APPROPRIATE ASSESSMENT SCREENING REPORT

FOR

UPGRADE/INSTALLATION OF BROADBAND NETWORK

AT

DA020 Carlow, Co. Carlow

June 2021

ON BEHALF OF

National Broadband Ireland

Prepared by
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1 INTRODUCTION

1.1 Background

Enviroguide Consulting was commissioned by National Broadband Ireland (NBI) to carry out an Appropriate Assessment Screening Report in relation to the upgrade/installation of broadband services to buildings in the Carlow area. This Appropriate Assessment Screening Report (the "Screening Report") considers whether the Proposed Project is likely to have a significant effect on a European Site and whether a Stage 2 Appropriate Assessment is required. The Proposed Project entails the upgrade and installation of telecommunications infrastructure to buildings in Carlow and the surrounding area, in counties Kildare and Laois, covering an approximate area of 394km^2. The purpose of this report is to provide information to assist the relevant competent authority to carry out a screening for Appropriate Assessment.

1.2 Relevant Legislation

1.2.1 Legislative Background

Member States are required to designate Special Areas of Conservation (SACs) and Special Protected Areas (SPAs) under the EU Habitats and Birds Directives, respectively. SACs and SPAs are collectively known as European sites. A screening for AA determines whether a plan or project, either alone or in combination with other plans and projects, is likely to have significant effects on a European site (without the application of mitigation measures to avoid or reduce significant effects to a European Site), in view of its conservation objectives.

If likely significant effects are identified or cannot be ruled out, an 'Appropriate Assessment' (AA) is required to determine whether the significant effects of the project, either alone or in combination with other plans and projects, would have an adverse effect on the integrity of the European sites, having regard to their conservation objectives and best scientific knowledge.

This AA Screening has been undertaken to determine the potential for significant effects on relevant European sites.

1.2.2 Legislative Context

The Habitats Directive (92/43/EEC) seeks to conserve natural habitats and wild fauna and flora by the designation of SACs and the Birds Directive (2009/147/EC) seeks to protect birds of special importance by the designation of SPAs. It is the responsibility of each Member State to designate SPAs and SACs, both of which will form part of Natura 2000, a network of protected sites throughout the European Community.

An Appropriate Assessment is required under Article 6 of the Habitats Directive where a project or plan may give rise to significant effects upon a European Site, paragraph 3 states that:

"*6(3) Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site, in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the*

competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."

These obligations in relation to Appropriate Assessment have been implemented in Ireland under Part XAB of the Planning and Development Act 2000, as amended ("the 2000 Act") and the Birds and Natural Habitat Regulations 2011, as amended.

1.2.3 Stages of AA

The AA process is a four-stage process, with issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

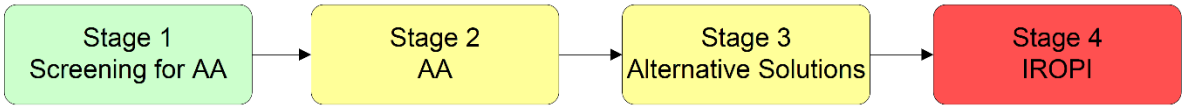

FIGURE 1. THE FOUR STAGES OF THE APPROPRIATE ASSESSMENT PROCESS (DEHLG, 2010).

The four stages of an AA, can be summarised as follows:

- Stage 1: *Screening*. The first stage of the AA process is to determine the likelihood of significant impacts of the project or plan.
- Stage 2: *Natura Impact Statement (NIS)*. The second stage of the AA process assesses the impact of the project or plan (either alone or in combination with other projects or plans) on the integrity of the European site, with respect to the conservation objectives of the site and its ecological structure and function. A Natura Impact Statement containing a professional scientific examination of the project or plan is required and includes any mitigation measures to avoid, reduce or offset negative impacts.
- Stage 3: *Assessment of alternative solutions*. If the outcome of Stage 2 is negative i.e., adverse impacts to the sites cannot be scientifically ruled out, despite mitigation, the plan or project should proceed to Stage 3 or be abandoned. This stage examines alternative solutions to the proposal.
- Stage 4: *Assessment where no alternative solutions exist and where adverse impacts remain.* The final stage is the main derogation process examining whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project to adversely affect a European site, where no less damaging solution exists.

The Competent Authority must determine that an NIS is required where the project is not directly connected with or necessary to the management of the site as a European Site and if it cannot be excluded, on the basis of objective scientific information following screening, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on a European site.

2 METHODOLOGY

2.1 Guidance

This AA Screening Report has been undertaken in accordance with the following guidance:

- *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities.* (Department of Environment, Heritage and Local Government, 2010 revision);
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities.* Circular NPW 1/10 & PSSP 2/10;
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission, 2001);
- *Communication from the Commission on the precautionary principle* (European Commission, 2000); and,
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC* (European Commission, 2019).
- *Appropriate Assessment Screening for Development Management, OPR Practice Note PN01, Office of the Planning Regulator March 2021*

2.2 Screening Steps

Screening for AA involves the following steps:

- Establish whether the project is directly connected with or necessary for the management of a European site;
- Description of the project and the description and characterisation of other projects or plans that in combination have the potential for having significant effects on the European site;
- Identification of European sites potentially affected;
- Identification and description of potential effects on the European site(s);
- Assessment of the likely significance of the impacts identified on the European site; and

Determination on whether it can be objectively concluded that there will be no significant effects, (without the application of mitigation measures to avoid or reduce significant effects to a European Site).

2.3 Management of European Sites

The development and operation of the plan by National Broadband Ireland (NBI) to install/upgrade the broadband services in the area of Carlow Town, Co. Carlow (the Project) is not directly connected with or necessary to the management of European sites in the area or elsewhere.

2.4 Description of the Project

2.4.1 Project Overview

The National Broadband Plan (NBP) is the largest telecommunications project undertaken by the Irish State. It aims to transform the country's broadband landscape through the delivery of high-speed broadband to all parts of Ireland where such services are not available commercially.

The network will be designed, built and operated by National Broadband Ireland, using a combination of State subsidy and commercial investment. NBI will make its services available to the entire rollout area, which accounts for 23% of the population in approximately 537,000 homes, farms, schools and businesses.

In summary NBI will provide:

- A world-class, high-speed broadband network.
- The largest telecommunications project ever undertaken by the Government of Ireland.
- Around 146,000 kilometres of fibre to connect over half a million homes, covering 96% of Irelands land mass.
- Up to 1,800 people will be working on the project at its peak.
- High speed broadband to approximately 115,000 farms, schools and businesses in the first two years, with an additional 70,000-100,000 per year after that.
- Before the fibre can be laid, the rollout area will be surveyed completely so that all existing infrastructure can be taken into account.
- In year one, NBI will also deliver approximately 300 Broadband Connection Points (BCPs) offering high-speed broadband access across every county in the nation.
- A range of wholesale services for broadband providers in the residential and business markets.
- Services to all broadband service providers.

To deliver on the commitments outlined above NBI has broken the country down into 227 separate project locations known as Deployment Areas or DAs.

2.4.2 Brief Description of Installation Activities

Where possible, existing infrastructure such as utility poles, cable ducts and underground chambers will be utilised for the installation of new broadband infrastructure.

Where this is not possible, the main installation activities include:

- Erection of new poles
    - Proposed installation locations are safety checked for underground services and a temporary works area around the installation location is barriered off for reasons of safety.
    - A hole of sufficient diameter to accommodate each pole is due to a typical depth of 1.5 – 1.7m below ground level.

- The hole is dug using a utility truck mounted auger as shown in Figure 2 and Figure 3.
- Approximately 115kgs (1-2 wheelbarrows) of soil is dug by the auger for the installation of each pole.
- The pole is lowered into place using lifting equipment. If required, cable stays will be installed to support the pole.
- The void around the newly installed pole is backfilled with excavated material, all surplus material is placed into suitable containers and removed from site by truck for compliant waste management (maximum 115kgs per pole).
- The installation of a single pole typically takes 20 – 30 minutes to complete.

FIGURE 2 UTILITY TRUCK CARRYING UTILITY POLES AND TRUCK MOUNTED AUGER

FIGURE 3 (A) UTILITY TRUCK MOUNTED AUGER EXCAVATING HOLE FOR UTILITY POLE, (B) AND (C) NEWLY INSTALLED UTILITY POLES

- Installation of new underground chambers and fibre ducts
  - Proposed installation locations are safety checked for underground services and a temporary works area around the installation location is barriered off for reasons of safety.

- A tracked mini-excavator or a wheeled back-hoe such as a JCB will excavate to the design depths required, a trench for the installation of ducting, or a hole for the installation of a chamber at the infrastructure installation location(s).
- All excavation works will be undertaken in accordance with the project specific risk assessment and method statement.
- Once the infrastructure has been installed the open excavation will be back-filled with the previously excavated spoil and the ground made good.
- The quantity of excavated material is dependent on the length and depth of the required excavations.
- All surplus material is placed into suitable containers and removed from site by truck for compliant waste management.

FIGURE 4 NEWLY INSTALLED CHAMBER

All new and existing infrastructure within the Deployment Area (DA) is outlined in Table 1.

