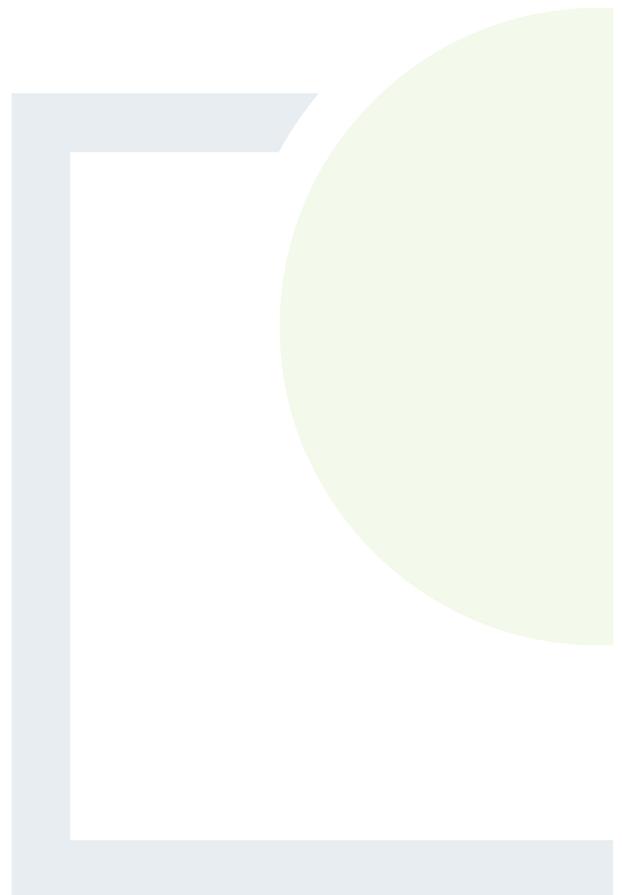




CONSULTANTS IN ENGINEERING,  
ENVIRONMENTAL SCIENCE  
& PLANNING

## APPENDIX 5-7

Biodiversity Enhancement &  
Management Plan







CONSULTANTS IN ENGINEERING,  
ENVIRONMENTAL SCIENCE  
& PLANNING

# BARNADIVANE WIND FARM & SUBSTATION

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## APPENDIX 5.7 - BIODIVERSITY ENHANCEMENT & MANAGEMENT PLAN

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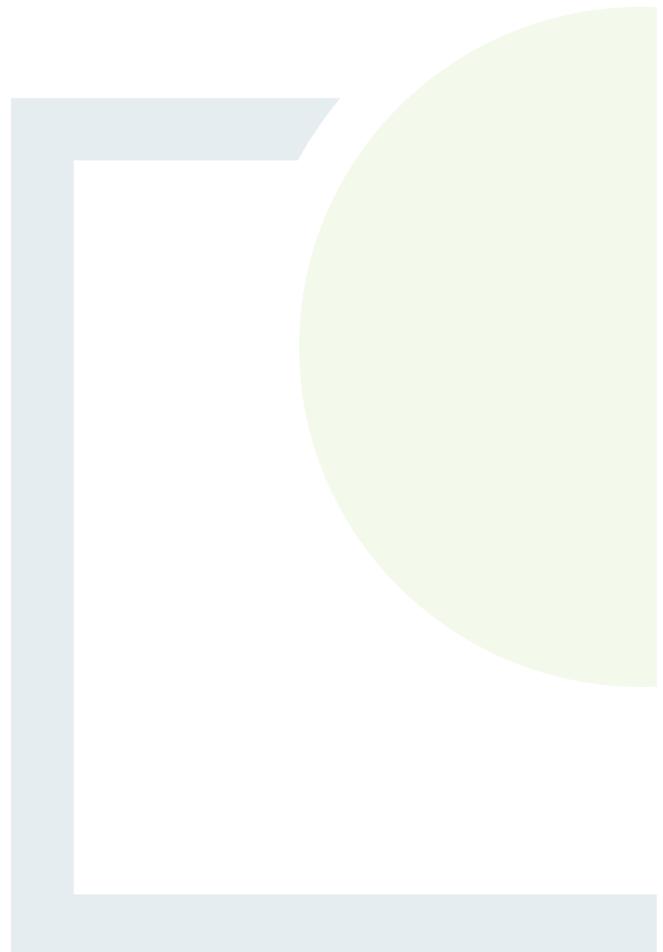
**Prepared for:**

Barna Wind Energy (B.W.E) Ltd. & Arran Windfarm Ltd.

**Date:** February 2023

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## 1. INTRODUCTION

This Biodiversity Enhancement & Management Plan (BEMP) sets out the implementation of biodiversity enhancement features at the Proposed Development. The BEMP includes both mitigation and enhancement measures, which are clearly differentiated. Additionally, maintenance measures are detailed. All mitigation, enhancement and maintenance measures included in this BEMP will be implemented in full.

The measures contained in this BEMP include those designed to protect and enhance existing habitats. Higher value habitats will be actively managed to maintain and improve their value and lower value habitats will see specific interventions designed to improve their attractiveness for a range of species. Appropriate planting will increase the available feeding, roosting and nesting cover for wildlife. The BEMP includes the following:

- Details of all measures to be taken to protect and enhance habitats of local biodiversity value occurring at the site and the species which utilise the same within the vicinity;
- A description of target habitats and range of species appropriate to the site;
- Appropriate strategies for maintaining existing and targeted habitats and species;
- Timelines for new planting and habitat creation;
- Details of ecological oversight and monitoring;
- A map identifying the areas to be managed; and
- The plan is cognisant of potential operational impacts on species and habitats as a result of the proposal.

### 1.1 Study Area

The Lands in Control of the Applicant for the BEMP includes lands in the townlands of Lackareagh, Garranereagh and Barnadivane (Kneeves). The Lands in Control of the Applicant extend beyond the Proposed Development Site. The Proposed Development site includes the Proposed Wind Farm and Proposed Substation, see EIAR Chapter 2- Description of the Proposed Development.

