

Ballyfeeny Green Energy Project



Environmental Impact Assessment Report Volume II

Chapter 2 – Project Description

September 2025

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ROWAN REF:	GRE0005-3	
NAME OF PROJECT	BALLYFEENY GREEN ENERGY PROJECT	
REVISION	DATE	REVIEWER
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Acronyms

Term	Meaning
EIAR	Environmental Impact Assessment Report
MW	Megawatts
kV	kilovolt
RLB	Redline Boundary
GCR	Grid Connection Route
TDR	Turbine Delivery Route
SE1	Site Entrance 1
SE2	Site Entrance 2
SE3	Site Entrance 3
SE4	Site Entrance 4
SE5	Site Entrance 5
SE6	Site Entrance 6
AA	Appropriate Assessment
NIS	Natura Impact Statement
CEMP	Construction Environmental Management Plan
SWMP	Surface Water Management Plan
WMP	Waste Management Plan
TMP	Traffic Management Plan
DMP	Decommissioning Management Plan
ITM	Irish Transverse Mercator
ha	Hectare
AOD	Above Ordnance Datum
T01	Turbine 1
T02	Turbine 2
T03	Turbine 3
T04	Turbine 4
T05	Turbine 5
T06	Turbine 6
WEDG 2006	Wind Energy Development Guidelines 2006
Draft WEDG 2019	Draft Wind Energy Development Guidelines 2019
SPA	Swept Path Analysis
SEAI	Sustainable Energy Authority of Ireland
m/s	Meters per second
m	Meters
WTG	Wind Turbine Generator
LA	Local Authority
TII	Transport Infrastructure Ireland
ESBN	Electrical Supply Board Networks
MV	Medium Voltage
ECP	Enduring Connection Policy
HDPE	High Density Polyethylene
XLPE	Cross-Linked Polyethylene.

Term	Meaning
HDD	Horizontal Directional Drilling
WC	Water Closet
DPC	Damp Proof Course
CCTV	Closed Circuit Television
IFI	Inland Fisheries Ireland
OPW	Office of Public Works
EMP	Environmental Management Plan
ECoW	Environmental Clerk of Works
EcoCoW	Ecological Clerk of Works
EPA	Environmental Protection Agency
SHMP	Species and Habitats Management Plan
HGV	Heavy Goods Vehicles
ERP	Emergency Response Plan
IAA	Irish Aviation Association
IAC	Irish Air Corps
DoD	Department of Defence
RCC	Roscommon County Council
RESS	Renewable Electricity Support Scheme

2. Project Description

2.1 Introduction

Ballyfeeny Green Energy Limited (hereafter referred to as the 'Applicant') is proposing to develop a renewable energy development comprising six wind turbines and all associated infrastructure, at Ballyfeeny and adjacent townlands, County Roscommon.

This Chapter has been prepared by Rowan Engineering Consultants (Rowan) and presents a description of all elements of the proposed renewable energy development as presented in Planning Application, taking account of the construction, operational and decommissioning phases.

This includes all elements within the Redline Boundary, the six wind turbines, Turbine Foundations, Turbine Hardstands, Access Tracks, Wind Farm Internal Cabling, Relay Tower, Onsite Substation and all associated infrastructure. It also includes the underground grid connection from the Onsite Substation along the public road network, to where the R371 meets the Sliabh Bawn Substation Road (hereafter the proposed 'Development').

For the purposes of this EIAR, the works required within the existing Sliabh Bawn 110kV Substation and works to install the underground grid connection, along the Sliabh Bawn Substation Road to where it meets the R371, have been included as part of the assessment. However, these works will be subject to a separate planning permission and do not form part of this planning application. The underground grid connection works within the planning application Redline Boundary (RLB), the works required within the existing Sliabh Bawn 110kV Substation and along the Sliabh Bawn Substation Road to the R371, are collectively known as the Grid Connection Route (GCR).

The EIAR also presents an assessment of temporary accommodating works required along the public road network from the port of origin in Galway Port, to facilitate the delivery of turbine components to the wind farm Site. Two route options have been assessed in full within the EIAR. These routes collectively are referred to as the Turbine Delivery Route (TDR). These temporary accommodating works are assessed in this EIAR, however, do not form part of this planning application.

For this EIAR the proposed Development, the works for the underground grid connection within the existing Sliabh Bawn 110kV Substation and along the Sliabh Bawn Substation Road to the R371 and the temporary accommodating works along the TDR, are hereafter referred to as the proposed 'Project'.

As outlined in **Chapter 1 Introduction**, Section 1.6 the Applicant has received a notification of opinion from the Local Authority (**Appendix 1.5. DFR-25-1 - Notification of Opinion by LA**), under section 32(2) of the Planning and Development Act, 2000 (as amended). The Local Authority was satisfied that “...it is appropriate that the proposed application be made and decided before the prospective applicant has confirmed certain details of the application”. With respect to the notification of opinion by the Local Authority, the Applicant in this EIAR, proposes to assess three distinct Technology Options within the range outlined by the Local Authority and in accordance with the design flexibility parameters sought as outlined in **Chapter 1 - Introduction, Table 1-3**. This is on the basis of which the planning application may be determined by the Local Authority.

The main components of the proposed Project will consist of:

- The construction and operation of a wind farm consisting of six wind turbines;
- The turbine specification is unconfirmed but will fall within the parameter range outlined by Roscommon County Council and will be one of the following three Options;
 - Technology Option 1: tip height of 160m, rotor diameter of 136m and hub height of 92m; or
 - Technology Option 2: tip height of 156m, rotor diameter of 133m and hub height of 90m; or
 - Technology Option 3: tip height of 159m, rotor diameter of 138m and hub height of 90m;
- Construction of Turbine Hardstands (including crane and assembly areas) and Turbine Foundations;
- Construction of approximately 3.9km of new permanent internal Site Access Tracks and the upgrade of 0.5km of existing internal access tracks;
- Construction of a permanent 38kV Onsite Substation, including one single story substation building with welfare facilities, Lidar, diesel generator and fuel storage tank, all associated electrical plant and equipment, all associated underground cabling, rainwater harvesting and storage tank, wastewater holding tank, security fencing, gates, signage, and all ancillary structures and works;
- Installation of underground electrical and communications cabling connecting the wind turbines to the proposed 38kV Onsite Substation;
- Construction, of two Temporary Construction Compounds with associated site offices, welfare facilities, car parking, site fencing and lighting;
- Erection of a permanent 30m high Communications Relay Tower;

- Construction access via six site entrances (SE1 – SE6) to include:
 - SE1 on the R371, SE2 and SE3 on the L6018, and SE4, SE5 and SE6 on the L60498;
 - SE1 and SE6 are temporary and will be reinstated following construction. SE1 may be re-established if required for turbine component repair or replacement. SE2 – SE5 will be retained permanently for operational access;
- Tree felling to facilitate the construction and operation of the proposed Project;
- Installation of approximately 5.8km of permanent underground electrical cabling for the Grid Connection Route including cabling within the public road corridor, extending from the proposed onsite 38kV Substation at Ballyfeeny to end at the existing Sliabh Bawn 110kV Substation in the townland of Bunnageddy (also known as Runnageddy);
- All associated site works, including site clearance, landscaping, site drainage, security gates, fencing, permanent and temporary signage and biodiversity mitigation and enhancements, including hedgerow and treeline planting; and
- Temporary accommodating works along the TDR, to facilitate turbine delivery from the port of entry at the Port of Galway to the wind farm Site entrance (SE1) at Ballyfeeny, via Lough Atalia Road, College Road, R339, R685, N6, M6, M18, M17, N17, N5 (New N5 Ballaghaderreen to Scramoge Realignment Scheme) and the R371

The Applicant is seeking a 10-year planning permission and 35-year operational life, initiating from the date of full commissioning of the entire wind farm. The development is covered by the provisions of the Renewable Energy Directive III (Directive 2023/2413).

The planning application is subject to section 34D of the Planning and Development Act, 2000, as amended. When a notice issues in accordance with section 34D(b), the provisions of article 26A of the Planning and Development Regulations 2001 to 2025 shall apply.

The EIAR is also accompanied by an Appropriate Assessment (AA) Screening Report and Natura Impact Statement (NIS).

This chapter of the EIAR is supported by the following Appendices:

- **Appendix 2.1** – Construction Environmental Management Plan (CEMP)
- **Appendix 2.1.1** – Surface Water Management Plan (SWMP)
- **Appendix 2.1.2** – Waste Management Plan (WMP)
- **Appendix 2.1.3** – Traffic Management Plan (TMP)
- **Appendix 2.1.4** – Decommissioning Management Plan (DMP)

- **Appendix 2.1.5 – Blasting Coordination and Cooperation Plan**

2.2 Site Location

The proposed wind farm Site is located in the townlands of Ballyfeeny (also known as Ballyfeeney) and Tully, County Roscommon, c.4.5km east of Strokestown and 15km northwest of Longford town. The wind farm Site is positioned at Irish grid reference c. E598813 N782007 ITM (**EIAR Figure 1-1 (Volume 4)**) The Redline Boundary encompasses approximately 49.774 hectares (ha) and is accessed off the R371 road.

The Site has an elevation of approximately 70m Above Ordnance Datum (AOD) at its lowest to approximately 124m AOD at its highest elevation. Analysis of the coarse topographic information indicates that the proposed Project straddles the top and lower eastern flank of a small hill and sits on lands that generally slope to the east in the cases of Turbines T02, T03, T04, T05 and T06. Lands slope to the south and east at T01 and are generally flat at the Onsite Substation.

The proposed wind farm Site consists of areas of forestry, portions of agricultural grassland and pastureland for cattle together with parcels of mature and private forestry. Additionally, an adjacent active quarry—known as Ballyfeeney Rock Quarry—exists on the western boundary of the Site. Two watercourses run adjacent to the boundaries of the proposed Site, known as the Culliagh Stream and Ballymartin Stream. Dominant habitats within the Site include hedgerows, treelines and drainage ditches.

The current land use on the wider environment Project consists of agricultural pastureland and some forestry. To the northeast of the site is a mineral extraction site. Temporal regression through the EPA Corine datasets shows gradual change in land use in the wider environment of the site beginning in the 2000 – 2006 Corine dataset. What was previously mapped as 324- Transitional Woodland and Scrub transitions to 131- Mineral Extraction. Hence, the wider landscape character is one of increased industrial development within a largely rural setting.

The wind farm Site has been selected in an area of low population density and there are no residential dwelling within the site. Whilst there are receptors in proximity to the site, the placement of turbines within the site is in adherence to the Wind Energy Development Guidelines 2006 and have due regard to the Draft Wind Energy Development Guidelines 2019 (hereafter referred to as WEDG 2006 and Draft WEDG 2019) (Refer to **Chapter 4 – Planning and Policy**). **Chapter 3 – Consideration of Reasonable Alternatives** provides an assessment of Site suitability together with other locations which were considered for the proposed Project.

Having due regard to the Draft WEDG 2019 and in accordance with industry best practice, the proposed Project has a setback distance of 4 times the tip height (640m) (which is 4 times the tallest tip height of the 3 turbine Technology Options) subject to a minimum setback of 500 metres and the proposed Project complies with the WEDG 2006 setback requirements of 500m. The 640m setback distance has been maintained for all sensitive receptors apart from sensitive receptor No. 35, located 599m from T02. The stakeholder has consented to the siting of wind turbines at a distance of 500 meters or greater from the receptor, regardless of the tip height of the turbine. A consent letter from the resident at receptor number 35 accompanies the Planning Application (**Part 1**) of this submission.

Community receptor 30, Ballyfeeney National School, is situated c.778.7 metres west of T02. The second community receptor 162 is a church, located c.1.97 km southwest of T01.

The two commercial receptors within the 2km are receptor 168, a recruitment agency located c.1.87 km southwest of T01, and receptor 159, a pub c. 1.95 km southwest from T01. **Figure 2-1** displays sensitive receptors within a 500m, 640m, 1km, 1380m and 2km radius of the turbine.

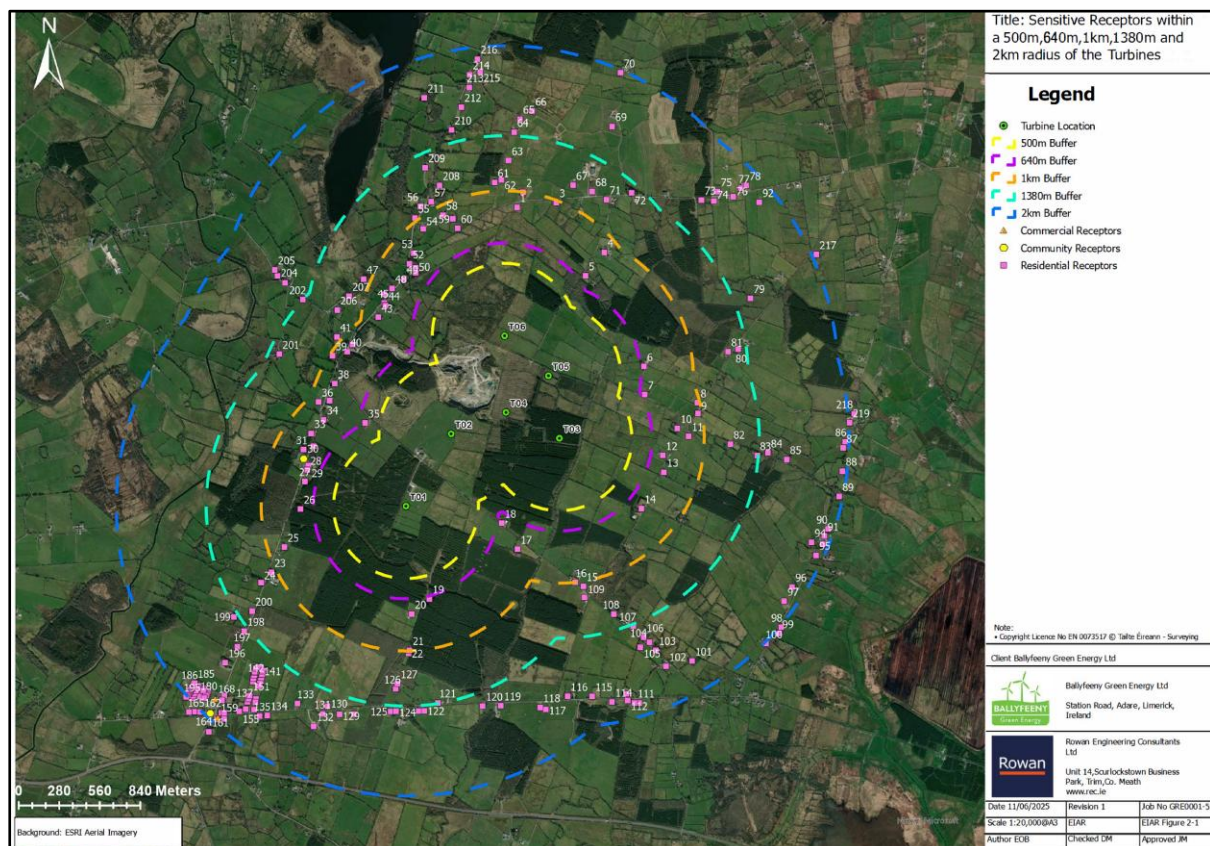


Figure 2-1: Sensitive Receptors within a 500m, 640m, 1km, 1380m and 2km radius of the proposed wind turbines (Ref: EIAR Figure 2-1 (Volume 4))



Photos 1-4: Proposed Wind Farm Site: Existing Land Use

2.2.1 Grid Connection Route

The proposed GCR is located within the townlands of Tully, Ballyfeeny (also as Ballyfeeney), Polymount, Bellanamullia, Scramoge, Treanaceeve, Ballyhubert, Toreen, Tonycurneen and Bunnageddy (also known as Runnageddy). The GCR will be approximately 5.8km in length, originating from the proposed Onsite Substation. Approximately 1.3km of the GCR located within private lands and an estimated 4.5km of the GCR will be located along the R371, traversing under the N5, continuing along the R371 and terminating along the Sliabh Bawn Substation Road, where the GCR will connect to Sliabh Bawn 110kV Substation. As previously outlined, works required within the existing Sliabh Bawn 110kV Substation and works to install the underground grid connection, along the Sliabh Bawn Substation Road to where it meets the R371, have been included as part of the assessment. However, these works will be subject to a separate planning application.

2.2.2 Turbine Delivery Route

Two TDR's have been assessed in the EIAR as part of the proposed Project. It is proposed to utilise the proposed new N5 Ballaghaderreen to Scramoge Realignment Scheme as part of the TDR 1a, which is the preferred option. A second Option – TDR 1b, has also been assessed in the unlikely event that the aforementioned road project is not complete. TDR 1a and 1b will cross numerous townlands, as outlined in **Table 2-1** and **2-2**. As previously outlined, these temporary accommodating works are assessed in this EIAR, however, do not form part of this planning application.

