

# Mochrum Fell Wind Farm Dumfries & Galloway

## EIA Non-Technical Summary

September 2020

on behalf of

**Falck Renewables Wind Ltd**

# Contents

Contents .....	1
Introduction.....	2
Design and Mitigation .....	4
Summary of Environmental Effects.....	6
<i>Ecology</i>	7
<i>Noise</i>	8
<i>Landscape and Visual Amenity</i>	10
<i>Traffic and Access</i>	14
<i>Archaeological and Cultural Heritage</i>	15
<i>Ornithology</i>	16
<i>Forestry</i>	17
<i>Geology, Hydrogeology and Hydrology</i>	18
<i>Aviation and Telecommunications</i>	19
<i>Shadow Flicker</i>	20



# Introduction

The Applicant, Falck Renewables Wind Ltd, is applying for planning permission for the construction of a new wind Farm at Mochrum Fell, near Corsock, Dumfries and Galloway.

Following the receipt of an Environmental Impact Assessment Scoping Opinion issued by Dumfries and Galloway Council (DGC) in August 2020, a team of professional, competent experts have undertaken an Environmental Impact Assessment (EIA) of the Proposal and reported their findings in an Environmental Impact Assessment Report (EIA Report). The aim of the EIA Report is to provide sufficient environmental information to DGC and other consultees, in order to assist with their determination of the planning application. This NTS has been prepared to summarise the proposal and the findings of the EIA process using clear, non-technical language.

## The Applicant

The Applicant and its affiliated companies ("Falck Group") have a proven track record of successfully developing, construction and operating wind projects across Europe. They own an international wind and solar portfolio, with 413 MW of onshore wind operational in the UK across 12 sites. Falck Renewables has UK offices in London and a construction team based on Inverness.

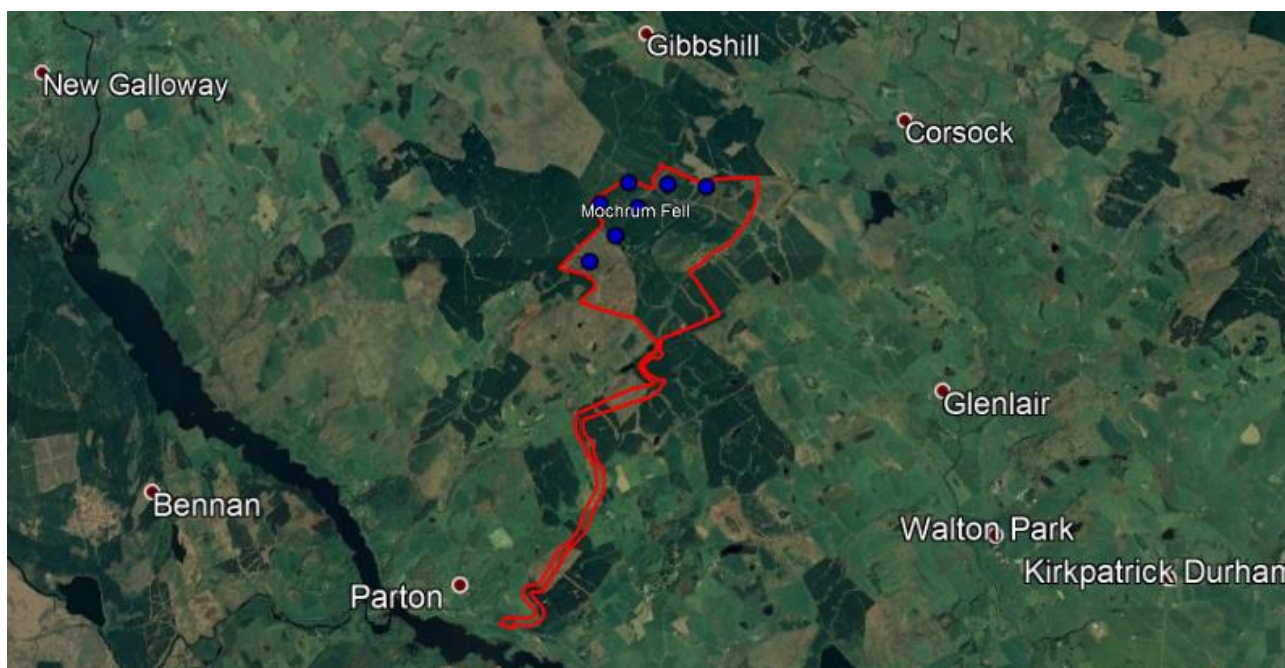
More details about Falck Group can be found at [www.falckrenewables.com](http://www.falckrenewables.com).



SUSTAINABLE DEVELOPMENT

## The Site

The site is located approximately 2.3km to the west of Corsock, and 4.5km to north of Parton. It lies primarily on an area of felled forestry with the highest point, Mochrum Fell, located approximately in the centre of the Application Site, and the lowest point being located at the southern boundary, where the access into site meets the A713. Other current land uses within the site include agricultural, grazing and woodland.



The local road network comprises a mix of A, B and minor roads. This includes the A712 which lies approximately 2km to the north east of the site. The B749 runs to the east of the site and meets the A712 approximately 3.2km to the east.

The surrounding area has a limited population, with only a small number of dispersed dwellings nearby.

Existing forestry tracks run through the site, as does part of Mochrum Fell Core Path (221). The site is connected via these routes to walking routes in the wider area. The surrounding area includes various recreational routes such as the Galloway Kite Trail (around Loch Ken) and to the west is Galloway Forest Park.

## The Proposed Development

The application for planning permission is being made to Dumfries and Galloway Council.

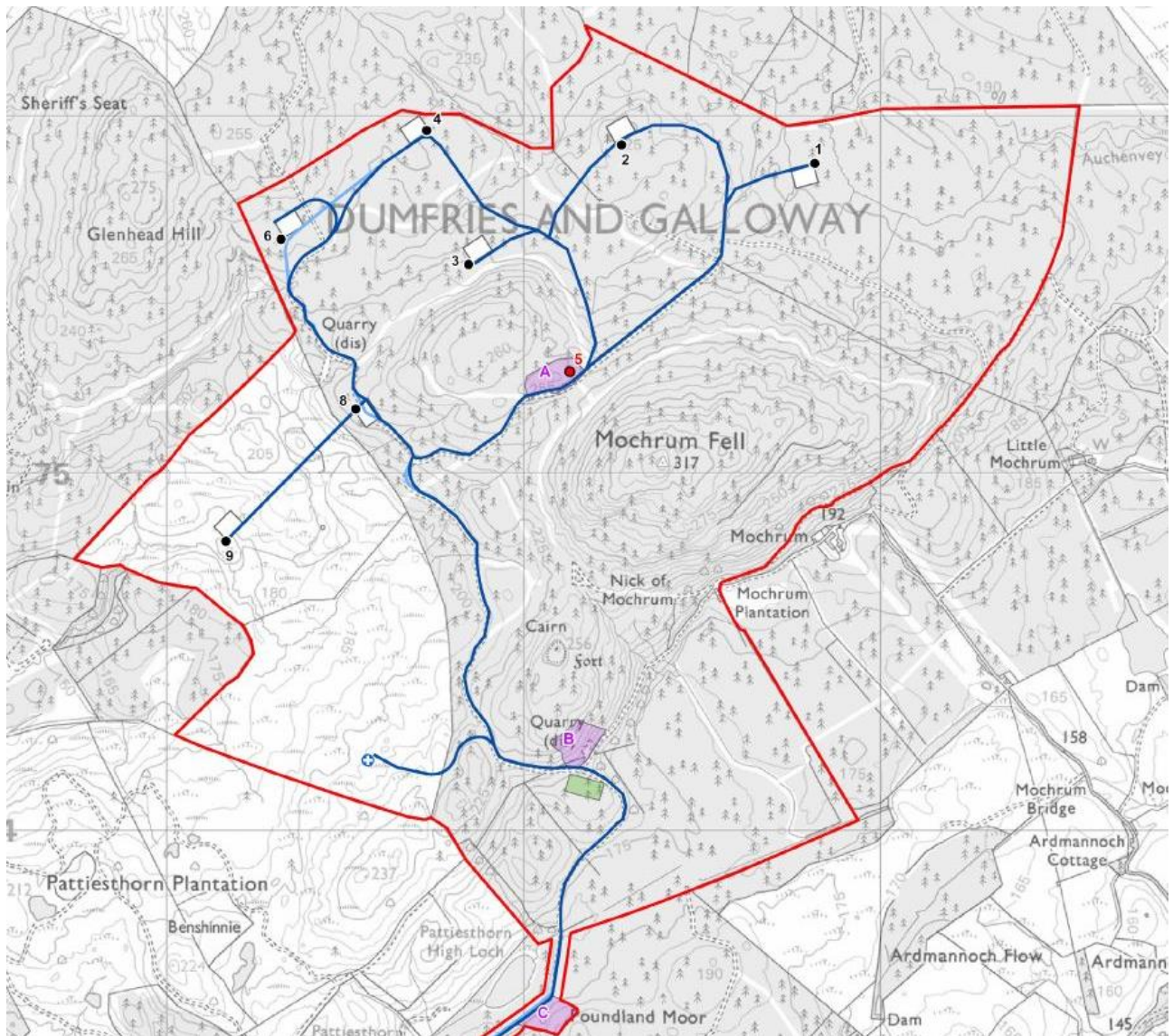
There is currently planning permission under reference 13/P/2/0327 / PPA-170-2102 for the erection of **8** wind turbines with a maximum height of **126.5m** (and turbine 5 limited to 116.5m to tip) and an operational life span of **25 years**. This consented wind farm would have a generating capacity of approximately **24 MW**.