2.4.3 Contractor Compounds

The deployment of broadband infrastructure may require the use of a temporary compound including temporary office accommodation and welfare facilities, within the DA, for the storage of plant, equipment, and materials. Such temporary compounds will be situated in a fixed location for the duration of the activities. The minimum location and design standards for compounds are:

- Secure, fenced off locations with lockable gates;
- Impermeable concrete hardstanding areas with surface water drainage from the compound required to pass through a Class 1 petrol/oil interceptor with adequate silt storage capacity (maintained to manufacturer's specifications);
- Materials and waste storage will comply with the following criteria:
    - Storage of poles in bunded area

- Waste must be appropriately stored and suitably bunded to prevent leakage.
- There must be unobstructed access for loading and unloading as well as in case of emergencies.
- Waste should only be handled by competent employees.
- The management of all waste electrical and electronic equipment and materials and comply with its obligations under the WEEE Regulations; and

- No vehicle refueling will take place at any of the compounds.

These design standards are in compliance with NBI's Environmental Management System (EMS) (outlined below).

2.4.4 Routine Operational Measures

The environmental commitments of the Proposed Project will be managed through the Environmental Management System (EMS). The implementation of the proposed operational protocols, monitoring and follow-up arrangements and management of impacts, will be managed through the Environmental Management Plan. The routine operational measures to be implemented are, by their very nature routine; none of the routine operational measures to be implemented are being implemented to avoid likely significant effects on any European site.

Design standards for the compounds will be in compliance with NBI's EMS. NBI have developed Standard Operating Procedures for the completion of the specific works elements of the project, referred to as Workmanship Standards, and must be considered along with the Design, Design Risk Assessments (DRAs). The Workmanship standards applicable to the deployment of telecommunications infrastructure in each DA are provided to the Project Supervisor Construction Stage (PSCS) in the DA Build Pack (project information). Workmanship Standards do not contain any specific measures targeted at avoiding likely significant effects on a European Site.

2.4.5 Project Specific Description

This screening report is based on the proposal by NBI to install/upgrade broadband services to buildings in Carlow and the surrounding area, in counties Carlow, Kildare, and Laois (DA020). The area under assessment is approximately 394km^2 of both urban and rural environments.

As noted previously, existing infrastructure (poles, underground ducting, and chambers) will be used for the installation of cable providing broadband service to buildings in the Project area. There is a requirement to supplement existing infrastructure with new additional infrastructure. Table 1 identifies the existing telecoms infrastructure in the project area and the new additional infrastructure to be installed as part of the Proposed Project.

TABLE 1. EXISTING AND PROPOSED ADDITIONAL TELECOMS INFRASTRUCTURE

Infrastructure description	Existing Infrastructure	Additional Proposed Infrastructure
Above ground / overhead cable	254km	167.3m

Underground cable and ducting	155.3km	2.7km
Network Utility Poles	6927	1441
Underground chambers	1237	12
Co-Locations/Cabinets	Yes	0

The vast majority of the additional network equipment identified in Table 1 will be installed in the roadside verges, hedgerows and under existing footways and carriageways.

The installation of the infrastructure will not require water course crossing, or instream works.

New overhead cables will be slung between newly installed poles.

Underground ducting will follow the existing road network.

Table 2 identifies the installation location type and total length of underground ducting to be installed in each location type.

It is expected that the rollout of the infrastructure identified in Table 3 will be 26th July 2021 with a completion date of 30th October 2021.

TABLE 2 NEW UNDERGROUND DUCTING INSTALLATION LOCATION TYPE AND LENGTH

Type of install location	Total Length m
Installation in roadside verge	2364m
Installation under existing footway	81m
Installation under existing carriageway	291m

2.4.6 Operation, maintenance and decommission project phases

During the operation of the network, reactive maintenance of the new infrastructure will occur once an issue has been reported/detected e.g., pole broken, pole leaning, underground cable cut etc. Replacement of damaged underground cable will use existing ducting. During the operational phase, poles will be stored in established contractor's storage areas, in compliance with current legislation. Poles which are being replaced by NBI during the operational phase will be removed and disposed of by the appropriate means.

All operational maintenance, repair, replacement and upgrade of network equipment will be undertaken in strict compliance with the Workmanship Standards.

2.4.7 Existing Environment

The Project is located within an area that is a mainly urban within Carlow Town, and rural in the wider area (mainly grazing/agricultural/forestry).

A number of lake waterbodies, river waterbodies and groundwater bodies are located within the project area and environs, which are shown in Figure 6.

River Barrow And River Nore SAC, *Slaney River Valley SAC, Blackstairs Mountains SAC, Holdenstown Bog SAC, Ballyprior Grassland SAC*, and *River Nore SPA* are located within the project route at various points, see below for details.

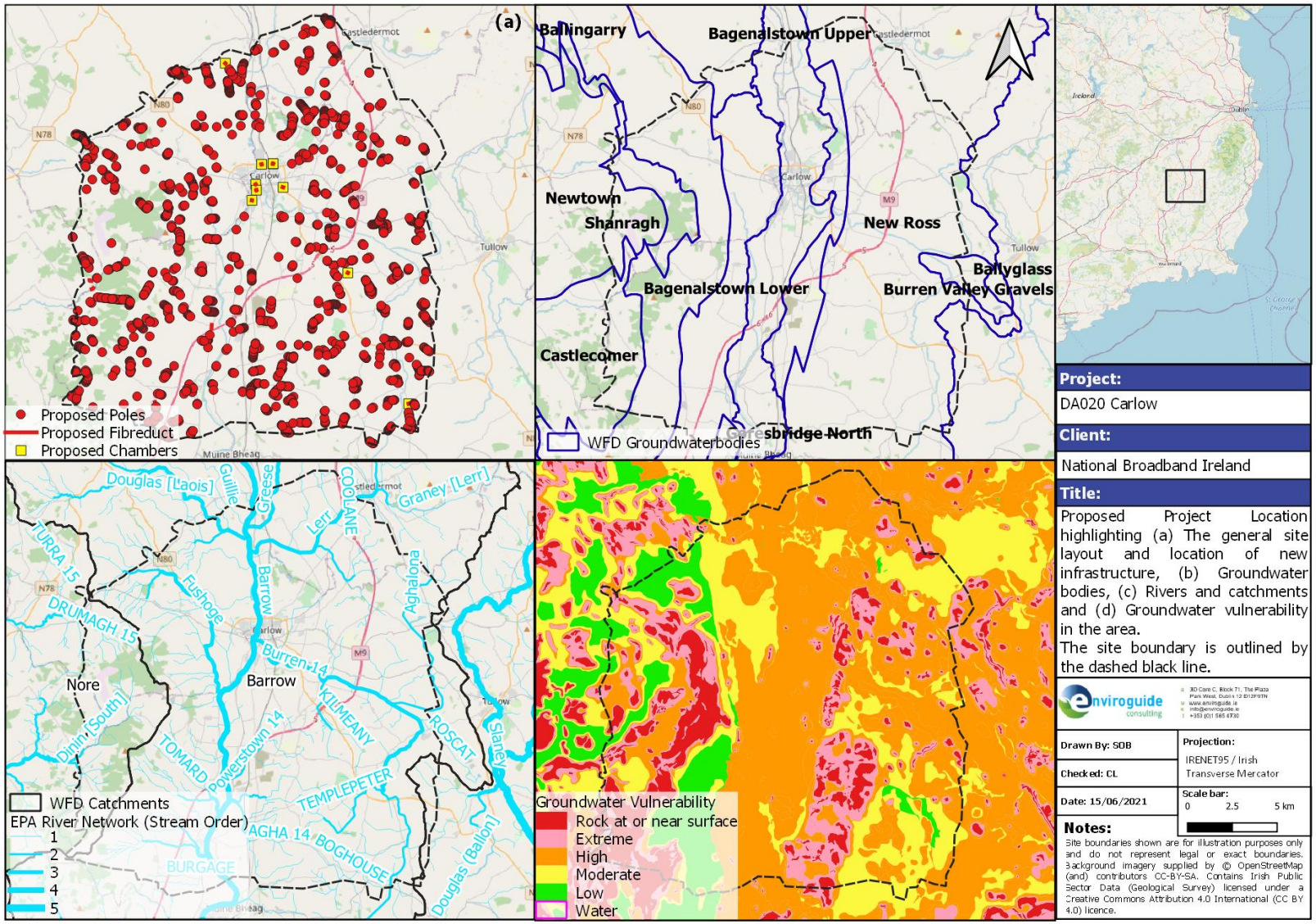

FIGURE 5 PROPOSED PROJECT LOCATION SHOWING THE LOCATION OF NEW INFRASTRUCTURE AND VARIOUS ENVIRONMENTAL FEATURES

2.5 Methodology

2.5.1 Desk Study

A desktop study was carried out to collate and review available information, datasets, and documentation sources relevant for the completion of the Screening Report. The desktop study, completed in January 2021, relied on the following sources:

- National Parks and Wildlife Service (NPWS) datasets;
- Geological Survey Ireland (GSI) online datasets and mapping;
- Environmental Protection Agency (EPA) mapping and datasets;
- OSI aerial imagery and Discovery Series mapping;
- Satellite imagery from various sources and dates (Google, Digital Globe, Bing);
- The Status of EU Protected Habitats in Ireland (NPWS);
- Office of Public Works (OPW) Flood Plans (https://www.floodinfo.ie/map/floodplans/);
- Department of Agriculture, Food and the Marine Forestry Licence Viewer https://forestry-maps.apps.rhos.agriculture.gov.ie/

For a complete list of the specific documents consulted as part of this assessment, see *4 References*.