TDR 1a is as follows:

- Starting at Port of Galway;
- Turn left toward Lough Atalia Rd;
- Take slight right onto College Rd/R339, continue on R339 Regional Road;
- Take a sharp left onto the Ballybane Rd/R865 and turn right to merge onto the N6 National Road;
- Continue onto M6 Motorway from N6;
- At junction 18, take the M17 Motorway exit to Sligo and merge onto M18 Motorway leading onto M17 Motorway;
- At Junction 20, take the 2nd exit at the roundabout onto the N17 heading to Claremorris/Sligo;
- At the N1/N83 roundabout, take the 1st exit and stay on N17 heading to Claremorris/Sligo;
- At the N1/N5 2nd roundabout (near Charlestown), take the 2nd exit and merge onto the N5;
- Continue on N5 and onto the new N5 Ballaghaderreen to Scramoge Realignment Scheme ;
- At the end of the new N5 Ballaghaderreen to Scramoge Realignment Scheme , turn left onto the R371 at the N5/R371 Junction; and
- Continue to Site Entrance SE1.

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TDR 1b is as follows:

- Starting at Port of Galway;
- Turn left toward Lough Atalia Rd;
- Take slight right onto College Rd/R339, continue on R339 Regional Road;
- Take a sharp left onto the Ballybane Rd/R865 and turn right to merge onto the N6 National Road;
- Continue onto M6 Motorway from N6;
- At junction 18, take the M17 Motorway exit to Sligo and merge onto M18 Motorway leading onto M17 Motorway;
- At Junction 20, take the 2nd exit at the roundabout onto the N17 heading to Claremorris/Sligo;
- At the N1/N83 roundabout, take the 1st exit and stay on N17 heading to Claremorris/Sligo;
- At the N1/N5 2nd roundabout (near Charlestown), take the 2nd exit and merge onto the N5;
- Continue on N5 into Strokestown, at the roundabout take the 3rd exit and continue on the N5;
- Turn left onto the R371 at the N5/R371 Junction; and
- Continue to Site Entrance SE1.

Planning Drawings 23604-1003 to 1008 show nodes required for TDR1a. **Planning Drawings** which represent works to TDR 1b include **23604-2002 to 2011 (Part 1)**.

A Swept Path Analysis (SPA) was carried for both potential TDR's in order to identify where works will be necessitated along 13 nodes along the TDR. Where works are required to roundabouts, traffic islands and footpaths; this will involve stoning green areas and possibly strengthening concrete /blacktop areas to accommodate vehicle wheel loading. Where load over-sail occurs in an area; obstructions such as street furniture, overground utilities, hedging and trees are to be removed in the area. Street furniture includes items such as poles, lampposts, bollards, ornaments, benches, fencing, railings and signage. The outcomes from

the SPA for Option 1a are summarised in **Table 2-1. Planning Drawings 23604-1001, 1002 and 23604-2002 (Part 1)** display nodes mapped for the TDR.

Table 2-1 – Works required along nodes for TDR 1a

Node No.	Works Required	Location
2020	Street furniture to be relocated/removed Road widening works required	Galway City, Co. Galway
2025	Street furniture to be relocated/removed	Galway City, Co. Galway
2040	Street furniture to be relocated/removed	Galway City, Co. Galway
2055	Street furniture to be relocated/removed Works required to roundabout	Kilmore and Killeelaun, Co. Galway
2060	Works required to roundabout Street furniture to be relocated/removed Works to traffic island required	Mountpotter and Kilcloghans, Co. Galway
2090	Works to traffic island required Street furniture to be relocated/removed	Ballindine East & Ballindine West & Newtown South, Co. Mayo
3020	Street furniture to be relocated/removed Hedge cutting required Works to traffic island required Works to roundabout required	Ballyglass East & Bracklagh, Co. Mayo
3025	Street furniture to be relocated/removed Hedge cutting required	Ballyglass East, Co. Mayo
3030	Works to roundabout required	Corskeagh, Co. Roscommon
3050	Works to roundabout required	Gortnacranagh, Co. Roscommon
3070	Works to roundabout required Street furniture to be relocated/removed	Lavally, Co. Roscommon
3080	Street furniture to be relocated/removed Hedge cutting required Works to traffic island required	Scramogue, Co. Roscommon
3085 – Site Entrance	Hedge and tree cutting required Road widening works required	Ballyfeeny, Co. Roscommon

The outcomes from the SPA for TDR 1b are summarised in **Table 2-2.**

Table 2-2 – Works required along nodes for TDR 1b

Node No.	Works Required	Location
2020	Street furniture to be relocated/removed Road widening works required	Galway City, Co. Galway
2025	Street furniture to be relocated/removed	Galway City, Co. Galway
2040	Street furniture to be relocated/removed	Galway City, Co. Galway
2055	Street furniture to be relocated/removed Works required to roundabout	Kilmore & Killeelaun, Co. Galway
2060	Works required to roundabout Street furniture to be relocated/removed Works to traffic island required	Mountpotter & Kilcloghans, Co. Galway
2090	Works to traffic island required Street furniture to be relocated/removed	Ballindine East & Ballindine West & Newtown South, Co. Mayo
3020	Street furniture to be relocated/removed Hedge cutting required Works to traffic island required Works to roundabout required	Ballyglass East & Bracklagh, Co. Mayo
3025	Street furniture to be relocated/removed Hedge cutting required	Ballyglass East, Co. Mayo
4155	Street furniture to be relocated/removed Works to traffic island required Work to footpath required Works to roundabout required Tree Cutting required	Lisroyne, Co. Roscommon
4160	Street furniture to be relocated/removed Tree Cutting required	Farnbeg, Co. Roscommon
4165	Street furniture to be relocated/removed Works to traffic islands required Hedge and Tree cutting required	Scramogue, Co. Roscommon
3085 – Site Entrance	Hedge and tree cutting required Road widening works required	Ballyfeeny, Co. Roscommon

2.3.3 Landownership

The lands on which the proposed Project include lands under the ownership of forestry companies and private lands. Landowner consent has been given to Ballyfeeny Green Energy Limited for the purposes of making a formal planning application for a renewable energy development on their lands. Written consent from the owners of the land have been provided with the **Planning Application (Part 1)**. Lands that are subject to an option agreement are identified in the Planning Drawings outlined in blue. It should be outlined that these landowners also have additional ownership interest beyond the lands outlined in blue but are not optioned as part of this development.

Prior to construction road opening licenses will also be sought from Roscommon County Council for works along the public road network and will be subject to the applicable statutory processes as implemented by the Local Roads Authority.

2.3 Wind Resource

The Sustainable Energy Authority of Ireland (SEAI) has produced a digital map of Ireland's wind energy resource called the Wind Atlas. The goal of the Wind Atlas is to aid policy makers, local governments and community groups in the initial planning stages, and also to educate developers and the general public on Ireland's current wind resource environment. The proposed Project is located on an elevated hill on lands that generally slope to the east.

The Wind Atlas for Ireland is calculated at different heights above ground level on a national 100-meter grid basis.

The average annual wind speed in the vicinity of the Site is shown in meters per second (m/s) and height above ground level in meters (m) shown in **Table 2-3**.

Table 2-3: Average Annual Wind Speed (m/s) at Various Heights Above Ground Level (m).

Height Above Ground Level (m)	Wind Speed (m/s)
75m	7.8 to 8.0m/s
100m	8.3 to 8.4m/s
125m	8.6 to 8.7m/s

A key message from SEAI's, Community Energy Resource Toolkit named Onshore Wind in 2024 outlines, elevated sites with higher wind speeds, open to the prevailing winds remain the best option for onshore wind energy development. Open and clear sites with average wind speeds of 8m/s or more at 80m above ground level are ideal.

2.4 Site Layout and Infrastructure

The overall layout of the proposed wind farm Site is shown in **Figure 2-2** to **Figure 2-5**. This figure shows the proposed locations of the turbines, associated infrastructure including the internal Access Tracks, Turbine Hardstands, Temporary Construction Compounds, Onsite Substation and site entrances. The layout and design of the proposed wind farm Site has been constraints led following the mitigation hierarchy of avoid, mitigate and offset. The iterative design process is applied to the design layout, turbine dimensions and site constraints as detailed in **Chapter 3 – Consideration of Reasonable Alternatives**.

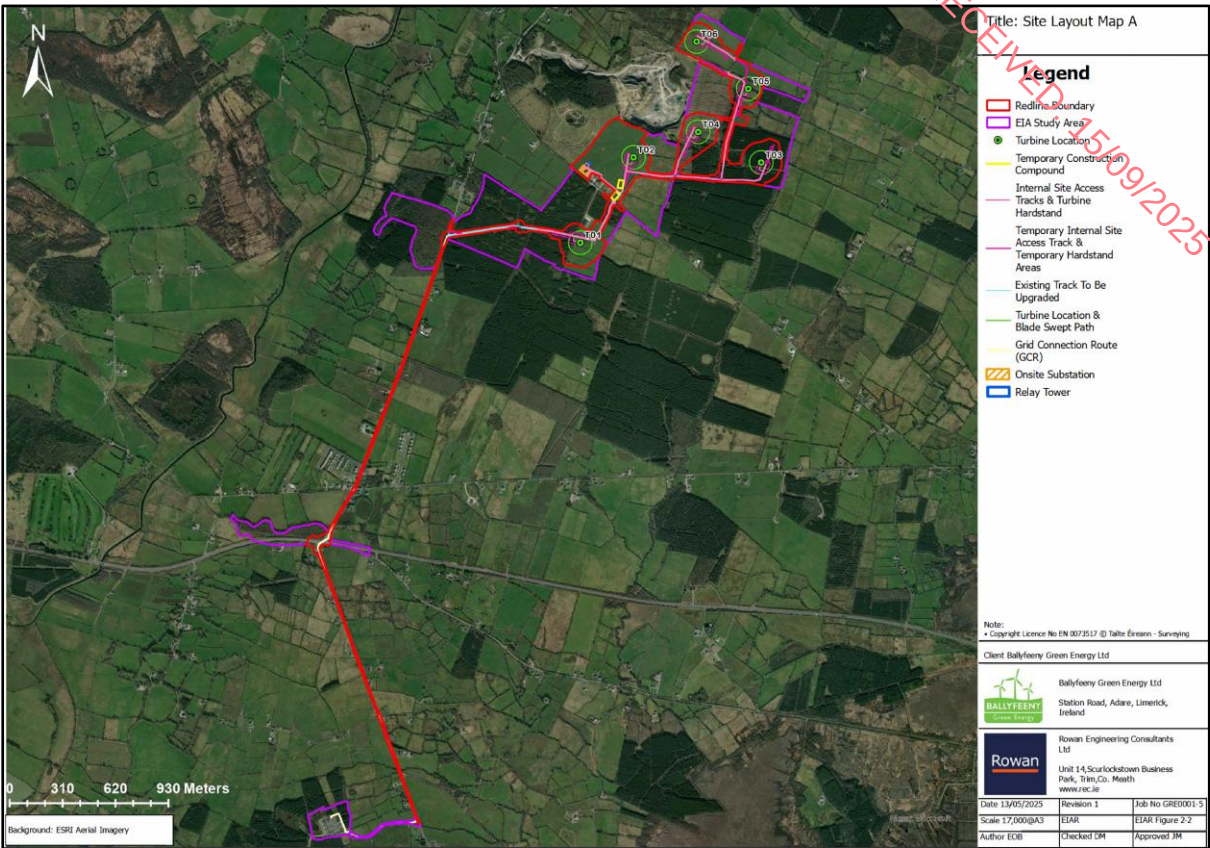


Figure 2-2: Site Layout Map A (Ref: EIAR Figure 2-2 (Volume 4))



Figure 2-3: Site Layout Map B (Ref: EIAR Figure 2-3 (Volume 4))

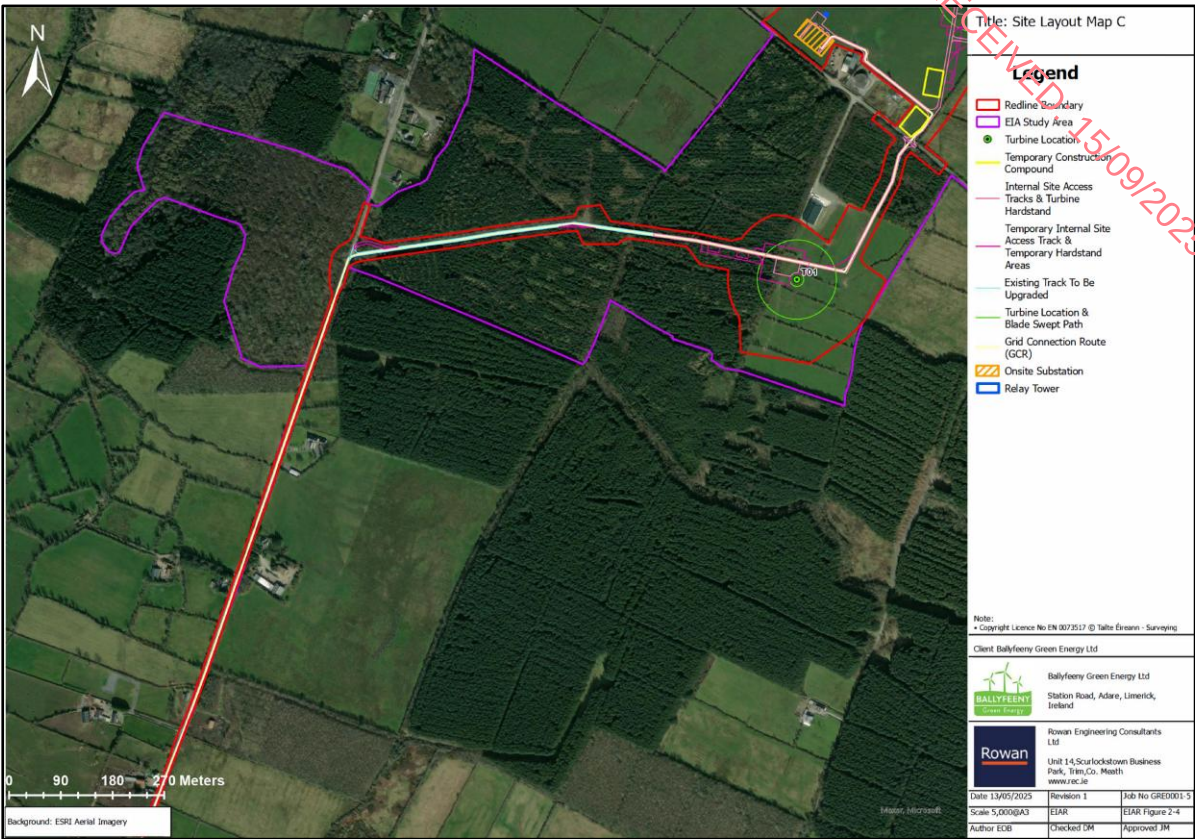


Figure 2-4: Site Layout Map C (Ref: EIAR Figure 2-4 (Volume 4))

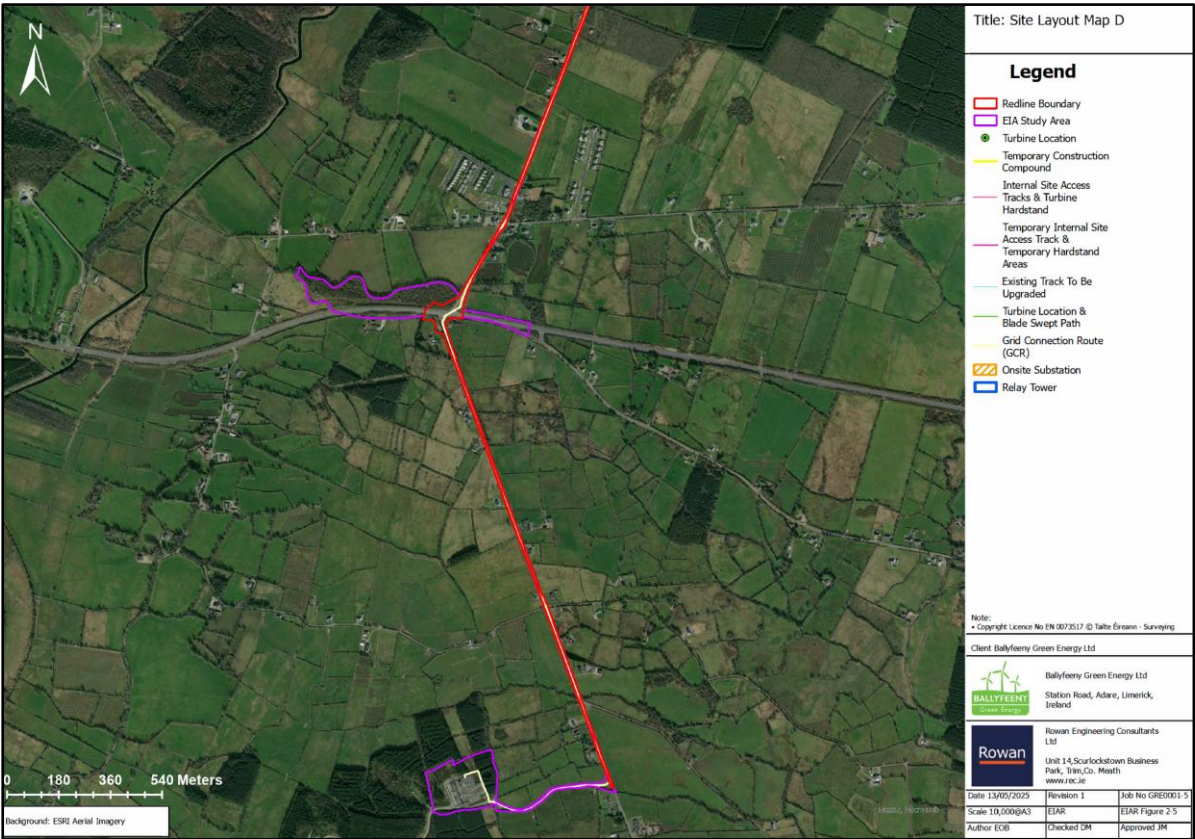


Figure 2-5: Site Layout Map D (Ref: EIAR Figure 2-5 (Volume 4))

The grid reference co-ordinates (ITM) of each WTG are listed in **Table 2-4**

Table 2-4: WTG ITM coordinates

Turbine ID	Easting	Northing	Ground Level at Turbine (m)
Turbine 1 (T01)	598032	781362	118
Turbine 2 (T02)	598343	781861	119
Turbine 3 (T03)	599091	781831	76
Turbine 4 (T04)	598722	782009	99
Turbine 5 (T05)	599015	782261	86
Turbine 6 (T06)	598713	782537	106

2.4.1 Turbine Technology

In accordance with the provisions set out by the Local Authority in **Appendix 1.5. DFR-25-1 - Notification of Opinion by LA**, the six wind turbines will have a total tip height of either 156m, 159m or 160m depending on which Technology Option is ultimately progressed. While the Applicant has sought flexibility for the turbine Technology Options assessed within this EIAR, flexibility is not sought for siting of the proposed turbine locations. Each of the three Technology Option are displayed in **Table 2-5**.