The Proposed Development is for **7** turbines up to a height of **149.9m** to blade tip with associated ancillary infrastructure for a period of **30 years**. The increase in tip height would allow larger bladed turbines to be used, increasing the generating capacity to approximately **29.4MW** despite there being one turbine fewer. The longer operational life would allow renewable energy to be generated for longer.





# Design and Mitigation



Layout showing design changes

## KEY

- Site Boundary
- + Permanent Met Mast
- Borrow Pit Search Areas
- Construction Compound
- Turbine Crane Pads

## Design Iterations

### Scoping and Proposed Development

- Scoping and Proposed Layouts (149.9m to Blade Tip)
- Proposed Access Tracks
- Scoping Access Tracks

### Consented Development

- Removed Turbine (126.5m to Blade Tip)

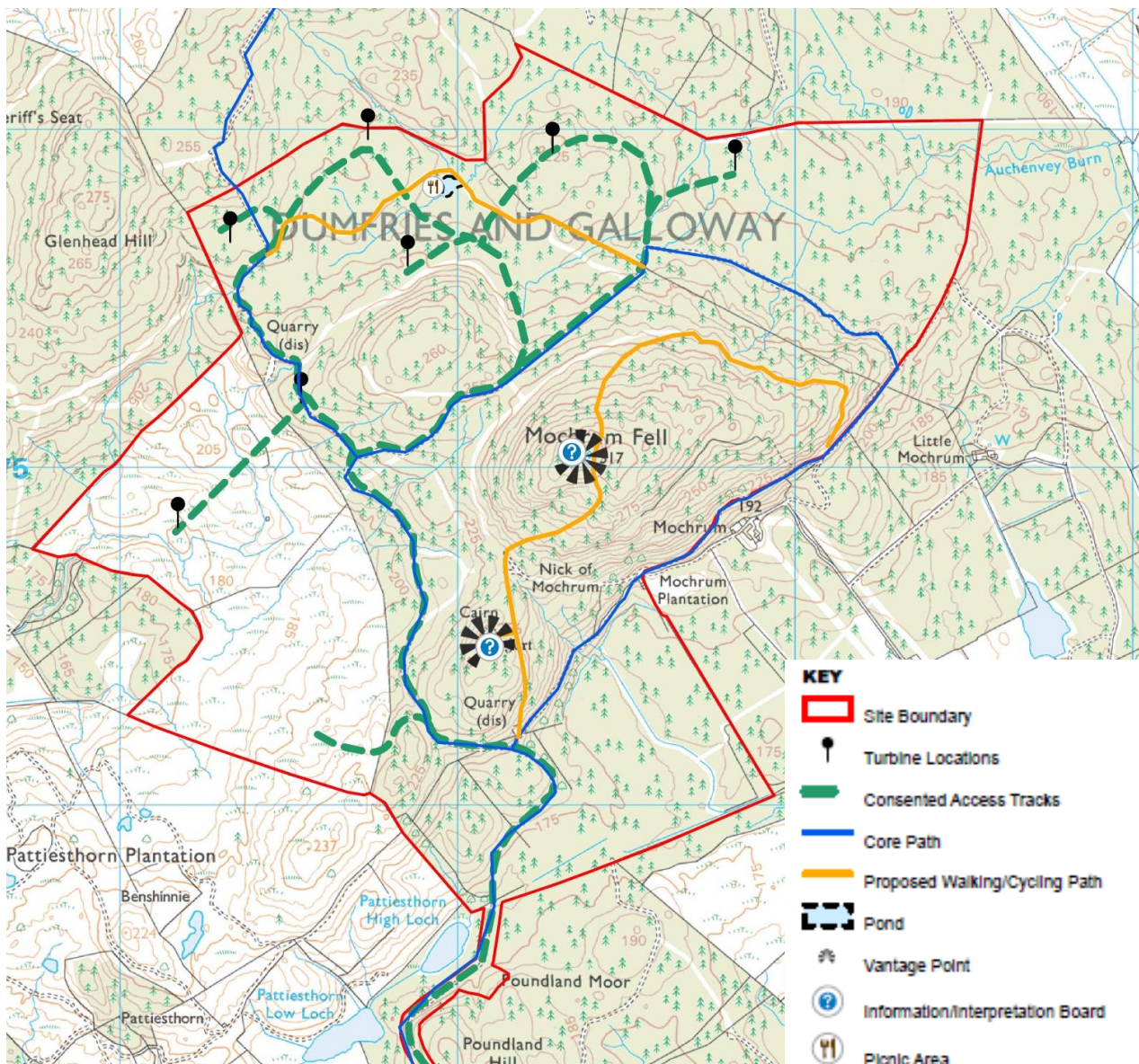
Full detail of the design process and considerations are set out in the Design and Access Statement that accompanies the application, and within Chapter 3 of the EIA Report. The key changes to the design are highlighted in the section above, and include:

- Omission of approved Turbine 5;
- increased height from 126.5 m up to 149.9 m;
- increased energy generating capacity from approximately 24mw to 29.4 MW;
- increased operational life span for the wind farm from 25 to 30 years; and
- minor changes to the on-site access tracks to facilitate turbine construction and maintenance.



Environmental considerations have influenced the design and layout of the Proposal, including:

- The appearance of the turbines in the landscape and views as highlighted within the previous consent process – leading to the removal of the turbine closest to Mochrum Fell;
- identification and avoidance of development on areas of deep peat;
- archaeological features within the site, in particular Mochrum Fell Hill Fort;
- consideration of watercourses within the site;
- enhanced public access and interpretation within the site;
- access considerations to ensure safe and suitable access for construction traffic and abnormal loads; and
- a number of measures to avoid or otherwise minimise potentially adverse impacts upon wildlife and habitats.



### Proposed Recreational Enhancements

# Summary of Environmental Effects

## Introduction

### *The EIA Process and Methodology*

Environmental Impact Assessment (EIA) is a process developed to ensure that planning consent for specific types of developments is granted only after assessment of their likely significant effects on the environment have been undertaken. The requirement for, and content of an EIA in Scotland is guided by the EIA Regulations which identify which key issues to consider, and also set out the information that must be included in the EIA Report.

In accordance with best practise, the assessment undertaken for the proposed development has been carried out following consultation with statutory consultees, other interested bodies, and members of the public; with suitably qualified and experienced experts considering each key issue.

### *Planning Policy*

In recent years, European, United Kingdom (UK) and Scottish Government policies have focussed increasingly on concerns about climate change. Each tier of Government has developed targets, policies and actions to achieve targets to deal with the climate crisis and generate more renewable energy and electricity.

