



Contact Us

We welcome conversation, engagement and interaction with you on any aspect of how we propose to progress the Dyrick Hill Wind Farm project and particularly on how we communicate project information to you. If you would like to chat about this proposed project further please contact us via any of the below means.

To supplement this project's information process, we have compiled a dedicated online Community Consultation Exhibition. This will be available to view at www.innovision.ie/DyrickHill over the coming weeks and includes much more project design detail including an interactive visual representation of how the project would look if built out from numerous vantage points surrounding the proposed projects Study Area.

Website : www.dyrickhillwindfarm.ie
Email : dyrickhill@emp.group
Phone : 01 588 0178
Write : EMPower, 2 Dublin Landings, North Wall Quay North Dock, Dublin 1, D01 V4A3.

Project Information Evening:

The project design team will facilitate the third in-person Dyrick Hill Project Information Evening in the **Sliabh gCua Community Centre, Touraneena on the 01/03/2023** between **4.00pm and 8.00pm**. Please drop in anytime between 4pm and 8pm to discuss the proposed Dyrick Hill wind farm project and its associated design process and community benefit fund structure with members of the project design team.

This project information events will be advertised in local newspapers, project newsletters, local businesses and on the project website. Members of the project design team are available, at the contact details listed on this page, to talk through any aspect of the Dyrick Hill wind farm project design process which you would like to discuss further.

Proposed Dyrick Hill Wind Farm Project

Project Newsletter No. 5 – February 2023



Photo looking south at Dyrick Hill from the North side of the Study Area

The Planning Process

The projects Environmental Impact Assessment Report (EIAR) will accompany the planning submission. All the planning documents and the EIAR will be available for public comment during the planning review process prior to An Bord Pleanála making a judgement on the application. Sligo based consultants Jennings O'Donovan and Co. have compiled the Dyrick Hill EIAR with input from expert specialist consultants.

Every project's EIAR is tailored to suit each project's particular aspects but the content of the Dyrick Hill EIAR largely aligns with the following chapter structure:

- Chapter 1 Introduction;
- Chapter 2 Description of Proposed Development;
- Chapter 3 Site Selection and Alternatives;
- Chapter 4 Policy;
- Chapter 5 EIA Scoping, Consultation and Key Issues;
- Chapter 6 Air and Climate Change;
- Chapter 7 Noise and Vibration;
- Chapter 8 Biodiversity and Ornithology;
- Chapter 9 Land, Soils and Geology;
- Chapter 10 Hydrology and Water Quality;
- Chapter 11 Population & Human Health & Material Assets;
- Chapter 12 Shadow Flicker;
- Chapter 13 Traffic and Transportation;
- Chapter 14 Archaeology, Architectural and Cultural Heritage;
- Chapter 15 Landscape and Visual Impact;
- Chapter 16 Telecommunications and Aviation;
- Chapter 17 Interactions of the Foregoing.

During the project design and environmental assessment, consultation was carried out with Waterford City and County Council as well as numerous other statutory and non-statutory consultees, to discuss the project proposal during its design process. The planning application will be supported by the above-mentioned Environmental Impact Assessment Report (EIAR) and a Natura Impact Statement (NIS).

Engagement with local residents and interested stakeholders will continue after the project is submitted to An Bord Pleanála. Our dedicated online Community Consultation Exhibition, will be available at www.innovision.ie/DyrickHill over the coming weeks and our dedicated project website will also be continuously updated with relevant project information.

The project is almost ready to be submitted to An Bord Pleanála for assessment. It is anticipated that the planning application will be submitted in quarter 1 of 2023.

The Dyrick Hill wind farm planning application will include the following:

- Cover Letter to An Bord Pleanála;
- Planning Application Form;
- Letter(s) of Consent;
- Site Notice;
- Newspaper Notices;
- Pre-Application Consultation;
- Planning drawings and drawing schedule;
- EIA Portal Confirmation Notice;
- Natura Impact Statement.

Notification of the intention to submit a planning application supported by an EIAR will also be sent to the Department of Housing, Planning and Local Government's EIAR portal and once the application is validated by the Department, this confirmation will also be included with the planning submission.

All documents and drawings will be available for public viewing from the Dyrick Hill project website at www.dyrickhillwindfarm.ie once they have been validated by An Bord Pleanála.