Table 2-5: Technology Options and associated parameters to be assessed

Turbine Parameter	Technology Option 1	Technology Option 2	Technology Option 3
Number of WTGs	6	6	6
Tip Height (m)	160	156	159
Rotor Diameter (m)	136	133	138
Hub Height (m)	92	90	90
MW Rating	4.5	4.8	4.26

**Modern wind turbines currently have a typical generating capacity in the 4 to 7 MW range, with the generating capacity continuing to evolve upwards as technology improvements are achieved by the turbine manufacturers. The exact power rating of the installed turbine will be designed to match the wind regime on the proposed Project and will be determined by the chosen manufacturer. For the purposes of this EIAR, the MW rated output for each Technology Option are shown in this table.*

Planning Drawings 23604-500, 501, 502 and 503 (Part 1) show the turbine parameter details for each Technology Option. Please note that Planning Drawings have rounded up decimal points to improve readability. The turbines installed on the site will comprise conventional three-bladed, tubular tower model with horizontal axis.

The nacelle and rotor are designed to rotate, or 'yaw', to face the prevailing wind. A wind vane located on the nacelle of the turbine controls the yaw mechanism. A control unit is typically located at the base of the turbine and an internal lift or ladder leads up to the nacelle where the shaft, generator and gearbox are located.

The turbine tower comprises a conical steel tube with multiple layer paint finish. Towers comprise a steel ring at the base of the tower, which is assembled on top of the concrete turbine foundations. The base of the tower is approximately 5m in diameter, tapering to approximately 4m where it is attached to the nacelle. The tower is accessed by a galvanised steel hatch door, which will be kept locked except during maintenance. The nacelle is approximately 5m in width and 20m in length.

The blades of the turbines are typically made of fibreglass or carbon fibre reinforced polyester and are aerodynamically shaped to improve efficiency and lower noise emissions.

2.4.2 Turbine Erection

For each turbine, once the Turbine Foundations and tower have been installed the final step involves the installation of turbines. Each turbine will take approximately one week to erect. The erection of turbines is undertaken using specially designed large-scale cranes to erect the turbine components. The cranes themselves will be constructed on site at the turbine hardstands and will have to be dismantled before progressing to the next turbine base location.

2.4.3 Turbine Colour

The turbines are multi-ply coated to protect against corrosion. The turbines will be a matt non reflective off-white or light grey colour, to blend into the surrounding sky background.

2.4.4 Site Entrance

The proposed wind farm Site will be accessed via 6 no. site entrances that will facilitate the construction, operation and decommissioning of the infrastructure. 4 no. of site entrances will be new entrances onto the public road with the remaining 2 no. being upgrades onto the public road and to an existing Coillte forest track. Of these, 4 no. entrances which will be permanent and used for operations and 2 no. entrance will be temporary, as detailed in **Table 2-6**.

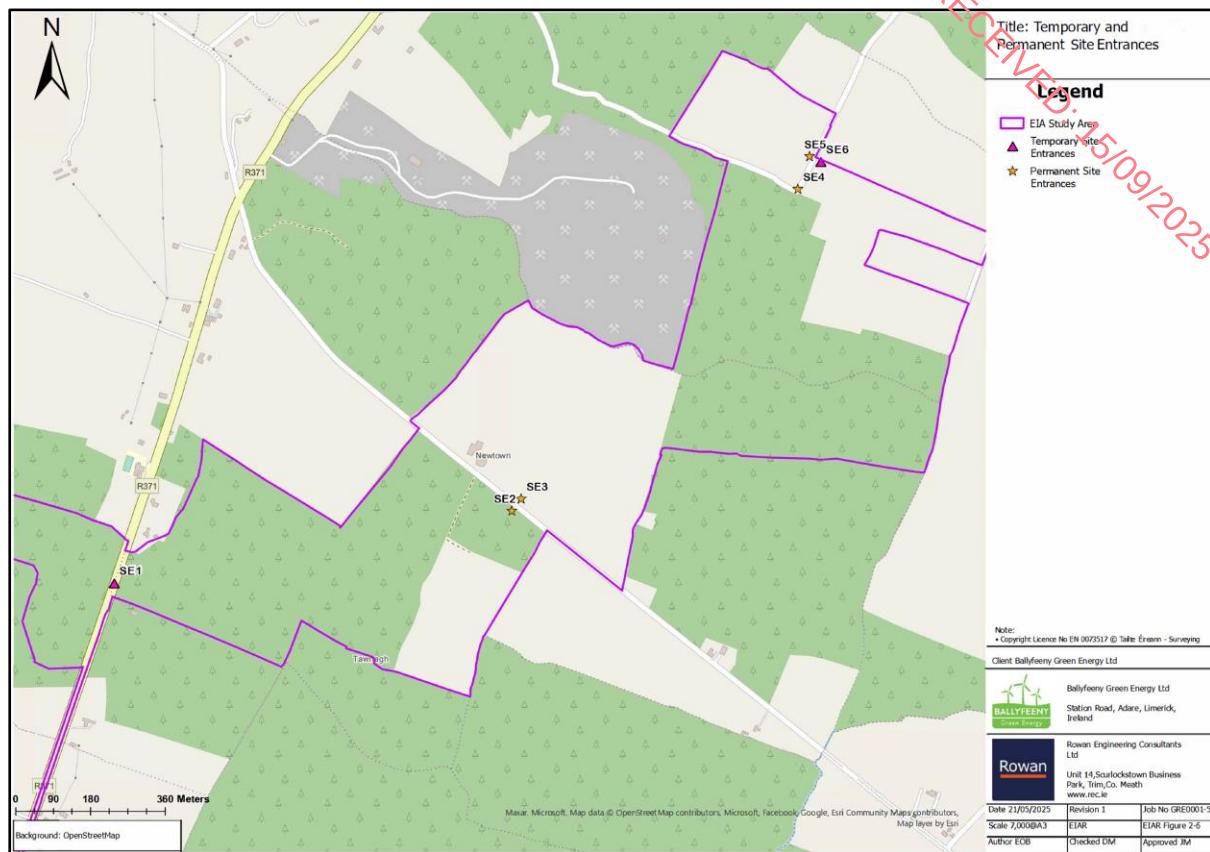


Figure 2-6: Temporary and Permanent Site Entrance Locations (Ref: EIAR Figure 2-6 (Volume 4))

Table 2-6: Site Entrance ITM Co-ordinates

Turbine ID	Easting	Northing	Details
Site Entrance 1 (SE1)	597265	781428	<u>Temporary</u> Entrance off the R371 servicing Turbine T01 during the construction phase. This is an upgrade to an existing Coillte forest track site entrance. This site entrance will accommodate abnormal load deliveries and construction traffic during the construction phase. SE1 will revert back to its original layout and use on completion of the construction phase. During Operation Phase this entrance may be re-established in the event that an abnormal load or loads are required as part of Turbine component repair or replacement.
Site Entrance 2 (SE2)	598071	781721	<u>Permanent</u> Entrance off the L6018 servicing the Turbine T01. This is a new site entrance onto the public road.
Site Entrance 3 (SE3)	598172	781649	<u>Permanent</u>

Turbine ID	Easting	Northing	Details
			Entrance off the L6018 servicing the Onsite Substation, Relay Tower, and Turbines T02 to T05. This is a new site entrance onto the public road.
Site Entrance 4 (SE4)	598908	782361	<u>Permanent</u> Entrance off the L60498 servicing Turbine T05. This is an upgrade to an existing field entrance onto an unsealed public road
Site Entrance 5 (SE5)	598956	782463	<u>Permanent</u> Entrance off the L60498 to Turbine T06, this is a new site entrance onto an unsealed public road.
Site Entrance 6 (SE6)	598970	782468	<u>Temporary</u> Entrance off the L60498 connecting the main wind farm track to SE5 to accommodate a straight run through with turbine component deliveries to T06. Except for abnormal loads, SE6 will not be used for construction traffic, a removable barrier will be constructed across the entrance to this road to prevent unauthorised use. This site entrance will be removed and the area reinstated on completion of abnormal load deliveries and the construction phase.

2.4.5 Site Access Tracks

The Site Access Tracks are necessary to allow access for cranes and delivery trucks during construction of the Project. The Access Tracks will be used during the operational phase for the service and maintenance of the wind turbines during the operational lifespan of the Project. A new entrance will be created on the L2034 road. Additionally, Access Tracks will be used to allow access for dismantling of infrastructure during the decommissioning phase.

As outlined in **Appendix 2.1 – CEMP**, it is proposed to construct approximately 3.9km of new and 0.5 of upgraded Access Track (4.4km in total of Access Tracks), at 5.5 m wide within the proposed wind farm Site. New and upgraded Access Tracks are displayed in **Figure 2-2**. The Access Tracks will be permanent tracks.

The tracks will take the form of an excavated track filled with Class 1C fill and finished with clause 6F2 crushed stone, a typical cross section is detailed on **Planning Drawing 23604-550 – Part 1**.

An existing Coillte forest track approximately 545m in length has been incorporated into the internal Access track layout, this will be upgraded to accommodate wind farm traffic loading

and width requirements. An existing track upgrade cross section is detailed on **Planning Drawing 23604-550 – Part 1**.

It is intended that materials required for the internal access tracks will be sourced from local quarries with preference for first consideration given by distance to the site **Figure 2-8** or **(EIAR Figure 2-8 (Volume 4))**. The majority of materials delivered to the Site will be quarry based products such as crushed stone aggregate, ready-mix concrete, concrete blocks and other stone, sand and concrete based products.

2.4.6 Drainage Design

A number of watercourses and surface water drains cross the public road along the GCR. These are displayed on the GCR Site Layout is depicted on **Planning Drawing 23604-300 to 308 (Part 1)**. The proposed GCR is adjacent to the Gortlustia Stream. The GCR also transects the Bellmount (or Cloggernagh) Stream further south just before the GCR turns west into Sliabh Bawn Substation Road.

The drainage design for both the new Access Tracks and existing track upgrade includes a cambered surface with a 2% cross fall to a 1.5m width drain. Within the site these drains are directed to settlement ponds and a hydrocarbon interceptor. Drainage design is depicted within **Planning Drawing 23604-550 (Part 1)**.

The implementation of erosion control prior to site clearance works to prevent runoff flowing across exposed ground is proposed, in addition to temporary settlement tanks in locations which require the pumping out of water. Additionally, removal and management of silt with construction runoff will be necessitated and deployed through a number of controls, including; Avoidance Controls; Source Controls, In-Line Controls, Water Treatment Controls and Outfall Controls. Further detail on Control Measures and their applications is detailed within the **Surface Water Management Plan (Refer Appendix 2.1.1)**.

2.4.7 Turbine Hardstands

All turbine suppliers have basic requirements for a Turbine Hardstand to be constructed beside each turbine. The Turbine Hardstand refers to the area where wind turbine components, transport and installation equipment is stored, placed or parked and includes vehicle parking areas, laydown and storage areas. It provides a safe area for the assembly of the main crane for the construction of the wind turbine. Hardstands will also be used for maintenance activities during the operational phase and also for decommissioning activities. Temporary set down areas will be created at each Turbine Hardstand to store wind turbine components such as

the rotor hub assembly, turbine blades, turbine towers, and nacelle. These areas will be made of compacted stone aggregate, these will be removed, and the areas reinstated on completion of the wind turbine deliveries.

The Turbine Hardstand areas requirements for the three Technology Options are nearly identical. Therefore, the hardstand design is shown with a single design that is suitable for all three Technology Options. This has been used for the purposes of the EIAR.

The dimension of a single turbine hardstand is circa 42m in length and 25m in width. There will also be smaller ancillary temporary stoned areas constructed in the vicinity of the Turbine Hardstand to store the wind turbine parts and components prior to erection. These ancillary temporary stoned areas will be removed, and the areas reinstated on completion of the wind turbine erection. See **Planning Drawing 23604-504 (Part 1)** for further detail.

To ensure that all wind turbine types are accommodated, the Turbine Hardstand **Planning Drawing 23604-504** has been prepared using the largest Turbine Hardstands and ancillary temporary stoned areas. Subject to which wind turbine type is selected, the Turbine Hardstands and ancillary temporary stoned areas may be micro-sited by up to 20m. This micro-siting allowance ensures that the least amount of earthworks and site stoning will be required on wind turbine selection and detailed design.

2.4.8 Turbine Foundations

The Turbine Foundations are steel reinforced concrete foundation Construction of the turbine foundation. The foundation is located under ground level and is used to support the turbine structure. Turbine Foundations are carefully designed to securely support the turbine structure against the forces generated by the wind. The foundations will require excavation down to suitable bearing strata and backfilling the trench with engineered fill up to the base of the foundation. Each turbine base will require a reinforced concrete foundation comprising a base slab bearing onto rock or other competent substrata with a central upstand to support the tower.

A Preliminary Ground Investigation Report (**Appendix 7.2**) has been carried out in support of the EIAR, of which determined suitable bearing strata varies between turbine bases. The depth of suitable bearing strata is outlined in **Table 2-7**.

Table 2-7: Depth Suitable Bearing Strata

Turbine	Depth to Suitable Bearing Strata (m)
T01	3.5
T02	3.5
T03	5.5
T04	5.5
T05	5.5
T06	3.5

The Turbine Foundation will be of circular shape on plan with an anticipated diameter of approximately 25.5m. The Turbine Foundation will require approximately 920m³ of poured concrete and 110 tonnes of steel reinforcement, this is based on the largest turbine Technology Option proposed, i.e., Technology Option 1.

Steel reinforcement will be installed as per the Wind Turbine foundation **Planning Drawing 23604-505 (Part 1)**. The foundation anchorage system will be set up, adjusted, and fastened to the steel reinforcement. Additionally, the foundation anchorage system will be inspected for level and alignment before pouring the concrete into the base. These checks will be submitted to the Wind Turbine supplier for their approval. Subsequently, ready-mix concrete will be delivered to the foundation by ready-mix concrete trucks via the site Access Tracks. Concrete will be poured into each base using a concrete pump, and vibrating pokers will be utilised to ensure proper compaction around the reinforcement. When concrete installation and finishing is complete, the foundation base will be covered and left to cure.

After the curing process, the formwork around the Wind Turbine base will be dismantled and taken away. Earth wires will be installed around the base prior to backfilling around.

2.4.9 Turbine Delivery Route

The components for the turbines will be delivered by cargo ships to the Port of Galway. The components for each turbine will be delivered in separate loads, some of which are abnormal in terms of their width and length. A TDR Assessment including a detailed SPA has been prepared for the proposed Project and forms part of the TMP.

TDR 1a and TDR 1b are assessed within this EIAR and are presented in **Figure 2-7**. The route commences at Galway Port, travelling west along the N6 and onto the M6 to the south of Athenry and Ballinasloe to Athlone. At this point TDR 1a would utilise the proposed N5 Ballaghaderreen to Scramoge Realignment Scheme, if this new section of road is available at the time of deliveries. This route would avoid bringing abnormal loads through the town of Strokestown. In the unlikely event that the new N5 Ballaghaderreen to Scramoge Realignment

Scheme has not been completed by the time deliveries are due to commence, TDR 1b, which is routed through Strokestown would be utilised. The TDR assessment and SPA considered both TDR 1a and 1b, as both routes have been assessed in the EIAR.