### 1.2 Designated Nature Conservation Sites

A separate Natura Impact Statement was prepared to ascertain if the Proposed Project (either alone or in combination with other plans or projects) will not adversely affect the integrity of a European site.

The following European Sites are within the potential Zol of the Proposed Development:

- The Gearagh SPA.

The Biodiversity Chapter (Chapter 5 Volume 2 of the EIAR) assessed the potentials direct, indirect and cumulative effects during all phases (construction, operation and decommissioning) of the Proposed Development.

The following potential Natural Heritage Areas are within the potential Zol of the Proposed Development:

- The Gearagh pNHA;
- Lough Gal Pnha.



### 1.3 Habitats

The following habitats (Figure 1-1) are located within the study area, as classified by Fossitt (2000):

- Improved agricultural grassland (GA1);
- Wet grassland (GS4);
- Scrub (WS1);
- Conifer plantation (WD4);
- Buildings and artificial structures (BL3);
- Hedgerows (WL1);
- Treelines (WL2);
- Drainage ditches (FW4);
- Eroding upland river (FW4).

#### 1.3.1 Target Habitats

Within the habitats listed above, a number are targeted by the measures proposed in this management plan. These habitats and the applicable measures are summarised in Table 1-1, and described in detail below:

**Table 1-1: Target Habitats**

Habitat	Proposed Measures
Hedgerows (WL1) Treelines (WL2)	New planting and enhancement of existing hedgerows (to prevent loss of hedgerow, provide alternative bat foraging/commuting routes, provide alternative hunting areas for kestrel).
Scrub (WS1)	Area where scrub will be allowed to develop through exclusion of grazers and mowers (to prevent loss of hedgerow, provide alternative bat foraging/commuting routes, provide alternative hunting areas for kestrel).

### 1.4 Target Species and Groups

Following extensive desk studies and field studies a range of key ecological receptors were identified at the site. These are detailed within EIAR Chapter 5: Biodiversity. The enhancement and mitigation measures detailed here will protect these species, in addition to improving the biodiversity value of the site generally.

#### 1.4.1 Bats

A total of nine bat species have been recorded as present within the study area during the 2021/2022 bat surveys. The measures that will be implemented to protect bats are:

- Bat Buffer Maintenance;
- Alternative Bat Commuting Routes;
- New Hedgerow/Treeline Planting;
- Installation of bat boxes.



#### 1.4.2 Bees

Bees will benefit from the wildflower and hedgerow planting.

Earth banks will be created to provide nesting habitat for mining bees, which in Ireland are represented by the genera *Andrena* and *Nomada*. Mining bees, and pollinators in general, will also benefit from the wildflower strips and hedgerow planting.

#### 1.4.3 Insects (general)

A range of insect species will benefit from measures which create and enhance semi-natural habitats at the site. These include the creation of pollinator-friendly habitats described above, in addition to the creation of log piles and wildlife ponds which will provide insect habitats.

#### 1.4.4 Mammals

A range of measures including seasonal restrictions, buffer zone vegetation clearance are proposed to ensure mammals are not negatively impacted by the Proposed Development.

Hedgehog have been previously recorded within the vicinity of the Proposed Development. Hedgehog houses (no.=5) will be placed within the Proposed Development, in/ adjacent to suitable habitat, such as scrub and hedgerows.

Red squirrel have been previously recorded within the vicinity of the Proposed Development. Red squirrel boxes (no.=5) will be placed within the Proposed Development, in/ adjacent to suitable habitat, such as scrub and hedgerows.

Small mammals such as wood mouse and pygmy shrew will benefit from new hedgerow planting, pollinator planting and areas where scrub will be allowed to develop. These features will provide increased cover and food for these animals.

The abovementioned species, in addition to other small mammals such as hedgehog, will also benefit from the installation of Hibernacula which will provide shelter.

