
Dreenacreenig West Wind Farm Limited

Dreenacreenig West Wind Farm

SCREENING STATEMENT FOR APPROPRIATE ASSESSMENT

MARCH 2017

Dreenacreenig West Wind Farm Limited,
Dreenacreenig West,
Drimoleague,
Co. Cork.



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TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
2.0	APPROPRIATE ASSESSMENT METHODOLOGY.....	1
2.1	REGULATORY CONTEXT.....	1
2.2	THE STAGES IN AN APPROPRIATE ASSESSMENT	2
2.3	DESK STUDY AND CONSULTATIONS	2
3.0	DESCRIPTION OF NATURA SITES.....	3
4.0	DESCRIPTION OF THE PROJECT	6
4.1	SITE LOCATION	6
4.2	DESCRIPTION OF THE PROPOSED DEVELOPMENT AND CONSTRUCTION METHODS	6
4.1.1	Site Entrance.....	7
4.1.2	Drainage System	7
4.1.3	Upgrade of Existing Tracks	8
4.1.4	Site Roads.....	9
4.1.5	Stream Crossing	9
4.1.6	Clear Felling of Coniferous Plantation.....	9
4.1.7	Borrow Pit	10
4.1.8	Crane Hardstands	11
4.1.9	Turbine Bases	11
4.1.10	Control Building.....	11
4.1.11	Cable Trenching	11
4.1.12	Grid Connection	11
4.3	Other Developments in the area	12
4.4	Freshwater Pearl Mussel	12
4.5	Molluscs.....	12
4.6	BEST PRACTICE CONSTRUCTION METHODS.....	13
4.7	ASSESSMENT OF POTENTIAL IMPACTS TO NATURA 2000 SITES.....	16
5.0	CONCLUSION	17
6.0	SCREENING MATRIX.....	18
7.0	REFERENCES	25

1.0 INTRODUCTION

The Screening Statement for Appropriate Assessment has been prepared by Jennings O'Donovan & Partners Limited on behalf of Dreenacreenig West Wind Farm.

Dreenacreenig West Wind Farm will consist of seven electricity generating wind turbines, an electrical compound, sub-station building, four car parking spaces, borrow pit, associated site roads and site works in the townland of Dreenacreenig West, 5 kilometres north of Dimoleague, Co. Cork.

A decision to grant Planning Permission for the wind farm was issued by Cork County Council on the 3rd October 2011, (Planning Ref: 10/857).

The decision was subsequently appealed to An Bord Pleanála (ABP) (Reference Number: PL 88.239767) where it was granted permission on the 5th December 2012, subject to 16 No. conditions. In the ABP decision they considered that the environment impacts of the proposed development were acceptable and, subject to compliance with the mitigation measures set out in the environmental impact statement and as conditioned by the Board, the proposed development would not have unacceptable adverse effects on the environment.

During the turbine selection and procurement process the particular wind turbine model proposed at that time, the Vestas V52, was now no longer available. It was decided to install 5 no. Enercon E48 turbines and 2 no. Enercon E44 turbines which have similar design specifications to the original design.

A Section 5 Request for Declaration on development and exempted development relating to turbine model was requested on the 8th June, 2016 and the Planning Authority declared that the proposed modification to the dimensions of permitted turbines at Dreenacreenig West, Drimoleague, Co. Cork is development and is exempted development under the provisions of Section 4, subsections (1) — (3) of the Planning & Development Act 2000, as amended (Ref D/19/16).

2.0 APPROPRIATE ASSESSMENT METHODOLOGY

2.1 REGULATORY CONTEXT

The Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora) formed a basis for the designation of Special Areas of Conservation (SACs). Similarly, Special Protection Areas are legislated for under the Birds Directive (Council Directive 79/409/EEC on the Conservation of Wild Birds). Collectively, SACs and SPAs are referred to as Natura 2000 sites. In general terms, they are considered to be of exceptional importance in terms of rare, endangered or vulnerable habitats and species within the European Community. Under Article 6(3) of the Habitats Directive an Appropriate Assessment must be undertaken for any plan or project that is likely to have a significant effect on the conservation objectives of a Natura 2000 site. An Appropriate Assessment is an evaluation of the potential impacts of a plan or project on the conservation objectives of a Natura 2000 site. Where necessary, mitigation or avoidance measures should be proposed to preclude negative effects.

Article 6, paragraphs 3 of the Habitats Directive state that:

“Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public”.

The statutory agency responsible for Natura 2000 sites is the National Parks and Wildlife Service of the Department of Environment, Heritage and Local Government.

The European Court of Justice issued a judgment on December 13th 2007 in a legal case against Ireland that found that Ireland failed in its statutory duty to confer adequate protection on designated areas. Following on from this the Circular Letter 1/08 & NPWS 1/08 on Appropriate Assessment of Land Use Plans (from the Department of the Environment, Heritage and Local Government) states that all plans and projects will be subject to critical assessment to ensure that they comply with all relevant legislation.

2.2 THE STAGES IN AN APPROPRIATE ASSESSMENT

There are 4 stages in an Appropriate Assessment as outlined in the European Commission Guidance document (2001). The following is a brief summary of these steps.

Stage 1 - Screening: This stage examines the likely effects of a project either alone or in combination with other projects could have on a Natura 2000 Site and considers whether it can be objectively concluded that these effects will not be significant.

Stage 2 - Appropriate Assessment: In this stage, the impact of the project on the integrity of the Natura 2000 site is considered with respect to the conservation objectives of the site and to its structure and function.

Stage 3 - Assessment of Alternative Solutions: Should the Appropriate Assessment determine that adverse impacts are likely upon a Natura 2000 site, this stage examines alternative ways of implementing the project that, where possible, it would avoid these adverse impacts.

Stage 4 - Assessment where no alternative solutions exist and where adverse impacts remain: Where imperative reasons of overriding public interest (IROPI) exist, an assessment to consider whether compensatory measures will or will not effectively offset the damage to the Natura site will be necessary.

As part of this Habitats Directive Screening Assessment, a desk based study of all Natura 2000 sites within the zone of influence of the proposed development is required.

2.3 DESK STUDY AND CONSULTATIONS

A desk study was carried out to collate the available information on the ecological environment. The National Parks and Wildlife Service (NPWS) database was consulted covering designated conservation areas, records of rare and protected plants and animal species in the vicinity of the proposed development. The National Biodiversity Data Centre (NBDC) website was also consulted. MapInfo GIS was used to illustrate the information.

This assessment was carried out with reference to the relevant guidance, in particular:

- *Assessment of Plans and Projects significantly affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*, European Commission 2001.
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats Directive' 92/43/EEC*, European Commission, 2000.
- *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government. Dublin. 2009.

3.0 DESCRIPTION OF NATURA SITES

The potential zone of influence currently recommended for plans, is a distance of 15km from the plan boundary and derives from UK guidance (Scott Wilson et al., 2006). For some projects, the distance could be much less than 15km, and in some cases less than 100m, but guidance advises that this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, the sensitivities of the ecological receptors, and the potential for in-combination effects¹.

The Natura 2000 sites within 15km of the proposed development are listed in Table 1 (SACs).

Site Code	Site Name	Qualifying Interests	Distance to the Natura 2000 site from the proposed Wind Farm
001873	Derryclogher (Knockboy) Bog SAC	<ul style="list-style-type: none"> • Blanket Bogs (Active)* [7130] 	12km North West
002171	Bandon River SAC	<ul style="list-style-type: none"> • Watercourses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] • Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) [91E0] • <i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029] • <i>Lampetra planeri</i> (Brook Lamprey) [1096] 	11.8km East

Table 1: Natura 2000 Special Areas of Conservation sites within 15km

There are Natura 2000 Special Protection Areas (SPA) sites within 15km of the proposed development

Please refer to Figure 1 for the Natura 2000 sites within 15 km radius of the proposed wind farm site.

Current guidance on undertaking Habitats Directive Assessments advises that all Natura 2000 Sites occurring within a 15km radius of the project site should be included within the

¹ National Parks and Wildlife Service. (2009). *Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities*. Department of Environment, Heritage and Local Government, Dublin, Ireland,

Screening Assessment. However, considering the nature, size and location of the project, it is unlikely that this proposed development will affect Natura 2000 Sites that are not hydrologically linked to, or occurring upstream of, the proposed development site. Please refer to Figure 2 for the surface water features in the vicinity of the proposed Dreenacreenig West Wind Farm.