2.5.2 Assessment of Impacts

Once the potential impacts that may arise from the Proposed Project are identified, the significance of these is assessed through the use of key indicators:

- Habitat loss or alteration;
- Habitat/species fragmentation;
- Disturbance and/or displacement of species;
- Changes in population density; and
- Changes in water quality and resource.

In line with the EPA Guidelines (EPA, 2017), the following terms are defined when quantifying duration:

TABLE 3. DEFINITION OF DURATIONS (EPA, 2017).

Description of Duration	Corresponding Time Frame
Momentary Effects	Effects lasting from seconds to minutes
Brief Effects	Effects lasting less than a day
Temporary Effects	Effects lasting less than a year
Short-term Effects	Effects lasting one to seven years.
Medium-term Effects	Effects lasting seven to fifteen years.
Long-term Effects	Effects lasting fifteen to sixty years

Permanent Effects	Effects lasting over sixty years
Reversible Effects	Effects that can be undone, for example through remediation or restoration
Frequency of Effects	Describe how often the effect will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)

The criteria for confidence levels of the predicted likely impacts are given below in Table 4. The impact significance criteria follow EPA guidance (EPA, 2017).

TABLE 4. IMPACT SIGNIFICANCE CRITERIA (EPA, 2017).

Significance of Effects	Definition
Imperceptible	An effect capable of measurement but without significant consequences.
Not significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant Effects	An effect which, by its **character**, **magnitude**, **duration** or **intensity** **alters a sensitive aspect of the environment**

2.5.3 Identification of Relevant European Sites

To identify the European Sites that potentially lie within the Zone of Influence (ZOI) of the Proposed Development, a Source-Path-Receptor method (S-P-R) was adopted, as described in 'OPR Practice Note PN01 - Appropriate Assessment Screening for Development Management' (OPR, 2021), a practice note produced by the Office of the Planning Regulator, Dublin. This note was published to provide guidance on screening for appropriate assessment (AA) during the planning process, and although it focuses on the approach a planning authority should take in screening for AA, the methodology is also readily applied in the preparation of Appropriate Assessment Screening Reports such as this.

The guidance document published by the Department of Housing, Planning and Local Government (then DEHLG) 'Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities' (2009) recommends an arbitrary distance of 15km as the precautionary ZOI for a plan or project being assessed for likely significant effects on European Sites, stating however that this should be evaluated on a case-by-case basis.

As such, the 15km ZOI is used in this report as an initial starting point for collating European sites for AA screening.

The methodology used to identify relevant European sites comprised the following:

- Use of up-to-date GIS spatial datasets for European designated sites and water catchments – downloaded from the NPWS website (www.npws.ie) and the EPA website (www.epa.ie) to identify European sites which could potentially be affected by the Proposed Project;
- The catchment data were used to establish or discount potential hydrological connectivity between the Project and any European sites. The hydrological catchments are shown in Figure 6.
- Where relevant, the presence of a substantial marine buffer was used to discount potential marine hydrological connectivity between the Project Boundary and any European sites.
- All European sites within 15km of the Proposed Project were identified and included in the precautionary Zone of Influence (ZOI) of the Proposed Project (Figure 6 and Table 5). In addition, the potential for connectivity with European sites at distances of greater than 15km from the Proposed Project was also considered in this initial assessment. In this case, there is no potential connectivity between the Proposed Project site and European sites located at a distance greater than 15km.
- Figure 6 provides details of all relevant European sites as identified in the preceding steps which are within the precautionary ZOI of the Proposed Project. The potential for pathways between European sites and the Proposed Development Site was assessed on a case-by-case basis using the Source-Pathway-Receptor framework as per the OPR Practice Note PN01 (March 2021). Where significant effects are ruled out, a rationale is provided. Pathways considered included:
    a. Direct pathways (e.g., proximity (i.e., location within the European site), water bodies, air (for both air emissions and noise impacts).
    b. Indirect pathways (e.g., disruption to migratory paths, 'Sightlines' where noisy or intrusive activities may result in disturbance to shy species.
- The site synopses and conservation objectives of these sites, as per the NPWS website (www.npws.ie), were consulted and reviewed at the time of preparing this report.

There is absolutely no reliance placed in this Appropriate Assessment Screening Report on measures intended to avoid/reduce harmful effects on the European sites.

2.5.4 Identification of Infrastructure Installation works within/adjacent to European sites

To assess whether installation activities were proposed adjacent to European sites, proposed installation works within 30m or less of European sites were assessed.

To identify these items of infrastructure, the following process was undertaken:

- Using a Geographic Information System (GIS) the locations of all new proposed items of infrastructure were overlayed onto the locations of all European sites in Ireland and Northern Ireland;
- Analysis was performed using GIS which identified any individual feature proposed to be installed within 30m or less of a European site;

If individual features are identified they are recorded and presented on a drawing or series of drawings as required.

2.5.5 Assessment of the Impact of Infrastructure Installation works within, adjacent to or upstream of European sites

The following process is undertaken to assess whether the installation of individual items of new infrastructure within, adjacent to or upstream of a European site may give rise to significant effects upon a European site:

- The survey data for each proposed location is reviewed along with available aerial imagery of the location.
- If the proposed infrastructure locations lie along the public road network, Google street-view imagery of the location is reviewed, if available.
- The context of the proposed infrastructure is also considered; for example, the new infrastructure is assessed to determine if it will be filling in gaps in an existing run of poles, or if it will be an entirely new string of poles.
- The QI/SCI species and Conservation Objectives of the European site are considered when reaching a conclusion as to whether or not the infrastructure has the potential to give rise to a significant effect.
- All items of infrastructure within 30 metres of relevant EPA waterbody GIS layers (e.g. river, lakes, transitional and coastal waterbodies) were assessed to determine potential hydrological linkages with European sites. A distance of 30m was chosen to account for differences in river width and potential mapping errors.
- If the location of the proposed infrastructure is validated as being correct, and the site where the installation works are proposed cannot be adequately assessed using aerial and other available imagery, the location of the proposed infrastructure will be assessed by way of a field survey to identify potential likely significant effects on the European Site.

2.6 European Sites within the Zone of Influence

Five SACs and 1 SPA are located within the precautionary ZOI of the Proposed Project site.

Installation work within European Sites will be limited to a total of 7 items of infrastructure as outlined above, which will be installed exclusively within River Barrow And River Nore SAC (Figure 7). These items will be installed alongside the existing road network, and the impact of the installation of each item of equipment inside the aforementioned European site is further assessed in Section 2.9.

Proposed new items of infrastructure within 30m of European Sites are identified in and. A total of 26 no. items of infrastructure (21 poles, 1 chamber, and 4 lengths of ducting) are proposed to be installed within 30m of European sites.

Finally, a total of 131 poles, 1 chamber, and 10 lengths of ducting are proposed to be placed within 30m of watercourses which may ultimately flow into European sites within the precautionary ZOI of the Project.

A desk study was sufficient to assess the above listed infrastructure as the proposed locations were located adjacent to the existing public/private road network and could be readily assessed using Google Street View, aerial imagery and up-to-date GIS data available from the NPWS[1]. The habitat at these roadside locations typically consisted of made ground, grassy verges and/or hedging and was not a QI habitat for any European Site or important habitat for any QI/SCI species.

The results of the assessment methodology detailed in section 2.5.5 of this report regarding installation work within European sites are presented in Table 7.