#### 1.4.5 Raptors

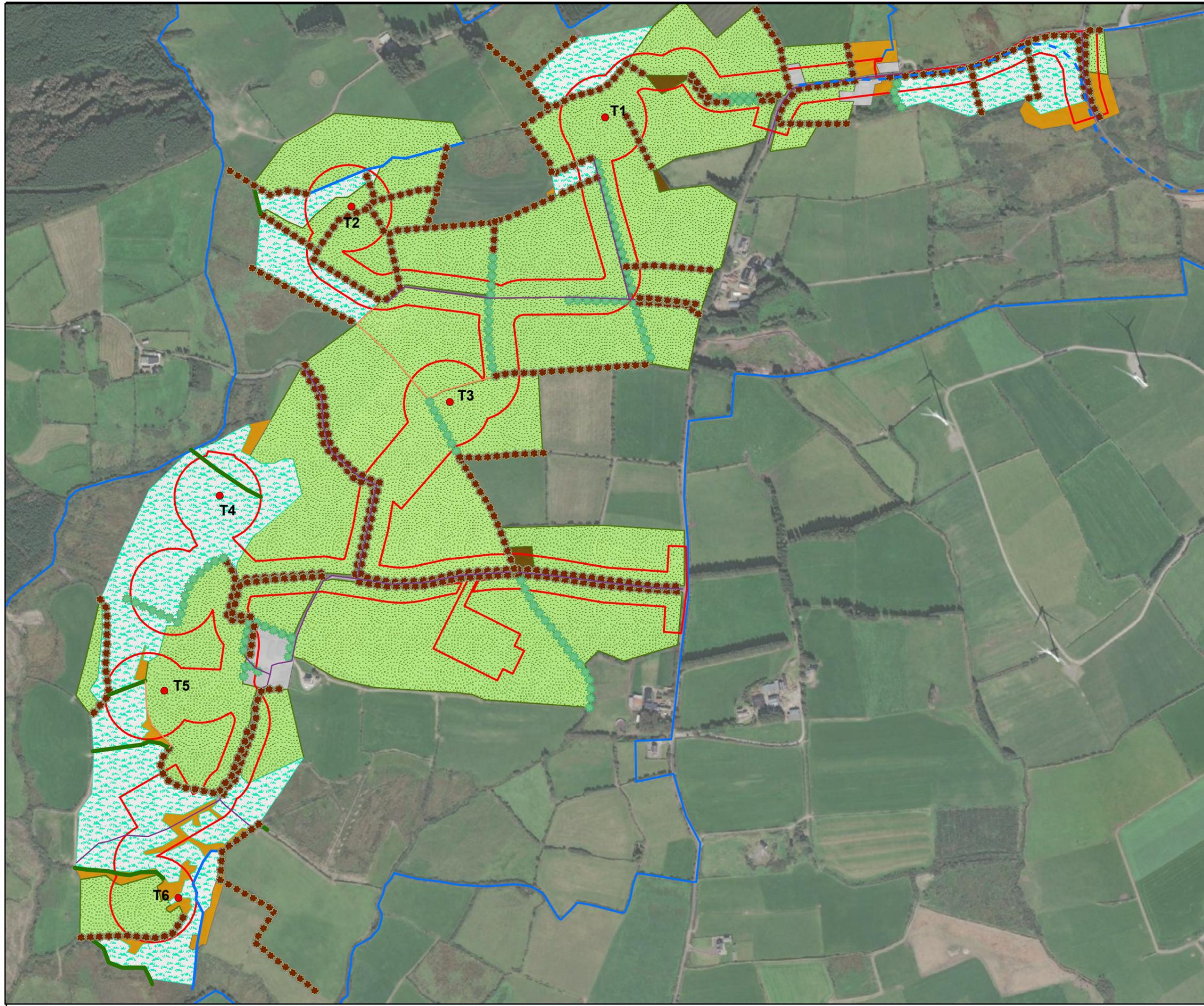
Birds such as kestrel, sparrowhawk and buzzard will benefit from new hedgerow planting and provision of scrub areas through increased abundance of small mammal prey in the area.

Kestrel will benefit from the installation of two kestrel nest boxes.

#### 1.4.6 Small Passerines

Small passerines as a general grouping will benefit from nature friendly management of the site including hedgerow planting. Passerines, notably birds of conservation concern in Ireland (BoCCI) species such as goldcrest, grey wagtail, linnet, skylark, starling and yellowhammer, will benefit from the installation of a variety of bird boxes.





- Legend**
- Proposed Turbine Layout
  - - - Turbine Delivery Route
  - Proposed Substation
  - Development Planning Boundary
  - Lands in control of Applicant
- Habitats**
- Fossitt Code**
- BL3, Buildings and artificial surfaces
  - GA1, Improved agricultural grassland
  - GS4, Wet grassland
  - WD4, Conifer plantation
  - WS1, Scrub
  - BL3, Buildings and Artificial Surfaces
  - FW1, Upland/eroding rivers
  - FW4, Drainage Ditches
  - WL1, Hedgerows
  - WL1/FW4, Hedgerows/Drainage Ditches
  - WL2, Treelines

<b>TITLE:</b>	Habitats		
<b>PROJECT:</b>	Barnadivane Wind Farm and Substation, Co. Cork		
<b>FIGURE NO:</b>	1.1		
<b>CLIENT:</b>	Barna Wind Energy Ltd. & Arran Windfarm Ltd.		
<b>SCALE:</b>	1:7000	<b>REVISION:</b>	0
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## 2. MITIGATION MEASURES

### 2.1 Maintenance of Bat Buffers

The areas surrounding turbines will be actively managed to discourage foraging by bats. The buffer extent around each turbine has been calculated based on proposed turbine dimension options and the height of surrounding trees (see EIA Chapter 5: Biodiversity). Where buffers overlap both hedgerows/treelines or scrub and open habitats, the full circular buffer will be applied to both the hedgerows/treelines or scrub and adjacent open habitat as the area to be managed to discourage bat foraging. Buffer sizes for turbines in hedgerows/treelines or scrub are 84.9m from the turbine base. Where no hedgerows/treelines or scrub is present, conservative buffers matching those for adjacent areas has been applied within which grassland will be managed as required to discourage foraging bats. Additionally, a section of drainage ditch will be cleared of vegetation extending beyond the bat vegetation clearance buffer of T2, to discourage bats travelling along this drainage ditch towards T2 and to redirect them along existing hedgerows onsite, see Figure 3-2 for location. Vegetation will be cleared along c. 132m of this drainage ditch.

Tree-free buffers will be maintained around all turbines to reduce risks to bats. These bat vegetation clearance buffers will be maintained by keeping vegetation short, which will minimise insect abundance. This will be achieved by mechanical means only, as pesticides and toxic substances shall not be utilised. The buffers shall be cut twice per year, in spring, prior to March, and summer, after August, as required (outside nesting bird season). This is applicable primarily to areas where trees will be removed, but mowing will be implemented in existing grassland within buffers as required if regular grazing is not occurring.

### 2.2 Hedgerow & Treeline Planting

This measure provides mitigation in four specific areas:

- No net loss of treelines and hedgerows habitats;
- Directs bats away from tree-free buffers along alternative commuting routes;
- No net loss of linear bat foraging and commuting features;
- No net loss of foraging habitat for birds.

Where hedgerows or treelines are affected by bat buffers, bats will be directed away from tree-free buffers along an alternative commuting route. This will be achieved by planting new pollinator-friendly hedgerows (see Figure 3-1, Table 2-1). Willow will be included in these hedgerows due to its rapid growth rate which will accelerate establishment.

The combined length of proposed new hedgerows and treelines is c. 1,804km. In addition to the mitigating functions detailed above, the proposed hedgerow planting will also enhance connectivity in the landscape for wildlife, which has been impacted in some areas by intensive agricultural management.