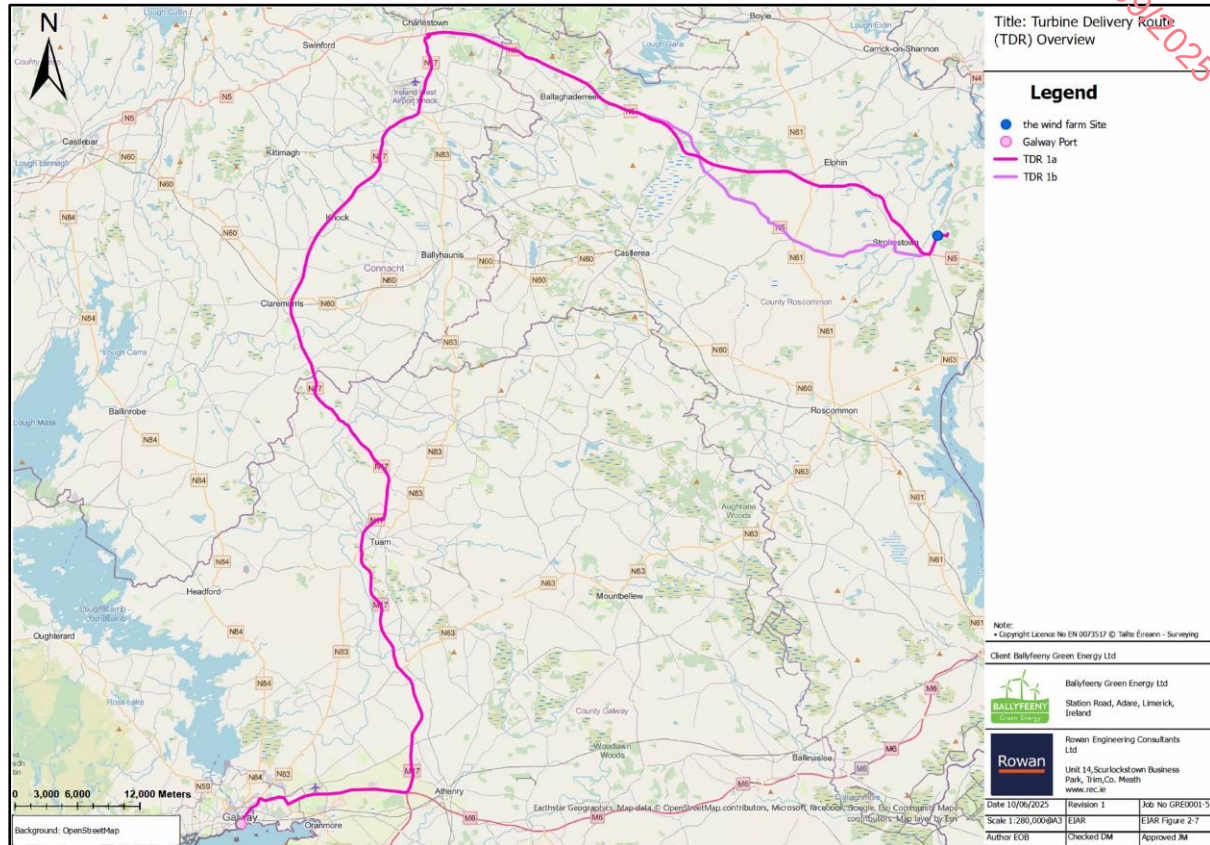


Figure 2-7: TDR Overview (Ref: EIAR Figure 2-7 (Volume 4))

Localised temporary accommodating works such as widening and stoning of public road verges and roundabouts will be required on the TDR 1a and 1b to facilitate abnormal load vehicle wheel over-run. Hedge and tree trimming will also be required as well as relocation of utility overhead lines, poles, lampposts, signage, and other street furniture.

Option 1a

The overall TDR is assessed in **Chapter 12 – Traffic and Transport** and is detailed in **Planning Drawings 23604-1000 to 23604-1002**.

There are temporary works required and/or over sail on thirteen (no. 13) nodes on the TDR between Galway port and the Site Entrance, as shown in **Planning Drawings 23604-1003 to 23604-1008**. The TDR works are summarised in **Table 2-1** and **Table 2-2** of **Section 2.2.2** of this Chapter.

Where works are required to roundabouts, traffic-islands and footpaths; this will involve stoning green areas and possibly strengthening concrete /blacktop areas to accommodate vehicle wheel loading.

Where load over-sail occurs in an area; obstructions such as street furniture, overground utilities hedging and trees are to be removed in the area. Street furniture includes items such as poles, lampposts, bollards, ornaments, benches, fencing, railings and signage. These works are needed temporarily during the period in which the turbine delivery is being carried out and are therefore not included within the Redline Boundary. However, all accommodating works associated with the TDR that are described in **Table 2-1**, have been assessed as part of this EIAR. The delivery of the turbine components will require co-ordination between local authorities, An Garda Síochána and Transport Infrastructure Ireland (TII) on details such as delivery timelines and potential temporary diversions. Further detail is outlined in the **Appendix 2.1.3 – Traffic Management Plan (TMP)** submitted with this application.

2.4.10 Construction Delivery Route

Equipment, plant, machinery and materials will be transported from the site of origin to the Site on national and regional roads. Site Entrance 1 off the R371 will be the primary site access for all deliveries and materials. Where possible, preference will be given to local nearby suppliers (**Figure 2-8**) to both support the local economy and reduce the necessity for transit the only exception is the TDR which is assessed separately. Further detail included in **Appendix 2.1.3 - TMP**.

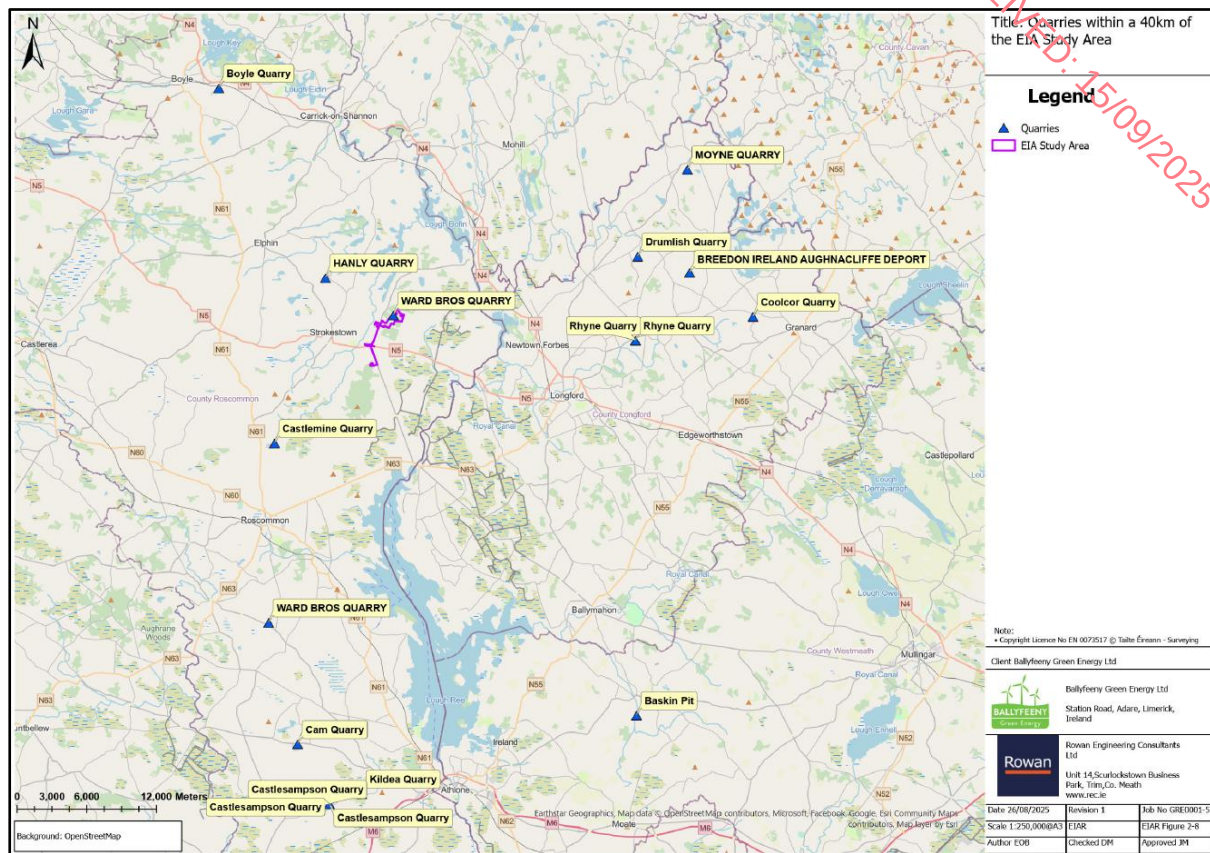


Figure 2-8: Quarries within a 40km radius of the wind farm Site (Ref: EIAR Figure 2-8 (Volume 4))

2.4.11 Relay Tower

A permanent telecommunications communications Relay Tower positioned at Irish grid reference c. E598178 N781670 ITM. will be installed as part of the proposed Project. The tower will be equipped with telecommunications equipment at various heights and will be a slender, free-standing lattice structure 33m in height, as shown in **Planning Drawing 23604-510 (Part 1)**. **Figure 2-9** displays the position of the Relay Tower within the proposed wind farm Site. The Relay Tower will be prefabricated off site and delivered by a single articulated lorry. Subsequently, the relay tower will be assembled on site onto a steel reinforced concrete foundation.

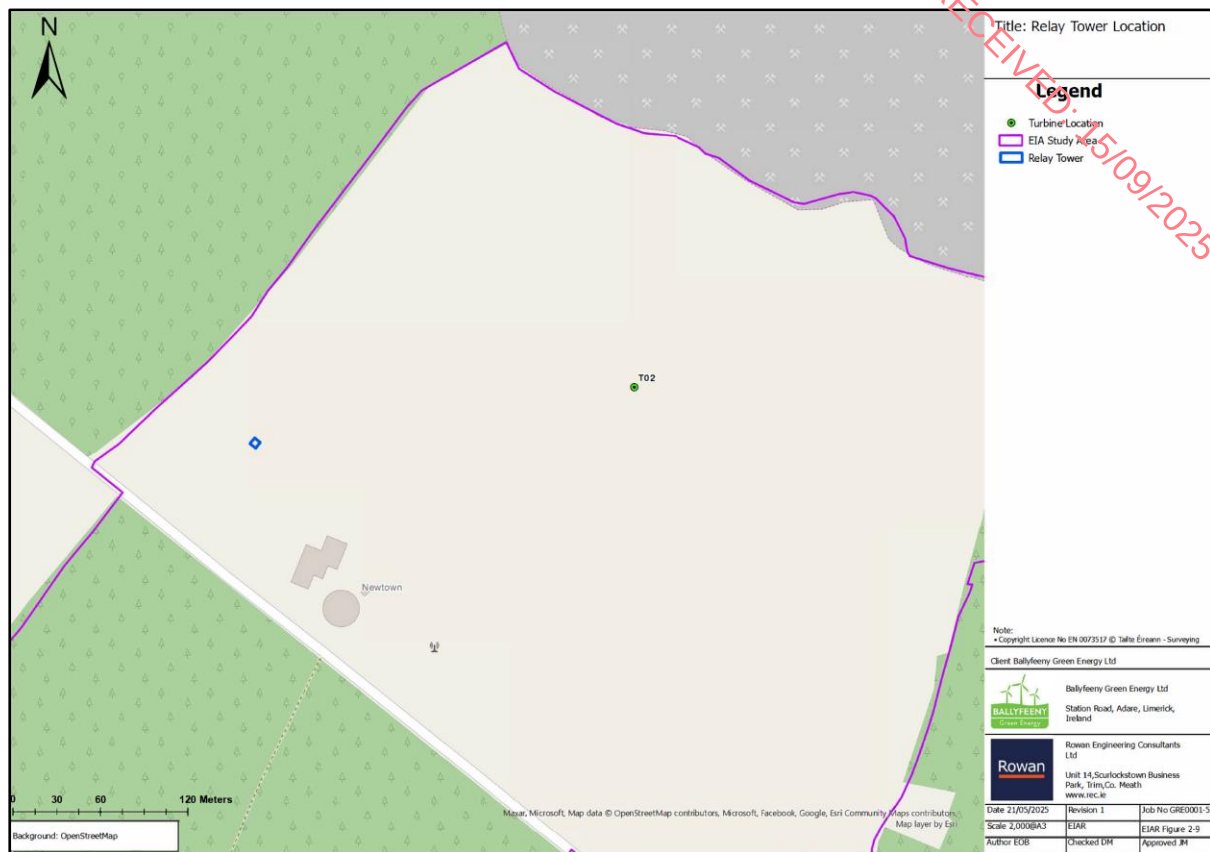
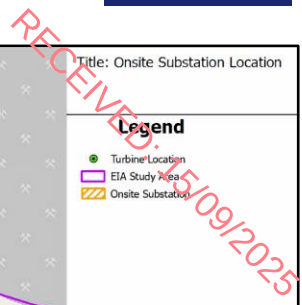


Figure 2-9: Relay Tower Location (Ref: EIAR Figure 2-9 (Volume 4))

2.4.12 Onsite Substation

It is proposed to construct an onsite 38kV electricity substation, control building and associated compound within the proposed wind farm Site (**Planning Drawing No. 23604-520 and 521 – Part 1**). This will provide a connection to the national grid via an underground 38kV transmission cable connection, to the existing Sliabh Bawn 110kV Substation. **Figure 2-10** details the location of the Onsite Substation positioned at Irish grid reference c. E598116 N781729 ITM. It will also provide a connection between the Onsite Substation and the wind turbines via the Wind Farm Internal Cabling network.



The footprint of the Onsite Substation compound will be 1,705m² and will comprise a block-built substation and control building (c. 130 m²), a 38kV electrical transformer contained in a concrete bund connected to a duty and stand by pump, Lidar equipment, a diesel tank and stand by generator, and associated electrical components that will be placed on concrete plinths and in concrete bunds. Palisade security fencing will be installed around the perimeter of the Onsite Substation compound and inside the compound to separate the Independent Power Providers outdoor electrical yard from the Electrical Supply Board Networks (ESBN) outdoor electrical yard.

Rowan ©

2.4.13 Wind Farm Internal Cabling

Each Wind Turbine will be connected to the proposed Onsite Substation via underground Medium Voltage (MV) cables. Fibre-optic cables will also connect each wind turbine to a control system located within the control building module in the Onsite Substation.

The electrical and fibre-optic cables will be run in cable ducts circa 1m below the ground surface located off Site Access Tracks.

2.4.14 Grid Connection Route

Ballyfeeny Green Energy Limited propose to connect into the Sliabh Bawn 110kV substation at Sliabh Bawn approximately 5km southeast of Strokestown Co. Roscommon. The underground grid connection is included in the proposed Development and Planning Application, and includes works from the proposed Onsite Substation, at Ballyfeeny to where the R371 meets the Sliabh Bawn Substation Road.

For the purposes of this EIAR, the works required within the existing Sliabh Bawn 110kV Substation and works to install the underground grid connection, along the Sliabh Bawn Substation Road to where it meets the R371, have been included as part of the assessment. However, these works will be subject to a separate planning permission and do not form part of this planning application. The underground grid connection works within the planning application Redline Boundary (RLB), the works required within the existing Sliabh Bawn 110kV Substation and along the Sliabh Bawn Substation Road to the R371, are collectively known as the Grid Connection Route (GCR).

The grid connection will consist of a 38kV underground cable, constructed primarily within private tracks and the existing public road network over a distance of approximately 5.8km. The design of the grid connection will comply with the grid operator's specifications and technical and operational requirements.

Connection will be sought from the grid system operations by application to ESBN through the Enduring Connection Policy (ECP) process. This is the current pathway for generators to connect to the electrical system in Ireland.

The GCR has been designed in accordance with comments received from Transport Infrastructure Ireland and Uisce Éireann during the **Scoping Consultation Responses (Appendix 1.3)**.

The proposed GCR development includes the following:

- 5.8km grid connection route to the existing Sliabh Bawn 110kV Substation;
- Construction of joint bays and communication chambers;
- Directional Drilling under the N5 national road and if required by the Local Roads Authority;
- Crossing of existing water courses, utility services, public roads and other structures using Open-Dig and Directional Drilling methods, as shown in **Planning Drawing 23604- 562 to 564 (Part 1)**;
- Relocation of existing services where required;
- Connection to Sliabh Bawn 110kV Substation; and
- All associated infrastructure for construction of the GCR.

This connection option involves crossing the N5 National Road and one watercourse crossing. The remaining sections will be installed in ducts which will be laid in excavated trenches.

The GCR will consist of 3 No. 110mm diameter High Density Polyethylene (HDPE) power cable ducts and 1 No. 110mm diameter HDPE communications duct to be installed in an excavated trench, typically 600mm wide by 1.235m deep, with variations on this design to adapt to bridge crossings, service crossings and watercourse crossings, etc. The power cable ducts will accommodate 1 No. power cables per duct. The communications duct will accommodate a fibre cable to enable communications between the Onsite Substation and the existing Sliabh Bawn 110kV Substation.

As the proposed GCR leaves the proposed wind farm Site, it turns right onto the R371 regional road. The proposed GCR will cross the N5 National Road at the R371/N5 junction. Directional drilling will be utilised, to install the connection under the road crossing and thereby minimising traffic disruption. **Figure 2-11** shows the GCR overview. Refer to **Section 5.8.10** of the CEMP (**Appendix 2.1**) for further detail of directional drilling.