More detailed planning policy and guidance at the national and local level set out considerations to enable decision makers to weigh the benefits and environmental effects of a proposal in deciding whether planning permission should be granted. The Planning Statement that accompanies the application and Chapter 5 of the EIA Report provide more information regarding planning policy as it relates to the proposed wind farm at Mochrum Fell.





## Ecology

Ecological impacts have been assessed in accordance with the Chartered Institute for Ecology and Environmental Management (CIEEM) guidance 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine'.

Baseline ecological conditions to inform the design and assessment have been established through a review of existing desk study sources and ecological field surveys, informed through consultation with NatureScot.

The site does not form part of any statutory or non-statutory designated site for nature conservation. The nearest designated sites with ecological qualifying interests include the Loch Ken and River Dee Marshes Ramsar site, the River Dee (Parton to Crossmichael) Sites of Special Scientific Interest (SSSI), and the Airds of Kells Wood SSSI located over 4km from the site, and which are respectively designated for their aquatic habitats and invertebrates, acid grasslands and woodland. No effects are predicted on these sites as a result of the proposed development.

Habitats on site are mostly coniferous plantation woodland, with an open mosaic of semi-improved neutral grassland and heathland communities located in the west of the site. The design for the wind farm has sought to minimise habitat losses within the site, including of sensitive heathland. Overall habitat losses will not be significant and plans will be put in place to ensure their protection during the construction. Compensatory planting of native broad-leaved trees is also proposed to be included and will be agreed with NatureScot and DGC.



Baseline studies have established that the site is not of concern for bat collisions in accordance with current NatureScot guidance. Very low levels of bat activity have been recorded on-site, with habitats considered to provide very limited roosting and foraging opportunities. Scheme design includes mitigation for bats in accordance with current NatureScot guidance, maintaining appropriate stand-off buffer zones between turbines and woodland edges and watercourses. Broad-leaved woodland planting will also seek to provide increased habitat connectivity for bats and improved foraging potential. No significant effects upon bat species are predicted to occur as a result of the proposed development.



Field surveys have also established the use of the site by pine marten, with the presence of great crested newt and common reptiles also established. No evidence of badger, red squirrel, otter or water vole has been recorded.

The potential for significant effects on great crested newts has been considered within the assessment, with measures to ensure species protection and legislative compliance during the construction and decommissioning phases to be included. The creation of new breeding ponds within the site is also proposed.

With the additional implementation of standard good practice construction methods proposed, including measures for preventing pollution to watercourses and an ecological clerk of works to supervise construction activities, no significant residual effects upon any important ecological feature is predicted to occur as a result of the proposed development.

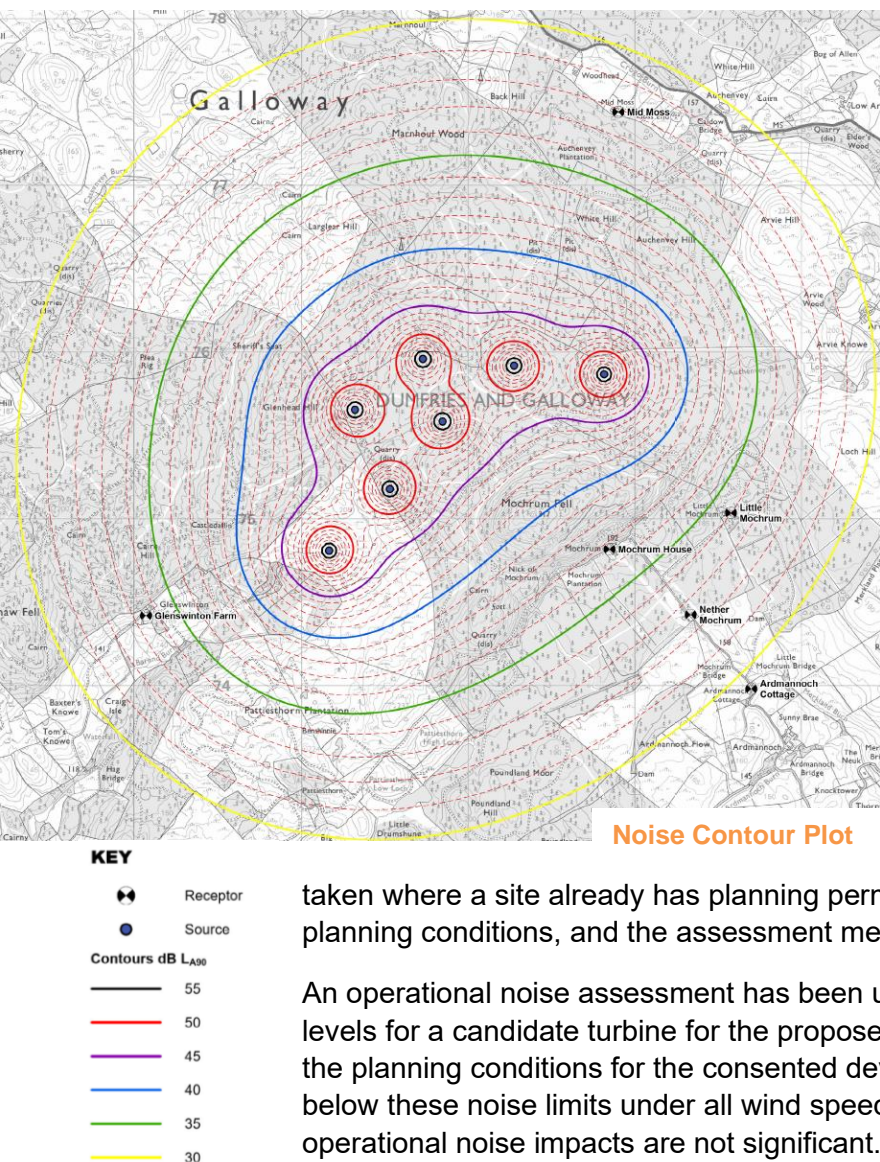
## Noise

The noise chapter considers the potential noise effects of the proposed wind farm on residential receptors in terms of the expected levels arising from the construction, operation, and decommissioning phases.

### Operation

The operational noise assessment has been carried out by comparing predicted noise levels with the noise limits set via the planning conditions for the consented wind farm at Mochrum Fell. Those noise limits were set according to ETSU-R-97, The Assessment and Rating of Noise from Wind Farms, and the assessment has been carried out with reference to the guidance contained within the Institute of Acoustics document, A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, which is endorsed by Scottish Government.

The planning conditions on noise for the consented wind farm are the conditions that currently apply and would apply during the operation of the wind farm. This is the standard approach that is



taken where a site already has planning permission with noise limits prescribed in the planning conditions, and the assessment methodology is still valid (as is the case here).

An operational noise assessment has been undertaken by comparing predicted noise levels for a candidate turbine for the proposed development with the noise limits set in the planning conditions for the consented development. Predicted noise levels are below these noise limits under all wind speed and wind direction conditions, and the operational noise impacts are not significant.

### *Construction and Decommissioning*

Construction and decommissioning noise is discussed with reference to BS 5228:2009, Code of practice for noise and vibration control on construction and open sites. Noise from road traffic associated with the proposed development has been assessed by reviewing the increase in noise levels calculated using the prediction methodology set out in The Calculation of Road Traffic Noise, published by the Welsh Office of the Department of Transport, as it existed at the time.

Noise from construction and decommissioning activities will be below this noise limit and the noise limits set out in BS 5228, and would not be significant. The increase in noise levels due to construction traffic accessing the site was assessed by comparing the noise levels generated including the construction traffic with the predicted road traffic noise levels in the absence of construction activities. The predicted increase is less than 3 dB and the impact is not significant.

An operational noise assessment has been undertaken by comparing predicted noise levels for a candidate turbine for the proposed development with the noise limits set in the planning conditions for the consented development. Predicted noise levels are below these noise limits under all wind speed and wind direction conditions, and the operational noise impacts are not significant.

### *Cumulative*

The cumulative operational noise assessment shows that there are no significant cumulative noise impacts predicted in combination with other wind farms, and no significant cumulative construction noise impacts are expected.