It is proposed to create closely-spaced double lines of hedgerow, with willow on one side, and pollinator-friendly hedgerow species listed in Table 2-1 on the other. Planting of these species will be staggered to prevent excessive shading and aid establishment of the hedgerows. Young trees will require protection until established.

All proposed hedgerow planting is required to use plants of native provenance (local if possible). The landscaping contractor is required to be informed well in advance to allow the acquisition of suitable native stock. 2–3-year- willow trees are required for hedgerows to help accelerate establishment. These will be supplemented with planting of whips.



**Table 2-1: Species to be planted in new hedgerows/ treelines**

Linear Feature	Species
1	Oak, rowan, holly, grey willow
2	Oak, rowan, holly, grey willow
3	Oak, rowan, birch, grey willow, hawthorn, holly
4	Oak, rowan, birch, grey willow, hawthorn, holly
5	Holly, grey willow, rowan, bilberry
6	Holly, grey willow, rowan, bilberry
7	Hawthorn, elder, holly, grey willow
8	Hawthorn, holly, grey willow

Where practical, gaps in the existing hedgerows will be filled via laying which is a method of rejuvenating hedgerows. An existing stretch (c.670m) of low growing, species poor (dominated by sparse gorse) hedgerow has been identified for enhancement. Laying involves cutting hedgerow stems partly through near ground level and bending the stem to the required position to fill a gap. New growth then is produced from the cut which thickens the hedge base and rejuvenates it. Where gaps are too large and to enhance the diversity of the hedgerow, native whips will be planted using hawthorn.

### 2.3 Scrub Succession

An area of scrub will be allowed to establish. These will be areas not subject to grazing or mowing that will be allowed to succeed to rough grassland and then into scrub naturally. These areas will be cordoned off to prevent livestock access. These areas will provide food and cover for mammals, birds and insects at the rough grassland and scrub phases of their succession.



## 3. ECOLOGICAL ENHANCEMENT

### 3.1 Pollinator Planting

Meadow planting will be carried out along access track margins in the areas shown on Figure 3-1. These areas will be seeded with a native wildflower meadow seed mixture. Wildflower seed mixes are required to be of native provenance; mainstream commercially available mixes are not acceptable.

The wildflower seed mix should comprise a mixture of the following species: Cottongrass, Devil's Bit Scabious, Eyebright, Foxglove, Marsh Bedstraw, Marsh Cinquefoil, Marsh Ragwort, Meadow Buttercup, Meadowsweet, Ox-eye Daisy, Purple Loosestrife, Ragged Robin, Red Bartsia, Red Campion, Woundwort, Angelica, Carrot, Common Valerian, Yellow Rattle.

Mechanical mowing will be used to maintain the wildflower/meadow access track in margins. One cut and lift per year between October – February is required. This can be split into rotational mowing where half is cut late in the year and half is cut early the following year, however all areas will only be cut once per year. These new meadows will need to be managed by a contractor for the first 2 - 3 years after sowing to ensure they become fully established.

### 3.2 Wildlife Ponds

Wildlife ponds will be created within the footprints of the settlement ponds along the access tracks, outside the bat buffers.

These ponds will be created in such a way as to provide a deep central area surrounded by shallow margins to facilitate the establishment of wetland vegetation and allow wildlife to safely access the pond. The best wildlife ponds have very gently sloping sides, providing extensive areas of very shallow water (just a few centimetres in depth); this allows a wide band of emergent vegetation to become established around the margins of the pond (See Plate 1 and Plate 2). Also, the variation in depth will produce varying habitats providing breeding areas for the common frog, as well as damselflies, dragonflies and other insects associated with wetlands.

The ponds will include a broad (5m) undulating drawdown zone around the margins. Common reed *Phragmites australis* and soft rush *Juncus effusus* will be planted in these margins. This will create an optimal habitat for spawning frogs and aquatic insects.

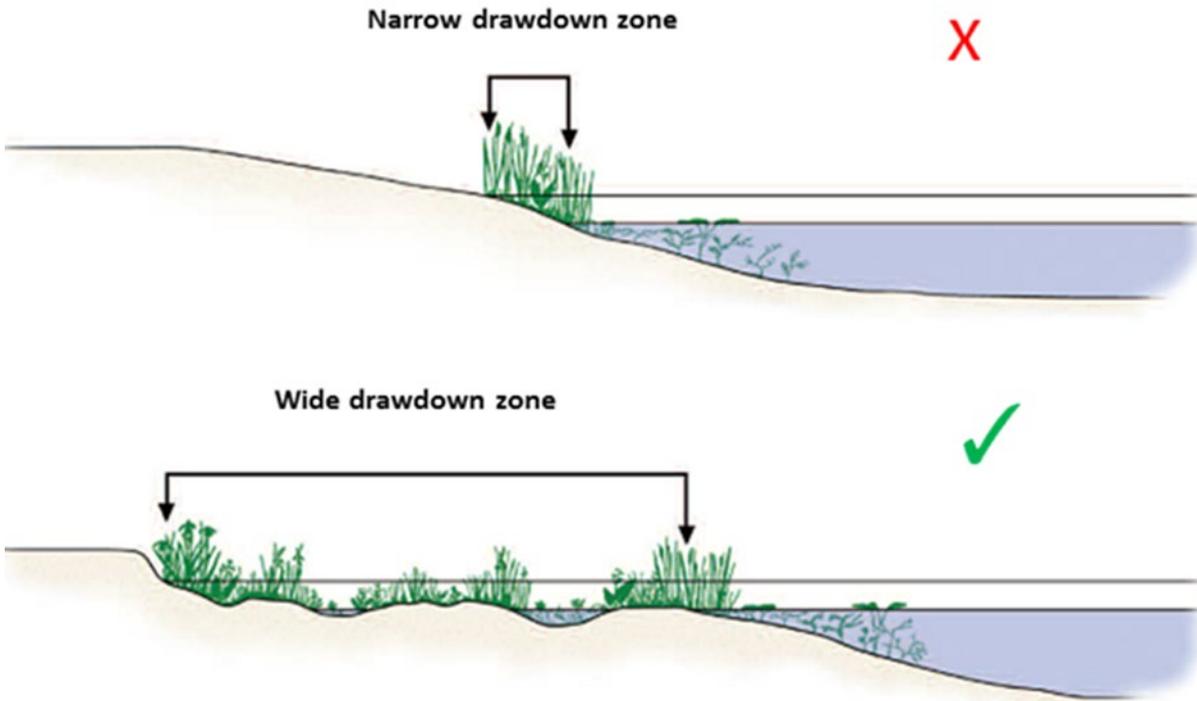


Plate 3-1: Create broad undulating drawdown zones, a valuable area for wildlife (Freshwater Habitats Trust, 2016).