Details on how to make a public submission or observation on a strategic infrastructure development application (SID) under An Bord Pleanála may be found at <https://www.pleanala.ie/en-ie/strategic-infrastructure-development-guide/sid-applications>

Who Are EMPower

EMPower is an Irish renewable energy developer with over 800 MW in development in Europe and Africa. Our senior management team comprises five Irish professionals with a combined 95 years' experience delivering projects from conception to operation across five continents. EMPower's headquarters is in Dublin.

EMPower is owned by GGE Ireland Limited, Wind Power Invest A/S and EMP Holdings Limited.

Our vision is to provide low carbon, ecologically non-invasive, affordable energy to facilitate Ireland's expanding economy and sustainable energy targets.

Our Commitment

Our commitment is to engage meaningfully with our project stakeholders on decisions that concern them. We aim to do this in a timely manner, and we commit to building relationships and conversing on what aspects of this proposed Dyrick Hill renewable energy project could work best for this local area. We feel that designing any proposed project in this manner makes better social and business sense.

95 Years

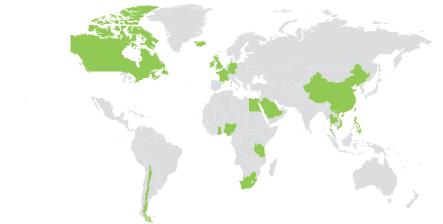
Combined Experience of EMPower Management Team in Renewable Energy

800 MW+

Wind Energy Capacity Currently Under Development By EMPower

5 Continents

Combined Geographical Experience of EMPower Team in Renewable Energy



Photomontage of the proposed Dyrick Hill project from Glendalough. Viewing distance is approximately 14 kilometres



Photomontage of the proposed Dyrick Hill project from Molough New Cemetery north of Newcastle. Viewing distance is approx. 8km

Grid Connection

The proposed projects grid connection studies have now reached their final stages of design and through liaison with bodies like Eirgrid, the roads authority and Waterford City and County Council the proposed Dyrick Hill project, if consented, could conceivably connect to the Dungarvan 110kv substation. This route has emerged as the most feasible option and is an approximately 16km underground cable route south to Dungarvan substation which lies just north of Dungarvan town near Kiladangan.

This potential route can be seen in greater detail on the grid map on page 10 of this newsletter. For additional location context this route is proposed to exit the project study area on the south west onto local roads. The proposed route then continues south through Lickoran and heads east at Millstreet through Sleady before turning south onto the R672 through Garryduff. This route option then heads onto the N72 at the Master McGrath Monument and continues east into the Dungarvan Substation.

Turbine Component Transport Delivery

The turbine component delivery route options for the proposed Dyrick Hill wind farm project can be seen on the drawing on page 11 of this newsletter. At this stage of assessment the most likely port of entry for the turbine components for this project is Waterford port. Transport vehicles would exit Waterford City port and travel north west on the N29 and N25 and then turn west onto the N72 before continuing west to Killadangan just north of Dungarvan town.

From here transport vehicles would travel north from Ballymacmague on the R672 for 12 kilometers before turning south west at knockboy onto the Local R671 road and enter the projects Study Area from the south.

There will be the need for some temporary roadway enhancement and removal of street furniture if the project is granted a consent but all this will be done in conjunction with Waterford County Council, Transport Infrastructure Ireland and An Garda Síochána during times of heavy goods movements.



