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Preliminary Ecological Appraisal Report

PRESENTED TO

Kildare County Council Architectural Services
Proposed Development at Ardrew, Athy, Co. Kildare

October 2024

Environmental Consultancy Services

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1 INTRODUCTION

Enviroguide Consulting was commissioned by Kildare County Council Architectural Services to undertake a Preliminary Ecological Appraisal (PEA) in relation to a Site at Ardrew, Athy, Co. Kildare, hereafter referred to as 'Proposed Development' or 'Site' when referring to the area of the Proposed Development.

This PEA provides a summary of ecological surveys carried out on Site in order to provide a rapid assessment of the features present e.g., habitats and species; particularly those protected by national and international legislation or those that are considered to be of particular nature conservation importance on or adjacent to the Site. This report will describe the baseline ecology of the Site, with emphasis on habitats, flora, and fauna, and includes recommendations in relation to further survey works required, outline mitigation measures and outline enhancement measures required where appropriate. The report follows Guidelines for Preliminary Ecological Appraisal by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017) and supplemented by the Transport Infrastructure Ireland (formerly NRA) (2009) guidelines for Assessment of Ecological Impacts of National Road Schemes.

The purpose of this PEA is to:

- Set out the methodologies used to inform the ecological surveys.
- Identify Key Ecological Receptors (KERs) and ecological constraints within the Zone of Influence (ZOI) of the Proposed Development.
- Assess the impacts from the Proposed Development on the KERs and the resulting significant effects.
- Set out measures to avoid or mitigate negative impacts.
- Assess the residual effects after the incorporation of agreed avoidance or mitigation measures to ensure legal compliance and highlight measures to offset same.
- Identify further ecological surveys and investigation, where necessary, to inform a full Ecological Assessment (EcIA) of the Site.
- Highlight opportunities for ecological enhancement.

According to the best practice guidelines (CIEEM, 2017) a PEA is ordinarily only suitable for a planning submission where no ecological constraints are identified relating to the project. However, should ecological constraints be identified, then the effects of the Development on same should be assessed within a separate EcIA report, which would supersede this PEA.

A flowchart (CIEEM, 2017) is included in Appendix I, which sets out the approach to ecological assessment, highlighting the role of PEA within that process.

1.1 Quality Assurance and Competence

Enviroguide Consulting is a multi-disciplinary consultancy specialising in the areas of the Environment, Waste Management and Planning. All of our consultants carry scientific or engineering qualifications and have a wealth of experience working within the Environmental Consultancy sectors, having undergone extensive training, and continued professional development.

Enviroguide Consulting as a company remains fully briefed in European and Irish environmental policy and legislation. Enviroguide staff members are highly qualified in their field. Professional memberships include the Chartered Institution of Wastes Management (CIWM), the Irish Environmental Law Association and Chartered Institute of Ecology and Environmental Management (CIEEM).

All surveying and reporting have been carried out by qualified and experienced ecologists and environmental consultants. BT, Ecologist with Enviroguide undertook the required field survey. WMC, Ecologist with Enviroguide authored this report.

BT has a B.Sc. in Environmental Biology (Hons) and a PhD in Marine Ecology from University College Dublin, and a wealth of experience in desktop research, literature scoping-review, and report writing, as well as practical field experience (Habitat mapping surveys, intertidal surveys, vantage point surveys, winter bird surveys, fresh water macro-invertebrate identification etc.). BT has experience in compiling Biodiversity Chapters of Environmental Impact Assessment Reports (EIARs), AA screening and NIS reports, and in the overall assessment of potential effects to ecological receptors from a range of developments.

WMC has a B.Sc. in Applied Freshwater and Marine Biology from Galway-Mayo Institute of Technology. WMC has four years of experience in ecological surveying and in this time, he has covered a wide range of ecological topics including ornithological surveying, bat surveying, badger surveying/exclusions, otter surveying, macroinvertebrate surveying and habitat surveying among others. WMC has also completed the field and report work of numerous planning surveys including Preliminary Ecological Appraisals (PEA), Appropriate Assessment (AA) and Ecological Clerk of Works (ECoW) surveys.

1.2 Relevant Legislation and Policy Context

A PEA is a process of identifying, quantifying, and evaluating potential effects of development-related or other actions on habitats, species, and ecosystems (CIEEM, 2017).

A PEA is not a statutory requirement; however, it is a best practice evaluation process for rapid (preliminary) ecological assessment of a Proposed Development. The PEA will inform the applicant on baseline ecological conditions at the Site, and if any mitigations, recommendations, or ecological surveys and reporting are required.

There are several pieces of legislation, regulations, and policies specific to ecology which underpin this assessment. These may be applicable at a European, National or Local level. Legislation at the International level relevant to the Proposed Development are listed below:

- *Council Directive 92/43/EEC* on the Conservation of Natural Habitats and of Wild Fauna and Flora; hereafter the 'Habitats Directive'.
- *Directive 2009/147/EEC*, hereafter the 'Birds Directive'.
- *Directive 2011/92/EU*, hereafter the 'EIA Directive'.
- EU Regulation 1143/2014, on Invasive Alien Species.
- *Convention on the Conservation of European Wildlife and Natural Habitats 1982*, hereafter the 'Bern Convention'
- *The Convention on the Conservation of Migratory Species of Wild Animals 1983*, hereafter the 'Bonn Convention'.
- *Ramsar Convention on Wetlands 1971*, hereafter referred to as 'Ramsar'.

- *Water Framework Directive 2000/60/EC*, hereafter the 'WFD'.

National legislation and policy relevant to the Proposed Development are listed below:

- Wildlife Act 1976, as amended in 2000.
- Flora (Protection) Order 2022.
- The Planning and Development Act 2000.
- National Biodiversity Plan 2023-2030.

Additionally, Natural Heritage Areas (NHAs) are designations under the Wildlife Acts to protect habitats, species, or geology of national importance. The boundaries of many of the NHAs in Ireland overlap with Special Areas of Conservation (SAC) and/or Special Protection Area (SPA) sites designated under the Habitats Directive. Although many NHA designations are not yet fully in force under this legislation (referred to as 'proposed NHAs' or pNHAs), they are offered protection in the meantime under planning policy which normally requires that planning authorities give recognition to their ecological value.

Further details on legislation and policy relevant to the Proposed Development are detailed in Appendix II.

2 DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Site Location

The Proposed Development Site is located at Ardrew, Athy, Co. Kildare (see Figure 1). The area surrounding the Proposed Development Site is made up predominantly of agricultural land to the north and west, as well as housing estates to the south and east. The Site itself comprises a built area of existing residences to the east and a proposed extension area to the west comprising arable crop habitat.

The Bennetsbridge Stream (EU Code: IE_SE_14B011900) is located approximately 0.41km southwest of the Site. The Bennetsbridge Stream meets the larger River Barrow (IE_SE_14B011900) approximately 0.64km southeast of the Site. The Site is served by the Fortbarrington road, which is situated at the east of the Site and runs in a north-west to south-east direction.

2.2 Proposed Development Description

The Proposed Development will consist of the following (see Figure 2):

- The construction of 5 no. two storey houses featuring 4 no. five bedroom houses and 1 no. three bedroom house.
- The demolition of the existing single storey caretaker unit and the construction of 1 no. new single storey caretaker unit.
- The conversion of four existing semi-detached day houses and gardens into two detached day houses with gardens.
- Boundary improvement works including:
    - Removal of part of the boundary to the northeast of the existing Site.
    - Removal of existing evergreen trees at the eastern boundary.
    - Removal of existing boundary railings which run parallel to the Fortbarrington road and construction of new Site boundary consisting of rendered masonry walls as well as railings.
    - Removal of existing vehicular and pedestrian entrance walls and construction of new vehicular and pedestrian walls.
- Site works will include:
    - Undergrounding of existing services.
    - New nature-based surface water drainage with surface water attenuation.
    - New foul water drainage which will integrate with existing drainage.
    - Extension of water, telecoms and electrical infrastructure.
    - New street lighting.
    - New Site landscaping.
    - New boundary walls to enclose Proposed extended Site.

- Extension and upgrade of the existing access road to accommodate the Proposed new dwellings.
- All associated Site works.

2.2.1 Drainage and Water Supply

2.2.1.1 Surface Water

2.2.1.1.1 Existing Surface Water Drainage

The existing surface water drainage network on Site is made up of gullies at the centre (north, south and east of the existing amenity grassland in the centre of the Site), southwest and east of the Site, which drain via 100cm and 150cm pipes to the Athy surface water network. Surface water drainage exits the Site beneath the existing railings at the southeast of the Site (see Figure 3).

2.2.1.1.2 Proposed Surface Water Drainage

It is proposed that surface water pipes within the Proposed Site run from the far west of the Site where water is drained from various Sustainable Drainage Systems (SuDS) features such as swales and bioretention tree-pits to an oversized surface water pipe. This surface water pipe exits the Site beneath the main vehicular/pedestrian entrance where it joins with the existing surface water network via a weir (only during an exceptional 1 in 100-year rainfall event where SuDS features and attenuation tank are overloaded).

Beginning at the west, the surface water pipe heads in an easterly direction where it drains 4 no. lined permeable paving parking spaces, which drain to the main surface water pipe from the north. The surface water pipe is joined from the south by surface water arising from 1 no. dry swale, followed by 2 no. permeable paving pathways. Continuing from the aforementioned drainage features, the main surface water pipe is joined from the south by an additional branch of the main surface water drainage system. After this confluence of the surface water system, the main surface water pipe continuing in an eastern direction drains a further 2 SuDS features from the north which comprise 2 no. lined permeable paving parking spaces. The main drainage pipe then takes a 90 degree turn where it briefly heads in a southern direction draining a further 2 no. permeable parking paving spaces and a swale before turning towards the southeast at a 4-way junction of the Site's surface water drainage pipes and eventually exiting the Site where it joins the wider Athy surface water drainage network at the Fortbarrington road. It should be noted that water will only exit the Site under exceptional rainfall conditions where the SuDS features and attenuation tank are overloaded. Where previously mentioned that the main pipe turns toward the southeast at the 4-way junction prior to exiting the Site, it is joined here by another branch of the Site's surface water drainage system which drains 2 no. permeable parking paving spaces and 2 no. swales from the south. Finally, at the same 4-way junction as mentioned above, the Site's drainage network is joined from the west by another pipe. This branch of the surface water drainage system features an attenuation tank with a petrol interceptor between the tank and the aforementioned 4-way junction. The attenuation tank is rated to hold stormwater from a 30% above baseline exceptional climate change rainfall event. The volume of the tank is 1094m^3 where the volume required is 286m^3. There is a soakaway situated above the attenuation tank allowing water to be absorbed naturally to the landscape without the need to utilize and unnecessarily occupy the existing surface water network (see Figure 4).

2.2.1.1.2.1 SUDS

Following is a list of the SuDS features within the Proposed Site:

- SuDS 1 – Lined permeable paving – The driveways of the houses on Site are made up of this SuDS feature. 2 no. pathways on Site are also made up of lined permeable paving.
- SuDS 2 – Swales – There are 3 no. swales located across the Proposed Site with one being located towards the west of the Site. The two remaining swales are located in the centre of the Site atop the surface water attenuation tank.
- SuDS 3 – Bio-retention tree pit – There are two bio-retention tree pits located in the western half of the Proposed Site next to the road.
- SuDS 4 – Lined Grasscrete – The road traversing the Site is made up of lined grasscrete.
- SuDS 5 – Soakaway – There is a large soakaway situated in the centre of the Site above the attenuation tank (see Figure 4).

2.2.1.2 Foul Drainage

2.2.1.2.1 Existing Foul Drainage

The dwellings on Site are connected to the wider foul drainage network via 6 no. manholes (four north of the amenity grassland in the centre of the Site, with two south of this). Another foul drainage branch connects to the previously mentioned foul drainage pipe nearby to the vehicular/pedestrian entrance of the Site before exiting the Site and joining the wider Athy foul sewage network. Similarly to the existing surface water drainage network, foul drainage travels through 100cm and 150cm pipes as it traverses the Site (see Figure 3).