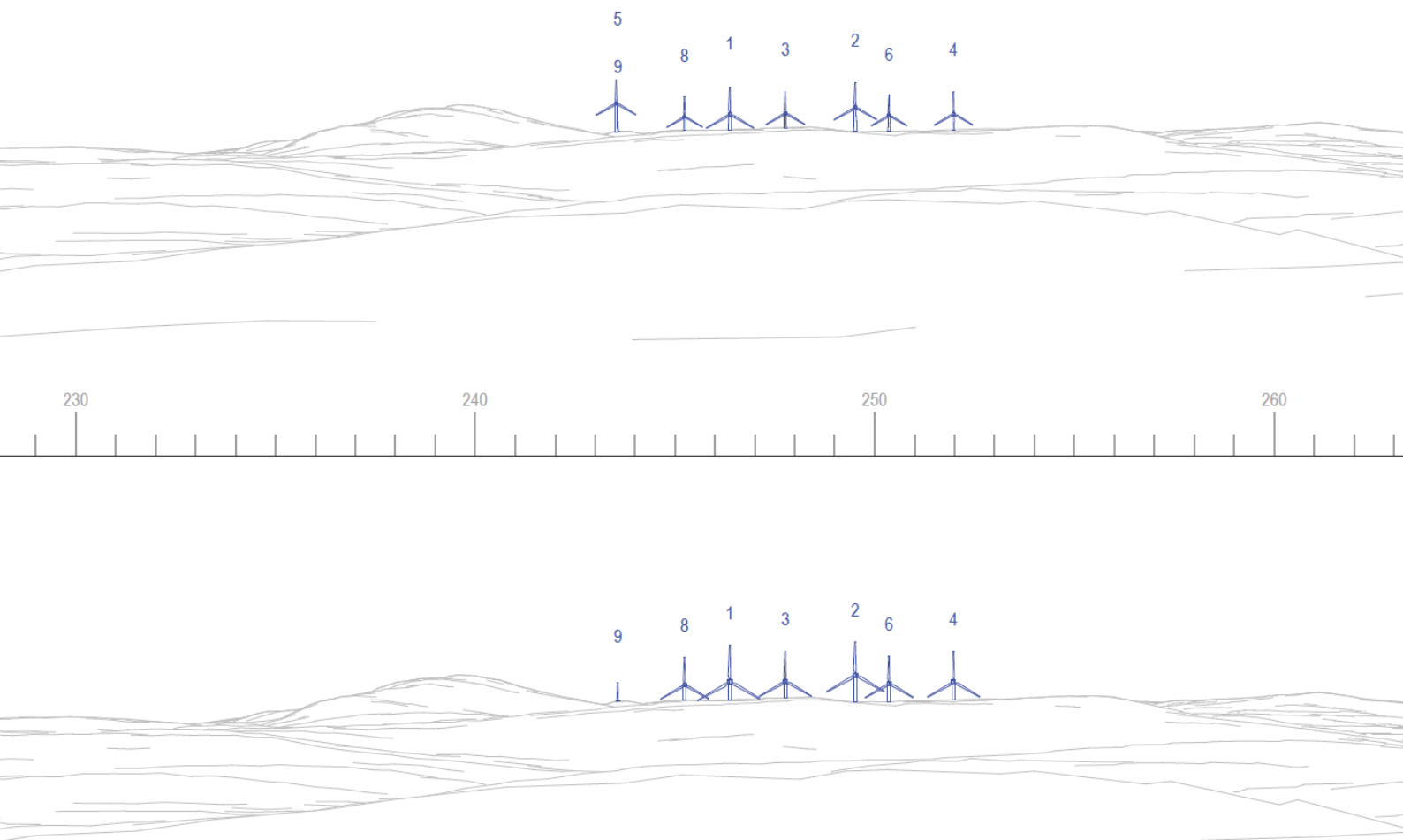


## Landscape and Visual Amenity

This assessment describes the existing landscape and views, considers their sensitivity to change and identifies changes likely to arise from the Proposed Development, providing judgements of the importance of the effects arising.

### *Design*

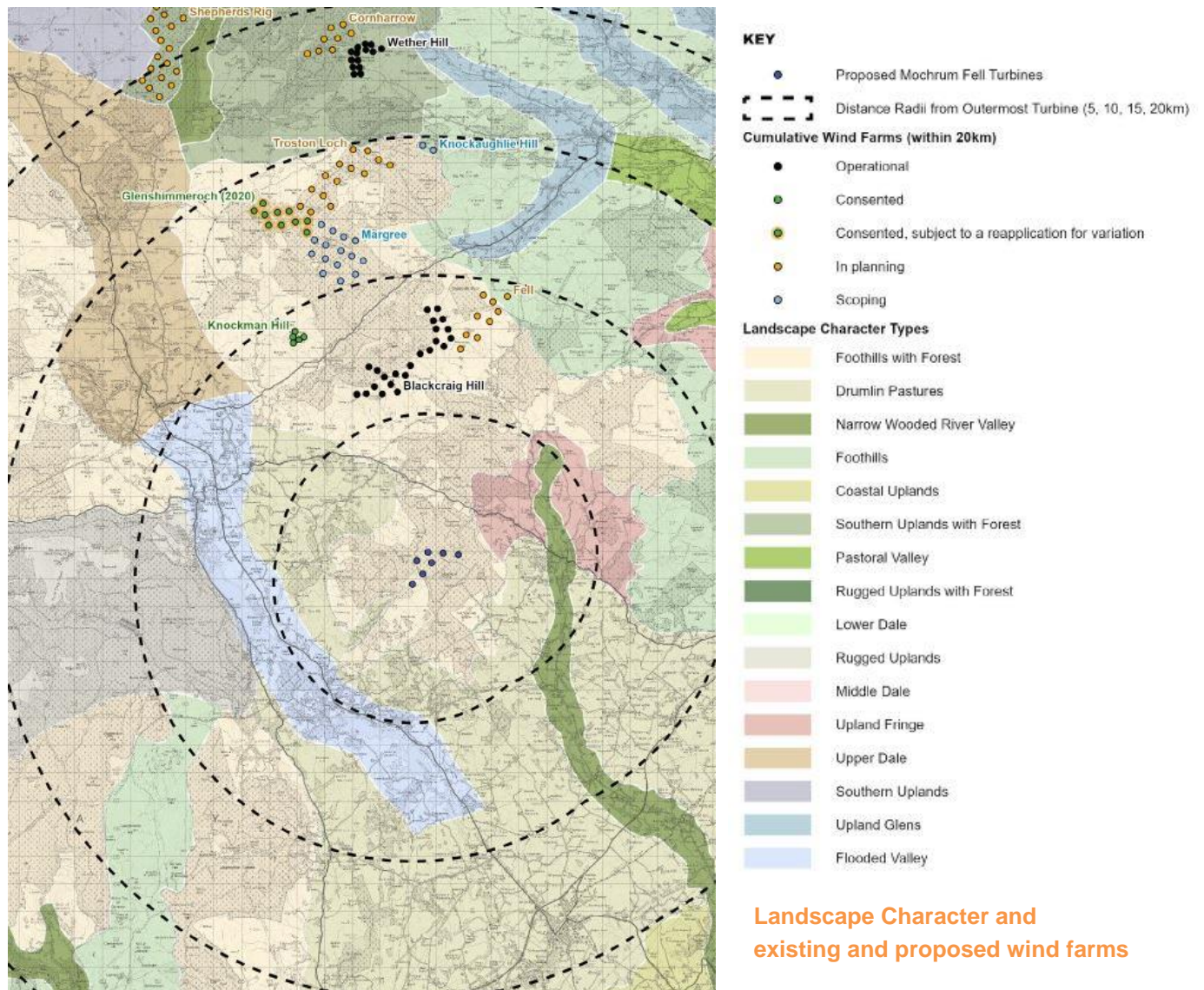
The increase to tip heights has been kept below 150m to avoid impacts from aviation lighting. The turbine positions were optimised in terms of landscape and visual mitigation during the design process for the Consented Development and have been retained unaltered in the design of the Proposed Development. Turbine 5 has been omitted; in the design of the consented development, the tip height of that turbine was restricted to prevent it being overly prominent due to its position close to the hill tip of Mochrum Fell. In the design of the proposed development, excluding this turbine improves the prominence of the hilltop in views towards the site.