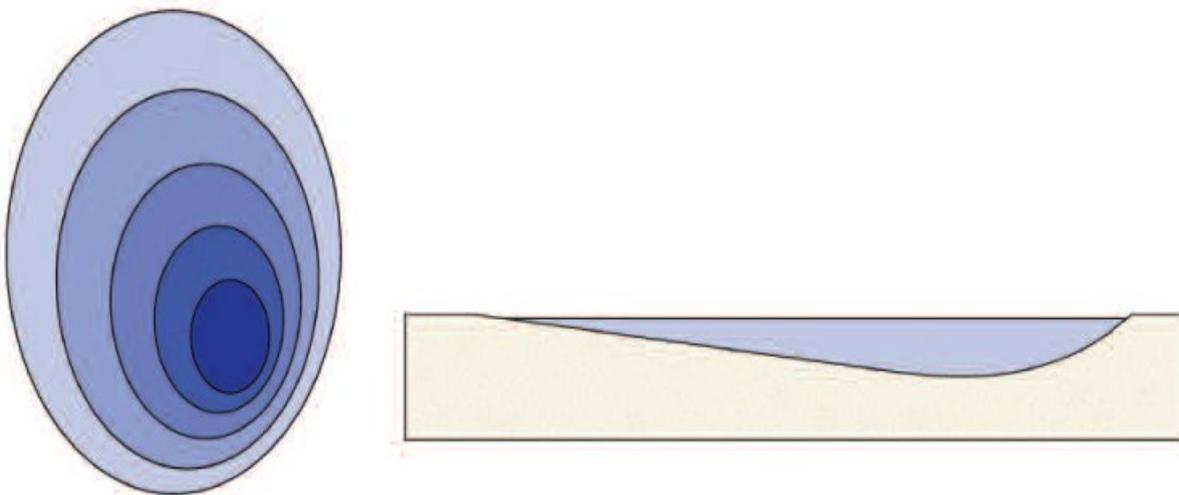


Plate 3-2: Asymmetric profile- useful to combine shallow water areas with great depth (Freshwater Habitats Trust, 2016).



### 3.3 Shelter habitats

#### 3.3.1 Bee nest box

Nest boxes for above-ground cavity nesting bees are created by drilling 10-30 holes in a piece of a wood and hanging this on a tree, at least 1m above ground facing east, south or west. The holes should be between 4 and 10mm in width and 10cm in depth. The boxes (no.=15) will be placed on trees near the pollinator planting strips.



Source: Pollinators.ie

**Plate 3-3: Bee nest box hung on tree.**

#### 3.3.2 Log Piles

A proportion of the timber being removed (substantial pieces of timber-tree trunk/branches) will be salvaged by cutting into logs to create log stacks/piles in the areas specified in Figure 3-1. These piles will be used by insects as the timber decays. Logs of different sizes can be stacked on top of each-other or positioned vertically in a pile. It is important to ensure that the logs remain damp and do not dry out by part-burying (some) logs and placing in a partly shaded location within the Proposed Development site.

#### 3.3.3 Refugia/Hibernacula

Refugia piles and hibernacula will be created. These provide sheltering locations for a wide range of wildlife, including reptiles, amphibians, small mammals and invertebrates. Refugia piles are produced by piling natural materials such as logs, sticks and leaves; that can be supported by additional materials such as rubble and bricks to form a structure with many cracks and crevices for sheltering. Hibernacula are produced in a similar way, but often require setting into the ground in a shallow pit and topping with soil to enclose the structure and creating a more stable microclimate suitable for hibernating species. These structures will be installed near hedgerows and in areas of woodland within the site, where they are less likely to be disturbed. Locations are specified in Plate 3-4.



(Source: Green Mumbles accessed Dec 2022)

**Plate 3-4: Example of a hibernacula**

### 3.3.4 Bat boxes

Bat boxes will be located at three different locations, at a minimum of 500m from the closest turbine. Five boxes will be installed at each location at different facing different directions (south, south-east and south-west). These should be placed at least 4m above ground on a tree or building, with a clear fly path free from overhanging branches and away from artificial light sources. Marnell & Mullen 20022 recommend woodcrete (cement and sawdust) bat boxes over wooden boxes as they are more durable and need less maintenance, as well as a mixture of bat box types per tree should to cater for seasonal and species requirements. A combination of crevice type boxes (for Pipistrelle spp. And Leisler’s bat) and cavity type boxes (for Myotis spp. And brown-long eared bat), or those designed for both crevice and cavity dwellers, Plate 3-5 will be used to accommodate to bat species present within the surrounding area.



**Plate 3-5: Schwegler woodcrete bat box for cavity and crevice dwelling bats**



### 3.3.5 Mammal boxes

Red squirrel nest boxes (no.=5) will be placed in suitable habitat, within woodland or along treelines. These boxes will be placed in trees at least 3 metres from the ground, facing away from direct sunlight.



Source: NHBS website <https://www.nhbs.com/>

**Plate 3-6: Example of red squirrel nest box**

Hedgehog houses will (no.=5) will be placed in suitable habitat, within scrub or along treelines.