If the proposed development site does not have the potential to impact on the qualifying Annex II species of the EU Habitats Directive or Annex I species of the EU Birds Directive of a Natura 2000 site or if the terrestrial qualifying habitats of the Natura 2000 sites occur at a remote distance from the proposed development site, (i.e. buffered from the proposed development site), then these Natura 2000 sites are not considered to be within the zone of influence of the proposed development.

Table 2 identifies the Natura 2000 sites within the 15km radius of the proposed development that could be considered to occur within the zone of influence.

Natura 2000 Site	Distance from Proposed Development	Hydrological Link	Potential to affect Qualifying Species of the Natura 2000 site	Are Qualifying Terrestrial Habitats sufficiently buffered from Direct/Indirect Impacts?	Considered within Zone of influence
Derryclogher (Knockboy) Bog SAC 001873	12km North West	No. The proposed development lies in the surface catchments of the Ilen and Mealagh rivers. No part of the Derryclogher (Knockboy) Bog SAC is within this catchment.	No.	Yes.	No.
Bandon River SAC 002171	11.8km East	No. The proposed development lies in the surface catchments of the Ilen and Mealagh rivers. No part of the Lower River Shannon cSAC is within this catchment.	No.	Yes.	No.

Table 2: Natura 2000 sites within the zone of influence

There are no Natura 2000 Special Protection Areas (SPA) sites within 15km of the proposed development. The proposed development lies within different water catchments to the Derryclogher (Knockboy) Bog SAC and the Bandon River SAC. Therefore, no Natura 2000 sites are considered to be within the zone of influence of the proposed development.

However, this report assesses the indirect potential impacts, if any, that the proposed development could have on any qualifying interests and conservation objectives of Natura 2000 sites in the area.

The northern part of the site drains via a tributary into the Mealagh River, which flows into the sea at Bantry. The southern part of the site is drained by a tributary of the Ilen River which flows into the sea to the west of Skibbereen.

The River Ilen is an important salmonid river and contains stocks of salmon and sea trout. The Mealagh and Ilen Rivers are both important salmon rivers providing suitable habitat for all age classes of Atlantic salmon. Tributaries of these rivers are also important for spawning and for juvenile fish. Good salmonid spawning habitat consists of a mix of cobbles, gravels and finer material, free of silt and detritus in fast flowing riffles, to ensure that there is an adequate flow of water and oxygen through the substrate.

Freshwater pearl mussel also exists within the Ilen system. The freshwater pearl mussel (*Margaritifera margaritifera*) (Annex II EU Habitats Directive) is present within the Ilen River and known to occur quite high up the river system (Moorkens consultation 2010). A tributary of the Ilen River runs along the southern boundary of the site. It is not known at present how high up the river system this species occurs.

Two streams which feed into the tributary of the Ilen River are also crossed by the proposed access road to the wind farm.

4.0 DESCRIPTION OF THE PROJECT

4.1 SITE LOCATION

The site is located approximately 12 km west of Dunmanway in the townland of Dreenacreenig West. An existing nine turbine wind farm, Milane Hill, is located just over 5km east south east of the proposed wind farm site.

The total site area is approximately 123.2 hectares and ranges in elevation from 200 m to 402 m OD (Malin Head). The site can be located on Discovery Series Map No. 85, at the approximate grid coordinates E 111,310 N 52,180.

4.2 DESCRIPTION OF THE PROPOSED DEVELOPMENT AND CONSTRUCTION METHODS

The development will comprise 5 no. Enercon E48 turbines and 2 no. Enercon E44 turbines, hardstandings, an electrical compound and substation building, borrow pit, associated site roads, drainage and site works. Refer to Figure 3 Site Layout Map.

The proposed construction is summarised as follows

- Site Entrance

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- Drainage System
 - Upgrade of Existing Road
 - Stream Crossing
 - Clear Felling of Coniferous Forestry
 - Borrow Pit
 - Crane Hardstands
 - Turbine Bases
 - Control Building
 - Cable Trenching
 - Grid Connection

4.1.1 Site Entrance

The existing site entrance which will be upgraded for this wind farm project.

It is also proposed to temporarily use an existing site entrance in the northern section of the site at the initial construction phase. The northern entrance will allow access to the borrow pit in the northern section of the site. This will enable the borrow pit to be used in the construction of the site roads. Once the road to the southern site entrance has been constructed all construction traffic will use this entrance.

4.1.2 Drainage System

The early establishment of temporary drainage facilities will reduce the risk of pollution problems during construction. In addition, construction operations should adopt best working practices.

The drainage measures proposed for this seven turbine development provide a surface water management regime that will mitigate any adverse impact on the hydrology of the site and surrounds during the construction phase of the project.

The following mitigation measures apply when working within the watercourses or in the vicinity of watercourses.

- Avoid construction near streams in wet weather, whenever possible.
- Stone will be of a local geochemistry i.e. be sourced from one of the nearby quarries.
- No concrete will be used in watercourses.
- Runoff from excavations will not be pumped directly to watercourses. Where dewatering of excavations is required, water shall be pumped to the head of a settlement system (drain or

concrete sump in the case of turbine bases) in order to receive full settlement prior to re-entry to the natural drainage system.

- At water crossings, where construction will be carried out within the 50m buffer around watercourses, best practice construction methods will be used to protect the watercourses, such as silt fencing and silt bags. Tool box talks will be given to all staff on the importance of maintaining water quality. Small working areas will be used for better control of sedimentation and all works in these areas will cease during periods of high precipitation and any bare soil will be covered.

All drains and streams on and in the vicinity of the proposed development site have been surveyed in detail. By incorporating a SuDS design, all surface water run-off shall be strictly controlled such that no silt or other pollutants enter watercourses and that no artificially elevated levels of downstream siltation or no plumes of silt arise when substratum is disturbed. The drainage design adopts the following temporary works during the construction phase:

- Open Constructed Settlement Channels for development run-off
- Infiltration Interception Drains for upslope “*clean*” water
- Filtration Check Dams to reduce velocities along steeper slopes
- Settlement Ponds/Lagoon-type sediment traps and Buffered Outfalls to control and store development runoff to encourage settlement prior to discharge.
- Greenfield Runoff for the site will not be exceeded and settlement ponds have been designed to ensure that the capacity is adequate to achieve this.

In areas of steep slope, tracks will be constructed with an appropriate surface cross slope so as to ensure all storm water flow will be directed towards the constructed roadside drains. The flow will then be directed through filtration check dams and settlement ponds before being discharged into green-field areas.

An outline Water Quality Monitoring Plan has been prepared which outlines the proposed storm water monitoring locations and frequency of monitoring for the construction phase of the development.

4.1.3 Upgrade of Existing Tracks

It is proposed to utilise an existing track as much as possible. This will require the track to be upgraded and widened from c. 3.5m to 4.5m. It is considered that the current site track formation level is adequate to support required construction plant bearing. Plate bearing tests will be carried out prior to construction to confirm this. The soil in the existing road verge will be excavated down to a suitable formation level of rock and the spoil deposited in the roadside berms. Well-graded granular fill will be placed and compacted in layers to provide a homogeneous running surface. The thickness of layers and amount of compaction required will be decided by the Site Engineer based on the characteristics of the material and the compaction plant to be used. These make up layers of granular fill will finish at the same level as the top of the existing road surface, this will form the base course of the site roads. A layer of finer well graded stone for the wearing course will be imported from a local quarry and laid on widened base course.

4.1.4 Site Roads

All site tracks have been designed taking account of the loadings provided by the turbine manufacturer, and will consist of a compacted stone structure

The road will be constructed by excavating the soil to a suitable formation level, i.e. the bedrock, and building the road to the required level using excavated rock from the onsite borrow pit.

There will be two crossing of a natural watercourse, these will be crossed by free spanning bridges which will avoid any disruption of the stream, banks or bed of the drainage channel

All soil will be excavated down to a suitable formation level and the spoil deposited in roadside verges.