[1] https://www.npws.ie/maps-and-data/habitat-and-species-data

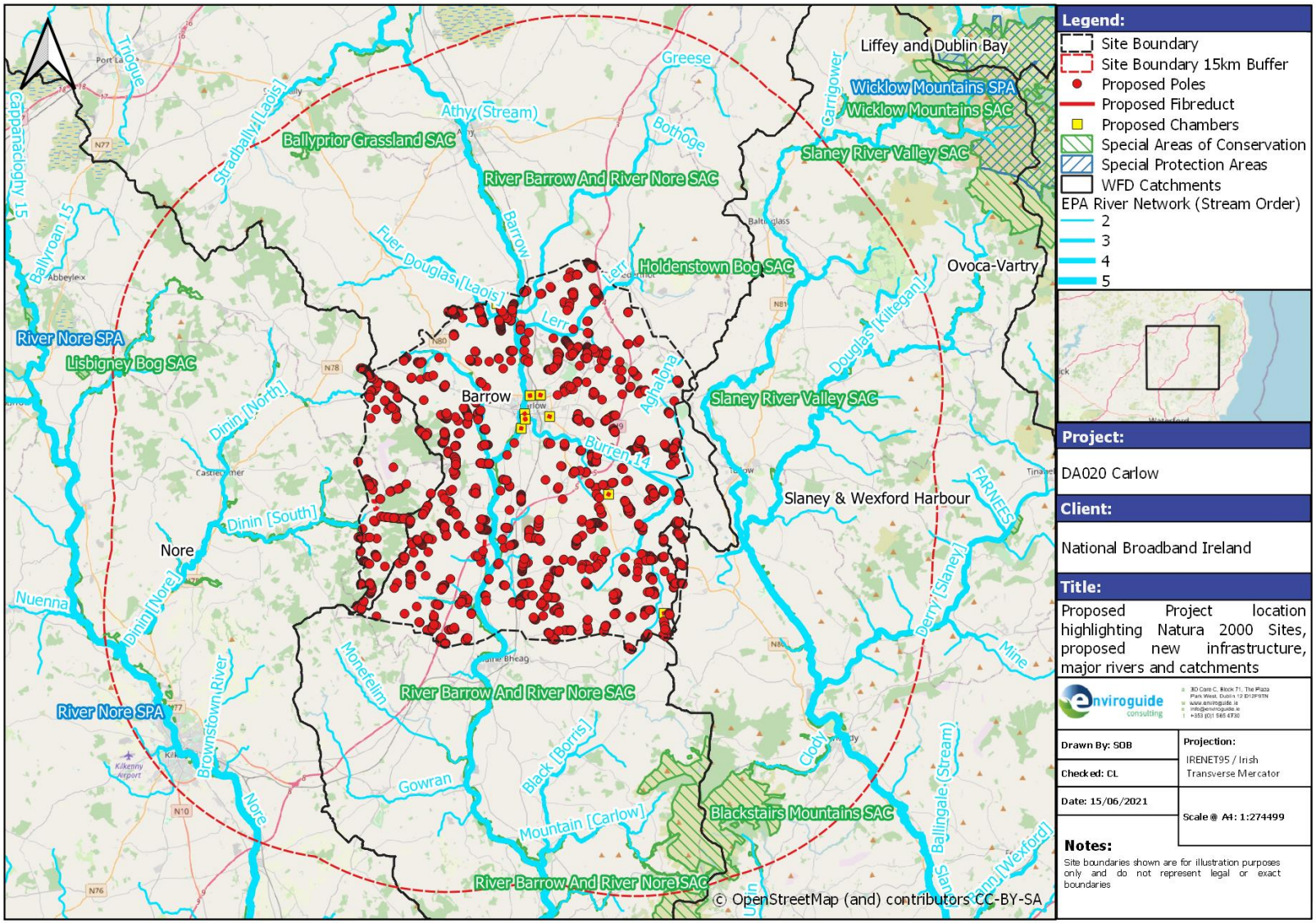

FIGURE 6 PROPOSED PROJECT LOCATION

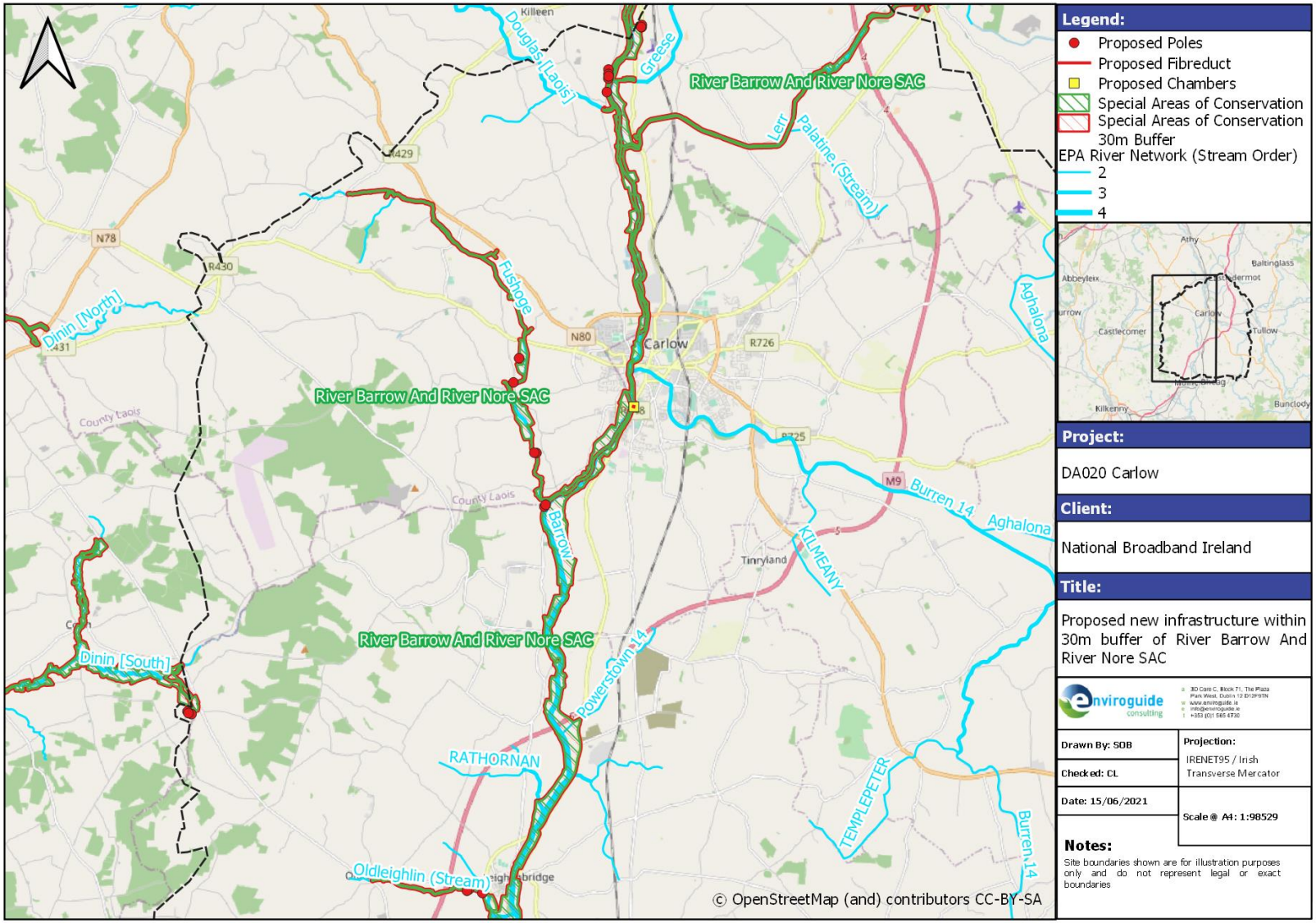

FIGURE 7 NEW ITEMS OF INFRASTRUCTURE LYING WITHIN 30M OF RIVER BARROW AND RIVER NORE SAC

TABLE 5 EUROPEAN SITES WITHIN THE PRECAUTIONARY ZONE OF INFLUENCE OF THE PROPOSED PROJECT SITE, THE DISTANCE BETWEEN EACH EUROPEAN SITE AND THE PROJECT BOUNDARY AND THE POTENTIAL PATHWAYS BETWEEN THEM, AND POTENTIAL DIRECT AND INDIRECT EFFECTS ON EACH EUROPEAN SITE AS A RESULT OF THE PROPOSED PROJECT. WHERE NO SIGNIFICANT EFFECTS ARE ENVISAGED, A RATIONALE IS PROVIDED.

Site Name & Code	Qualifying Interests	Distance to Project Route	Pathway	Potential Direct Effects	Potential Indirect Effects	Rationale for exclusion
Special Areas of Conservation (SAC)						
River Barrow And River Nore SAC (002162)	- [1130] Estuaries - [1140] Mudflats and sandflats not covered by seawater at low tide - [1170] Reefs - [1310] Salicornia and other annuals colonising mud and sand - [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) - [1410] Mediterranean salt meadows (*Juncetalia maritimi*) - [3260] Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation - [4030] European dry heaths - [6430] Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels - [7220] Petrifying springs with tufa formation (Cratoneurion) - [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles - [91E0] Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) - [1016] *Vertigo moulinsiana* (Desmoulin's Whorl Snail)	Within the project route	Land & Hydrological	Loss / alteration of habitat along project route, which passes within SAC due to erection of poles or excavations for underground cables or chambers. Pollution of watercourse from potential sediment / pollutants entering SAC directly.	Pollution of watercourse from potential sediment / pollutants entering SAC via various waterbodies which intersect project route and flow into SAC. Disturbance to designated habitat from potential run-off generated during installation phase.	

