Planning and Environmental Consultants

Natura Impact Statement

Dunneill Wind Farm, Co. Sligo

DOCUMENT DETAILS

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Contents

1. INTRODUCTION

1.1 Background

McCarthy Keville O'Sullivan Ltd. (MKO) has been appointed to prepare an Appropriate Assessment Screening Report (AASR) and if applicable a Natura Impact Statement (NIS) to assist the competent authority with its Appropriate Assessment process under Part XAB of the Planning and Development Acts 2000-2021 of a proposed extension of the operational life of the existing Dunneill Wind Farm and all associated infrastructure in the three townlands of Crowagh or Dunneill Mountain, Tawnadremira, and Ballyglass, Co. Sligo. It is proposed to extend the operational period of the existing Wind Farm for an additional 15 years. The proposed extension of the operational life of the existing Dunneill Wind Farm is referred to from here on in as the Proposed Development.

Screening for Appropriate Assessment is required under Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive). Where it cannot be excluded, in view of best scientific knowledge and on the basis of objective information, that a project or plan, either alone or in combination with other projects or plans, would have a significant effect on a European Site then same shall be subject to an appropriate assessment of its implications for the integrity of the site in view of the site's conservation objectives. The current project is not directly connected with, or necessary for, the management of any European Site, consequently the project has been subject to the Appropriate Assessment Screening process, as provided in Section 3 of this document.

The assessment in this report is based on a desk study and field surveys undertaken in October 2021 and April 2022.

The Natura Impact Statement has been prepared in accordance with European Commission's Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC (EC, 2021) and Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC, 2018) as well as the Department of the Environment's Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DoEHLG, 2010) and the Appropriate Assessment Screening for Development Management. Office of the Planning Regulator, Dublin 7, Ireland OPR (2021).

In addition to the guidelines referenced above, the following relevant guidance was considered in preparation of this report:

1. *European Communities (2000) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission,*
2. *Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission,*
3. *EC (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. European Commission.*

This report has been prepared in compliance with the provision of section 177T and section 177U of the Planning & Development Act 2010 as amended.

1.2 Appropriate Assessment

1.2.1 Stage 1 Screening for Appropriate Assessment

The Appropriate Assessment Screening process has been undertaken in Section 3 of this report. Screening is the process of determining whether an Appropriate Assessment is required for a plan or project. Under Part XAB of the Planning and Development Act, 2000, as amended, screening must be carried out by the Competent Authority. As per Section 177U of the Planning and Development Act, 2000, as amended 'A screening for appropriate assessment shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that Land use plan or proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site'. The Competent Authority's determination as to whether an Appropriate Assessment is required must be made on the basis of objective information and should be recorded. The Competent Authority may request information to be supplied to enable it to carry out screening.

Consultants or project proponents may provide for the competent authority, the information necessary for them to determine whether an Appropriate Assessment is required and provide advice to assist them in the Article 6(3) Appropriate Assessment Screening decision.

The competent authority shall determine that an appropriate assessment of a draft Land use plan or a proposed development, as the case may be, is not required if it can be excluded, on the basis of objective information, that the draft Land use plan or proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site.

Where it cannot be excluded beyond reasonable scientific doubt and on the basis of objective information at the Screening stage, that a proposed plan or project, individually or in combination with other plans and projects, would have a significant effect on the conservation objectives of a European site, an Appropriate Assessment is required.

The purpose of the screening stage is to determine, on the basis of a preliminary assessment and objective criteria, whether a plan or project, alone and in-combination with other plans or projects, could have significant effects on a Natura 2000 site in view of the site's conservation objectives.

There is no necessity to establish such an effect; it is merely necessary for the competent authority to determine that there may be such an effect. The need to apply the precautionary principle in making any key decisions in relation to the tests of Appropriate Assessment (AA) has been confirmed by the case law of the Court of Justice of the European Union (CJEU). Plans or projects that have no appreciable effect on a European site may be excluded. The threshold at this first stage is a very low one and operates as a trigger in order to determine whether a Stage Two AA must be undertaken by the competent authority on the implications of the proposed development for the conservation objectives of a European site. Therefore, where significant effects are likely, uncertain or unknown at screening stage, a second stage AA will be required.

1.2.2 Stage 2 Appropriate Assessment

Where an Appropriate Assessment (AA) is required, the Competent Authority may require the applicant to prepare a Natura Impact Statement (NIS). The NIS is included in Section 4 of this report.

The term Natura Impact Statement (NIS) is defined in legislation[1]. An NIS should include a report of a scientific examination of evidence and data. It should present the data, information and analysis

[1] As defined in Section 177T of the Planning and Development Act, 2000 as amended, an NIS means a statement, for the purposes of Article 6 of the Habitats Directive, of the implications of a proposed development, on its own and in combination

necessary to reach a definitive determination as to 1) the implications of the plan or project, alone or in combination with other plans and projects, for a European site in view of its conservation objectives, and 2) whether there will be adverse effects on the integrity of a European site. The NIS should be carried out by competent persons, underpinned by best scientific knowledge, objective information and by the precautionary principle.

A Stage Two AA is a focused and detailed examination, analysis and evaluation carried out by the competent authority of the implications of the plan or project, alone and in-combination with other plans and projects, on the integrity of a European site in view of that site's conservation objectives. Case law has established that such an Appropriate Assessment, to be lawfully conducted, in summary:

(i) must identify, in the light of the best scientific knowledge in the field, all aspects of the proposed development which can, by itself or in-combination with other plans or projects, affect the conservation objectives of the European site;

(ii) must contain complete, precise and definitive findings and conclusions and may not have lacunae or gaps; and

(iii) may only include a determination that the proposed development will not adversely affect the integrity of any relevant European site where the competent authority decides (on the basis of complete, precise and definitive findings and conclusions) that no reasonable scientific doubt remains as to the absence of the identified potential effects. If adverse impacts can be satisfactorily avoided or successfully mitigated at this stage, so that no reasonable doubt remains as to the absence of the identified potential effects, then the process is complete. If the assessment is negative, i.e. adverse effects on the integrity of a site cannot be excluded, then the process must proceed to stage three and, if necessary, stage four.

Statement of Authority

This report has been prepared by Kate O Donnell (B.Sc.). Kate is an Ecologist at MKO and holds a B.Sc. (Hons) in Ecology and Environmental Biology. Kate has over 3 years' experience working in ecological consultancy. This report has been reviewed by Sarah Mullen (B.Sc., M.Sc., Ph.D., ACIEEM). Sarah holds a B.Sc. (Hons) in Botany, an M.Sc. in Biodiversity and Conservation and a Ph.D. in Botany. Sarah has over 6 years' experience working in ecological consultancy. She has experience undertaking ecological surveys in a range of habitats and has worked on Appropriate Assessment and Ecological Impact Assessment for a range of developments.

The baseline ecological surveys were undertaken in October 2021 and April 2022 by Olivia O'Gorman (B.Sc., M.Sc.) who has over 5 years' experience in ecological consultancy, Claire Stephens (B.Sc.) who has over 4 years' experience in consultancy and Kate O'Donnell (B.Sc.) who has over 3 years' experience in ecological consultancy.

All surveyors have relevant academic qualifications and are competent experts in undertaking ecological surveys.

with other plans and projects, for a European site in view of its conservation objectives. It is required to include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for the European site in view of its conservation objectives

2. DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Site Location

The Proposed Development is located at the existing Dunneill Wind Farm, approximately 3.5 kilometres (km) south of the village of Dromore West and approximately 3.7 km southwest of the village of Templeboy in County Sligo. The approximate grid reference location for the centre of the site is ITM E544576 N829278. The site location is shown in Figure 2-1.

The existing wind farm consists of 13 No. Vestas V52 850-kilowatt (kW) turbines with a blade tip height of 75m (49m tower, 52m rotor diameter). The existing wind farm, which became operational in 2010, has a total rated capacity of c.11 Megawatts (MW).

The existing wind farm became operational in 2010 and is connected to the National Grid by a medium voltage 20 kilovolt (kV) underground cable between the existing 38kV substation at Dunneill Wind Farm and the existing Cunghill 110 kV Substation, located approximately 20km southeast of the Proposed Development.

The site location is shown in Figure 2-1.

2.2 Characteristics of the Proposed Development

2.2.1 Description of the project

This application seeks a fifteen (15) year planning permission for continuation of the operational life of the existing wind farm (SCC Reg. Ref. 03/619 & ABP Pl. Ref. 21.204790, as amended by SCC Reg. Ref 10/371 and 10/388) from the date of expiration (March 2024) of the current permissions. No modifications are proposed to the existing windfarm which comprises the following elements:

a. *13 no. existing Vestas V52 850 kilowatt (kW) wind turbines with a maximum overall blade tip height of 75 metres (m).*
b. *Existing 1 no. onsite 20 kilovolt (kV) electrical substation compound which includes a control building, welfare facilities, associated electrical plant and equipment, security fencing, associated underground cabling and a foul waste holding tank.*
c. *Existing 1 no. permanent meteorological mast with a height of 50m and an associated concrete platform/base;*
d. *All associated existing underground electrical and communications cabling connecting the turbines to the on-site substation;*
e. *Existing site access tracks of circa 3.3 kilometres (km) total length, 3 no. car parking spaces and 13 no. turbine hardstands;*
f. *2 No. existing gated site entrances from an unnamed third-class public road which dissects the windfarm site into north and south;*
g. *Existing Site drainage; and,*
h. *All existing ancillary infrastructure, associated site fencing and signage.*

All elements of the existing wind farm are described below and in the information contained within Chapter 4 of the Environmental Impact Assessment Report (EIAR) submitted with the planning application. All elements of the project are pre-existing and it is not proposed to make any alterations to the current site layout, wind turbines or associated infrastructure. All elements of the existing wind farm

were constructed in accordance with the conditions attached to the planning permission for Dunneill Wind Farm and ESB/EirGrid specifications and requirements at the time of construction.

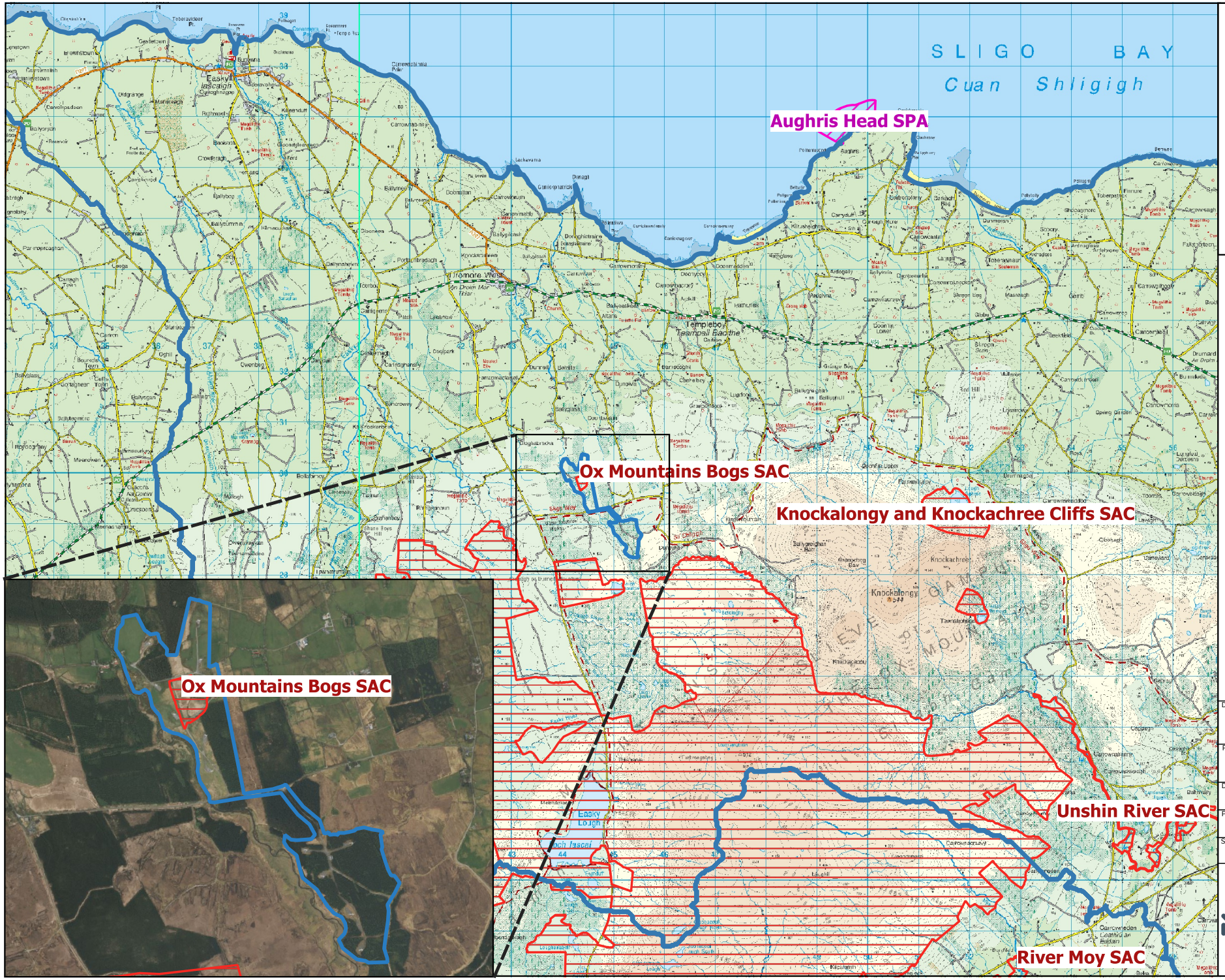
The grid connection does not form part of the existing Dunneill Wind Farm, as defined within the current An Bord Pleanála (ABP Pl. Ref. 21.204790) planning permission. The planning application for the wind farm's extension of operational period does not include the pre-existing connection to the national electricity grid. The 20kV grid connection from the onsite substation at Dunneill connects to the national grid via an underground cable to the existing 110kV Cunghill substation approximately 20km southeast of Dunneill. Although not included in this planning application, the grid connection is assessed cumulatively as part of this Appropriate Assessment Screening Report and NIS.

2.3 Development Layout

The layout of the Proposed Development (the existing Dunneill Wind Farm) was originally designed to minimise the potential environmental effects of the wind farm, while at the same time maximising the energy yield of the wind resource passing over the site. The Dunneill site was chosen initially by Brickmount Ltd. as being particularly suited to a wind energy development due to the favourable conditions. High exposure and even terrain to the west enables high wind speed and low turbulence, with mean wind speeds recorded above 8 meters per second (m/s) at a height of 10m above ground level.

A constraints study carried out at the initial pre-planning stage (before the original wind farm planning application) was used to inform the design of the existing development, ensuring that turbines and ancillary infrastructure were located in the most appropriate areas of the site. The development layout was chosen so as to locate as much of the wind farm's footprint as possible within pre-existing commercial forestry and farmland, avoiding areas of ecological and archaeological interest, and reducing potential interactions with birds and bats. In addition, some pre-existing forestry roads and farm access roads were suitable for use and required limited upgrading. Portions of the existing site are currently used for agricultural grazing of livestock and commercial forestry, and it is proposed to continue these land use practices in conjunction with the continued wind farm operation.

The layout of the Proposed Development is shown on Figure 2-2 and detailed drawings are included in Appendix 4-1of the EIAR which accompanies the planning application. Figure 2-2 shows the current locations of the wind turbines, wind farm control building, meteorological mast, access roads and the main site entrances.



Map Legend

- EIAR Site Boundary
- WFD Catchments
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)

Drawing Title

Site Location

Project Title: Dunneill Wind Farm Extension of Operation	
Drawn By: KOD	Checked By: SM
Project No.: 210207	Drawing No.: Figure 2.1
Scale: 1:97,000	Date: 2022-07-07

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Map Legend

- EIAR Site Boundary
- Dunneil Wind Farm Footprint
- Existing Dunneil Turbines
- Existing Turbine Hardstands
- Existing Dunneil Substation
- Existing Dunneill Met Mast
- Ox Mountains Bogs SAC

N

Drawing Title
Existing Wind Farm Layout

Project Title
Dunneill Wind Farm

Drawn By	Checked By
SM	JH
Project No.	Drawing No.
210207	Figure 2-2
Scale	Date
1:11,000	16.08.22

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2.4 Development Components

The existing wind farm consists of a number of components. The various components of the existing wind farm are discussed in this section. Table 2-1 provides a summary of the footprint of the existing wind farm components. The Proposed Development is limited to an extension of the operational life of the existing wind farm. As such there are no changes proposed to the existing development components described in this section. The various elements of the existing wind farm will remain in their current condition and will be subject to ongoing standard maintenance.

Table 2-1 Proposed Development components footprint

Component Description	Approx. Area (m^2)
13 no. Turbines and associated hardstandings	11,378
1 no. Electrical control building, compound and hardstanding	455
1 no. Meteorological mast and hardstanding	50
Internal site access roads and parking area (approximate 5m running width for site roads)	16,600
Total	28,383

2.4.1 Wind Turbines

2.4.1.1 Turbine Locations

The existing wind turbine layout was optimised using industry standard wind farm design software at the initial design stage in order to maximise the energy yield from the site, while maintaining sufficient distances between the proposed turbines to ensure turbulence and wake effects did not compromise turbine performance. The Grid Reference coordinates of the turbine locations are listed in Table 2-2 below.

Table 2-2 Existing Wind Turbine Locations and Elevations

Turbine No.	Irish Transverse Mercator (ITM) Co-ordinates		Turbine Base Elevation (m OD)
	Easting (m)	Northing (m)	
1	544121	830124	112.8
2	544400	830249	110.5
3	544162	829890	118.9
4	544407	830029	116.5
5	544509	829848	121.1
6	544261	829729	122.6

Turbine No.	Irish Transverse Mercator (ITM) Co-ordinates		Turbine Base Elevation (m OD)
	Easting (m)	Northing (m)	
7	544432	829610	130.7
8	544464	829408	132.4
9	544986	828971	163.5
10	545242	829008	171.5
11	545082	828825	178.5
12	545244	828611	184.1
13	545294	828411	184.8

2.4.1.2 Turbine Type

Wind turbines use the energy from the wind to generate electricity. A wind turbine, as shown in Plate 2-1 below, typically consists of four main components:

- Foundation
- Tower
- Nacelle (turbine housing)
- Rotor

Plate 2-1 Wind turbine components

The existing wind turbines have a tip-height of 75m, a hub height of 49m, rotor diameter of 52m, and a ground to blade tip-height of 23m. The wind turbines that are installed on the site are conventional

three-blade turbines, that are geared to ensure the rotors of all turbines rotate in the same direction at all times.

2.4.1.3 Turbine Foundations

Each wind turbine is secured to a reinforced concrete foundation that has been installed below the finished ground level. The turbine foundation transmits any load on the wind turbine into the ground. The existing turbine foundations are square in plan with each side measuring 11.5 metres in length, and with founding levels of 1.9m below ground level (bgl). There are no changes to the existing turbine foundations as part of the Proposed Development.

2.4.1.4 Hard Standing Areas

Hard standing areas consisting of levelled and compacted hardcore are required around each turbine base to facilitate access, turbine assembly and turbine erection. The hard-standing areas are typically used to accommodate cranes used in the assembly and erection of the turbine, offloading and storage of turbine components, and generally provide a safe, level working area around each turbine position. The hard-standing area is intended to accommodate a crane during turbine assembly and erection, decommissioning and disassembly, and if necessary, during maintenance works.

There will be no changes to the existing hardstanding areas required as part of the Proposed Development. Turbine hard stand areas vary slightly at each of the 13 no. turbines, with an average of approximately 875m^2.

2.4.2 Site Roads

During the initial construction of the existing wind farm, existing farm and commercial forestry tracks were upgraded and new access roads were constructed to provide access within the wind farm site and to connect the wind turbines and associated infrastructure. Site roads were constructed of consolidated gravel with a running width of 5m. There will be no changes to the existing site roads required as part of the Proposed Development.

2.4.2.1 Wind Farm Control Building

A wind farm control building is located within the substation compound. The control building area measures approximately 117m^2 and it is approximately 5m high, while the associated compound footprint measures approximately 455m^2.

The wind farm control building includes staff welfare facilities for the staff that work on the site during the operational phase of the project. Toilet facilities are installed with a low-flush cistern and low-flow wash basin. Due to the specific nature of the Proposed Development, there is a very small water requirement for occasional toilet flushing and hand washing. Rainwater from the substation roof is collected in a water harvester located in the northeast corner of the compound. The water gravity feeds to a pump under the sink in the office and is pumped into an attic storage tank from where it gravity feeds into the toilet, wash hand basin and heater. All exposed pipe work is insulated. Legionella risk assessments and maintenance are carried out in accordance with the Safety, Health and Welfare at Work Act 2005 in relation to the prevention and control of legionella in the workplace and control measures are applied where required. There are 2 flow switches, both connected to the main board as follows:

- Harvester tank to switch off pump when low in water.
- Tank in attic to switch off pump when tank is full.

Wastewater from the staff welfare facilities in the control buildings is managed by means of an existing 6000 litre capacity foul waste holding tank, located approximately 5m southeast of the control building.

As wastewater is not treated on-site, the Environmental Protection Agency's (EPA) 2009 *Code of Practice: Wastewater Treatment and Disposal Systems Serving Single Houses (p.e. 10)* does not apply. Similarly, the EPA's 1999 manual *Treatment Systems for Small Communities, Business, Leisure Centres and Hotels* does not apply. The holding tank is inspected, maintained and emptied by a licensed waste contractor at regular intervals. .