Source: NHBS website <https://www.nhbs.com/>

**Plate 3-7: Example of hedgehog house**



### 3.3.6 Bird boxes – kestrel

Kestrel boxes (no=2) will be located on either side of the Lands in control of Applicant, at least 500m for the closest turbines. These boxes should be located 3-5m up a tree with a clear flight path without overhanging branches. The opening of the box should be positioned away from the prevailing wind.



Source: NHBS website <https://www.nhbs.com/>

**Plate 3-8: Example of kestrel nest**

### 3.3.7 Bird boxes – passerines

A variety of bird boxes will be used onsite to accommodate the different passerine species onsite, see Plate 3-9 to Plate 3-12. Species specific bird boxes will be installed for grey wagtail (no.=1) and starling (no.=6). Nest roosting pockets (no.=5) will be installed for smaller species such as goldcrest, as well as robin and wren. General bird boxes (no=10) will be installed for other species, including linnet, skylark and yellowhammer. The entrance hole for these general bird boxes will need to be at least 3cm in diameter to allow access to these species.



Source: NHBS website <https://www.nhbs.com/>

**Plate 3-9: Nest roosting pockets**



Source: NHBS website <https://www.nhbs.com/>

**Plate 3-10: Grey wagtail nest box**



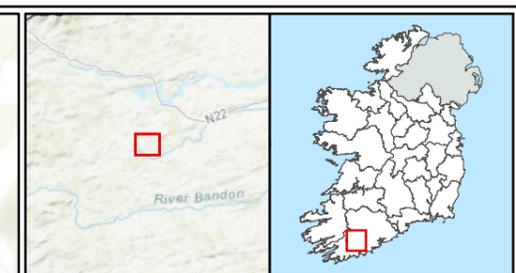
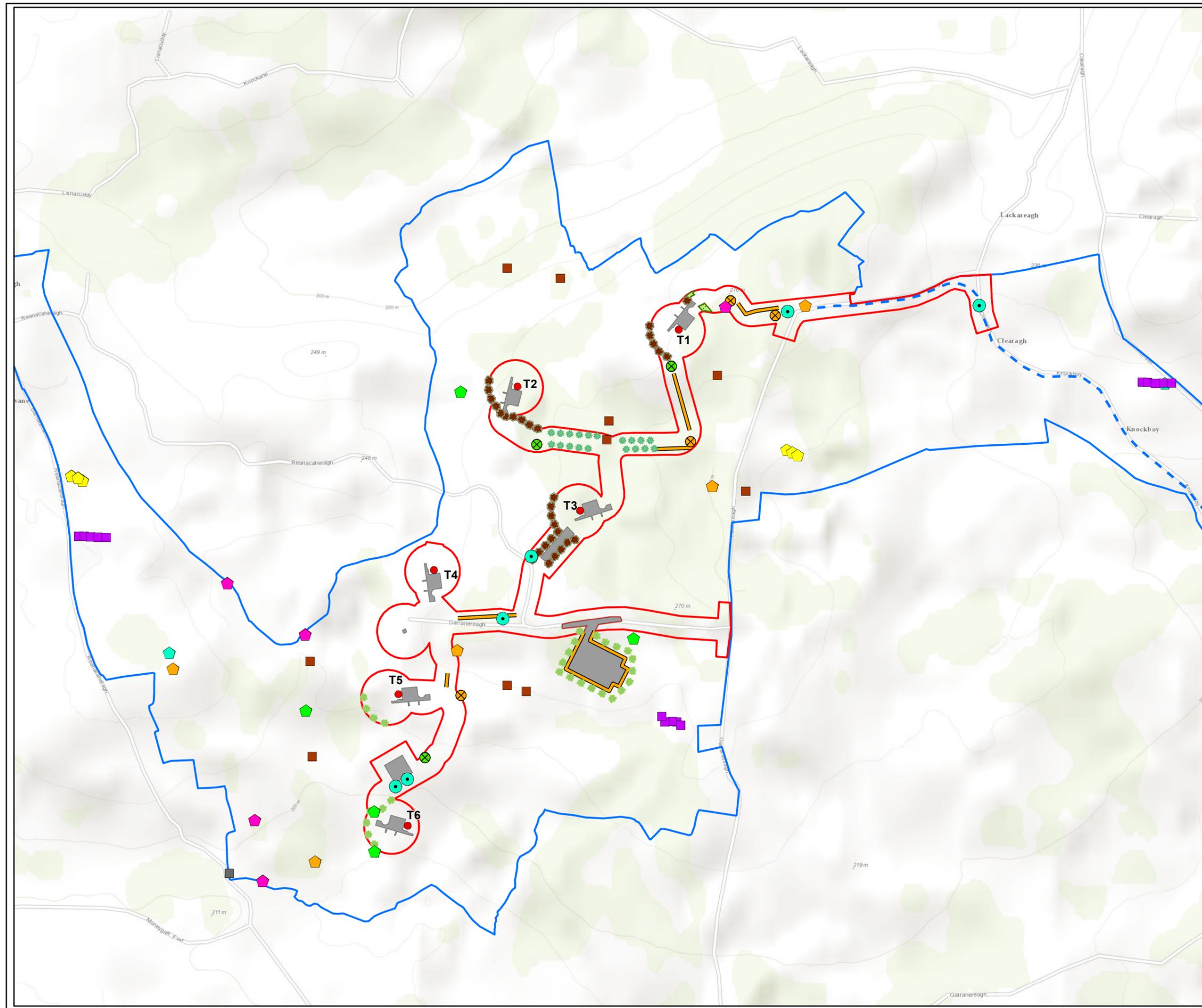
Source: NHBS website <https://www.nhbs.com/>

**Plate 3-11: General bird nest box**



Source: NHBS website <https://www.nhbs.com/>

**Plate 3-12: Starling nest box**



**Legend**

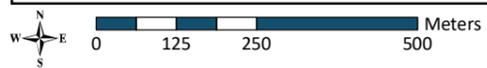
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- Lands in control of Applicant
- Proposed Project Infrastructure
- Proposed Turbine Layout
- Turbine Delivery Route
- Scrub