**Comparative Wirelines – Consented Development (top) and Proposed Development (bottom)**

### Effects on Landscape Character

The effects on landscape character would be unchanged compared to those for the consented wind farm. Very minor variations identified within the assessment arise as a result of methodology modifications since 2014, rather than as a result of material differences in effects.

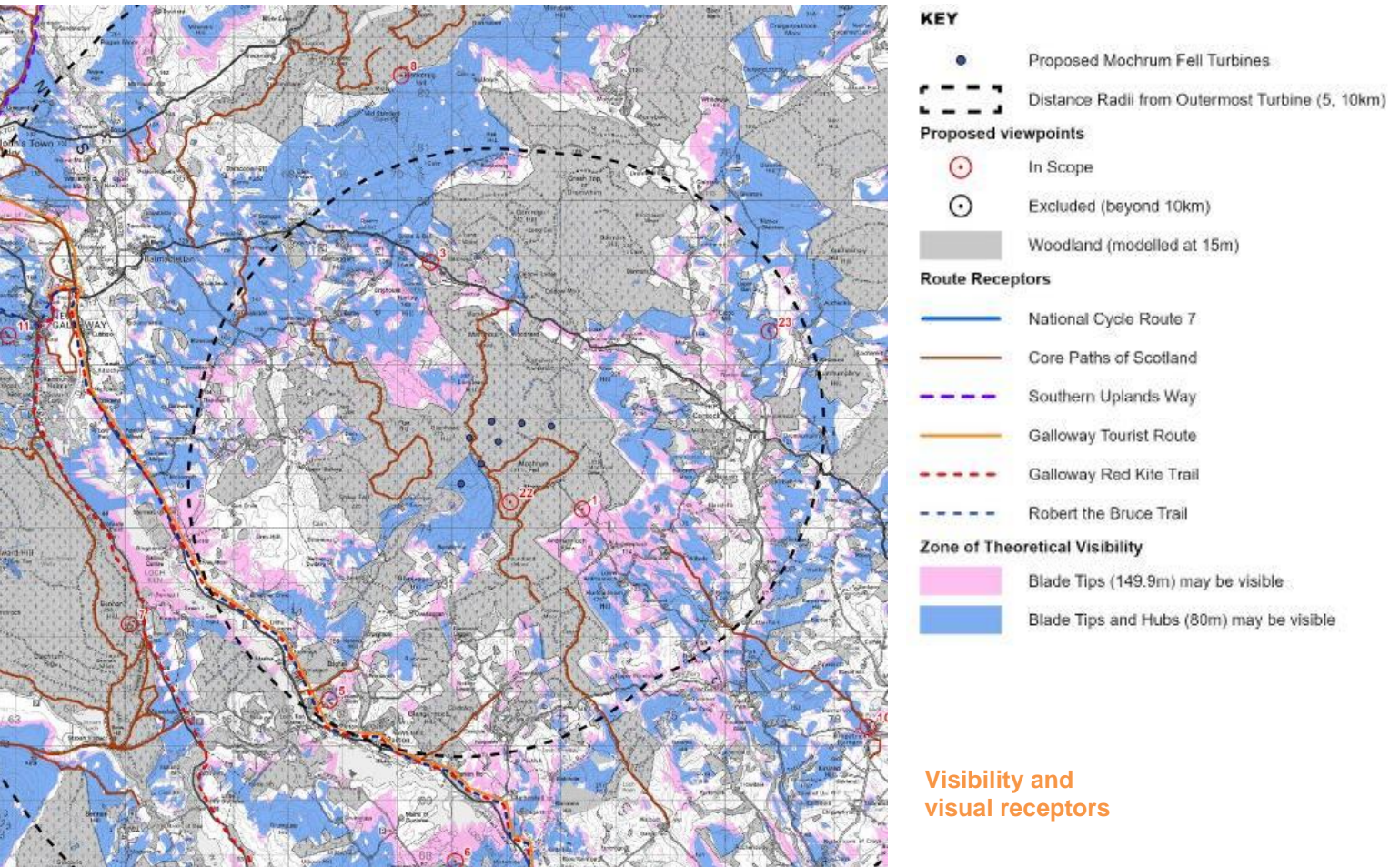


There would be significant adverse effects on the host Foothills with Forest: Stroan LCU within 3-4km of the site, and on the adjacent Drumlin Pastures: Deeside LCU to the northwest of the site extending towards the A702 and A713 and on the Upland Fringe: Corsock Fringe LCU which covers upper the valley slopes of Urr Water to the east of the site. Other nearby character units would experience localised, non-significant adverse effects.



## Visual Effects

There would be very minor increases in visual effects within approximately 3km of the site as a result of the taller turbines. Beyond this distance, this increase would be less noticeable and would start to be balanced by the reduction in numbers of turbines.



There would be significant adverse effects for walkers using Core paths 221 and 31 which pass through forestry close to and/or within the site, who would have intermittent close views of the turbines where the felling cycle, or other gaps in the forestry, open up visibility. Users of Core Paths 595 and 167 would have more open, distant views of the turbines, also resulting in significant adverse effects. There would also be significant adverse effects on views from the elevated panoramic viewpoints at Bennan Hill, which are oriented looking across Loch Ken towards the east and the site. A short 2-3km stretch of the A713 Galloway Tourist Route and Robert the Bruce Trail would have views of the turbines at distances of 5-7km resulting in localised significant adverse effects for walkers and drivers heading south on these routes.

Other visual receptors, including people visiting key recreational resources such as Loch Ken, Mossdale Walks, the Galloway Kite Trail and RSPB Ken Dee Marshes reserve would experience localised, non-significant adverse effects

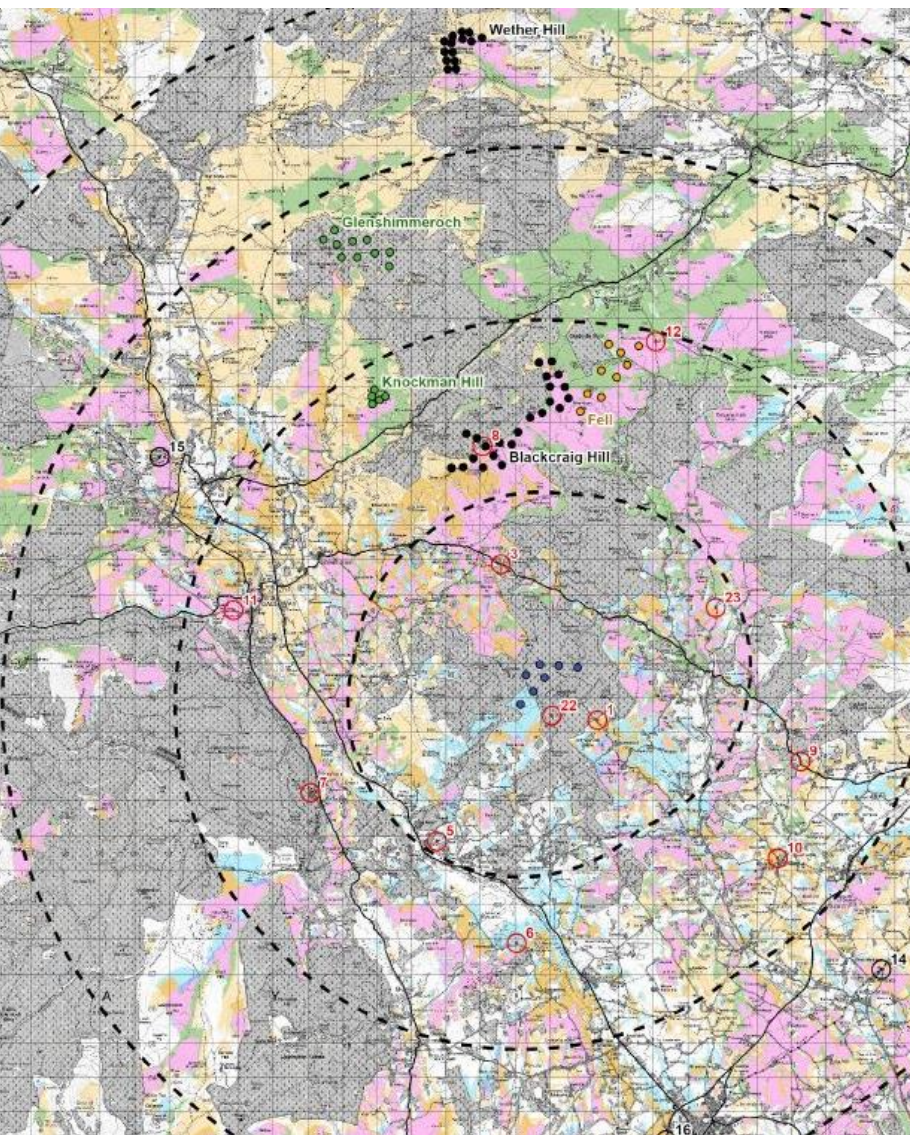
## Effects on Designated Areas

Effects on designated areas would not be significant. The closest designated area is the Galloway Hills Regional Scenic Area, where limited visibility from the areas closest to the site would mitigate effects resulting in localised adverse non-significant effects on the special qualities.