2.4.3 Site Cabling

Each turbine is connected to the on-site electricity substation via underground 20kV electricity cables (XLPE 3 x IC c 9mm^2). 120mm aluminium communication cables also connect each wind turbine to the wind farm control building in the on-site substation compound. The electricity and communication cables running from the turbines to the on-site substation compound run in cable trenches approximately 1.1m below ground level, typically along the side of roadways and through cable ducts at road crossings. The route of the cable largely follows the access track to each turbine location.

While the majority of the cable trenches were backfilled with native material, clay subsoils of low permeability were also used to prevent conduit flow in the backfilled trenches.

2.4.4 Meteorological Mast

One existing permanent metrological mast is included as part of the Proposed Development, located within the northern part of the site, south of Turbine No. 6. The metrological mast is equipped with wind monitoring equipment at various heights. The mast is a self-supporting slender structure of 50m in height. The met mast is located on a square concrete platform/base with each side measuring 7.1m in length and an associated surface area of approximately 50m^2. The concrete foundation is approximately 1.25m deep (bgl), while the top of the platform protrudes approximately 150mm above ground level. The mast is located at E544334 N829676 (ITM). There will be no changes to the existing meteorological mast as part of the Proposed Development.

2.5 Access and Transportation

2.5.1 Site Entrance

Access to the wind farm site is via two existing entrances from the third-class/local road that bisects the site. One site entrance turns south towards the southern part of the wind farm (T9 – T13), and a second entrance turns north from the local road towards the northern area of the wind farm (T1 – T8). Both site entrances, either side of the local road are used for day-to-day maintenance and monitoring of the wind farm and substation. No changes to these site entrances are proposed.

2.6 Site Drainage

The topography across the site slopes downwards generally northwards towards the coastline with a maximum elevation of approximately 190 metres Ordnance Datum (m OD) in the south of the site, between turbine T12 and T13, and a minimum elevation of approximately 110 metres Ordnance Datum (m OD) in the south of the site at T2. The Dunneill River runs directly adjacent to and west of the existing wind farm, in a south-north direction towards Sligo Bay. Dunneill River is located approximately 15m west of the nearest wind farm infrastructure, running parallel to the access track between Turbine No. 7 and Turbine No. 6. Three existing shallow surface streams and drainage crossings were also recorded within the wind farm site. One stream is located in the north of the wind farm, along the access road between turbine T3 and T4 (ITM E544370 N829954) and runs in a south-north direction towards Doonbeakin river to the north of the wind farm which ultimately drains into Sligo Bay. The other two watercourse crossing are located in the south of the site, both of which run in an east-west direction, draining into Dunneill River. The grid coordinates for these locations are ITM E545075 N829051 along the main access road towards the southern section of the wind farm and ITM E545324 N828482 along the access track between Turbine T12 and T13.

During the original construction of the Dunneill Wind Farm, new internal site roads were constructed of consolidated gravel. The new site roads were constructed with a designed running width of 5m. Existing roads on the site were also widened to 5m. During the construction process both cross and longitudinal drainage provisions were made to enable existing drainage patterns to be maintained.

There are no ground disturbing works proposed as part of the Proposed Development. Therefore, no existing natural drainage features will be altered as part of the Proposed Development and there will be no direct or indirect discharges to natural watercourses. The Proposed Development will not result in any changes to the existing drainage within the site.

2.7 Decommissioning

The wind farm operator has determined that the existing wind turbines at the Dunneill Wind Farm have a remaining lifespan of at least 15 years.

It should be noted that decommissioning is required under the parent planning permission and the Proposed Development is postponing those activities for a further 15-years. Condition 10 of the original Planning Application granted by Sligo County Council (Pl. Ref. 03/619) states the following in relation to decommissioning of the wind farm:

> *'Upon termination of the use of the wind farm, the mast and turbines shall be dismantled and removed from the site and the site shall be restored to its existing condition in consultation with the planning authority. Prior to the commencement of development, the developer shall lodge with the planning authority, a cash deposit, a bond of an insurance company, or other security to secure the satisfactory reinstatement of the site on the cessation of the project. The amount of the security shall be 100,000 euro.'*

It is considered that this Condition is not appropriate, as returning the site to its original condition would involve removal of site roads and turbine foundations, which would require significant excavation and ground works. A more environmentally sensitive decommissioning plan is presented in Appendix 4-3 of the EIAR submitted with the planning application for the proposed development and included here as Appendix 1.

Under the new decommissioning plan, upon decommissioning of the Proposed Development, the wind turbines will be disassembled in reverse order to how they were erected. All above-ground turbine components will be separated and removed off-site for reuse or recycling. It is proposed to leave turbine foundations in place underground and to cover them with earth and reseed as appropriate. This will avoid the requirement for extensive excavations that would be required if removing the turbine foundations.

It is also proposed, under the new decommissioning plan, that site roadways will be left in situ, as appropriate, to facilitate on-going agricultural and commercial forestry uses. If it were to be confirmed that the roads were not required in the future for any other useful purpose, they could be removed where required, however, this is not envisaged at this time. It is proposed to leave underground cables in place where they are below a level likely to be impacted by typical agricultural works.

The decommissioned turbine bases and hard standing areas will be covered with local topsoil and reseeded with a local native mix to encourage vegetation growth and reduce run-off and sedimentation. A decommissioning plan will be agreed with the local authorities at least three months prior to decommissioning of the Proposed Development.

As noted in the Scottish Natural Heritage (SNH) report *Research and Guidance on Restoration and Decommissioning of Onshore Wind Farms* (SNH, 2013) reinstatement proposals for a wind farm are typically made far in advance, so within the proposed 15-year extension of operation of the Proposed Development, technological advances and preferred approaches to reinstatement are likely to change. According to the SNH guidance, it is therefore:

> *'best practice not to limit options too far in advance of actual decommissioning but to maintain informed flexibility until close to the end-of-life of the wind farm'.*

Therefore, the decommissioning activities envisaged in the Decommissioning Plan have evolved since the original planning application was submitted and this NIS, therefore, assesses the revised methodologies to be implemented.

2.7.1 Description of the Baseline Ecological Environment

Assessing the impacts of any project and associated activities requires an understanding of the ecological baseline conditions prior to and at the time of the project proceeding. Ecological baseline conditions are those existing in the absence of proposed activities (CIEEM 2018). Multidisciplinary walkover surveys of the site were undertaken on the 14th September 2021 and the 26th April 2022 by Olivia O'Gorman (B.Sc.), Claire Stephens (B.Sc.) and Kate O'Donnell (B.Sc.) of MKO.

The surveys undertaken in April are within the optimal time of year (April-September) to undertake a habitat and flora survey (Smith et. al 2011), however, all habitats were readily identifiable within the site. The walkover surveys were designed to detect the presence, or likely presence, of a range of protected species associated with European Sites. The survey included a search of all potentially suitable habitat for the presence or potential presence of protected species that are likely to occur in the vicinity of the proposed development.

2.7.1.1 Habitats

Habitats were identified in accordance with the Heritage Council's 'Guide to Habitats in Ireland' (Fossitt, 2000). Plant nomenclature for vascular plants follows 'New Flora of the British Isles' (Stace, 2010), while mosses and liverworts nomenclature follows 'Mosses and Liverworts of Britain and Ireland - a field guide' (British Bryological Society, 2010). A comprehensive walkover survey of the site was completed with a particular focus on the existing wind farm infrastructure footprint and adjacent habitats.

The site comprises the existing windfarm infrastructure, including turbines and associated hardstand areas and the windfarm access roads, which are classified as Buildings and artificial surfaces (BL3). Outside of the existing windfarm infrastructure the lands within the site boundary are dominated by areas of plantation forestry (WD4), comprising mainly of Sitka spruce (*Picea sitchenis*) and Lodgepole pine (*Pinus contorta)* to the south. To the north the site is comprised of improved agricultural grassland (GA1) with some conifer plantation (WD4), wet heath (HH3) and dry heath (HH1). The site is accessible via a network of local roads and the existing wind farm access tracks. A description of the main habitats within the site boundary is provided below.

2.7.1.1.1 Buildings and Artificial Surfaces (BL3)

The existing windfarm infrastructure, including turbines, buildings and road infrastructure on site, were classified under the habitat type buildings and artificial surfaces (BL3).

Plate 2-2 Hardstanding area and turbine (BL3)

2.7.1.1.2 Earth Banks (BL2)

Earth banks are present around the hardstanding bases of T9, T10, T11, T12 and T13 within the south of Dunneill wind farm. These earth banks are generally comprised of gravel that was deposited when building the turbines (Plate 2-3). These banks are generally covered by grassy verge, wet grassland and recolonising bare ground habitat. A range of species occur on the earth banks including yorkshire fog (*Holcus lanatus),* dandelion (*Taraxacum officinale* agg.), soft rush (*juncus effusus*), creeping cinquefoil (*potentilla reptans*), haircap moss (*polytrichum* sp.) and compact rush (*Juncus conglomeratus*).

Plate 2-3 Earth banks (BL2) adjacent to T13

2.7.1.1.3 Spoil and Bare Ground (ED2)

There is a worn dirt path through an improved agricultural grassland field west of T1. There is a dirt road within conifer plantation east of T1. These are both categorised as Spoil and bare ground (ED2).

Species recorded comprised mainly of sweet vernal grass (*Anthoxanthum odoratum*), daisy (*Bellis perennis*), dandelion (*Taraxacum officinale* agg.) and colt's-foot (*Tussilago farfara*).

2.7.1.1.4 Recolonising Bare Ground (ED3)

Small areas of this habitat are present, particularly surrounding the existing wind turbine bases in the North of the site (T1-T8). Examples of this habitat are usually in the form of small areas of gravel which have started to colonise with small herbaceous plants including daisy (*Bellis perennis*), dandelion (*Taraxacum vulgaria*), white clover (*Trifolium repens*), creeping thistle (*Cirsium arvense*), perennial rye grass (*Lolium perenne*), shepherd's purse (*Capsella bursa-pastoris*), creeping buttercup (*Ranunculus repens*), spear thistle (*Cirsium vulgare*), willowherb (*Epilobium* sp.), Yorkshire fog (*holcus lanatus*) and hairy bittercress (*Cardamine hirsute*) (Plate 2-4).

Plate 2-4 Hardstanding area adjacent to a turbine that has become recolonised with herbaceous plants (ED3)

2.7.1.1.5 *Eroding/ Upland Rivers (FW1)*

The site is drained by the Dunneill River, Doonbeakin stream and Fiddandoo stream. These watercourses are generally small (approx. 2m to 4m wide), fast flowing and with a predominantly boulder and cobble substrate.

The Fiddandoo stream bisects the development in an east-west direction just north of T9 and T10. This stream flows into the Dunneill River outside the site boundary. A small unnamed tributary of the Dunneill River also flows east to west into the Dunneill River just north of T13.

The Dunneill River flows adjacent to the entire western boundary of the site from south to north. The river was fast flowing and included areas of both riffle and glide. The substrate comprised bedrock, boulder, cobble, gravel and fine gravel. The River was approximately 4m wide (Plate 2-5).

The Doonbeakin stream flows northwards within the northeastern extent of the site boundary. Within the site the stream was bordered by heath habitat and as it flows further north the bankside vegetation was dominated by rushes (*juncus* sp.), and gorse (*Ulex europaeus*). As the stream exits the site boundary at it's northern extent it is bordered by conifer plantation to the west and recently felled forestry to the east.

Plate 2-5 Dunneill River upstream of the Dunneill Wind Farm

2.7.1.1.6 Drainage Ditches (FW4)

Drainage ditches are present throughout the site draining the hardstanding areas around the turbines, the agricultural and heath lands in the north and the conifer plantations in the south. The ditches were generally small, approximately 1m or less in width and vegetated (Plate 2-6). At the time of surveying some were dry, and others contained a small amount of water that flowed slowly.

Plate 2-6 Drainage ditch in the north of the site flowing through grassland near T8

2.7.1.1.7 Improved Agricultural Grassland (GA1)

A number of improved agricultural grassland fields grazed by sheep are present at the northern extent of the site, in proximity to turbines T1-T8 often in a mosaic with wet grassland habitat. It is the dominant habitat type in the north of the site. It generally comprises perennial ryegrass (*Lolium perenne*) and Yorkshire fog (*Holcus lanatus*) along with meadow thistle (*Cirsium dissectum*), white clover (*Trifolium repens*) and creeping buttercup (*Ranunculus repens*) (Plate 2-7).

Plate 2-7 Improved agricultural grassland within the north of the site

2.7.1.1.8 Dry Meadows and Grassy Verges (GS2)

This habitat often occurs adjacent to the hardstanding surrounding the turbine bases, along the road network through the site and on earth banks near the turbines. It occasionally occurs as a mosaic with wet grassland surrounding the turbines. This habitat contained false oat-grass (*Arthenatherum elatius*), creeping cinquefoil (potentilla reptans), Yorkshire fog (*holcus lanatus*), daisy (*bellis perennis*), tormentil (*potentilla erecta*) and black medic (*Medicago lupulina*) (Plate 2-8).

Plate 2-8 Dry meadows and grassy verges (GS2) located adjacent to hardstanding areas in the south of the site

2.7.1.1.9 Wet Grassland (GS4)

Wet grassland is present in proximity to T10, T11, T12 and T13. Species within the wet grassland included soft rush (*Juncus effusus*), creeping buttercup (*Ranunculus repens*) and sedges (*Carex spp*). This habitat occurs frequently in mosaics with dry meadows and grassy verges around the hardstanding areas surrounding turbine bases. This habitat is also frequently found in a mosaic with improved agricultural grassland in the north of the site. These lands are subject to agricultural management and are 'improved' with species such as perennial ryegrass (*Lolium perenne*) and yorkshire fog (*Holcus lanatus*) dominating along with regularly occurring soft rush (*Juncus effusus*), broad leaved dock (*Rumex obtusifolius*) and common sorrel (*Rumex acetosa*) (Plate 2-9).

Other species recorded in this habitat include compact rush (*Juncus conglomeratus*) and occasional occurrences of *Polytrichum commune* (moss), water figwort (*Scrophularia auriculata*), willowherb (*Epilobium sp.*), common dog violet (*Viola riviniana*), lesser hawkbit (*Leontodon saxatilis*), heath bedstraw (*Galium saxatile*), creeping buttercup (*Ranunculus repens),* white clover (*Trifolium repens*) and willow (*Salix* sp.). The ground layer also contains a high proportion of mosses such as neat feather-moss (*pseudoscleropodium purum*) and (*rhytidiadelphus squarrosus*) due to the underlying wet conditions).

Plate 2-9 Wet grassland area in the south of the site

2.7.1.1.10 Dry Heath (HH1)

This habitat occurs in a mosaic with wet heath and upland blanket bog in the north of the site (Plate 2-10). This area in which this habitat occurs is part of the Ox Mountains Bogs SAC. Species included bell heather (*Erica cinerea*), tormentil (*Potentilla erecta*), Yorkshire fog (*Holcus lanatus*) and *agrostis* spp.

This habitat has potential to conform to the Annex I habitat European dry heaths [4030].

2.7.1.1.11 Wet Heath (HH3)

This habitat occurs in a mosaic with dry heath and upland blanket bog in the north of the site in the Ox Mountains Bogs SAC (Plate 2-10). Wet heath is also present as small patches in other areas throughout the site, generally along road edges or at the boundary of the site bordering conifer plantations. Wet heath habitat borders large sections of the Dunneill River just west of the site. Species present included purple moor-grass (*Molinia caerulea*), Shagnum sp., heath milkwort (*polygala serpyllifolia*) and common cottongrass (*Eriophorum angustifolium*). The majority of this habitat was relatively dry in nature and dominated by abundant purple moor grass with a low abundance of Sphagnum however ling heather and common cottongrass were also common in small sections of this habitat. The areas of wet heath habitat have potential to conform to the Annex I habitat Northern Atlantic wet heaths with *Erica tetralix* [4010].

2.7.1.1.12 Upland Blanket Bog (PB2)

This habitat occurs in a mosaic with dry heath and wet heath in the north of the site (Plate 2-10). This area is part of the Ox Mountains Bogs SAC.

Other small areas of this habitat occurring as a mosaic with wet heath are present within the site boundary but outside the SAC. Species present included purple moor-grass (*Molinia caerulea*),

Sphagnum sp. and common cottongrass (*Eriophorum angustifolium*). The areas of this habitat were relatively dry in nature and dominated by abundant purple moor grass with a low abundance of Sphagnum. This blanket bog habitat within the site has potential to conform to the Annex I habitat Blanket bogs (* if active bog) [7130].

Plate 2-10 Dry heath/ Wet heath/ Upland blanket bog mosaic to the east of T6 in Ox Mountains Bogs SAC

2.7.1.1.13 Conifer Plantation (WD4)

There is a mix of conifer forestry (WD4) of various ages within the site boundary. Conifer plantation dominates the southern extent of the site, surrounding T9 – T13. There is conifer plantation also located to the east of T7 and T8 and in between T1 and T3. Sitka spruce and Lodgepole pine are the dominant species, typically 8-10m tall (Plate 2-11). The understorey is typically species-poor in forestry plantations and vegetation normally restricted to bryophytes and ferns which include, hard fern (*Blechnum spicant*) and *Thuidium tamariscum*. The understory occasionally also contained wood sorrel (*Oxalis acetosella*).

Plate 2-11 Conifer plantation (WD4) in the south of the site

2.7.1.1.14 Scrub (WS1)

Scrub habitat occurs in patches in the northern extents of the site (Plate 2-12). Large area of scrub occurs in close proximity to T1 and T3. There is also a section of scrub dominated hedgerow northwest of T2. The scrub habitats are dominated by gorse (*Ulex europaeas*) and in wetter areas small areas of willow (*Salix* spp.) is also present.

Plate 2-12 Scrub (WS1) west of T2 in north of the site

2.7.1.1.15 *Recently Felled woodland (WS5)*

Small areas of conifer plantation in the western edge of the southern section of the site that have been recently felled are classified as Recently felled woodland.

2.7.1.2 Invasive species

During field surveys, a search for Invasive Alien Species (IAS) listed under the Third Schedule of the European Communities Regulations 2011 (S.I. 477 of 2015) was conducted. No invasive listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 were recorded during the surveys.

2.7.1.3 Fauna

The Ox Mountains Bogs SAC is located partially within the existing Wind Farm site boundary. No evidence of Annex II protected species associated with Ox Mountains SAC was recorded within or adjacent to the existing windfarm footprint. Ox Mountains SAC is designated for Geyer's whorl snail (*Vertigo geyeri*) and the known location for this species is within the small section of the SAC which is located within the site boundary. While the recorded locations for this species are within the site boundary they are entirely outside of the existing windfarm infrastructure footprint.

No QI's or SCI's associated with any other European site, or significant foraging habitat for any SCI species associated with any European sites were recorded within or adjacent to the site boundary.

3. STAGE 1 APPROPRIATE ASSESSMENT SCREENING

3.1 Identification of the European Sites within the Likely Zone of Impact

The following methodology was used to establish which European Sites are within the Likely Zone of Impact of the Proposed Development:

- Initially the most up to date GIS spatial datasets for European designated sites and water catchments were downloaded from the NPWS website (www.npws.ie) and the EPA website (www.epa.ie) on the 18/08/2022. The datasets were utilized to identify European Sites which could feasibly be affected by the proposed development.
- All European Sites that could potentially be affected were identified using a source-pathway - receptor model. To provide context for the assessment, European Sites within a distance of 15km surrounding the development site are shown on Figure 3.1. Information on these sites according to the site-specific conservation objectives is provided in Table 3-1[2]. In this case, no potential for significant effect on sites located at a distance of over 15km from the proposed development was identified.
- The catchment mapping was used to establish or discount potential hydrological connectivity between the site of the proposed development and any European Sites. The hydrological catchments are also shown in Figure 3-1.
- In relation to Special Protection Areas, in the absence of any specific European or Irish guidance in relation to such sites, the Scottish Natural Heritage (SNH) Guidance, 'Assessing Connectivity with Special Protection Areas (SPA)' (2016) was consulted. This document provides guidance in relation to the identification of connectivity between proposed development and Special Protection Areas. The guidance takes into consideration the distances species may travel beyond the boundary of their SPAs and provides information on dispersal and foraging ranges of bird species which are frequently encountered when considering plans and projects.
- Table 3-1, provides details of all relevant European Sites as identified in the preceding steps and assesses which are within the likely Zone of Impact. The assessment considers any likely direct or indirect impacts of the proposed development, both alone and in combination with other plans and projects, on European Sites by virtue of the following criteria: size and scale, land-take, distance from the European Site or key features of the site, resource requirements, emissions, excavation requirements, transportation requirements and duration of construction, operation and decommissioning were considered in this screening assessment
- The site synopses and conservation objectives of these sites, as per the NPWS website (www.npws.ie), were consulted and reviewed at the time of preparing this report. Figure 3-1 shows the location of the proposed development in relation to all European sites within 15km of the proposed development.
- Where potential pathways for Significant Effect are identified, the site is included within the Likely Zone of Impact and further assessment is required.

[2] *Office of the Planning Regulator (2021) guidance; 'OPR Practice Note PN01 Appropriate Assessment Screening for Development Management', utilises the Source-Pathway-Receptor model. This Appropriate Assessment Screening Report follows this guidance as well as providing information on European sites located within 15km of the proposed development as recommended in guidance provided by DEHLG (2010).*

3.1.1 Hydrological Connectivity between the proposed development site & European Sites

The entire site of the Proposed Development lies within the Western River Basin District (RBD). With respect to regional hydrology, under the Water Framework Directive (WFD) the proposed Development is located entirely within the Sligo Bay (35) surface water catchment (gis.epa.ie/EPAMaps/).