2.2.1.2.2 Proposed Foul Drainage

The layout of the Proposed foul sewage pipes on Site mirrors the location of the surface water drainage pipes for the most part. One of the two main branches of foul sewage lines onsite begins in the far west of the Site, where it travels towards the east beneath the road to the north of the attenuation tank in the centre of the Site, turns towards the southeast and merges with the second sewage pipe at a manhole nearby to the vehicular/pedestrian entrance of the Site. This first foul sewage line is joined by 14 no. connections arising from the buildings to the north of the Site. The second proposed sewage pipe on Site begins at a manhole southwest of the attenuation tank in the centre of the Site where it travels in an eastern direction, merges with the aforementioned first foul sewage line at a manhole nearby to the vehicular/pedestrian entrance of the Site and continues beyond the bounds of the Site beneath the main entrance where it merges with the Athy foul water sewage system. This second foul sewage line is joined from the south by 6 no. connections arising from the buildings to the south of the Site. All of the main sewage pipes on Site have a 150cm diameter. Foul waters arising within the Proposed Development will drain to the nearby Athy WwTP where they are treated before being released to the nearby River Barrow (see Figure 4).

FIGURE 1. SITE LOCATION.

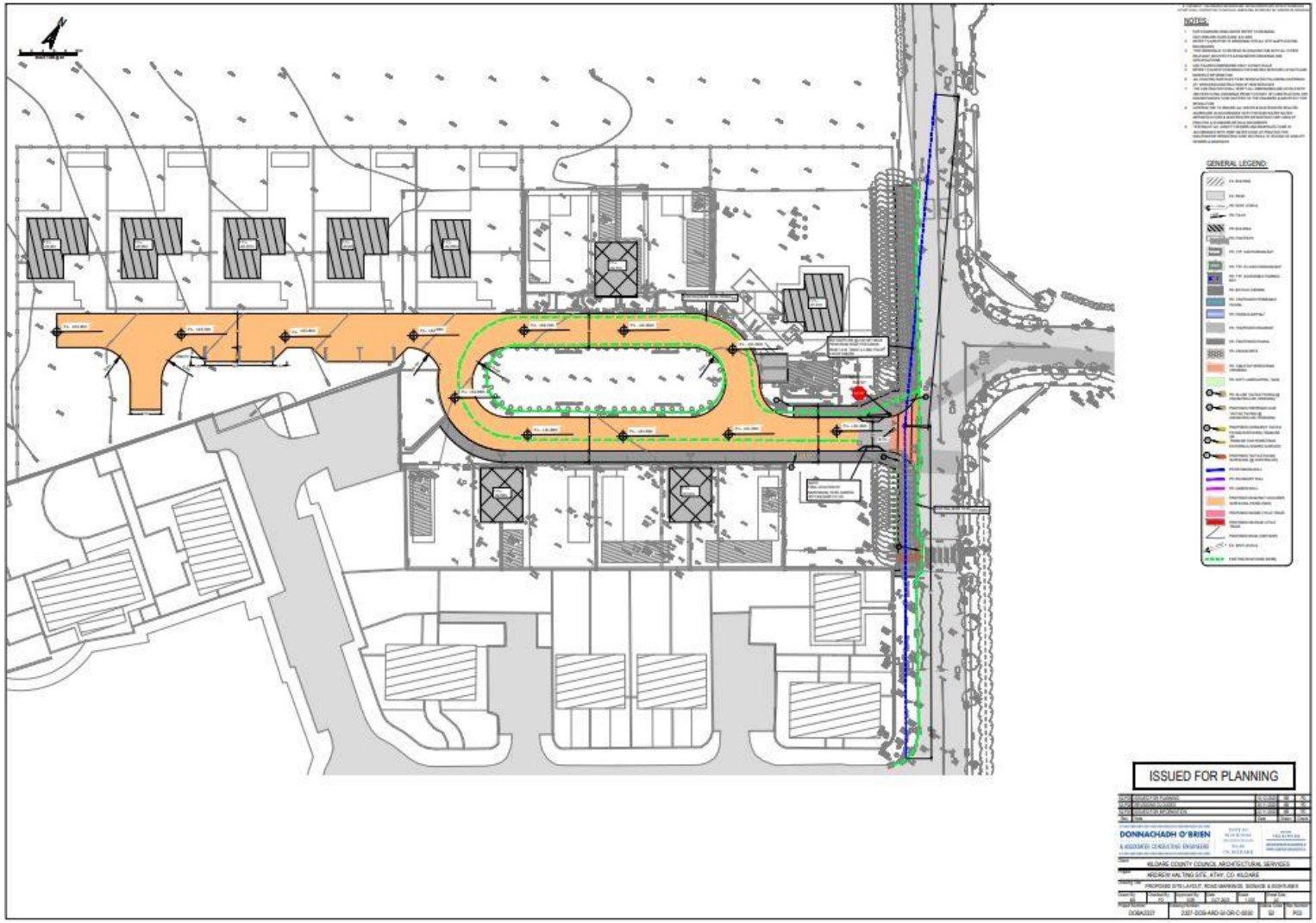

FIGURE 2. PROPOSED SITE LAYOUT (DRG NO. 2327-DOB-ARD-SI-DR-C-0050, DOBA 2023).

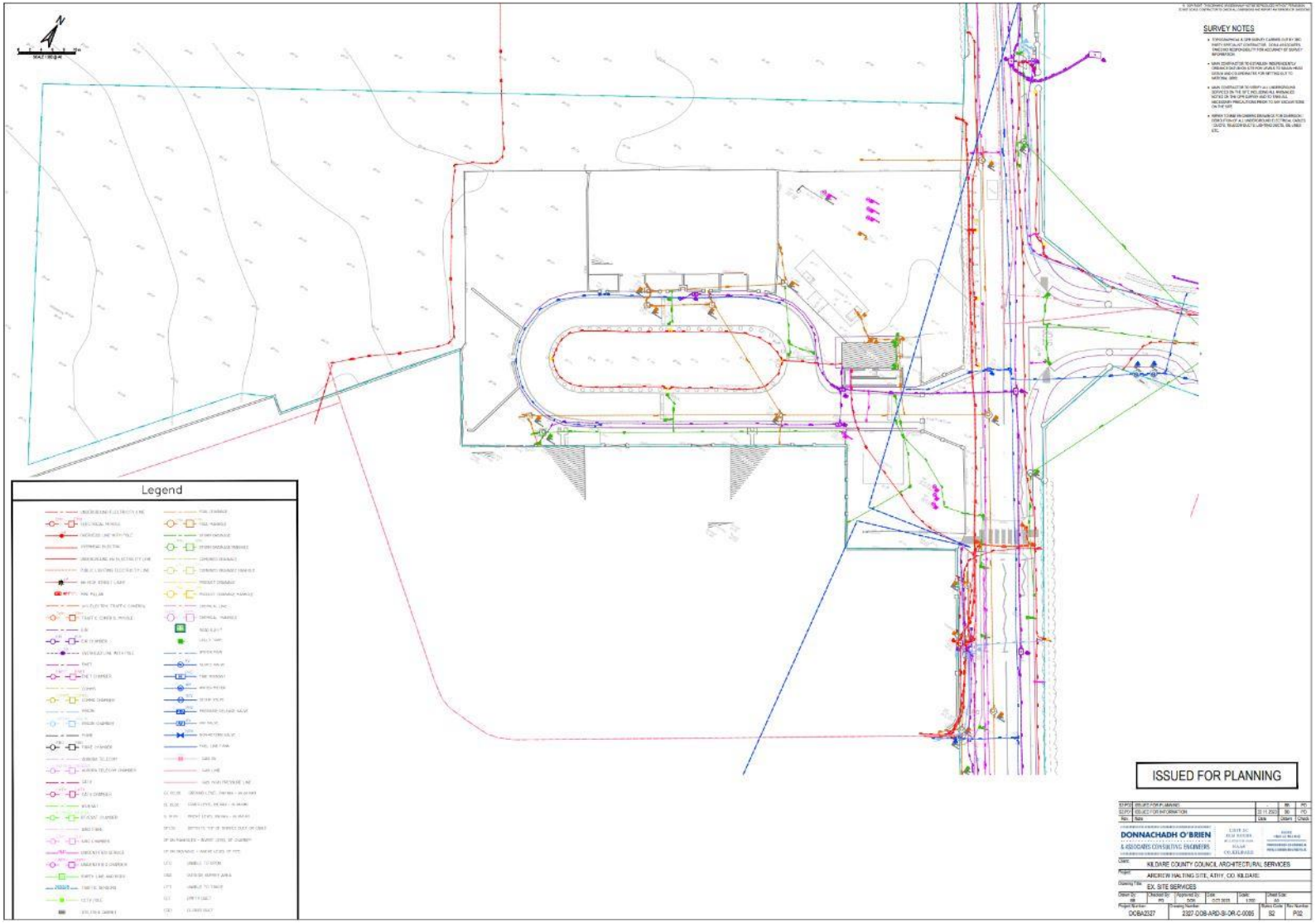

FIGURE 3. EXISTING SITE SERVICES (INC. SURFACE AND FOUL DRAINAGE) (DRG NO. 2327-DOB-ARD-SI-DR-C-0005, DOBA 2023)

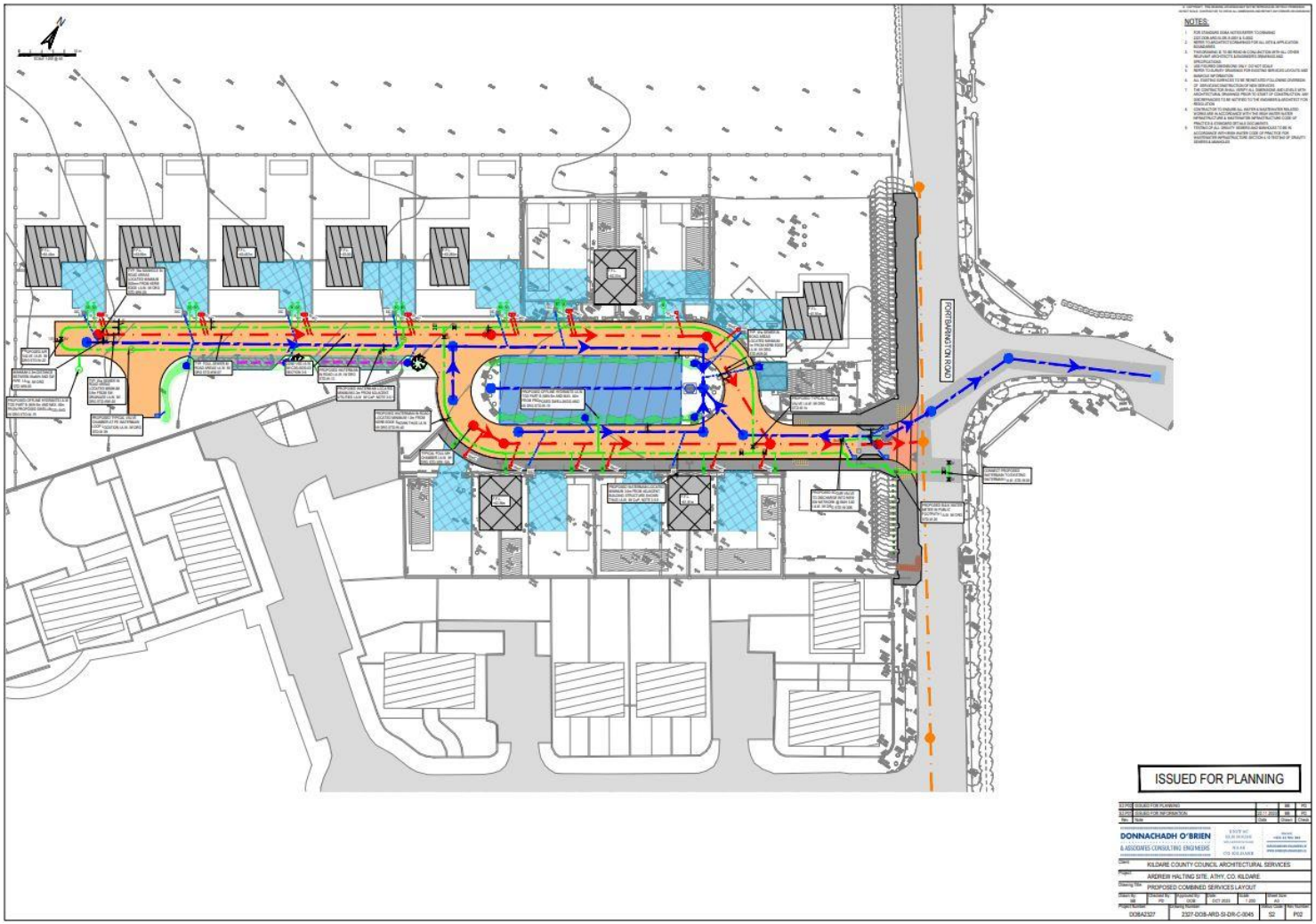

FIGURE 4. PROPOSED SITE SERVICES (INC. SURFACE AND FOUL DRAINAGE) (DRG NO. 2327-DOB-ARD-SI-DR-C-0045)

2.3 Description of the Construction Phase

The Construction of the Proposed Development will be split into a number of different phases and a brief description of each is included below (Kildare CoCo Architectural Services Section, 2022):

- **Phase 1** – Phase 1 will involve:
  - The construction of 5 no. new dwellings
  - The construction of the caretaker unit road
  - Site Works
  - The construction of a temporary entrance and access road to the phase 1 area
- **Phase 1A** – Phase 1A will involve:
  - The installation of permeable paving and associated site works to the side of the occupied day house and part of the circular road located in the centre of the Site.
- **Phase 2** – Phase 2 will involve:
  - The amalgamation of the 4 no. day houses into 2 no. day houses and Site works which will take place predominantly in the eastern portion of the Site.
- **Phase 2A** – Phase 2A will involve:
  - The removal of the temporary entrance and temporary road as well as the completion of Site works and boundaries in the northern corner of the Site.
- **Operational Phase** – The Operational Phase of the Proposed Development will involve residential use of the new dwellings.