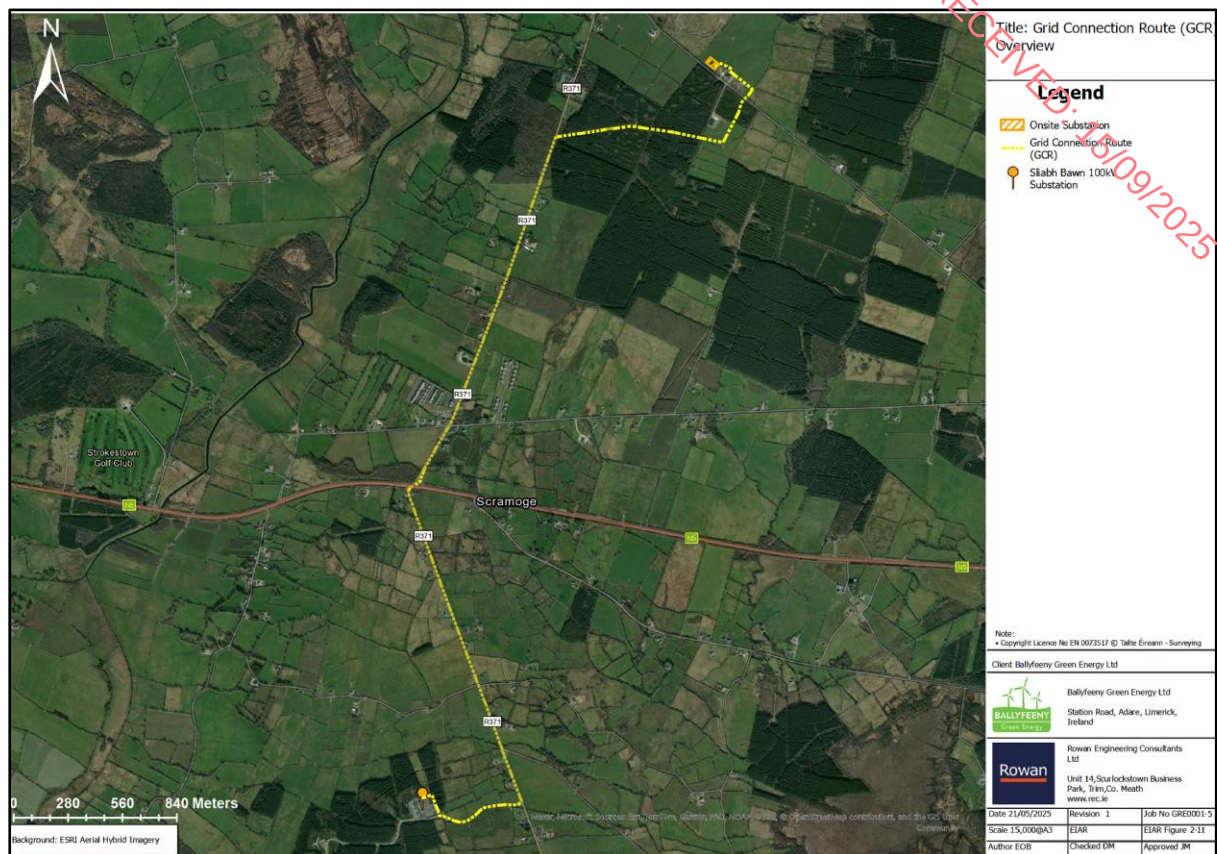


Figure 2-11: Grid Connection Route (GCR) Overview (Ref: EIAR Figure 2-11 (Volume 4))

At detailed design stage and prior to commencement of the works the contractor will undertake detailed surveys and scans of the proposed GCR and consult with service providers maps to confirm the presence or otherwise of any services. If found to be present, the relevant service provider will be consulted with in order to determine the requirement for specific excavation or relocation methods and to schedule a suitable time to carry out works.

Joint Bays will be provided to meet the requirements of standard cable drum lengths and or as required to limit cable pulling forces. Joint bays will be no further than 1200m centre to centre apart. Joint bays will be constructed as per ESN requirements. In association with joint bays, communication chambers are required at every point bay location to facilitate communication links between the proposed Onsite Substation and the existing Sliabh Bawn 110kV Substation.

As the Sliabh Bawn 110kV substation is a live station, ESN safety rules will apply from the substation building. ESN will be responsible for all works within the existing Sliabh Bawn 110kV substation and routing the grid connection cable from the last joint bay on the R371 to the substation compound. These works would include;

- Installation of additional air insulated switchgear electrical apparatus for transformer to connect to existing busbar within the Sliabh Bawn IPP substation building;
- Installation of 38kV/100kV grid transformer, and associated bund;
- Blast & fire wall between transformer and existing substation building;
- Installation of 3no 38kV distribution bays, approx. 7m in height, each consisting of disconnects, circuit breakers, current & voltage transformers;
- Installation of short section of 38kV underground cable through existing substation compound (to connect new 38kV distribution bays to new grid transformer);
- Installation of approximately 700m of 38kV underground cable from the 38kV distribution bays to connect to the final joint bay on the R371; and
- All associated ground works to facilitate this installation – digging, concrete pours, amendments to existing earth grid.

The EIAR includes an assessment of likely significant effects associated with the works required within the Sliabh Bawn 110kV Substation. However, these works do not form part of the development for which planning permission is sought and will be subject to a separate planning application.

During the operational phase, there will be minimal above ground infrastructure associated with the proposed GCR. There are no ongoing requirements for maintenance or access to the cables, however, access would be required in the event of emergency repairs, if necessary.

The GCR has been designed to be installed without affecting existing services. Should an unchartered service be encountered where a clash is unavoidable, it may be necessary to relocate the service to accommodate the GCR. The design and construction of this service relocation will be carried out in consultation with the affected Utility Provider and Roscommon County Council. Temporary and permanent construction details for proposed GCR crossing of watercourses and surface water drains are included within **Appendix 2.1 – CEMP**.

The Onsite Substation and GCR will become an ESB Networks asset and will be part of the electrical grid network and will not be decommissioned. They will remain *in-situ* post operation and decommissioning.

2.4.15 Horizontal Directional Drilling

Horizontal Directional Drilling (HDD) is a method of drilling under obstacles such as roadways, bridges, railways, water courses, etc. in order to install cable ducts under the obstacle. This method is employed where installing the ducts using standard installation methods is not possible or is impractical, or to minimise the potential for environmental effects. It is proposed

to utilise HDD at one location – at the N5/R371 road junction; to cross the N5 without open excavation of the road. HDD may also be utilised at other locations subject to the requirements of Roscommon County Council and / or the entity in charge of, or with responsibility for, the item to be crossed. **Figure 2-12** overleaf depicts a typical HDD Installation.

The drilling methodology is as follows:

- A works area of circa. 200m² will be fenced on both sides of the river/ railway crossing;
- The drilling rig and fluid handling units will be located on one side of the bridge and will be stored on double bunded 0.5mm PVC bunds which will contain any fluid spills and storm water run-off;
- Entry and exit pits (1m x 1m x 2m) will be excavated using an excavator, the excavated material will be temporarily stored within the works area and used for reinstatement or disposed of to a licensed facility if deemed unsuitable for reinstatement;
- A 1m x 1m x 2m steel box will be placed in each pit. This box will contain any drilling fluid returns from the borehole;
- The drill bit will be set up by a surveyor, and the driller will push the drill string into the ground and will steer the bore path under the watercourse;
- A surveyor will monitor drilling works to ensure that the modelled stresses and collapse pressures are not exceeded;
- The drilled cuttings will be flushed back by drilling fluid to the steel box in the entry pit;
- Once the first pilot hole has been completed a hole-opener or back reamer will be fitted in the exit pit and will pull a drill pipe back through the bore to the entry side;
- Once all bore holes have been completed, a towing assembly will be set up on the drill and this will pull the ducting into the bore;
- The steel boxes will be removed, with the drilling fluid disposed of to a licensed facility.
- The ducts will be cleaned and proven, and their installed location surveyed;
- The entry and exit pits will be reinstated to the specification of ESBN, EirGrid and Roscommon County Council;
- A transition coupler will be installed at either side of the bridge/ following the HDD as per ESBN and EirGrid requirements, this will join the HDD ducts to the standard ducts; and
- The directional drilling details are contained in the **Planning Drawing 23604-562 (Part 1)**.

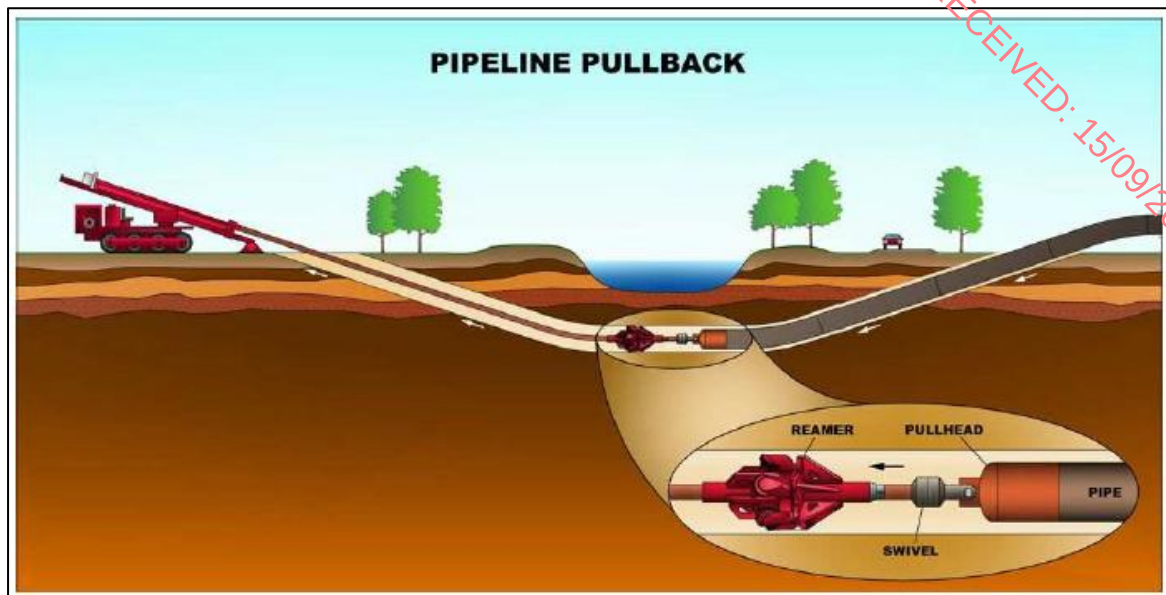


Figure 2-12: Typical HDD Installation

2.4.16 Temporary Construction Compound

2 No. Temporary Construction Compounds will be established on site, initially during the Enabling Works and completed at commencement of the main construction works. These compounds will also be re-established and used for the decommissioning phase of the project. Each will measure circa 1,260m² in total, as shown in **Planning Drawing 23604-206 (Part 1)**.

- **Temporary Site Construction Compound 1** – will accommodate temporary containers for welfare facilities, site offices, meeting rooms, canteen area and a drying room for sanitary provisions
- **Temporary Site Construction Compound 2** – will be for storage of construction materials and plant.

Subsoil and topsoil will be excavated, segregated and retained on site for refilling into the compound area at the Reinstatement phase. On completion of the construction works the Temporary Construction Compound areas will be dismantled and the hardcore will be grubbed up. This hardcore will be incorporated into the final reinstatement of the Project (Refer to **DMP – Appendix 2.1.4** for further detail. The area will be backfilled with stockpiled subsoil and topsoil and reinstated to previous use. Further detail on reinstatement is included in **Appendix 2.1 – CEMP**.

Temporary Construction compounds will be required during the construction and decommissioning phases and will be Reinstated following completed of works for both phases.

2.4.17 Electrical Power

Electrical power for the construction and decommissioning phases will be provided by means of a temporary generator.

2.4.18 Borrow Pits

During the design phase of the proposed project the potential for borrow pits was examined and found that suitable aggregates could be won from an on Site borrow pit if proposed. A borrow pit would require significant land take during the construction phase and with the underline geology of greywacke and black argillite, most likely blasting would be required in order to win sufficient aggregates for the proposed Project.

However, given the proximity of nearby quarries and concrete batching facilities (see **Figure 2-7**) to the proposed Project the most environmentally sensitive option was considered to utilise existing licenced quarry facilities to import aggregates to the proposed Project. (refer to **Chapter 3 – Consideration of Reasonable Alternatives**). Blasting will not be carried out as part of the proposed Project. The project has been designed to maximise the reuse of any construction excavated material within the site.

2.4.19 Conifer Plantations

Conifer plantations are one of the dominant habitats present within the proposed wind farm Site which makes up approximately 33.15ha. Conifer plantation is of potential value to certain notable species; namely bird species such as Woodcock, and terrestrial mammal species such as Pine Marten. However, as this habitat is of commercial nature, it provides limited ecological value to these species and will eventually undergo clear-felling. Approximately, 9.32ha to 9.72 of conifer plantations and 0.4ha of other woodland are proposed to be removed during the construction phase.

Permanent clear-felling of trees in the state requires a felling licence. The associated afforestation of alternative lands equivalent in area to those lands being permanently clear felled is also subject to licensing ('afforestation licensing'). Tree felling to facilitate the proposed Project will be carried out in a "Keyhole" manor in advance of the main construction works. In advance of tree felling, Tree Felling Licenses will be obtained from the Minister for Agriculture, Food and the Marine provides authority under the Forestry Act 2014, as amended. Management of the forestry is currently under the current landowners. Coillte are scheduled to conduct thinning of the forestry within the site and environs in 2025 in accordance with their felling schedule. It was noted by Coillte that

damage assessment of the effects of Storm Eoghan (January 2025) are ongoing and additional clearances of damaged forest maybe required in 2025 / 2026.

In light of the foregoing and for the purposes of this Project, the Developer commits that the location of any replanting (alternative afforestation) associated with the proposed Project will be outside any potential hydrological pathways of connectivity i.e., outside the catchment within which the proposed project is located. On this basis the afforested lands are identified, assessed and licensed appropriately by the consenting authority.

2.5 Construction Phase Methodologies

2.5.1 Construction of Site Entrances

There are 6 No. Site Entrances / exits in proposed to service the proposed Project; 4 No. permanent entrances. These are outlined in (Figure 2-5 above or EIAR Figure 2-5 (Volume 4))

Permanent Entrances

The 4 No. Permanent Entrances are outlined below:

- **SE2 – Site Entrance 2:** Entrance off the L6018 servicing the proposed Turbine T01, this is a new site entrance onto the public road;
- **SE3 – Site Entrance 3:** Entrance off the L6018 servicing the substation, Relay Tower, and Turbines T02 to T05, this is a new site entrance onto the public road;
- **SE4 – Site Entrance 4:** Entrance off the L60498 servicing the proposed Turbine T05, this is an upgrade to an existing field entrance onto an unsealed public road; and
- **SE5 – Site Entrance 5:** Entrance off the L60498 to proposed Turbine T06, this is a new site entrance onto an unsealed public road.

Temporary Entrance

Two Temporary Entrance is to be used for the delivery of turbine components and is outlined below:

- **SE1 – Site Entrance 1:** Entrance off the R371 servicing the proposed Turbine T01, this is an upgrade to an existing Coillte forest track site entrance; and
- **SE6 – Site Entrance 6:** Entrance off the L60498 connecting the main wind farm track to SE5 to accommodate a straight run through with turbine component deliveries to T06. Except for abnormal loads, SE6 will not be used for construction traffic, a

removable barrier will be constructed across the entrance to this road to prevent unauthorised use.

Site Entrance Design

As per **CEMP (Appendix 2-1)**, the proposed site entrances have been designed in accordance with TII Publication 'Rural Road Link Design 2017' (DN-GEO-03031), 'Geometric Design of Junctions (Priority Junctions, Direct Accesses, Roundabouts, Grade Separated and Compact Grade Separated Junctions)' (DN-GEO 03060) & The Roscommon County Development Plan 2022-2028.

The site entrances will be constructed to the requirements of Roscommon County Council. The requirement to ensure surface water from the proposed Project does not flow onto the public road. This will be achieved by creating a localised ramp across the width of the entrance. This ramp will direct surface water flow at the entrance into the site drainage network.

2.5.2 Construction of Site Access Tracks

It is proposed to construct approximately 3.9km of new and 0.5 of upgraded Access Track (4.4km in total of Access Tracks), at 5.5m wide. At construction stage there will be sections of track with temporary widened areas to accommodate abnormal load deliveries, these will be removed on completion of Turbine deliveries.

The tracks will take the form of an excavated track filled with Class 1C fill and finished with clause 6F2 crushed stone, a typical cross section is detailed on **Planning Drawing 23604-550 (Part 1)**.

An existing Coillte forest track approximately 545m in length has been incorporated into the wind farm track layout, this will be upgraded to accommodate wind farm traffic loading and width requirements. An existing track upgrade cross section is detailed on **Planning Drawing 23604-550 (Part 1)**.

Access Tracks will be constructed as follows:

- The proposed Access Track will have an overall width of 5.5m;
- The alignment of the new Site Access Tracks will be set out based on the construction drawings and the centreline marked out using ranging rods or timber posts;
- Topsoil will be excavated in the presence of the Archaeologist and removed to the temporary topsoil repository area for use in the permanent reinstatement works;

- The subsoil will be excavated to firm foundation as detailed on **Planning Drawing 23604-550 (Part 1)**. Subsoils will be stored onsite in accordance with the Spoil Management. (Refer to **CEMP (Appendix 2-1)**);
- As per **Planning Drawing 23604-550 (Part 1)**, well graded granular fill will be spread and compacted in layers and capped with clause 804 crushed aggregate;
- All new Access Tracks will be constructed with a fall to aid drainage of surface water; Access Tracks will be graded to ensure that all runoff is channelled towards the dirty water drains; and
- Where Access Tracks are being constructed within a Buffer Zone, a Roadside Drainage Berm will be constructed to direct surface water runoff from the track into drainage measures outside the Buffer Zone. This Roadside Drainage Berm will consist of a small embankment built along the length of the roadside open drain (dirty water drain).