The site is drained by the Dunneill River, Doonbeakin stream and Fiddandoo stream.

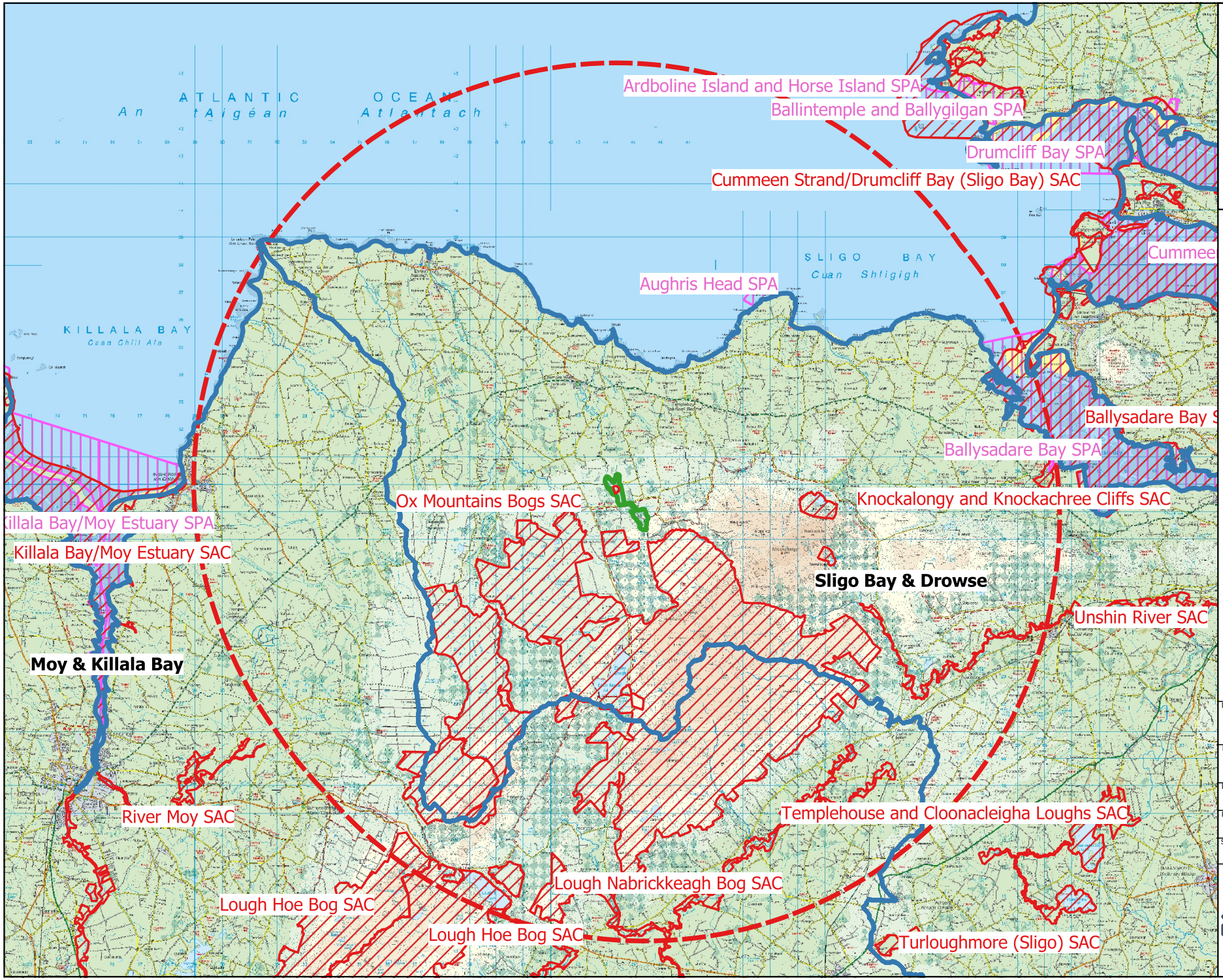
The Fiddandoo stream bisects the development in an east-west direction just north of T9 and T10. This stream flows into the Dunneill River outside the site boundary to the west of the site. A small unnamed tributary of the Dunneill River also flows east to west into the Dunneill River just north of T13.

The Dunneill River flows adjacent to the entire western boundary of the site and flows northwards into Sligo Bay >7km downstream of the site.

The Doonbeakin stream flows northwards within the northeastern extent of the site boundary and discharges to the Dunneill River approximately 4.5km downstream of the site.

A small section of the Ox Mountains Bogs SAC is located within the site boundary and the Doonbeakin stream flows through this section of SAC. However, the vast majority of the SAC is located upgradient of the proposed development. There is no surface water connectivity between the proposed development and any other European Site.

The proposed development is underlain by the Collooney groundwater body (EPA code: IE_WE_G_0048) which also underlies parts of the Ox Mountains Bogs SAC, Knockalongy and Knockachree Cliffs SAC, Unshin River SAC and a small section of Ballysadare Bay SAC. With the exception of the small section of the Ox Mountains Bogs SAC which lies within the site boundary, no pathway for significant effects via groundwater pathways on any of the Qualifying Interests of the remaining SACs was identified given the nature of the proposed development and the location of these sites upgradient of the proposed development and/or their distance from the proposed development.



Map Legend

- EIAR Site Boundary
- WFD_Catchments
- SAC
- SPA
- 15km Buffer

Drawing Title: European Designated Sites

Project Title: Dunneill Wind Farm Extension of Operational Life

Drawn By	Checked By
KOD	SM
Project No.	Drawing No.
210207	Figure 3-1
Scale	Date
1:180000	2022-08-18

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Table 3-1 Identification of Designated sites within the Likely Zone of Impact.

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 18/08/2022)	Conservation Objectives	Likely Zone of Impact Determination and assessment of potential for significant effect
Special Area of Conservation (SAC)			
Ox Mountains Bogs SAC [0020069] Distance from windfarm site: Located within the windfarm site boundary	› Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110] › Natural dystrophic lakes and ponds [3160] › Northern Atlantic wet heaths with *Erica tetralix* [4010] › European dry heaths [4030] › Blanket bogs (* if active bog) [7130] › Transition mires and quaking bogs [7140] › Depressions on peat substrates of the Rhynchosporion [7150] › *Vertigo geyeri* (Geyer's Whorl Snail) [1013] › *Saxifraga hirculus* (Marsh Saxifrage) [1528]	Detailed conservation objectives for this site (Version 1, August 2016) were reviewed as part of the assessment and are available at www.npws.ie	A small section of the SAC is located within the windfarm site boundary. An access road between Turbine 4 and Turbine 5 is located within this section of the SAC (refer to Figure 2-2). The proposed development consists of the extension of the operational life of an existing windfarm. During the operational phase, the windfarm will continue to operate as it has done since it became operational in 2010. There will be no construction works and therefore no potential for direct habitat loss or run-off of pollutants due to construction activities. No natural drainage features will be altered and there will be no direct or indirect discharges to natural watercourses during the continued operation of the wind farm. Taking a highly precautionary approach, a potential pathway for indirect effects on the SAC during the operational phase (including during routine maintenance works) and decommissioning phase due to deterioration of water/habitat quality resulting from the accidental spillage of pollutants including hydrocarbons was identified. **This SAC is therefore within the likely Zone of Likely Impact and following the precautionary principle further assessment is required.**

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 18/08/2022)	Conservation Objectives	Likely Zone of Impact Determination and assessment of potential for significant effect
Knockalongy and Knockachree Cliffs SAC [001669] Distance from wind farm site: 5.5km	› *Vandenboschia speciosa* (Killarney Fern) [1421]	Detailed conservation objectives for this site (Version 1, December 2020) were reviewed as part of the assessment and are available at www.npws.ie	No pathway for direct effects was identified as this European Site lies entirely outside of the site boundary. There is no identified connectivity or pathway for significant indirect effect between the proposed development and this SAC. **There is no potential for significant effect on this European Site and it is not located within the Zone of Likely Impact and no further assessment is required.**
Unshin River SAC [001898] Distance from wind farm site: 8.2km	› Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] › Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] › Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] › Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae) [91E0] › *Salmo salar* (Salmon) [1106] › *Lutra lutra* (Otter) [1355]	Detailed conservation objectives for this site (Version 1, December 2021) were reviewed as part of the assessment and are available at www.npws.ie	There will be no direct effects as this European Site lies entirely outside of the development footprint. No surface water connectivity was identified between the development site and the SAC, which is located in a separate hydrological sub-catchment to the development. No source-pathway-receptor chain for indirect effects on the SAC was identified. **There is no potential for significant effect on this European Site. It is not located within the Zone of Likely Impact and no further assessment is required**
River Moy SAC [002298] Distance from wind farm site: 10.8km	› Active raised bogs [7110] › Degraded raised bogs still capable of natural regeneration [7120] › Depressions on peat substrates of the Rhynchosporion [7150]	Detailed conservation objectives for this site (Version 1, August 2016) were reviewed as part of the assessment and are available at www.npws.ie	No pathway for direct effects was identified as this European Site lies entirely outside of the site boundary. No hydrological connectivity was identified between the development site and the SAC, which is located in a separate

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 18/08/2022)	Conservation Objectives	Likely Zone of Impact Determination and assessment of potential for significant effect
	› Alkaline fens [7230] › Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0] › Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae) [91E0] › *Austropotamobius pallipes* (White-clawed Crayfish) [1092] › *Petromyzon marinus* (Sea Lamprey) [1095] › *Lampetra planeri* (Brook Lamprey) [1096] › *Salmo salar* (Salmon) [1106] › *Lutra lutra* (Otter) [1355]		hydrological catchment to the development. No source-pathway-receptor chain for indirect effects on the SAC was identified. **There is no potential for significant effect on this European Site. It is not located within the Zone of Likely Impact and no further assessment is required**
Lough Nabrickkeagh Bog SAC [000634] Distance from wind farm site: 12.2km	› Blanket bogs (* if active bog) [7130]	Detailed conservation objectives for this site (Version 1, March 2019) were reviewed as part of the assessment and are available at www.npws.ie	There will be no direct effects as this European Site lies entirely outside of the development footprint. There is no hydrological connectivity between the proposed development and this SAC, which is located in a different catchment to the development. No source-pathway-receptor chain for indirect effects was identified. **There is no potential for significant effects on this European Site. It is not located within the Zone of Likely Impact and no further assessment is required**

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 18/08/2022)	Conservation Objectives	Likely Zone of Impact Determination and assessment of potential for significant effect
Ballysadare Bay SAC [000622] Distance from wind farm site: 13.2km	› Estuaries [1130] › Mudflats and sandflats not covered by seawater at low tide [1140] › Embryonic shifting dunes [2110] › Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] › Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] › Humid dune slacks [2190] › *Vertigo angustior* (Narrow-mouthed Whorl Snail) [1014] › *Phoca vitulina* (Harbour Seal) [1365]	Detailed conservation objectives for this site (Version 1, November 2013) were reviewed as part of the assessment and are available at www.npws.ie	There will be no direct effects as this European Site lies entirely outside of the development footprint. There is no hydrological connectivity between the proposed development and this SAC. No source-pathway-receptor chain for indirect effects was identified. **There is no potential for significant effects on this European Site. It is not located within the Zone of Likely Impact and no further assessment is required**
Lough Hoe Bog SAC [000633] Distance from wind farm site: 13.9km	› Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110] › Blanket bogs (* if active bog) [7130] › *Vertigo geyeri* (Geyer's Whorl Snail) [1013] › *Austropotamobius pallipes* (White-clawed Crayfish) [1092]	Detailed conservation objectives for this site (Version 1, August 2017) were reviewed as part of the assessment and are available at www.npws.ie	There will be no direct effects as this European Site lies entirely outside of the development footprint. There is no hydrological connectivity between the proposed development and this SAC, with the SAC located in a different catchment to the development. No source-pathway-receptor chain for indirect effects was identified. **There is no potential for significant effects on this European Site. It is not located within the Zone of Likely Impact and no further assessment is required**
Special Protection Area (SPA)			
Aughris Head SPA [004133] 7.8km	Kittiwake (*Rissa tridactyla*) [A188]	This site has the generic conservation objective:	There will be no direct effects as this European Site lies entirely outside of the development footprint.

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 18/08/2022)	Conservation Objectives	Likely Zone of Impact Determination and assessment of potential for significant effect
		"To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests of this SPA." (NPWS, version 9, 2022).	There is no hydrological connectivity between the proposed development and this coastal SPA. The site does not provide suitable habitat for the coastal SCI species for which the SPA is designated. No source-pathway-receptor chain for indirect effects was identified. **There is no potential for significant effects on this European Site. It is not located within the Zone of Likely Impact and no further assessment is required**
Ballysadare Bay SPA [004129] 13.2km	› Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] › Grey Plover (*Pluvialis squatarola*) [A141] › Dunlin (*Calidris alpina*) [A149] › Bar-tailed Godwit (*Limosa lapponica*) [A157] › Redshank (*Tringa totanus*) [A162] › Wetland and Waterbirds [A999]	Detailed conservation objectives for this site (Version 1, October 2013) were reviewed as part of the assessment and are available at www.npws.ie	There will be no direct effects as this European Site lies entirely outside of the development footprint. There is no hydrological connectivity between the proposed development and the SPA. Therefore no potential for indirect effect on supporting wetland habitat for SCI bird species due to deterioration in water quality exists. No potential for indirect effects on SCI bird species as a result of disturbance was identified. Grey plover and bar-tailed godwit utilise coastal and estuarine habitats and the proposed development site does not provide suitable habitat for these species. Although brent goose, dunlin and redshank also utilise inland sites, the proposed development site is located outside of the core foraging range (SNH, 2016) of populations of these species associated with the SPA. **There is no potential for significant effect on this European Site, it is not located within the Zone of Likely Impact and no further assessment is required**

3.2 Likely Cumulative Impact of the Proposed Development on European Sites, in Combination with other Plans and Projects

A search and review in relation to plans and projects that may have the potential to result in cumulative and/or in-combination impacts on European Sites was conducted. This included a review of online Planning Registers (refer to Section 4.3) and served to identify past and future plans and projects, their activities and their predicted environmental effects. This assessment focuses on the potential for cumulative in-combination effects on European Sites. No potential for the development to contribute to any impacts when considered in-combination with any other development was identified.

3.3 Stage 1 Appropriate Assessment Screening Concluding Statement

It cannot be excluded beyond reasonable scientific doubt, in view of best scientific knowledge, on the basis of objective information and in light of the conservation objectives of the relevant European sites, that the proposed development, individually or in combination with other plans and projects, would be likely to have a significant effect on the Ox Mountains Bogs SAC [0020069].

It can be concluded, on the basis of objective information, that a 15-year extension of the operational period of the Proposed Development, individually or in combination with other plans or projects, will not have a significant effect on any other European Site.

As a potential pathway for significant effect on Ox Mountains Bogs SAC was identified, an Appropriate Assessment is required, and a Natura Impact Statement shall be prepared in respect of the proposed development.

4. STAGE 2 NATURA IMPACT STATEMENT

This Natura Impact Statement (NIS) provides an analysis of the potential adverse effects on the EU designated sites for which a potential pathway for significant effect was identified at the Appropriate Assessment Screening stage in Section 3 above. Potential adverse effects are assessed in view of best scientific knowledge, based on objective information in relation to the proposed project including the proposed avoidance, reduction and preventive measures that are described in Section 4.2 below.

4.1 Assessment of Potential Effects

4.1.1 Ox Mountains Bogs SAC

A small section of the northern part of this SAC is located within the Proposed Development site boundary (Figure 2-1). Taking a precautionary approach, the Appropriate Assessment Screening above identified the potential for indirect effects on the Ox Mountains Bog SAC as a result of the 15-year extension of the operational period of the proposed development.

The Qualifying Interests with the potential to be affected and the pathways by which any such effects may occur are set out below.

4.1.1.1 Potential for Direct Effects

The Proposed Development consists of the extension of the operational life of an existing windfarm only. An existing access track between T5 and T6 is located within the boundary of the Ox Mountains Bogs SAC. There will be no construction activities and no encroachment on or loss of or any habitats within the SAC, or supporting habitat for QI species, as a result of the extension of the operational life. Any routine maintenance works required to the turbines and/or substation as part of the extended operation of the wind farm will be minor in nature and confined to the existing windfarm footprint. No pathway for direct effects on the SAC were identified.

4.1.1.2 Potential for Indirect Effects

There will be no construction or ground disturbance works associated with the proposed development, which consists of the extension of the operational life of the existing windfarm only, and therefore no potential for run-off of pollutants as a result of construction activities. Under the new decommissioning plan described in Section 2.7 above, it is proposed to leave all turbine foundations and existing access roads in place, with only the above-ground turbine components to be removed. This will avoid the requirement for extensive excavations that would be required if removing the turbine foundations.

Taking a precautionary approach, a potential pathway for indirect effects on the SAC during the operational (including during routine maintenance works) and decommissioning phases, due to deterioration of water/habitat quality as well as supporting habitat for QI species resulting from the accidental spillage of hydrocarbons was identified. The potential for indirect effects on the individual QIs for which the SAC is designated is considered below.

The vast majority of the SAC is located upgradient of the existing windfarm, which will continue to operate under its current conditions. Given the nature of the development, i.e., no construction activities or excavations, extension of operational life only, and the mapped location of the QIs upgradient of the existing windfarm site (refer to Maps 4-8 in the Site-Specific Conservation Objectives

(SSCO)document, NPWS 2016), no potential pathway for indirect effects on the following QIs was identified:

- Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110]
- Natural dystrophic lakes and ponds [3160]
- *Saxifraga hirculus* (Marsh Saxifrage) [1528]
- Transition mires and quaking bogs [7140]
- Depressions on peat substrates of the Rhynchosporion [7150]

Taking a highly precautionary approach, and taking consideration of the mapped location of the following QIs as per the SSCO document, a potential pathway for indirect effects on these QIs due to deterioration of water quality and/or habitat degradation resulting from run off of pollutants during the operational phase of the windfarm was identified:

- Northern Atlantic wet heaths with *Erica tetralix* [4010]
- European dry heaths [4030]
- Blanket bogs (* if active bog) [7130]
- *Vertigo geyeri* (Geyer's Whorl Snail) [1013]

4.1.1.3 Conservation Objectives Ox Mountains Bogs SAC

The site-specific conservation objectives for this SAC (NPWS, Version 1, August 2016) were reviewed. The relevant QIs, for which a potential pathway for effect was identified, and their associated conservation objectives are presented in Table 4-1. The targets and attributes (as outlined in the Site Specific Conservation Objectives (SSCO) Document, NPWS Version 1, 2016) for the QIs listed in table 4-1 below were also reviewed. The targets and attributes for each of these QIs are included in Appendix 2.

Table 4-1 Qualifying Interests and Conservation Objects

Qualifying Interest	Conservation Objective
Northern Atlantic wet heaths with *Erica tetralix* [4010]	To restore the favourable conservation condition of Northern Atlantic wet heaths with *Erica tetralix* in Ox Mountains Bogs SAC
European dry heaths [4030]	To maintain the favourable conservation condition of European dry heaths in Ox Mountains Bogs SAC
Blanket bogs (* if active bog) [7130]	To restore the favourable conservation condition of Blanket bogs in Ox Mountains Bogs SAC
Vertigo geyeri (Geyer's Whorl Snail) [1013]	To maintain the favourable conservation condition of Geyer's Whorl Snail in Ox Mountains Bogs SAC

4.2 Measures in Place to Avoid Adverse Effects

4.2.1 Measures to Avoid Pollution

4.2.1.1 During Construction Phase

The Proposed Development relates to the extension of the operational life of the existing Dunneill Wind Farm. There will be no construction or ground disturbance works associated with the Proposed Development and the wind farm will continue to operate as it has done since it became operational in 2010. As there will be no construction or ground disturbance works, no mitigation measures are required in this regard. Mitigation measures to be employed during the operational phase of the wind farm are outlined below.

4.2.1.2 During Operational Phase

This section assesses the potential operational phase impacts associated with the Proposed Development. During the operational phase, the windfarm will continue to operate as it has done since it became operational in 2010. There will be no ground disturbing works associated with the operational phase, no natural drainage features will be altered and there will be no direct or indirect discharges to natural watercourses during the continued operation of the wind farm.

Wastewater from the staff welfare facilities in the control buildings is managed by means of an existing 6,000 litre capacity sealed foul waste holding tank, located approximately 5m southeast of the control building. As wastewater is not treated on-site, the Environmental Protection Agency's (EPA) 2009 *Code of Practice: Wastewater Treatment and Disposal Systems Serving Single Houses (p.e. 10)* does not apply. Similarly, the EPA's 1999 manual *Treatment Systems for Small Communities, Business, Leisure Centres and Hotels* does not apply. The holding tank is inspected, maintained and emptied by a licensed waste contractor at regular intervals.

Each turbine will be subject to a routine maintenance programme involving a number of checks and changing of consumables, including oil changes. In addition, there will be a requirement for unscheduled maintenance, which could vary between resetting alarms to major component changes requiring a crane. Typically, maintenance traffic will consist of four-wheel drive vehicles or vans. The electricity substation and site tracks will also require periodic maintenance. The operational wind farm does not require on-site storage of significant quantities of materials or liquids likely to cause a pollution incident, However, small quantities of hydrocarbons may be required from time to time in order to operate/maintain machinery.