4.1.5 Stream Crossing

Two new stream crossings are proposed as part of the development along the southern access road from the site entrance. The streams are approximately 500mm wide. The streams will be crossed via a free spanning bridge rather than piped in order to prevent potential impacts to the aquatic species in the Ilen River. By bridging the watercourses no part of the stream bed or banks will be disturbed minimising the movement of suspended solids. Works in the vicinity of watercourses will be kept to a minimum and will be closely monitored. The final detailed design of each of the crossing points will be discussed and agreed with Inland Fisheries Ireland. The designs may be subject to Section 50 authorisation from the OPW.

4.1.6 Clear Felling of Coniferous Plantation

It is expected that a small amount of the existing coniferous plantation forestry will be felled to allow for development of the proposed wind farm infrastructure. The large distance between proposed felling areas and sensitive aquatic zones means that potential poor quality runoff from felling areas can be adequately managed and attenuated prior to even reaching the aquatic buffer zone and primary drainage routes. Where tree felling is required in the vicinity of streams, the following additional mitigation measures will be employed.

- During the wind farm construction phase a self-imposed buffer zone of 50m will be maintained for all streams where possible.
- Machine combinations will be chosen which are most suitable for ground conditions at the time of felling, and which will minimise soils disturbance;
- Checking and maintenance of roads and culverts will be on-going through any felling operation. No tracking of vehicle through watercourses will occur, as vehicles will use road infrastructure and watercourse crossing points. Where possible, existing drains will not be disturbed during felling works;
- Drainage channels which drain from the area to be felled towards surface watercourses will be blocked, and temporary silt traps will be constructed. No direct discharge of such drains to watercourses will occur. Drains and sediment traps should be installed during ground preparation. Collector drains will be excavated at an acute angle to the contour (0.3%-3% gradient), to minimise flow velocities. Main drains to take the discharge from collector drains must be provided with water drops and rock armour where there are steep gradients, and should avoid being placed at right angles to the contour;

-
- Sediment traps will be sited outside of buffer zones and will have no direct outflow into the aquatic zone. Machine access will be maintained to enable the accumulated sediment to be excavated. Sediment will be carefully disposed of away from all aquatic zones. Where possible, all new silt traps will be constructed on even ground and not on sloping ground;
 - In areas particularly sensitive to erosion, it may be necessary to install double or triple sediment traps, lagoon-type sediment trap and disturbed sediment entrainment mats;
 - All drainage channels will taper out before entering the aquatic buffer zone. This ensures that discharged water gently fans out over the buffer zone before entering the aquatic zone, with sediment filtered out from the flow by ground vegetation within the zone. On erodible soils silt traps will be installed at the end of the drainage channels to the outside of the buffer zone;
 - Drains and silt traps will be maintained throughout all felling works, ensuring that they are clear of sediment build-up and are not severely eroded. Correct drain alignment, spacing and depth will ensure that erosion and sediment build-up are minimised and controlled;
 - Brash mats will be used to support vehicles on soft ground, reducing peat and mineral soils erosion and avoiding the formation of rutted areas, in which surface water ponding can occur. Brash mat renewal should take place when they become heavily used and worn. Provision should be made for brash mats along all off-road routes, to protect the soil from compaction and rutting. Where there is risk of severe erosion occurring, extraction should be suspended during periods of high rainfall;
 - Timber will be stacked in dry areas, and outside a local 50m stream buffer zone. Straw bales and check dams to be emplaced on the down gradient side of timber storage/processing sites;
 - Works should be carried out during periods of no, or low rainfall, in order to minimise entrainment of exposed sediment in surface water run-off;
 - Checking and maintenance of roads and culverts will be on-going through the felling operation;
 - Refuelling or maintaining machinery will not be permitted within 50m of an aquatic zone. Dedicated refuelling areas will be used during the felling works; and,
 - Branches, logs or debris will be prohibited to build up in aquatic zones. All such material will be removed when harvesting operations have been completed, but avoid removing natural debris deflectors.

4.1.7 Borrow Pit

One borrow pit with an area of 3,200 m² has been identified. There is an unknown depth of mineral subsoil present at this location. This location has been previously used as a borrow pit for the existing internal roads. Some of the exposed bedrock will have to be broken out to facilitate the access of construction traffic. This material will be used for the construction of the access roads, hardstands etc. along with the material from the borrow pit.

Following the overall construction of the wind farm infrastructure i.e. site road and hardstanding the borrow pit will be used for the disposal of excavated peat. The borrow pit areas will be able to be reinstated with approximately 3,200 m³ of peat at a depth of 1 m.

4.1.8 Crane Hardstands

Hardstand formation pads be constructed with excavated road and the design will be established following site investigation. The crane hardstands will be typically 43m x 15m.

The crane hardstands will be constructed in a similar design manner as the site roads.

4.1.9 Turbine Bases

It is anticipated that the formation level of the turbine foundations will be the underlying bedrock. Site investigation confirms that the turbines are located in areas of exposed bedrock or shallow peat (<0.35m deep) overlying bed rock. Bases will typically measure approximately 10.5 metres radius.

Where practicable the turf will be stripped over the area of the excavation and stored locally for reuse, the vegetable soil will be excavated and stored to one side for reuse during the landscaping around the finished turbine. No material will be removed from site and storage areas will be stripped of vegetation prior to stockpiling in line with best working practises.

4.1.10 Control Building

The proposed control building will measure approximately 17.13 m x 8.83 m.

4.1.11 Cable Trenching

The transformer in each turbine will be connected to the substation through a network of buried electrical cables. The top layer of soil is removed and saved so that it is replaced on completion. The cables are bedded with suitable stone material unless the ground conditions are such that no bedding is required. On completion the ground will be reinstated as previously described above. On decommissioning the cables will be cut away below ground level and sealed.

4.1.12 Grid Connection

A proposed 20kV overhead line (OHL) will connect the Dreenacreenig West Wind Farm to an existing 110kV substation at Ballylickey in County Cork.

An Appropriate Assessment Screening report was prepared by ESB International in May 2016, to determine whether the proposed 20kV overhead line between the Wind Farm and Ballylickey substation was likely to have significant effects on any Natura 2000 sites within the zone of impact of the proposed development.

The screening process examined the details of the overhead line and considered the risk and significance of potential impacts to Glengarriff Harbour and Woodland SAC, Derryclogher (Knockboy) Bog SAC and Caha Mountains SAC.

The examination showed that the proposed overhead line would not have any significant impacts on these Natura 2000 sites, or on their Qualifying Interests in light of their respective Conservation Objectives. Cumulative effects with other plans or projects were also expected to be non-existent.

The screening process of the OHL concluded that the project alone, or in-combination with other projects would not have any significant direct or indirect adverse impacts on Glengarriff Harbour and Woodland SAC, Derryclogher (Knockboy) Bog SAC or Caha Mountains SAC and a Stage 2 Appropriate Assessment was not considered necessary.

The Glengarriff Harbour and Woodland SAC and Caha Mountains SAC are outside the zone of influence of the proposed wind farm development. The proposed wind farm development lies in the surface catchments of the Ilen and Mealagh rivers. No part of the Derryclogher (Knockboy) Bog SAC is within this catchment and it is considered outside the zone of influence of the proposed wind farm development.

4.3 Other Developments in the area

The permitted Barrboy Wind Farm is located approximately 2 km north east of the proposed Dreenacreenig West Wind Farm site. It will consist of 5 turbines with a hub height 46m and a rotor diameter of 62m.

4.4 Freshwater Pearl Mussel

The proposed wind farm development is within a Freshwater pearl mussel catchment of other extant populations according to a Margaritifera Sensitive Area map published by the NPWS in February 2013. Evelyn Moorkens, an invertebrate specialist was consulted in relation to protected invertebrate species as part of the Environmental Impact Assessment for the wind farm. The freshwater pearl mussel (is present within the Ilen River and known to occur quite high up the river system (Moorkens consultation 2010).

A tributary of the Ilen River runs along the southern boundary of the site. Two streams which feed into the tributary of the Ilen River are crossed by the access road and a free spanning bridge rather will be utilised in order to prevent potential impacts to the freshwater pearl mussel. By bridging the watercourses no part of the stream bed or banks will be disturbed minimising the movement of suspended solids. Works in the vicinity of watercourses will be kept to a minimum and will be closely monitored. The construction of the wind farm has the potential to cause sedimentation and pollution to surface waters. However, the construction design will be to the highest standards, incorporating best practice methods, such that no sedimentation or pollution to surface waters will occur. Refer to Section 4.6 Best Practice Construction Methods.

