1 to 10.4	The Shetland Amenity Trust's Archaeology Service suggest that transects spacing is at an absolute maximum and it will be more useful to require transects to be much closer together. Details used in any given methodology otherwise DGPS, should be provided.	Walkover survey of proposed infrastructure undertaken along transects spaced at maximum of 20m. Survey undertaken with the aid of TrimbleGeoXR GPS. 'Asset' replaced with 'feature' in Cultural Heritage Chapter as and when

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Cultural Heritage and Archaeology	Shetland Amenity Trust 20 th April 2015	Page 1	For 'asset' please read/replace with 'feature'. In compiling the baseline information the applicant may also wish to look at: The Inventory of Historic Gardens and Designed Landscapes, compiled by Historic Environment Scotland; and maps plans etc. held by Shetland Museum and Archives and the National Archives of Scotland.	appropriate. The term 'asset' is retained in places as it is used in SPP and Historic Environment Scotland Guidance. Comments noted and data sources consulted.
	Historic Environment Scotland 6 th May 2015	Page 1	Historic Environment Scotland has previously commented on the scoping report for a similar development in the same location (letter dated 4 th April 2012). Our comments on the scope of the assessment remain broadly the same We recommend that you consult the relevant local authority's archaeological and conservation service, who will also be able to advice on potential impacts on the historic environment.	Comments noted and addressed in ES.
	Historic Environment Scotland 6 th May 2015	Annex Historic Environment Scotland's Interest	On the basis of the information submitted to us, I can confirm that the Proposed Development is unlikely to have a direct impact on any heritage assets within our remit. We note that while the scoping report refers to a development of up to 28 turbines, the ZTV and layout diagrams provided show 20, as being those which have indicative locations. This limits the usefulness of this information in assessing potential impacts for our interests, and comments to make on individual assets.	Comments noted and addressed in ES.
	Historic Environment Scotland 6 th May 2015	Terminology and References	The methodology itself can at times be difficult to understand due to the introduction of unfamiliar terminology and unexplained categories, such as 'penumbral setting' or 'authentic' setting. We would therefore recommend that this is further explained. In Tables 9 and 5, reference is made to the 'Town and Country Planning (Environmental Impact Assessment) Regulations 2011 Assessment Criteria'. As there is no reference to such criteria in this legislation, it is unclear what this refers to.	Terminology simplified and references to 'authentic' setting removed and/or explained as relevant. Reference removed.
	Historic Environment Scotland 6 th May 2015	Methodology	We are broadly content with the search areas identified and welcome the fact that viewpoints for cultural heritage impacts are to be agreed with Historic Environment Scotland. We have some concerns about the details given in a number of tables: The categorisation given in table 3 is confusing regarding features of national importance. If the assessor considers that the designation of a heritage asset requires review, this issue should be raised with Historic Environment Scotland. Table 4 might seem to confuse issues of sensitivity and magnitude of impact. Table 6 might seem to confuse contextual and intrinsic attributes in defining the sensitivity of a site to changes in its setting. In table 7. consideration of factors affecting magnitude of impact is insufficiently detailed and needs to refer to SNH's guidance note, Siting and Designing Wind Farm in the Landscape Overall table 8 explains clearly the criteria for establishing magnitude of setting impact. However, this is achieved best through the more simple criteria given, such as 'direct severance of the relationship between an asset and its setting', or 'an impact that changes the setting of an asset such that the understanding of the asset and its cultural value is marginally diminished'. We consider other criteria in the table to be more problematic, as some are very specific and technical, the terminology is not always clear. Table 5 and 9 are inconsistent in the levels of impact that they define. The table which refers to setting impacts (table 9) identifies fewer levels of impact which are 'significant' in the context of EIA. There is a general presumption that reduced condition of sites renders their setting less sensitive. This is demonstrated in Table 6 as well as Table 3. We do not consider this a relevant factor in the assessment.	Historic Environment Scotland consulted on proposed viewpoints. Table clearly states that all assets with national designations (Scheduled Monuments, Category A Listed Buildings) are of national importance. This will be reflected within the ES. Comments noted – tables revised

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Ornithology	SIC 7 th May 2015	Ornithology Paragraphs 5.1 to 5.3	The applicant should take account of local information and knowledge that may be imparted during the public consultation. The ES should consider the potential impacts of the development to the SPA, important birds, blanket bog, and carbon stores.	Initial public consultation in April 2015 has provided information and feedback, which has been fed into the final layout design. The final design will be presented to the public and further views sought. Points noted- See comments below: SPA and qualifying species constraints considered. Blanket bog has been mapped in relation to peat depth, habitat and GWDTEs. The volume of peat disturbed has been taken into account during the design freeze process.
	SIC 7 th May 2015	Ornithology Paragraphs 5.5 to 5.7	Breeding populations of several important and protected birds are found in the area including red-throated diver, merlin, golden plover, dunlin artic skua and skylark great skuas and curlew.	The ES ornithology chapter takes account of the SNH guidance on Wind Farm and Birds, assessing relevant species as required. This will be addressed in the ES ornithology chapter and the Design evaluation ES chapter.
	Royal Society for the Protection of Birds (RSPB) 27 th April 2015	Birds	For many of these species operational disturbance, displacement, barrier effects and risk of collision with turbines could all have significant adverse effects on their population of these species on Shetland. The ES must address mitigation including the removal of turbine from particular sensitive locations in an attempt to reduce any potential damage to key species from the proposal.	
	SNH 8 th May 2015	Section 2a Ecology	We confirm that ornithological surveys carried out in 2011 and 2012 are sufficiently recent for use in the EIA (provided the anticipated application is made with 5 years of the date of the last survey) but welcome the decision to carry out further work this year. Our advice regarding bird flight height banding is that the flight data should be re-categorised into bands covering the likely rotor heights of the smallest and largest turbines that might be used. If this is not possible and turbines over 100m to tip are proposed, then all the flights recorded above the lowest point of the rotor sweep up to and including the 100+m band will need to be included in the collision risk analysis. This is likely to result in an overestimation of collision risk, hence our advice to re-categorise the flint bands to gain a more representative estimation of collision risk.	
	Scottish Wildlife Trust 7 th May 2015	Ornithology	In addition to red-throated diver, potential impacts on other bird species should be carefully considered, notably breeding merlin, waders and skuas. This should include collision risk modelling where appropriate and analysis of impacts during the construction and operational phases of the Proposed Development, including indirect impacts caused by any avoidance of construction sites / operational wind farms.	Explanation of bird flights recorded will be provided in the ES Ornithology chapter and related Technical Appendices. Banding will be taken into account in the collision risk modelling and presented in the ES chapter. Comment noted and the impact on other species will be addressed in the ES Ornithology chapter.
Otterswick and Graveland SPA	SIC 7 th May 2015	Otterswick and Graveland SPA Paragraph 5.4	The ES will have to inform of the following issues: The integrity of the SPA is not affected	Comments noted and will be reflected in the final site design and turbine layout. The ES chapter will include sufficient information to allow the competent authority undertake on HRA
	RSPB 27 th April 2015	Otterswick and Graveland SPA	Impact on red-throated diver population and in particular the barrier effect from the wind turbines and the displacement from breeding lochs. The inclusion of sufficient information for a full Habitats Regulation Appraisal.	
	SNH 8 th May 2015	Section 1 Natural Heritage Advice	The applicant should assess the direct and indirect impacts on Otterswick and Graveland SPA and their qualifying interests/notified features in the context of their conservation objectives/management statements. The assessment should be for the proposal on its own and cumulatively with other plans.	The ES chapter will include sufficient information to allow the competent authority undertake on HRA. Impacts will be addressed in relevant natural heritage ES chapters.