Taking a highly precautionary approach, there is potential for accidental spillage of pollutants during the future operational stage of the Proposed Development, including during routine maintenance activities on the site. Such pollution events are considered highly unlikely as all vehicles and plant are regularly maintained in good working condition. However, the following best practice measures are in place and will continue to be implemented during the operational stage of the Proposed Development to ensure that there is no potential for significant effects on any European Site.

- All plant and machinery to be serviced before being mobilised to site;
- No plant maintenance will be completed on-site, any broken-down plant will be removed from site to be fixed;
- Vehicles will never be left unattended during refuelling. Only dedicated trained and competent personnel will carry out refuelling operations. Refuelling will be undertaken on impermeable surfaces and drip trays will be used at all times;

- Mobile bowsers, tanks and drums will be stored in secure, impermeable bunded storage areas a minimum of 50m from any watercourse;
- Only designated trained operators authorised to refuel plant on-site;
- Procedures and contingency plans will be in place to deal with emergency accidents or spills;
- Spill kits will be kept on-site to deal with any potential spillages;

4.2.1.3 During Decommissioning

A decommissiong plan has been prepared for the proposed development and is included as Appendix 1. It is proposed to leave turbine foundations in place underground and to cover with earth and reseed as appropriate. It is also proposed, under the new decommissioning plan, that site roadways will be left in situ, as appropriate, to facilitate on-going agricultural and commercial forestry uses. Leaving the turbine foundations and existing access roads in-situ is considered a more environmentally prudent option, as it will avoid the requirement for extensive excavations and ground disturbance works that would be required if removing the turbine foundations.

In order to mitigate against potential impacts on Ox Mountains Bogs SAC as a result of accidental spillage of hydrocarbons or run-off of silts during the decommissioning phase of the proposed development (as identified in Section 4.1.1.2 above) the following mitigation measures will be implemented:

- All plant and machinery to be serviced before being mobilised to site;
- No plant maintenance will be completed on-site, any broken-down plant will be removed from site to be fixed;
- Vehicles will never be left unattended during refuelling. Only dedicated trained and competent personnel will carry out refuelling operations. Refuelling will be undertaken on impermeable surfaces and drip trays will be used at all times;
- Mobile bowsers, tanks and drums will be stored in secure, impermeable bunded storage areas a minimum of 50m from any watercourse;
- Only designated trained operators authorised to refuel plant on-site;
- Procedures and contingency plans will be in place to deal with emergency accidents or spills;
- Spill kits will be kept on-site to deal with any potential spillages;
- While no significant excavation or earthworks are proposed under the new decommissioning plan, where any earthworks are required silt fences will be place downgradient of the works areas. Fences will be embedded into the local soils to ensure all site water (should any arise) is captured and filtered.
- All plant and machinery will be confined to existing tracks and hardstanding. There will be no encroachment onto any adjacent habitat.

4.2.2 Residual Impact Assessment

There is no potential for significant adverse effect on any European sites, their QIs/SCIs and associated targets and attributes. There will be no construction or ground disturbance works associated with the proposed extension of the operational life of the existing Dunneill Wind Farm and therefore no potential for construction related impacts.

All identified pathways for effect have been robustly blocked through measures to avoid impacts and the incorporation of best practice/mitigation measures into the project design.

Taking cognisance of measures to avoid impacts and best practice/mitigation measures incorporated into the project design which are considered in the preceding section, the proposed project will not have an adverse effect on the integrity of any European Site.

The proposed project will not prevent the QIs/SCIs of European Sites from achieving/maintaining favourable conservation status in the future as defined in Article 1 of the EU Habitats Directive. A definition of Favourable Conservation Status is provided below:

> *'conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within the territory referred to in Article 2;*

The conservation status will be taken as 'favourable' when:

> *'Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and*
>
> *§'The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and,*
>
> *§'There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.'*

Based on the above, it can be concluded in view of best scientific knowledge, on the basis of objective information that the Proposed Development will not adversely affect the Qualifying Interests/Special Conservation Interests associated with any European Site.

4.3 Potential for Cumulative Impacts in Combination with other Plans and Projects

A search and review in relation to plans and projects that may have the potential to result in cumulative and/or in-combination impacts on European Sites was conducted. This included a review of online Planning Registers and served to identify past and future plans and projects, their activities and their predicted environmental effects. The assessment focuses on the potential for cumulative in-combination effects on the European Sites for which a potential pathway for impact was identified at the screening stage in Section 3 above. For European Sites where no potential for potential impact on the site was identified at screening stage when the proposed development was considered on its own, no potential for the development to contribute to any impacts when considered in-combination with any other development was identified. was identified.

4.3.1 Plans

The following development plans have been reviewed and taken into consideration as part of this assessment:

- Sligo County Development Plan 2017 -2023
- National Biodiversity Action Plan 2017-2021
- Northern and Western Regional Assembly – Regional Spatial and Economic Strategy 2020-2032

The review focused on policies and objectives that relate to European Sites. Policies and objectives relating to the conservation of peatlands and sustainable land use were also reviewed, particularly where the policies relate to the preservation of surface water quality. An overview of the search results with regard to plans is provided in Table 4-2 below.

Table 4-2 Assessment of Plans

Plans	Key Policies and Objectives directly related to European Sites and Biodiversity in the Zone of Influence	Assessment of Potential Impact on European Sites
Sligo County Development Plan 2017-2023	P-NH-1 Protect, sustainably manage and enhance the natural heritage, biodiversity, geological heritage, landscape and environment of County Sligo in recognition of its importance for nature conservation and biodiversity, and as a non-renewable resource, in association with all stakeholders.	The Development plan was comprehensively reviewed, with particular reference to Policies and Objectives that relate to the Natura 2000 network, biodiversity and other natural heritage interests. No potential for cumulative impacts when considered in conjunction with the current proposal were identified. Best practice preventative measures will be implemented to avoid any impacts on European Sites. There will be no adverse effects on any European Site as a result of the extension of the operational life of the existing Dunneill Wind Farm
	P-NH-3 Protect and, where possible, enhance the plant and animal species and their habitats that have been identified under the EU Habitats Directive, EU Birds Directive, the Wildlife Act and the Flora Protection Order.	
	P-NH-4 Take full account of the precautionary principle where uncertainty exists regarding the potential impact of a proposed development on the natural heritage resource	
	P-DSNC-1 Protect and maintain the favourable conservation status and conservation value of all natural heritage sites designated or proposed for designation in accordance with European and national legislation and agreements. These include Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Natural Heritage Areas (NHAs), Ramsar Sites, Statutory Nature Reserves. In addition, the Council will identify, maintain and develop non-designated areas of high nature conservation value which serve as linkages or 'stepping stones' between protected sites in accordance with Article 10 of the Habitats Directive.	
	P-DSNC-2 Promote the maintenance and, as appropriate, achievement of 'favourable conservation status' of habitats and species in association with the NPWS.	
	P-DSNC-3 Carry out an appropriate level of assessment for all development plans, land-use plans and projects that the Council authorizes or proposes to undertake or adopt, to determine the potential for these plans or projects to impact on designated sites, proposed designated sites or associated ecological corridors and linkages in accordance with the Habitats Directive, All appropriate assessments shall be in compliance with the provisions of Part XAB of the Planning and Development Act 2000.	
	P-DSNC-4 Consider development within, or with the potential to affect, Natural Heritage Areas or proposed Natural Heritage Areas, where it is shown that such development, activities or works will not have significant negative impacts on such sites or features, or in circumstances where impacts can be appropriately mitigated.	
	O-DSNC-1 Identify and protect local areas of high nature conservation value and support the management of landscape features which are of major importance for wild fauna and flora in accordance with Article 10 of the Habitats Directive.	
	P-PPAS-1 Ensure that development does not have a significant adverse impact, incapable of satisfactory mitigation on plant, animal or bird species protected by law	
	P-PPAS-2 Consult with the National Parks and Wildlife Service (DAHG) and take account of any licensing requirements when undertaking, approving and authorising development which is likely to affect plant, animal or bird species protected by law.	

Plans	Key Policies and Objectives directly related to European Sites and Biodiversity in the Zone of Influence	Assessment of Potential Impact on European Sites
	P-PPAS-3 Provide guidance to developers and others in relation to species protected by law and their protection and management in the context of development.	
	P-NCODS-1 Minimise the impact of new development on habitats of natural value that are key features of the County's ecological network. Developments likely to have an adverse effect on recognised sites of local nature conservation importance will be required to demonstrate the impacts on the ecological value of the site and will not be approved unless it can be clearly demonstrated that there are reasons for the development that outweigh the need to safeguard the nature conservation value of the site.	
	P-NCODS-2 Ensure that development proposals, where relevant, improve the ecological coherence of the Natura 2000 network and encourage the retention and management of landscape features that are of major importance for wild fauna and flora as per Article 10 of the Habitats Directive.	
	P-NCODS-3 Ensure that proposals for development protect and enhance biodiversity, wherever possible, by minimising adverse impacts on existing habitats and by including mitigation and/or compensation measures, as appropriate, which ensure that biodiversity is enhanced.	
	P-NCODS-4 Apply the precautionary principle in relation to development proposals with potential to impact on County Biodiversity Sites or on local nature conservation interest by requiring an ecological impact assessment (EcIA) to ensure that any proposed development will not affect the integrity and conservation value of the site.	
	P-WET-1 Have regard to the County Sligo Wetlands Surveys 2008-2011 and subsequent wetland surveys that may be published during the lifetime of this Plan. Protect surveyed wetland sites that have been rated of A (International), B (National) and C+ (County) importance.	
	P-WET-2 Ensure that an ecological assessment at an appropriate level is undertaken in conjunction with proposals involving drainage or reclamation of wetland habitats.	
	P-WTH-1 Protect trees, woodlands and hedgerows from development that would impact adversely upon them. Promote new tree and woodland planting and the enhancement of existing hedgerows by seeking increased coverage, in conjunction with new development using native species of local provenance, where possible.	
	P-WTH-2 Discourage the felling of mature trees to facilitate development and, where appropriate make use of tree preservation orders to protect important trees and groups of trees which may be at risk or have an important amenity or historic value.	
	P-WTH-3 Require the planting of native broadleaved species, and species of local provenance, in new developments.	
	P-WTH-4 Promote the planting of native tree and shrub species by committing to using native species (of local provenance wherever possible) in its landscaping works and on County Council property.	

Plans	Key Policies and Objectives directly related to European Sites and Biodiversity in the Zone of Influence	Assessment of Potential Impact on European Sites
	P-INW-1 Protect rivers, streams and other water courses and their associated Core Riparian Zones (CRZs) from inappropriate development and maintain them in an open state, capable of providing suitable habitats for fauna and flora. Structures (e.g. bridges) crossing fisheries waters shall be clear-span and shall be designed and built in consultation with Inland Fisheries Ireland.	
	P- INW-2 Protect and enhance biodiversity richness by protecting rivers, stream corridors and valleys by reserving land along their banks for ecological corridors, maintaining them free from inappropriate development and discouraging culverting or realignment.	
	P- INW-3 Ensure that all proposed greenfield residential and commercial developments use sustainable drainage systems (SUDS) in accordance with best current practice, ensuring protection of the integrity of wetland sites in the adjoining area, including their hydrological regime.	
	P- INW-4 Ensure that floodplains and wetlands within the Plan area are retained for their biodiversity and flood protection value.	
	P- INW-5 Ensure that proposed developments do not adversely affect groundwater resources and groundwater-dependent habitats and species.	
	O- INW-1 Consult with prescribed bodies prior to undertaking, approving or authorising any works or development that may impact on rivers, streams and watercourses.	
	O- INW-2 Require that runoff from a developed area does not result in deterioration of downstream watercourses or habitats, and that pollution generated by a development is treated within the development area prior to discharge to local watercourses.	
	P-INV-1 Prevent and control the spread of invasive plant and animal species within the county.	
	P-INV-2 Require, where appropriate, Invasive Species Management Plans to be prepared for development proposals regulated by the Planning Authority or undertaken by the Local Authority, and in particular for Japanese Knotweed and Giant Hogweed.	
National Biodiversity Action Plan 2017-2021	Target 6.2 - Sufficiency, coherence, connectivity and resilience of the protected areas network substantially enhanced by 2020.	The plan was comprehensively reviewed, with particular reference to Policies and Objectives that relate to the Natura 2000 network, biodiversity and other natural heritage interests. No potential for cumulative impacts when considered in conjunction with the current proposal were identified. Best practice preventative measures will be implemented to avoid any impacts on European Sites. There will be no adverse effects on any European Site

Plans	Key Policies and Objectives directly related to European Sites and Biodiversity in the Zone of Influence	Assessment of Potential Impact on European Sites
		as a result of the extension of the operational life of the existing Dunneill Wind Farm
Northern and Western Regional Assembly – Regional Spatial and Economic Strategy 2020-2032	Regional Policy Objective 5.5 – Ensure efficient and sustainable use of all our natural resources, including inland waterways, peatlands, and forests in a manner which ensures a healthy society a clean environment and there is no net contribution to biodiversity loss arising from development supported in this strategy. Conserve and protect designated areas and natural heritage area. Conserve and protect European sites and their integrity. Regional Policy Objective 5.7 - Ensure that all plans, projects and activities requiring consent arising from the RSES are subject to the relevant environmental assessment requirements including SEA, EIA and AA as appropriate	The guidance document was comprehensively reviewed, with particular reference to policies and objectives that relate to the Natura 2000 network. Best practice preventative measures will be implemented to avoid any impacts on European Sites. There will be no adverse effects on any European Site as a result of the extension of the operational life of the existing Dunneill Wind Farm

4.3.2 Projects Considered in the Cumulative Impact Assessment

4.3.2.1 Applications within the Site

Planning applications within the application site boundary are set out in Table 4-3 below. Planning permission was first granted by Sligo County Council in 2003 (Pl. Ref. 03/619). This permission was subsequently appealed to An Bord Pleanála (ABP Pl. Ref. 21.204790), which upheld the decision to grant and issued planning permission for the wind farm in March 2004. The Dunneill Wind Farm is operational and has been since 2010. The wind farm has been generating renewable electricity and supplying to the national grid over the last 11 years. In addition to the below the proposed development was also considered cumulatively with the existing grid connection for the operational Dunneill Wind Farm.

Table 4-3 Applications within the Application Site

Pl.Ref	Description	Decision
03/619	a) development of a wind farm including 13 no. three bladed wind turbines, with hub height of up to 49 metres and blade height of up to 52 metres, overall tip height of up to 75 metres; two road entrances, turbine and crane hardstands, construction of internal access roads and widening of existing tracks, two refuelling/maintenance areas with concrete surfaces and oil interceptors, single storey control building and associated site works including drainage, electrical and communication cabling (underground), 1 no. lattice-type permanent wind measurement/anemometer mast of 50 metres height and all associated and ancillary works; (b) temporary planning permission of 3 years duration for 2 no. pole type temporary wind measurement/anemometer masts of 40 metres height	Granted by Sligo CC. Granted by An Bord Pleanála (ABP Pl. Ref. 21.204790) 03/03/2004.
08/536	Retention of the existing 30-metre high telecommunications support structure carrying 4 No. antennas and 1 No. link dish together with associated equipment container, security fence and access track.	Granted by Sligo CC 08/10/2008
10/371	Retention of a Control Building of 97sqm with adjacent fenced compound and associated services on a site area of 0.07ha. This application for retention of planning will operate for the duration of the original planning permission granted under PL 03/619	Granted by Sligo CC 07/01/2011
10/388	Retention and operation of the existing temporary meteorological mast with associated site works. The temporary mast has a finished height above existing ground level of 49m approximately and consists of a lattice tubular frame fixed to a concrete base. This planning application for retention of the existing temporary meteorological mast as a permanent meteorological mast is to retain & operate the structure for the duration of the original planning permission as issued for the windfarm development Ref: PL03/619 at Dunneill Wind Farm	Granted by Sligo CC 20/01/2011

4.3.2.2 Wind Energy Applications Within 20km of Proposed Development

For the purposes of this cumulative assessment wind farms applications within a 20-kilometre radius of the Proposed Development area were considered and are detailed in Table 4-4 below. Wind farms occurring at greater distances were also considered, however, given the nature of the KERs identified

within the site and that no significant residual effects were identified as a result of the Proposed Development on its own, no potential for cumulative impacts was identified.

Table 4-4 Wind energy applications within 20km of the development site

Pl.Ref	Description	Decision and Operational status
Kingsmountain Wind Farm		
97/469	The erection of a wind farm including 10 wind turbines (1.5mw/each) with 3.75m wide access road and electrical sub-station on revised site	Granted by Sligo CC 11/05/1999. Fully constructed and operational.
02/846	Alterations to previously permitted development under PL 97/469 involving an amendment to Condition No. 1(c) of this permission to locate transformers external to the 10 no. permitted turbines	Granted by Sligo CC 14/02/2003
Black Lough Wind Farm		
11/379	Ten year planning permission for the erection of an electricity generating windfarm consisting of four (4) wind turbines of hub height up to 65m and rotor diameter up to 71m, hardstandings, Electrical Control Building, 4 car park spaces, associated site roads, drainage and site works.	Granted by Sligo CC. Granted by An Bord Pleanála (ABP Pl. Ref. PL21A.241637) 10/09/2013.
16/422	Development of a grid connection from the permitted windfarm at Tawnamore, Co. Sligo (Ref: PL 21.241637) to the Sligo/Mayo county boundary on County Road L-2604-39. The development will consist of a 20kv grid connection cable extending to circa 10.4 kilometres as described below and an electricity control room in the townland of Cloonkeelaun, Co. Sligo. The grid cable will consist of a circa 2.52 kilometre section of overhead line on six-metre high wooden poles in the townlands of Cloonkeelaun, Tawnalaughta and Carns, Co. Sligo and traverse underground for circa 7.89 kilometres through the townlands of Tawnamore, Caltragh, Tawnalaghta, Cloonkeelaun and Carns, Co. Sligo. The development will also consist of underground connections, 485 metres long, from two wind turbines proposed under planning reference PL 15/466 to the electricity control room in the townland of Cloonkeelaun, Co. Sligo. A concurrent planning application will be submitted to Mayo County Council for an underground grid connection from the Sligo/Mayo county boundary to the Glenree ESB substation, Bonniconlon, Co. Mayo.	Granted by Sligo CC 11/08/2017.
16822	Development of a 20kv underground grid connection cable extending to circa 6.43km to serve a permitted wind farm at Tawnamore, Co. Sligo (Ref No. PL21.241637). The underground cable will be developed from the Mayo/Sligo County Boundary at Carrowleagh to the Glencree ESB Substation Bonnyconlon and traverse the townlands of Carrowleagh, Carrownaglogh, Drumsheen and Bonnyconlon East.	Granted by Mayo CC 28/08/2017.

Pl.Ref	Description	Decision and Operational status
17/93	A ten year permission for development consisting of: (a) erection of four wind turbines with blade tip height of 124.33m (78.33m hub height, 92m rotor diameter) (b) cranage and assembly hardstand areas adjacent to each turbine (c) control room and parking spaces (d) cabling between each turbine (e) widening of existing access road and provision of new sections of access road to serve wind turbines (f) stilling ponds (g) peat reinstatement areas (h) replacement bridge across Gowlan River and realignment of approaches to the bridge (i) use of existing borrow pit and (j) all associated ancillary infrastructure.	Granted by Sligo CC 03/06/2017. Fully constructed and operational.
19160	For development consisting of an amendment to the permitted grid connection (Ref. No. PL16/422). The amended grid connection will be from the Black Lough Wind Farm at Tawnamore, Co. Sligo (Ref. No. PL17/93 to the permitted control building at Cloonkeelaun (Ref. No. PL 16/422), traversing the townlands of Tawnamore and Cloonkeelaun. The development will consist of a 20kv cable extending to (a) circa 2.3 kilometres of overhead line supported by a single wooden poles, (b) approximately 240m of underground cabling extending from turbine T2 at Black Lough to the first wooden pole and (c) approximately 100m of underground cabling from the southern-most pole of the proposed overhead line to the control building at Cloonkeelaun.	Granted by Sligo CC 20/12/2019
20228	For development consisting of amendment to planning permission PL17/93 for development of four wind turbines. The amendment application will consist of the removal of condition 7(c) of planning permission PL17/93, which provided for the removal of the crane hard standings following erection of the turbines.	Granted by Sligo CC 21/10/2020.
Cloonkeelaun Wind Farm		
10/235	Erection of up to 3 no. wind turbines with 64 metre hub heights, rotor diameter 71m, 4.5m access roads, upgrading of existing roads, hard standings and all associated infrastructure forming an extension to the permitted Carrowleagh Wind Farm.	Granted by Sligo CC 02/12/2010. Fully constructed and operational.
14/196	Development consisting of the variation of Condition 2 of Planning Permission PL 10/235 to amend the duration of the planning permission from 20 years from the date of the planning permission order to 25 years from the date of commissioning in December 2012	Granted by Sligo CC 14/09/2014.
Cloonkeelaun Single Turbine		
15/343	For development consisting of a ten-year planning permission for the construction of a wind turbine with a tip height of up to 124.33 metres, site access road, hard standing area, underground cabling and all ancillary site works (to the northwest and adjacent to the existing Carrowleagh Wind Farm)	Granted by Sligo CC 28/12/2015. Fully constructed and operational.
Clonkeelaun Double Turbine		

Pl.Ref	Description	Decision and Operational status
15/466	Construction of two (2) wind turbines, each with a tip height of up to 124.33 metres, site access roads, hardstanding areas, underground cabling and all ancillary site works located (to the northwest and adjacent to the existing Carrowleagh Wind Farm	Granted by Sligo CC 21/10/17. Fully constructed and operational.
Lackan Wind Farm		
02/816	Construction of 3 no. wind turbines, 60 metre hub height and 80 metre rotor diameter, access trackways, 4.5 metres in width, a substation building and associated site development works.	Granted by Sligo CC Granted by An Bord Pleanála (ABP Pl. Ref. 21.203388). Fully constructed and operational.
Carrowleagh Wind Farm		
03/2440	Construction of 15 No. Wind Turbines, 60 Metre Hub Height, and 66 Metre Rotor Diameter, Access Trackways 4.5 Metres in width, 1 38Kv Substation Building, a stone quarry of 0.1 Hectare and associated site development works.	Refused by Mayo CC Refused by An Bord Pleanála (ABP Pl. Ref. 16.206076).
06/3861	Construct a 29.9MW Wind Farm consisting of 13 No. Enercon E-70 2.3MW Turbines with an 64 Metre Hub Height, Rotor Diameter of 71 Metres, 4.5 Metre Access Roads to each turbine in addition to upgrade of existing roads hard standing at 20KV Substation building and temporary contractors compound.	Granted by Mayo CC 14/11/2007. Fully constructed and operational.
14/401	Variation of Condition 2 of Planning Permission P06/3861 to amend the duration of Planning Permission from 20 years from the date of commissioning to 25 years.	Granted by Mayo CC 28/10/2014
Bunnyconnellan Wind Farm		
10/514	27.6 Megawatt (MW) Wind Farm comprising 12 No. 2.3MW wind turbines, with steel towers and composite fibre rotor blades, of hub height up to 64 metres, a rotor diameter of up to 71 metres and base to blade tip height up to 99.55m. A substation control building with fenced compound containing electrical equipment, wind turbine transformers, turbine hardstands, new access tracks, strengthening and widening of existing turbury tracks on site, drainage works, new entrance with realignment improvements for site access from regional road no. 294 undergrounded electrical cables linking the turbines with substation, undergrounded communication cables, all further associated site works and related ancillary development	Granted by Mayo CC Granted by An Bord Pleanála with revised conditions (ABP Pl. Ref. PL16.241506) 13/12/2013. Fully constructed and operational.
Other Wind Farm Applications		
02/664	development of a wind farm comprising of 5 wind turbine generators, associated access roads and one meteorlogical tower.	Granted by Sligo CC 24/07/2003. Not constructed.
04/1010	Wind farm consisting of 3 no. turbines with 60m in hub height and rotor diameter of 52m, 4.5m access roads to each turbine, hard standings and substation building (Further Information has been submitted, Planning Ref. No. PL 04/1010 current application for a windfarm	Granted by Sligo CC. Granted by An Bord Pleanála with revised conditions (ABP Pl. Ref.) 26/08/2005. Not constructed.