	- [1029] *Margaritifera margaritifera* (Freshwater Pearl Mussel) - [1092] *Austropotamobius pallipes* (White-clawed Crayfish) - [1095] *Petromyzon marinus* (Sea Lamprey) - [1096] *Lampetra planeri* (Brook Lamprey) - [1099] *Lampetra fluviatilis* (River Lamprey) - [1103] *Alosa fallax fallax* (Twaite Shad) - [1106] *Salmo salar* (Salmon) - [1355] *Lutra lutra* (Otter) - [1421] *Trichomanes speciosum* (Killarney Fern) - [1990] *Margaritifera durrovensis* (Nore Pearl Mussel)					
Slaney River Valley SAC (000781)	- [1130] Estuaries - [1140] Mudflats and sandflats not covered by seawater at low tide - [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) - [1410] Mediterranean salt meadows (*Juncetalia maritimi*) - [3260] Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation - [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles - [91E0] Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) - [1029] *Margaritifera margaritifera* (Freshwater Pearl Mussel) - [1095] *Petromyzon marinus* (Sea Lamprey) - [1096] *Lampetra planeri* (Brook Lamprey) - [1099] *Lampetra fluviatilis* (River Lamprey) - [1103] *Alosa fallax fallax* (Twaite Shad) - [1106] *Salmo salar* (Salmon)	0.7km	Hydrological	None envisaged	Pollution of watercourse from potential sediment / pollutants entering SAC via various waterbodies which intersect project route and flow into SAC.	No potential for direct effects as SAC is not within project route. QI species will not be affected from potential noise-related disturbance.

	- [1355] *Lutra lutra* (Otter) - [1365] *Phoca vitulina* (Harbour Seal)					
Blackstairs Mountains SAC (000770)	- [4010]Northern Atlantic wet heaths with *Erica tetralix* - [4030] European dry heaths	6.4km	None	None envisaged	None envisaged	No hydrological connection and considerable distance from project route.
Holdenstown Bog SAC (001757)	- [7140] Transition mires and quaking bogs	8.3km	None	None envisaged	None envisaged	No hydrological connection. No waterbodies flowing into Fen which intersect Project route.
Ballyprior Grassland SAC (002256)	- [6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	12.6km	None	None envisaged	None envisaged	No hydrological connection and considerable distance from project route.
Special Protection Areas (SPA)						
River Nore SPA (004233)	- [A229] Kingfisher (*Alcedo atthis*)	12.6km	Hydrological		Pollution of watercourse from potential sediment / pollutants entering SPA via various waterbodies which intersect project route and flow into SPA.	No potential for direct impacts as SPA is not within project route. SCI species will not be affected from potential noise-related disturbance.

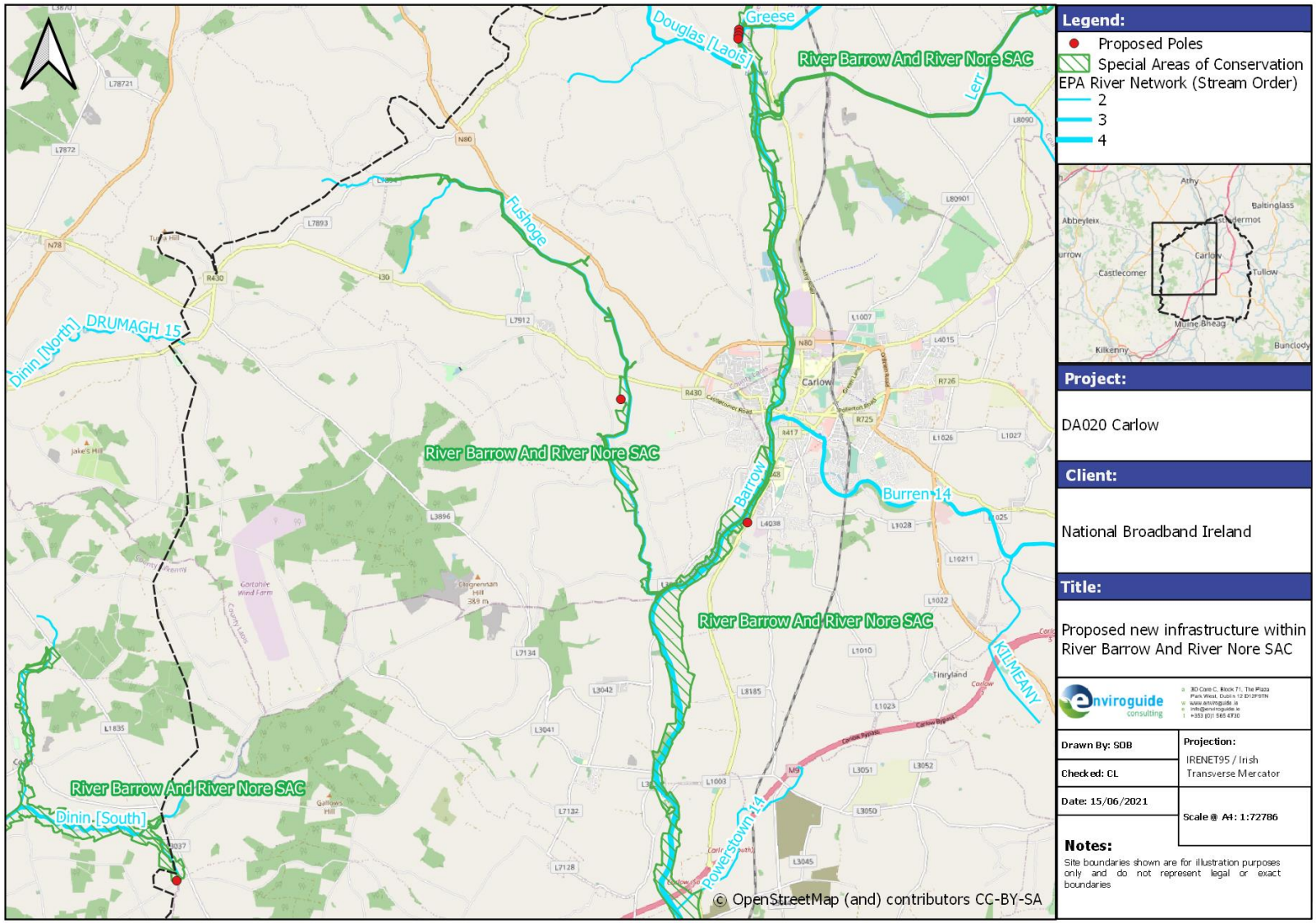

FIGURE 8 NEW INFRASTRUCTURE FEATURES WITHIN SAC SITE

2.7 Brief Description of European Sites

All 6 of the European sites within the precautionary ZOI of the Project were assessed for potential direct and indirect impacts. A total of 3 European sites were screened out following this assessment (Table 5). It was concluded that these European sites would not be directly or indirectly affected by the Proposed Project due to the minimal nature of the proposed installation activities and the absence of pathways (e.g., hydrological, land air) between the Project and the European site. Shown below are brief descriptions of the remaining 3 European sites which will be further assessed in section 2.9 as they have a direct connection with, or are within close proximity to, the project route. The below descriptions are taken from the "Site Description" section of the NPWS Natura 2000 Standard Data Forms.

2.7.1 River Barrow And River Nore SAC (002162)

"This site consists of the freshwater stretches of the Barrow and Nore River catchments as far upstream as the Slieve Bloom Mountains, and it also includes the tidal elements and estuary as far downstream as Creadun Head in Waterford. The site passes through eight counties – Offaly, Kildare, Laois, Carlow, Kilkenny, Tipperary, Wexford and Waterford. Major towns along the edge of the site include Mountmellick, Portarlington, Monasterevin, Stradbally, Athy, Carlow, Leighlinbridge, Graiguenamanagh, New Ross, Inistioge, Thomastown, Callan, Bennettsbridge, Kilkenny and Durrow. The larger of the many tributaries include the Lerr, Fushoge, Mountain, Aughavaud, Owenass, Boherbaun and Stradbally Rivers of the Barrow, and the Delour, Dinin, Erkina, Owveg, Munster, Arrigle and King's Rivers on the Nore.

The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, over-grazing within the woodland areas, and invasion by non-native species, for example Cherry Laurel (Prunus laurocerasus) and Rhododendron (Rhododendron ponticum). The water quality of the site remains vulnerable. Good quality water is necessary to maintain the populations of the Annex II animal species listed above. Good quality is dependent on controlling fertilisation of the grasslands, particularly along the Nore. It also requires that sewage be properly treated before discharge. Drainage activities in the catchment can lead to flash floods which can damage the many Annex II species present. Capital and maintenance dredging within the lower reaches of the system pose a threat to migrating fish species such as lamprey and shad. Land reclamation also poses a threat to the salt meadows and the populations of legally protected species therein. Overall, the site is of considerable conservation significance for the occurrence of good examples of habitats and of populations of plant and animal species that are listed on Annexes I and II of the E.U. Habitats Directive. Furthermore it is of high conservation value for the populations of bird species that use it. The occurrence of several Red Data Book plant species including three rare plants in the salt meadows and the population of the hard water form of the Freshwater Pearl Mussel, which is limited to a 10 km stretch of the Nore, add further interest to this site."