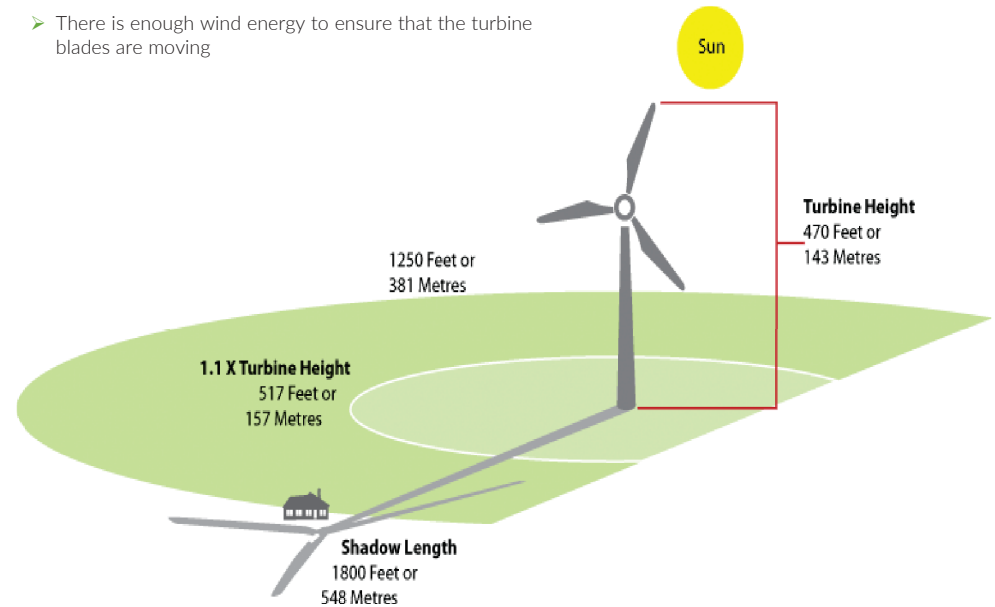
Shadow Flicker

Shadow flicker is caused when the rising or setting sun is behind the rotating blades of a wind turbine, casting a moving shadow, which if passing over a window in a nearby property can result in a shadow cast by the incoming sunlight.

A shadow flicker assessment was carried out at the proposed Dyrick Hill development site to investigate the potential for this occurrence.

If any one of the following conditions are absent shadow flicker cannot occur:

- The sun is shining and there is sufficient direct sunlight to cause shadows (cloud, mist, fog or air pollution could limit solar energy levels)
- The turbine is directly between the sun and the affected property
- There is enough wind energy to ensure that the turbine blades are moving



Utilising recent advances in wind turbine design Shadow Flicker is now predictable and can be modelled during the projects design process. This predictability is made possible by using shadow flicker computer model technology. Computer software can be used to calculate the occurrence of shadow flicker at receptors in proximity to the proposed development. The outputs from this process is then analysed to identify and assess potential shadow flicker impacts.

The Dyrick Hill wind farm project has been designed to comply with a zero-limit tolerance for shadow flicker occurrence. This is done to protect local residential properties. Careful site selection, good project layout and planning can help reduce the possibility of shadow flicker and design out the risk of it occurring. As an added protection modern wind turbines also have the facility to measure sunlight levels in real time and can be pre-programmed to reduce or stop a turbine rotating if conditions exist that could potentially lead to shadow flicker at any neighbouring property. Employing this mitigation measure ensures that no residents living near the wind farm will experience shadow flicker.

Sound

Sound can be characterised in terms of amplitude, which is measured in decibels "(dB)", and frequency, which is measured in Hertz "(Hz)". Environmental noise is normally assessed in terms of A-weighted decibels, and is denoted by "dB (A)".

Noise is created by wind turbines as they rotate to generate power. Wind Turbines will only rotate above the 'cut-in' wind speed of approximately 11 kilometres per hour and below the 'cut-out' wind speed of approximately 90 kilometres per hour. The principal source of wind turbine noise can be from the flow of air over, under and around the turbine blades as they rotate. This is called aerodynamic noise and can be random in character, meaning the sound level can fluctuate with the movement of the rotor. This can often be defined as a 'swish' type of sound. All modern wind turbine blades are carefully designed, utilising technology innovations, with a view to minimising noise whilst optimising power transfer from the wind.

Baseline noise monitoring was undertaken at different locations surrounding the proposed Dyrick Hill project Study Area over a four-to-five-week period. This established representative existing background noise levels for the Study Area. The Study Area for this project includes all sensitive noise receptors within 2km of the proposed projects wind turbine positions and represents the dwellings most likely to be impacted by potential effects.

Comparison of sound pressure levels in our Environment

Source/Activity	Indicative noise level dBA
Threshold of hearing	0
Rural night-time background	20-50
Quiet bedroom	35
Windfarm at 350m	35-45
Busy road at 5 km	35-45
Car at 65km/hr at 100m	55
Busy general office	60
Conversation	60
Truck at 50km/hr at 100m	65
Inside a typical shopping centre	70-75
Inside a modern car at around 90km/hr	75-80
Passenger cabin of jet aircraft	85
City Traffic	90
Pneumatic drill at 7m	95
Jet aircraft at 250m	105
Threshold of pain	140

Factsheet published by the Australian Government (Greenhouse Office) and the Australian Wind Energy Association

Noise level limits for the proposed Dyrick Hill project were determined in accordance with the Wind Energy Development Guidelines, The Institute of Acoustics (IoA) Good Practice Guide and Irish legislative case law. Current guidelines in place state that noise levels shall not exceed the greater of, 5dB (A) above background noise levels or 43dB (A) when measured externally at a dwelling or other sensitive receptors. The Dyrick Hill wind farm project has been designed in a manner that ensures the prescribed limits will not be exceeded.