Pl.Ref	Description	Decision and Operational status
	made by Aeropower Wind Energy Ltd in registered address Kilmacowen, Ballisodare, Co. Sligo	
22161	development consisting of the construction of a wind turbine with an operational lifespan of 30 years, from commissioning, with a tip height of approximately 150 metres, site access road (approximately 330m), hardstand areas, underground cabling from the turbine to the existing Black Lough Wind Farm control building (in Cloonkeelaun) and all ancillary site works	New Application to Sligo CC, decision due date 05/07/2022.

4.3.2.3 Other Developments/Land-Uses

A review of the Sligo County Council planning register was undertaken. Planning applications in the vicinity of the existing wind farm mostly relate to the provision and/or alteration of housing and agriculture-related structures. Planning applications in the vicinity include those listed in Table 4-5 below.

Table 4-5 Planning applications in the vicinity of the existing Dunneill Wind Farm

Pl.Ref	Description	Decision
96/228	construction of new entrance and access road for domestic dwellinghouse	Granted by Sligo CC 25/07/1996
96/620	Construction of dwellinghouse, septic tank and percolation area	Granted by Sligo CC 09/09/1997
98/421	The construction of a new dwellinghouse and septic tank	Granted by Sligo CC 27/01/1999
98/685	Construction of a dwellinghouse, septic tank and percolation area	Granted by Sligo CC 19/02/1999
99/744	(1) construction of an extension to side of existing dwellinghouse, (2) to remove existing flat roof to rear porch and to construct new roof and (3) to demolish existing shed to the front of the site	Granted by Sligo CC 20/12/1999
00/865	construction of dwelling house, septic tank and percolation area	Granted by Sligo CC 12/11/2001
01/518	Construction of a dwellinghouse, septic tank and percolation area	Granted by Sligo CC 30/10/2001
01/776	construction of a dwelling house, proprietary effluent treatment sytem and percolation area and new site entrance, inclusive of all associated site works, all of which have been relocated on site at (PL 01/776 refers)	Granted by Sligo CC 08/07/2004
02/102	new field entrance and construction of two gate piers	Granted by Sligo CC 21/08/2002
03/17	Revise site boundaries, previous planning ref. PL 01/518 applies	Granted by Sligo CC 07/05/2003.
03/443	Single bungalow dwelling with septic tank, access road and bored well	Granted by Sligo CC 14/01/2004
03/551	Construct dwelling house, septic tank and percolation area, and ancillary site works	Granted by Sligo CC 27/11/2003.
03/605	Construction of a house with septic tank and percolation areas	Granted by Sligo CC 20/02/2004.
03/964	Build a dwelling house, septic tank and percolation area together with a shed at rear	Granted by Sligo CC 26/02/2004.

Pl.Ref	Description	Decision
04/636	Construction of a dwellinghouse, septic tank and percolation area (Significant Further Information submitted, PL Ref No. PL 04/636 refers)	Granted by Sligo CC 21/03/2005
04/730	Building a dwellinghouse, proprietary effluent treatment system and percolation area	Granted by Sligo CC 27/10/2004
04/846	Construction of a dwellinghouse, septic tank with proprietary effluent treatment system and percolation area and to carry out ancillary site works	Granted by Sligo CC 16/02/2005
04/932	Construction of a dormer styled bungalow and garage, effluent treatment unit and new entrance	Granted by Sligo CC 02/12/2004
05/395	Demolition of existing dwellling building and construction of new 3 bedroom single storey dwelling house with a Biofilter proprietary effluent treatment system	Granted by Sligo CC 24/08/2005
05/965	Retention of dwelling house in a revised location with a revised floor level to that previously granted under PL04/730 and relocation of proprietary effluent treatment system and percolation area	Granted by Sligo CC 08/02/2006
05/1112	Construction of a dwellinghouse with proprietary effluent treatment system and percolation area, garage, new site entrance and associated site works	Refused by Sligo CC 31/07/2006
05/1080	Construction of a dwellinghouse, septic tank with proprietary effluent treatment system and percolation area and to carry out ancillary site works	Granted by Sligo CC 28/02/2006
06/236	Erection of a dwelling house and install a new septic tank and percolation area	Granted by Sligo CC 19/06/2006.
06/426	Demolition of wall and shed to side of dwelling house, construction of 2 no. extension (1 on each side of the existing dwelling house inclusive of porch to rear door), carry out minor amendments to the existing dwelling house to accommodate the extensions	Granted by Sligo CC 23/08/2006
06/774	Construction of a dwelling house with septic tank and percolation area	Granted by Sligo CC 15/11/2006
07/472	Construction of 1 No. dormer dwelling house, domestic garage, septic tank and percolation area, new entrance and associated site works	Granted by Sligo CC 08/08/2007
07/878	Construction of a new dwelling house, septic tank, proprietary effluent treatment unit, percolation area and garage/ shed	Granted by Sligo CC 13/11/2007
07937	Retention of a 30 metre lattice support structure carrying telecommunications equipment chain link perimeter fencing, equipment container and access track as previously granted by An Bord Pleanala under ref no: PL21.129406 (Sligo County Council reg ref: 01/972)	Granted by Sligo CC 04/12/2007
08/427	construction of alterations and modifications to existing dwelling house including an extension to the rear and porch to the front together with proposed new garage and ancillary works	Granted by Sligo CC 29/07/2008
08/536	Retention of the existing 30-metre high telecommunications support structure carrying 4 No. antennas and 1 No. link dish together with associated equipment container, security fence and access track	Granted by Sligo CC 08/10/2008
08/1001	Retention of earth works carried out	Granted by Sligo CC 20/07/2009

Pl.Ref	Description	Decision
09/307	Construction of a new dwelling, domestic garage and proprietary effluent treatment system and associated polishing filter and all other site works and services	Granted by Sligo CC 15/09/2009
10/80	to erect dwelling house, domestic garage, proprietary effluent treatment system, polishing filter, new residential entrance	Granted by Sligo CC 01/06/2010
09/390	Construction of an extension and renovation to existing dwelling house and construction of a new garage	Granted by Sligo CC 13/11/2009
10/193	construction of a dwelling house with mechanical aeration system and soil polishing filter and to construct a domestic garage	Granted by Sligo CC 20/10/2010
10/196	EOD - Construction of a dwelling house, garage/store, proprietary effluent treatment system and percolation area	Granted by Sligo CC 31/08/2010.
10/371	Retention of a Control Building of 97sqm with adjacent fenced compound and associated services on a site area of 0.07ha. This application for retention of planning will operate for the duration of the original planning permission granted under PL 03/619	Granted by Sligo CC 07/01/2011
10/380	Demolition of an existing extension to rear of existing dwelling house, construction of a new single storey extension to rear, recladding walls of the existing house, provision of a new wastewater treatment system & percolation area and carrying out of associated site works	Granted by Sligo CC 12/01/2011.
10/388	Retention and operation of the existing temporary meteorological mast with associated site works. The temporary mast has a finished height above existing ground level of 49m approximately and consists of a lattice tubular frame fixed to a concrete base. This planning application for retention of the existing temporary meteorological mast as a permanent meteorological mast is to retain & operate the structure for the duration of the original planning permission as issued for the windfarm development Ref: PL03/619 at Dunneill Wind Farm	Granted by Sligo CC 20/01/2011.
12/199	Construction of a dwelling house, construction of a domestic garage, installation of proposed treatment unit with soil polishing filter and to carry out ancillary site works	Granted by Sligo CC 12/10/2012.
12/248	Construction of a proposed dormer type dwelling, detached garage, site entrance and boundary wall / fence, mechanical aeration system with polishing filter and associated ancillary site works	Granted by Sligo CC 03/10/2012.
12/334	Outline planning permission to construct a dwelling house with septic tank and percolation area	Granted by Sligo CC 16/12/2012
12/438	Retention of an existing 30m high lattice support structure carrying antennas, transmission dishes, associated equipment containers, fencing and associated works (as previously granted under Local Authority Reference PL 07/937) which forms part of their cellular digital and broadband communications network on Coillte Land	Granted by Sligo CC 18/03/2013
13/236	Construction of a dwelling house and domestic garage with proprietary effluent treatment system and polishing filter	Granted by Sligo CC 17/11/2013
13/274	Construction of a dwelling house, domestic garage, installation of a proprietary effluent treatment system with polishing filter and carrying out of ancillary site works	Refused by Sligo CC 20/11/2013
13/312	Retain and operate an existing 30 metre high telecommunications support structure carrying antennas and	Granted by Sligo CC 09/02/2014

Pl.Ref	Description	Decision
	link dishes together with associated equipment container and security fence which was previously granted under Local Authority reference PL 08/536 and forms part of their cellular digital communications network	
14/135	Construction of a proposed one and a half storey type dwelling, detached garage, site entrance and boundary wall/fence, septic tank and filter system with an onsite polishing filter and associated ancillary site works	Granted by Sligo CC 04/10/2014
14/294	Development consisting of construction of a new dormer dwelling house, proprietary effluent treatment system and percolation area, together with all associated site works	Granted by Sligo CC 18/06/2015
15/403	development consisting of the construction of dwelling house, domestic garage, installation of a proprietary effluent treatment system with polishing filter and carrying out of ancillary site works	Granted by Sligo CC 11/04/2016
14/417	Development consisting of the retention of as constructed domestic garage (previous grant of planning permission PL 11/126 applies)	Granted by Sligo CC 20/02/2015
17/9	Development consisting of (1) retention of existing dwelling house (2) upgrading of existing septic tank system to include new proprietary effluent treatment unit and percolation area (Planning Permission PL 15494 also applies)	Granted by Sligo CC 09/04/2017
19/387	PP - for development consisting of (a) Construct new dwelling house and domestic garage, (b) Construct new septic tank and treatment system and associated works, (c) Construct new entrance to public road, (d) Connect to all services and utilities, (e) Carry out all ancillary works as required on site	Refused by Sligo CC 05/11/2019.
20/421	PP - development consisting of: (a) construction of new dwelling house, (b) domestic garage, (c) constructed new septic tank treatment system and associated works, (d) construction of new entrance to public road, (e) connection to all services and utilities (f) carrying out of all ancillary works as required on site	Refused by Sligo CC 09/02/2021
20/257	Development consisting of the erection of a dwelling house, proprietary effluent treatment unit, percolation area and detached domestic garage including all ancillary site works	Granted by Sligo CC 19/05/2021
21/175	Development consisting of construction of a new dwelling house and domestic garage with on-site waste water treatment system	Granted by Sligo CC 12/08/2021
22/75	Development consisting of retention of alterations to plans and elevations of dwelling house as constructed which differs from those permitted under Planning Permission PL05/395 with all associated works	Granted by Sligo CC 27/05/2022

4.3.3 Conclusion of Cumulative Assessment

Following an examination, evaluation and analysis, in light of best scientific knowledge and the conservation objectives of the site, and, on the basis of objective information, having taken into account the relevant mitigation measures, it can be concluded that the Proposed Development will not have an

adverse impact on any European Site and cannot contribute to any cumulative or in-combination effect when considered alongside any other plan or project.

In the review of the projects that was undertaken, no connection, that could potentially result in additional or cumulative impacts was identified. Neither was there any potential for different (new) impacts resulting from the combination of the various projects and plans in association with the Proposed Development.

5. CONCLUDING STATEMENT

All aspects of the proposed development which, by itself, or in combination with other plans or projects, which may affect the relevant European Sites have been considered.

The NIS contains information which the competent authority, may consider in making its own complete, precise and definitive findings and conclusions and upon which it is capable of determining that all reasonable scientific doubt has been removed as to the effects of the proposed development on the integrity of the relevant Natura 2000 sites.

In conclusion, in the light of the conclusions of the assessment which it shall conduct on the implications for the European sites concerned, the competent authority is enabled to ascertain that the proposed development will not adversely affect the integrity of any of the European sites concerned.

Following an examination, evaluation and analysis, in light of best scientific knowledge and the conservation objectives of the site, and, on the basis of objective information, having taken into account the relevant mitigation measures, it can be concluded that the Proposed Development will not have an adverse impact on any European Sites, either alone or in combination with other plans or projects.

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APPENDIX 1

DECOMMISSIONING PLAN

Decommissioning Plan

Dunneill Wind Farm, Co. Sligo

DOCUMENT DETAILS

Client:	**Brickmount Ltd.**
Project Title:	**Dunneill Wind Farm, Co. Sligo**
Project Number:	**210207**
Document Title:	**Decommissioning Plan**
Document File Name:	**Decommissioning Plan – F – 2022.08.09 – 210207**
Prepared By:	**MKO** **Tuam Road** **Galway** **Ireland** **H91 VW84**

Planning and Environmental Consultants

Rev	Status	Date	Author(s)	Approved By
01	Draft	15/07/2022	DN/OC	TB
02	Final	09/08/2022	DN	TB

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1. INTRODUCTION

This Planning Stage Decommission Plan has been prepared by MKO on behalf of Brickmount Ltd. for the decommissioning of Dunneill Wind Farm and associated infrastructure, hereafter referred to as the Proposed Development. This document has been prepared as part of an Environmental Impact Assessment Report (EIAR) and planning application to Sligo County Council, to extend the operational life of the existing Dunneill Wind Farm (Pl. Ref. 03/619 and ABP Pl. Ref. 21.204790) for a further period of 15 years. Decommissioning of the Proposed Development is intended to take place after the proposed additional 15-year period (c.2039), subject to planning permission.

Should the Proposed Development not be consented, the existing Dunneill Wind Farm will be decommissioned in 2024 in line with Condition 8 of the original Planning Application granted by Sligo County Council (Pl. Ref. 03/619). While decommissioning is required under the extant planning permission, and the Proposed Development will be simply postponing those activities for another 15-years, decommissioning activities have evolved since the original planning application was submitted and this Planning Stage Decommissioning Plan has been prepared to account for such updates. This Planning Stage Decommissioning Plan is based upon current technologies, methods and best practice.

Prior to decommissioning, the applicant will engage with the Planning Authority to agree a specific Decommissioning Plan to ensure the appropriate decommissioning and reinstatement of the site having regard to prevailing environmental conditions and to ensure the use of best available recycling technology and techniques available at the time. This document should, therefore, be considered to be a 'live' document which will be further developed by the appointed decommissioning contractor who will prepare and insert detailed method statements relative to each individual work stream.

This report provides the environmental management framework to be adhered to during the decommissioning phase of the Proposed Development and it incorporates the mitigating principles to ensure that the work is carried out in a way that minimises the potential for any environmental impacts to occur.

1.1 Scope of the Decommissioning Plan

This report is presented as a guidance document for the decommissioning of the Proposed Development. Where the term 'site' is used in the Decommissioning Plan it refers to all works associated with the Proposed Development, including enabling works. The Decommissioning Plan clearly outlines the mitigation measures and monitoring proposals that are required to be adhered to in order to complete the works in an appropriate manner.

The report is divided into six sections, as outlined below:

Section 1 provides a brief introduction as to the scope of the report.

Section 2 outlines the Site and Project details, detailing the targets and objectives of this plan along with providing an overview of works methodologies that will be adopted throughout decommissioning.

Section 3 sets out details of the environmental controls to be implemented on site including the mechanisms for implementation. A waste management plan is also included in this section.

Section 4 outlines the Emergency Response Procedure to be adopted in the event of an emergency in terms of site health and safety and environmental protection.

Section 5 sets out a programme for the timing of the works.

Section 6 outlines the proposals for reviewing compliance with the provisions of this report.

2. SITE AND PROJECT DETAILS

2.1 Site Location and Description

The Proposed Development is located approximately 3.5 kilometres (km) south of the village of Dromore West and approximately 3.7 km southwest of the village of Templeboy in County Sligo. The Proposed Development is located within the four townlands of Crowagh or Dunneill, Tawnadremira, Ballyglass and Dunowla, while the approximate grid reference location for the centre of the site is ITM E544576 N829278.

The existing wind farm consists of 13 No. Vestas V52 850-kilowatt (kW) turbines with a blade tip height of 75m (49m tower, 52m rotor diameter). The existing wind farm, which became operational in 2010, has a total rated capacity of c.11 Megawatts (MW).

The existing wind farm is connected to the National Grid by a medium voltage 20 kilovolt (kV) underground cable between the existing 20kV substation at Dunneill Wind Farm and the existing Cunghill 110 kV Substation, located approximately 20km southeast of the Proposed Development.

The grid connection is assessed as a cumulative project only within the EIAR, as at the time of constructing Dunneill Wind Farm, the grid connection for this site was considered as exempted development and did not form part of the original planning application. This was generally the case for all wind farm projects of that era (i.e., pre the Peart / O'Grianna judgement). The planning background for Dunneill Wind Farm is detailed further in the accompanying EIAR Chapter 2: Background to the Proposed Development and Chapter 4: Description of the Proposed Development.

No construction activities or alterations to the existing wind farm are proposed beyond routine maintenance of the turbines and electrical infrastructure during the operational phase of the Proposed Development.

2.2 Description of the Proposed Development

The Proposed Development (all elements pre-existing) for which planning permission is sought, for an extension of operation, comprises:

a. *13 no. existing Vestas V52 850 kilowatt (kW) wind turbines with a maximum overall blade tip height of 75 metres (m);*
b. *1 no. onsite control building with total footprint of approximately 455 square metres (m^2), including welfare facilities, associated electrical plant and equipment, security fencing, associated underground cabling and a 6,000-litre sealed cess tank;*
c. *1 no. permanent meteorological mast with a height of 50m and an associated 50m^2 concrete platform/base;*
d. *All associated underground electrical and communications cabling connecting the turbines to the on-site substation;*
e. *Existing site access tracks of circa 3.3 kilometres (km) total length, 3 no. car parking spaces and 13 no. turbine hardstands;*
f. *2 No. existing gated site entrances from an unnamed third-class public road which dissects the windfarm site into north and south;*
g. *Site drainage; and,*
h. *All ancillary infrastructure, associated site fencing and signage.*

As described above, it is proposed to continue the operation of the existing development for a further period of 15-years, from its currently required date of decommissioning in 2024, to 2039.

All elements of the Proposed Development are pre-existing and it is not proposed to make any alterations to the current site layout, wind turbines or associated infrastructure. All elements of the existing wind farm were constructed in accordance with the conditions attached to the planning permission for Dunneill Wind Farm and ESB/EirGrid specifications and requirements at the time of construction.

The site layout showing existing individual infrastructure of the Proposed Development is shown in Figure 2-1.