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Otterwick and Graveland SPA	Scottish Wildlife Trust	Designated Sites and their Features	Turbines 1, 3 and 12 are close to the SPA boundary and in order to undertake appropriate assessment on divers, extensive diver surveys should be undertaken following SNH best practice guidance, to identify regular flight lines and accurately assess potential impacts.	The ES chapter will include sufficient information to allow the competent authority undertake on HRA.
	7 th May 2015		The impact on Yell Sound Coast, designated as a SAC and SSSI needs to be carefully considered in the survey work and any proposed mitigation, especially in terms of road-upgrading work (outside Application boundary) and runoff from construction.	SNH do not identify adverse impacts on SAC. Opportunities to enhance features of SAC through mitigation will be addressed in ES.
Ecology (General)	SIC	Ecology Paragraph 4.1	The potential impact upon the Otterwick and Graveland SPA as well as other designated sites in the area, the local ornithology, otters and blanket bog should be assessed.	Two avoidance zones for divers have been identified as a constraint and the turbine layout modified to take account of the constraints, will be assessed in the ES Ornithology chapter.
	7 th May 2015			
	SNH	Section 2a Ecology	We agree that no survey of reptiles, amphibians or purely marine mammals is necessary and so can be scoped out.	Agree that marine mammals can be scoped out and ES has been developed accordingly.
	8 th May 2015		Otters, which are European Protected Species (EPS), are likely to occur on the site. A survey of the areas within 100m each side of the proposed access track and within 250m of each turbine base should be surveyed for otters to allow impacts on any otter holts.	Any impacts on Otters will be assessed in the ES Ecology chapter.
Ecology (Marine) & Fisheries	SIC	Marine Planning Paragraphs 7.3 to 7.5	The aquacultural operations that could affected by siltation issues from burns within the development area Operations consist of mussel farm in the inner part of Hamnavoe (designated as a Shellfish Protected Area). The Arisdale hatchery is currently mothballed but has potential to re-open if industry continues its desire to produce smolts it should be considered as a viable operation that could be affected by the Proposed Development.	To be considered in Socio- Economic chapter, in the context of existing commercial activity and the potential for hatcheries to reopen.
	7 th May 2015			
	SIC (Coastal Zone Management Service)	Page 1		
	24 th April 2015			
	Marine Scotland Science	Page 1	Marine Scotland Science has attached our revised generic scoping guidelines. In addition to these guidelines, we would like the developer to consider If salmon and other fish population are present within and/or downstream of the Proposed Development area and all pre-construction site characteristics data for fish, macroinvertebrate and water quality should be presented in the ES along with appropriate site specific mitigation measures and full details outlining all monitoring plans during and post construction.	Fish surveys completed during 2015 and no additional constraints applied as a consequence of the data from these surveys. The study will be reported in the ES.
	30 th April 2015			
Blanket Bog and Peat	SIC	Blanket Bog Paragraphs 5.8 to 5.12	Much of the application area is covered by blanket bog which is a priority habitat for both the UK BAP and Scottish Biodiversity Strategy. Hydro morphological approach as endorsed by JNCC should be used to assess the existing blanket bog habitat resource and impacts upon it.	ES will define the requirement for a peatland restoration and management plan (PRMP) to be agreed prior to commencement of development. The outline requirements to inform the plan will be identified in the ES.
	7 th May 2015		Construction aspects of the Proposed Development could seriously damage blanket bog and adversely impact upon the important bird species. Excavated acrotelm peat should be carefully stored and re-used for reinstatement of disturbed areas. Conversely the spreading of excavated catotelm peat on track verges and other areas should be avoided. This must clearly be addressed in the ES.	Impacts of peat extraction (both permanent and temporary) together with the opportunities for reuse and restoration of peat across the site will be fully explored and considered in ES. Ecology, Soils and Peat and Carbon Balance chapters will refer to peatland restoration and management plan.
	RSPB	Blanket Bog	A Habitat Management Plan should be provided as an appendix to the ES and should include details descriptions of measures to conserve the blanket bog habitat and peat-forming vegetation and the important bird species in Yell. The issue of excavated catotelm peat in ways that further damage blanket bog and other semi-natural habitats should be avoided.	Content of HMP noted and will be addressed in the ES
	27 th April 2015			