3 METHODOLOGY

This PEA has been undertaken to identify any ecological constraints to development of the Site, identify further ecological surveys and investigations necessary to inform a full EcIA of the Site (if necessary), and highlight opportunities for ecological enhancement. Where potential for a risk to the environment is identified, recommendations for avoidance and/or mitigation measures are made on the basis that by deploying these measures the risk is eliminated or reduced to an insignificant level.

This section details the steps and methodology employed to undertake a PEA of the Site.

3.1 Scope of Assessment

The specific objective of this PEA is to:

- Set out the methodologies used to inform the ecological surveys.
- Identify the likely ecological constraints within the Zone of Influence (ZOI) of the Proposed Development.
- Identify further ecological surveys and investigation, where necessary, to inform a full Ecological Impact Assessment (EcIA) of the Site.
- Highlight opportunities for ecological enhancement.
- Identify any mitigation measures likely to be required.

3.2 Desk Study

A desktop study was carried out to collate and review available information, datasets and documentation sources pertaining to the Site's natural environment. The desk study, completed in November 2023, relied on the following sources:

- Information on species records [1] and distributions, obtained from the National Biodiversity Data Centre (NBDC) at *maps.biodiversityireland.ie*.
- Information on waterbodies, catchment areas and hydrological connections obtained from the Environmental Protection Agency (EPA) at *gis.epa.ie*.
- Information on bedrock, groundwater, aquifers, and their statuses, obtained from Geological Survey Ireland (GSI) at *www.gsi.ie*.
- Information on the network designated conservation sites, site boundaries, qualifying interests, and conservation objectives, obtained from the National Parks and Wildlife Service (NPWS) at *www.npws.ie*.
- Satellite imagery and mapping obtained from various sources and dates including Google, Digital Globe, Bing, and Ordnance Survey Ireland.
- Information on the extent, nature, and location of the Proposed Development, provided by the applicant and/or their design team.

A comprehensive list of all the specific documents and information sources consulted in the completion of this report is provided in Section 7, References.

3.3 Zone of Influence

The 'zone of influence' (ZOI) for a project is the area over which ecological features may be affected by changes as a result of the Proposed Development and associated activities. This is likely to extend beyond the development site, for example where there are ecological or hydrological links beyond the Site boundaries (CIEEM, 2018). The ZOI will vary with different ecological features, depending on their sensitivities to an environmental change.

3.4 Identification of Relevant Designated Sites

To determine the ZOI of the Proposed Development for designated sites, reference was made to the 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 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 PEA reports such as this to identify all relevant designated sites potentially linked to the Proposed Development.

The most recent guidance advises against the use of arbitrary distances that serve as precautionary ZOI (e.g., 15km), and instead recommends the application of the Source-Pathway-Receptor (S-P-R) model in the identification of designated sites, stating that "*This should avoid lengthy descriptions of European sites, regardless of whether they are relevant to the proposed development, and a lack of focus on the relevant European sites and issues*

[1] The Site of the Proposed Development lies within the northwest corner of the 2 km grid square S69R. To capture a fair and accurate assessment of species within a 2km radius, surrounding grid square S69W was also checked. Records from the last 20 years from available datasets are given in the relevant sections of this report.

of importance". Although this statement refers to European sites, it is also applicable to other designated sites.

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

- Identification of potential sources of effects based on the Proposed Development description and details.
- Identification of potential pathways between the Site of the Proposed Development and any designated sites within the ZOI of any of the identified sources of effects.
    - Water catchment data from the EPA (*www.epa.ie*) were used to establish or discount potential hydrological connectivity between the Proposed Development and any designated sites.
    - Groundwater and bedrock information used to establish or discount potential hydrogeological connectivity between the Proposed Development and any designated sites.
    - Air and land connectivity assessed based on Proposed Development details and proximity to designated sites.
    - Consideration of potential indirect pathways, e.g., impacts to flight paths, *ex-situ* habitats, etc.
- Review of Ireland's designated sites to identify those sites which could potentially be affected by the Proposed Development in view of the identified pathways, using the following sources;
    - European sites and nationally designated sites (e.g., NHAs and pNHAs) from the NPWS (*www.npws.ie*);
    - Ramsar sites from the Irish Ramsar Wetland Committee (*https://irishwetlands.ie/irish-sites/*);
    - Other internationally designated sites e.g., UNESCO Biosphere's; and
    - Regional development plans to identify any remaining sites or areas designated for nature conservation at a local level.

Note that due to lack of details on the design of the Proposed Development, apart from the anticipated scale and intended use (i.e., residential, commercial, etc), a precautionary approach is adopted in this PEA in relation to potential pathways.

3.5 Field Surveys

To determine the likely ecological constraints at the Site, a multidisciplinary walkover survey was carried out on the 1st of November 2023. This survey covered the following aspects:

- Habitat mapping to level 3 (Fossitt 2000).
- Preliminary Bat Roost Assessment and Habitat Suitability Survey.
- Bird Scoping Survey.
- Invasive Flora Survey.
- Rare and protected Flora Survey.

- A search for signs of protected fauna (e.g., mammals, reptiles, amphibians).

Details of the survey methods are given in the below sections.

3.5.1 Habitat Surveys

Habitat surveys of the Site were conducted by Enviroguide on the 1st of November 2023. Habitats were categorised according to the Heritage Council's '*A Guide to Habitats in Ireland*' (Fossitt, 2000) to level 3. The habitat mapping exercise had regard to the 'Best Practice Guidance for Habitat Survey and Mapping' (Smith *et al.*, 2010) published by the Heritage Council.

The habitats at the Site were also assessed for their potential to support protected and/or notable fauna.

3.5.2 Bat Surveys

3.5.3 Preliminary Bat Roost Assessment

A daytime inspection of the Site was undertaken on the 1st of November 2023. The aim of the inspection was to search for indication of the presence of roosting bats, and to assess the habitat for its ability to support commuting and foraging bats. Buildings and trees on Site were visually assessed with the aid of a torch and binoculars.

The roost inspection comprised a detailed inspection of structures and trees on Site. These were subject to exterior and interior inspections (where possible) to search for evidence of bat use. This includes live and dead specimens, droppings, feeding remains, oil staining and noise (Collins, 2023). Buildings were assessed for cracks and crevices, or entry points to the roof that might support roosting bats, while trees were searched for Potential Roosting Features (PRFs) such as hollow trunks, knot holes, peeling bark, splits, cracks, and crevices (Andrews, 2018).

Collins (2023) recommends that structures and trees are assessed for their ability to support roosting bats under separate categorizations using professional judgement.

A structure with roosting potential can be further divided into one of four sub-categories as presented in Table 4.1 (Collins, 2023):

- Negligible – No suitable features observed, however, a small element of uncertainty remains;
- Low – A structure with one or more roost features as used by individual bats opportunistically at any time of year;
- Moderate – A structure with one or more roost features that could be used by bats on a regular basis or by a larger number of bats; and
- High – A structure with one or more roost features that are obviously suitable for use by a larger number of bats on a regular basis, and potentially for longer periods of time. These features have the potential to support high conservation status roosts.

Trees are categorized separately according to Table 4.2 of Collins (2023). These classifications are:

- NONE – Either no PRFs in the tree or highly unlikely to be any;
- FAR – Further assessment required to establish if PRFs are present in the tree; and

- PRF – A tree with at least one PRF present.

Where a tree contains at least one PRF, each PRF is further assessed according to Table 6.2 (Collins 2023). PRFs are scored as either:

- PRF-I – PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
- PRF-M – PRF is suitable for multiple bats and may therefore be used by a maternity colony.

For trees with PRF-Is only, no further surveys may be required, but appropriate compensation for all PRF-Is must be designed and incorporated in advance of impacts along with a Precautionary Working Method Statement (PWMS).

As the Site increases in suitability for roosting bats e.g., a PRF-M present, the survey effort increases accordingly. A PRF-M will require a PRF inspection which may be an aerial inspection, conducted over three survey visits, a minimum of three weeks apart, which should be carried out between May and September with at least two in the period May to August.

Where features are inaccessible by ladder, climbing, or MEWP, or too extensive for a PRF inspection, an emergence survey should be carried out in summer with a Night Vision Aid (NVA) or otherwise surveyed using Advanced Licence Bat Survey Techniques (ALBST), such as trapping, tagging, and radio-tracking to inform of the importance of a roost.

3.5.4 Bat Habitat Suitability Survey

A Bat Habitat Suitability Assessment was carried out in conjunction with the roost assessment on the 1st of November 2023. This assessment evaluated the habitats present on Site and in the wider area for bat foraging and commuting suitability. Habitat suitability is assessed qualitatively from None to High as per Collins (2023):

- None - No habitat features on site likely to be used by any roosting bats at any time of the year (i.e., a complete absence of crevices/suitable shelter at all ground/underground levels).
- Negligible – No suitable foraging or commuting habitats on Site.
- Low – Suitable but isolated habitats that could be used by small numbers of commuting and/or foraging bats, such as poorly connected gappy hedgerows, lone trees, unvegetated Streams, etc.
- Moderate – Suitable continuous habitat connected to the wider landscape that could be used by commuting and/or foraging bats, such as treelines, scrub, grassland, water, etc.
- High – Continuous high-quality habitat that is well-connected to the wider landscape, and is likely used regularly by commuting and/or foraging bats, such as River valleys, broadleaved woodland, woodland edge, grazed parkland, etc.

All survey methodologies will follow those of the Bat Conservation Trust *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2023). Any further recommended bat survey work will be undertaken within the recommended survey period of May to September inclusive and as per best practice guidelines.

3.5.5 Bird Scoping Survey

A bird scoping survey was carried out on the 1st of November 2023 to scope out the breeding and non-breeding bird potential at the Site based on habitats. Additionally, all bird species encountered during the survey were recorded and activity noted where possible.

The survey methodology employed was based on that recommended in standard literature used by for example the British Trust for Ornithology (BTO) (Gillings *et al.*, 2007, Bibby *et al.,* 1992 and Gilbert *et al.*, 1998), which has subsequently been adapted into guidelines for ecological consultants by the Bird Survey & Assessment Steering Group (2022). During the surveys, the Site was walked slowly, approaching all habitats within and adjacent to the Proposed Development and scanning and listening for birds.

3.5.6 Fauna Survey

A general fauna survey of the Site was carried out in conjunction with the other field surveys on the 1st of November 2023. The habitat types recorded throughout the survey area were used to assist in identifying the fauna considered likely to utilise the area. The Site was searched for tracks and signs of mammals as per Bang and Dahlstrom (2001) and other fauna as per the National Road Authority (Now TII) (NRA, 2005; NRA.2009a).

Additionally, due to presence of historical records, a focused search for signs of the following fauna was carried out:

- Badger (*Meles meles*).
- Otter (*Lutra lutra*).
- Hedgehog (*Erinaceus europaeus*).
- Reptiles.
- Amphibians.

3.5.7 Invasive Species Surveys

An invasive species survey was carried out in conjunction with the habitat survey on the 1st of November 2023. This included a detailed search for signs of any invasive flora or fauna, with any incidental observations of invasive species recorded whenever on Site.