2.5.3 TDR Temporary works on Existing Roads

Localised temporary widening and stoning of public road verges and roundabouts will be required on the TDR to facilitate abnormal load vehicle wheel over-run (Refer **Planning Drawing 23604-1000 to 2011 – Part 1**). Hedge and tree cutting will also be required as well as relocation of utility overhead lines, poles, lampposts, signage, and other street furniture.

Public Road Works for Turbine Delivery will include the following:

- Carry out construction stage SPA and confirm:-
 - Areas to be cleared of obstructions to allow for Turbine Component oversail;
 - Areas to be stoned to facilitate delivery vehicle over-run;
 - Hedge and tree cutting (Further detail in **Chapter 6 – Biodiversity**);
 - Relocation of utility overhead lines, poles, lampposts, signage, and other street furniture;
- Coordinate with Galway, Mayo, and Roscommon County Council's Roads Division, Utility Companies, Landowners and Local Residents on the proposed works;
- Obtain a Road-Opening Licence from Galway, Mayo, and Roscommon County Council Road Divisions, as part of this, the following will be prepared and submitted to the council:-
 - Detailed design drawings of the proposed works;

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- Works method statement and Risk Assessment;
- Traffic Management Plan;
- Insurance for the Works;
- Construction Programme;
- Traffic Management Measures will be implemented in agreement with the Local Authority prior to accommodating works taking place; and
- Tree and Hedge cutting will be undertaken outside the bird breeding season, which runs from 1st of March to the 31st of August (see **Chapter 6 Biodiversity**).

2.5.4 Turbine Hardstand Construction

Turbine Hardstands will be constructed to accommodate and support the wind turbine components, cranes and other plant during delivery and turbine erection. Turbine Hardstands will also be used for maintenance activities while the wind turbines are in operation. See **Planning Drawing 23604-504 (Part 1)** for details on the Turbine Hardstands.

The dimension of a single Hardstand is 42 metres in length and 25 metres in width. There will also be smaller ancillary temporary stoned areas constructed in the vicinity of the Turbine Hardstand to store the wind turbine parts and components prior to erection. These ancillary temporary stoned areas will be removed, and the areas reinstated on completion of the wind turbine erection. There are two hardstand designs, Hardstand Plan 1 and Hardstand Plan 2 as shown in **Planning Drawing 23604-504 (Part 1)**. The dimensions and area of the hardstands are the same for each design, but there are two orientations dependant on the position of the access to the Turbine. Hardstand Plan 1 with the turbine foundation in the top left corner and the hardstand area in front will be used for T01, T02, T04, T05 and T06. The layout for T03 is shown in Turbine Hardstand Plan 2, where, due to the location and orientation of the area, the turbine foundation is located in the bottom right corner of the hardstand. This will allow for turbine components such as blades to be delivered in the correct orientation for construction. The hardstands will be installed and utilised for the required construction areas without the need for additional land take or areas, namely the crane platform, temporary crane platform, assembly areas, blade storage area and any required parking for the construction period for each turbine. A temporary turning head will be present in construction to allow for turning of vehicles that will be removed and restored for operation. See **Planning Drawing 23604-504 (Part 1)** for further details.

As outlined in **Appendix 1.5 - DFR-25-1 Notification of Opinion by LA**, the Applicant has received confirmation from the Local Authority with regards to the turbine technology options assessed within the EIAR. The wind turbines proposed are similar in size, however, they differ slightly with regards to individual component sizes and their configuration on the Turbine Hardstand and ancillary temporary stoned areas. To ensure that all Technology Options are accommodated within the project design, the Turbine Hardstand **Planning Drawing 23604-504 (Part 1)** has been prepared using the largest Turbine Hardstands and ancillary temporary stoned areas of each of the Technology Options. The siting shape and design of hardstands has been developed with due regard to siting and exclusion buffers from any features of environmental sensitivity. Subject to which Technology Option is selected prior to the construction phase, the Turbine Hardstands and ancillary temporary stoned areas may be micro-sited by up to 20m, for engineering optimisation. This micro-siting allowance ensures that the minimum area required for earthworks and site stoning will be required for wind turbine erection and any micro siting will maintain the buffers to drains and other features, as outlined in the subsequent chapters. Further detail on Turbine Hardstand construction is detailed within **CEMP (Appendix 2.1)**.

2.5.5 Turbine Foundations

Each Turbine Foundation will require a reinforced concrete foundation comprising a base slab bearing onto rock or other competent substrata with a central upstand to support the tower.

Turbine Foundations are to be Gravity Base Foundations, also known as a Ground Bearing Foundations. The Gravity Base Foundation will consist of a reinforced concrete foundation comprising a base slab bearing onto rock or other competent substrata with a central upstand to support the tower. See **Planning Drawing 23604-505 (Part 1)** for foundation details.

Construction of the Turbine Foundation bases will require excavation down to suitable bearing strata and backfilling the trench with engineered fill up to the base of the foundation. Based on the results from the **Preliminary Ground Investigation Report (Appendix 7.2)**, submitted with this application, suitable bearing strata varies between turbine bases, the depth of suitable bearing strata and recommendations on foundation type are summarised in **Table 2-8**. Refer to **Chapter 7 - Lands Soil & Geology** and **CEMP (Appendix 2-1)** for further detail.

Table 2-8: Depth Suitable Bearing Strata

Turbine	Depth to Suitable Bearing Strata (m)	Turbine Foundation Recommendation
T01	3.5	Gravity Base Foundation in weak rock formation at 3.50m depth
T02	3.5	Gravity Base Foundation in weak rock formation at 3.50m depth
T03	5.5	Gravity Base foundation in weak rock formation if encountered at or before 5.50m depth, or foundation in weak rock formation if encountered at or before 5.50m depth, or Piled/rock anchored foundation, where suitable rock formation is >5.50 b.g.l
T04	5.5	Gravity Base foundation in weak rock formation at 5.50m depth, or Piled / rock anchored foundation, where suitable rock formation is >5.50m b.g.l
T05	5.5	Gravity Base foundation in weak rock formation if encountered at or before 5.50m depth, or foundation in weak rock formation if encountered at or before 5.50m depth, or Piled/rock anchored foundation, where suitable rock formation is >5.50 b.g.l
T06	3.5	Gravity base foundation in weak rock formation at 3.50m depth

The Turbine Foundation will be of circular shape on plan with an anticipated diameter of approximately 25.5m. The Wind Turbine foundation will require approximately 920m³ of poured concrete and 110 tonnes of steel reinforcement.

Figure 2-12 shows typical Gravity Base Foundation formation works, steel fixing and concrete pouring works.



Figure 2-13: Turbine Foundation, Steel Reinforcement and Concrete Pour

The construction will include the following:-

- The excavation area will be clearly marked and will be adjusted to ensure a safe working environment with sloped sides;
- The excavation process will involve hydraulic excavators moving excavated material to on-site repository areas using articulated dumper trucks or tractor and trailers;
- Topsoil will be excavated in the presence of an Archaeologist and removed to the temporary topsoil repository area for use in the permanent reinstatement works;
- The foundation formation will be formed by excavating subsoil to a suitable bearing stratum. Engineered Stone fill will be installed on the excavated subsoil and rolled in layers and plate tested as set-out in **Planning Drawing 23604-505 (Part 1)**;
- Subsoil will be temporarily stockpiled for reuse as part of backfilling and landscaping around the foundation. Spoil management areas are identified on **Planning Drawings 23604-250 to 258 (Part 1)**;
- A concrete blinding layer will be installed on the stone fill. This concrete blinding will be laid approximately 75mm thick directly on top of the stone fill, tamped and finished with a screed board to leave a flat level surface;
- Temporary drainage measures will be installed to de-water the excavation. Water entering the excavation may have a relatively high concentration of suspended solids, the settlement ponds receiving this water will be designed to accommodate this flow;
- Pumping water from Wind Turbine base excavations can lead to substantial flow rates into settlement ponds. Where possible drainage channels will be installed to de-water excavations via gravity flow. Where pumping is required to de-water deeper excavations, temporary storage will be provided within the excavations, and dewatering will be carried out at a flow rate that matches the capacity of the settlement ponds;

- Shutters and steel reinforcement will be installed on the concrete blinding, and the foundation of the Wind Turbine will be prepared for pouring of concrete;
- Steel reinforcement will be installed as per foundation **Planning Drawing 23604-505 (Part 1)**. The foundation anchorage system will be set up, adjusted, and fastened to the blinding using steel box section stools;
- Ductwork will be installed as needed, and formwork will be erected around the steel cage and propped from the backside, as necessary;
- The foundation anchorage system will be inspected for level and alignment before pouring the concrete into the base. These checks will be submitted to the Wind Turbine supplier for their approval;
- Ready-mix concrete will be delivered to the foundation by ready-mix concrete trucks via the site Access Tracks;
- Concrete will be poured into each base using a concrete pump, and vibrating pokers will be utilised to ensure proper compaction around the reinforcement;
- When concrete installation and finishing is complete, the foundation base will be covered and left to cure;
- After the curing process, the formwork around the wind turbine base will be dismantled and taken away;
- Earth wires will be installed around the base prior to backfilling around.
- The base area will be backfilled and filled over to make up the final levels using selected excavated material and crushed stone fill. As part of this, the Turbine Hardstand will be completed in the vicinity of the base; and
- To complete the area, a stone Access Track will be created to the wind turbine door and around the wind turbine for maintenance purposes. The remaining area will be topsoiled and landscaped.

2.5.6 Turbine Assembly Erection

The erection of the wind turbines will occur in the last month of the construction phase. The erection process generally takes one week per turbine. The erection of wind turbines is a specialist process with specially designed large-scale cranes required to erect the turbine components. The cranes themselves will be constructed on site at the Turbine Hardstand location and will have to be dismantled before progressing to the next wind turbine base location.

The construction of the turbines will include the following:

- Components are delivered and stored on Turbine Hardstands prior to assembly;
- The first section is bolted to the steel base, which is cast into the Turbine Foundation;
- The tower sections of the wind turbine are erected;
- The nacelle is then installed on top of the top tower section;
- Once the nacelle is installed the rotor hub is then installed in place;
- The blades are then lifted one by one and connected to the rotor hub; and
- Once the wind turbine is installed, electrical commissioning and final energisation follows.

The wind turbine erection process is a carefully managed and precision operation and the programming of this work heavily dependent on the availability of specialist plant and good weather windows. Further detail on the turbine erection process is included within **CEMP (Appendix 2-1)**.

2.5.7 Onsite Substation

Substation Compound

It is proposed to construct an Onsite Substation as shown on **Planning Drawing 23604-520** and **Planning Drawing 23604-520 to 540 (Part 1)**. This substation will provide a connection to the national grid via an underground 38kV electrical cable connection to Sliabh Bawn 110kV Substation.

The Onsite Substation compound will have an area of approximately 1,705m² and will include a block-built substation building, 38kV electrical transformer contained in a concrete bund connected to a duty and stand by oil sensitive pump, Lidar equipment, a diesel tank and generator, and associated electrical components that will be placed on concrete plinths and in concrete bunds. Palisade security fencing will be installed around the perimeter of the Onsite Substation compound and inside the compound to separate the independent power providers outdoor electrical yard from the ESNB's outdoor electrical yard. Further detail on construction of the Onsite Substation is included within **CEMP (Appendix 2-1)**.

Substation Building

It is proposed to construct a 38kV electricity substation building, within the substation compound as shown on **Planning Drawing 23604-525 (Part 1)**. The proposed 38kV substation building will be approximately 130m² will consist of the following rooms:-

- MV Switchgear Room;
- IPP Control Room;
- ESB Control Room;
- Store Room;
- Office; and
- Water Closet (WC).

The construction and electrical components of the Onsite Substation will be to ESB Networks **Planning Drawing 23604-527 (Part 1)**, Electrical Designer and Wind Turbine Supplier specifications and within the parameters assessed in the Planning Application and EIAR.

Substation Compound and Building Construction

The construction will include the following:

- The Substation compound area will be outlined using ranging rods or wooden posts.
- Perimeter drains will be installed or upgraded to collect surface water run-off from the Onsite Substation compound. This will involve the installation of check dams, silt traps and level spreaders to manage surface run-off effectively. Further detail is included in the **SWMP (Appendix 2.1.1)**;
- Topsoil will be stripped and carefully stockpiled for future landscaping use;
- Subsoil will be excavated and retained on site by incorporating it into the perimeter of the compound area;
- The Onsite Substation compound will be formed by constructing compacted layers of suitable hardcore;
- The foundations for the substation building will be excavated down to the level indicated by the Design Engineer and concrete trench fill will be poured;
- Steel reinforcement will be laid in place over the concrete trench fill and concrete foundations will be poured;
- The blockwork walls for the building will be built up from the foundations to DPC level and the floor slab will be constructed, having first located any ducts or trenches required by the follow on mechanical and electrical contractors;
- Scaffold will be erected around the outside of the building;

- The blockwork will then be raised to wall plate level and the gables & internal partition walls formed;
- The concrete roof slabs will be lifted into position;
- The construction and components of the substation buildings will be to ESBN specifications;
- The timber roof trusses at the building will be lifted into position using a telescopic loader or mobile crane depending on site conditions. The roof trusses will then be felted, battened, tiled and sealed against the weather.
- Installation of a domestic wastewater holding tank to hold effluent, fitted with a high level alarm, from the toilets within the substation building;
- Installation of a rainwater harvesting tank to collect rainwater from the roofs of the substation building for toilet flushing and hand washing;
- Construction of foundations for CCTV security monitoring poles and palisade fencing will be commenced;
- Construction of the transformer bund, equipment plinths etc. within the substation compound will be carried out;
- Construction of underground cable ducts and trenches within the substation compound will be carried out;
- Installation of electrical equipment within the substation compound and buildings including transformers, busbars, circuit breakers, cable supports, switchgear, panels etc. and all associated cabling;
- CCTV Security Monitoring will be mounted on steel columns anchor-bolted to reinforced concrete foundations;
- Perimeter security fencing and gates will be installed around the compound perimeter on completion of the installation of all electrical components within the compound including those outlined below; and
- On completion of the ground works, areas to be returned to greenfield will be re-topsoiled and landscaped.

2.5.8 Proposed GCR: Trenching Methodology and Duct Installation

Cable Trenching Methodology

Cable ducts will be placed within a trench approximately 1.235m deep and 0.600m wide as per **Planning Drawings 23604-556 and 560 (Part 1)**. The following list of items will be adhered to during the construction of the GCR:

- All trenching works will be undertaken to ensure that only short sections of trench are open at any one time.
- At watercourse crossings, the contractor will be required to adhere to the environmental control measures outlined within the EIAR, **CEMP** and the **SWMP**, included within **Appendix 2.1** and **Appendix 2.1.1**, respectively;
- Where the cable route intersects or other service, the ducting will be installed either above or below the culvert or other service to provide minimum separation distances in accordance with ESNB's UG Cable Specification contained in **Appendix A** of the **CEMP (Appendix 2.1)**.

Typical trench layouts for a GCR within a roadway and within grassed areas are shown in **Figure 2-14** and **Figure 2-15**.