As construction has been completed, elements of the project that were developed as a temporary facilitator have either been removed, restored to its original condition or will have naturally revegetated. All access roads and hardstandings areas form part of a site roadway network which will be required by the ongoing farming and forestry operations, and therefore will be left in situ for future use. It is intended that decommissioning will remove the existing turbines and reinstate areas where infrastructure is removed. The following elements are included:

- Wind turbines dismantling and removal off site.
- Electrical cabling removal (ducting remaining)
- Turbine foundation backfilling (Underground reinforced concrete remaining in-situ)

Map Legend

- EIAR Site Boundary
- Dunneil Track & Hardstanding
- Dunneil Turbines
- Existing Turbine Hardstand
- Dunneil Substation
- Existing Dunneill Met Mast

N

Drawing Title

Site Layout Map

Project Title

Dunneill Wind Farm

Drawn By	Checked By
DN	MW
Project No.	Drawing No.
210207	Figure 2-1
Scale	Date
1:11000	09.08.22

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2.3 Targets and Objectives

The decommissioning phase works will be completed to approved standards, which include specified materials, standards, specifications and codes of practice. This decommissioning plan has considered environmental aspects, and this is enhanced by the works proposals as part of decommissioning.

The key site targets are as follows;

- Ensure decommissioning works and activities are completed in accordance with mitigation and best practice approach presented in the accompanying Environmental Impact Assessment Report (EIAR) and associated planning documentation;
- Ensure decommissioning works and activities have minimal impact/disturbance to local landowners and the local community;
- Ensure decommissioning works and activities have minimal impact on the natural environment;
- Adopt a sustainable approach to decommissioning; and,
- Provide adequate environmental training and awareness for all project personnel.

The key site objectives are as follows;

- Using recycled materials if possible, e.g. soil and overburden material for backfilling and reinstatement;
- Ensure sustainable sources for materials supply where possible;
- Avoidance of any pollution incident or near miss as a result of working around or close to existing watercourses and having emergency measures in place;
- Avoidance of vandalism;
- Keeping all watercourses free from obstruction and debris;
- Correct implementation of the sustainable drainage system (SuDS) drainage design principles;
- Keep impact of decommissioning works to a minimum on the local environment, watercourses, and wildlife;
- Correct fuel storage and refuelling procedures to be followed;
- Good waste management and house-keeping to be implemented;
- Air and noise pollution prevention to be implemented;
- Monitoring of the works and any adverse effects that it may have on the environment. Decommissioning methods will be altered where it is found there is the potential to have an adverse effect on the environment;

2.4 Decommissioning Methodologies Overview

2.4.1 Introduction

An experienced main contractor will be appointed to undertake the of the decommissioning of the Proposed Development. The main contractors will comply with the Operation and Environmental Management Plan (OEMP) implemented during operation and any revisions made to those documents as they develop throughout the continued operation of the wind farm. An overview of the anticipated decommissioning methodologies is provided below.

2.4.2 Decommissioning Methodology

The proposed anticipated decommissioning methodology is summarised under the following main headings:

- Wind turbines
- Turbine Foundations;
- Crane Hardstanding & Access Tracks
- Transformers and Electrical Cabling;
- Electrical Control Building.

2.4.2.1 General Principles

Unlike most other forms of development, decommissioning of wind farms is typically a straightforward process. Infrastructure can readily be dismantled on site and removed. Following the restoration of the site, there would be no significant visible evidence of prior existence, and no legacy of pollution.

The decommissioning of the Dunneill Wind Farm is not expected to pose significant risks to the environment; nevertheless, effects need to be addressed in order to ensure that no, or minimal, impact on the environment occurs.

All measures described within the Environmental Impact Assessment Report (EIAR) with regards to mitigation and protection for ecological receptors, waste management, surface water management and prevention of pollution will apply to decommissioning works; subject to review of relevant regulations and best practice at that time.

In general, all structures above ground level shall be dismantled and removed from the site for reuse or recycling where possible; however, access tracks may be retained depending on the proposed future use of the site. It is likely that, in order to minimise environmental disturbance, the majority of sub-surface elements of the wind farm shall remain in situ. For example, electrical cabling shall be removed and recycled but the ducting within which it is located would remain to avoid unnecessary excavations and ground disturbance.

The overriding principle of the decommissioning process is to minimise the extent of any ground disturbance on site. While groundworks are an inevitable consequence of the decommissioning process, they shall only be undertaken where absolutely necessary.

The following sections detail the methodologies likely to be implemented during decommissioning; however, as described above, a site-specific approach will be agreed with the Planning Authority.

2.4.2.2 Wind Turbines

Prior to any decommissioning works being undertaken, a comprehensive health and safety assessment will be carried out. In advance of works to the turbines, they will be disconnected from the on-site electrical network by an appointed electrical contractor. Turbine dismantling will be undertaken in reverse order to the methodology employed during their construction. Cranes will be brought to site and will utilise the existing crane hardstandings.

Wind turbines are comprised of the tower, nacelle and blades which are modular items that can be disassembled. If the turbines are to be sold on or reused elsewhere they shall be removed from site by specialist vehicles similar to those used during their transportation to site.

If wind turbine components are not to be reused then they shall be recycled where possible.

The tower sections and nacelle are inert steel/ferrous metal structures which are readily recyclable. These will be sent to a licensed waste facility for recycling.

The turbine blades are constructed of fibreglass which is not readily re-used or recyclable. Due to the large number of turbine blades currently being decommissioned globally, extensive research is being undertaken to find an alternative use for the fibreglass. There are a number of emerging innovations for

fibreglass recycling including the re-purposing of fibreglass for other civil engineering projects (e.g. as a component in concrete production, roofs for social housing and incorporation to the construction of electrical powerline masts/structures.) While extensive research is being undertaken to find a means of recycling decommissioned wind turbine blades , this EIAR assumes that, at the proposed date of decommissioning, all blades will be removed to an approved waste management facility.

Having been dismantled, the turbine blades will be processed on the crane hardstanding to accommodate their removal by standard HGVs. This process is likely to avoid the requirement for abnormal-sized loads, or oversized vehicles, to utilise the local road network.

2.4.2.3 Turbine and Meteorological Mast Foundations and Hardstands

On the dismantling of turbines and meteorological mast, it is not intended to remove the concrete foundation from the ground. It is considered that its removal will be the least preferred options in terms of having potential effects on the environment. Therefore, the turbine foundations will be backfilled and covered with soil material. If there is usable soil or overburden material on the site, this material will be used. Alternatively, where material is not readily available on site, soil will be sourced locally and imported to site on heavy good vehicles (HGVs). The imported soil will be spread and graded over the foundation using a tracked excavator and revegetation enhanced by spreading of an appropriate seed mix to assist in revegetation and accelerate the resumption of the natural drainage management that will have existed prior to any construction. Hardstands shall be covered with soil material and regraded to match existing ground contours and profile. The area shall then be seeded out or allowed to vegetate naturally.

2.4.2.4 Transformers & Electrical Cabling

The decommissioning of transformers will depend entirely on any future use of the wind turbine. If the turbine is to be used elsewhere, the transformer will be removed from site for refurbishment and future use. If the turbine is to be recycled or sent for disposal, the transformer will be removed to an approved waste handling/recycling facility and stripped of any useable parts with the remainder being recycled.

The cables at the Dunneill Wind Farm contain a core of copper which can be recycled. Cables shall be pulled from the existing ducting and removed to an approved waste handling facility where the cores shall be recycled and the remaining material shall be disposed of at an approved facility.

2.4.2.5 Electrical Control Building

In the first instance, it should be noted that the electrical control building is under the control of ESB Networks and may be retained following the decommissioning of the wind farm. However, for the purposes of this assessment, decommissioning is assumed. The on-site electrical control building will involve the strip-out and removal of steel, conductors, switches, and other materials and equipment that can be reconditioned and reused or recycled. A soft strip of the building shall ensure that all fixtures and fittings are removed prior demolition.

Demolition of the control building shall take place using conventional demolition methods. Foundations and building services shall be grubbed up to a depth of 1m below ground level. The demolition waste shall comprise mainly rubble (blocks, broken concrete, and plaster etc.) and timber. Rubble can be segregated to provide an aggregate material which may be used in the reinstatement of the site while un-suitable material will be removed and disposed of at an approved waste management facility.

Timber and other waste shall be segregated according to material type with a view to recycling where possible or disposal. All demolition materials which cannot be reused on site shall be removed off site

to a licensed waste handling facility for recycling or disposal. Excavations shall be backfilled with suitable material, soiled over and seeded out or allowed to vegetate naturally.

3. ENVIRONMENTAL MANAGEMENT

The following sections give an overview of the drainage design, dust and noise control measures, a waste management plan for the site and the implementation of the environmental management procedures for the site.

3.1 Site Drainage

The site drainage features for this site during its continued operation are outlined in Section 4.5 of the and Section 9.3.3.2 the EIAR which accompany this application. As this Decommissioning Plan is a working document and is presented as an Appendix to the EIAR, the drainage measures are not included in this document. When the final plan is prepared prior to decommissioning and presented as a standalone document, all drainage measures will be included in that document as required. The drainage proposals will be developed further prior to the commencement of decommissioning if deemed necessary. However, it should be noted that by the time decommissioning is undertaken, in 2024 or after the planned 15-year extension of operation of the Dunneill Wind Farm, the areas within the site have already or will have revegetated resulting in a resumption of the natural drainage management that will have existed prior to any construction. It is not anticipated that the decommissioning phase will interrupt this restored drainage regime in any way with the works proposed.

3.2 Refuelling, Fuel and Hazardous Materials Storage and General Pollution Prevention Measures

Pollution prevention methods will be undertaken in accordance with those measures set out in the EIAR and prevailing best practice procedures. Any material or substance which could cause pollution, including fuels/oils or silty water will be prevented from entering groundwater, surface water drains or surface waters by the appropriate use of, and appropriate placement of, temporary cut-off drains and silt traps. Any sign of ineffective water treatment measures or evidence of silted or contaminated water entering surface water on-site, will be reported immediately to the contractor. The precise implementation of these measures will be detailed in a Surface Water Management Plan (SWMP) to be prepared prior to decommissioning.

The plant and equipment used during decommissioning works will require refuelling during the works. Appropriate management of fuels will be required to ensure that incidents relating to refuelling are avoided. The following mitigation measures are proposed to avoid release of hydrocarbons at the site:

- Road-going vehicles will be refuelled off site wherever possible;
- All refuelling will be carried out in a designated area over an impermeable surface (hardstanding / protective layer/trays) at least 50m from surface waters/surface water drains where possible. Machinery will be refuelled directly by a fuel truck that will come to site as required;
- Irrespective of the buffer distance and location of refuelling, interceptor drip trays will be available in accordance with standard good practice. Interceptor drip trays will be positioned under any stationary mobile plant to prevent oil contamination of the ground surface or water;
- Only designated trained and competent operatives will be authorised to refuel plant on site. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations;
- Fuel pipes on plant outlets at fuel tanks etc. will be regularly checked and maintained to ensure that no drips or leaks to ground occur;

- Fuel volumes stored on site should be minimised. Any areas of waste oil/fuel/chemical storage and refuelling will be located 50m away from surface waters or drainage paths. Such storage areas will be appropriately sited and bunded to prevent the downward percolation of contaminants to natural soils and groundwater. Fuel, oils and chemicals will be stored on an impervious base within a bund able to contain at least 110% of the volume stored. Rainwater will not be allowed to accumulate within the bund and in any way compromise the required 110% volume capacity. No tanks or containers may be perforated or dismantled on-site. A competent operator shall empty all contents and residues for safe disposal off-site in accordance with current waste regulations;
- No burning of any materials shall be permitted;
- The use of herbicides will also be prohibited;
- Plant and site vehicles are to be well maintained and any vehicles leaking fluids must be repaired or removed from site immediately. Any servicing operations shall take place over drip trays; and,
- An emergency plan for the decommissioning phase to deal with accidental spillages will be developed (refer to Section 4) Spill kits will be available to deal with and accidental spillage in and outside the refuelling area.
- A programme for the regular inspection of plant and equipment for leaks and fitness for purpose will be developed at the outset of the decommissioning phase.

3.3 Dust Control

Dust can be generated from on-site activities during decommissioning such as backfilling of foundations and travelling on site roads during prolonged periods of dry weather. The extent of dust generation will depend on the type of activity undertaken, the location, the nature of the dust, i.e. soil, and the weather. In addition, dust dispersion is influenced by external factors such as wind speed and direction and/or, periods of dry weather. Site traffic movements also have the potential to generate dust as they travel along the haul route.

Proposed measures to control dust include:

- Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions;
- The designated public roads outside the site and along the main transport routes to the site will be regularly inspected by the Site Manager for cleanliness, and cleaned as necessary;
- Material handling systems and material storage areas will be designed and laid out to minimise exposure to wind;
- Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods;
- The transport of soils or other material, which has significant potential to generate dust, will be undertaken in tarpaulin-covered vehicles where necessary;
- All site related traffic will have speed restrictions on un-surfaced roads to 15 kph;
- Daily inspection of the site to examine dust measures and their effectiveness.
- When necessary, sections of the haul route will be swept using a truck mounted vacuum sweeper; and,

3.4 Noise Control

The operation of plant and machinery, including site vehicles, is a source of potential impact that will require mitigation at all locations within the site. Proposed measures to control noise include:

- Limiting the hours during which site activities likely to create noticeable levels of noise or vibration are permitted;
- Establishing channels of communication between the Applicant or contractor, Local Authorities and residents;
- Selection of plant with low inherent potential for generation of noise and/or vibration;
- No plant or machinery will be permitted to cause a public nuisance due to noise;
- The best means practicable, including proper maintenance of plant, will be employed to minimise the noise produced by on site operations.
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of works;
- Compressors models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers;
- Machinery that is used intermittently will be shut down or throttled back to a minimum during periods when not in use; and
- The hours of decommissioning works (and associated traffic movements) will, insofar as possible, be limited to avoid unsociable hours. Activities shall generally be restricted to between 07:00hrs and 19:00hrs Monday to Friday and between 07:00hrs and 13:00hrs on Saturdays, with no activities on Sundays or public holidays unless in the event of an emergency.

3.5 Ground Disturbance, Material Excavation & Reinstatement

During decommissioning, all plant and machinery will keep to existing infrastructure (e.g. tracks and hardstanding) and will not encroach upon adjacent habitats unless this is essential in order to progress the decommissioning works. In the event of any necessary encroachment into adjoining habitats; given the presence of wet heath at the proposed development site; appropriate trackway or matting shall be placed to avoid any loss of the adjoining habitat. However, no encroachment into areas of blanket bog will be permitted.

The reinstatement of any areas disturbed during the decommissioning works will be undertaken. The contractor will record excavated volumes and storage areas, and volumes and type of material utilised for reinstatement of relevant areas. This information will be updated for the duration of the decommissioning works.

Reinstatement will be completed using site-won materials wherever possible without compromising or damaging established/existing habitats. Natural vegetation will be preferred; however, native seed mixes may also be selected to complement surrounding species. The seed mix and method of application will be agreed with a suitably qualified ecologist to ensure that the reinstated habitats are compatible with those existing and surrounding the reinstated areas at the time of decommissioning.

All temporarily stockpiled materials will be stored in designated areas and isolated from any surface drains and a minimum of 50m away from surface water where possible. Aggregate or fine materials storage will be enclosed and screened/sheeted. No storage of materials within areas of blanket bog or wet heath shall be permitted.

Soil and vegetation must be stored separately from subsoil and shall be retained and reinstated on all areas of stripped ground as soon as possible to prevent erosion and leaching/loss of nutrients. Excavated turves; particularly in the case of wet heath, shall be appropriately stored to protect the plant species; shall be reinstated with the vegetated side facing upwards, in order to speed up the re-generation process, minimise the need for re-seeding, and help maintain the original species mix.

3.6 Invasive Species Management

Any soil material that will be imported to site as part of the foundation backfilling will be free of any invasive species (listed under the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011). The site manager will take steps to ensure this sourcing suitably clean material and verify the quality of the material by having it inspected prior to bringing it to site by a suitably qualified ecologist. Prior to decommissioning, a suitably qualified ecologist will complete an invasive species survey.

3.7 Traffic Management

The Traffic Management Plan has been prepared to consider the decommissioning as a standalone project. The removal of turbines from site will be undertaken for a specialist haulier. The traffic management arrangements although similar to that implement for turbine delivery as outlined in the EIAR will be agreed in advance of decommission with the competent authority.

3.8 Waste Management

This section of the Decommissioning Plan provides a waste management plan (WMP) which outlines the best practice procedures during the decommissioning of the Proposed Development. The WMP will outline the methods of waste prevention and minimisation by recycling, recovery and reuse at each stage of decommissioning. Disposal of waste will be seen as a last resort.

3.8.1 Legislation

The Waste Management Act 1996 and its subsequent amendments provide for measures to improve performance in relation to waste management, recycling and recovery. The Act also provides a regulatory framework for meeting higher environmental standards set out by other national and EU legislation.

The Act requires that any waste related activity has to have all necessary licenses and authorisations. It will be the duty of the Waste Manager on the site of the Cleanrath wind farm development to ensure that all contractors hired to remove waste from the site have valid Waste Collection Permits. It will then be necessary to ensure that the waste is delivered to a licensed or permitted waste facility. The hired waste contractors and subsequent receiving facilities must adhere to the conditions set out in their respective permits and authorisations.

The Department of the Environment provides a document entitled, '*Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects' (2006).* It is important to emphasise that no demolition will take place at this site, however, this document was referred to throughout the process of completing this WMP.

3.8.2 Waste Management Hierarchy

The waste management hierarchy sets out the most efficient way of managing in the following order:

Prevention and Minimisation:

The primary aim of the WMP will be to prevent and thereby reduce the amount of waste generated at each stage of the project.

Reuse of Waste:

Reusing as much of the waste generated on site as possible will reduce the quantities of waste that will have to be transported off site to recovery facilities or landfill.

Recycling of Waste:

There are a number of established markets available for the beneficial use of Construction and Demolition waste such as using waste concrete as fill for new roads.

At all times during the implementation of the WMP, disposal of waste to landfill will be considered only as a last resort.

3.8.3 Waste Arising from Decommissioning

The relevant components will be removed from site for re-use, recycling or waste disposal. Any structural elements that are not suitable for recycling will be disposed of in an appropriate manner. All lubrication fluids will be drained down and put aside for appropriate collection, storage, transport and disposal. Any materials which cannot be re-used or recycled will be disposed of by an appropriately licenced contractor.

The waste types arising from the decommissioning of the Dunneill Wind Farm are outlined in Table 3-1 below.

Table 3-1 Expected waste types arising during the Decommissioning Phase

Material Type	Example	EWC Code
Cables	Electrical wiring	17 04 11
Metals	Copper, aluminium, lead and iron	17 04 07
Fibreglass	Turbine blade component	10 11 03
Hydrocarbons	Oils and lubricants drained from the turbines	13 01 01,13 02 04

3.8.3.1 Reuse

Many construction materials can be reused a number of times before they have to be disposed of:

- Electrical wiring can be reused on similar wind energy projects
- Elements of the turbine components can be reused but this will be determined by the condition that they are as well as when decommissioning actually takes place.

3.8.3.2 Recycling

If a certain type of construction material cannot be reused onsite, then recycling is the most suitable option. The opportunity for recycling during decommissioning will be limited and restricted to components of the wind turbines.

All waste that is produced during the decommissioning phase including dry recyclables will be deposited in the on-site skip initially and sent for subsequent segregation at a remote facility. The anticipated volume of all waste material to be generated at the Proposed Development is low, which provides the justification for adopting this method of waste management.

3.8.3.3 Implementation

3.8.3.3.1 *Roles and Responsibilities*

Prior to the commencement of the decommissioning, a Construction Waste Manager will be appointed by the Contractor. The Construction Waste Manager will be in charge of the implementation of the objectives of the plan, ensuring that all hired waste contractors have the necessary authorisations and that the waste management hierarchy is adhered to. The person nominated must have sufficient authority so that they can ensure everyone working on the decommissioning adheres to the management plan.

3.8.3.3.2 *Training*

It is important for the Construction Waste Manager to communicate effectively with colleagues in relation to the aims and objectives of the waste management plan. All employees working on site during the decommissioning phase of the project will be trained in materials management and thereby, should be able to:

- Distinguish reusable materials from those suitable for recycling;
- Ensure maximum segregation at source;
- Co-operate with site manager on the best locations for stockpiling reusable materials;
- Separate materials for recovery; and
- Identify and liaise with waste contractors and waste facility operators.

3.8.3.3.3 *Record Keeping*

The WMP will provide systems that will enable all arisings, movements and treatments of construction waste to be recorded. This system will enable the contractor to measure and record the quantity of waste being generated. It will highlight the areas from which most waste occurs and allows the measurement of arisings against performance targets. The WMP can then be adapted with changes that are seen through record keeping.

The fully licensed waste contractors employed to remove waste from the site will be required to provide documented records for all waste dispatches leaving the site. Each record will contain the following:

- Consignment Reference Number
- Material Type(s) and EWC Code(s)
- Company Name and Address of Site of Origin
- Trade Name and Collection Permit Ref. of Waste Carrier
- Trade Name and Licence Ref. of Destination Facility
- Date and Time of Waste Dispatch
- Registration no. of Waste Carrier vehicle
- Weight of Material
- Signature of Confirmation of Dispatch detail
- Date and Time of Waste Arrival at Destination
- Site Address of Destination Facility

3.8.3.4 Waste Management Plan Conclusion

The WMP will be properly adhered to by all staff involved in the project which will be outlined within the induction process for all site personnel. The waste hierarchy should always be employed when designing the plan to ensure that the least possible amount of waste is produced during decommissioning. Reuse of certain types of construction wastes will cut down on the cost and requirement of raw materials therefore further minimising waste levels.

This WMP has been prepared to outline the main objectives that are to be adhered to and it will be updated as required prior to decommissioning.