3.6 Preliminary Ecological Appraisal

3.6.1 Identification of Ecological Constraints

The evaluation and assessment of ecological features is beyond the scope of a PEA and has therefore not been undertaken here. Where required, formal evaluation and assessment of any identified important ecological features should be undertaken as part of either a full EcIA, or receptor – specific survey and assessment in accordance with the published CIEEM method (CIEEM, 2018).

Following the desk study and field survey(s), likely ecological constraints to the Proposed Development were identified based on the following information:

- Perceived sensitivity of the recorded ecological features.

- Level of uncertainty in assessing the status of an ecological feature (e.g., where a pond is observed but it is not known whether it supports breeding amphibians due to seasonal limitations).
- Likely impacts on the recorded ecological features based on current knowledge of Proposed Development design (e.g., removal of treeline).

3.6.2 Mitigation and Further Survey Recommendations

Identification of likely ecological constraints will inform an EcIA and/or the design of appropriate avoidance, mitigation and/or compensation measures through the planning process. Additionally, further surveys to address any remaining uncertainties are recommended for the identified ecological constraints.

3.7 Limitations

The walkover survey was undertaken on the 1st of November 2023, outside of optimal botanical surveying conditions (April-September) and breeding bird season (March-August).

Due to this, it is unknown if the treeline next to the entrance of the Site is used by birds for nesting within the breeding season. However, the scale of this treeline is quite limited and is unlikely to support a large amount of breeding birds. Birds using this treeline for nesting are likely to be common green listed birds due to the suburban non-priority habitat in which the treeline sits. There is a future pre-commencement bird survey proposed prior to the cutting of this treeline.

Surveys were undertaken outside of the optimal survey period for botanical identification of IAS species (April to September, inclusive). However, due to the small size of the Site and the limited habitats present in which IAS plant species have the potential to become established, it has been determined that there were no limitations faced as a result of the Invasive flora survey.

4 ECOLOGICAL BASELINE CONDITIONS

This section sets out the baseline conditions for the ecological features within the Site using the findings of the desk study and field surveys.

4.1 Hydrology

The Site is located in the Barrow Catchment (Catchment I.D 14) and in the Barrow_SC_070 Sub-catchment (Sub-catchment I.D 14_12) (EPA, 2023).

The Bennetsbridge Stream (EU Code: IE_SE_14B011900) is located approximately 410m southwest of the Site, at its closest point. This Stream flows in an easterly direction until it meets the larger River Barrow (IE_SE_14B011600), a distance of 0.64km from the Site. The River Barrow flows in a southerly direction where it reaches the Upper Barrow Estuary transitional waterbody (IE_SE_100_0300) 53km away as the crow flies. This watercourse continues in a southern direction via the Barrow Nore Estuary upper (IE_SE_100_0250), New Ross port (IE_SE_100_0200) and the Barrow Suir Nore Estuary (IE_SE_100_0100), before emptying into the Waterford Harbour coastal waterbody (IE_SE_100_0000) some 88km away as the crow flies and finally the eastern Celtic sea (IE_SE_050_0000) (EPA, 2023).

There are no Q-values available from the Bennetsbridge Stream due to a lack of monitoring stations which measure this specific parameter. The closest Q-value monitoring stations to the Site are located upstream and downstream on the River Barrow, however, the most recent values are from 1994 and thus cannot be relied upon for up-to-date information on the quality of this stream. The WFD status (2016-2021) of the nearby Bennetsbridge Stream and River Barrow are both classed as being 'poor'. The EPA data indicates that there is a downward trend in Total Ammonia and Ortho-phosphate (as P) for the Bennetsbridge Stream as well as the River Barrow downstream for the 2013-2018 period (EPA, 2023).

The EPA water quality monitoring data for the stations located closest to the Site are summarised in Table 1, with the most recent data being from 2003.

TABLE 1. EPA MONITORING STATIONS AND ASSIGNED Q VALUES

EPA Monitoring Station name	Station Code	Location from Site	Distance from Site	Assigned Q value
0.4km u/s Athy Br LHS	RS14B011590	North upstream	1.56km	3-4 "Moderate"

4.2 Hydrogeology

The Site of the Proposed Development is situated on the Athy-Bagnelstown Gravels (IE_SE_G_160) groundwater body (GWB). This GWB has a current WFD risk status of 'At risk' as well as an overall WFD status of 'Poor' for the 2016-2021 survey period. The bedrock aquifer identified beneath the Site is mapped as "Regionally Important Aquifer - Karstified (diffuse)" (GSI, 2023).

The Groundwater Vulnerability Rating assigned to groundwater beneath the Site, is mapped as "*High"* (GSI, 2023).

The subsoil beneath the Site is mapped as “Fine loamy drift with limestones” (GSI, 2023).

The quaternary sediments beneath the majority of the Site are mapped as “Gravels derived from Limestones” (GSI, 2023).

4.3 Designated Sites

4.3.1 S-P-R links to Designated Sites

Potential impact pathways are discussed in the following sections in the context of the Proposed Development as described in Section 2.

4.3.2 Direct Pathways

4.3.3 Hydrological pathways

The Construction Phase comprises a number of steps, necessary to the completion of the Proposed Development. These include the demolition of the existing caretaker’s unit and the construction of a new unit, the construction of 5 no. houses, the renovation of 4 no. existing houses into 2 larger new houses and the landscaping of the Site.

The above steps of the Construction Phase of the Proposed Development have the potential to introduce pollutants into the surface water network which may migrate downstream, affecting sensitive ecological receptors.

Pollution onsite has the potential to arise through various construction activities. One of the major contributions to potential hydrological pollution onsite could arise as a result of works carried out when performing excavation for the new landscaping features, as well as the proposed buildings to be constructed.

When machinery moves onsite, in particular on ground which has been stripped of surface soil in preparation for construction/landscaping, it becomes prone to siltation. During an excessive rainfall event, silt, sediment and other pollutants may be washed from Site to the surface water drainage network, discharging into the **River Barrow and River Nore SAC (002162)** approximately 468m from Site due to the nearest local surface water network outfall being located here.

Concluding the above points, it has been determined that the Proposed Development may have a hydrological pathway to the nearby **River Barrow and River Nore SAC (002162)** during Construction phase.

During the Operational Phase, there will be a number of measures installed to inhibit the surface water run-off from exiting the Site and potentially entering the surface water network or nearby watercourses. These include SuDS measures such as lined permeable paving, swales, bio-retention tree pits, lined grasscrete as well as a soakaway located in the centre of the Site above the attenuation tank (see section 2.2.1.1). The aforementioned attenuation tank will serve to prevent water from exiting the Site by retaining water during an exceptional rainfall event and allowing any sediment to settle within the tank.

A weir will be installed at the outflow of the Site’s surface water network to prevent water from exiting the Site. Water will only be able to bypass the weir during an exceptional rainfall event where all other surface water attenuation measures have been overloaded.

In exceptional circumstances, where surface water drains from the Site due to the SuDS features and the attenuation tank being overloaded, this water will be pollution free due to the lack of pollution sources present during the Operational phase of the Proposed Development and will not have a significant on the nearby **River Barrow and River Nore SAC (002162)**. The attenuation tank will also work as a settlement tank, allowing sediments to drop out, further reducing any siltation. The attenuation tank however, is extremely unlikely to be overloaded in future due to the built in capacity allowance for incidents such as 1 in 100 year rainfall events as well as above baseline climate change rainfall increase (286m^3 of volume is the minimum required where 1094m^3 will be the capacity allocated).

Therefore, there will be a potential pathway present between the Site and the **River Barrow and River Nore SAC (002162)** only as a result of groundworks during Construction Phase.

However, as stated in the accompanying screening report, taking into account the limited size of the Proposed Development as well as the limited timescale in which silt has the potential to emanate from the Site (during rainfall events only), the Proposed Development will not have a significant effect on the **River Barrow and River Nore SAC (002162)**.

Any foul water exiting the Site will be treated at the local Athy WwTP and will not have any detrimental effects on the nearby **River Barrow and River Nore SAC (002162)** due to the plant currently working under capacity (Annual Environmental Report Athy WwTP – Uisce Éireann). Uisce Éireann has indicated that this proposed foul water connection between the Site and the local foul drainage network is feasible without the need for upgrades to the existing network.

The Site is located 3.75km from **Barrow Valley At Tankardstown Bridge pNHA (000858)**. Although the Site is hydrologically connected to the **Barrow Valley At Tankardstown Bridge pNHA** via the local surface water network and the subsequent River Barrow, it has been determined that there will be no impacts on this downstream designated site due to distance and the dilution factor of the waters of the River Barrow.

4.3.4 Hydrogeological pathways

During Construction phase, there are groundworks proposed to be carried out in order to prepare the substrate for the installation of the new buildings/foundations onsite as well as for the proposed Site landscaping and installation of SuDS features.

The surface soil buffer will be removed when carrying out various construction tasks onsite including the digging of the swales, the installation of the lined grasscrete on the road, the installation of the permeable paving driveways/pathways, the installation of the attenuation tank and the groundworks involved with the construction of the new buildings onsite. This will leave the subsoil vulnerable to the absorption of pollutants due to the lack of a surface buffer.

As mentioned in the Hydrological pathways section above, machinery onsite has the potential to produce siltation which provides a source within the source-pathway-receptor model.

The ground beneath the Site is rated as having a “high” groundwater vulnerability, indicating that the ground beneath the Site is highly susceptible to the absorption of surface water and pollutants.

As per the “*Bagenalstown GWB: Summary of Initial Characterisation – Groundwater flow paths*” document for this groundwater body, “*There is hydraulic continuity between the Barrow*

Valley sands and gravels and the underlying aquifer. Under natural non-pumping conditions the flow regime in the aquifer is severely restricted, as there is no natural discharge down-dip. Hence the aquifer will be full of water and circulation will be limited to the near surface zone. Under pumping conditions leakage will occur from the sands and gravels into the aquifer."

This indicates that there is very limited movement within the local groundwater body and although the groundwater vulnerability at the Site's location is "high", it is unlikely that groundwater pollution will be transferred from Site due to lack of movement within the underlying GWB. Therefore, it has been determined that the Construction Phase of the Proposed Development will have no significant effects on the **River Barrow and River Nore SAC (002162)** or the **Grand Canal pNHA (002104)** by way of a hydrogeological pathway.

During the Operational Phase, the overlying soil will be reinstated providing a buffer between the surface and the underlying Athy-Bagnelstown groundwater body. Due to the soil buffer being reinstated and water attenuating SuDS features being installed during Construction Phase as well as the points made in the above paragraphs, it has been determined that the Operational Phase of the Proposed Development will not have any significant effects on the nearby **River Barrow and River Nore SAC (002162)** and **Grand Canal pNHA (002104)** via a hydrogeological pathway due to the poor movement of water within the local GWB, lack of pollution sources during Operational Phase and the water attenuation qualities of the reinstated soil buffer and proposed SuDS features.

4.3.5 Air and land pathways

During the Construction Phase of the Proposed Development, sources of effects transmitted via air and land pathways have the potential to materialise. Sources of air pollution arising from the Proposed Development include exhaust fumes emanating from the machinery onsite, the dust released by machinery traversing across dry bare ground, as well as earth piles during dry weather spells becoming dusty and being lifted into the atmosphere by winds.

According to the Institute of Air Quality Management (2016) *"95% of dust particles from mineral workings have a relatively high mass and generally deposit within 100m of the point of release, with the remainder being deposited within 200 – 500 m of source*". The nearest European Site, namely the **River Barrow and River Nore SAC (002162)**, is located 0.46km from the Proposed Site at its closest point. Although 460m is within the 200-500m threshold as mentioned in the above statement, it is near the upper limit of this scale. Due to the limited scale of the Proposed Development, the suburban buffer between the Site and the **River Barrow and River Nore SAC (002162)**, as well as the limited sources of exhaust fumes and dust, the Construction Phase of the Proposed Development will not have a significant effect on the **River Barrow and River Nore SAC (002162)** as a result of air pollution arising from Site. The **Grand Canal pNHA (002104)** is located 580m from the Site which puts it outside of the 200-500m buffer as described above indicating that any air pollution arising from Site will not reach the designated Site and therefore, will have no effects on this site via an air pathway.