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Blanket Bog and Peat	Scottish Environment Protection Agency (SEPA) 8 th May 2015	Section 2 Disruption to wetlands including peatlands and Groundwater Dependant Terrestrial Ecosystems (GWDTE) Paragraph 2.1 to 2.7	Map of the Proposed Development detailing avoidance of Groundwater Dependent Terrestrial Ecosystems areas.	
			Refer to Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and GWDTE Ecosystems for the information we require to be submitted.	
			We welcome the commitment within Section 7.5.9 of the Scoping Report to carry out an extended Phase 1 Habitat Survey. In order to assess the potential risk to GWDTE a Phase 1 habitat survey must be carried out within the following distances of development as a minimum:	
			a) Within 100m radius of all excavations shallower than 1m. b) Within 250m of all excavations deeper than 1m.	GWTDEhas informed the turbine layout and associated infrastructure. Significant impacts on GWDTE will be avoided where possible through scheme design and mitigation.
			If micro siting is to be considered as a mitigation measure the distance of survey needs to be extended by the proposed maximum extent of micro siting. The guidance SNIFFER (2009) WFD95 - A Functional Wetland Typology for Scotland can be used to help identify wetland types. A National Vegetation Classification (NVC) survey should be completed for any wetlands identified. A list of NVC communities that may be dependent on groundwater can be found in Appendix 4 of the guidance note Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and GWDTE A detailed site specific qualitative and/or quantitative risk assessment will be required within the ES or supporting information in the following higher risk situations:- a) For proposed infrastructure within 250 m of GWDTE, where the infrastructure will require excavation deeper than 1m. b) For excavations within 100 m of GWDTE but shallower than 1m.	Phase one habitat survey has been undertaken to inform understanding wetland types across site. NVC has been carried out SEPA checklist has been taken into account and will be reported in the ES. GWDTE risk assessment will be included for these situations
			Refer to guidance note Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and GWDTE for further information on carrying out a detailed risk assessment and the requirements of the detailed long term monitoring condition. The checklist form provided in Appendix 2 of this letter must be completed and submitted with the above information.	
	SNH 8 th May 2015	Section 2a Ecology	Mitigation of adverse effects by delivery of a Habitat Management Plan (HMP) will be considered due to the degraded bog areas with the potential for habitat improvement. We are only able to engage in detailed dialogue regarding HMPs where habitat management is required to mitigate significant adverse effects on protected areas or protected species. Areas of botanical interest identified in Phase 1 habitat survey will be surveyed and further classified according to the NVC system. Areas of active blanket bog, a priority habitat under the Habitats Directive, should be mapped and classified under the NVC. SEPA may also advise that other habitats considered to be GWDTE are also surveyed to NVC level.	Requirements for HMP noted. NVC complete Surveys undertaken as required and will be presented in ES.
	Scottish Wildlife Trust 7 th May 2015	Habitats and Peat	The Scottish Wildlife Trust believes that peat deeper than 1m should be avoided when siting turbines and associated infrastructure. A50m grid peat depth survey, in addition to a NVC survey is required to better formulate the siting of turbines should this proposal progress. Additionally, a peat management plan and detailed Habitat Management Plan should be created, including details of how degraded peatland would be restored to active blanket bog.	Peat depths and quality of peat has been taken into account during turbine layout and design process and where there are possible areas of deep peat, restoration and management plans will be submitted for consideration.
	SIC 7 th May 2015	Hydrology and Hydrogeology Paragraphs 6.1 to 6.2	The views of SEPA should be sought in respect of the methodologies being proposed in relation to peat management.	Dialogue with SEPA Is ongoing. Industry matter relating to peat and proposals for management will be addressed in the peat management plan.
	SIC 7 th May 2015	Climate and Air Quality Paragraphs 15.1 to 15.2	The Planning Authority will review the calculations and survey/ assessments results as part of the EIA and ES. The Planning Authority looks forward to reviewing any proposed habitat/peat land improvement proposals.	Comments noted

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Blanket Bog and Peat	SEPA 8 th May 2015	Section 1 Carbon Balance Paragraphs 1.1	The ES or planning submission should include preventative/mitigation measures to avoid significant drying or oxidation of peat through, for example, the construction of access tracks, drainage channels, cable trenches, or the storage and re-use of excavated peat. A detailed peat management scheme setting out these measures may be required through a planning condition to ensure that the carbon balance benefits of the scheme are maximised.	Comments noted- proposals will be addressed in ES Chapters 12 and 14.
	SEPA 8 th May 2015	Section 3 Disturbance and re-use of excavated peat Paragraph 3.1 to 3.3	<p>A preliminary peat survey across the Study Area was carried out in January 2015 by Blairbeg Consulting Ltd. Where the proposed infrastructure will impact upon peatlands it is important to limit the volume of peat being disturbed so that commonly experienced difficulties in dealing with extracted surplus peat are reduced. The submission must include:</p> <p>a) A detailed map of peat depths (this must be to full depth) with all the built elements (including peat storage areas) overlain so it can clearly be seen how the development avoids areas of deep peat and other sensitive receptors such as GWDTE.</p> <p>b) A table, which details the quantities of acrotelmic, catotelmic and amorphous peat which will be excavated for each element and where it will be re-used during reinstatement. Details of the proposed widths and depths of any peat to be re-used and how it will be kept wet must be included.</p> <p>To avoid delay and potential objection proposals must be in accordance with Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and Minimisation of Waste and our Regulatory Position Statement – Developments on Peat.</p> <p>Dependent upon the volumes of peat likely to be encountered and the scale of the development, applicants must consider whether a full Peat Management Plan (as detailed in the above guidance) is required or whether the above information would be best submitted as part of the schedule of mitigation identified below.</p>	Requirements noted- These will be detailed in ES chapter and appendices. A peat restoration management plan will be prepared submitted and agreed prior to commencement of development.
	SNH 8 th May 2015	Section 2a Ecology	In relation to carbon rich soils, peat and peatland habitats, we recommend watching the SNH website for future updates on the national peat map. Should guidance be published to accompany the final version of the map before the submission of the ES for the proposed wind farm, we would expect the applicant to take it into account.	Ongoing monitoring taking place, the assessment is based on most recent guidance available at the time of writing.
Carbon Emissions	SIC 7 th May 2015	Carbon Emissions Paragraph 5.13	Excavated peat should be dealt with in a sensitive way to both prevent further damage to blanket bog and other semi-natural habitats and also to prevent the release of more carbon than it would save over its operational lifetime.	Comments noted and detailed proposal for management of excavated Peat will be addressed in ES Chapter 14.
	RSPB 27 th April 2015	Carbon Emissions		
	SEPA 8 th May 2015	Section 1 Carbon Balance Paragraph 1.1	<p>Scottish Planning Policy (SPP) states that "Where peat and other carbon rich soils are present, applicants should assess the likely effects of development on carbon dioxide (CO₂) emissions. Where peatland is drained or otherwise disturbed, there is liable to be a release of CO₂ to the atmosphere. Developments should aim to minimise this release."</p> <p>The ES should include</p> <p>a) a summary demonstrating how the development has been designed with regards to layout and mitigation to minimise release of CO₂</p>	Requirements noted. These will be addressed in Chapter 14 of the ES.
Hydrology and Hydrogeology	SIC 7 th May 2015	Hydrology and Hydrogeology Paragraphs 6.1 to 6.2	It should clearly be demonstrate in the ES that the water quality will be safeguarded during the construction phase, operational phase and future decommissioning of the development.	Turbine layout is such that water quality can be safeguarded and relevant mitigation will be set out in the hydrology and hydrogeology chapter.
	SIC 17 th April 2015	SUDs Attenuation	<p>For information the drainage and flooding issues of concern would include:</p> <p>Attenuation of surface water runoff for up to 1 in 10 year rainfall events to greenfield levels.</p> <p>Appropriate levels of water quality treatment.</p>	Concerns noted and addressed in the hydrology and hydrogeology chapter.