A full life cycle noise and vibration project assessment will be included as part of the Environmental Impact Assessment Report and will be submitted to the consenting authority with the planning documentation. All these documents will be available for public viewing and comment.

Population And Human Health

The Population and Human Health assessment carried out for the proposed Dyrick Hill wind farm project includes the processes of analysing, monitoring and managing the intended and unintended consequences, both positive and negative, for this proposed project.

The main project Study Area considered for this assessment were the districts of Ballynamult and Modelligo including the townlands of Boremountain, Corradoon, Ballynaguilkee upper, Dyrick, Lyrattin, Ballynaguilkee lower and Scartmountain. Other areas examined in the study were Dungarvan, Waterford city, the potential component delivery routes from Waterford Port to the project's Study Area and the grid connection route between the projects Study Area and the 110kv substation in Dungarvan.

The design team adhered to the appropriate legislation and guidance in this assessment including all health and safety requirements for the construction phase. Potential wellbeing or nuisance effects as a result of a consented project were also considered. Where the assessment highlighted potential negative impacts on human health from this proposed project, appropriate mitigation measures will be proposed to avoid, prevent, reduce and where necessary offset any identified adverse effects during the project's entire life cycle. Detailed assessments for common public concerns were conducted including:

- Potential effects from noise and shadow flicker;
- Consideration of sensitive landscape and character areas;
- Protection of Natural and Cultural Heritage;
- Consideration of perceptions and attitudes towards wind energy;
- Regard for the objectives within the Waterford CC Development Plan;
- Potential for economic growth within the community;
- Consideration of effects in respect of tourist receptors;
- Enhancement of local biodiversity;
- Turbine safety;
- Potential effects from traffic and construction;



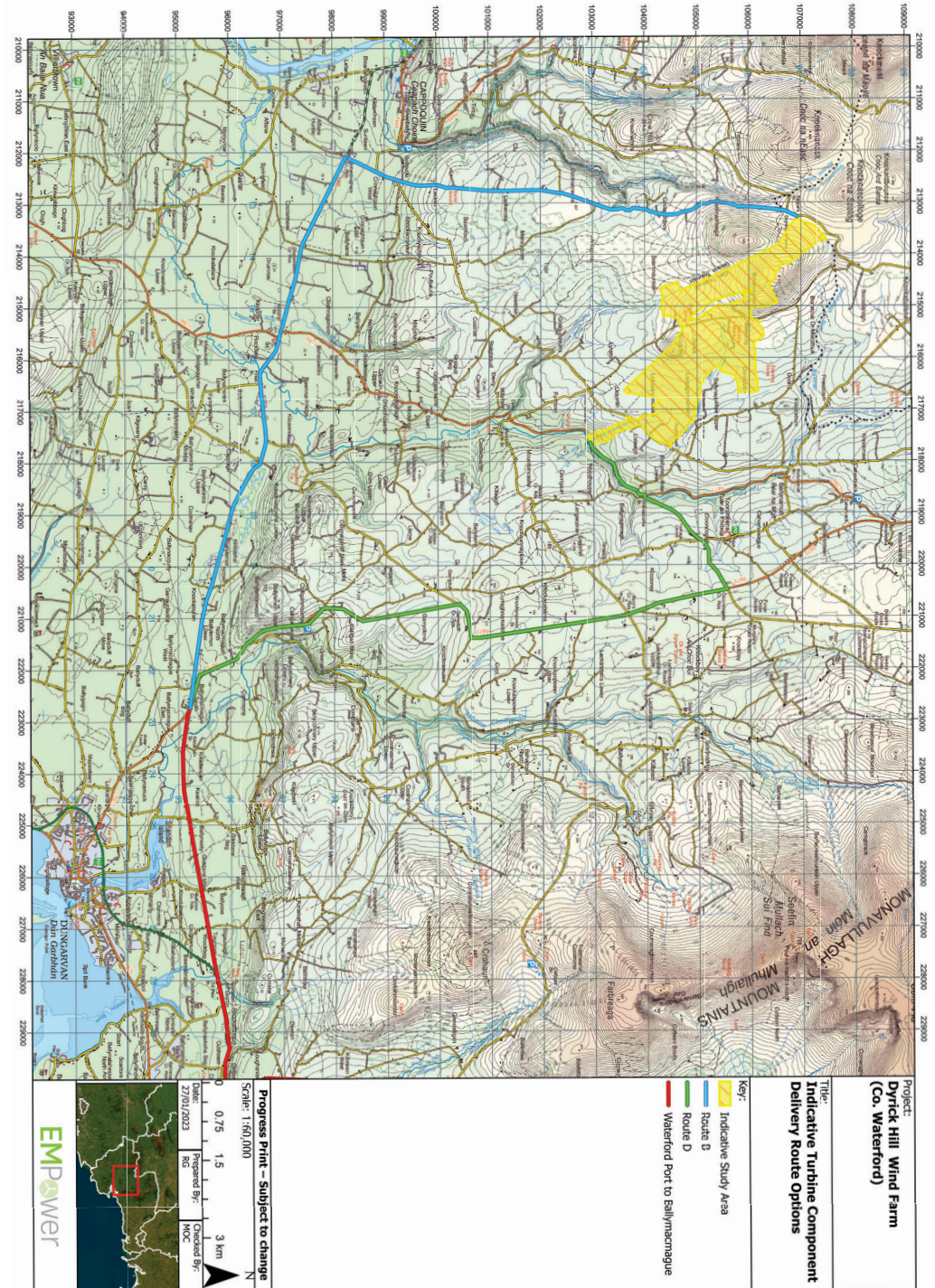
The proposed Dyrick Hill wind farm project layout was initially informed by archaeological desktop studies and fieldwork undertaken during the initial design and assessment phases of the project. This process included assessment of the project's Study Area, potential grid connection routes and sections of the proposed component delivery. These areas were assessed in terms of historic landscape, existing land use, tree cover and the potential for the presence and survival of unrecorded archaeological and undesignated architectural heritage sites and features.