Works being carried out onsite, including groundworks and construction works, are likely to cause an increase in noise and vibration levels due to the increase in anthropogenic impacts and the use of machinery. Construction-related disturbance and displacement of fauna species could potentially occur within the vicinity of the Proposed Development. For mammal species such as Otter (*Lutra lutra*), disturbance effects would not be expected to extend

beyond 150m[1]. For birds, disturbance effects would not be expected to extend beyond a distance of *c.* 300m, as noise levels associated with general construction activities would attenuate to close to background levels at that distance[2]. There are no European sites within the disturbance ZoI; the nearest European site to the Proposed Development is approximately 0.46km away. This distance is deemed sufficient to exclude any potential for impacts from increased noise, light and anthropogenic disturbance.

During the Operational Phase, there are no foreseen airborne impacts that may occur within the Site. This is due to a soil buffer being reinstated to any ground which may have been bare during landscaping works within the Construction Phase of the Development, as during this phase of the Proposed Development, loose soil may have the potential to be carried from the Site by wind.

There will be an increase in lighting and human activity as a result of the new Proposed Development, however, as stated in the above paragraphs, the new lighting and occurrence of human activity are sufficiently separated from the **River Barrow and River Nore SAC (002162)** and **Grand Canal pNHA (002104)**, so as to not have any significant effects on these designated sites.

4.3.6 Indirect Pathways

No indirect pathways were identified.

4.3.7 Relevant Designated Sites

A designated site will only be at risk from likely significant effects where an S-P-R link of note exists between the Proposed Development and the designated site. All designated sites considered as part of the S-P-R method are listed in Table 2 and their relative location to the Site is shown on Figure 5. The above assessment determined there is a potential hydrological pathway linking the Proposed Site during Construction phase with the River Barrow and River Nore SAC (002162). However, this hydrological pathway has been screened out concluding the findings of the accompanying screening report (Enviroguide, 2024):

"*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 the possibility* ***may be excluded*** *that the Proposed Development will have a significant effect on any of the European sites listed below:*

- *River Barrow and River Nore SAC (002162)*".

[1] This is consistent with Transport Infrastructure Ireland (TII) guidance (Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes (2006) and Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes (2005)) documents. This is a precautionary distance, and likely to be moderated by the screening effect provided by surrounding vegetation and buildings, with the actual ZoI of construction related disturbance likely to be much less in reality.

[2] This is based on the relationship between the noise levels generated by general construction traffic/works (BS 5228:2009 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1 Noise) and the proximity of those noise levels to birds – as assessed in Cutts, N. Phelps, A. & Burdon, D. (2009) *Construction and Waterfowl: Defining Sensitivity, Response, Impacts and Guidance*, and Wright, M., Goodman, P & Cameron, T. (2010) Exploring Behavioural Responses of Shorebirds to Impulsive Noise. *Wildfowl* (2010) 60: 150–167. At 300m, noise levels are below 60dB or, in most cases, are approaching the 50dB threshold below which no disturbance or displacement effects would arise.

As no other designated sites (e.g., Ramsar sites) with notable S-P-R links to the Proposed Development were identified in the preceding steps, no further assessment of potential impacts on designated sites is required in this report.

TABLE 2. DESIGNATED SITES CONSIDERED WITH THE SOURCE-PATHWAY-RECEPTOR (S-P-R) METHOD TO ESTABLISH NOTABLE LINKS BETWEEN THE SOURCES OF EFFECTS ARISING FROM THE PROPOSED AMENDMENTS, AND ANY RELEVANT DESIGNATED SITES. THOSE SITES WITH NOTABLE S-P-R LINKS THAT ARE FURTHER ASSESSED IN THIS REPORT ARE HIGHLIGHTED IN GREEN (IF ANY).

Site Name & Site Code	Distance to Site of Proposed Amendments	Qualifying Interests (*= priority habitats)	Potential Pathways
Special Areas of Conservation (SAC)			
River Barrow and River Nore SAC (002162)	0.46km SE	**Conservation Objectives Version 1 (NPWS, 2011a)** • Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • Reefs [1170] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] • Mediterranean salt meadows (*Juncetalia maritimi*) [1410] • Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260] • European dry heaths [4030] • Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] • Petrifying springs with tufa formation (Cratoneurion) [7220] • Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] • Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) [91E0] • *Vertigo moulinsiana* (Desmoulin's Whorl Snail) [1016] • *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029] • *Austropotamobius pallipes* (White-clawed Crayfish) [1092] • *Petromyzon marinus* (Sea Lamprey) [1095] • *Lampetra planeri* (Brook Lamprey) [1096] • *Lampetra fluviatilis* (River Lamprey) [1099] • *Alosa fallax fallax* (Twaite Shad) [1103] • *Salmo salar* (Salmon) [1106] • *Lutra lutra* (Otter) [1355] • *Trichomanes speciosum* (Killarney Fern) [1421] • *Margaritifera durrovensis* (Nore Pearl Mussel) [1990]	Hydrological Hydrogeological and air/land ruled out.

Site Name & Site Code	Distance to Site of Proposed Amendments	Qualifying Interests (*= priority habitats)	Potential Pathways
Proposed Natural Heritage Area (pNHA)			
Barrow Valley At Tankardstown Bridge pNHA (000858)	3.75km SE	n/a	Hydrological pathway ruled out.
Grand Canal pNHA (002104)	0.58km NW	n/a	Hydrogeological and Air/Land pathways ruled out.

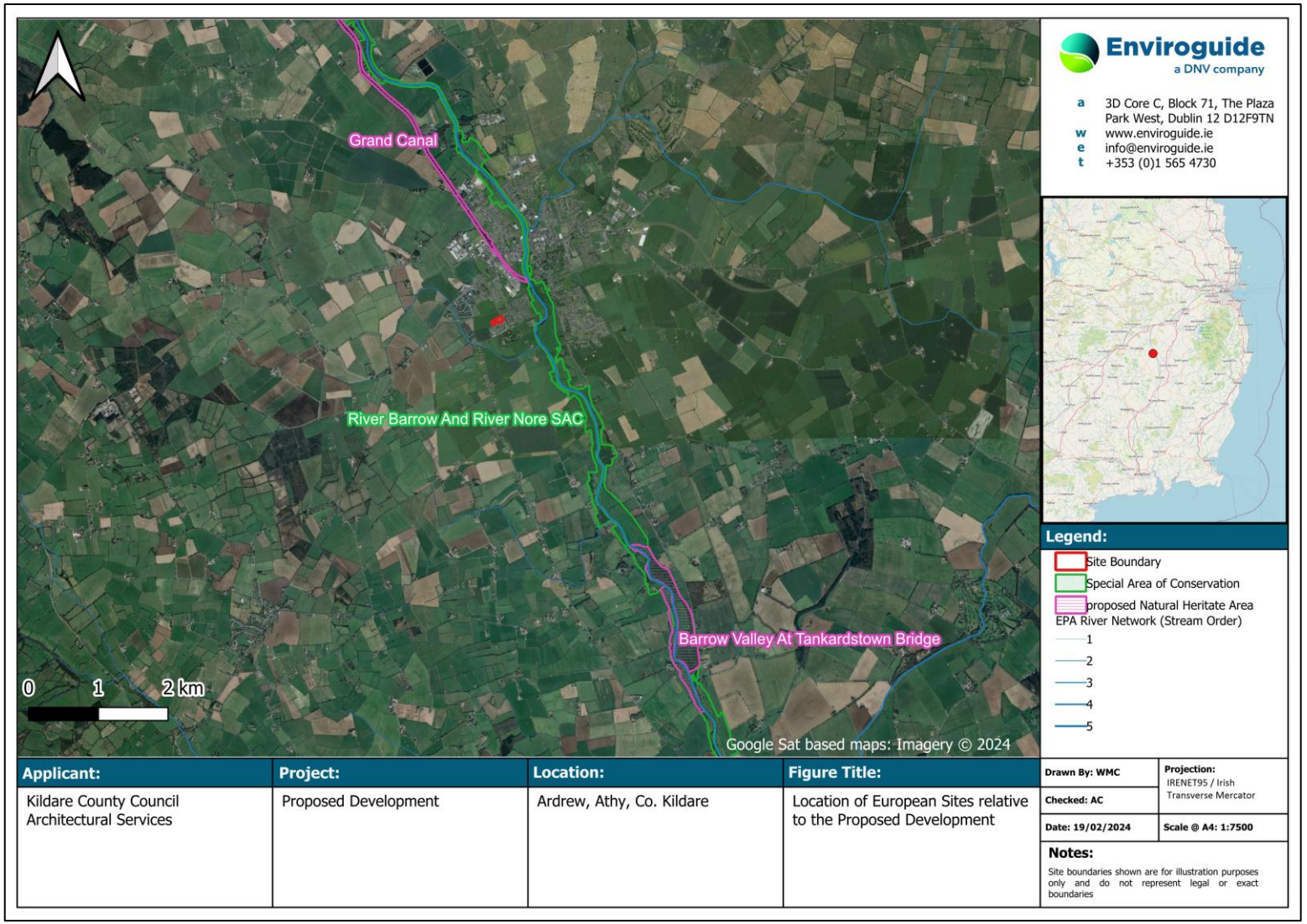

FIGURE 5. LOCATION OF DESIGNATED SITES CONSIDERED WITH THE SOURCE-PATHWAY-RECEPTOR (S-P-R) METHOD IN RELATION TO THE PROPOSED DEVELOPMENT.

4.4 Habitats

The habitats present within the Site, as recorded during the field survey, are described in this section, and summarised below. A map of the habitats at the Site is presented in Figure 12.

There are 6 different types of habitats located within the Ardrew Site. These include:

- BL3 – Buildings and artificial surfaces
- GS2 – Dry meadows and grassy verges
- GS2/WS1 – Dry meadows and grassy verges/scrub mosaic
- WL2 – Treeline
- BC1 – Arable crops
- GA2 – Amenity grassland

There are patches of BL3 – buildings and artificial surfaces habitats located to the east of the Proposed Site. This habitat type takes up approximately 1/3 of the Site's area.

Located predominantly within the eastern half of the Proposed Site, there are areas of GS2 – dry meadows & grassy verges habitats located.

There is a line of GS2/WS1 - dry meadows and grassy verges/scrub mosaic habitat which runs from southwest to northeast along the northwestern boundary of the existing built area to the east. This is the only example of this habitat type recorded during the Site walkover.

At the Site's entrance, running parallel to the Fortbarrington road, is a line of WL2 – treeline habitat.

There is BC1 – arable crops habitat located in a large field to the west of the Proposed Site.

Located in the centre of the existing built area to the east of the Proposed Site is a relatively small area of GA2 – amenity grassland.

4.4.1 Buildings and artificial surfaces (BL3)

This habitat dominated the eastern half of the Proposed Site. It is devoid of vegetation and has been burnt in places (see Figure 6 and Figure 12).

FIGURE 6. BUILDINGS AND ARTIFICIAL SURFACES (BL3)

4.4.2 Dry meadows and grassy verges (GS2)

This habitat is found mainly in the eastern half of the Proposed Site and is mostly located next to buildings and artificial surfaces habitat (BL3). There were a number of species of flora recorded in the GS2 dry meadows and grassy verges habitat including dandelion (*Taraxacum officinale*), common nettle (*Urtica dioica*), ragwort (*Jacobaea vulgaris*), perennial ryegrass (*Lolium perenne*) and broad-leaved dock (*Rumex obtusifolius*) (see Figure 7 and Figure 12).

FIGURE 7. DRY MEADOWS AND GRASSY VERGES (GS2)

4.4.3 Dry meadows and grassy verges/scrub mosaic (GS2/WS1)

This habitat type occurs along the northern boundary of the previous/existing development. Species found in this habitat on Site include dandelion, common nettle, ragwort, perennial ryegrass, broad-leaved dock and elder (*Sambucus nigra*) (see Figure 8 and Figure 12).

FIGURE 8. DRY MEADOWS AND GRASSY VERGES/SCRUB MOSAIC (GS2/WS1)

4.4.4 Treeline (WL2)

There is a line of WL2 treeline habitat which runs parallel to the Fortbarrington road, from northwest to southeast, along the eastern boundary of the Site. Species recorded in this habitat include cypress leyland (*Cupressus* × *leylandii*), tree cotoneaster (*Cotoneaster frigidus*) and hawthorn (*Crataegus monogyna*) (see Figure 9 and Figure 12).