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Hydrology and Hydrogeology	SEPA 8 th May 2015	Flood Risk	<p>For information the drainage and flooding issues of concern would include:</p> <p>Consideration of flood risk from flows during 1 in 200 year rainfall events.</p> <p>Stability of existing ground and areas of landscaping.</p> <p>Erosion by surface water run off or channelled flows, both when within capacity and during overflow conditions.</p> <p>Design of access track drainage and culverts.</p> <p>Any changes to existing drainage patterns.</p> <p>Any concentration of existing flows.</p> <p>Suitable connections to existing watercourse/drains/road drainage.</p>	Comments noted and addressed the Flood Risk Assessment and in the hydrology and hydrogeology ES chapter.
		Section 4 Existing groundwater abstractions Paragraphs 4.1 to 4.6	<p>SEPA welcomes the commitment within Section 7.9 of the Scoping Report to assess the potential impacts on Private Water Supplies, other water abstractions and discharges.</p> <p>All groundwater abstractions within the following distances of development need to be identified, in order to assess potential risk:</p> <p>a) Within 100m radius of all excavations shallower than 1m.</p> <p>b) Within 250m of all excavations deeper than 1m.</p> <p>Please refer to Sections 2.6-2.9 and Appendix 3 of guidance note Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems for the minimum mapping information we require to be submitted.</p> <p>A detailed site specific qualitative and/or quantitative risk assessment will be required within the ES or supporting information in the following higher risk situations:-</p> <p>a) For proposed infrastructure within 250m of groundwater abstractions, where the infrastructure will require excavation deeper than 1m. Typically, this includes borrow pits and turbine foundations but may include access roads and other infrastructure.</p> <p>b) For excavations within 100m of groundwater abstractions but shallower than 1m if the applicant will not accept a detailed long term monitoring planning condition.</p> <p>The checklist form provided in Appendix 2 must be completed and submitted with the above information.</p>	A data request to SEPA has confirmed that there are no groundwater abstractions within 250m of the Proposed Development There is no requirement for a site specific qualitative and/or quantitative risk assessment. The checklist form provided in Appendix 2 will be completed and included in the ES (as an Appendix to the hydrology and hydrogeology ES chapter.
		Section 5 Engineering activities in the water environment Paragraphs 5.1 to 5.4	<p>Engineering activities such as culverts, bridges, watercourse diversions, bank modifications or dams should be avoided unless there is no practicable alternative. Where a watercourse crossing cannot be avoided, bridging solutions or bottomless or arched culverts, which do not affect the bed and banks of the watercourse should be used.</p> <p>If the engineering works proposed are likely to result in increased flood risk to people or property then a flood risk assessment should be submitted.</p> <p>A site survey of existing water features and a map of the location of all proposed engineering activities in the water environment should be included in the ES or planning submission. A systematic table detailing the justification for the activity and how any adverse impact will be mitigated should also be included. The table should be accompanied by a photograph of each affected water body along with its dimensions. Justification for the location of any proposed activity is a key issue for us to assess at the planning stage.</p> <p>We encourage applicants to seek such opportunities to avoid or offset environmental impacts. Improvements which might be considered could include the removal of redundant weirs, the creation of buffer strips and provision of fencing along watercourses. Fencing off watercourses and creating buffer strips both helps reduce the risk of diffuse water pollution and affords protection to the riparian habitat.</p>	<p>The access track route has been designed to take into consideration existing access tracks and to utilise existing watercourse crossings.</p> <p>Flood Risk Assessment considered the risk of flooding from and to the Proposed Development.</p> <p>The findings of the Site survey will be presented in the ES, which provides the table detailing the justification for any engineering activity in the water environment.</p>