4.5 Molluscs

The Environmental Impact Statement ecology chapter for the Dreenacreenig West Wind Farm was prepared by Natura Environmental Consultants in 2010 who concluded that there was suitable habitat within the proposed development area for two protected species namely, the Kerry slug *Geomalacus maculosus* and the Geyer's Whorl snail *Vertigo geyeri*. Subsequent to the submission of the Environmental Impact Statement for the proposed wind farm in December 2010 an independent survey for these two species was requested by Cork County Council as part of a Further Information Request. DixonBrosnan Environmental Consultants conduct this survey in May 2011.

The results found that the Kerry slug species was not found within the footprint of the proposed wind farm. This was possibly due to the historical or recent land usage pattern i.e. overgrazing, burning etc or due to environmental variables i.e. temperature, moisture levels, food availability etc. In the absence of any recordings for the Kerry Slug species within the proposed footprint of the wind farm, no impact on this species is expected to occur as a result of these development works. Whilst the presence of the species in this general area could not be completely precluded, no evidence of the species was recorded on the areas of the proposed development which were surveyed. Thus no further surveys or mitigation measures were therefore considered necessary.

The Geyer's whorl snail species are generally associated with calcareous springs and flushes which are absent from this site, which is situated on a bedrock of old red sandstone. Calcareous springs and flushes remain wet through an upwelling of water, whereas springs and flushes within old red sandstone are more associated with depressions in the geology and are more prone to desiccation. Also, the conditions within the proposed wind farm site area do not support most of the plants consumed by the species. Under the circumstances it is unlikely that the species would occur and no evidence of its presence was recorded. No impact on this species is expected to occur and no further surveys or mitigation measures were considered necessary.

4.6 BEST PRACTICE CONSTRUCTION METHODS

The proposed works will include a requirement for a Construction Methodology Statement and Construction Management Plan to be prepared, outlining best practice construction methods to be used in order to protect the environment.

The construction of the wind farm has the potential to cause sedimentation and pollution to surface waters. However, the construction design will be to the highest standards, incorporating best practice methods, such that no sedimentation or pollution to surface waters will occur.

The following is a list of times which will be addressed within the Construction Management Plan covering best practice required within the development of this project.

- Site drainage and associated pollution control measures shall be implemented on site before the main body of construction activity commences. Where possible drainage control should be installed during seasonally dry ground conditions.
- Drainage outfall will be via indirect buffered outfalls to surface watercourses or onto the bog surface. The drains end by fanning out onto the surrounding vegetation via tapering drains. The tapering drain end should contain hard core material (of local baseline geochemistry) to entrap suspended sediment.
- In addition, these outfalls promote sediment percolation through vegetation in the buffer zone, reducing sediment loading to any adjacent water courses and avoiding direct discharge to the watercourse. A minimum buffer width of 50 m will be imposed between the end of the drain fan and water courses.
- Buffer widths should be designed in line with Forestry Commission Guidelines (Ref. 13, 15) on protection of water courses during forestry operations and management. This method buffers the larger volumes of runoff discharging from the drainage system during periods of high precipitation, reducing the hydraulic loading to water courses and reducing suspended sediment load to surface water courses. Note that any imported hard core or drain material should be of a comparable geochemistry to that at the site, to minimise changes in hydrochemistry.
- Stilling ponds should buffer the larger volumes of run-off discharging from the drainage system during periods of high precipitation, by retaining water, thus reducing the hydraulic loading to watercourses. Stilling ponds should be designed to reduce flow velocity to 0.3 m/s at which velocity silt settlement generally occurs. This reduces the suspended sediment and associated nutrient loading to surface water courses and mitigates potential impacts on plant and animal ecologies.

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- There will be a large number of drainage outfalls, discharging either indirectly to surface watercourses or into appropriate wetland habitats via stilling ponds and buffered fanned drains. Discharging at regular intervals mimics the natural hydrology by encouraging percolation and by decreasing individual hydraulic loadings from one discharge point.
 - Monitoring of streams and drains will be carried out on a regular basis during the construction phase so that construction works are not significantly impacting on existing streams/drains or watercourses down gradient of the site.
 - Any clearance of vegetation will be avoided during the breeding bird period 1st March to the 31st of August.
 - On site refuelling of machinery will be carried out using a mobile double skinned fuel bowser. The fuel bowser, a double-axel custom-built re-fuelling trailer will be filled off site, and will be towed around the site by a 4x4 jeep to where machinery is located. The 4x4 jeep will also carry fuel absorbent material and pads in the event of any accidental spillages. The fuel bowser will be parked on a level area in the construction compound when not in use and 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;
 - Fuels stored on site will be minimised. Any storage areas will be bunded appropriately for the fuel storage volume for the time period of the construction;
 - The electrical control building shall be bunded appropriately to the volume of oils likely to be stored, and to prevent leakage of any associated chemicals and to groundwater or surface water. The bunded area will be fitted with a storm drainage system and an appropriate oil interceptor;
 - The plant used shall be regularly inspected for leaks and fitness for purpose; and, An Emergency Reponses Plan for the construction phase to deal with accidental spillages will be in place to deal with accidental spillages.
 - The offices, canteen, drying room, toilets and all temporary storage containers will be removed from site at the end of the construction period. The hardcored area will be removed and the area reinstated by adding further layers of peat and topsoil.
 - Wastewater from sanitation facilities will be mitigated by use of temporary and portable sanitary facilities that are self-contained. These facilities will not interact with the existing hydrological environment in any way and they will be maintained, serviced and removed from site at the end of the construction phase.
 - All vehicles visiting the site will be refuelled off site during the operational phase.
 - The use of sedimentary rocks, such as shale, in road construction should be avoided.
 - Minimum removal of vegetation will take place so as to reduce the area of exposed bare peat. When the foundations for turbines are being excavated, the surface vegetation will be removed in sods which can be stored (vegetation side up) and later replaced around the foundation platform where bare peat exists. This will ensure a more rapid revegetation of bare peat and will help reduce potential soil erosion which could lead to water pollution.

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- Excavated peat from turbine and road foundations will not be stored on areas of heath, bog or near streams or drains. The placing of soils on adjacent ground should not be permitted unless the area has been the subject of an in-depth risk assessment.
 - Temporary soil stockpiling operations will only be carried out in confined areas and soils should be vegetated with suitable plants in order to promote stability. If, during excavation, spoil is likely to fall on to adjacent habitats, shuttering boards or geotextile will be used to protect surface vegetation
 - Leachate from stockpiles will be treated appropriately and will not drain directly into natural watercourses. Cement leachate, hydrocarbon oils and other toxic poisonous materials will require full containment and will not be permitted to discharge to any waters.
 - The final detailed design of each of the crossing points will be discussed and agreed with Inland Fisheries Ireland. The designs may be subject to Section 50 authorisation from the OPW.
 - Any watercourses with connections to the Ilen River, which are to be crossed as a result of the proposed development, will be crossed via a free spanning bridge rather than culverted in order to prevent potential impacts to the freshwater pearl mussel. By bridging the watercourses no part of the stream bed or banks will be disturbed minimising the movement of suspended solids. Works in the vicinity of watercourses will be kept to a minimum and will be closely monitored.
 - Detailed Site Investigations have been carried out, however, the potential for Peat Slide will be monitored regularly during the construction works, by means of regular site visits and assessments by the Resident and Site Engineers as well as monitoring of all rock breaking activities and survey areas for indicators of soil / peat movement / slide with the appropriate remedial action taken.
 - All site excavations and construction will be supervised by a Geotechnical Engineer/Engineering Geologist.
 - The borrow pit areas and extraction methodology will be reviewed by a Geotechnical Engineer prior to construction.
 - The Borrow Pits will be re-instated with excess peat generated from the wind farm construction. This will allow for regeneration of the natural habitat. By using the uppermost layer (acrotelm layer < 0/3 m) from the excavated peat as the top layer of the re-instated peat, re-vegetation of the area should be accelerated which will also accelerate the stabilisation of the re-instated peat.
 - Borrow Pit excavations have the potential to undermine the up-slope component of the existing peat surface and / or unstable subsoil slope. This should be sufficiently supported by buttress, frame or rampart to resist lateral slippage.
 - Within the borrow pit pore water pressure should be kept low at all times and careful attention should be given to the existing local drainage and how the development of the borrow pit might affect it. In particular, ponding of water should not be allowed to occur in excavations. All deliberate or incidental sumps must be drained to carry water away from the sump following rainfall. Prior to excavation, drains should be established to effectively drain grounds before earthworks commence. The drains should be positioned at an oblique angle to slope contours to provide for ground stability.