FIGURE 9. TREELINE (WL2)

4.4.5 Arable crops (BC1)

There is a large field located to the west of the existing/previous development and within the southwestern section of the Proposed Development Site comprising of BC1 arable crop habitat. There was newly sown wheat (*Triticum aestivum*) growing in this area at the time of the walkover survey (1st November 2023) (see Figure 10 and Figure 12). This habitat is intensively managed and there was no additional plant growth within this area.

FIGURE 10. ARABLE CROPS (BC1)

4.4.6 Amenity grassland (GA2)

Located within the roundabout in the centre of the existing/previous development is a small area of GA2 amenity grassland. Species recorded within this habitat include perennial ryegrass, dandelion and meadow buttercup (*Ranunculus acris*) (see Figure 11 and Figure 12).

FIGURE 11. AMENITY GRASSLAND (GA2)

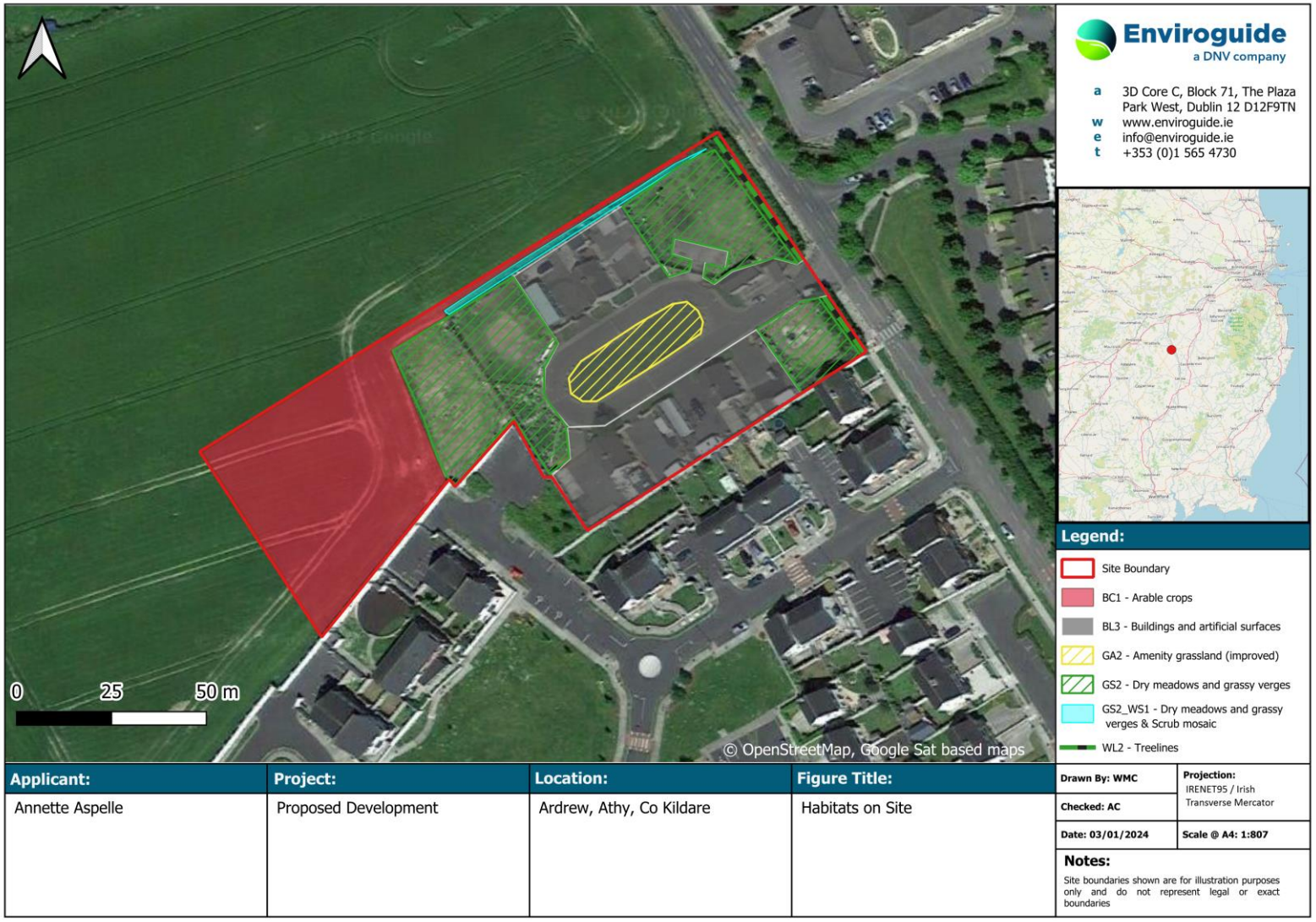

FIGURE 12. MAP OF HABITATS AT THE SITE OF THE PROPOSED DEVELOPMENT.

4.5 Species and Species Groups

4.5.1 Flora

4.5.1.1 Rare and Protected Flora

The Site of the Proposed Development is located next to the western edge of the NBDC 2km tetrad S69R, as such, the adjacent Grid square S69W was also checked. Species records from the NBDC online database for these grid squares were studied for the presence of rare and/or protected species within the last 20 years. This database contained no records of protected flora within the last 20 years. The Floral Protection Order (FPO) Bryophytes database was also checked for rare and protected flora records within the vicinity of the Proposed Development. No rare and/or protected bryophyte records exist within the immediate vicinity of the Proposed Development.

4.5.1.2 Invasive Species

There are records for two species of flora considered to be invasive within the S69R and S69W grid squares which surround the Site of the Proposed Development. Details of these records are listed in Table 3.

TABLE 3. RECORDS OF INVASIVE SPECIES OF FLOWERING PLANT FOR THE SURROUNDING 2KM GRID SQUARES ASSOCIATED WITH THE SITE FROM THE NBDC

Species	Grid square	Date of last record	Source	Designations
Himalayan honeysuckle (*Leycesteria formosa*)	S69W	21/08/2018	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Japanese knotweed (*Reynoutria japonica*)	S69W	02/05/2014	National Invasive Species Database, BSBI tetrad data for Ireland	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland)

4.5.1.3 Field Study Results

No rare or protected plant species were recorded on Site during ecological walkovers. No non-native plant species were recorded throughout the Site.

4.5.2 Bats

4.5.2.1 Desk Study Results

A total of four bat species have been recorded within the 2km grid squares (S69R and S69W) which encompass the Site (Table 4).

TABLE 4: RECORDS OF BATS FOR THE SURROUNDING 2KM GRID SQUARES ASSOCIATED WITH THE SITE FROM THE NBDC.

Species	Grid Square	Date of last record	Database	Designation

Leisler's bat (*Nyctalus leisleri*)	S69R, S69W	07/06/2009	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Common pipistrelle (*Pipistrellus pipistrellus*)	S69R, S69W	07/06/2009	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Soprano pipistrelle (*Pipistrellus pygmaeus*)	S69R, S69W	07/06/2009	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Daubenton's bat (*Myotis daubentonii*)	S69R, S69W	07/06/2009	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts

The Bat Conservation Ireland Landscape Suitability Model (Lundy *et al.*, 2011) provides a habitat suitability index for bat species across Ireland. The model divides the country into grid squares and ranks the habitat within the squares according to its suitability for various bat species. The scores are divided into five qualitative categories of suitability, namely:

- 0.0000000 - 13.000000: Low.
- 13.000001 - 21.333300: Low – Medium.
- 21.333301 - 28.111099: Medium.
- 28.111100 - 36.444401: Medium – High.
- 36.444402 - 58.555599: High.

The Proposed Development Site (Figure 13) is located in an area with an overall Medium-High (32.11) suitability for bats in general. The suitability index for specific bat species is presented in Table 5. The landscape suitability index is high for four bat species listed below, medium-high for two species, medium for one species and low for two species.

TABLE 5: LANDSCAPE SUITABILITY INDEX FOR INDIVIDUAL BAT SPECIES (SOURCE: NBDC). THOSE SPECIES THAT HAVE BEEN RECORDED IN THE NBDC DATABASE WITHIN THE 2KM GRID SQUARES ARE HIGHLIGHTED IN GREEN.

Bat Species	Suitability Index (2km Grid Square)
Soprano pipistrelle *(Pipistrellus pygmaeus)*	32 (Medium – High)
Leisler's bat *(Nyctalus leisleri)*	39 (High)
Common pipistrelle *(Pipistrellus pipistrellus)*	39 (High)
Daubenton's bat *(Myotis daubentonii)*	21 (Medium)
Lesser horseshoe bat *(Rhinolophus hipposideros)*	0 (Low)
Brown long-eared bat *(Plecotus auritus)*	48 (High)
Whiskered bat *(Myotis mystacinus)*	31 (Medium – High)
Nathusius' pipistrelle (*Pipistrellus nathusii*)	10 (Low)
Natterer's bat *(Myotis nattereri)*	37 (High)

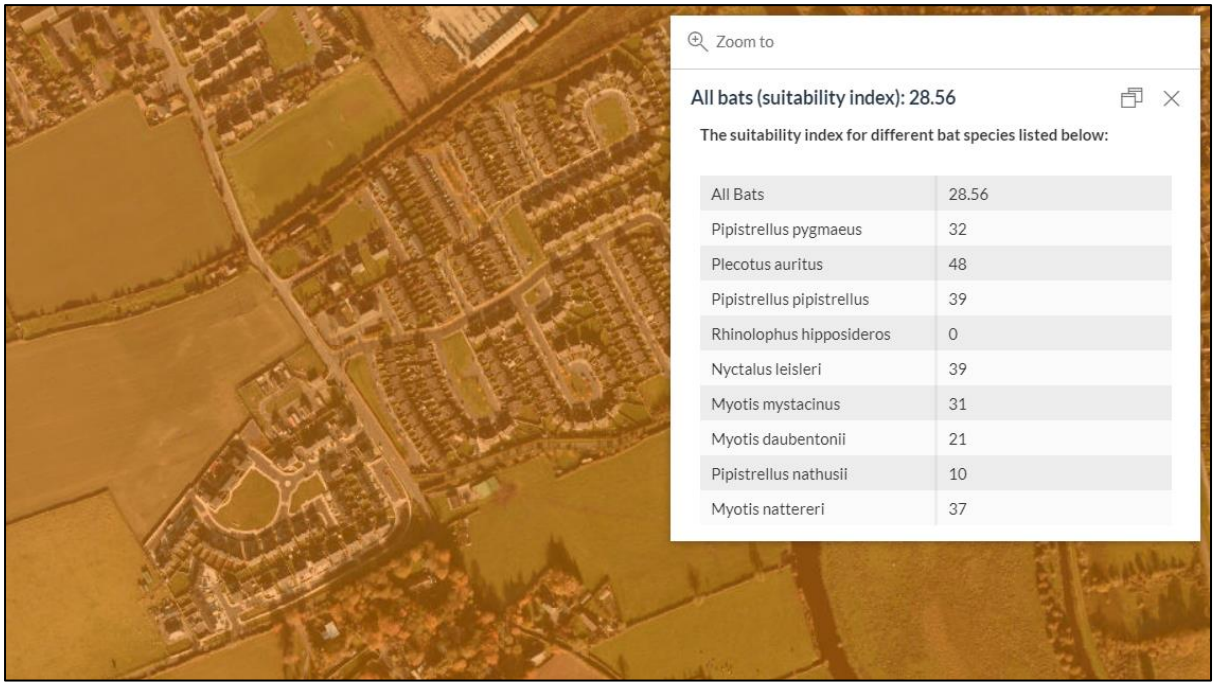

FIGURE 13: BAT LANDSCAPE SUITABILITY MODEL (ALL BATS) SURROUNDING THE PROPOSED DEVELOPMENT SITE (ADAPTED FROM NBDC).

4.5.2.2 Field Study Results

4.5.2.3 Preliminary Bat Roost Assessment

The buildings on Site were inspected on the 1st of November 2023 and it was determined that none of the buildings or trees on site had any bat roost potential (BRP) or potential roost features (PRFs) of note.

The existing dilapidated buildings on Site had bat roost potential features. The bat conservation trust guidelines (Collins, 2023), describes roosting habitats in structures with no potential suitability as "*No habitat feature on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels)*."

The treeline to the east of the Site had no PRF features when examined during the Site walkover. The bat conservation trust guidelines (Collins, 2023), describes trees with no suitability for roosting bats as "*Either no PRFs in the tree or highly unlikely to be*".