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Hydrology and Hydrogeology	SEPA 8 th May 2015	Section 6 Water abstraction Paragraphs 6.1 to 6.2	Where water abstraction is proposed we request that the ES, or planning submission, details if a public or private source will be used. If a private source is to be used the information below should be included: source type, location, volume, timing of abstraction, nature of abstraction, operations regime, survey of existing water environment including any existing water features and the impacts of the proposed abstraction upon the surrounding water environment. If other development projects are present or proposed within the same water catchment then we advise that the applicant considers whether the cumulative impact upon the water environment needs to be assessed.	No abstractions are proposed. There are no other developments identified in the cumulative impact assessment.
	SEPA 8 th May 2015	Section 10 Flood Risk Paragraphs 10.1 to 10.8	The site should be assessed for flood risk from all sources. If a flood risk is identified then a Flood Risk Assessment should be carried out. If formally consulted through the planning process on the Proposed Development we would be unlikely to object on flood risk grounds based on the information supplied with this consultation. We have reviewed the information provided in this consultation and it is noted that the application site lies out with the medium likelihood (0.5% annual probability or 1 in 200 year) flood extent of the SEPA Flood Map; however, there are several small watercourses and waterbodies in close vicinity. From OS Maps it appears that the location of the turbines is likely to be on high ground well elevated above the functional flood plain however, we welcome the suggestion that a Level 1 Flood Risk Assessment will be undertaken. We would note that any associated access tracks and laydown areas should also be situated out with the functional flood plain. In line with SEPA's Standing Advice, access tracks should ensure that they do not result in an elevation of the land within the functional flood plain. If this is not possible, this element of the development should be moved out with the area thought to be at risk of flooding. We would advise that any watercourse crossings follow good practice guidelines and should be adequately sized to enable them to convey the 1 in 200 year design flow at each point without causing constriction of flow or exacerbation to flood risk elsewhere.	The Flood Risk Assessment will consider the risk of flooding from and to the Proposed Development. The access tracks have been designed as to not result in an elevation of land within the functional floodplain. All new and upgraded watercourse crossings have been designed to convey the 1 in 200 year design flow at each point without causing constriction of flow or exacerbation to flood risk elsewhere.
	Scottish Water 8 th May 2015	Page 1	A review of our records indicates that there are no Scottish Water, water abstraction sources, in the area that may be affected by the Proposed Development. You should confirm the location of Scottish Water's assets by obtaining detailed plans from our Asset Plan Providers. All detailed design proposals relating to the protection of Scottish Water's assets should be submitted to the Scottish Water Service Relocation Team for review and written acceptance. Works should not take place on site without prior written acceptance by Scottish Water. We also include a list of precautions to be taken when working within the vicinity of Scottish Water assets at Annex 1 of this letter. Please take account of the list of precautions for assets: [...] "The offset distance has to be agreed in advance by Scottish Water. All structures and ground disturbance must be a minimum distance of 10 metres from the nearest raw water main or water main. All structures must be a minimum distance of either, 3 metres or depth plus 1 metre, whichever is greater, from the nearest sewer. Scottish Water reserves the right to ask for increased offset distance to suit specific circumstances. No stationary plant, equipment, scaffolding, construction or excavated material, etc. should be placed over or close to any Scottish Water assets [...]."	Scottish Water's assets and associated avoidance buffers have been considered in the turbine layout and requirements for infrastructure. Prior to construction the exact location of the Scottish Water's assets will be identified and no stationary plant, equipment, scaffolding, construction or excavated material, etc. will be placed over or close to any Scottish Water assets. The specific requirements identified by Scottish Water have been noted and will be considered, as appropriate, in the ES.
Noise	SIC 7 th May 2015	Noise Paragraphs 11.1 to 11.2	Clarification of borrow pit locations and detail of wind farm construction phase will be required. The Shetland Island Council's Environmental Health Service has noted that: "Initial modelling results based on preliminary 20 turbine layout indicate that wind turbine noise will be greater than 35dB (A) at the nearest noise sensitive receptors and as such a full ETSU-R-97 assessment will be undertaken. A background noise assessment will be undertaken to establish noise limits, which will be set in accordance with ETSU-R-97".	Construction noise impact will be assessed in the ES with control measures included in the CEMP