The archaeological surveys revealed four recorded archaeological monuments located in the project's Study Area. These included a ringfort, a levelled hut site and two standing stones, these features will remain *in situ* and will not be affected by the proposed development. The project design process has avoided the locations of these known recorded archaeological sites.

The potential will always exist for the presence of unrecorded archaeological features within the project's Study Area. If the project is consented all ground works, during the construction phase, will be subject to archaeological monitoring by a suitably qualified archaeologist.

If this project is consented and any sub-surface archaeological features are identified during archaeological monitoring of the construction phase they will be securely cordoned off, cleaned and recorded *in situ*. The National Monuments Service will then be notified and consulted to determine further appropriate mitigation measures, which may include preservation *in situ* (by avoidance) or preservation by record (archaeological excavation).

Sites & Monuments Record No.	Class	Townland
WA013-020001	Hut site	BALLYNAGUILKEE UPPER
WA013-020002	Standing stone	BALLYNAGUILKEE UPPER
WA013-021	Standing stone	BROEMOUNTAIN
WA013-022	Ringfort	LISLEAGH



EMPower are committed to ensuring that we design, develop, construct and operate our projects to the highest possible ecological standards to protect all flora and fauna in the vicinity of our projects Study Area. The ornithological assessments carried out for the proposed Dyrick Hill project were rigorous, and extended over three years.

The ornithological assessments focused on the main project Study Area as well as the surrounding habitats. Specific species of interest were identified and further assessed as part of this process. Ornithology surveys carried out at the Dyrick Hill Study Area included:

- Vantage Point Surveys following best practice guidance from Scottish National Heritage;
- Breeding wader survey;
- Transect surveys during both the winter and summer seasons;
- Hinterland surveys;
- Wildfowl, Swan, Hen Harrier and Goose surveys;
- Assessment of activity levels for other target species active in the wider project Study Area. Some of these are listed below.