4.5.2.4 Bat Habitat Suitability

The habitats located on Site have low suitability for foraging/commuting bats. This is due to the lack of vegetation on Site apart from the treeline to the eastern boundary and isolated nature of this habitat (has no continuity and is surrounded predominantly by a semi-urban area). There is a lack of substantial and diverse hedgerows in the vicinity of the Site which would provide foraging and commuting potential to bats. The nearby Fortbarrington road may also have an impact on the baseline feeding and commuting behaviours of bats due to anthropogenic impacts i.e. traffic, walkers, etc. The bat conservation trust guidelines (Collins, 2023) describe potential flight-paths and foraging habitats with a low suitability as "*Habitat that could be used by small numbers of bats as flight-paths such as gappy hedgerow or*

unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.

Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub".

4.5.3 Birds

4.5.3.1 Desk Study Results

A total of 129 bird species have been recorded within the 2km grid squares S69R and S69W. Of these, seventeen are red listed birds and forty-six are amber listed birds as identified on the Birds of Conservation Concern in Ireland (BoCCI) (Gilbert *et al.,* 2021). Details of amber and red listed species are given in Table 6. The remaining species are all green listed or did not have data available.

TABLE 6. LIST OF BIRDS RECORDED WITHIN NBDC 2KM GRID SQUARES ADJACENT TO SITE WITH CURRENT BOCCI STATUS

Species	Conservation Status	Grid Squares
Barn swallow (*Hirundo rustica*)	Amber list	S69R, S69W
Common starling (*Sturnus vulgaris*)	Amber list	S69R, S69W
Common swift (*Apus apus*)	Amber list	S69R, S69W
House martin (*Delichon urbicum*)	Amber list	S69R, S69W
House sparrow (*Passer domesticus*)	Amber list	S69R, S69W
Mute swan (*Cygnus olor*)	Amber list	S69R, S69W
Yellowhammer (*Emberiza citrinella*)	Red list	S69R, S69W
Common coot (*Fulica atra*)	Amber list	S69R
Black-headed gull (*Larus ridibundus*)	Red list	S69W
Common kingfisher (*Alcedo atthis*)	Amber list	S69W
Common linnet (*Carduelis cannabina*)	Amber list	S69W
Eurasian tree sparrow (*Passer montanus*)	Amber list	S69W
Great cormorant (*Phalacrocorax carbo*)	Amber list	S69W
Sand martin (*Riparia riparia*)	Amber list	S69W
Spotted flycatcher (*Muscicapa striata*)	Amber list	S69W

4.5.3.2 Field Study Results

During the Site walkover on the 1st of November 2023, two species of birds were recorded (Table 7) at or flying over the Site. Of these, starling (*Sturnus vulgaris*) is amber listed with robin (*Erithacus rubecula*) being green listed (Gilbert *et al.,* 2021). The small-scale nature and lack of priority habitats of this Site provides limited roosting and foraging to species of birds. Passerine species may make use of the treeline at the Site's entrance while roosting/nesting, however this habitat is quite limited on Site.

TABLE 7. BIRD SPECIES RECORDED DURING WALKOVER SURVEY ON THE 1ST OF NOVEMBER 2023.

Species	BoCCI Status	Activity
Robin (*Erithacus rubecula*)	**Green list**	**Present**
Starling (*Sturnus vulgaris*)	**Amber list**	**Present**

4.5.4 Mammals (excl. bats)

4.5.4.1 Desk Study Results

Records for terrestrial mammals were obtained from the NBDC online database. Table 8 lists these species, their date of last record and summarises their protected status/designation. In total, eleven mammal species were recorded within the 2km grid squares which encompass the Proposed Development Site.

TABLE 8: RECORDS OF TERRESTRIAL MAMMALS (NATIVE AND NON-NATIVE) FOR THE SURROUNDING 2KM (S69R AND S69W) GRID SQUARES ASSOCIATED WITH THE SITE FROM THE NBDC.

Species	NBDC Grid Square	Date of last record	Source	Designation
NATIVE SPECIES				
West European hedgehog (*Erinaceus europaeus*)	S69R, S69W	21/08/2022	Hedgehogs of Ireland	Wildlife Act 1976 (as amended)
Red fox (*Vulpes vulpes*)	S69R	14/10/2015	Mammals of Ireland 2016-2025 Road Kill Survey	Not legally protected
Eurasian red squirrel (*Sciurus vulgaris*)	S69R	29/08/2014	Atlas of Mammals in Ireland 2010-2015	Protected Species: Wildlife Acts
Irish stoat (*Mustela erminea subsp. hibernica*)	S69R	14/10/2015	Atlas of Mammals in Ireland 2010-2015	Wildlife Act 1976 (as amended)
Wood mouse (*Apodemus sylvaticus*)	S69R, S69W	23/07/2018	Atlas of Mammals in Ireland 2010-2015	Not legally protected
European otter (*Lutra lutra*)	S69W	10/05/2018	Mammals of Ireland 2016-2025	Annex IV Protected Species, Wildlife Act 1976 (as amended)
Pine marten (*Martes martes*)	S69W	04/06/2020	Mammals of Ireland 2016-2025	Annex V Protected Species, Wildlife Act 1976 (as amended)
NON-NATIVE AND INVASIVE SPECIES				
Brown rat (*Rattus norvegicus*)	S69R, S69W	04/11/2015	Atlas of Mammals in Ireland 2010-2015	High Impact Invasive Species
Eastern grey squirrel (*Sciurus carolinensis*)	S69R	31/12/2007	The Irish Squirrel Survey 2007	High Impact Invasive Species

Species	NBDC Grid Square	Date of last record	Source	Designation
Greater white-toothed shrew (*Crocidura russula*)	S69R, S69W	16/05/2020	Mammals of Ireland 2016-2025	Medium Impact Invasive Species

4.5.4.2 Field Study Results

There was no evidence of mammal presence during the Site walkover on the 1st of November 2023. It was noted that there were some dogs, including greyhounds on Site which would contribute to the deterrence and absence of any mammals in the locality.

4.5.5 Amphibians

One species of amphibian was recorded, namely the common frog (*Rana temporaria*), within the nearby S69W square which encompasses the River Barrow. This was likely recorded in the vicinity of the River Barrow however which is a substantial distance from the Proposed Site (480m west), where an urban settlement divides the two. The Common Frog (*Rana temporaria*) is legally protected in Ireland under the EU Habitats Directive - Annex V and the Wildlife Act 1976 (as amended).

No amphibian species were recorded on the 1st of November during the Site walkover. It was also noted during the walkover of the Site that there was no suitable habitat to support breeding amphibians such as vegetated ponds or drainage ditches with gently sloping edges and mostly stagnant waters.

4.5.6 Reptiles

No historical records of common lizard (*Zootoca vivipara*) were found within the 2km grid squares encompassing the Site of the Proposed Development.

No common lizard were observed during the survey on the 1st of November 2023. There was suitable habitat on Site in the form of Buildings and Artificial Surfaces (BL3), however there was limited scrub/cover/organic debris which would provide suitable hibernacula for this species. As such, it is unlikely that common lizards are present on Site, however, the above cannot definitively preclude their presence.

4.5.7 Fish

No fish species were recorded within the S69R and S69W 2km grid squares encompassing the Site of the Proposed Development.

The Bennetsbridge Stream (IE_SE_14B011900) is located approximately 0.41km southwest of the Site where it joins the larger River Barrow (IE_SE_14B011900) approximately 0.64km southeast of the Site. The River Barrow and River Nore SAC (002162) encompasses the nearby River Barrow and is known to hold some fish species of note, namely *Petromyzon marinus* (Sea Lamprey), *Lampetra planeri* (Brook Lamprey), *Lampetra fluviatilis* (River Lamprey), *Alosa fallax fallax* (Twaite Shad) and Salmo salar (Salmon) [1106]. Some of these species such as *Lampetra planeri* (Brook Lamprey) and *Lampetra fluviatilis* (River Lamprey) are known to utilise smaller streams such as the Bennetsbridge stream. This stream however lies 0.41km southwest of the Site.

4.5.8 Invertebrates

A number of invertebrate species are listed within the nearby S69R and S69W 2km grid squares, none of these however are legally protected.

No protected invertebrates were recorded on Site during field surveys.

4.5.9 Other Protected and/or Notable Species

The freshwater white-clawed crayfish (*Austropotamobius pallipes*) is listed within the nearby S69W 2km grid square and was likely recorded in the River Barrow. This was recorded in 1994. It is listed as a notable species of the River Barrow and River Nore SAC (002162). This species is legally protected under the EU Habitats Directive - Annex II, EU Habitats Directive - Annex V and the Wildlife Act 1976 (as amended).

However, the nearest watercourse to the Site, the Bennetsbridge Stream, is located 0.41km from the Site, therefore, as the freshwater-white clawed crayfish is an aquatic species, is not found within the boundaries of the Proposed Site.

5 Preliminary Ecological Appraisal

5.1 Ecological Constraints

The ecological features recorded at the Site and likely ecological constraints identified are summarised below in Table 9.

Table 9. Ecological Constraints identified for the Proposed Development.

Ecological Feature	Likely Ecological Constraint	Rationale
DESIGNATED SITES		
European sites	No	The screening report which accompanies this submission states that the Site will not cause significant effects on the nearby **River Barrow and River Nore SAC (002162)** and an NIS report is not required.
Nationally designated sites (pNHAs, NHAs)	No	The Barrow Valley At Tankardstown Bridge pNHA (000858) (3.75km SE) and the Grand Canal pNHA (002104) (0.58km NW) are the nearest nationally designated sites to the Proposed Site. Significant effects on the Tankardstown Bridge pNHA (000858) may be ruled out due to distance and dilution effects of the Bennetsbridge Stream/River Barrow pathway. Significant effects on the Grand Canal pNHA (002104) may be ruled out due to distance and its upstream location.
International sites (Ramsar, UNESCO)	No	No designated Sites are within the ZOI of the Proposed Development and no SPR links exist.
HABITATS		
BL3 – Buildings and artificial surfaces	No	Disused condition of buildings on Site provides no potential roost features for bats.
GS2 – Dry meadows and grassy verges	No	This habitat was of poor condition on Site and was burnt in places. Not likely to support any notable species.

GS2/WS1 – Dry meadows and grassy verges/scrub mosaic	No	This habitat was limited to smaller localised sections on Site. Not likely to support any species of note.
WL2 – Treeline	Yes	Suitable for nesting passerine species. If the Proposed Development is being carried out during breeding season (March-August), a pre-commencement bird survey will be required.
BC1 – Arable crops	No	Not likely to support any species of note.
GA2 – Amenity grassland	No	Not likely to support any species of note.
SPECIES AND SPECIES GROUPS		
Birds	Yes	Amber-listed species starling (*Sturnus vulgaris*) was noted during the Site walkover survey carried out on the 1st of November 2023 although this survey was undertaken outside of the breeding season. The WL2 – Treeline habitat near the entrance of the Site may provide roosting and nesting for these bird species. If the treeline is to be removed within breeding season (March to August), a pre-commencement breeding bird survey will be required to check for the presence of nests.
Bats	No	None of the existing buildings or trees on Site had any bat roosting potential or potential roosting features respectively. The 'low' commuting/foraging potential reflected the lack of suitable commuting/foraging habitat on Site as well as the lack of connectivity to the wider landscape.
Mammals	No	No evidence of mammals was recorded during the walkover survey carried out on the 1st of November 2023. There were dogs present which would deter mammal species from entering the Site.
Amphibians	No	No habitats suitable for amphibians was noted during the Site walkover.
Reptiles	No	It is unlikely that amphibians use the Site due to the lack of hibernacula noted during the Site walkover.

For those ecological features that were identified as constraints, recommendations of further surveys, avoidance of potential impacts, and likely appropriate mitigation measures are identified in Table 10 below.

TABLE 10. RECOMMENDATIONS FOR IDENTIFIED ECOLOGICAL CONSTRAINTS.