**Habitat Enhancement Measures**

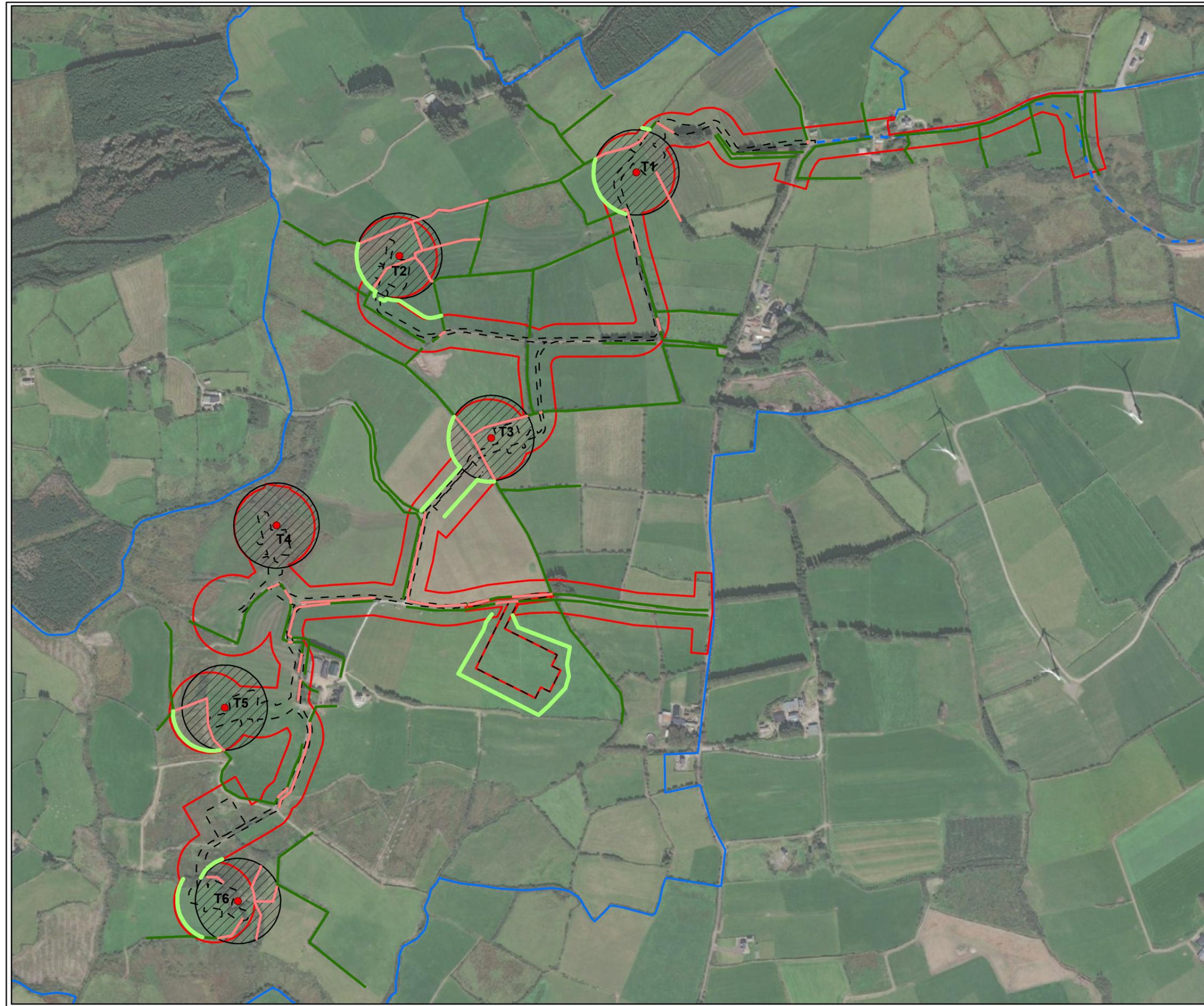
**Measure**

- Bat box
- Bird box
- Bird box - grey wagtail
- Goldcrest nest roost
- Hedgehog house
- Kestrel nest box
- Log pile
- Red squirrel nest box
- Refugia/ hibernacula
- Starling nest box
- Wildlife pond
- Existing Hedgerow Enhancement
- New hedgerow
- New treeline
- Pollinator planting

<b>TITLE:</b>	
Locations of Enhancement Features	
<b>PROJECT:</b>	
Barnadivane Wind Farm and Substation, Co. Cork	
<b>FIGURE NO:</b>	3.1
<b>CLIENT:</b> Barna Wind Energy Ltd. & Arran Windfarm Ltd.	
<b>SCALE:</b> 1:11000	<b>REVISION:</b> 0
<b>DATE:</b> 23/02/2023	<b>PAGE SIZE:</b> A3







- Legend**
- Development Planning Boundary
  - Lands in control of Applicant
  - Proposed Substation
  - Bat Vegetation Clearance Buffer
  - Habitat Loss Buffer
  - Turbine Delivery Route
  - Proposed Turbine Layout
  - New Proposed Hedgerows and Treelines
  - Existing Vegetated Linear Habitats
  - Vegetated Linear Habitat Loss

<b>TITLE:</b>	Locations of vegetated linear habitats (existing, proposed and to be removed)		
<b>PROJECT:</b>	Barnadivane Wind Farm and Substation, Co. Cork		
<b>FIGURE NO:</b>	3.2		
<b>CLIENT:</b>	Barna Wind Energy Ltd. & Arran Windfarm Ltd.		
<b>SCALE:</b>	1:7500	<b>REVISION:</b>	0
<b>DATE:</b>	23/02/2023	<b>PAGE SIZE:</b>	A3