Appendix 1 Summary of Scoping Consultees Responses

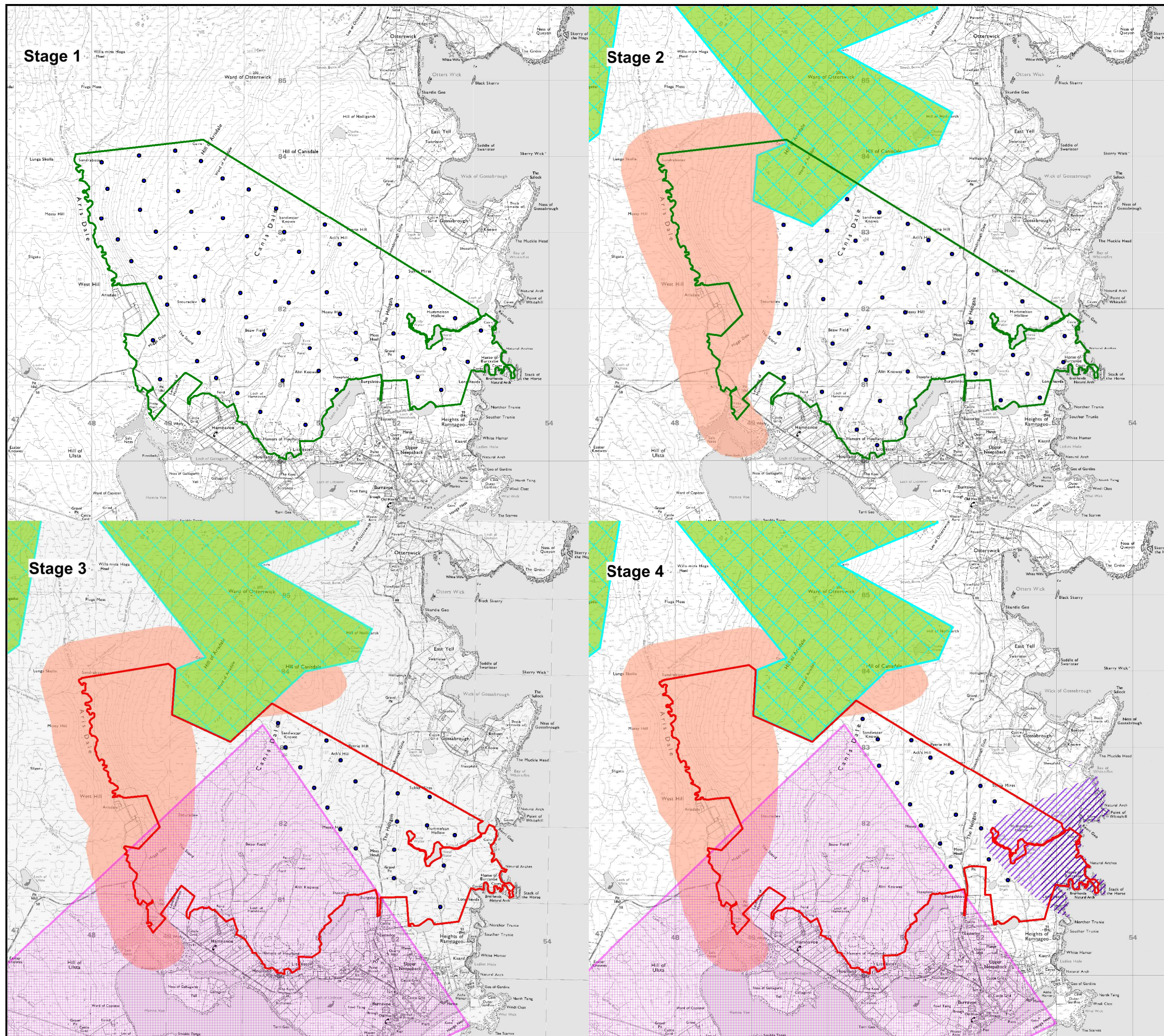
Topic	Consultee	Section	Comments	Comment / Action Taken
Noise	SIC (Environmental Health) 22 nd April 2015	Page 1	Regarding wind turbine noise, as above.	The scoping layout turbines numbers 16, 18, 20 and 12 have been moved away from identified properties, which include Easterlee - to the South; and four properties in Gossabrough to the North. Noise baseline analysis completed and currently in discussion with LEHO.
Air Quality	SIC 7 th May 2015	Climate and Air Quality Paragraphs 15.3 to 15.4	Even following good construction practices there is the potential for emissions from plant and machinery to impact upon neighbouring land uses. There are areas of former landfilling at Moss Houll and Hamnavoe. These areas should be considered in the EIA. There are military remains to the east of the Burn of Arisdale. This should be considered in the EIA but may be to the north of the development area.	These have been avoided and not considered further in the ES and have therefore been scoped out.
	SEPA 8 th May 2015	Section 9 Air Quality Paragraphs 9.1 to 9.2	We recommend that the Environmental Health Service within the local authority be consulted regarding cumulative impacts associated with road traffic, local air pollution, noise and nuisance issues and cumulative impacts of all development in the local area.	The LEHO has been consulted. No cumulative impacts, therefore this has been scoped out.
Traffic and Transport	SIC 7 th May 2015	Traffic and Transport Paragraphs 12.1 to 12.4	The Traffic Assessment should also take into consideration Transport Assessment Guidance produced by Transport Scotland 2012. Consideration of shadow flicker should be made for motorists travelling on the B9081 public road that splits the site. Any assessments should look not only at the installation and removal of the turbines, but also the ongoing maintenance and refurbishment of the turbines.	Noted – traffic usage on the B9081 has been taken into account. Access route designs have been discussed with the manufacturer to ensure suitability for construction and ongoing maintenance.
	SIC (Executive Manager, Roads) 5 th May 2015	Comments 1 and 3 to 5	Access roads within the site serving the turbines should be designed to meet the manufacturer's haulage route guidelines, or in the absence of such information Appendix 6c enclosed. This ensures that accesses are not too steep. Road condition surveys will be required, with supporting evidence in other photographic and video formats, to determine the state of the road network used to access the development. It is pointed out that most of the roads in Yell are built on peat and are therefore unable to withstand significant HGV loading. There may also be culverts and small bridges requiring upgrade.	Noted and the transport assessment will assess these potential impacts
	Transport Scotland 21 st April 2015	Page 1	The percentage increase in traffic on the trunk road is such that the Proposed Development is likely to cause minimal environmental impact on the trunk road network. On this basis Trunk Road and Bus Operations (TRBOD) has no comment to make.	Noted
Shadow Flicker and Reflectivity	SIC 7 th May 2015	Shadow Flicker and Reflectivity Paragraph 13.1	The Planning Authority welcomes the approach to assess shadow flicker.	Noted – details of the methodology will be given in the ES Chapter.
	SIC (Executive Manager, Roads) 5 th May 2015	Comment 2	Consideration of shadow flicker should be made for motorists travelling on the B9081 public road that splits the site.	There is no proposal to consider shadow flicker on motorists traveling on the road. This is not a specific issue that requires assessment. The rationale will be included in the ES. SIC confirms that the scoping methodology is correct. This potential impact has therefore been scoped out.
Radar, Radio and Air Traffic	SIC 7 th May 2015	Airport Manager - Scatsta Paragraphs 9.1 to 9.2	Due to the proximity to Scatsta Airport and the instrument flight procedures or navigational aids that may be affected, the ES will need to address the conducting of a scoping study to assess the impact of the Proposed Development on these interests.	Discussions ongoing to inform the assessment reported in the ES.