Ecological Constraint	Further Survey Recommendations	Mitigation Recommendations	Risks without Mitigation
HABITATS			
Treeline (WL2)	Pre-commencement breeding bird survey.	• Pre-commencement bird survey should be carried out on the Treeline (WL2) only if removal is being carried out during the breeding season.	Non-compliance could result in the mortality of juvenile birds/eggs and legal implications as breeding birds are protected under the Wildlife Act 1976 (as amended).
SPECIES AND SPECIES GROUPS			
Birds	Pre-commencement breeding bird survey	• Vegetation clearance should be conducted outside of breeding bird season (March to August, inclusive). • Alternatively, vegetation removal if undertaken between March and August should be conducted under a watching brief by a suitably experienced ecologist. If breeding birds are present, work shall cease in the vicinity of the area, as determined by the ecologist. • Should works need to proceed prior to fledging, the NPWS shall be contacted. The ecologist will return to confirm if nests are no longer active and clearance works may proceed.	Uncertainty in significance of breeding population could lead to FI request from LPA or objections from third parties. Birds are protected under the Wildlife Act 1976 as amended. Under the Wildlife Act, it is an offence to disturb, injure or damage the breeding or resting place of a listed species without an appropriate license from the National Parks and Wildlife Service (NPWS). All wild birds are further protected under the EU Birds Directive. Noncompliance with the Wildlife Act 1976 as amended could potentially lead to penalties such as a fine not exceeding €100,000 or to imprisonment for a term not exceeding 2 years or to both.

6 CONCLUSION

No protected / notable habitats were identified on Site, will all habitats recorded being common and widespread. Potential nesting habitat for birds in the form of a Treeline (WL2) present along the eastern boundary of the Site was identified during the Site survey on 1st November 2023. As works are to be carried out outside of the breeding bird season (March-August inclusive), there is no potential for significant impacts on breeding birds. As such, it has been recommended in this Report, that further surveys are not required as works are being carried out between September and February, outside of the breeding bird season.

Should the works be carried out outside of the breeding bird season or if proposed mitigation measures outlined in Table 10 are adhered to, it is not expected that there will be any significant impacts on any protected and/or notable designated sites, habitats or species.

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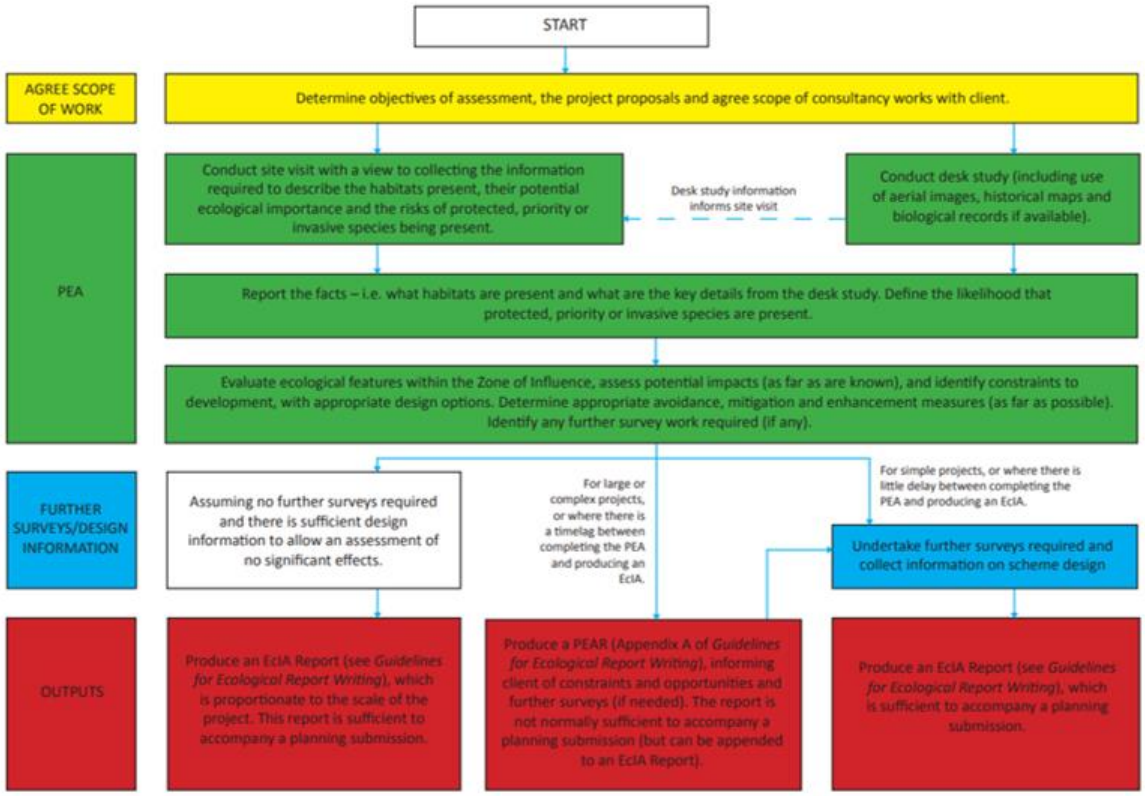
APPENDIX I – PRELIMINARY ECOLOGICAL APPRAISAL FLOW CHART (CIEEM, 2017)



APPENDIX II – LEGISLATION AND POLICY

International Legislation

EU Birds Directive

The Birds Directive constitutes a level of general protection for all wild birds throughout the European Union. Annex I of the Birds Directive includes a total of 194 bird species that are considered rare, vulnerable to habitat changes or in danger of extinction within the European Union. Article 4 establishes that there should be a sustainable management of hunting of listed species, and that any large scale non-selective killing of birds must be outlawed. The Directive requires the designation of Special Protection Areas (SPAs) for: listed and rare species, regularly occurring migratory species and for wetlands which attract large numbers of birds. There are 25 Annex I species that regularly occur in Ireland.

EU Habitats Directive

The Habitats Directive aims to protect some 220 habitats and approximately 1000 species through-out Europe. The habitats and species are listed in the Directives annexes where Annex I covers habitats and Annex II, IV and V cover species. There are 59 Annex I habitats in Ireland and 33 Annex IV species which require strict protection wherever they occur. The Directive requires the designation of Special Areas of Conservation (SACs) for areas of habitat deemed to be of European interest. The SACs together with the SPAs from the Birds Directive from a network of protected sites called Natura 2000.

Bern and Bonn Convention

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982) was enacted to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) was introduced in order to give protection to migratory species across borders in Europe.

Ramsar Convention

The Ramsar Convention on Wetlands is an intergovernmental treaty signed in Ramsar, Iran, in 1971. The treaty is a commitment for national action and international cooperation for the conservation of wetlands and their resources. In Ireland there are currently 45 Ramsar sites which cover a total area of 66,994ha.

Water Framework Directive

The EU Water Framework Directive (WFD) 2000/60/EC is an important piece of environmental legislation which aims to protect and improve water quality. It applies to Rivers, lakes, groundwater, estuaries, and coastal waters. The Water Framework Directive was agreed by all individual EU member states in 2000, and its first cycle ran from 2009 – 2015. The Directive runs in 6-year cycles; the second cycle ran from 2016 – 2021, and the current (third) cycle runs from 2022-2027. The aim of the WFD is to prevent any deterioration in the existing status of water quality, including the protection of good and high-water quality status where it exists. The WFD requires member states to manage their water resources on an integrated basis to achieve at least 'good' ecological status, through River Basin Management Plans (RBMP), by 2027.

National Legislation

Wildlife Act 1976 and amendments

The Wildlife Act 1976 was enacted to provide protection to birds, animals, and plants in Ireland and to control activities which may have an adverse impact on the conservation of wildlife. With regard to the listed species, it is an offence to disturb, injure or damage their breeding or resting place wherever these occur without an appropriate licence from the National Parks and Wildlife Service (NPWS). This list includes all wild birds along with their nests and eggs. Intentional destruction of an active nest from the building stage up until the chicks have fledged is an offence. This includes the cutting of hedgerows from the 1st of March to the 31st of August. The act also provides a mechanism to give statutory protection to Natural Heritage Areas (NHAs). The Wildlife Amendment Act 2000 widened the scope of the Act to include most species, including the majority of fish and aquatic invertebrate species which were excluded from the 1976 Act.

The current list of plant species protected by Section 21 of the Wildlife Act, 1976 (and amendments) is set out in the Flora (Protection) Order, 2015 (S.I. No. 356/2015). The Flora (Protection) Order affords protection to several species of plant in Ireland, including 68 vascular plants, 40 mosses, 25 liverworts, 1 stonewort and 1 lichen. This Act makes it illegal for anyone to uproot, cut or damage any of the listed plant species and it also forbids anyone from altering, interfering, or damaging their habitats. This protection is not confined to within designated conservation sites and applies wherever the plants are found.

EU Habitats Directive 1992 and EC (Birds and Natural Habitats) Regulations 2011

The EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive 1992) provides protection to particular species and habitats throughout Europe. The Habitats Directive has been transposed into Irish law through the EC (Birds and Natural Habitats) Regulations 2011.

Annex IV of the EU Habitats Directive provides protection to a number of listed species, wherever they occur. Under Regulation 23 of the Habitats Directive, any person who, in regard to the listed species, “Deliberately captures or kills any specimen of these species in the wild, deliberately disturbs these species particularly during the period of breeding, rearing, hibernation and migration, deliberately takes or destroys eggs from the wild or damages or destroys a breeding site or resting place of such an animal shall be guilty of an offence.”

Invasive Species Legislation

Certain plant species and their hybrids are listed as Invasive Alien Plant Species in Part 1 of the Third Schedule of the *European Communities (Birds and Natural Habitats) Regulations* 2011 (SI 477 of 2011, as amended). In addition, soils and other material containing such invasive plant material, are classified in Part 3 of the Third Schedule as vector materials and are subject to the same strict legal controls.

Failure to comply with the legal requirements set down in this legislation can result in either civil or criminal prosecution, or both, with very severe penalties accruing. Convicted parties under the Act can be fined up to €500,000.00, jailed for up to 3 years, or both.

Extracts from the relevant sections of the regulations are reproduced below.

"49(2) Save in accordance with a licence granted [by the Department of Arts, Heritage and the Gaeltacht]*, any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow in anyplace* [a restricted non-native plant]*, shall be guilty of an offence.*

49(3) … it shall be a defence to a charge of committing an offence under paragraph (1) or (2) to prove that the accused took all reasonable steps and exercised all due diligence to avoid committing the offence.

50(1) Save in accordance with a licence, a person shall be guilty of an offence if he or she […] offers or exposes for sale, transportation, distribution, introduction, or release—
(a) an animal or plant listed in Part 1 or Part 2 of the Third Schedule,
(b) anything from which an animal or plant referred to in subparagraph (a) can be reproduced or propagated, or
(c) a vector material listed in the Third Schedule, in any place in the State specified in the third column of the Third Schedule in relation to such an animal, plant or vector material."

National Biodiversity Action Plan 2023-2030

The National Biodiversity Plan (NBAP) 2023-2030, the fourth such plan for Ireland, captures the objectives, targets and actions for biodiversity that will be undertaken by a wide range of government, civil society and private sectors to achieve Ireland's Vision for Biodiversity. The NBAP provides a framework to track and assess progress towards Ireland's Vision for Biodiversity over an eight-year timeframe from 2023 to 2030. To achieve the Vision, five new strategic objectives were appointed within the updated 2023-2030 NBAP which are updated from the seven objectives listed within the third 2017-2021 NBAP. Actions required to achieve the strategic objectives as well as the lead and key partners responsible for their implementation are set out for each of the objectives and their targets (Table A1).

TABLE A1: OBJECTIVES AND TARGETS OF THE NATIONAL BIODIVERSITY ACTION PLAN 2023-2030.

Objective	Target
1: Adopt a Whole-of-Government, Whole-of-Society Approach to Biodiversity	1A1: By 2023, Government has introduced a statutory requirement for National Biodiversity Action Plans.
	1A2: By 2024, a new and expanded BWG is convened.
2: Meet Urgent Conservation and Restoration Needs	2A1: By 2024, enhanced implementation of the Habitats and Birds Directives.
	2A3: By 2030, trends in the status of the protected habitats and species under the Habitats and Birds Directives are Improving.
3: Secure Nature's Contribution to People	3A1: By 2027, all actions relating to biodiversity and natural heritage are in progress or completed.

	3A2: By the end of 2024, the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media (DTCAGSM) infrastructure funded under the National Development Plan (NDP) will incorporate biodiversity and ecosystem services.
4: Enhance the Evidence Base for Action on Biodiversity	4A1: By 2026, a review of biodiversity skills gaps is complete.
	4A2: By 2024, biodiversity research gaps, essential for supporting conservation and restoration, are identified and prioritised.
5: Strengthen Ireland's Contribution to International Biodiversity Initiatives	5A1: By 2024, cross-border consortia will collaborate to secure grant funding to deliver biodiversity related projects.
	5A2. By 2025, Ireland has adopted an all-island approach to invasive species.

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