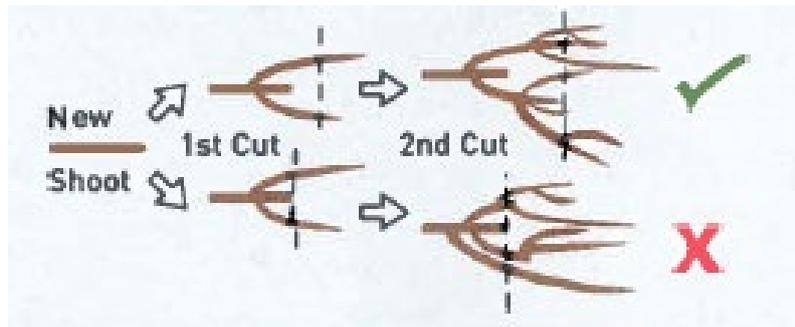




## 4. MAINTENANCE

### 4.1 Hedgerow Maintenance

Tightly cut hedgerows with flat tops provide little benefit to wildlife, taller and bulky hedgerows are recommended as this provides more shelter for wildlife. When the hedgerows are maintained, stems will be cut a little above the last cut (see Plate 4-1) as cutting back to the exact same point depletes the energy of the hedgerow, forms a build-up of scar tissue which discourages new growth.



Source: Teagasc

Plate 4-1: Hedgerow Level of Cut

Light annual cutting of hedgerows is not good for wildlife as it limits the production of flowers and fruit. The sites hedgerows will be cut every three to four years in rotation as this will leave areas of undisturbed hedgerows. Cutting equipment used will be sharp so as not to shatter or fray the hedge. Shattering and fraying allows for disease to enter plants and can lead to decay and weaken the vigour of the hedgerow. A finger-bar cutter is recommended as the most appropriate tool to minimise fraying and smashing of branches (Heritage Council, 2017). A flail-type hedge cutter is unsuitable for hedge trimming in situations where hedgerow health is a priority.

Hedgerow maintenance will not be carried out between the 1st of March and 31st of August as this is the nesting period for birds and any maintenance at this time may disturb breeding; this is in keeping with the Wildlife Act 1976 (as amended).

### 4.2 Scrub Fencing

Proactive maintenance of the fencing will be required to ensure it's continued effectiveness. Regular inspections along the entire length will be required, at minimum monthly. Inspections following storm events are also required, as this is the most likely time for fencing to be damaged (falling trees or limbs can open up gaps in the fencing).

Repairs will be carried out immediately where required, and a stock of fencing materials will be kept on hand.

Fencing gaps for mammals will be checked twice per year, and where required maintained to ensure their continued function.





## 5. MONITORING

Commencing in year 1 of operation the status of the habitats created, enhanced hedgerows and the species enhancement measures will be checked as per Table 5-1 below. Monitoring will be undertaken by a qualified ecologist appointed by the developer/operator of the Proposed Development. The timing of monitoring is provided in Table 5-1 below. This will follow implementation of the plan to confirm whether habitats have successfully established and to identify any issues that need to be addressed. Following these monitoring visits, a short status report will be prepared. This will identify any necessary actions to ensure the success of the BEMP, which will be implemented on foot of the report findings.

A final assessment of the condition and success of the various biodiversity management and enhancement prescriptions will also be undertaken in Year 25 (i.e., in the year before the final year of operation).



**Table 5-1: Summary of Biodiversity Enhancement & Management Measures**

Measure	Target Species/Habitat	Implementation Timeline	Monitoring	Ongoing management
<b>Mitigation</b>				
Bat Buffer Maintenance	All bat species occurring onsite	Buffers to be cleared prior to turbine installation. Clearance will take place outside the bird breeding season (March-August inclusive)	Annual monitoring throughout lifespan of wind farm (mid- late summer)	Ensure vegetation is kept low
New Hedgerows & Hedgerow enhancement	All bat species occurring onsite pollinators	From project initiation	Years 1, 2, 3, 5, 7, 10, 15, 20 and 25	Ensure establishment; ensure hedgerows are not cut back excessively and are maintained as a viable corridor.
Scrub Succession	Scrub WSI	To be fenced off and left to natural succession from project initiation	Years 1, 2, 3, 5, 7, 10, 15, 20 and 25 Fencing maintenance: monthly inspections & inspections after storm events	Ensure establishment and succession, ensure continued cordoning off from livestock
<b>Enhancement</b>				
Pollinator Planting	Small mammals Insects	Following wind farm completion	Years 1, 2, 3, 5, 7, 10, 15, 20 and 25	Ensure establishment; ensure wildflowers are not cut back excessively.
Bee Nest Boxes	Mining bees	Following wind farm completion	Years 1, 2, 3, 5, 7, 10, 15, 20 and 25	Ensure continued presence; add material as required
Log Piles	Small mammals Insects	Following access track construction	Years 1, 2, 3, 5, 7, 10, 15, 20 and 25	Ensure continued presence; add material as required
Refugia/Hibernacula	Small mammals Insects	Following access track construction	Years 1, 2, 3, 5, 7, 10, 15, 20 and 25	Ensure continued presence; add material as required



Measure	Target Species/Habitat	Implementation Timeline	Monitoring	Ongoing management
Wildlife Pond	Insects and amphibian species	Following access track construction	Years 1, 2, 3, 5, 7, 10, 15, 20 and 25	Ensure establishment; ensure ponds do not become infilled. Ecologist to recommend actions if ponds become infilled.
Bat boxes	All bat species occurring onsite	From project initiation	Years 1, 2, 3, 5, 7, 10, 15, 20 and 25	Ensure continued presence; add material as required
Mammal boxes	Red squirrel and hedgehog	Following wind farm completion	Years 1, 2, 3, 5, 7, 10, 15, 20 and 25	Ensure continued presence; add material as required
Bird boxes	Kestrel and small passerines	Following wind farm completion	Annual monitoring throughout lifespan of wind farm (outside nesting season)	Ensure continued presence; remove old material as required (outside nesting season March-August)





## 6. REFERENCES AND BIBLIOGRAPHY

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