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- Prior to site excavation, drains should be established to effectively control ground water before earthworks commence. Such drains should be positioned at an oblique angle to slope contours to provide for ground stability.
 - An oil interceptor will be located on the inner perimeter of the borrow pit drainage system to capture accidental hydrocarbon leaks from construction plant within the borrow pit. This is a precaution due to the expected intensity of plant operations within the borrow pit area. Blasting of bedrock will not be carried out in the borrow pit.
 - Biosecurity measures will be undertaken to prevent the importation of invasive species from contaminated areas into the wind farm site. Any construction vehicles coming from known contaminated areas will be required to be completely hosed down and inspected to eliminate the possibility of further spreading of the invasive species. Should the importation of materials be required as part of the development, the source of the materials will be inspected to prevent soils from contaminated areas being imported. All stream crossings and instream works will be carried out in such a way as to prevent further spreading of invasive species along watercourses.

4.7 ASSESSMENT OF POTENTIAL IMPACTS TO NATURA 2000 SITES

The construction of the wind farm has the potential to cause sedimentation and pollution to the local natural watercourses. The excavation of peat along the southern slopes of the site for the new access road will could result in peat slippage, which could have very significant impacts to the freshwater pearl mussel and Atlantic salmon in the Ilen River.

Two streams which feed into the tributary of the Ilen River are crossed by the access road and a free spanning bridge rather will be utilised in order to prevent potential impacts to the freshwater pearl mussel. By bridging the watercourses no part of the stream bed or banks will be disturbed minimising the movement of suspended solids. Works in the vicinity of watercourses will be kept to a minimum and will be closely monitored.

The northern part of the site drains into a tributary of the Mealagh River, therefore there is potential for the proposed development to indirectly impact Atlantic salmon which occur within the Mealagh catchment. The existing borrow bit, which will be extended is located along an existing track within the area of coniferous plantation in the north of the site. Trackways can act like conduits especially if located on a gradient. Run-off from excavated peat stored in the borrow pit could potentially cause siltation in the Mealagh River which could adversely impact on salmonids.

However, Geotechnical assessments carried out by Minerex for the Environmental Impact Assessment in 2010 indicated stable baseline peat / ground conditions at the turbine locations and access roads locations. Further detailed Site Investigations have been carried out prior to construction and standard pollution control measures will be strictly enforced during construction to prevent potential polluting substances from entering these drains and perhaps affecting water quality further downstream of the site.

There are no Natura 2000 sites considered to be within the zone of influence of the proposed development. Therefore, due to the distance of the proposed wind farm development from the Natura 2000 site and the use of best practice construction methods, such that no sedimentation or pollution to surface waters will occur and no indirect impacts to any Natura 2000 sites are envisaged.

5.0 CONCLUSION

There are no Natura 2000 sites considered to be within the zone of influence of the proposed development. Therefore, due to the distance from the Natura 2000 site and the use of best practice construction methods, no indirect impacts to any Natura 2000 sites are envisaged.

The construction design of the wind farm will be to the highest standards, incorporating best practice methods, such that no sedimentation or pollution to surface waters will occur.

Therefore, no significant adverse effects directly or indirectly will occur on the integrity of the Natura 2000 sites as a result of the proposed construction and operation of the works.

Therefore, it is not necessary to carry out a Stage 2 Appropriate Assessment.

6.0 SCREENING MATRIX

Below is a Screening Matrix for the Dreenacreenig West Wind Farm.

The screening covers all SAC's and SPA's within the zone of influence of the proposed works.

Stage 1. Screening	
1. Description of the project or plan	
Location	Dreenacreenig West, Dimoleague, Co. Cork.
Distance from designated SAC sites	<ul style="list-style-type: none"> • 001873, Derryclogher (Knockboy) Bog SAC, 12km North West of the proposed wind farm site • 002171, Bandon River SAC, 11.8km East of the proposed wind farm site
Distance from designated SPA sites	There are no Natura 2000 Special Protection Areas (SPA) sites within 15km of the proposed development
Brief description of the project or plan	Dreenacreenig West Wind Farm will consist of seven electricity generating wind turbines with a hub height of up to 55 metres and a rotor diameter of up to 52 metres, an Electrical Compound, Sub-Station Building, Four Car Parking Spaces, Borrow Pit, Associated Site Roads and Site Works in the townland of Dreenacreenig West, 5 kilometres north of Dimoleague, Co. Cork.
Brief description of other existing developments in the area	The permitted Barrboy Wind Farm is located approximately 2 km north east of the proposed Dreenacreenig West Wind Farm site. It will consist of 5 turbines with a hub height 46m and a rotor diameter of 62m.
Is plan directly connected with or necessary to the Natura 2000 site management for nature conservation?	No.
2. Brief Description of the Natura 2000 sites	
Name	Derryclogher (Knockboy) Bog SAC
Site designation status	Special Area of Conservation (SAC) Site Code [001873]
Basis	EU Habitats Directive (92/43/EEC)
Natura 2000 Site description	<p>Situated on the south-eastern slopes of Knockboy Mountain (707m) this site contains the headwaters of the Cumberdarrig River and the Derryduff Stream which flow east and south to the head of Bantry Bay. The site is an undulating complex of blanket bogs, heath, upland grassland and rock outcrops. Small loughs and numerous streams are a feature. Most of the bogs are small (1-3 ha) but they occur with a regularity on a series of gently sloping shelves across the mountain side. <i>Lagopus lagopus</i> occurs on site. Sheep grazing occurs but at a low density - otherwise there are no landuse activities.</p> <p>A fine example of a mountain blanket bog which occurs in association with other upland habitats. The site is apparently intact and is largely untouched by anthropogenic influences.</p>
Unit size	1712.96 ha
Qualifying Interest	<ul style="list-style-type: none"> • Blanket Bogs (Active)* [7130]

(habitats)	
Conservation Objectives	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.
Name	Bandon River SAC
Site designation status	Special Area of Conservation (SAC) Site Code [002171]
Basis	EU Habitats Directive (92/43/EEC)
Natura 2000 Site description	Geologically, the predominant rock formations are Old Red Sandstone to the North with Carboniferous slate in the southern half of the site. The northern section of the site is dominated by a mosaic of exposed rock, heath, upland wet grassland and scrub with small pockets of improved grassland throughout. The area below Long Bridge supports a rare form of wet woodlands on braided channel edges and islands. The southern section of the site has been reclaimed into grassland. The site is important as it contains the Annex I priority habitat Alluvial Forests and the Annex I habitat Floating River Vegetation. The Annex I Bird - Alcedo atthis breeds within the site as do the Annex I animal species Lampetra planeri, and Margaritifera margaritifera. Water quality is very good and the site supports a large population of Margaritifera margaritifera. Cork Co. Council are considering designating the Bandon a salmonid River.
Unit size	321.26 ha.
Qualifying Interest (habitats)	<ul style="list-style-type: none"> Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]
Qualifying Interest (species)	<ul style="list-style-type: none"> Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Lampetra planeri (Brook Lamprey) [1096]
Conservation Objectives	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.