2.7.2 Slaney River Valley SAC (000781)

"*This site comprises the freshwater stretches of the River Slaney as far as the Wicklow Mountains; a number of tributaries, the larger of which include the Bann, Boro, Glasha, Clody, Derry, Derreen, Douglas and Carrigower Rivers; the estuary at Ferrycarrig; and Wexford Harbour. The site flows through the Counties of Wicklow, Wexford and Carlow. Towns along the site but not within it include Baltinglass, Hacketstown, Tinahely, Tullow, Bunclody,*

Camolin, Enniscorthy and Wexford. The river is up to 100 m wide in places and is tidal at the southern end from Edermine Bridge below Enniscorthy. In the upper and central regions almost as far as the confluence with the Derry River the geology consists of granite. Above Kilcarry Bridge, the Slaney has cut a gorge into the granite plain. The Derry and Bann Rivers are bounded by a narrow line of uplands which corresponds to schist outcrops. Where these tributaries cut through this belt of hard rocks they have carved deep gorges, more than two miles long at Tinahely and Shillelagh. South of Kildavin the Slaney flows through an area of Ordovician slates and grits.

Waste water outflows, runoff from intensive agricultural enterprises, a meat factory at Clohamon, a landfill site adjacent to the river, and further industrial development upstream in Enniscorthy and in other towns could all have potential adverse impacts on the water quality unless they are carefully managed. The spread of exotic species is reducing the quality of the woodlands. The site supports populations of several species listed on Annex II of the E.U. Habitats Directive, and habitats listed on Annex I of this Directive, as well as important numbers of wintering wildfowl including some species listed on Annex I of the E.U. Birds Directive. The presence of wet and broadleaved woodlands increases the overall habitat diversity and the occurrence of a number of Red Data Book plant and animal species adds further importance to the site. Overall it is of considerable conservation significance."

2.7.3 River Nore SPA (004233)

"*The River Nore SPA is a long, linear site that includes the following river sections: the River Nore from the bridge at Townparks, (north-west of Borris in Ossory) to Coolnamuck (approximately 3 km south of Inistioge) in Co. Kilkenny; the Delour River from its junction with the River Nore to Derrynaseera bridge (west of Castletown) in Co. Laois; the Erkina River from its junction with the River Nore at Durrow Mills to Boston Bridge in Co. Laois; a 1.5 km stretch of the River Goul upstream of its junction with the Erkina River; the Kings River from its junction with the River Nore to a bridge at Mill Island, Co. Kilkenny. The site includes the river channel and marginal vegetation.*

A survey in 2010 recorded 22 pairs of Kingfisher (based on 16 probable and 6 possible territories) within the SPA. Other species which occur within the site include Mute Swan (35), Mallard (267), Cormorant (14), Grey Heron (45), Moorhen (14), Snipe (17) and Sand Martin (1,029) – all figures are peak counts recorded during the 2010 survey. The River Nore SPA is of high ornithological importance as it supports a nationally important population of Kingfisher, a species that is listed on Annex I of the E.U. Birds Directive."

2.8 Conservation Objectives

Table 6 identifies the Conservation Objectives of European sites which have a direct connection, or are within close proximity, with the project route. The contents in the below table are taken from the NPWS conservation objectives documents. The Conservation Objectives for other European sites which lie within the precautionary ZOI, but which have been screened out by virtue of distance or no other possible link (Table 5), are not included in this document.

TABLE 6 CONSERVATION OBJECTIVES OF EUROPEAN SITES WHICH HAVE A DIRECT CONNECTION WITH, OR ARE IN CLOSE PROXIMITY TO, THE PROJECT ROUTE

European Site &Code	Conservation Interests
Special Areas of Conservation (SAC)	
River Barrow And River Nore SAC (002162) https://www.npws.ie/protected-sites/sac/002162	• To maintain or restore the favourable conservation condition of the following in River Barrow And River Nore SAC: - [1130] Estuaries - [1140] Mudflats and sandflats not covered by seawater at low tide - [1170] Reefs - [1310] Salicornia and other annuals colonising mud and sand - [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) - [1410] Mediterranean salt meadows (*Juncetalia maritimi*) - [3260] Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation - [4030] European dry heaths - [6430] Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels - [7220] Petrifying springs with tufa formation (Cratoneurion) - [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles - [91E0] Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) - [1016] *Vertigo moulinsiana* (Desmoulin's Whorl Snail) - [1029] *Margaritifera margaritifera* (Freshwater Pearl Mussel) - [1092] *Austropotamobius pallipes* (White-clawed Crayfish) - [1095] *Petromyzon marinus* (Sea Lamprey) - [1096] *Lampetra planeri* (Brook Lamprey) - [1099] *Lampetra fluviatilis* (River Lamprey) - [1103] *Alosa fallax fallax* (Twaite Shad) - [1106] *Salmo salar* (Salmon) - [1355] *Lutra lutra* (Otter) - [1421] *Trichomanes speciosum* (Killarney Fern) - [1990] *Margaritifera durrovensis* (Nore Pearl Mussel)
Slaney River Valley SAC (000781) https://www.npws.ie/protected-sites/sac/000781	• To maintain or restore the favourable conservation condition of the following in Slaney River Valley SAC: - [1130] Estuaries - [1140] Mudflats and sandflats not covered by seawater at low tide

	- [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) - [1410] Mediterranean salt meadows (*Juncetalia maritimi*) - [3260] Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation - [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles - [91E0] Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) - [1029] *Margaritifera margaritifera* (Freshwater Pearl Mussel) - [1095] *Petromyzon marinus* (Sea Lamprey) - [1096] *Lampetra planeri* (Brook Lamprey) - [1099] *Lampetra fluviatilis* (River Lamprey) - [1103] *Alosa fallax fallax* (Twaite Shad) - [1106] *Salmo salar* (Salmon) - [1355] *Lutra lutra* (Otter) - [1365] *Phoca vitulina* (Harbour Seal)
Special Protection Areas (SPA)	
River Nore SPA (004233) https://www.npws.ie/protected-sites/spa/004233	• To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: - [A229] Kingfisher Alcedo atthis

2.9 Assessment of Significance of Potential Impacts

Installation work within European sites will be limited to:

- 7 proposed new poles;

which will be installed exclusively within *River Barrow And River Nore SAC*.

In summary, it was concluded that there is no potential for significant effects on European sites. Due to the minor, temporary nature of the proposed new infrastructure installations, no significant loss or fragmentation of QI habitat will occur as a result of the proposed Project, there will be no significant effects on QI/SCI species regarding disturbance, displacement or changes to population density and there will be no significant effects to the water quality and resource of any European Site. The following paragraphs outline the rationale for these conclusions.

2.9.1 Habitat Loss and Alteration

Should any of the estimated additional poles, chambers, or any excavations for underground cables fall within a European site, it could conceivably constitute a loss/alteration of habitat, although extremely insignificant in size, at the designated site. Furthermore, tree trimming along the stretches of the route that pass within/adjacent to the European sites also has the potential to cause minor habitat alteration/loss.

Installation work within European sites will be limited to a total of 7 new items of infrastructure as outlined above.

Importantly, all the above listed infrastructure will be placed along existing roads, laneways/farm tracks. The habitat at these roadside locations consists of made ground, grassy verges and hedging which are not qualifying interests for the European site.

It is noted that the vast majority of infrastructure required for the project is already in place and, as a result, tree trimming has been historically occurring along these sections on a regular basis. Therefore, it is considered that the proposed upgrade of the broadband network will not cause a significant negative effect to the habitat associated with any European site.

In conclusion, due to the minor and localised nature of the works, and the absence of any loss/alteration of QI habitats designated for the European sites due to the Proposed Works, it is considered that the Proposed Project will not cause any significant impacts in relation to habitat loss/alteration at any European site.

2.9.2 Habitat / Species Fragmentation

Habitat fragmentation has been defined as the 'reduction and isolation of patches of natural environment' (Hall et al., 1997 cited in Franklin et al., 2002) usually due to an external disturbance such that an alteration of the spatial composition of a habitat occurs that alters the habitat and 'create[s] isolated or tenuously connected patches of the original habitat' (Wiens, 1989 cited in Franklin et al., 2002). This results in spatial separation of habitat units which had previously been in a state of greater continuity.

Given the nature of the works, and as there will be no loss of QI habitats within any European sites, it is not considered that habitat fragmentation will arise from the Proposed Project.

2.9.3 Disturbance and/or Displacement of Species

As part of the project works, there may be small scale installation activities taking place within/adjacent, or in close proximity to European sites. The installation activities, as described in section 2.4.2 consist of the erection of new poles, installation of new underground chambers and placement of new underground cable ducts.

2.9.3.1 Potential Impacts to QI and SCI Species

Installation work within European sites will be limited to a total of 7 new items of infrastructure as outlined above, which will be installed exclusively within *River Barrow And River Nore SAC*. Figure 9 to Figure 12 below detail the location and name of the additional infrastructure that will be installed. This infrastructure will be installed along the existing road network.