## Cumulative Effects

The spacing between the Mochrum Fell site and the proposals at Fell and Troston Loch are such that effects from each wind farm would tend not to overlap – particularly as both Fell and Troston Loch are adjacent to existing and consented wind farms. Some landscape and visual receptors would experience a minor increase in the scale or extent of combined cumulative effects (and decreased additional cumulative effects) when Fell wind farm is also considered compared to Mochrum Fell alone, but for the most part this is an insufficiently small difference to increase the assessed significance of effects.



Zone of Theoretical Visibility (to Blade Tip)



Users of local roads between the A712 and Loch Urr are the only receptor group where this is not the case. Here, the addition of Fell wind farm would generate significant adverse effects and Mochrum Fell alone would result in some localised non-significant effects. However, significant adverse effects would arise with or without Mochrum Fell wind farm, as they would primarily arise from the proximity of Fell wind farm in open views from these routes which approach and pass close by to the Fell site.

**Cumulative Visibility (left)**

**Cumulative wireframe from viewpoint 12 near Loch Urr (below)**





## Traffic and Access

The proposed development would be accessed directly from a new access junction on the A713, located to the south of Parton.



Site access location from A713

The access junction would be designed to accommodate all predicted loads and traffic for both the construction and operational phases of the proposed development.

The turbines are broken down into components for transport to the site. The nacelle, blade and tower sections are classified as Abnormal Indivisible Loads (AIL) due to their weight, length, width and height when loaded.

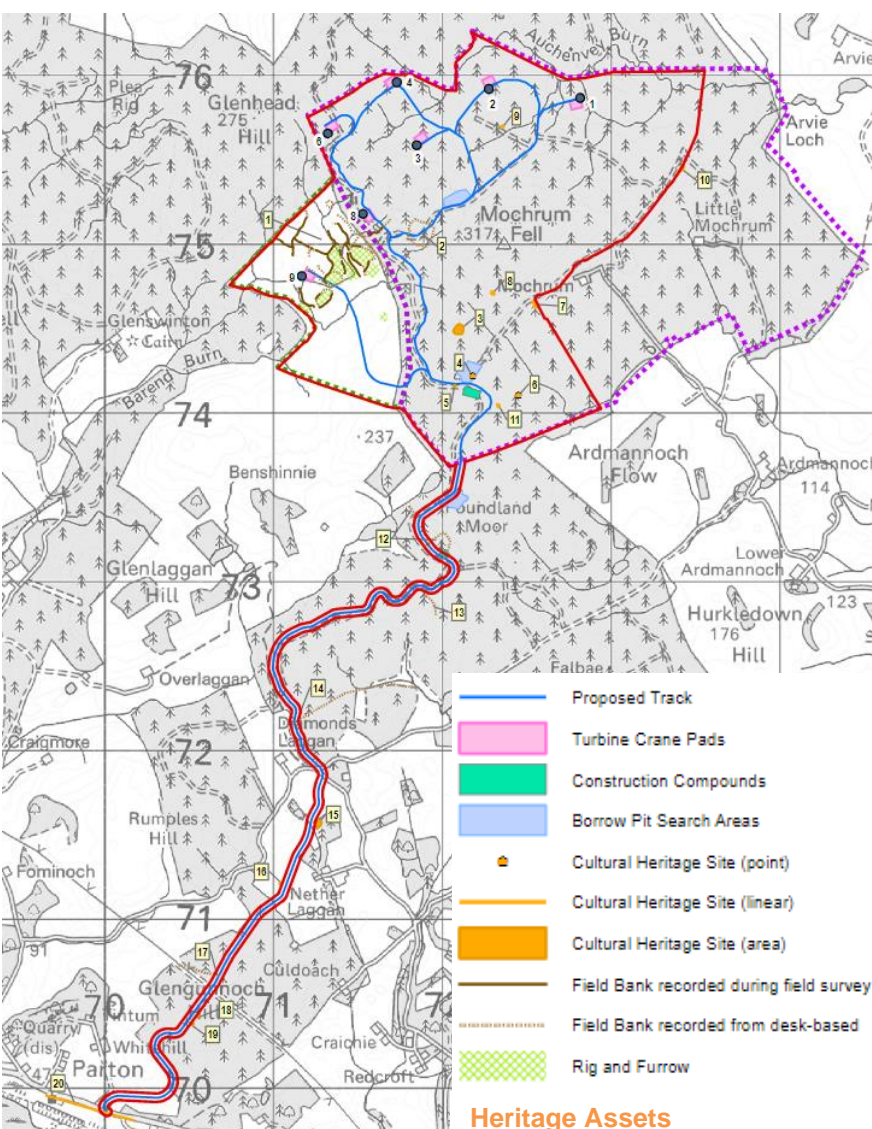
The turbine sections will be transported from King George V Dock in Glasgow through to the site via the M74, A75 and A713. Construction materials will be sourced from local suppliers wherever possible.

The proposed development will lead to increased traffic volumes on a number of roads in the vicinity of the site during the construction phase. These will be of a temporary timescale and transitory in nature.

An assessment of potential effect using IEMA guidelines has been undertaken. This determined that prior to the implementation of mitigation, only a minor impact could be expected on pedestrian amenity on the A713 relating to the increase in HGV traffic operating on the route. All other indicators indicated a slight or not significant effects on receptors within the study area.

With the implementation of appropriate mitigation, no significant effects are anticipated in respect of traffic and transport issues. The effects are all assessed to be slight or not significant and as they will occur during the construction phase only, they are temporary and reversible.

## Archaeological and Cultural Heritage



A desk-based assessment review of the cultural heritage baseline as reported in 2013 ES was carried out for the Proposed Development. The assessment for the Proposed Development has also been informed by comments and information supplied by HES and the DGC.

Twenty cultural heritage assets have been identified within the site. The majority of these assets are associated with medieval or later settlement and agrarian activity, although the remains of a prehistoric (Iron Age) fort were also recorded just south of Mochrum Fell, and the route of an alleged Roman road was noted potentially following the route of the modern A713 public road. The baseline review identified no other heritage assets additional to those identified in 2013.

Large swathes of commercial forestry plantation were planted across the site in the 20th century and the potential for as yet undetected buried remains of archaeological significance to survive within areas that have been disturbed by commercial plantation is assessed to be low.

In other areas which have undergone little or no modification, particularly in moorland / rough pasture areas, the potential for buried archaeological remains to survive is assessed to be moderate, particularly within an area of moorland just north of Pattiesthorn Plantation (west of Glenswinton Farm), where there are remains of an old field system.

Potential direct impacts are predicted on five assets: relict field system, a former quarry, a short section of relict field bank, the recorded location of a former building and enclosure and the possible route of an alleged Roman road. These direct impacts can all be reduced and offset by mitigation including archaeological investigations and watching briefs carried out during any ground-breaking / topsoil removal where construction works intersect with affected assets. As a result, no significant direct effects are predicted.

A significant indirect impact is predicted on the setting of the undesignated Mochrum Fell Fort. There is no further mitigation that would effectively avoid or reduce the significance of the effect, which is ultimately reversible upon decommissioning of the wind farm. However, in recognition of this adverse effect on the setting of the Fort, off-set / compensatory mitigation measures have been proposed, including topographical survey, improved access and interpretation of the monument, and a programme of archaeological investigation.