3.9 Environmental Management Implementation

3.9.1 Roles and Responsibilities

The Site Supervisor and/or Environmental Clerk of Works (ECoW) are the project focal point relating to decommissioning-related environmental aspects.

In general, the ECoW will maintain responsibility for monitoring the decommissioning works and Contractors/Sub-contractors from an environmental perspective. The ECoW will act as the regulatory interface on environmental matters. The Site Manager will be responsible for reporting to and liaising with Sligo County Council and other statutory bodies as required.

The Site Manager in consultation with the ECoW will be responsible for employing the services of a suitably qualified ecologist and any other suitably qualified professionals as required throughout the decommissioning works.

3.9.2 Timing of Works

The most intrusive decommissioning works (e.g., excavations and ground profiling) will be carefully scheduled to avoid the coldest winter months and the main bird breeding season (the main breeding season being April to August inclusive). The precise scheduling of works will be reviewed by an ecological/ornithological consultant prior to commencement.

4. EMERGENCY RESPONSE PLAN

An Emergency Response Plan (ERP) is presented in this section of the Decommissioning Plan. It provides details of procedures to be adopted in the event of an emergency in terms of site health and safety and environmental protection.

4.1 Emergency Response Procedure

The site ERP includes details on the response required and the responsibilities of all personnel in the event of an emergency. The ERP will require updating and submissions from the contractor/PSCS and sub-contractors as decommissioning progresses. Where sub-contractors that are contracted on site are governed by their own emergency response procedure a bridging arrangement will be adopted to allow for inclusion of the sub-contractor's ERP within this within this document.

This is a working document that requires updating throughout the various stages of the project.

4.1.1 Roles and Responsibilities

The chain of command during an emergency response sets out who is responsible for coordinating the response. The Site Supervisor/Construction Manager will lead the emergency response which makes him responsible for activating and coordinating the emergency response procedure. The other site personnel who can be identified at this time who will be delegated responsibilities during the emergency response are presented in Figure 4-1. In a situation where the Site Supervisor/ Construction Manager is unavailable or incapable of coordinating the emergency response, the responsibility will be transferred to the next person in the chain of command outlined in Figure 4-1. This will be updated throughout the various stages of the project.

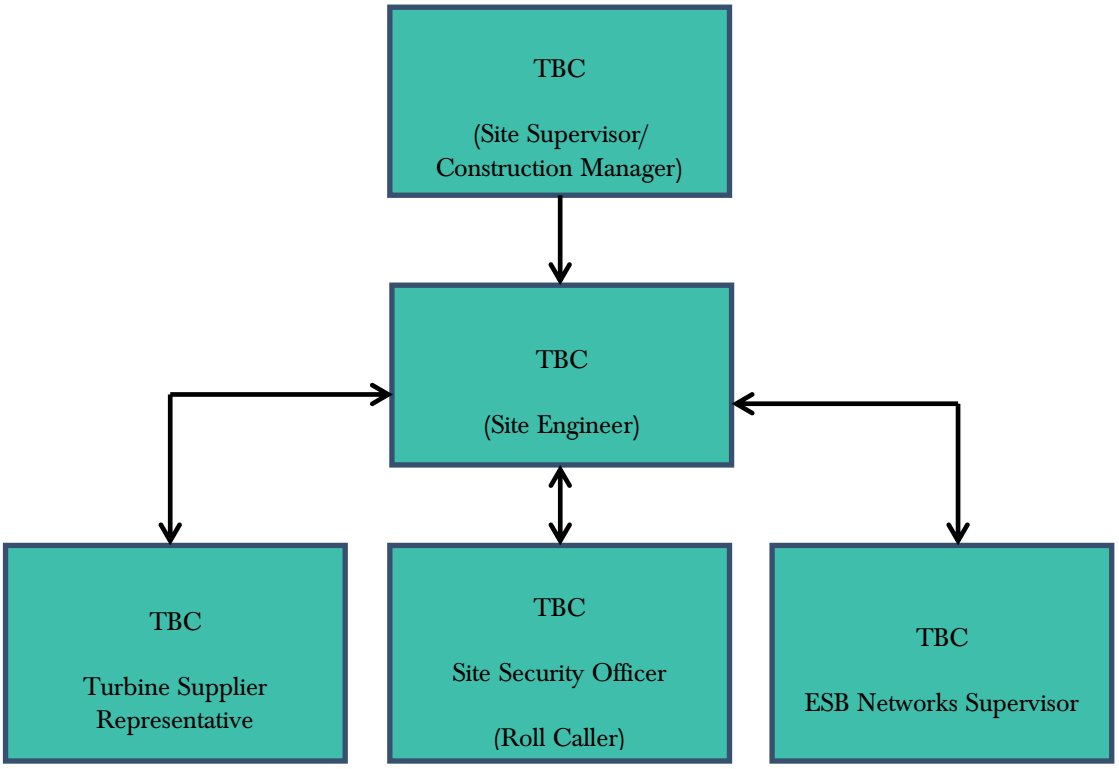

Figure 4-1 Emergency Response Procedure Chain of Command

4.1.2 Initial Steps

In order to establish the type and scale of potential emergencies that may occur, the following hazards have been identified as being potential situations that may require an emergency response in the event of an occurrence.

Table 4-1 Hazards associated with potential emergency situations

Hazard	Emergency Situation
Construction Vehicles: Dump trucks, tractors, excavators, cranes etc.	Collision or overturn which has resulted in operator or third-party injury.
Abrasive wheels/Portable Tools	Entanglement, amputation or electrical shock associated with portable tools
Contact with services	Electrical shock or gas leak associated with an accidental breach of underground services
Fire	Injury to operative through exposure to fire
Falls from heights including falls from scaffold towers, scissor lifts, ladders, roofs and turbines	Injury to operative after a fall from a height
Sickness	Illness unrelated to site activities of an operative e.g. heart attack, loss of consciousness, seizure
Turbine Specific Incident	This will be included the turbine manufacturers' emergency response plan.

In the event of an emergency situation associated with, but not restricted to, the hazards outlined in Table 4-1 the Site Supervisor/Construction Manager will carry out the following:

- Establish the scale of the emergency situation and identify the number of personnel, if any, have been injured or are at risk of injury.
- Where necessary, sound the emergency siren/fog-horn that activates an emergency evacuation on the site. The Site Supervisor/Construction Manager must proceed to the assembly point if the emergency poses any significant threat to their welfare **and if there are no injured personnel at the scene that require assistance**. The Site Supervisor/Construction Manager will be required to use their own discretion at that point. In the case of fire, the emergency evacuation of the site should proceed, without exception. The site evacuation procedure is outlined in Section 4.1.3.
- Make safe the area if possible and ensure that there is no identifiable risk exists with regard to dealing with the situation e.g. if a machine has turned over, ensure that it is in a safe position so as not to endanger others before assisting the injured.
- Contact the required emergency services or delegate the task to someone. If delegating the task, ensure that the procedures for contacting the emergency services as set out in Section 4.2 is followed.
- Take any further steps that are deemed necessary to make safe or contain the emergency incident e.g. cordon off an area where an incident associated with electrical issues has occurred.
- Contact any regulatory body or service provider as required e.g. ESB Networks the numbers for which as provided in Section 4.3.
- Contact the next of kin of any injured personnel where appropriate.

4.1.3 Site Evacuation/Fire Drill

A site evacuation/fire drill procedure will provide basis for carrying out the immediate evacuation of all site personnel in the event of an emergency. The following steps will be taken:

- Notification of the emergency situation. Provision of a siren or fog-horn to notify all personnel of an emergency situation.
- An assembly point will be designated in the construction compound area and will be marked with a sign. All site personnel will assemble at this point.
- A roll call will be carried out by the Site Security Officer to account for all personnel on site.
- The Site Security Officer will inform the Site Supervisor/Construction Manager when all personnel have been accounted for. The Site Supervisor/Construction Manager will decide the next course of action, which be determined by the situation that exists at that time and will advise all personnel accordingly.

All personnel will be made aware of the evacuation procedure during site induction. The Fire Services Acts of 1981 and 2003 require the holding of fire safety evacuation drills at specified intervals and the keeping of records of such drills.

4.1.4 Spill Control Measures

Every effort will be made to prevent an environmental incident during the decommissioning phase of the project. Oil/fuel spillages are one of the main environmental risks that will exist on the site which will require an emergency response procedure. The importance of a swift and effective response in the event of such an incident occurring cannot be over emphasised. The following steps provide the procedure to be followed in the event of such an incident:

- Stop the source of the spill and raise the alarm to alert people working in the vicinity of any potential dangers.
- If applicable, eliminate any sources of ignition in the immediate vicinity of the incident.
- Contain the spill using the spill control materials, track mats or other material as required. Do not spread or flush away the spill.
- If possible, cover or bund off any vulnerable areas where appropriate such as drains, watercourses or sensitive habitats.
- If possible, clean up as much as possible using the spill control materials.
- Contain any used spill control material and dispose of used materials appropriately using a fully licensed waste contractor with the appropriate permits so that further contamination is limited.
- Notify the ECoW immediately giving information on the location, type and extent of the spill so that they can take appropriate action.
- The ECoW will inspect the site and ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring.
- The ECoW will notify the appropriate regulatory body such as Sligo County Council, and the Environmental Protection Agency (EPA), if deemed necessary.

The importance of a swift and effective response in the event of such an incident occurring cannot be over emphasised. Environmental incidents are not limited to just fuel spillages. Therefore, any environmental incident must be investigated in accordance with the following steps.

- The ECoW must be immediately notified.
- If necessary, the ECoW will inform the appropriate regulatory authority. The appropriate regulatory authority will depend on the nature of the incident.
- The details of the incident will be recorded on an Environmental Incident Form which will provide information such as the cause, extent, actions and remedial measures used following the incident. The form will also include any recommendations made to avoid reoccurrence of the incident.
- If the incident has impacted on a sensitive receptor such as an archaeological feature the ECoW will liaise with the Project Archaeologist.

- A record of all environmental incidents will be kept on file by the ECoW and the Main Contractor. These records will be made available to the relevant authorities such as Sligo County Council, EPA if required.

The ECoW will be responsible for any corrective actions required as a result of the incident e.g. an investigative report, formulation of alternative works methodologies or environmental sampling, and will advise the Main Contractor as appropriate.

4.2 Contact the Emergency services

In the event of requiring the assistance of the emergency services the following steps should be taken:

Stay calm. It is important to take a deep breath and not get excited. Any situation that requires 999/112 is, by definition, an emergency. The dispatcher or call-taker knows that and will try to move things along quickly, but under control.

Know the location of the emergency and the number you are calling from. This may be asked and answered a couple of times but do not get frustrated. Even though many emergency call centres have enhanced capabilities meaning they are able to see your location on the computer screen they are still required to confirm the information. If for some reason you are disconnected, at least emergency crews will know where to go and how to call you back.

Wait for the call-taker to ask questions, then answer clearly and calmly. If you are in danger of assault, the dispatcher or call-taker will still need you to answer quietly, mostly "yes" and "no" questions.

If you reach a recording, listen to what it says. If the recording says your call cannot be completed, hang up and try again. If the recording says all call takers are busy, WAIT. When the next call-taker or dispatcher is available to take the call, it will transfer you.

Let the call-taker guide the conversation. He or she is typing the information into a computer and may seem to be taking forever. There is a good chance, however, that emergency services are already being sent while you are still on the line.

Follow all directions. In some cases, the call-taker will give you directions. Listen carefully, follow each step exactly, and ask for clarification if you do not understand.

Keep your eyes open. You may be asked to describe victims, suspects, vehicles, or other parts of the scene.

Do not hang up the call until directed to do so by the call taker.

Due to the remoteness of the site it may be necessary to liaise with the emergency services on the ground in terms of locating the site. This may involve providing an escort from a designated meeting point that may be located more easily by the emergency services. This should form part of the site induction to make new personnel and sub-contractors aware of any such arrangement or requirement if applicable.

4.3 Contact Details

A list of emergency contacts is presented in Table 4-2. A copy of these contacts will be included in the Site Safety Manual and in the site offices and the various site welfare facilities.

Table 4-2 Emergency Contacts

Contact	Telephone no.
Emergency Services – Ambulance, Fire, Gardaí	999/112
Doctor – Easkey Health Centre	096 49009
Hospital – Sligo University Hospital	071 917 1111
ESB Emergency Services	1850 372 999
Gas Networks Ireland Emergency	1850 20 50 50
Gardaí – Local Garda Station. Ballymote	071 918 9500
Health and Safety Co-ordinator - Health & Safety Services	TBC
Health and Safety Authority	1890 289 389
Inland Fisheries Ireland (IFI)	1890 347 424
Project Supervisor Construction Stage (PSCS): TBC	TBC
Project Supervisor Design Stage (PSDS): TBC	TBC
Client: Brickmount Ltd.	087 687 1869

4.3.1 Procedure for Personnel Tracking

All operatives on site without any exception will have to undergo a site induction where they will be required to provide personal contact details which will include contact information for the next of kin.

In the event of a site operative becoming in an emergency situation where serious injury has occurred and hospitalisation has taken place, it will be the responsibility of the Site Manager or next in command if unavailable to contact the next of kin to inform them of the situation that exists.

4.4 Induction Checklist

Table 4-3 provides a list of items highlighted in this ERP which must be included or obtained during the mandatory site induction of all personnel that will work on the site. This will be updated throughout the various stages of the project.

Table 4-3 Emergency Response Plan Items Applicable to the Site Induction Process

ERP Items to be included in Site Induction	Status
All personnel will be made aware of the evacuation procedure during site induction	
Due to the remoteness of the site it may be necessary to liaise with and assist the emergency services on the ground in terms of locating the site. This may involve providing an escort from a designated meeting point that may be located more easily by the emergency services. This should form part of the site induction to make new personnel and sub-contractors aware of any such arrangement or requirement if applicable.	
All operatives on site without any exception will have undergo a site induction where they will be required to provide personal contact details which will include contact information for the next of kin.	

5. PROGRAMME OF WORKS

5.1 Decommissioning Schedule

The decommissioning phase will take approximately 3 – 6 months to complete from commencing the removal of turbines to the final reinstatement of the site.

At this time, it is not possible to determine when decommissioning will take place.

The phasing and scheduling of the main decommissioning task items are outlined in Figure 5-1 below, where the 1st January has been shown as an indicative start date for decommissioning to commence.

ID	Task Name	Task Description
1	Site Health & Safety	
2	Turbine Decommissioning	Disconnect power output
3	Turbine Dismantling	Disassemble turbine components
4	Turbine Removal	Transport of all turbine components off site
5	Cable Removal	Remove underground cables from ducting
6	Turbine Foundations Backfill	Reinstate foundation areas by covering with soil material
7	Accomodation Areas Reinstatement	Reinstate soil berm and boundary treatments

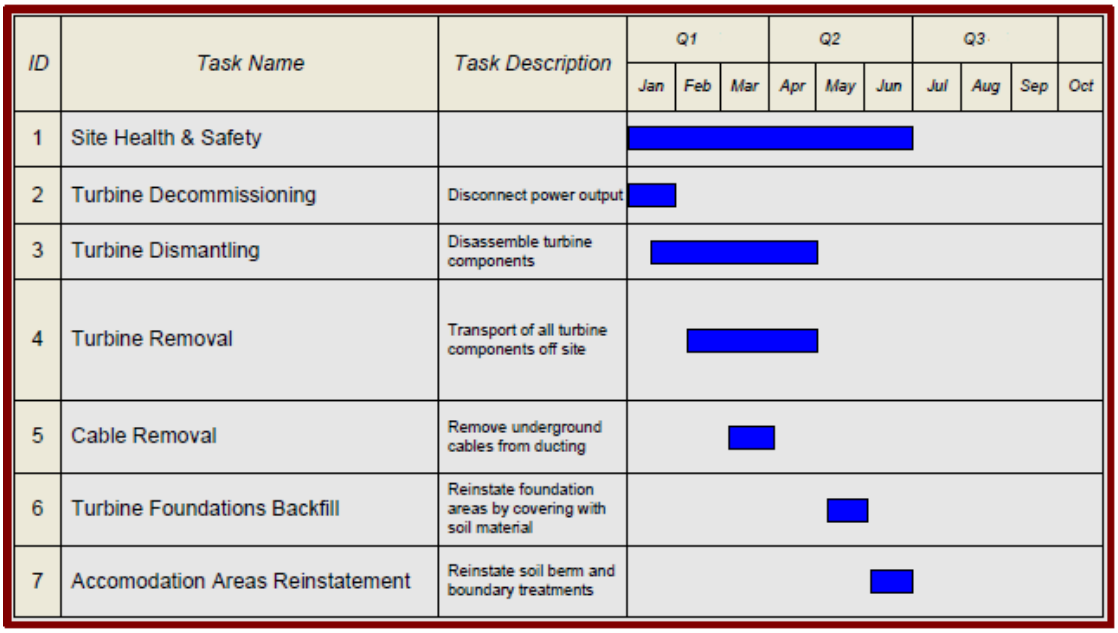

Figure 5-1 Indicative Decommissioning Schedule

6. MITIGATION PROPOSALS

All mitigation measures relating to the decommissioning phase of the Proposed Development were set out in the various sections of the Environmental Impact Assessment Report (EIAR) which accompanies this substitute consent application.

This section of the Decommissioning Plan groups together all of the mitigation measures presented in the planning documentation. The mitigation measures are presented in the following pages.

By presenting the mitigation proposals in the below format, it is intended to provide an easy to audit list that can be reviewed and reported on during the operational phase of the project. The tabular format in which the below information is presented, can be further expanded upon during the course of operation and provides a reporting template for site compliance audits.

Table 6-1 Decommissioning Phase Mitigation Measures

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
Decommissioning Phase				
MX1	EIAR Chapter 4	In the event that the Proposed Development is decommissioned after the 15 years extension of life, a Decommissioning Plan will be prepared for agreement with the local authority. This will be a comprehensive plan updated in line with decommissioning methodologies that may exist at the time.		
MX2	EIAR Chapter 4, 6, 7	During decommissioning, it may be possible to reverse or at least reduce some of the potential impacts caused during the initial construction of the wind farm by rehabilitating construction areas such as turbine bases and hard standing areas. This will be done by covering with local topsoil and reseeding with a local native mix to encourage vegetation growth and reduce run-off and sedimentation.		
MX3	EIAR Chapter 7	Regarding Ornithology and Avian Populations – This decommissioning plan will include industry best practise measures to mitigate the impact of works on birds, which may include the following: ○ All machinery will work from the existing access road corridor. ○ Any required vegetation removal will be conducted in line with the provisions of the Wildlife Acts 1976-2021. ○ Construction works will begin outside the bird nesting season as defined by the Wildlife Act 1976 as amended (1st of March to the 31st of August). Any requirement for works to run into the subsequent breeding season will be subject to pre-works bird surveys to confirm the absence of breeding birds of conservation concern. If such breeding activity is identified during the works, the nest sites will be located, and no works		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		shall be undertaken within an agreed buffer in line with industry best practise. ○ Noise limits, noise control measures, hours of operation (i.e. dusk and dawn is high faunal activity time) and selection of plant items will be considered in relation to disturbance of birds. All plant and equipment for use will comply with the European Communities (Noise Emission By Equipment For Use Outdoors) Regulations, 2001, as amended (SI 632/2001). Plant machinery will also be turned off when not in use. ○ Silt fences will be installed as an additional water protection measure around existing watercourses. ○ An Environmental Clerk of Works and Project Ecologist will be appointed. Duties will include: • Organise the undertaking of a pre-works walkover bird survey to ensure that significant effects on birds will be avoided. • Inform and educate on-site personnel of the ornithological and ecological sensitivities within the wind farm study area. • Oversee management of ornithological issues during the works period and advise on ornithological issues as they arise. • Provide guidance to contractors to ensure legal compliance with respect to protected species onsite. • Liaise with officers of consenting authorities and other relevant bodies with regular updates in relation to decommissioning progress.		
MX4	EIAR Chapter 9	Regarding the <u>Water Environment</u>: ○ The key mitigation measure during the decommissioning phase is the avoidance of sensitive aquatic areas. The Dunneill River runs within close proximity of the western border of the site of the Proposed Development.		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		A tributary of the Dunneill River, the Finandoo, bisects the development in an east-west direction. Because of this proximity to surface waters, mitigation measures were put in place in the original construction phase. No in-stream works will be required during the decommissioning phase of the existing wind farm. Best construction practices will be adhered to throughout the decommissioning phase of the development.		
MX5	EIAR Chapter 4, 8, 9, 10, 11	Regarding dust, noise and vibration during decommissioning of subsurface infrastructure: ○ It is proposed to leave turbine foundations in place underground and to cover them with earth and reseed as appropriate. On removal of turbines, the covering of the foundation will be completed using locally sourced material (e.g. topsoil) where possible. Leaving the turbine foundations in-situ is considered a more environmentally prudent option, as to remove large volumes of reinforced concrete from the ground could result in significant environment nuisances such as noise, dust and/or vibration. ○ Use of an appropriate native seed mix to assist in revegetation and accelerate the resumption of the natural drainage management that will have existed prior to any construction is recommended.		
MX6	EIAR Chapter 8, 9	In order to limit impacts upon Soils and the Water Environment from potential leaks and spillages of hydrocarbons during decommissioning works the following measures are proposed: ○ All plant and machinery to be serviced before being mobilised to site and regularly inspected for leaks and fitness of purpose during use.		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		○ No plant maintenance completed on-site, any broken-down plant removed from site to be fixed. ○ Fuel volumes stored on site should be minimised. Any fuel storage areas will be bunded appropriately. ○ Refuelling completed in a controlled manner using drip trays at all times. ○ Mobile bowsers, tanks and drums stored in secure, impermeable bunded storage areas away from open water. ○ Only designated trained operators authorised to refuel plant on-site. ○ Procedures and contingency plans set up to deal with emergency accidents or spills. ○ Highest standards of site management maintained, and utmost care and vigilance followed to prevent accidental contamination or unnecessary disturbance to the site and surrounding environment during works. ○ An emergency plan for the decommissioning phase to deal with accidental spillages will be developed. Spill kits will be available to deal with and accidental spillage within and outside the refuelling area. ○ A programme for the regular inspection of plant and equipment for leaks and fitness for purpose will be developed at the outset of the decommissioning phase.		
MX7	EIAR Section 10	Regarding Air Quality during the decommissioning phase: ○ Any vehicles or plant brought onsite during the operational phase will be maintained in good operational order, thereby minimising any emissions that arise.		
MX8	EIAR Chapter 11	Regarding Noise and Vibration control during the decommissioning phase:		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		Various mitigation strategies may be employed to reduce construction noise and vibration impacts, including the following: ○ Limiting the hours during which site activities likely to create noticeable levels of noise or vibration are permitted; ○ Establishing channels of communication between the Applicant or contractor, Local Authorities and residents; ○ Selection of plant with low inherent potential for generation of noise and/or vibration; ○ No plant or machinery will be permitted to cause a public nuisance due to noise; ○ The best means practicable, including proper maintenance of plant, will be employed to minimise the noise produced by on site operations. ○ All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of works; ○ Compressors models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers; ○ Machinery that is used intermittently will be shut down or throttled back to a minimum during periods when not in use; and ○ The hours of maintenance works (and associated traffic movements) will, insofar as possible, be limited to avoid unsociable hours. Activities shall generally be restricted to between 07:00hrs and 19:00hrs Monday to Friday and between 07:00hrs and 13:00hrs on Saturdays, with no activities on Sundays or public holidays unless in the event of an emergency.		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
MX9	EIAR Chapter 11	Regarding Site Traffic related impacts during the decommissioning phase: ○ A Traffic Management Plan will be developed to minimise impacts to the local road network and submitted as part of the Decommissioning Plan, for agreement with the local authority.		
MX10	EIAR Chapter 12	Regarding Cultural Heritage during the decommissioning phase: ○ Given the presence of one archaeological monument within the EIAR site boundary as well as a number of cultural heritage (non-statutory) features, the decommissioning phase could potentially have a number of direct negative impacts on the known cultural heritage. The presence of an archaeologist during specific phases of the decommissioning works will be required to ensure that no significant or adverse impacts take place to the monuments and cultural heritage features located therein. ○ Furthermore, buffer / exclusion zones and fencing may be required to ensure that large turbine / crane components do not encroach on the monuments' extent.		