3. Description of the construction phase

<p>3. Describe the individual elements of the plan (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 sites.</p>	<p>There are no Natura 2000 sites considered to be within the zone of influence of the proposed development. Therefore, due to the distance from the Natura 2000 site and the use of best practice construction methods, no indirect impacts to any Natura 2000 sites are envisaged.</p> <p>Construction Phase The construction of the Dreenacreenig West Wind Farm has the potential to cause sedimentation and pollution to local watercourses and have a subsequent adverse indirect impact on Natura 2000 sites.</p> <p>However, with the use of best practice construction methods, it is envisaged that potential impacts to the qualifying interests of the Natura 2000 site is highly unlikely.</p> <p>The proposed works requirements will include a requirement for a Construction Methodology Statement and Construction Management Plan to be prepared, outlining best practice construction methods to</p>
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	<p>be used and in order to protect the environment.</p> <p>The construction of the wind farm has the potential to cause sedimentation and pollution to surface waters. However, the construction design will be to the highest standards, incorporating best practice methods, such that no sedimentation or pollution to surface waters will occur.</p> <p>The following is a list of times which will be addressed within the Construction Management Plan covering best practice required within the development of this project.</p> <ul style="list-style-type: none"> • Site drainage and associated pollution control measures shall be implemented on site before the main body of construction activity commences. Where possible drainage control should be installed during seasonally dry ground conditions. • Drainage outfall will be via indirect buffered outfalls to surface watercourses or onto the bog surface. The drains end by fanning out onto the surrounding vegetation via tapering drains. The tapering drain end should contain hard core material (of local baseline geochemistry) to entrap suspended sediment. • In addition, these outfalls promote sediment percolation through vegetation in the buffer zone, reducing sediment loading to any adjacent water courses and avoiding direct discharge to the watercourse. A minimum buffer width of 50 m will be imposed between the end of the drain fan and water courses. • Buffer widths should be designed in line with Forestry Commission Guidelines (Ref. 13, 15) on protection of water courses during forestry operations and management. This method buffers the larger volumes of runoff discharging from the drainage system during periods of high precipitation, reducing the hydraulic loading to water courses and reducing suspended sediment load to surface water courses. Note that any imported hard core or drain material should be of a comparable geochemistry to that at the site, to minimise changes in hydrochemistry. • Stilling ponds should buffer the larger volumes of run-off discharging from the drainage system during periods of high precipitation, by retaining water, thus reducing the hydraulic loading to watercourses. Stilling ponds should be designed to reduce flow velocity to 0.3 m/s at which velocity silt settlement generally occurs. This reduces the suspended sediment and associated nutrient loading to surface water courses and mitigates potential impacts on plant and animal ecologies. • There will be a large number of drainage outfalls, discharging either indirectly to surface watercourses or into appropriate wetland habitats via stilling ponds and buffered fanned drains. Discharging at regular intervals mimics the natural hydrology by encouraging percolation and by decreasing individual hydraulic loadings from one discharge point.
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	<ul style="list-style-type: none"> • Monitoring of streams and drains will be carried out on a regular basis during the construction phase so that construction works are not significantly impacting on existing streams/drains or watercourses down gradient of the site. • Any clearance of vegetation will be avoided during the breeding bird period 1st March to the 31st of August. • On site refuelling of machinery will be carried out using a mobile double skinned fuel bowser. The fuel bowser, a double-axel custom-built re-fuelling trailer will be filled off site, and will be towed around the site by a 4x4 jeep to where machinery is located. The 4x4 jeep will also carry fuel absorbent material and pads in the event of any accidental spillages. The fuel bowser will be parked on a level area in the construction compound when not in use and 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; • Fuels stored on site will be minimised. Any storage areas will be bunded appropriately for the fuel storage volume for the time period of the construction; • The electrical control building shall be bunded appropriately to the volume of oils likely to be stored, and to prevent leakage of any associated chemicals and to groundwater or surface water. The bunded area will be fitted with a storm drainage system and an appropriate oil interceptor; • The plant used shall be regularly inspected for leaks and fitness for purpose; and, An Emergency Reponses Plan for the construction phase to deal with accidental spillages will be in place to deal with accidental spillages. • The offices, canteen, drying room, toilets and all temporary storage containers will be removed from site at the end of the construction period. The hardcored area will be removed and the area reinstated by adding further layers of peat and topsoil. • Wastewater from sanitation facilities will be mitigated by use of temporary and portable sanitary facilities that are self-contained. These facilities will not interact with the existing hydrological environment in any way and they will be maintained, serviced and removed from site at the end of the construction phase. • The use of sedimentary rocks, such as shale, in road construction should be avoided. • Minimum removal of vegetation will take place so as to reduce the area of exposed bare peat. When the foundations for turbines are being excavated, the surface vegetation will be removed in sods which can be stored (vegetation side up) and later replaced around the foundation platform where bare peat exists. This will ensure a more rapid revegetation of bare peat and will help reduce potential soil erosion which could lead to water pollution. • Excavated peat from turbine and road foundations will not be stored on areas of heath, bog or near streams or drains. The
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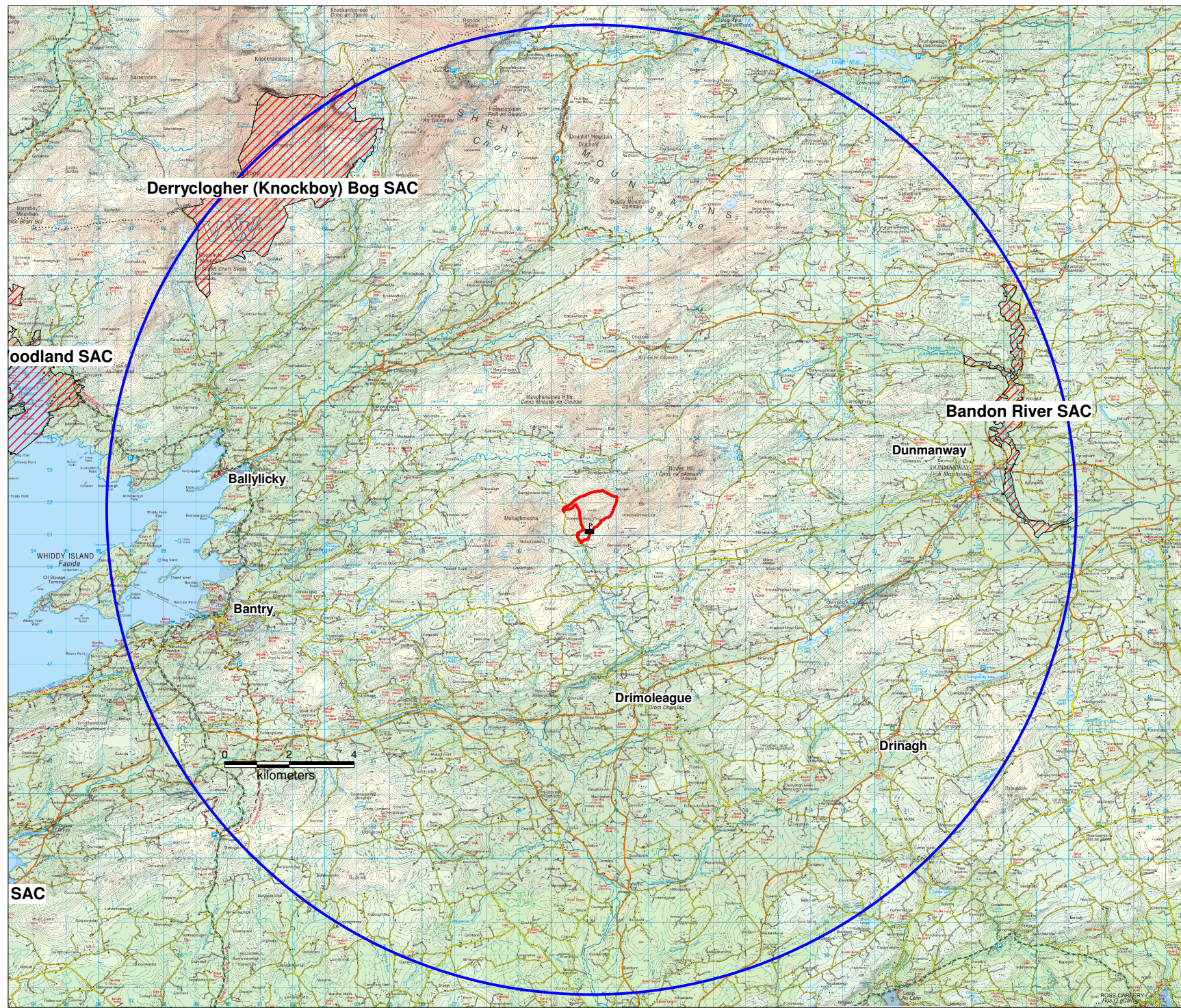
	<p>placing of soils on adjacent ground should not be permitted unless the area has been the subject of an in-depth risk assessment.</p> <ul style="list-style-type: none"> • Temporary soil stockpiling operations will only be carried out in confined areas and soils should be vegetated with suitable plants in order to promote stability. If, during excavation, spoil is likely to fall on to adjacent habitats, shuttering boards or geotextile will be used to protect surface vegetation • Leachate from stockpiles will be treated appropriately and will not drain directly into natural watercourses. Cement leachate, hydrocarbon oils and other toxic poisonous materials will require full containment and will not be permitted to discharge to any waters. • The final detailed design of each of the crossing points will be discussed and agreed with Inland Fisheries Ireland. The designs may be subject to Section 50 authorisation from the OPW. • Any watercourses with connections to the Ilen River, which are to be crossed as a result of the proposed development, will be crossed via a free spanning bridge rather than culverted in order to prevent potential impacts to the freshwater pearl mussel. By bridging the watercourses no part of the stream bed or banks will be disturbed minimising the movement of suspended solids. Works in the vicinity of watercourses will be kept to a minimum and will be closely monitored. • All site excavations and construction will be supervised by a Geotechnical Engineer/Engineering Geologist. • The borrow pit areas and extraction methodology will be reviewed by a Geotechnical Engineer prior to construction. • The Borrow Pits will be re-instated with excess peat generated from the wind farm construction. This will allow for regeneration of the natural habitat. By using the uppermost layer (acrotelm layer < 0/3 m) from the excavated peat as the top layer of the re-instated peat, re-vegetation of the area should be accelerated which will also accelerate the stabilisation of the re-instated peat. • Borrow Pit excavations have the potential to undermine the up-slope component of the existing peat surface and / or unstable subsoil slope. This should be sufficiently supported by buttress, frame or rampart to resist lateral slippage. • Within the borrow pit pore water pressure should be kept low at all times and careful attention should be given to the existing local drainage and how the development of the borrow pit might affect it. In particular, ponding of water should not be allowed to occur in excavations. All deliberate or incidental sumps must be drained to carry water away from the sump following rainfall. Prior to excavation, drains should be established to effectively drain grounds before earthworks commence. The drains should be positioned at an oblique angle to slope contours to provide for ground stability. • Prior to site excavation, drains should be established to
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	<p>effectively control ground water before earthworks commence. Such drains should be positioned at an oblique angle to slope contours to provide for ground stability.</p> <ul style="list-style-type: none"> • An oil interceptor will be located on the inner perimeter of the borrow pit drainage system to capture accidental hydrocarbon leaks from construction plant within the borrow pit. This is a precaution due to the expected intensity of plant operations within the borrow pit area. Blasting of bedrock will not be carried out in the borrow pit. • Biosecurity measures will be undertaken to prevent the importation of invasive species from contaminated areas into the wind farm site. Any construction vehicles coming from known contaminated areas will be required to be completely hosed down and inspected to eliminate the possibility of further spreading of the invasive species. Should the importation of materials be required as part of the development, the source of the materials will be inspected to prevent soils from contaminated areas being imported. All stream crossings and instream works will be carried out in such a way as to prevent further spreading of invasive species along watercourses. <p>Operational phase</p> <p>No potential impacts to any Natura 2000 sites are envisaged during the operational phase of the proposed development.</p>
<p>4. Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of: Size and scale; Land-take; Distance from Natura 2000 site or key features of the site; Resource requirements; Emissions; Excavation requirements; Transportation requirements; Duration of construction, operation etc.; Others.</p>	<p>There will be no direct habitat loss within any of the Natura 2000 sites listed above.</p> <p>No impacts are envisaged on any of the Natura 2000 sites. The proposed works requirements will include a requirement for a Construction Methodology Statement and Construction Management Plan to be prepared, outlining best practice construction methods to be used and in order to protect the environment.</p> <p>No impacts on any other European Sites as a result of the size and scale of the proposed wind farm are anticipated.</p>
<p>5. Describe any likely changes to the site arising as a result of: Reduction of habitat area; Disturbance of key species; Habitat or species fragmentation; Reduction in species density; Changes in key indicators of</p>	<p>No changes are envisaged to any of the Natura 2000 sites as a result of the proposed development.</p> <p>There will be no reduction in Habitat Area.</p> <p>There will be no disturbance to key species.</p>