## Ornithology

The ornithology assessment considers the three main potential impacts upon important ornithological features as a result of the proposed wind farm both alone, and cumulatively in combination with other wind farm developments:

- Direct habitat loss;
- Disturbance/displacement; and,
- Collision risk mortality.

Baseline conditions have been established through desk and field studies, which have been informed through consultation with NatureScot and specialist recording groups. Field studies have comprised breeding bird surveys and flight activity surveys and have been undertaken in accordance with NatureScot guidance.

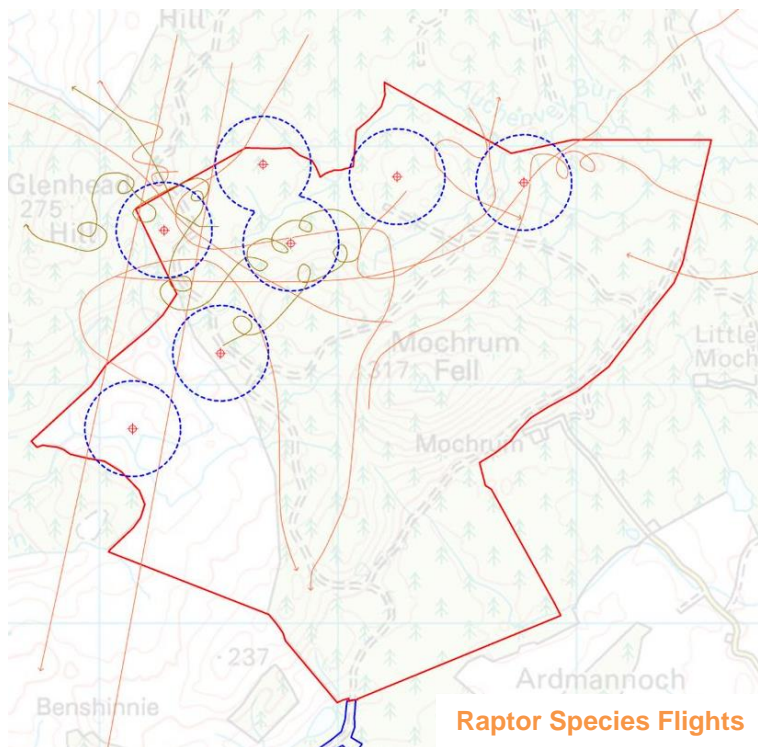
The site does not form part of any statutory or non-statutory designated site for nature conservation, with qualifying ornithological interests. The nearest such sites comprise the Loch Ken and River Dee Marshes Ramsar site and Special Protection Area (SPA) and the River Dee (Parton to Crossmichael) Sites of Special Scientific Interest (SSSI), designated for wintering geese and swans including Greenland white-fronted, greylag goose and whooper swan.



Ken Dee Marshes

No direct impacts to any designated site will arise from the proposed development. No Greenland white-fronted goose flight activity was recorded during baseline field studies. Very low levels of greylag goose and whooper swan activity was recorded however, no flights occurred at collision risk height. No likely significant effects upon the qualifying interests of the identified designated sites are therefore predicted.

Breeding bird surveys have identified that the site is of low importance for open moorland breeding birds, with a small number of breeding wader territories recorded. Surveys for breeding raptors and owls, have identified the use of the site by goshawk and red kite. No evidence of black grouse lek sites have been identified and habitats on-site are considered sub-optimal for the species.



Flight activity recorded during baseline surveys was low however, activity of red kite was sufficient to support a collision risk assessment, which concluded that there is the potential for a loss of a small number of birds (5) over the lifespan of the wind farm. This would not significantly affect the favourable conservation status of the red kite population in Dumfries and Galloway.

Impacts upon important ornithological features as a result of the construction, operation and decommissioning of the wind farm would not be significant at regional population levels.

Pre-construction surveys will be undertaken to ensure legislative compliance with regards to breeding birds, and no significant effects on important ornithological features are predicted as a result of the proposed development alone or in combination with any other wind farms.

Positive habitat management measures will be detailed within in consultation with NatureScot and DGC. These will include broad-leaved woodland planting and pond creation, which will benefit a broad range of bird species.

## Forestry

Six of the proposed turbines would be sited within commercial forestry on Barwhillanty Estate (and one turbine on open pastureland on Glenswinton farm). The estate woodlands in total are over 1300 hectares in size and the proposed development is sited within a block of commercial conifers- predominantly composed of 15-25 year old Sitka spruce.

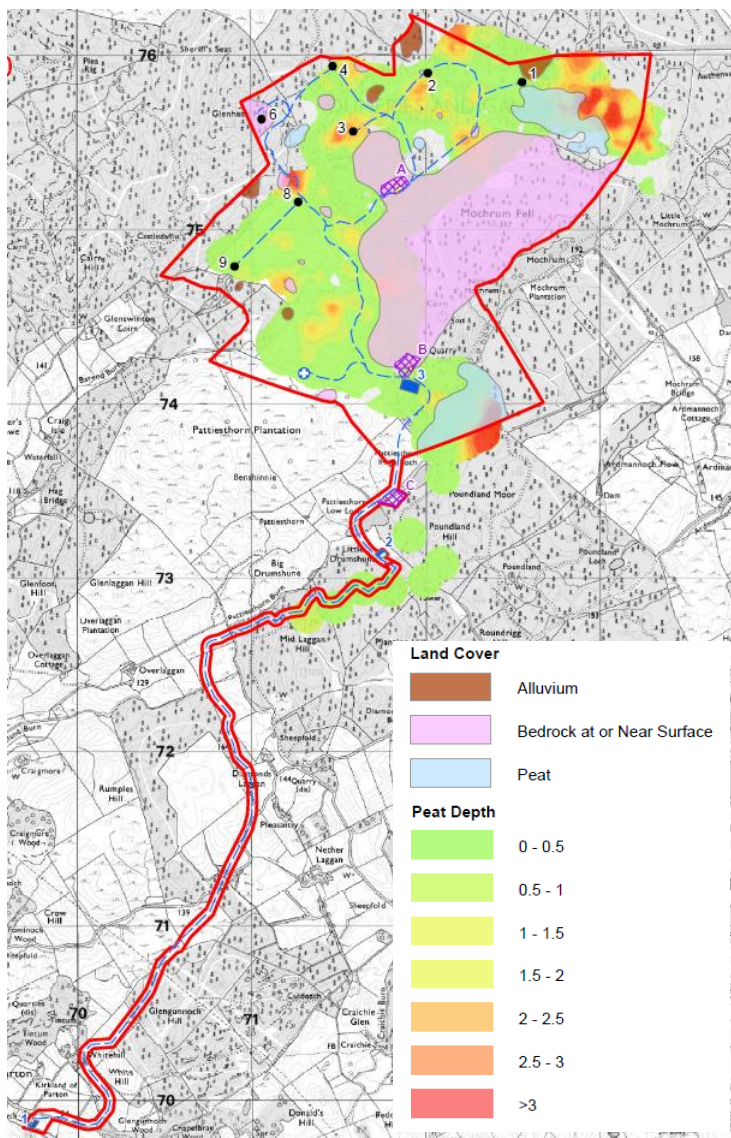
The proposed development involves clearance of around 28 hectares of commercial woodland to widen access roads, and accommodate the turbines, substation and borrow pits. This loss of woodland cover is to be replaced by 28 hectares of new planting on the same estate some 6km to the south of the site.

In addition to this 28 ha. of woodland removal there will be some 94 ha. of commercial conifer crops felled slightly prematurely around the turbines. This forestry will be replanted immediately and the species composition between the replanting and compensatory planting will add more species diversity than is currently the case, as well as resulting in greater structural diversity within the overall estate forestry holding.

All forestry operations will follow best practice and all SEPA guidelines, There will be little to no effect on surrounding forestry ,and the new windfarm access road will assist future estate timber go directly to the A713 trunk road rather than use minor public roads in the vicinity



## Geology, Hydrogeology and Hydrology



Deep peat (more than 1.5 m) is found in the northeast and southeast of the site, as well as two smaller isolated areas in the central northern part of the site. There are areas where the superficial deposits comprise alluvium and the flat area to the west of the site is predominantly glacial till. No areas of deep peat were identified along the access route, from the A713.