7. MONITORING PROPOSALS

All monitoring proposals relating to the decommissioning phase of the Proposed Development were set out in the various sections of the Environmental Impact Assessment Report (EIAR) which accompanies this substitute consent application.

This section of the Decommissioning Plan groups together all of the monitoring proposals presented in the planning documentation. The monitoring proposals are presented in the following pages.

By presenting the monitoring proposals in the below format, it is intended to provide an easy to audit list that can be reviewed and reported on during the operational phase of the project. The tabular format in which the below information is presented, can be further expanded upon during the course of operation to provide a reporting template for site compliance audits.

Table 7-1 Schedule of Decommissioning Phase Monitoring Proposals

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
Decommissioning Phase				
MD1	EIAR Chapter 7	Regarding Ornithology and Avian Populations – Decommissioning phase monitoring surveys will be undertaken prior to works associated with decommissioning at the wind farm. The survey will include a thorough walkover survey to a 500m radius of the development footprint and all works areas, where access allows. If winter roosting or breeding activity of birds of high conservation concern is identified, the roost or nest site will be located and earmarked for monitoring at the beginning of the first winter or breeding season of the decommissioning phase. If it is found to be active during the decommissioning phase, no works shall be undertaken within a disturbance buffer (Forestry Commission Scotland, 2006; Ruddock and Whitfield, 2007) in line with industry best practice. No works shall be permitted within the buffer until it can be demonstrated that the roost/nest is no longer occupied.		

8. COMPLIANCE AND REVIEW

8.1 Site inspections and Environmental Audits

Routine inspections of decommissioning activities will be carried out on a daily and weekly basis by the ECoW and the Site Supervisor/Construction Manager to ensure all controls to prevent environmental impacts, relevant to the decommissioning activities taking place at the time, are in place.

Environmental inspections will ensure that the works are undertaken in compliance with this Decommissioning Plan and all other planning application documents. Only suitably trained staff will undertake environmental site inspections.

8.2 Auditing

An Environmental audit will first be carried out prior to the decommissioning phase of the Proposed Development to ensure the operational phase mitigation measures that are still in place as required are adequate. Further environmental audits will be carried out on a monthly basis during the decommissioning phase of the project and on completion of the decommissioning works.

In contrast to monitoring and inspection activities, audits are designed to shed light on the underlying causes of non-compliance, and not merely detect the non-compliance itself. In addition, audits are the main means by which system and performance improvement opportunities may be identified. Environmental audits will be carried out by the ECoW on behalf of the appointed contractor. It is important that an impartial and objective approach is adopted. Environmental audits will be conducted at planned intervals to determine whether the Decommissioning Plan is being properly implemented and maintained. The results of environmental audits will be provided to project management personnel.

8.3 Environmental Compliance

The following definitions shall apply in relation to the classification of Environmental Occurrences during the decommissioning of the wind farm:

Environmental Near Miss: An occurrence which if not controlled or due to its nature could lead to an Environmental Incident.

Environmental Incident: Any occurrence which has potential, due to its scale and nature, to migrate from source and have an environmental impact beyond the site boundary.

Environmental Exceedance Event: An environmental exceedance event occurs when monitoring results indicate that limits for a particular environmental parameter (as indicated in the Environmental Monitoring Programme) has been exceeded.

An exceedance will immediately trigger an investigation into the reason for the exceedance occurring and the application of suitable mitigation where necessary.

Exceedance events can be closed out on achieving a monitoring result below the assigned limit for a particular environmental parameter.

Environmental Non-Compliance: Non-fulfilment of a requirement and includes any deviations from established procedures, programs and other arrangements related to the Decommissioning Plan.

8.4 Corrective Action Procedure

A corrective action is implemented to rectify an environmental problem on-site. Corrective actions will be implemented by the Site Supervisor/Construction Manager, as advised by the Site Environmental Clerk of Works. Corrective actions may be required as a result of the following;

- Environmental Audits;
- Environmental Inspections and Reviews;
- Environmental Monitoring;
- Environmental Incidents; and,
- Environmental Complaints.

A Corrective Action Notice will be used to communicate the details of the action required to the main contractor. A Corrective Action Notice is a form that describes the cause and effect of an environmental problem on site and the recommended corrective action that is required. The Corrective Action Notice, when completed, will include details of close out and follow up actions.

If an environmental problem occurs on site that requires immediate attention direct communications between the Site supervisor/Construction Manager and the ECoW will be conducted. This in turn will be passed down to the site staff involved. A Corrective Action Notice will be completed at a later date.

8.5 Decommissioning Phase Plan Review

This Decommissioning Plan will be updated and reviewed prior to commencement of decommissioning.

APPENDIX 2

ATTRIBUTES AND TARGETS OF QUALIFYING INTERESTS

7130 Blanket bogs (* if active bog)

To restore the favourable conservation condition of Blanket bogs in Ox Mountains Bogs SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area increasing, subject to natural processes	Ox Mountains Bogs SAC was surveyed as part of the National Survey of Upland Habitats (NSUH; see Perrin et al., 2013; 2014). Perrin et al. (2013) state that the current total area of blanket bog is 7249.6ha (68.5% of the SAC). This comprises 7097.3ha of active blanket bog area and 152.3ha of inactive blanket bog. Perrin et al. (2014) also report obvious losses of habitat since 1995 of approximately 5.8ha. However, this is almost certainly an under-estimate, as chronic losses due to erosion since 1995 cannot be quantified (106.6ha were mapped as eroding blanket bog by Perrin et al. (2013)). It should be noted that further restoration of blanket bog would be required in order to fulfil the targets for peat formation and hydrology presented below. A summary of the mapping methodology and a brief discussion of restoration potential are presented in the uplands supporting document
Habitat distribution	Occurrence	No decline from current distribution, subject to natural processes. See map 6	Blanket bog was recorded by Perrin et al. (2013) across the SAC and was by far the most dominant habitat type. A summary of the mapping methodology is presented in the uplands supporting document
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil nutrient status within natural range	See the uplands supporting document for further details
Ecosystem function: peat formation	Active blanket bog as a proportion of the total area of Annex I blanket bog	At least 99% of the total Annex I blanket bog area is active	From the habitat areas given by Perrin et al. (2013) above, 97.9% of the Annex I blanket bog habitat is currently actively peat-forming. See the uplands supporting document for further details
Ecosystem function: hydrology	Flow direction, water levels, occurrence of drains and erosion gullies	Natural hydrology unaffected by drains and erosion	Further details and a brief discussion of restoration potential is presented in the uplands supporting document
Community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes	Perrin et al. (2013) recorded six different active blanket bog communities within this SAC. Data on the abundance of these communities is reproduced in the uplands supporting document. Further information on these communities is presented in Perrin et al. (2014)
Vegetation composition: positive indicator species	Number of species at a representative number of 2m x 2m monitoring stops	Number of positive indicator species at each monitoring stop is at least seven	Based on Perrin et al. (2014). The list of positive indicator species for this habitat is presented in Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: lichens and bryophytes	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of bryophytes or lichens, excluding *Sphagnum fallax*, at least 10%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: potential dominant species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of each of the potential dominant species less than 75%	Based on Perrin et al. (2014). See the uplands supporting document for further details, including the list of potentially dominant species
Vegetation composition: negative indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Total cover of negative indicator species less than 1%	Based on Perrin et al. (2014). The list of negative indicator species is given in Perrin et al. (2014). See the uplands supporting document for further details

Vegetation composition: non-native species	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of non-native species less than 1%	Based on Perrin et al. (2014). See the uplands supporting document for further details. *Campylopus introflexus* was recorded within this habitat by Perrin et al. (2013) with extensive carpets recorded
Vegetation composition: native trees and scrub	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of scattered native trees and shrubs less than 10%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation structure: *Sphagnum* condition	Condition at a representative number of 2m x 2m monitoring stops	Less than 10% of the *Sphagnum* cover is crushed, broken and/or pulled up	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation structure: signs of browsing	Percentage of shoots browsed at a representative number of 2m x 2m monitoring stops	Last complete growing season's shoots of ericoids, crowberry (*Empetrum nigrum*) and bog-myrtle (*Myrica gale*) showing signs of browsing collectively less than 33%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation structure: burning	Occurrence in local vicinity of a representative number of monitoring stops	No signs of burning in sensitive areas, into the moss, liverwort or lichen layer or exposure of peat surface due to burning	Based on Perrin et al. (2014). The list of sensitive areas is presented in Perrin et al. (2014). See the uplands supporting document for further details
Physical structure: disturbed bare ground	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of disturbed bare ground less than 10%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Physical structure: drainage	Occurrence in local vicinity of a representative number of monitoring stops	Area showing signs of drainage from heavy trampling, tracking or ditches less than 10%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Physical structure: erosion	Occurrence in local vicinity of a representative number of monitoring stops	Less than 5% of the greater bog mosaic comprises erosion gullies and eroded areas	Based on Perrin et al. (2014). See the uplands supporting document for further details
Indicators of local distinctiveness	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat	Perrin et al. (2013) compiled and mapped existing rare and notable plant records for the SAC and added any new records collected during the NSUH survey. No relevant species were recorded in this habitat, however, new records should be considered within this attribute. See the uplands supporting document for further details

4010 Northern Atlantic wet heaths with Erica tetralix

To restore the favourable conservation condition of Northern Atlantic wet heaths with *Erica tetralix* in Ox Mountains Bogs SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area increasing, subject to natural processes	Ox Mountains Bogs SAC was surveyed as part of the National Survey of Upland Habitats (NSUH; see Perrin et al., 2013; 2014). The total current area of wet heath stated by Perrin et al. (2013) is 1083.2ha, covering 10.2% of the SAC. Perrin et al. (2013) report obvious losses of habitat since 1995 of less than 0.01ha through landslides. A summary of the mapping methodology and a brief discussion of restoration potential are presented in the uplands supporting document
Habitat distribution	Occurrence	No decline from current distribution, subject to natural processes. See map 4	Wet heath was recorded by Perrin et al. (2013) throughout the SAC mainly on the lower slopes. Extensive patches occur on the slopes above Cloonacool, and Carrowneden in the east. It also occurs through Fiddenderry and on the slopes above Easkey Lough. A summary of the mapping methodology is presented in the uplands supporting document
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil nutrient status within natural range	See the uplands supporting document for further details
Community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes	Perrin et al. (2013) recorded six different wet heath communities within this SAC. Data on the abundance of these communities is reproduced in the uplands supporting document. Further information on these communities is presented in Perrin et al. (2014)
Vegetation composition: cross-leaved heath	Occurrence within 20m of a representative number of 2m x 2m monitoring stops	Cross-leaved heath (*Erica tetralix*) present near each monitoring stop	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: positive indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of positive indicator species at least 50%	Based on Perrin et al. (2014). The list of positive indicator species for this habitat is presented in Perrin et al. (2014). Further details can be found in the uplands supporting document
Vegetation composition: lichens and bryophytes	Percentage cover at a representative number of 2m x 2m monitoring stops	Total cover of *Cladonia* and *Sphagnum* species, *Racomitrium lanuginosum* and pleurocarpous mosses at least 10%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: ericoid species and crowberry	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of ericoid species and crowberry (*Empetrum nigrum*) at least 15%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: dwarf shrub species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of dwarf shrubs less than 75%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: negative indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Total cover of negative indicator species less than 1%	Based on Perrin et al. (2014). The list of negative indicator species is given in Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: non-native species	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of non-native species less than 1%	Based on Perrin et al. (2014). See the uplands supporting document for further details. *Campylopus introflexus* was recorded within this habitat by Perrin et al. (2013) at two monitoring stops with extensive carpets at one of these. Scattered non-native conifers were also recorded

Vegetation composition: native trees and shrubs	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of scattered native trees and shrubs less than 20%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: bracken	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of bracken (*Pteridium aquilinum*) less than 10%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: soft rush	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of soft rush (*Juncus effusus*) less than 10%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation structure: *Sphagnum* condition	Condition at a representative number of 2m x 2m monitoring stops	Less than 10% of the *Sphagnum* cover is crushed, broken and/or pulled up	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation structure: signs of browsing	Percentage of shoots browsed at a representative number of 2m x 2m monitoring stops	Less than 33% collectively of the last complete growing season's shoots of ericoids, crowberry (*Empetrum nigrum*) and bog-myrtle (*Myrica gale*) showing signs of browsing	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation structure: burning	Occurrence in local vicinity of a representative number of 2m x 2m monitoring stops	No signs of burning in sensitive areas, into the moss, liverwort or lichen layer or exposure of peat surface due to burning	Based on Perrin et al. (2014). The list of sensitive areas is presented in Perrin et al. (2014). See the uplands supporting document for further details
Physical structure: disturbed bare ground	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of disturbed bare ground less than 10%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Physical structure: drainage	Percentage cover in local vicinity of a representative number of monitoring stops	Area showing signs of drainage from heavy trampling, tracking or ditches less than 10%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Indicators of local distinctiveness	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat	Perrin et al. (2013) compiled and mapped existing rare and notable plant records for the SAC and added any new records collected during the NSUH survey. No relevant species were recorded in this habitat, however, new records should be considered within this attribute. See the uplands supporting document for further details

4030 European dry heaths

To maintain the favourable conservation condition of European dry heaths in Ox Mountains Bogs SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes	Ox Mountains Bogs SAC was surveyed as part of the National Survey of Upland Habitats (NSUH; see Perrin et al., 2013; 2014). The total current area of dry heath stated by Perrin et al. (2013) is 332.9ha, covering 3.1% of the SAC. It occurs at low frequency throughout the SAC, but is locally abundant on the rocky slopes above Easky Lough and above Cloonacool. Perrin et al. (2013) report no significant losses of area since 1995. A summary of the mapping methodology is presented in the uplands supporting document
Habitat distribution	Occurrence	No decline from current distribution, subject to natural processes. See map 5	Dry heath was recorded by Perrin et al. (2013) throughout the SAC, but was most abundant on the eastern slopes above Easky Lough. A summary of the mapping methodology is presented in the uplands supporting document
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil nutrient status within natural range	See the uplands supporting document for further details
Community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes	Perrin et al. (2013) recorded three different dry heath communities within this SAC. Data on the abundance of these communities is reproduced in the uplands supporting document. Further information on these communities is presented in Perrin et al. (2014)
Vegetation composition: lichens and bryophytes	Number of species at a representative number of 2m x 2m monitoring stops	Number of bryophyte or non-crustose lichen species present at each monitoring stop is at least three, excluding *Campylopus* and *Polytrichum* mosses	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: number of positive indicator species	Number of species at a representative number of 2m x 2m monitoring stops	Number of positive indicator species present at each monitoring stop is at least two	Based on Perrin et al. (2014). The list of positive indicator species for this habitat, which is composed of dwarf shrubs, is presented in Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: cover of positive indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of positive indicator species at least 50% for siliceous dry heath and 50-75% for calcareous dry heath	Based on Perrin et al. (2014). The list of positive indicator species for this habitat, which is composed of dwarf shrubs, is presented in Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: dwarf shrub composition	Percentage cover at a representative number of 2m x 2m monitoring stops	Proportion of dwarf shrub cover composed collectively of bog-myrtle (*Myrica gale*), creeping willow (*Salix repens*) and western gorse (*Ulex gallii*) is less than 50%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: negative indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Total cover of negative indicator species less than 1%	Based on Perrin et al. (2014). The list of negative indicator species is given in Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: non-native species	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of non-native species less than 1%	Based on Perrin et al. (2014). See the uplands supporting document for further details. Scattered non-native conifers were observed within the habitat but this was limited to a few individuals

Vegetation composition: native trees and shrubs	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of scattered native trees and shrubs less than 20%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: bracken	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of bracken (*Pteridium aquilinum*) less than 10%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation composition: soft rush	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of soft rush (*Juncus effusus*) less than 10%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation structure: senescent ling	Percentage cover at a representative number of 2m x 2m monitoring stops	Senescent proportion of ling (*Calluna vulgaris*) cover less than 50%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation structure: signs of browsing	Percentage of shoots browsed at a representative number of 2m x 2m monitoring stops	Less than 33% collectively of the last complete growing season's shoots of ericoids showing signs of browsing	Based on Perrin et al. (2014). See the uplands supporting document for further details
Vegetation structure: burning	Occurrence in local vicinity of a representative number of monitoring stops	No signs of burning in sensitive areas	Based on Perrin et al. (2014). The list of sensitive areas is presented in Perrin et al. (2014). See the uplands supporting document for further details
Vegetation structure: growth phases of ling	Percentage cover in local vicinity of a representative number of monitoring stops	Outside sensitive areas, all growth phases of ling (*Calluna vulgaris*) should occur throughout, with at least 10% of cover in the mature phase	Based on Perrin et al. (2014). See the uplands supporting document for further details
Physical structure: disturbed bare ground	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of disturbed bare ground less than 10%	Based on Perrin et al. (2014). See the uplands supporting document for further details
Indicators of local distinctiveness	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat	Perrin et al. (2013) compiled and mapped existing rare and notable plant records for the SAC and added any new records collected during the NSUH survey. No relevant species were recorded in this habitat, however, new records should be considered within this attribute. See the uplands supporting document for further details

1013 Geyer's Whorl Snail *Vertigo geyeri*

To maintain the favourable conservation condition of Geyer's Whorl Snail in Ox Mountains Bogs SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Distribution: occupied sites	Number	No decline. There is one known site for this species in this SAC within the 1km square G4429. See map 9	From Moorkens and Killeen (2011) (site code VgCAM21)
Presence in suitable habitat	Occurrence	Snails (living or recently dead adults and/or juveniles) are present in at least 60% of samples defined as suitable habitat	Based on Moorkens and Killeen (2011)
Species abundance	Number of individuals per sample	No decline in adult abundance in appropriate number of samples	Based on Moorkens and Killeen (2011). There should be at least five adults detected in 40% of samples
Habitat area	Hectares	Stable or increasing, subject to natural processes. Suitable habitat is defined as areas of flushed fen with small sedges and saturated mosses	Based on Moorkens and Killeen (2011). Optimal habitat is defined as flushed fen with sedge/moss lawns and mounds 5-20cm tall, containing a high diversity of plant species such as small-fruited yellow-sedge (*Carex viridula*), grass-of-Parnassus (*Parnassia palustris*), marsh horsetail (*Equisetum palustre*), jointed rush (*Juncus articulatus*) and the mosses *Scorpidium revolvens* and *Campylium stellatum*, with scattered tussocks of black bog-rush (*Schoenus nigricans*) no greater than 80cm tall
Habitat quality: optimal habitat	Hectares	At least 0.3ha of optimal habitat present	Based on Moorkens and Killeen (2011). There should be at least 0.3ha of optimal habitat present at the site to maintain the species. See description of optimal habitat above
Habitat quality: soil wetness	Water table level	Water table should be between 0-5cm of the soil surface, but not above ground level at time of sampling	Based on Moorkens and Killeen (2011)