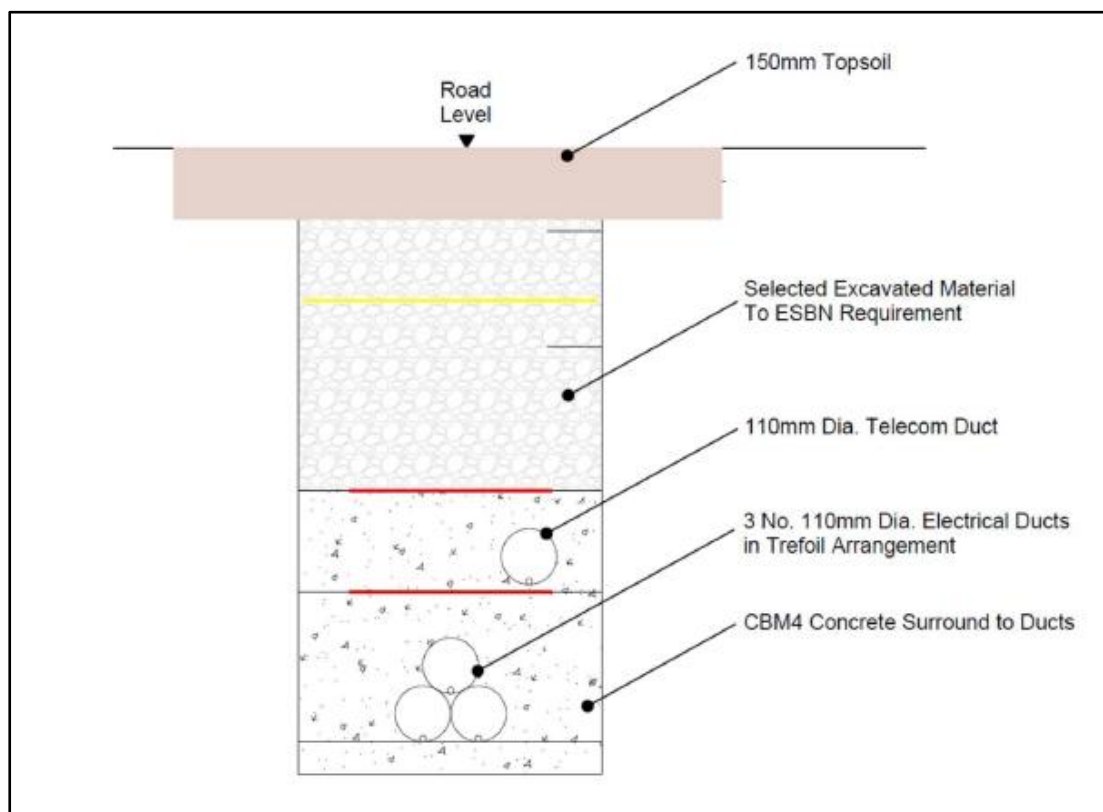


Figure 2-14: Typical Cable Trench Layout in Green Field

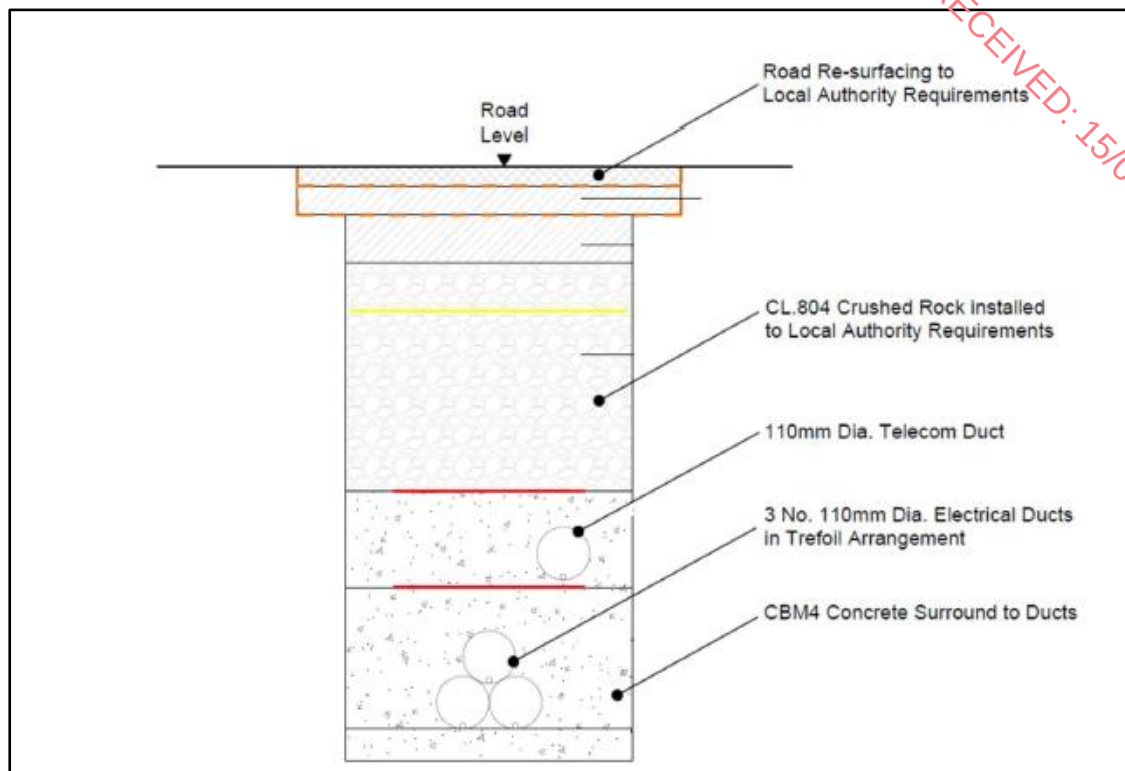


Figure 2-15: Typical Cable Trench Layout in Public Road

The proposed sequence of works is as follows:

- Prior to commencement, the proposed design for the GCR works including proposed traffic management will be reviewed and agreed with Roscommon County Council's Road Engineer;
- The proposed works will also be reviewed and agreed with other stakeholders including; the IFI, TII, OPW, and ESBN;
- The contractor will carry out an on-site assessment of the works area and prepare a proposed works methodology for review and agreement with Roscommon County Council;
- Road opening licence, road closure and partial lane closure permits will be obtained from Roscommon County Council;
- Existing underground services along the GCR route will be surveyed;
- Traffic control measures will be implemented;
- Pollution control measures will be implemented in advance of any excavation works being undertaken; and

- The trench will be excavated to the required dimensions, approximately 600mm wide and 1,235mm deep.

Cable Ducting Methodology

The 38kV medium voltage underground cable duct construction is to be a 38kV XLPE cable duct in accordance with ESB Networks' 'Functional Specification for The Installation of 38kV Underground Power Cables for Contestable Projects' as detailed within **Appendix 2.1 - CEMP**.

The proposed sequence of works is as follows:

- Grade, smooth and trim trench base when the required depth and width have been obtained;
- Create a bedding layer using lean mix concrete CBM4;
- Lay the bottom row of ducts in trefoil formation as detailed on **Planning Drawings 23604-556 and 23604-560 (Part 1)**. Use spacers as appropriate to establish horizontal duct spacing;
- Place red cable protection strips on compacted CBM4 directly over the ducts;
- Surround the ducts with CBM4 lean mix concrete and lay the top duct onto the freshly compacted CBM4 including the cable protection strips above the bottom row of ducts.
- Surround and cover the top duct with CBM4 material and thoroughly compact without damaging ducts.
- Place red cable protection strip on top of compacted CBGM B over each set of ducts as shown on the drawings.
- Place and thoroughly compact CBM4 material or Clause 804 backfill, or soil backfill as specified and place warning tape at the depth shown on the **Planning Drawings 23604-556 and 23604-560 (Part 1)**.

Reinstate existing surface;

- For road sections, carry out immediate permanent reinstatement in accordance with the requirements of Roscommon County Council, TII and/or private landowners, which ever applies;

- For unsurfaced/grass sections, backfill with suitable excavated material to ground level leaving at least 100mm topsoil or match existing level at the top to allow for seeding or replace turves to the requirements of Roscommon County Council and/or the landowner, whichever applies; and
- Clean and test the ducts in accordance with the specification by pulling through a brush and mandrel. Install 12mm polypropylene draw rope in each duct and seal all ducts using robust duct end seals fitted with rope attachment eyes in preparation for cable installation at a later date.

2.5.9 Internal Underground Cabling: Trenching Methodology and Duct Installation

Wind Farm Internal Cabling

Each wind turbine will be connected to the proposed Onsite Substation via underground Medium Voltage (MV) cables. Fibre-optic cables will also connect each wind turbine to a control system located within the control building module in the Onsite Substation. The electrical and fibre-optic cables will be run in cable ducts circa 1m below the ground surface located off the site Access Tracks.

The cabling construction work will include the following:

- A trench approximately 1.1m deep and 0.5m wide will be dug to accommodate the cable ducts;
- The trench base will be graded, smoothened and trimmed when the required depth and width have been obtained;
- Cable ducts will be installed within the trench, a typical cross section through the cable ducting and cable is contained in **Planning Drawing 23604-555 (Part 1)**;
- The typical fill over the cable ducting and bedding surround will consist of selected excavated backfill material;
- Surplus spoil for the excavation and refilling works will be deposited in spoil repository areas;
- Where cable ducting crosses the Access Track; the cable trench will be backfilled with lean-mix concrete in order to protect the ducting from heavy axle loads passing over;
- Where cable ducting crosses an open drain or watercourse; the ducting will be installed at a lower level to allow it pass under the drain or watercourse;
- Marker tape will be placed within the trench after part backfilling for identification and safety purposes in accordance with **Planning Drawing 23604-555 (Part 1)**; and

- Cable marker posts will be installed at regular intervals and at change of directions along the line of the cable route. Cable marker posts will either be made of concrete, recycled plastic or timber material. Each marker post will contain appropriately worded warning signage highlighting to persons the presence of high voltage electricity cables underneath.

2.5.10 Installation of the Relay Tower

A permanent telecommunications Relay Tower will be installed as part of the proposed Project. The Tower will be equipped with telecommunications equipment at various heights and will be a slender, free-standing lattice structure 33m in height. The Tower will be constructed on a Hardstanding area sufficiently sized to accommodate the crane that will be used for its erection.

Relay Tower Structure

The Relay Tower will be a steel lattice tower structure and it will be prefabricated off site and delivered via 1 No. articulated lorry.

Construction of the Relay Tower will include the following:

- The extent of the excavation will be marked out and will include an allowance for trimming the sides of the excavation to provide a safe working area and slope batter;
- Topsoil will be stripped over the works area temporary stockpiles for reuse;
- Subsoil will be excavated and temporarily stockpiled for reuse as part of the backfilling and landscaping around the finished Relay Tower; (**Planning Drawing 23604-251 – 258, Part 1**);
- All groundwater and surface water arising from the excavation of the foundation will be pumped to the dirty water system prior to discharge from the works area;
- Topsoil excavation will be overseen by the project Archaeologist in accordance with the scheme of archaeological monitoring (see **Chapter 13 Archaeology, Architectural and Cultural Heritage**);
- The foundations for the Relay Tower will be excavated down to the level indicated by the Geotechnical Consultant and marked on **Planning Drawing 23604-510 (Part 1)**;
- The foundation excavation will be raised to formation level by compacted layers of well graded granular material will be spread and compacted to provide a hard area for the Relay Tower foundation;
- The reinforced concrete foundation will be poured; and
- The Relay Tower prefabricated off site will then be erected onsite.

2.5.11 Spoil Management

It is envisaged that all excavated material generated during construction will be retained on site and, where appropriate, incorporated into the works. However, an allowance of 10% of total excavated spoil material has been made for removal off site.

An example of materials to be removed from site are excavated material from the public road which have bitumen mixed through. Depending on the constituents of the bituminous road make-up, this material may be inert or non-inert waste. This material will be transported off site by an appropriately authorised waste collector and disposed of at an appropriately licenced waste facility or recycled or reused as byproducts. Further detail on waste material removed from site is set-out in the WMP (EIAR, Volume III, Chapter 2.1.2; Waste Management Plan).

It should be noted that the field surveys undertaken for the proposed Project identified no evidence on site of Invasive Alien Plant Species listed under the third schedule of S.I. 477 or the first schedule of S.I. 347 EU Regulations, further detail is contained in EIAR, Volume II, Chapter 6: Biodiversity.

Initially excavated material will be stored in Temporary Spoil Storage Areas, and later, selected spoil will be incorporated into the works as they are completed. Temporary Spoil Storage Areas are identified on Planning Drawings 23604-201 to 208.

Spoil will be utilised in the construction of permanent track side bunds / low earthen mounds along the edge of the access tracks, to control and divert surface water, prevent erosion (See EIAR, Volume II, Chapter 8 Water, Hydrology and Hydrogeology and Planning Drawings 23604-400 to 405) and to provide a barrier to keep vehicles from leaving the Site access tracks. Spoil will be utilised to create low earthen mounds to support the enhancement / new planting of hedgerow and treelines.

Upon completion of the construction works, all remaining excavated material will be integrated into the final landscaping, blending seamlessly with the existing terrain to avoid leaving any mounds of spoil around the Site. See **Planning Drawing 23604-251 to 258** and **23604-551** for Spoil Management details.

Temporary construction areas such as the Temporary Construction Compounds, Turbine Hardstand assembly areas, blade fingers etc. will be reinstated utilising stored material from the Temporary Spoil Storage Areas.

Excavation volumes have been calculated based on the findings of the **Preliminary Ground Investigation Report (Refer Appendix 7.2)** which has been prepared as part of the EIAR.

Table 2-9: Estimated Volumes of excavated topsoil and subsoil

Spoil Volumes		
Item	Unit	Quantity
Total Excavation Volumes	m ³	62,731
Excavated Material Stored or Reused Onsite	m ³	56,458
Excavated Material Removed from Site	m ³	6,273*

* An allowance of 10% of total excavated spoil material has been made for removal off site.

2.5.12 Onsite Drainage Controls

Temporary and permanent surface water drainage network and systems has been designed to be easily maintained and suitable for the duration of the construction and operation phases of the proposed Project. During the construction phase, there will be no direct discharge to existing watercourses; discharge will be by means of Levels Spreaders discharging over vegetated natural surfaces. Refer to **(Part-1) Planning Drawings 23604 – 400 to 404, Appendix 2.1 CEMP and Appendix 2.1.1 SWMP** for further details.

2.5.13 Construction Phase Sequencing

For the proposed Project, it is envisaged that the construction phase will last approximately 24 months. **Table 2-10** details the works in their key phases, some of which may run in parallel.

Table 2-10 Key Construction Phases

Phase	Activity	Estimated Duration
1	<u>Detailed Design Stage – for construction</u> - Detailed Civil, Structural and Electrical Design Works - Planning Compliance Works - Environmental Compliance Works - Pre-Construction Surveys	6 months over approximately a 15 month period
2	<u>Civil Engineering Enabling Works</u> - Setting out site boundaries - Tree felling and hedge cutting - Site entrance works to create access - Temporary Construction Compound - Advance drainage works and silt control measures	3 months
3	<u>Civil Engineering Main Site Works</u> - Upgrade and widening of Public Road in Vicinity of Site - Access Road Construction - Crane Hardstand Construction - Drainage Works	8 months (Pre-Turbine Delivery)

Phase	Activity	Estimated Duration
	- Initial Reinstatement Works (pre-Turbine Delivery) - Final Reinstatement Works (Post-Turbine Delivery)	2 months (Post-Turbine Delivery)
4	<u>Structural Engineering Works</u> - Wind Turbine Foundation Construction - Relay Tower Foundation Construction - Substation Construction	4 months
5	Wind Farm Internal Cabling	4 months
6	Turbine Delivery Route Enabling Works	3 months
7	Turbine Delivery, Erection and Commissioning	6 months
8	<u>Site Electrical Works</u> - Employer (IPP) Electrical Installations & Commissioning - ESB Networks Electrical Installations & Commissioning	6 months
9	<u>Grid Connection Works</u> - Ducting Works - Cable Installation Works - Final Connection Works in ESB Substation	5 months
10	Final Commissioning of the Development	1 month
Total Duration on Site (some phases will run in parallel)		18 months

All vegetation clearance that is required for the construction works will be carried outside the bird breeding season, which runs from the 1st of March to the 31st of August. To comply with this requirement a section of the initial Civil Engineering Works may be carried out as advance enabling works in the months from September to February.

2.5.14 Pre-Construction Surveys

Prior to commencement of the construction works pre-construction surveys will be carried out to be used as part of the construction stage design and to meet the requirements of the EIAR and if required, planning conditions.

These surveys will typically include:

- Detailed Geotechnical Site Investigations;
- Road Condition Surveys;
- Ecological Surveys (see **Chapter 6 Biodiversity**)
- Environmental Surveys; and,
- Archaeological Surveys.

2.5.15 Civil Engineering Enabling Works

Civil Engineering site enabling works will precede the commencement of main constructions works. Any vegetation clearance that is required for the construction works will be carried out outside the bird nesting season, which runs from 1st of March to the 31st of August. **Chapter 6 – Biodiversity** details temporary seasonal buffers that may be applied to works in relation to a potential peregrine falcon nesting site in the adjacent quarry.

Other enabling works to be carried out will include topographical setting out to demarcate the site boundaries, site entrance works, temporary construction compounds set-up, together with advance drainage works and silt control measures. Site drainage works for the construction phase are detailed fully within the **CEMP (Appendix 2-1)**.

2.5.16 Commissioning of the proposed Project

The final stage of the project's construction involves the commissioning of the turbines, Onsite Substation and underground grid connection. This will involve testing for compliance with standards and for compliance with the National Electricity Grid Code. The Project will be authorised by ESB Networks/EirGrid to export electricity onto the National grid once test results for compliance are deemed satisfactory.

2.5.17 Construction Phase Working Hours

The proposed construction phase working hours, subject to agreement with the Local Authority are:

- Monday – Friday: 0700 - 1900hrs; and
- Saturday: 0700 - 1400hrs.

To ensure that optimal use is made of good weather periods or at critical periods, it may be necessary to work outside of these hours. Any such out of hours working will be agreed in advance with the relevant local authority.

2.5.18 Construction Phase Employment

For the wind farm construction, a peak workforce of approximately 35 persons is anticipated on the wind farm Site and approximately 10 persons on the GCR. There will be peaks and troughs in the numbers, with a larger workforce during the general site works.

2.5.19 Construction Environmental Management Plan

A CEMP which supports the planning application for the proposed Project is provided in **Appendix 2.1**. The primary objective of the CEMP is to provide a framework to ensure that

appropriate environmental controls and mitigation measures identified in the EIAR are implemented during the construction phase of the proposed Project. It also sets out management measures that will continue into the operation and decommissioning phases. Underground Cable Specifications, Summary of mitigation measures and Environmental Management Plans (EMP's) are appended to the **CEMP (Appendix 2.1)**.

EMP's detailed within the CEMP are as follows:

- **EMP 1** – Site Environmental Training and Awareness
- **EMP 2** – Construction Noise & Vibration Management
- **EMP 3** – Air Quality & Climate
- **EMP 4** – Fuel, Oil & Chemical Management
- **EMP 5** – Concrete Pour Management
- **EMP 6** – Biosecurity Management Plan
- **EMP 7** – Groundwater Protection
- **EMP 8** – Soils & Geology Management
- **EMP 10** – Archaeological & Heritage Protection
- **EMP 11** – Accidents & Incidents Plan
- **EMP 12** – Complaints Management Plan

The CEMP will be implemented by the Applicant and the appointed contractor(s). It will be a live document that will be further detailed as the construction phase progresses. An Environmental Manager and/or Environmental Clerk of Works (ECoW), with appropriate experience in large scale infrastructure development and with relevant qualifications will be appointed for the duration of the construction phase and have responsibility for the implementation of the CEMP.