In addition, a total of 131 poles, 1 chamber, and 10 lengths of ducting are proposed to be placed within 30m of watercourses which may ultimately flow into European sites within the precautionary ZOI of the Project. There are numerous aquatic species associated with these sites which may be affected by the Project works, namely Desmoulin's Whorl Snail (*Vertigo moulinsiana*), Freshwater Pearl Mussel (*Margaritifera margaritifera*), White-clawed Crayfish (*Austropotamobius pallipes*), Sea Lamprey (*Petromyzon marinus*), Brook Lamprey (*Lampetra planeri*), River Lamprey (*Lampetra fluviatilis*), Twaite Shad (*Alosa fallax fallax*), Salmon (*Salmo salar*), Otter (*Lutra lutra*), and Harbour Seal (*Phoca vitulina*). These new items of infrastructure were assessed for potential significant effects on downstream European sites and the species

designated for them. As noted previously, a distance of 30m was chosen to account for differences in river width and mapping errors. It was concluded, following a desk study, that these new items of infrastructure would not result in significant effects on European sites and the aquatic species therein for one or more of the following reasons:

- The new item(s) of infrastructure being placed an acceptable distance from a watercourse (e.g., not on or immediately adjacent to a river bank);
- The new item(s) of infrastructure being placed on the opposite side of the road/laneway/track to the watercourse;
- The presence of a vegetation buffer (e.g. hedgerow) between the new item(s) of infrastructure and the watercourse,
- The distance between the new item(s) of infrastructure and downstream European site, and consequent dilution factor.
- The very minor nature and temporary duration of the Project works

There are several faunal species listed for the aforementioned European sites which may be susceptible to noise disturbance, namely Otter and Harbour Seal. However, given the very minor nature and short-term duration of the project works (the installation of a new pole or chamber and ducting will be within a very small, localised footprint and will not generate significant amounts of noise) it can be concluded that the Proposed Project will not have a significant effect on Otter or Harbour Seal.

FIGURE 9 EXISTING AND PROPOSED NEW INFRASTRUCTURE WITHIN AND/OR ADJACENT TO THE RIVER BARROW AND RIVER NORE SAC

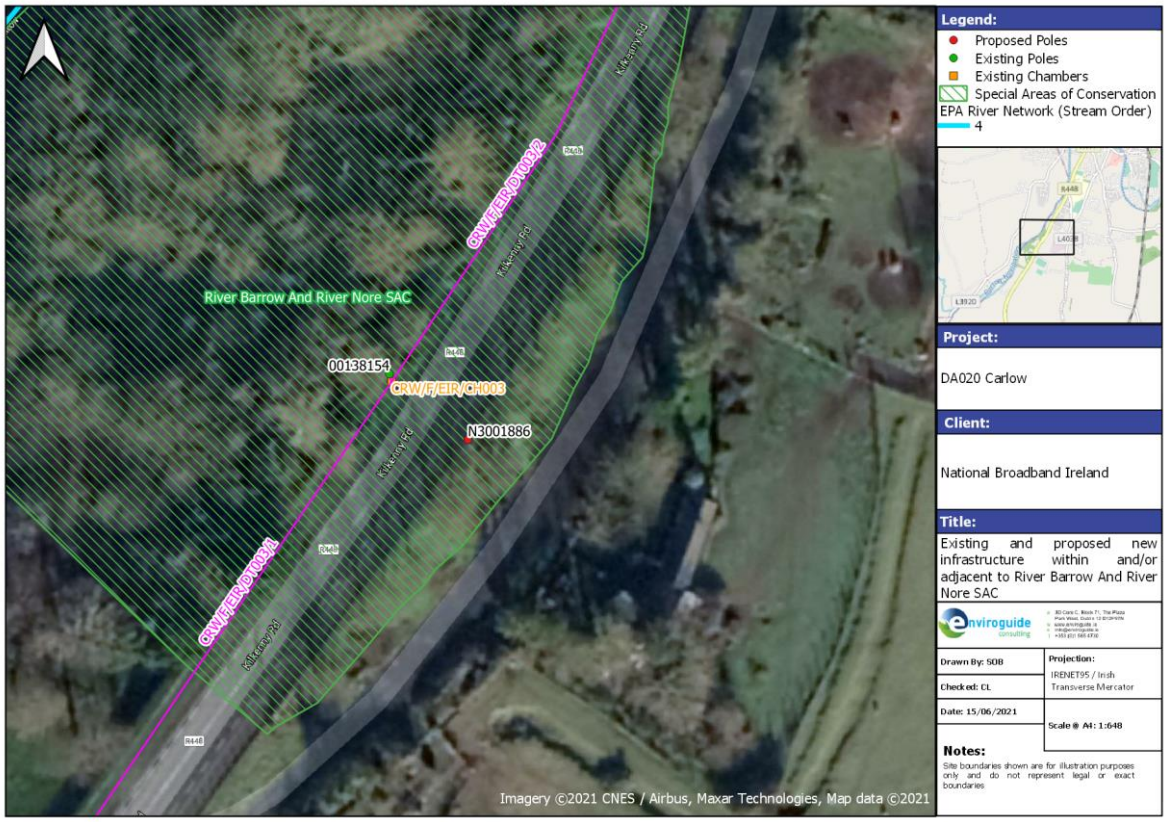

FIGURE 10 EXISTING AND PROPOSED NEW INFRASTRUCTURE WITHIN AND/OR ADJACENT TO THE RIVER BARROW AND RIVER NORE SAC

FIGURE 11 PROPOSED NEW INFRASTRUCTURE WITHIN AND/OR ADJACENT TO THE RIVER BARROW AND RIVER NORE SAC

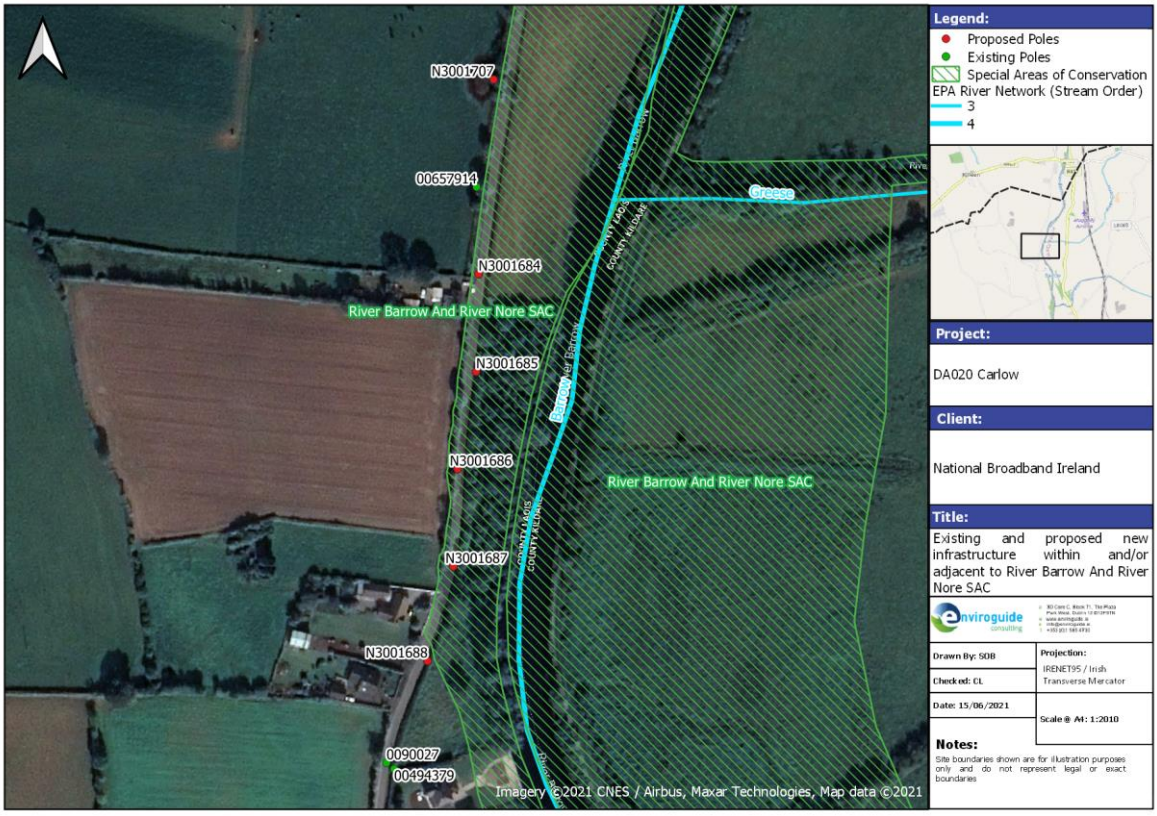

FIGURE 12 EXISTING AND PROPOSED NEW INFRASTRUCTURE WITHIN AND/OR ADJACENT TO THE RIVER BARROW AND RIVER NORE SAC

2.9.4 Changes in Population Density

For the reasons outlined in section 2.9.3 above, the Proposed Project will not cause any reduction in the baseline population of species associated with any European site.

2.9.5 Changes in Water Quality and Resource

The project route intersects with a large number of rivers and streams, which either flow though or discharge into a number of European sites.

A potential impact on the water quality of these European sites was identified through possible sediment run-off, caused by the project works, into waterbodies in close proximity to the project works. An additional potential impact on water quality was identified through accidental spillages of fuel or other substances.