Appendix 1 Summary of Scoping Consultees Responses

Topic	Consultee	Section	Comments	Comment / Action Taken
Radar, Radio and Air Traffic	Highlands and Islands Airport Limited (Sumburgh Airport) 27 th April 2015	Page 1	It is confirmed that our calculations show that at the given position and height this development would not infringe the safeguarding surfaces for Sumburgh Airport.	No further action.
	NATS	Page 1	We kindly request that developers and applicants use one of these two options: our free self-assessment maps, and the chargeable pre-planning application to determine whether an impact on the NATS infrastructure is anticipated or not. Should a planned application fall within an area of radar coverage or other safeguarded zone, our advice would be to undertake our pre-planning assessment in order to engage with us early.	Noted
	BT 12 th May 2015	Page 1	We have studied this wind farm proposal with respect to EMC and related problems to BT point-to-point microwave radio links. The conclusion is that the project should not cause interference to BT's current and presently planned radio network.	Further consultation following design freeze identified a microwave link which has been taken into account if the final turbine layout.
	Royal Air Force (RAF) – Civil Aviation Authority 16 th April 2015	Page 1	In case of approval, the Defence Geographical Centre should be informed of the locations, heights and lighting status of the turbines and meteorological masts. For safety purposes dates of construction and the maximum height of any equipment to be used should be confirmed prior to the start.	Comments noted
	Ministry of Defence 21 st May 2015	Page 1 and 2	The MOD has no objections to the proposal and will request that the development should be fitted with aviation safety lighting in accordance with CAP 393 Air Navigation Order 219. If planning permission is granted we would like to be advised of the following prior to commencement of construction: The date construction starts and ends. The maximum height of construction equipment. The latitude and longitude of every turbine.	Comments noted together with requirements for information prior to the commencement of development. Further consultation following design freeze
	The Joint Radio Company Ltd (JRC) 21 st April 2015	Pages 1 to 5	JRC analyses proposals to assess their potential to interfere with radio systems operated by utility companies. JRC does not foresee any potential problems based on known interference scenarios and the data provided.	Further consultation following design freeze
Borrow Pits	SIC (Coastal Zone Management Service) 7 th May 2015	Marine Planning Paragraphs 7.2	Details of borrow pits must be included in the ES and should include information on how rock material would be acquired. It is not stated whether these pits would be within the site or at some off-site location. If blasting is proposed within the development boundary, consideration should be given to impacts on marine mammals given the close proximity of the Yell Sound Coast SAC. Impacts from blasting on the bird interests of the Felt- Haroldwick Nature Conservation Marine Protection Area should be considered. If pits are offsite these and other considerations will be required and further planning application would be required.	The proposed borrow pit locations do not conflict with heritage objectives. Design freeze has identified a total of four borrow pits for more detailed design. A summary of the design process will be included in ES chapter. Design of blasts will be such that ground vibration and air over pressure will be minimal to mammals. Blasting will occur outside of bird breeding season to reduce impacts on birds. It is not considered that offsite borrow pits will be required- only onsite.

Appendix 1 Summary of Scoping Consultees Responses

Topic	Consultee	Section	Comments	Comment / Action Taken
Borrow Pits	SEPA 8 th May 2015	Section 8 Borrow Pits	Scottish Planning Policy (SPP) states “Borrow pits should only be permitted if there are significant environmental or economic benefits compared to obtaining material from local quarries, they are time-limited; tied to a particular project and appropriate reclamation measures are in place.” The ES or planning submission should provide sufficient information to address this policy statement.	Map will be provided showing location of each borrow pit.
		Paragraph 8.1 to 8.3	Additionally, a map of all proposed borrow pits must be submitted along with a site specific plan of each borrow pit detailing the: Location, size, depths and dimensions of each borrow pit; Existing water table and volumes of all dewatering; Proposed drainage and settlement traps, turf and overburden removal and storage areas; Restoration profile, nature and volume of infill materials, and, if wetland features form part of the restoration, 25 year management proposals. The impact of such facilities must be assessed. . In relation to groundwater, information only needs to be provided where there is an existing abstraction or GWDTE within 250m of the borrow pit.	Completed in a desk study Estimated volumes will be calculated Outlined borrow pit design and drainage designed Options for restoration and considered relevant Habitat Management in the ES chapter Operational aspects of the borrow pits will be considered in the relevant ES chapters. Design considers reducing borrow pit sizes. Appropriate buffers will be in place to avoid GWDTE, where possible.
Mitigation and Construction Environmental Management Plan	SEPA 8 th May 2015	Section 7 Pollution prevention and environmental management Paragraphs 7.1 to 7.4	The applicant should, through the EIA process or planning submission, systematically identify all aspects of site work that might impact upon the environment, potential pollution risks associated and the principles of preventative measures and mitigation. A draft Schedule of Mitigation covering all the environmental sensitivities, pollution prevention and mitigation measures identified to avoid or minimise environmental effects should be produced. The principles of the Schedule of Mitigation will be implemented through a Construction Environmental Management Document produced following award of contract. We would refer you to best practice advice prepared by SNH, SEPA and the windfarm industry Good Practice During Windfarm Construction. Additionally, the Highland Council (in conjunction with industry and other key agencies) has developed a guidance note Construction Environmental Management Process for Large Scale Projects.	A Construction Environmental Management Plan (CEMP) will be identified as the primary document to ensure that mitigation measures identified in the ES are implemented during the construction phase.). Pollution prevention measures will be considered in the ES and the details prepared for the CEMP. The CEMP will be agreed in writing prior to commencement of development and the appointed contractor will provide further site specific mitigation measures and working procedures in line with the CEMP.
General	SIC 7 th May 2015	Public Consultation Paragraphs 16.1 to 16.2	The Planning Authority welcomes the applicant's assertion that a comprehensive stakeholder engagement programme will be undertaken.	Noted – further public consultation will take place during October 2015.
	SEPA 8 th May 2015	Section 11 Decommissioning / Repowering Paragraphs 11.1 to 11.2	SEPA is currently considering the waste regulatory position of material such as rubble, foundations and cabling which may be reused or abandoned on site during decommissioning or repowering. Any proposal to discard materials that are likely to be classed as waste would be unacceptable under current and future waste management licensing. Further guidance on this may be found in the document ‘Is it waste - Understanding the definition of waste’. The EIA process should take this waste regulatory position into account from the outset in designing the layout, decommissioning and repowering.	Decommissioning in line with the current best practice.
	The Crown Estate 8 th May 2015	Page 1	The assets of The Crown Estate are not affected by this proposals and I confirm that we have no further comments to make.	Noted