A refined version of the CEMP, which will incorporate any additional requirements arising from planning conditions on a granted Project will be submitted to the local authority, prior to the start of the construction phase.

2.5.20 Refuelling

The management of using and storing fuel, oil and other chemicals on site will be as follows:

- Using bunded refuelling/storage areas to ensure all fuels, oils and chemicals are kept within a bunded area, 50 metres from watercourses and away from other environmentally sensitive areas.

- Ensuring bunded areas to have 110% capacity of the total volume of store fuel/ oil/ chemicals;
- Ensuring the refuelling of construction machinery and vehicles is carried out in designated refuelling areas using a prescribed re-fuelling procedure;
- Construction of the bunded area are to be constructed in accordance with AS 1940:2004;
- Ensuring an appropriate spill kit is readily available and stocked. Spill kits will be maintained on the mobile fuel truck and at numerous locations on the Project site.

2.5.21 Construction Traffic Management

A **Traffic Management Plan (TMP)** has been submitted with this application and is included in **Appendix 2.1.3**, which outlines the following mitigation in relation to traffic management.

- Traffic Management procedures will be agreed with Roscommon County Council as part of obtaining Road Opening Licences and Partial Lane Closures / Road Closures permissions;
- Proposed signage will include warning signs to provide warning to road users of the work access / egress locations and the presence of construction traffic;
- The delivery of turbine components is a specialist transport operation with the transportation of components carried out at night when traffic is at its lightest and the impact minimised;
- Work areas on the public road are to be individually risk assessed to determine what type of Traffic Management System and Works Area Protection will be required at each location. At the end of each workday and at unmanned work locations, safety barriers / fencing will be erected around works areas with either a priority yield or temporary traffic light system utilised to safely navigate vehicles around;
- Construction staff will park their vehicles at the main site compound within the wind farm and will be transported to the GCR by construction van. The construction van will then park at dedicated locations agreed with Roscommon County Council and local residents. In order to prevent traffic disruption and avoid creating a traffic hazard, there will be no grid works related parking permitted on the public road;
- Local People in the area will be informed of any upcoming traffic related matters e.g. temporary lane/road closures (where required) or delivery of turbine components at night, via letter drops and posters in public places;

- The construction company will be required to provide a travel plan for construction staff, which will include the identification of routes to / from the site and identification of an area for parking;
- All road surfaces and boundaries will be re-instated to predevelopment condition, as agreed with the local authority engineers; and
- Stop-Go Systems will be utilised on relatively narrow roads in conjunction with Lane Closures / Partial Lane Closures. It will also be utilised on the L6018 at Site Entrances SE2 and SE3 to control and manage traffic at the public road crossing point.

2.5.22 Construction Waste Management

The site will operate a construction **WMP**, which is outlined within **Appendix 2.1.2**. This WMP is considered a 'live' document and as such will be reviewed and updated as required during the pre-construction detailed design stage as well as the construction, operation and decommissioning phases. Where possible, all extracted materials will be reused on site and managed in accordance with the waste management hierarchy.

Tree felling to facilitate the proposed Project will be carried out under a Tree Felling licence in a "Keyhole" manor in advance of the main construction works. Felled timber will be stacked in dry areas outside buffer zones for removal off site for use in other industry. Remaining branches and vegetation will be mulched or shredded and used for topsoil enrichment. This approach will minimise environmental impact by avoiding contamination of sensitive areas and repurposing the felled material. This timber product is inert, non-hazardous.

All excavated material generated during construction will be retained on site and, where appropriate, incorporated into the works. However, an allowance of 10% of total excavated spoil material has been made for removal off site. An example of materials to be removed from site are excavated materials from the public road which have bitumen mixed through. This material will be transported off site by an appropriately authorised waste collector and disposed of at an appropriately licensed waste facility or recycled if appropriate. Depending on the constituents of the bituminous road make-up, this material may be inert or non-inert waste.

In regards to grid connection waste, excavated bitumen macadam will be transported off site by an appropriately authorised waste collector and recycled at a facility licensed for bitumen macadam recycling. Depending on the constituents of the bituminous road make-up, this material may be inert or non-inert waste. Other excavated material will be transported off site

by an appropriately authorised waste collector and disposed of at an appropriately licenced waste facility. This waste is inert, non-hazardous.

Waste metals from items such as concrete reinforcing, structural steel and fencing will have commercial value and will be re- used or recycled using a suitably licensed waste contractor. This waste will be separated and stored in a metal waste skip in anticipation of recycling. This waste is non-hazardous.

Waste fuel, oils and chemicals are hazardous waste. They will be stored for short durations on site in a covered bunded container located on the bunded refuelling area. The waste fuel, oils and chemicals will be collected and disposed of by a suitably licensed waste contractor. Where possible, waste fuel, oils and chemicals will be recycled, where this is not possible, they will be treated to ensure it can be disposed of safely and in compliance with EPA requirements.

Construction waste will be segregated by the contractor and collected by a licensed waste operator and disposed of in a licensed waste facility. Any materials suspected of containing invasive species or contaminated material will be appropriately managed and sent to authorised facilities. Survey and site inspection for such materials and species has been undertaken as part of this assessment and will be repeated, as required, preconstruction and throughout the project. No hazardous waste is anticipated during construction. Any spent oils, lubes, fluids or oily rags will be collected in hazardous bags and placed in a hazard waste bin for collection disposal by a certified waste contractor.

Other waste streams such as rubber, textiles, electronic waste, mechanical waste and batteries will be managed, collected, segregated and stored in separate areas at the temporary compound and removed off site by a licensed waste management contractor at regular intervals during the works.

Waste material to be removed from site for recycling, recovery, landfill or incineration will be brought to a licenced waste facility for further processing. Full details of waste streams associated with the proposed Project and Waste Management are detailed in **Appendix 2.1.2 – WMP**.

2.5.23 Construction Phase Landscaping & Reinstatement

At the end of the construction phase, plant, equipment, machinery and temporary signage and fencing will be removed from the Site.

All remaining stockpiled excavated material within the proposed wind farm Site will be used to reinstate temporary works areas such as the temporary construction compounds.

Works areas for the proposed GCR will be reinstated with excavated soils once the installation works are completed.

The proposed planting and final landscaping plan is presented in **Planning Drawing 23604-250 to 258 (Part 1)**. The objective is to restore the proposed wind farm Site to calcareous grassland used for grazing with the use of existing excavated temporary spoil storage areas as topsoil to maintain high biodiversity seed banks. Refer to **Appendix 6.10 – Species and Habitat Management Plan (SHMP)** is outlined in **Chapter 6 - Biodiversity** which includes the enhancement and planting of hedgerows to support Biodiversity. In consultation with the ECoW Spoil Management areas will be finished with chipped / mulched / shredded vegetation from the tree and hedge removal to create flat surfaces to prevent rapid colonisation of new vegetation. These areas will be finished with ryegrass.

2.5.24 Material Volumes

As part of construction of the proposed Project, a significant number of materials will be delivered and removed from the construction site. The majority of materials delivered / removed will be made using ridged and articulated Heavy Goods Vehicles (HGV).

The majority of materials delivered to the Project will be quarry based products such as crushed stone aggregate, ready-mix concrete, concrete blocks and other stone, sand and concrete based products. The supply of the wind turbine components themselves and other items such as steel reinforcement, switchgear, cables, cranes and other sundry deliveries will result in only minor localised increases in traffic movement in the area. Turbine component delivery is dealt with separately, see Section 2.5.3.

The peak period for quarry based product delivery will be the delivery of stone and aggregate fill for access track construction and also ready-mix concrete for turbine foundation construction.

During access track construction there will be up to 5 deliveries to Site per hour for a period of approximately 8 weeks. This peak period may not be continuous and could be divided into a number of sub-periods. Outside this period there will be up to 15 deliveries of stone aggregate to Site per day. Further detail on material deliveries is set out in the TMP (**Appendix 2.1.3**).

2.5.25 Material Delivery/Removal

Appendix 2.1.3 - TMP details the procedures to be implemented for material delivery to / removal from site, these include:-

- Designated Site Access Points

Construction deliveries to, and removals from the wind farm will use designated access routes and access points to avoid wind farm construction traffic passing the Ballyfeeny National School which is located off the R371 approximately 350m north of entrance SE1.

- Construction Delivery Routes

Quarry based products will be sourced relatively local to the development. Transport routes for 13 No. quarry facilities in the surrounding 40km likely to be used are set-out on **Planning Drawing 23604-900**.

- Delivery of Other Materials

Other materials to be delivered to the development will be sourced from a number of locations around the country and brought to site via a number of different routes. The volume and frequency of vehicles delivering other materials over the proposed 18-month construction period will be relatively small.

See the TMP and **Planning Drawing 23604-900** for further detail.

2.6 Operation and Maintenance

The proposed Project is anticipated to have a lifespan of approximately 35 years, initiating from the date of full commissioning of the Project.

During the operational phase, the site is generally unmanned and will be monitored remotely for aspects including turbine output, wind speeds and responses to any alarms at an offsite control centre, 24 hours per day.

Operation phase site visits will occur approximately 24 times per year, i.e. twice per month as a minimum, incorporating a routine maintenance programme for the turbines. Unscheduled maintenance visits will also be required for resetting alarms, rectifying turbine faults and the occasional replacement of larger turbine component parts.

Periodic maintenance visits will be required for the internal site access roads (surfacing and drainage) and for the Onsite Substation.

Typically, traffic accessing the site during the operational phase, will be vans and four wheeled drive vehicle. No operational works, refuelling or operations utilising plant or machinery are anticipated onsite during the operational phase, except for planned or emergency maintenance works for which the operational controls based on the **CEMP (Appendix 2.1)** and EIAR will be applied. Larger vehicles such as cranes may be required for certain activities, such as the changing of component parts.

Once operational, the proposed Project will support 2-3 long term technical jobs, in addition to jobs for the wider ancillary services.

Monitoring will include the following:

- Review of the Emergency Response Plan (ERP) regular intervals and update as required;
- Review of requirements with site personnel and training during Toolbox Talks and Site Meetings; and
- Hold simulated emergency event and drills to assess performance of site personal, listen to feedback and provide additional training as necessary.

An outline **ERP** is included as **ERP 11 of Appendix B within CEMP (Appendix 2.1)**.

2.6.1 Aeronautical Lighting

The assessment indicates that if the if the Project is granted planning consent, the Irish Aviation Authority (IAA) and the Irish Air Corps (IAC) and likely to request the installation of an aeronautical obstacle warning light scheme on the wind turbines. This lighting is necessary for aviation safeguarding as the turbines would be considered enroute obstacles. Following the deployment of aviation lighting, there would be no residual effect on aviation as a result of the proposed Project.

The lighting scheme is subject to agreement with the Department of Defence (DoD) and the IAC, with the aim of minimising cumulative visual effects while meeting aviation safety standards. Details of the lighting scheme will be submitted to Roscommon County Council (RCC) prior to construction. Additionally, the wind turbine tip heights and coordinated must be provided to IAA and IAC at least 30 days before erection.

Further detail on aeronautical lighting is included within **Appendix 14.2 – Aviation Review Statement**.

2.7 Decommissioning Phase

The Applicant is seeking consent for a period of 35 years for the operation of the proposed Project from the date of commissioning. Following the end of the operation phase the Applicant may wish to extend the life of the proposed turbines, replace the turbines with a new set of turbines subject to fulfilling the planning requirements at the time or the proposed Project may be decommissioned fully. The Onsite Substation and grid connection will remain in place as it will be in the ownership of ESB Networks and will form part of the National Grid. The Relay Tower will remain in place as it will form part of the telecommunication network in the area.

A description of the decommissioning is as follows:

- Removal of the wind turbines including the blades, hub, nacelle and wind turbine towers;
- Removal of the above ground section of the Turbine Foundation called the 'plinth';
- Removal of all Wind Farm Internal Cabling. The cable ducting will remain in-situ to minimise the associated ground disturbance; and
- Reinstatement of the Turbine Hardstands and Turbine Foundations, by covering with earth and reseeded/replanted as appropriate.

For the removal of the wind turbines, cranes of similar size to those used for construction will be used to disassemble each turbine using the same Turbine Hardstands. The wind turbines will be disassembled in reverse order to how they were erected starting with the turbine blades and finishing with the turbine towers. The towers, blades and all components will then be removed from Site and reused, recycled, or disposed of in a suitably licensed facility. The turbine transformers will also be removed from Site. There is potential to reuse turbine components in the second-hand market, while others can be recycled at a licensed facility.

The Turbine Foundations will remain in place underground except for the foundation plinth that will be removed below ground level. The turbine foundations will then be reinstated by covering with earth and reseeded/replanted as appropriate. Leaving the Turbine Foundations in situ is considered a more environmentally friendly option, as removing the entire foundation could lead to environmental emissions such as noise, vibration, dust, etc.

Site Access Tracks and associated drainage will serve the ongoing forestry and farming practices in the area. All other hard surfaced areas such as the Turbine Hardstands will be covered by earth and reseeded/replanted as agreed at the time with the landowners and the Local Authority.

Potential Impacts associated with the decommissioning phase will be similar to the construction phase, albeit to a lesser extent and are assessed within this EIAR.

For the wind farm decommissioning, a peak workforce of approximately 35 persons is anticipated on the wind farm Site. There will be peaks and troughs in the numbers, with a larger workforce during the general site works.

A **DMP** has been prepared as part of this **Appendix 2.1.4**, in accordance with the Scottish National Heritage Decommissioning and Restoration Plan for wind farm and Wind Europe's Industry Guidance Document on Decommissioning of Onshore Wind Turbines the detail of which will be reviewed, updated and agreed with the Local Authority to take into consideration any advancements in the decommissioning methods as well as any changes to guidance and legislation. The plan provides guidance of the methodologies that will be adopted, throughout the decommissioning phase. The environmental and emergency controls set out will be adopted including the methods for reviewing compliance with the plan. Further detail is provided within **Appendix 2.1.4 – DMP**.

2.8 Community Benefits

If consented, the proposed Ballyfeeny Green Energy Project will provide sustainable, low-carbon, energy-generation infrastructure to meet Ireland's growing demand. The proposed Project benefits to the local community would include significant investment in local infrastructure, electrical systems and job creation.

To facilitate public participation in decision-making on the project, the public were consulted on the proposed Project via online and offline mediums commencing in 2025. Information was available regarding who the applicant and the developer are, project proposals, the community benefit fund, answers to frequently asked questions and contact details for further information requests. A **Community Report** is provided in **Appendix 5.1**.

Ballyfeeny Green Energy Limited will set up a community benefit fund which will allocate funds from the wind farm to community groups in the area should the wind farm be granted planning and be successful under the Government's Renewable Energy Support Scheme (RESS) support programme. The community commitments in the RESS seek to support sustainable community energy projects, particularly in rural Ireland, delivering on national policy goals of climate action, rural regeneration, social cohesion, capacity-building and community development as well as ensuring that local communities benefit from RESS projects such as the proposed Ballyfeeny Green Energy Project fund.

The project will support employment in the energy supply and construction sectors, creating approximately 35 direct and indirect jobs during the construction phase. Once operational, the proposed Project will support 2-3 long-term technical jobs, in addition to jobs for the wider ancillary services. The team is committed to working with local suppliers where possible to source engineering works, materials, equipment hire and catering.

In line with Community Benefit Fund Guidelines, governed by the Sustainable Energy Authority of Ireland (SEAI), and based on the current project scope, Ballyfeeny Green Energy will generate a Community Benefit Fund estimated at over €1.8 million over the first 15 years of operation. This amounts to approximately €125,000 per annum. Ballyfeeny Green Energy will work in partnership with residents in the local area to form a committee to oversee the administration of the Community Benefit Fund. The committee will be established once the project successfully completes the planning permission process and the necessary grid connection process. The actual fund will vary around this average from year to year, depending on each year's wind conditions.

Up to 50% of the fund will be distributed to near neighbours of the wind farm (within 1km). 40% of the fund will be allocated to not-for-profit community enterprises with an emphasis on low carbon initiatives. The fund will be directed towards local clubs, societies and other initiatives. It is envisaged that the communities nearest the proposed Project will benefit most from any community fund. The community benefit fund will be managed by a fund committee comprised of local residents, the developer and a fund administrator. Further information on RESS is available via the SEAI. Further details are provided within **Appendix 5.1 – Community Report**.

2.9 References

- Draft Revised Wind Energy Development Guidelines (Department of Housing Planning and Local Government (DoHPLG), 2019) (hereafter referred to as Draft WEDG 2019); Accessed: <https://assets.gov.ie/static/documents/draft-revised-wind-energy-development-guidelines-december-2019-385c92c2-16f9-4511-80bf.pdf>
- EPA 2022. EPA Guidelines. Accessed: https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR_Guidelines_2022_Web.pdf
- SEAI (2024) Community Toolkit Onshore Wind Accessed: <https://www.seai.ie/sites/default/files/publications/Community-Toolkit-Onshore-Wind.pdf> Date: 01.05.25.
- Wind Energy Development Guidelines (Department of the Environment, Heritage and Local Government, 2006); (hereafter referred to as WEDG 2006). Accessed: <https://assets.gov.ie/static/documents/wind-energy-development-guidelines-2006.pdf>