All items of infrastructure within 30m or less of a waterbody were assessed to determine potential hydrological linkages with European sites. It was concluded, following a desk study, that these items of infrastructure would not result in significant effects on European sites and the aquatic species therein for one or more of the following reasons:

- The new item(s) of infrastructure being placed an acceptable distance from a watercourse (e.g., not on or immediately adjacent to a river bank);
- The new item(s) of infrastructure being placed on the opposite side of the road/laneway/track to the watercourse;
- The presence of a vegetation buffer (e.g., hedgerow) between the new item(s) of infrastructure and the watercourse,
- The distance between the new item(s) of infrastructure and downstream European site, and consequent dilution factor.
- The very minor nature and temporary duration of the Project works

In addition, the project works do not include any water course crossing or instream works. The installation of each new pole or replacement of existing poles or installation of underground ducts or chambers takes place within a very small, localised footprint and will not generate significant amounts of sediment. The Proposed Project will have no impact on the flow rates or nutrient levels of any waterbody.

The poles being erected may carry the risk of contamination of soil and/or groundwater with creosote which is used as a preservative for telecommunications poles. Creosote is a dense non-aqueous liquid which is not soluble in water. Therefore, the risk associated with its use will be extremely localised by virtue of it not migrating through the watercourse or soil. The impact associated with its use can therefore be deemed negligible.

2.9.6 In-combination Effects

Cumulative impacts can be defined as "*impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project*". Effects which are caused by the interaction of effects, or by associated or off-site projects, are classed as indirect effects. Cumulative effects are often indirect, arising from the accumulation of different effects that are individually minor. Such effects are not caused or controlled by the project developer.

Plans include all statutory and non-statutory land use, framework and sectoral plans and strategies to the extent that they have the potential to have significant effects on a European site. This incorporates 'plans and programmes' covered by the SEA Directive, and other plans and strategies, including those that are designed or intended to benefit the environment or heritage, such as Heritage and Biodiversity plans, recreation/amenity plans or strategies, and River Basin Management Plan (*Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities.* Report (2009). Prepared by Department Environment, Heritage and Local Government).

The following plans were reviewed and considered for possible in-combination effects with the Proposed Project:

- The National Broadband Plan;
- County Carlow Development Plan 2015 - 2021;
- 2nd Cycle River Basin Management Plan 2018-2021;
- Flood Risk Management County Summary Carlow 2017.

The National Broadband Plan (NBP) has been considered and while detailed designs are not currently available for neighbouring DAs, based on the same criteria used in this assessment, it is deemed that the NBP as a whole will not give rise to in-combination effects with the Carlow Project. There are no neighbouring DAs scheduled to have build works in parallel with the Carlow DA build, therefore no in-combination effects from adjoining DA's are possible.

The County Carlow Development Plan 2015 - 2021 has addressed European sites, and their protection, through specific policies and objectives (Heritage Policy 1 – Policy 2, Heritage Objective 1).

The River Basin Management Plan is set out to protect and improve water quality, and as such will not result in negative in-combination effects with the current Project. Existing measures within the Flood Risk Management County Summary Carlow includes flood alleviation works along banks of the River Barrow, construction of walls, berms and flood gates along River Slaney, and flood forecasting. It is not considered that these existing and proposed measures will act in combination with the Proposed Project. Thus, upon examination of the listed plans, it is concluded that there is no possibility for any in-combination effects between these plans and the Proposed Project.

Projects considered to have significant effects on a European site and require consideration for Appropriate Assessment, include the following:

- All development that requires a planning permission process;

- All public development carried out by planning authorities;
- Exempted development either within a European site or which could potentially have a significant effect on European sites;
- All material contravention proposals;
- All other local authority authorised 'projects' – waste permits, discharge licenses; and
- recreation and amenity projects and road works.
- Forestry Operations
- Flooding and Drainage

Recent (within the last 3 years) pending and/or permitted planning permissions within c.500m of the proposed infrastructure located within a European site were reviewed, using the National Planning Application Database[2]. Given the minor and temporary nature of the installation works, a relatively small buffer of 500m was considered sufficient to assess in-combination effects with existing proposed and/or permitted developments. Withdrawn, refused, and incomplete applications were eliminated from the search. Furthermore, all proposed and permitted forestry licences were considered. In this instance, all pending or permitted developments were small in scale to the extent that no significant in-combination effects were considered likely to arise (**Error! Reference source not found.**). There are numerous forestry licences for clear-felling/thinning proposed/permitted within the Project boundary. However, these forestry operations are a considerable distance from any proposed new infrastructure within European sites, and as such no significant in-combination effects are considered likely to arise.

2.9.7 Proposed Infrastructure within 30m of European Sites.

Proposed new items infrastructure within 30m of European sites are identified in Figure 7. A total of 26 no. items of infrastructure (3 chambers, 21 poles and 5 length of ducting) are proposed to be installed within 30m of European sites.

Having assessed these items of infrastructure following the methodology outlined in section 2.5.5, it was concluded that none of the new items of infrastructure would result in significant effects to any European sites. The items outlined above are proposed to be installed within agricultural land or along roadways, tracks and lanes, in both urban and rural areas, thus resulting in no significant habitat loss. Furthermore, the project works will be very minor in nature and short-term in duration and therefore do not present a threat to any protected species.

[2] https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de

TABLE 7 SUMMARY OF INTERSECTING INFRASTRUCTURE WITHIN EUROPEAN SITES

Barcode/Duct Label	Infrastructure Type	Location	Site Name	Assessment Methodology	Recent permitted or pending planning permissions within c. 500m of feature	Assessment Findings	Assessment conclusion
N3001684	Utility Pole	Grass	River Barrow And River Nore SAC	Visually assessed using Google Street View, Satellite Imagery	No	Proposed location on existing laneway that consists of grassy verges and hedging.	No likelihood of significant effects
N3001685	Utility Pole	Grass	River Barrow And River Nore SAC	Visually assessed using Google Street View, Satellite Imagery	No	Proposed location on existing laneway that consists of grassy verges and hedging.	No likelihood of significant effects
N3001686	Utility Pole	Grass	River Barrow And River Nore SAC	Visually assessed using Google Street View, Satellite Imagery	No	Proposed location on existing laneway that consists of grassy verges and hedging.	No likelihood of significant effects
N3001687	Utility Pole	Grass	River Barrow And River Nore SAC	Visually assessed using Google Street View and Satellite Imagery	No	Proposed location on existing laneway that consists of grassy verges and hedging.	No likelihood of significant effects
N3001405	Utility Pole	Grass	River Barrow And River Nore SAC	Visually assessed using Google Street View and Satellite Imagery	Ref. nos. 20495, 19510	Proposed location on existing laneway that consists of grassy verges and hedging. Permitted application is small scale (construction of dwelling, retention of agricultural shed)	No likelihood of significant effects
N3002892	Utility Pole	Grass	River Barrow And River Nore SAC	Visually assessed using Google Street View and Satellite Imagery	No	Proposed location on existing laneway that consists of grassy verges and hedging.	No likelihood of significant effects
N3001886	Utility Pole	Grass	River Barrow And River Nore SAC	Visually assessed using Google Street View and Satellite Imagery	Ref. nos. 19334, 18432, 2098, 20311, 1981, 19375	Proposed location on existing laneway that consists of grassy verges and hedging.	No likelihood of significant effects

						Permitted application is small scale (signage, construction of vehicular entrance, retention/construction of dwellings, dwelling extensions).	

TABLE 8 SUMMARY OF IMPACT ASSESSMENT ON EUROPEAN SITES FROM THE PROPOSED PROJECT

Site	Habitat Loss / Alteration	Habitat or Species Fragmentation	Disturbance and/or Displacement of Species	Changes in Population Density	Changes in Water Quality and/or	Stage 2 AA Required
River Barrow And River Nore SAC (002162)	No	No	No	None	None	**No**
Slaney River Valley SAC (000781)	No	No	No	None	None	**No**
Blackstairs Mountains SAC (000770)	No	No	No	None	None	**No**
Holdenstown Bog SAC (001757)	No	No	No	None	None	**No**
Ballyprior Grassland SAC (002256)	No	No	No	None	None	**No**
River Nore SPA (004233)	No	No	No	None	None	**No**

3 CONCLUDING STATEMENT

The Proposed Project consisting of the installation of Broadband Network at DA020 Carlow, Co. Carlow has been assessed taking into account:

- the nature, size and location of the proposed works and possible impacts arising from the construction works.
- the qualifying interests and conservation objectives of the Natura sites
- the potential for in-combination effects arising from other plans and projects.

In conclusion, upon the examination, analysis and evaluation of the relevant information and applying the precautionary principle, it is concluded by the authors of this report that, on the basis of objective information; the possibility **may be excluded** that the Proposed Project will have a likely significant effect on any of the Natura 2000 sites listed below:

River Barrow And River Nore SAC [002162]

Slaney River Valley SAC [000781]

Blackstairs Mountains SAC [000770]

Holdenstown Bog SAC [001757]

Ballyprior Grassland SAC [002256]

River Nore SPA [004233]

Thus, it can be concluded on the basis of the results of Stage 1 of the Appropriate Assessment process that there is no requirement to proceed to Stage 2 of said process; and the preparation of a Natura Impact Statement (NIS) is not required.

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