Key

- Application boundary
- Study Area
- Layout of Turbines
- Otterwick and Graveland SPA and SSSI
- SPA - Red-throated diver (breeding) Buffer Area
- Non SPA - Red-throated diver (breeding) Buffer Area
- Obstacle Limitation Surface Scatsta Airport

Stage 1: 65 turbines
 Stage 2: 52 turbines
 Stage 3: 20 turbines
 Stage 4: 17 turbines

Ornithology features provided by Alba Ecology 2015)

Aviation features provided by Cyrus 2015

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Beaw Field Wind Farm

TITLE:

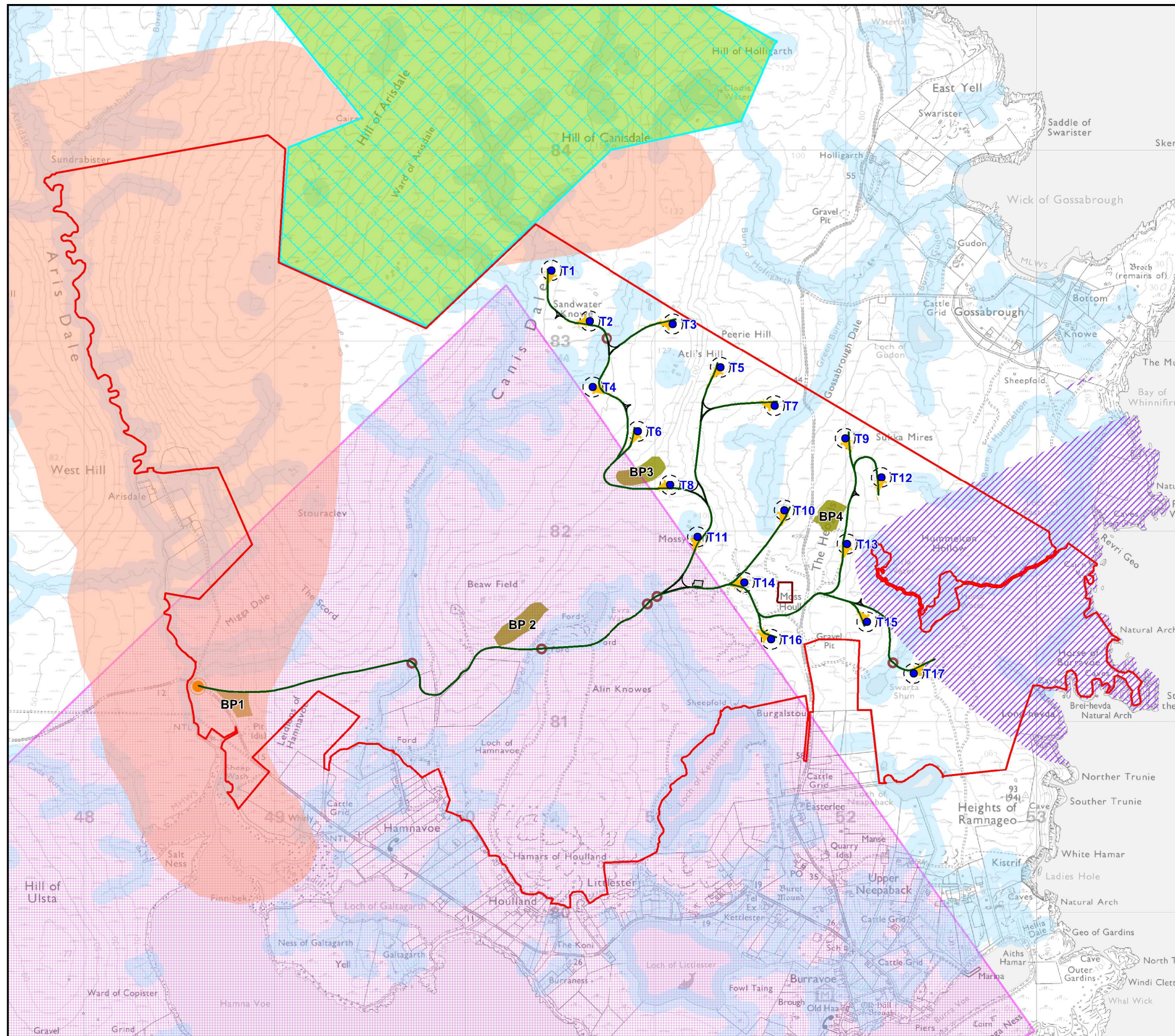
Design Evolution
Figure 1 Gate Check 1

Scale: 1:50000 @ A3

Date: 11/12/15

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Ref: NT12001 Fig. 1. Design evolution



Key

Application boundary

Environmental constraints

Otterswick and Graveland SPA and SSSI

SPA - Red-throated diver (breeding) Buffer Area

Non SPA - Red-throated diver (breeding) Buffer Area

50m watercourse buffers

Technical Constraint

Obstacle Limitation Surface Scatsta Airport

Turbine Layout and Wind Farm Infrastructure

Locations of Turbines T1 to T17

104m Wind Turbine Rotor Diameter

Borrow Pits

Hardstanding

Compound during construction

Substation

Site Access

Watercourse crossing

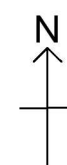
Indicative route of Access Track

Aviation features provided by Cyrrus 2015

Ornithology features provided by Alba Ecology 2015

Scottish Natural Heritage Contains Ordnance Survey data. © Crown Copyright and database right 2015

Beaw Field Wind Farm



TITLE:

Design Freeze Wind Farm Turbine Layout

Figure 2

Gate Check 1

Scale: 1:20000 @ A3

Date: 11/12/15



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NT12001 Fig. 2. Design Freeze Wind Farm Layout