<p>conservation value; Climate change.</p>	<p>There will be no habitat or species fragmentation.</p> <p>There will be no reduction in special density.</p> <p>There will be no changes to key indicators of conservation value, as a result of the proposed development.</p> <p>The Dreenacreenig West Wind Farm will have no adverse impact on the quality of air and climate in the locality. The indirect effects of substitution of fossil fuel burning and reduced emissions of atmospheric pollutants are major and positive.</p>
<p>6. Describe any likely impacts on the Natura 2000 site as a whole in terms of: Interference with the key relationships that define the structure of the site; Interference with key relationships that define the function of the site.</p>	<p>There are no Natura 2000 sites considered to be within the zone of influence of the proposed development. Therefore, due to the distance from the Natura 2000 site and the use of best practice construction methods, no indirect impacts to any Natura 2000 sites are envisaged.</p> <p>Standard pollution control measures will be strictly enforced during construction to prevent potential polluting substances from entering drains and perhaps affecting water quality further downstream of the site.</p>
<p>7. Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale of magnitude of impacts is not known.</p>	<p>There are no Natura 2000 sites considered to be within the zone of influence of the proposed development. Therefore, due to the distance from the Natura 2000 site and the use of best practice construction methods, no indirect impacts to any Natura 2000 sites are envisaged.</p> <p>The design and construction of the wind farm will be to the highest standards, incorporating best practice methods, such that no sedimentation or pollution to surface waters will occur.</p> <p>Any watercourses with connections to the Ilen River, which are to be crossed as a result of the proposed development, will be crossed via a free spanning bridge rather than culverted in order to prevent potential impacts to the freshwater pearl mussel. By bridging the watercourses no part of the stream bed or banks will be disturbed minimising the movement of suspended solids.</p> <p>Therefore, no significant adverse effects directly or indirectly will occur on the integrity of the Natura 2000 sites as a result of the proposed construction and operation of the works.</p> <p>Therefore, it is not necessary to carry out a Stage 2 Appropriate Assessment.</p>

7.0 REFERENCES

- European Commission (2001) *Assessment of Plans and Projects significantly affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*.
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- DixonBrosnan, (2011). *An assessment of Kerry slug Geomalacus maculosus and Geyer's Whorl snail Vertigo geyeri populations on a proposed wind farm at Dreenacreenig West, Dunmanway, Co. Cork*.
- Minerex Ltd., 2010. *Report on Assessment of Peat Stability for Proposed Dreenacinnig West Wind Farm, Co. Cork*. Report for George O'Mahony and Associates.



NOTES

Figured dimensions only to be taken from this drawing
 All dimensions to be checked on site.
 All Levels are in Metres and Relate to O.S. Datum Malin
 All Maps are Referenced to Irish National Grid (I.N.G.)
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Key to Map Features:

- Landholding
- 15km Buffer
- SAC

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Rev: Description: _____ Drawn: Ch'kd: Date: _____

Client:
George O'Mahony & Associates.

Client Representative:



Project:
Derreenacrinnig West Wind Farm, Co Cork.