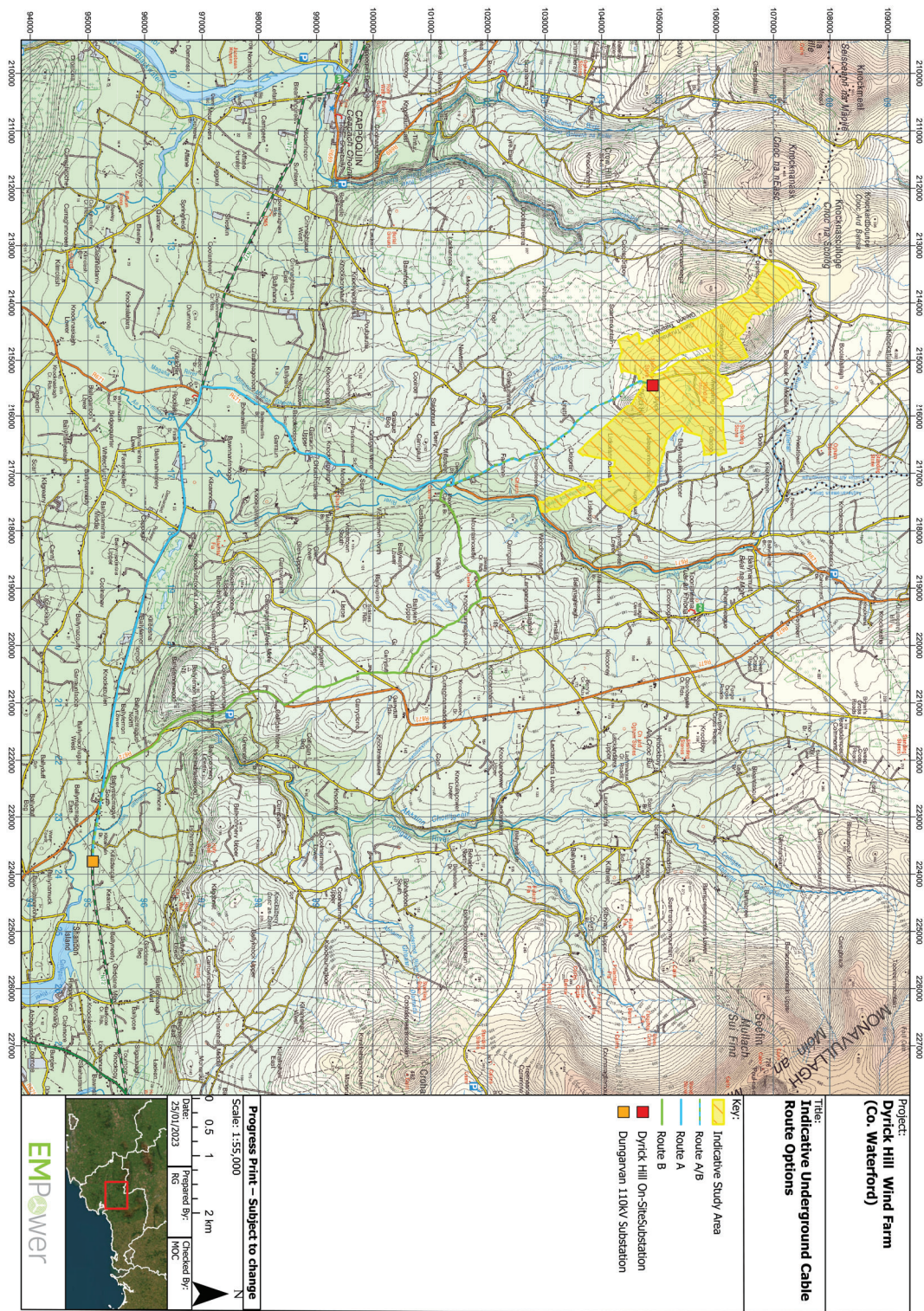


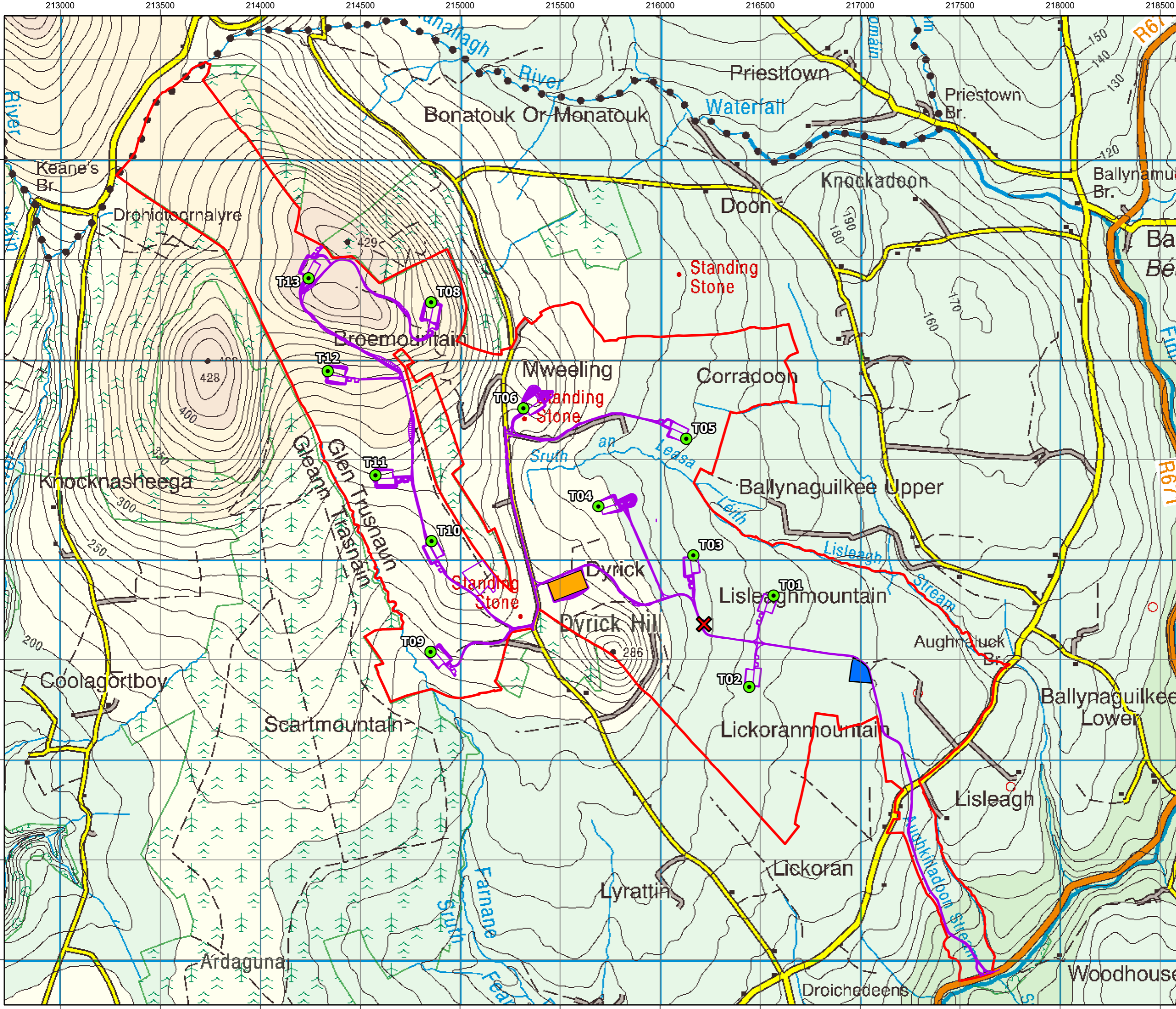
Bird species detected in the wider environs of the project study area include Kestrel, Black-Backed Gull, Golden Plover, Sparrowhawk, Snipe, Goldcrest, Grey Wagtail and Hen Harrier.

Every possible measure to mitigate potentially negative effects and minimise impact on bird species will be employed during all phases of this proposed project.

Key objectives of the Dyrick Hill project ornithology surveys:

- Provide baseline data on all ornithological features
- Gain better knowledge of the occurrence of bird species in the Study Area
- Identify habitats and territory used
- Establish flight paths and foraging behaviour





Project:
**Dyrick Hill Wind Farm
 (Co. Waterford)**

Title:
Design Iteration 3a

- Key:
- Indicative Turbine Location
 - Indicative Civil Layout
 - ▭ Indicative Study Area
 - ✕ Indicative Permanent Met Mast Location
 - ▭ Indicative Temporary Construction Compound Location
 - ▭ Indicative Substation Location

Progress Print – Subject to change

Scale: 1:17,500

0 0.2 0.4 0.8 km

Date: 30/01/2023	Prepared By: RG	Checked By: MOC
---------------------	--------------------	--------------------