Only Turbine 3 is shown to be located in an area of peat with a depth of between 1.5m and 1.75m. However, ground investigations and micro-siting will be used as far as possible to reduce effects on peat. Based on the above assumptions, the total maximum volume of peat to be excavated from Turbine 3 would be 4,06 2m3.

The wind farm is expected to provide a potential saving of approximately 34,768 tonnes of carbon dioxide emissions over the 30 year lifetime (best case is 37,086 tonnes, worst case is 32,451 tonnes).

The wind farm would be located upstream of either the Urr Water or Loch Ken. The Urr Water has a total catchment of around 200km2 of which the site occupies less than 1.5%. Loch

Ken is within the Loch Ken and River Dee Marshes Special Protection Area and RAMSAR site and the River Dee (Parton to Crossmichael) Site of Special Scientific Interest (SSSI). Loch Ken has a total catchment area of approximately 800km2 of which the site occupies less than 0.3%.

No areas within the Proposed Development are identified by SEPA to be at risk of flooding, other than some minor surface water flooding around watercourses and waterbodies.

Soil handling and storage will be in accordance with best practice during construction and reinstatement; and works will be managed in accordance with good practice for storage and handling of chemicals

Drainage management proposals will be designed to ensure groundwater flow and hydraulic continuity is maintained. The drainage management works would be supervised by the Ecological Clerk of Works. A maintenance plan for drainage measures developed and implemented during construction will be included during the operational phase of the wind farm.

The proposed mitigation measures, the means of implementation, and residual effects following mitigation will result in there being no significant effects.



## Aviation and Telecommunications

### *Aviation*

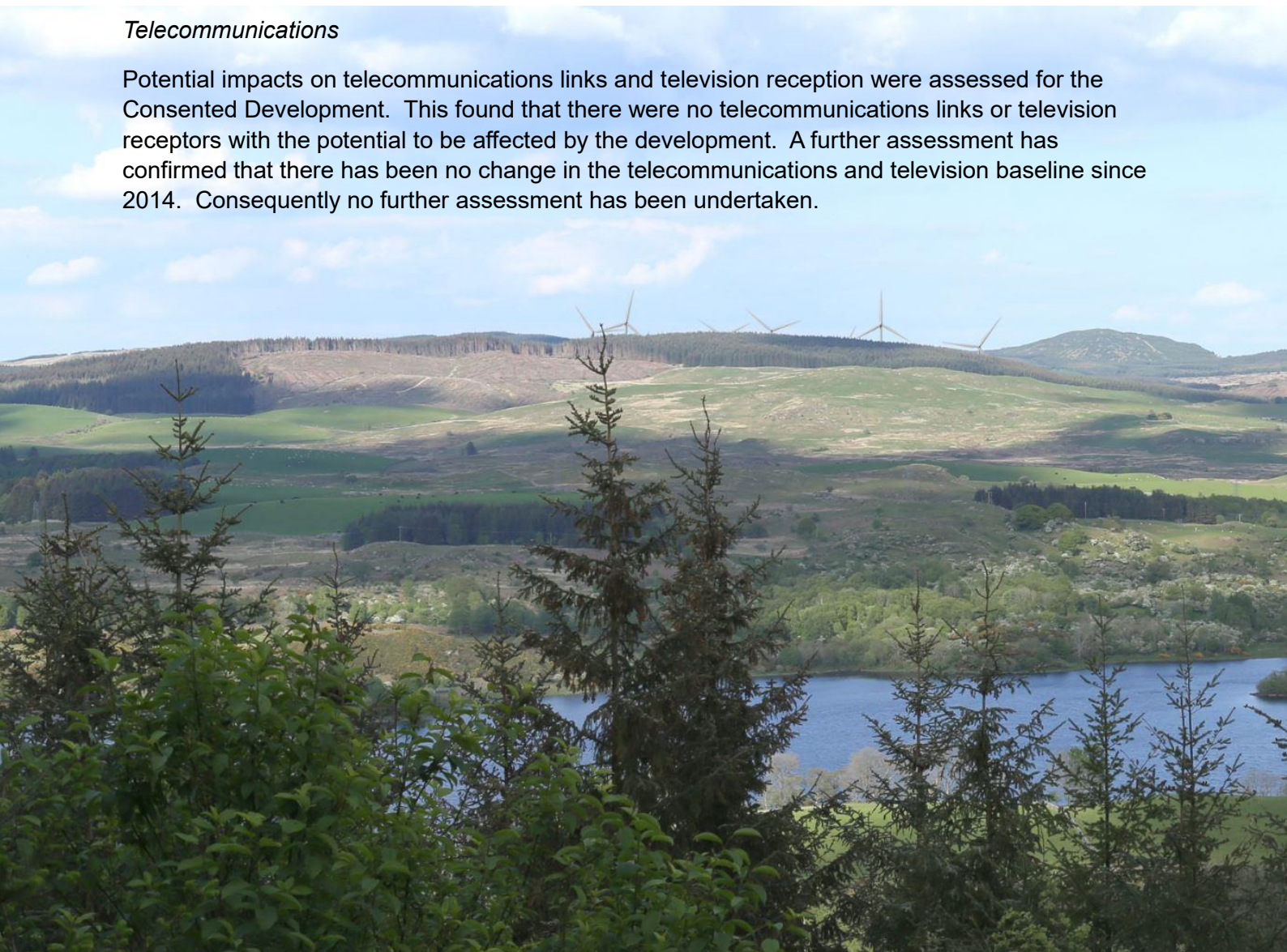
The rotating blades of the turbines in the Proposed Development will be capable of being detected by the NATS En Route air traffic control radars at Lowther Hill near Wanlockhead and Great Dun Fell in Cumbria. These radars are used to provide air traffic services mainly to aircraft in controlled airspace above 8,500 feet over the site. The Applicant has entered into a commercial agreement with NATS to mitigate the effects of the wind farm by blanking the Lowther Hill and Great Dun Fell radars' coverage over the site and substituting it with coverage from another radar that is not affected by the wind farm.

The Proposed Development is located approximately 500 metres from a private airstrip at Glenswinton. The owner of the airstrip has stated that he is satisfied that the turbines will not pose an unacceptable constraint on aircraft operations at the airstrip. Information on the location and height of the turbines will be published on aeronautical charts and provided in briefings to pilots visiting the airstrip.

The Ministry of Defence has stated that it has no concerns about the effects of the Proposed Development on low flying military aircraft. Infra-red lights will be installed on the nacelles of the turbines to improve the visibility of the turbines to military pilots flying at low level at night.

### *Telecommunications*

Potential impacts on telecommunications links and television reception were assessed for the Consented Development. This found that there were no telecommunications links or television receptors with the potential to be affected by the development. A further assessment has confirmed that there has been no change in the telecommunications and television baseline since 2014. Consequently no further assessment has been undertaken.





## Shadow Flicker

Shadow flicker is the effect of the sun passing behind the moving rotors of turbines and casting a flickering shadow through the windows and doors of neighbouring properties. This occurs in certain combinations of the geographical position of the turbine(s) and receptor(s), time of day, time of year, and specific weather conditions.



Within the assessment, the potential shadow flicker effects from the wind turbines on neighbouring residents are described and assessed. Shadow flicker effects were modelled for two residential properties using both theoretical worst-case and realistic scenarios. The theoretical duration of shadow flicker calculated exceeded guideline thresholds for one property. However, the theoretical scenario represents many unrealistic conditions such as a clear sky for 365 days a year and permanently occupied homes. The realistic duration of shadow flicker calculated, taking into account local climate data, did not exceed guideline thresholds for either of the homes.

The effect of shadow flicker has been assessed as being insignificant for both properties. Mitigation through the implementation of a 'Wind Farm Shadow Flicker Protocol', to be agreed through consultation with DGC, is deemed to be an effective measure to reduce the impact of shadow flicker effects.

There is no overlap between the shadow flicker study areas of the Proposed Development and the closest operational turbines. Therefore, no cumulative effects are anticipated.



# Mochrum Fell Wind Farm