Drawing Title:

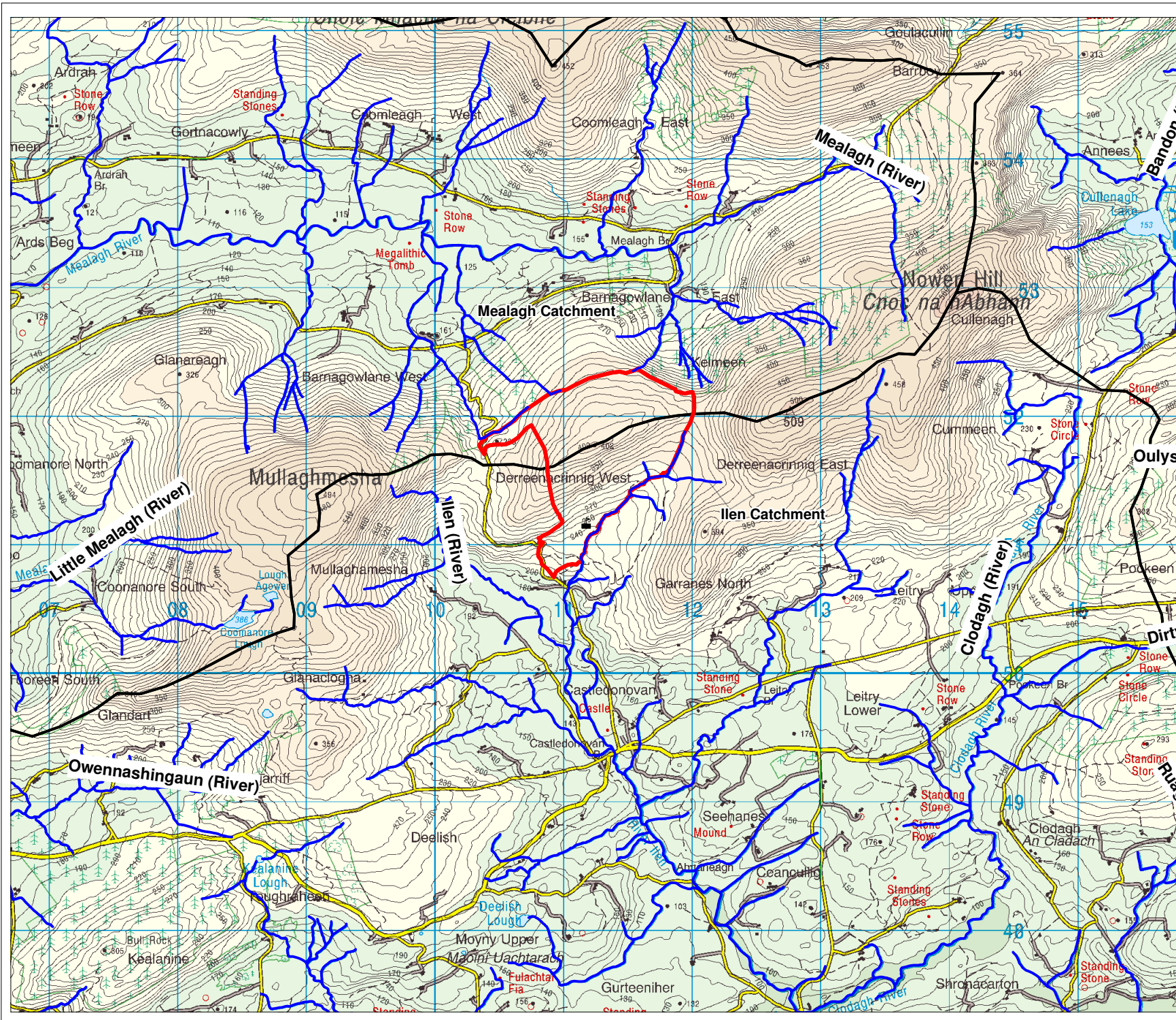
Designated Areas of Conservation Map

Drawn By: EMT Date: January 2017
 Checked By: CJ Date: January 2017

Stage: SSAA

Scales: N.T.S

Drawing No. **Figure 1** Revision:



NOTES

Figured dimensions only to be taken from this drawing
 All dimensions to be checked on site.
 All Levels are in Metres and Relate to O.S. Datum Malin
 All Maps are Referenced to Irish National Grid (I.N.G.)
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- Key to Map Features:**
- Landholding
 - Watercourse
 - River Catchment Area

Rev: Description:	Drawn: Ch'kd: Date:
-------------------	---------------------

Client:
George O'Mahony & Associates.

Client Representative:



Project:
Derreenacrinnig West Wind Farm, Co Cork.

Drawing Title:

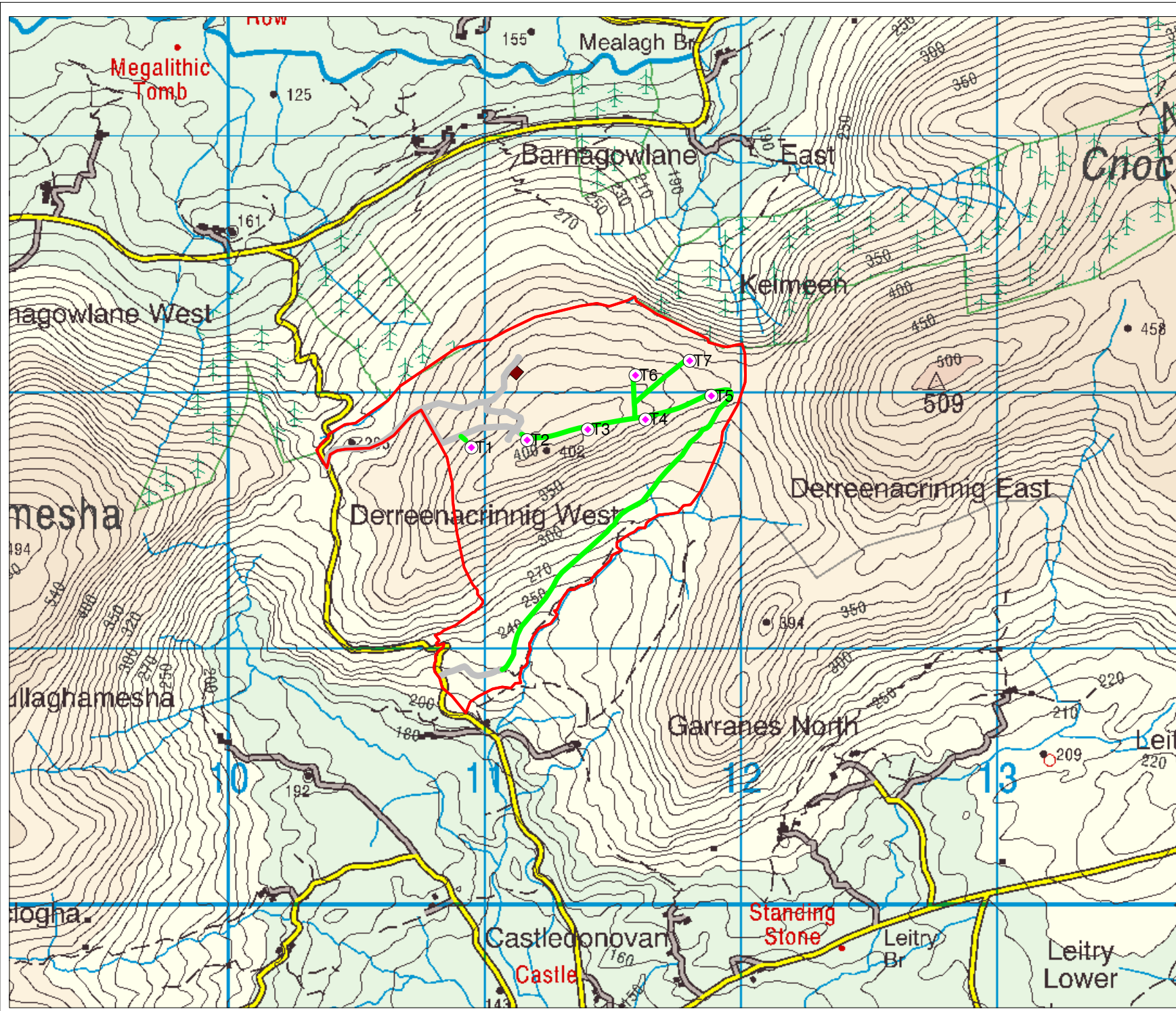
Surface Water Features

Drawn By: EMT	Date: January 2017
Checked By: CJ	Date: January 2017

Stage: SSAA

Scales: N.T.S

Drawing No. Figure 2	Revision:
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NOTES
 Figured dimensions only to be taken from this drawing
 All dimensions to be checked on site.
 All Levels are in Metres and Relate to O.S. Datum Malin
 All Maps are Referenced to Irish National Grid (I.N.G.)
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- Key to Map Features:**
- Landholding
 - Turbine Location
 - Proposed New Track
 - Existing Track
 - Borrow Pit Location

Rev: Description: Drawn: Ch'kd: Date:

Client:
George O'Mahony & Associates.

Client Representative:



Project:
Derreenacrinnig West Wind Farm, Co Cork.

Drawing Title:
Site Layout Map

Drawn By: EMT Date: January 2017
 Checked By: CJ Date: January 2017

Stage: SSAA

Scales: N.T.S
 Drawing No. **Figure 3** Revision: