Ecological Impact Assessment

Athlone Link Road Phase 2

EcIA Report
July 2025

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CST Group
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Abbreviations

AA	Appropriate Assessment
BoCCI	Birds of Conservation Concern in Ireland
CIEEM	Chartered Institute of Ecology and Environmental Management
DoEHLG	Department of Environment, Heritage and Local Government
EcIA	Ecological Impact Assessment
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EU	European Union
GIS	Geographic Information Systems
KER	Key Ecological Receptor
INNS	Invasive Non-Native Species
IROPI	Imperative Reasons of Over-riding Public Interest
LAP	Local Area Plan
NBDC	National Biodiversity Data Centre
NPWS	National Parks and Wildlife Services
PEAR	Preliminary Ecological Assessment report
pNHA	Proposed Natural Heritage Area
QI	Qualifying Interest
RBMP	River Basin Management Plan
SAC	Special Area of Conservation
SPA	Special Protection Area
WFD	Water Framework Directive
ZoI	Zone of Influence

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1. Introduction

This Ecological Impact Assessment (EcIA) has been prepared by Coiscéim Consulting in relation to a planning application for the proposed

1.1 Aims

The aims of this EcIA are to:

- Establish baseline ecological conditions to enable identification of potentially important ecological features within the zone of influence of the project
- Determine the ecological value of identified ecological features
- Assess the significance of impacts of proposed project on ecological features of value
- Identify avoidance, mitigation or compensatory measures
- Identify residual impacts after mitigation and the significance of their effects
- Identify opportunities for ecological enhancement and net gain of biodiversity

1.2 The Existing Site

The proposed site consists of an area of wasteland which contain a range of habitats including treelines, scrub, rough grassland and wet grassland & wetland areas with drainage ditch bisecting the site in an east-west direction.

Figure 1.1 *Site Outline and Location*

Figure 1.2 *View of Bus Depot Extension site from Station Road boundary*

2 The Proposed Development (the 'Project')

The applicant, Westmeath County Council, intend to apply for planning permission for the further development of a link road between Crescent Junction (R915) to Coosan Point Road/Southern Station Road Junction and lands within the CIE Bus Depot boundary.

The proposed development will include the construction of Phase 2 of the link road from Coosan Point to The Crescent, provision of additional bus parking within the CIE lands, alterations to the signalised junction at Coosan Point and alterations to the alignment of the existing foul sewer that currently is within the area of the future bus parking.
The proposed works are outlined in a series of engineering drawings by PUNCH / CST Group Consulting Engineers (See Appendices C, D and E for details).

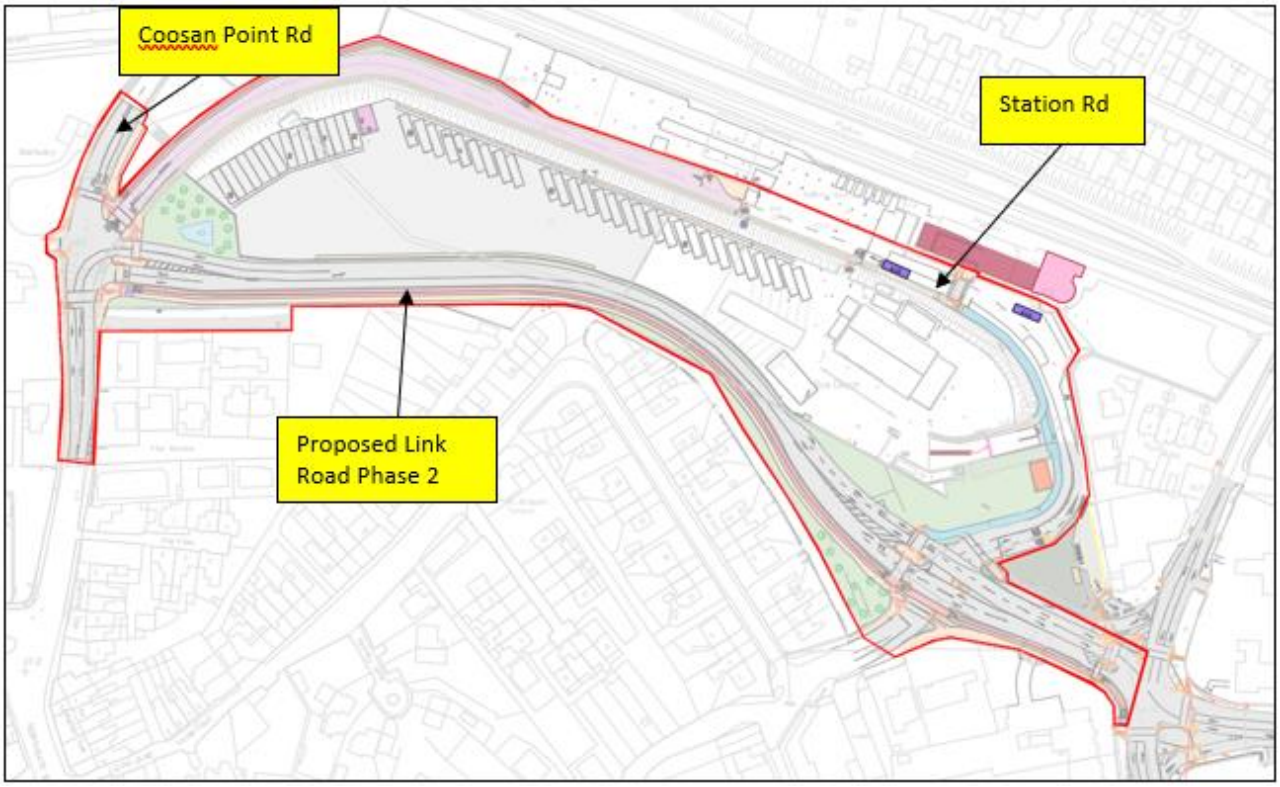

Figure 2.1 *Schematic of proposed link road and bus depot extension*

On-site drainage will include the following:

A new surface water sewer network shall be provided for the proposed development which will be entirely separated from the foul water sewer network. All surface water run-off from existing roof areas and hardstanding areas are to be collected by a gravity pipe network.
All storm water run-off from hard paved surfaces will be collected via trapped gullies, thereby ensuring removal of detritus and floating contaminates.
As part of the SuDS design there will be an attenuation system incorporated into the proposed stormwater drainage design. The CIE drainage will pass through an attenuation storage tank and a petrol Interceptor. The interceptors will be subject to regular maintenance / cleaning to ensure suitable operation is maintained long term. A hydrobrake provided downstream of the attenuation

system will limit forward flow to existing run-off rates as per the Development Plan requirements.

It is proposed to retain a wetland area in the Southwest corner of the site. This will be achieved through directing water from the existing drain coming from St Francis Terrace under the road and into the wetlands where it can then overflow into the outlet under the Coosan Point Road. A detailed drainage plan is provided in Appendix D.

Construction Schedule

The proposed development will be constructed over a duration of approximately 12 months.

3 Methodology

3.1 Statement of Competency

This Ecological Impact Assessment was completed by Dr Niamh Burke (BSc (Hons), PhD, CEnv MCIEEM). Niamh is a Principal Ecologist with Coiscéim Consulting Ltd. who has over 15 years' experience of environmental and ecological assessment within both consultancy and academia.

Dr. Burke thus fulfils the Environmental Impact Assessment (EIA) Directive personnel requirements of 'competent person'.

Policy and Legislation

Policy and legislation for nature conservation, protected and priority species relevant to the proposed project is provided in Appendix A.

Consultation

Consultation with NPWS (Development Applications Unit) was undertaken by AONA Consulting during 2021, prior to Coiscéim Consulting taking on this work. The DAU responded with some key advisory points on the ecology of the site and the potential for species groups.

These points were taken into consideration during site survey design, ecological assessments and mitigation proposals.

Westmeath Birdwatch Ireland was also consulted by phone and species of interest were noted and considered within the survey design and subsequent assessments.

3.2 Guidance

This assessment was conducted in accordance with the following guidance documents:

- Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, (CIEEM, 2018).
- Guidelines on the information to be contained in Environmental Impact Assessment Reports (Draft) Environmental Protection Agency (EPA, 2017).
- Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009).
- Environmental Impact Assessment of National Road Schemes – A Practical Guide (NRA, 2008).
- Best Practice Guidance for habitat Survey and Mapping. The Heritage Council. (Smith et al., 2011).

3.3 Screening of Ecological Features

The ecological features identified during the walkover surveys and from desk-based assessments were reviewed.

A screening process is presented at the start of the results section to ensure that the assessment focuses only on features where the impact could have important consequences for biodiversity (valued ecological features). Any features which are important beyond the site level were identified for further evaluation. Ecological features with little or no value beyond the site level were screened out and a brief explanation given in the screening section.

Assessment of the Effects on Features

Ecological features include nature conservation sites, habitats, species assemblages/ communities, populations or groups of species. The assessment of the significance of predicted impacts on ecological features is based on both the 'value' of a feature, and the nature and magnitude of the impact that the project will have on it. The impact is based on the project which includes a certain amount of designed-in mitigation, including construction best practice measures that will be implemented with a high degree of certainty.

3.4 Valuation of Receptors

The value of designated sites, habitats and species populations is assessed with reference to:

- Their importance in terms of 'biodiversity conservation' value (which relates to the need to conserve representative areas of different habitats and the genetic diversity of species populations).

- The valuation of designated sites considers various levels of statutory and non-statutory protection. Assessment of habitat depends on several factors, including the size of the habitat, its conservation status and quality. The assessment also takes account of connected off-site habitat that may increase the value of the on-site habitat through association. Valuation of species depends on a number of factors including distribution, status, rarity, vulnerability, and the population size present.

- Any social benefits that habitats and species deliver (e.g. relating to enjoyment of flora and fauna by the public).

- Any economic benefits that they provide.

Designated sites, habitats and species populations have been valued using the scale in Table 1 below.

Table 1. Examples of criteria used to define the value of ecological features

Level of Value	Examples of Criteria
International	- An internationally important site e.g. Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar (or a site considered worthy of such designation). - A regularly occurring substantial population of an internationally important species (listed on Annex IV of the Habitats Directive). - Designated shellfish waters. - Major fisheries area.
National	- A nationally designated site e.g. Natural Heritage Area

Level of Value	Examples of Criteria
	(NHA), a proposed Natural Heritage Area (pNHA), statutory Nature Reserve, or a site considered worthy of such designation. - A viable area of a habitat type listed in Annex I of the Habitats Directive or of smaller areas of such habitat which are essential to maintain the viability of a larger whole. - A regularly occurring substantial population of a nationally important species, e.g. listed on The Wildlife Act 1976 or The Wildlife (Amendment) Act 2000. - A species included in the Irish Red Data Lists/Books. - Significant populations of breeding birds.
Regional/County (Co. Dublin)	- Species and habitats of special conservation significance within County Dublin. - An area subject to a project/initiative under the County's Biodiversity Action Plan. - A regularly occurring substantial population of a nationally scarce species.
Local (works site and its vicinity)	- Areas of internationally or nationally important habitats which are degraded and have little or no potential for restoration. - A good example of a common or widespread habitat in the local area. - Species of national or local importance, but which are only present very infrequently or in very low numbers within site area.
Less than local	- Areas of heavily modified or managed vegetation of low species diversity or low value as habitat to species of nature conservation interest. - Common and widespread species.

3.5 Magnitude of Impacts

Ecological impacts can be categorised and assessed in a number of ways. They can be considered to be:

Positive - A change which improves the quality of the environment.

Neutral - A change that does not affect the quality of the environment.

Negative - A change which reduces the quality of the environment. A negative impact can be sufficiently minimised or eliminated by the adoption of appropriate mitigation measures.

Uncertain - When the full consequences of a change in the environment cannot be described.

In addition, the nature of impact can also be described in a number of ways, including:

Direct/Indirect - a direct impact could include the loss of a species or habitat, whereas an indirect impact could be as a result of noise, dust or disturbance.

Irreversible - when the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost. Alternatively, impacts can be temporary in nature, with the baseline condition restored after a period of time; this could occur over the short-term (1-2 years), medium-term (2-10 years) or long-term (+10 years).

Cumulative - the addition of many small impacts to create one larger, more significant impact.

Synergistic: Where the resultant impact is of greater significance than the sum of its constituents.

These factors are assessed together to determine the magnitude of the impact on the status of a habitat or species population, and on the integrity of the site that supports them. Professional judgement is then used to assign the impacts on the receptors to one of four classes of magnitude, detailed in **Table 2.**

Table 2. Definition of magnitude.

Magnitude	Definition
High	An irreversible or long-term impact on the integrity of a site or conservation status of a habitat, species assemblage/community, population or group. If adverse, this is likely to threaten its sustainability; if beneficial, this is likely to enhance its conservation status.
Medium	An irreversible or long-term impact on the integrity of a site or conservation status of a habitat, species assemblage/community, population or group. If adverse, this is unlikely to threaten its sustainability; if beneficial; this is likely to be sustainable but is unlikely to enhance its conservation status.
Low	A short-term but temporary impact on the integrity of a site or conservation status of a habitat, species assemblage/community, population or group that is within the range of variation normally experienced between years.
Negligible	A short-term but temporary impact on the integrity of a site or conservation status of a habitat, species assemblage/community, population or group that is within the normal range of annual variation.

3.6 Significance of impacts

The significance of an impact is a product of the value of the ecological feature and the magnitude of the impact on it, moderated by professional judgement.

Table 3 shows a matrix which is used for guidance in the assessment of significance, with impacts being considered to be of major, moderate or minor significance, or negligible. Impacts can also either be assessed as positive or negative using the same matrix.

Table 3. Significance of impacts matrix.

Value of feature	Magnitude of impact			
	High	Medium	Low	Negligible
International	Major	Major	Moderate	Neutral
National	Major	Moderate	Minor	Neutral
Regional / County	Moderate	Minor	Minor	Neutral
Local	Minor	Minor	Negligible	Neutral
Less than local	Negligible	Negligible	Negligible	Neutral

3.7 Residual Impacts

The project is assessed including some designed-in mitigation. This is done where mitigation is proven to be effective and will be implemented effectively with a high certainty. Where significant residual impacts are still identified, further mitigation measures will be proposed as part of the Ecological Impact Assessment process to avoid, reduce or minimise them. Each impact assessment section assigns a final significance level to the impact described, which considers and includes the implementation of any stated mitigation measures; these are the residual impacts.

3.8 Baseline

To determine the baseline conditions at the site a review of all available information was made. When determining the pre- work conditions on-site, including the presence or absence of protected habitats and/or species, the precautionary principle was used where limited information was available. The following reports were consulted during this process:

A desk-based assessment was conducted to collate information regarding protected/notable species and statutorily designated nature conservation sites in, or within close proximity to, the study area.

A data search for protected and notable species was conducted using the National Biodiversity Data Centre (NBDC) Mapping System (NBDC, 2021). A 2km grid square was used to encompass the study area and species records were extracted from the map at a 2km² resolution. Refer to Appendix F for desk study flora and fauna records.

Information for statutory designated sites including Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Ramsar Sites, Natural Heritage Areas (NHAs) and proposed NHAs (pNHA) was collected from the online resources provided by the National Parks and Wildlife Service (NPWS).

Other information on the local area was obtained, including:

- NPWS (2008). The Status of EU Protected Habitats and Species in Ireland. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland (NPWS 2008).
- NPWS (2014a). The Status of EU Protected Habitats and Species in Ireland. Habitats Assessment Volume 2. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.
- NPWS (2014b). The Status of EU Protected Habitats and Species in Ireland. Species Assessment Volume 3. Habitats Assessment Volume 2. National

Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.
- Environmental Protection Agency online databases on water quality (Available online at https://gis.epa.ie/EPAMaps/).
- Aerial photography available from www.osi.ie and Google Maps http://maps.google.com/ ;
- Online data available on Natura 2000 sites as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie; Accessed June 2021.;
- National Biodiversity Data Centre – Species Distribution Maps; Available online at www.biodiversityireland.ie Accessed on various dates;
- All Ireland Red Data lists for vascular flora, mammals, butterflies, non-marine molluscs, dragonflies & damselflies, amphibians and fish;
- Water Framework Directive water maps (available online at http://www.wfdireland.ie/maps.html and https://www.catchments.ie/); and
- International Union for Conservation of Nature and Natural Resources (IUCN) Red List of Threatened Species (available online at http://www.iucnredlist.org).

3.9 Zone of Influence

The Zone of Influence (ZoI) for the project is based on a judgement of the likely extent of the ecological impacts. This will vary for different ecological features, depending on their sensitivities to environmental change. For the majority of the project, impacts will be limited to within the site boundary. However, for impacts relating to airborne emissions, surface and ground water and disturbance, the ZoI is extended to 15km.

3.1 Field Surveys

Habitat surveys were conducted on 22nd March 2023, 25th of April 2023 and 20th June 2023 by Dr. Niamh Burke of Coiscéim Consulting, to inform the ecological baseline of the site.

The ecological baseline survey recorded habitats and flora in the area within and directly adjacent to the development site, and the presence or likely presence of protected species, and the presence of good potential habitats for those species. The surveys also noted the presence of non-native and invasive species on site.

Where needed, additional species-specific surveys were undertaken to allow more accurate assessment of species present or potentially present given the characteristics of the habitats found on site.

The Survey methods were in general in accordance with those outlined in the following documents:

- Best Practice Guidance for Habitat Survey and Mapping, by the Heritage Council (Smith et al., 2011);
- Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes (NRA, 2009);
- CBS Manual - Guidelines for Countryside Bird Survey participants (BWI, 2012)
- Birds of Conservation Concern in Ireland 4: 2020 to 2026 (Gilbert et all 2021)
- National Bat Distribution Atlas Programme (Bat Conservation Ireland, 2010)
- NPWS Bat Mitigation Guidelines for Ireland (Kelleher et all, 2006)

- Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016).

Aerial photographs and site maps assisted the habitat survey. Habitats have been named and described following A Guide to Habitats in Ireland by Fossitt (2000). Nomenclature for higher plants principally follows that given in Webb's An Irish Flora (Parnell and Curtis, 2012).

Birds

Three breeding bird surveys were carried out on 23rd March, 26th April, and 21st June, 2023. Visits were carried out in the morning between 06.00 and 12.00.

During each visit, the lands and boundaries of the site were observed from various vantage points. The grounds of the property and accessible parts of the boundary adjacent to the property were walked slowly several times during each visit. All birds detected were recorded on field sheets. Bird species that were heard or seen were recorded their locations noted and a breeding status assigned.

Terrestrial Mammals

A terrestrial fauna survey (excluding bats) was undertaken on the 21st March, 25th April and 20th June. The presence/absence of terrestrial fauna species were surveyed through the detection of field signs such as tracks, markings, feeding signs, and droppings, as well as by direct observation. The habitats on site were assessed for signs of usage by protected/red-listed fauna species, and their potential to support these species.

Trail cameras were installed at identified mammal track / mammal holes to determine whether they were in use by protected species.

Bats

Trees within and adjacent to the proposed development site were inspected externally for potential roost features (PRFs) on the 22nd March 2023 .

- Bat droppings;
- Urine splashes;
- Fur-oil staining;
- Squeaking noises;
- Feeding remains (moth wings);
- Bat-fly (Nycteribiid) pupal cases; and/or
- Odour.

The assessment criteria outlined in Table 3.1 below are derived from Collins (2016) and are used for the assessment of the site in terms of its suitability for commuting and foraging bats, and where relevant, the suitability of roosting habitats for bats.

Table 3.1 *Guidelines for assessing the potential habitat suitability for bats, based on the presence of features within the landscape. This table is from Collins (2016)*

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (*i.e.,* unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gapped hedgerow or unvegetated stream, but isolated, i.e., not very well connected to the surrounding landscape by another 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.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well-connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, treelined watercourses and grazed parkland. Site is close to and connected to known roosts.

In addition, a bat activity survey was undertaken on the 20th June 2023. The activity survey began before sunset and ended approximately two hours after sunset. Echolocation recordings were made using the Echometer Touch 2 by Wildlife Acoustics, which aided in the definition of species calls as defined by the frequency and nature of the call. The activity surveys covered the survey areas with a focus on hedgerows and treelines.

Amphibians

Amphibian surveys for common frog *Rana temporaria* and smooth newt *Lissotriton vulgaris* were undertaken on 23rd March and 25th April respectively. The focus of the surveys was on the wetland area to the south of the site, and on the drainage feature running east-west across the site. The areas were walked and inspected for signs of frog spawn or tadpoles, and a leaf search carried out for newt eggs. Refugia such as logs and stones were also inspected for any adult specimens.

4 Ecological Baseline Conditions

These baseline conditions present information gathered from existing reports and desk-based sources as detailed in Section 3.8 and from the site visits undertaken.

4.2 Designated Sites

This section provides information on the designated sites of International or National importance within the Zone of Influence (ZoI) of this project. The ZoI for this project is taken as 15km. Figure 4.1 below shows the statutory (Natura 2000 sites or European sites) and non-statutory (Natural Heritage Areas – NHAs or proposed Natural Heritage Areas pNHAs) designated sites in the general vicinity of the site.

4.1.1 European Sites

The nearest European sites to the proposed development are the overlapping River Shannon Callows SAC and Middle Shannon Callows SPA, situated approximately 0.9km south of the site. Other European sites within the potential Zone of Influence are the Lough Ree SAC, Lough Ree SPA, Crosswood Bog SAC, Carn Park Bog SAC, Castlesampson Esker SAC, Ballynamona Bog and Corkip Lough SAC , Pilgrim's Road Esker SAC, Mongan Bog SAC, Mongan Bog SPA, Fin Lough (Offaly) SAC and Lough Funshinagh SAC.

All of the European sites present in the vicinity of the proposed development are shown on Figure 4.1 below. The QIs (Qualifying Interests)/SCIs (Species of Conservation Interest) of the European sites in the vicinity of the proposed development are provided in Appendix F and in the accompanying Natura Impact Statement.

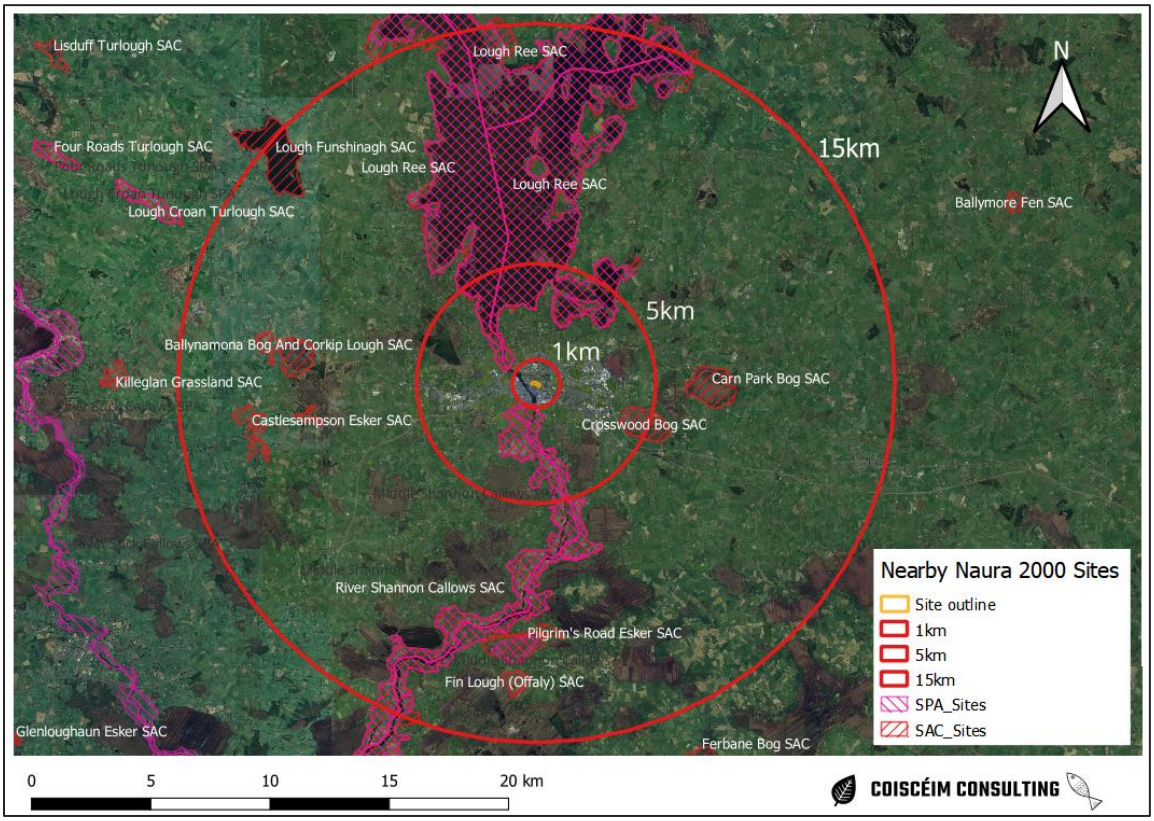

Figure 4.1 European sites in the vicinity of the proposed development site, with distances of 1km, 5km and 15km highlighted

4.1.2 National Sites

The nearest NHA sites are the Carrickynaghtan Bog NHA (001623) at 3.2 km south of the site, Clonydonnin Bog NHA (000565) at 10.5km southeast of the site.

The nearest pNHA (proposed National Heritage Area) sites are Lough Ree pNHA at 1.1km north of the site. It is connected hydrologically to the site, however, the pNHA is located upstream of the hydrological connection, where the drainage ditch / culverted stream flows from the site into the Shannon at Athlone town.

Other pNHA sites within a 15km radius are Crosswood Bog (000678) at 4km distance, Carn Park Bog pNHA (002336) 6.5km, Waterstown lake (001732) at 6.6km, Castlesampson Esker pNHA (001625) at 8.32km, and Feacle Turlough (001634) at 12.8km.

These habitats and species are considered within this EcIA.

4.3 Protected Species

National Biodiversity Data Centre (NBDC):

Records of protected fauna including invertebrates, amphibians, fish, birds and mammals collated from the NBDC database, present within the surrounding 2km within the past 20 years were sourced on the NBDC online database (October 2023). The list of species noted includes their level of protection, whether they are Red or Amber listed on the International Union for the Conservation of Nature and Natural Resources (IUCN) Red List, and the date of the last record of this species at that location.

4.4 Water Framework Directive

In response to the increasing threat of pollution and the increasing demand from the public for cleaner rivers, lakes and beaches, the EU developed the Water Framework Directive (WFD). This Directive is unique in that, for the first time, it establishes a framework for the protection of all waters including rivers, lakes, estuaries, WFD

al waters and groundwater, and their dependent wildlife/habitats under one piece of environmental legislation for all European member states.

The WFD (Directive 2000/60/EC) is a substantial piece of EU water legislation that came into force in 2000. The overarching objective of the WFD is for the water bodies in Europe to attain Good or High Ecological Status. The Environment Protection Agency (EPA) is the competent authority in Ireland responsible for delivering the WFD. River Basin Management Plans (RBMP) have been created which set out measures to ensure that water bodies in the country achieve 'Good Ecological Status'.

Good Ecological Quality will depend on the quality of the individual quality elements on which the Ecological status is scored; namely the biological, chemical and morphological condition in a particular water body. Any reduction in any of these elements will result in a reduction of the overall ecological status.

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4.5 Water Framework Status and Objectives

It is understood that the River Basin Management Plan (2018-2021) has been adopted by all local authorities in order to achieve the aims of the WFD. The Plan sets out the new approach that Ireland will take to enhance protection, prevention, and monitoring of Irish waterbodies. The main actions include:

- Improve wastewater treatment;
- Conservation and leakage reduction;
- Scientific assessment of water bodies and implementation of local measures;
- A new collaborative Sustainability and Advisory Support Programme;
- Dairy Sustainability Initiative;
- Development of water and planning guidance for local authorities;
- Extension of Domestic Wastewater Treatment Systems grant Schemes; and
- A new Community Water Development Fund

Regardless of their current quality, surface waters should be treated the same in terms of the level of protection and mitigation measures employed, i.e. there should be no negative change in status (refer below).

4.6 Surface Water Status

There is a flowing drainage feature/ highly-modified stream within the boundaries of the proposed site development area, however, it is not a monitored WFD waterbody.

The nearest WFD waterbody is the Shannon (Upper)_120 some 350 metres downstream.

The current WFD status of the Shannon (Upper)_120 is classified as 'Poor', as defined by biological elements (fish). There has been no improvement from previous WFD cycles of WFD testing – it was previously classes as 'Poor' (2010 – 2015 and 2013 – 2018).

The Shannon (Upper)_120 watercourse is considered to be 'At Risk' of not achieving ''Good' status in the next WFD cycle.

The proposed works will need to ensure that the goal of 'Good Status' is achievable for all downstream surface waterbodies by the 2027 target date, and that the proposed works will not result in any reduction of WFD status.

4.7 Groundwater Status

The underlying geology of the site is of unbedded Carboniferous mudstone/limestone, the naturally occurring soil type is alluvium and the subsoil at the site described as 'made ground'. The aquifer type at the site is described as 'Locally important gravel aquifer'.

The groundwater body which underlies the proposed works site is the Inny Groundwater Waterbody (IE_SH_G_110**).**

The WFD status for this groundwater body is currently classed as 'Good'; and is 'Not at Risk' in regard to Risk status.

The proposed construction and operational activities will need to ensure that the proposed development will have no negative effect on this groundwater body, and thus safeguarding its 'Good' WFD status into the future.

The Groundwater Vulnerability is classed as High (H) at the site. (source: GSI.ie)

4.8 Site Visits

A baseline ecological survey of the site was conducted by Ecologist, Niamh Burke, on 22nd March 2023, and April 25th 2023. A ground-based survey for PRFs (potential roosting features) for bats was also undertaken. Habitats and species recorded are presented in detail in the following sections.

Bird Surveys were undertaken on three separate occasions during the period March to end June 2023. Summary results are provided in section 4.2.3.

4.8.1 Habitats

The main habitats recorded are shown in Figure 4 and listed in Table 4 below, and are described in further detail in the following sections.

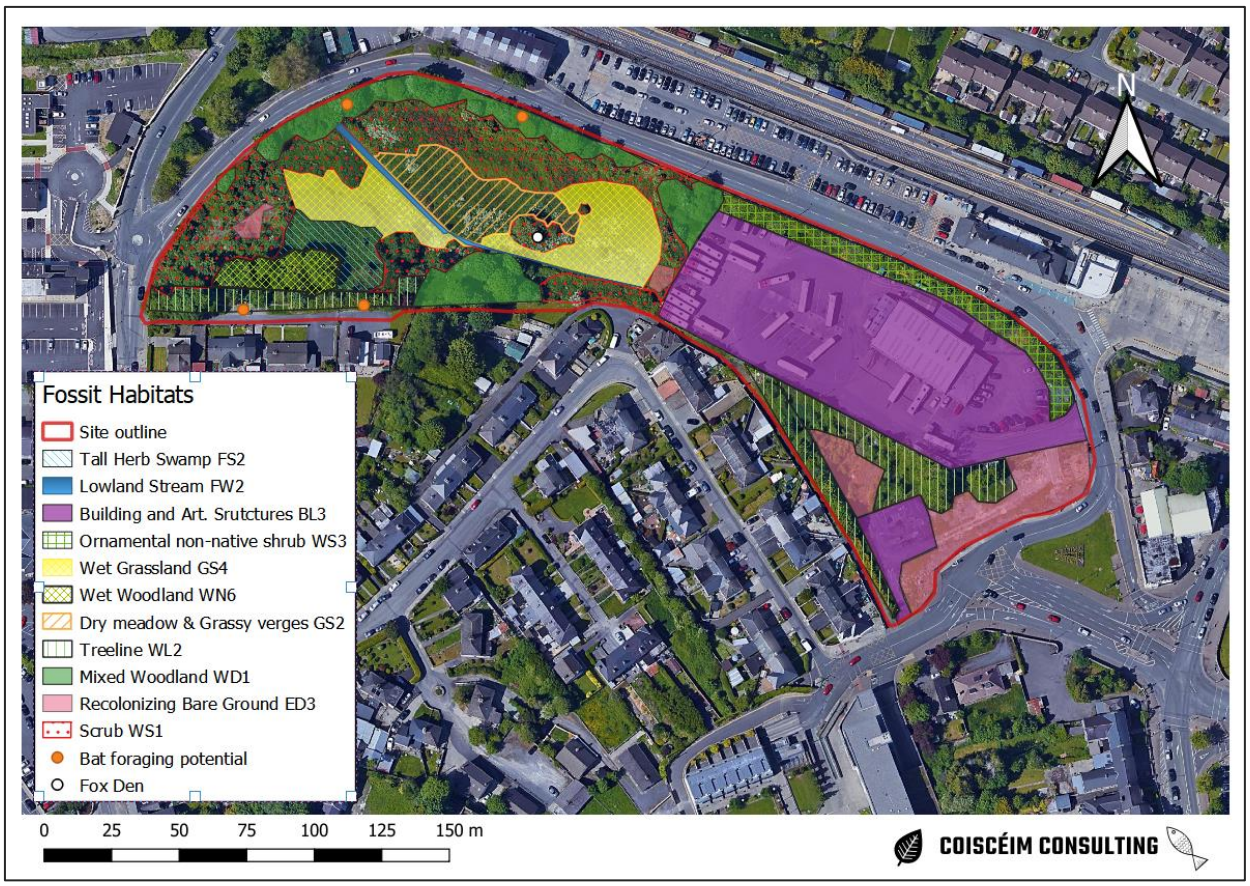

Figure 4.2 Fossitt Habitats identified on site

Fossitt Habitat	Habitat Code
Treeline	WL2
Mixed Woodland	WD1
Scrub	WS1
Dry Meadows / grassy verges	GA1
Wet grassland	GS4
Buildings and artificial surfaces	BL3
Wet woodland	WN6
Tall herb swamp	FS2
Drainage ditch/ lowland stream	FW4/ FW
Recolonizing bare ground	ED3
Spoil and Bare Ground	ED2
Ornamental / non-native Scrub	WS3

Table 4 Habitats recorded at the proposed site

Tree line (WL2)

Tree lines form part of the site boundary where hedgerows have become overgrown and dominated by trees. Tree lines are present along the lower western boundary and also separating the site from adjacent agricultural grassland along the upper eastern boundary.

This habitat may provide birds with nesting possibilities and bats with somewhere suitable to roost. Tree lines provide shelter and a corridor for wildlife to move.

Tree line species consist of ash (*Fraxinus excelsior*), and sycamore (*Acer pseudoplatanus*).

This habitat is considered to be of local importance (higher value).

Mixed Broadleaved woodland (WD1)

The perimeter of the area with vegetation is occupied by either hedgerows tree lines or mix woodland in the case of the station Rd. Boundary. This boundary along the footpath is occupied by a swathe of mixed woodland trees on a fairly steep bank which leads down to the grassland area. Tree species here include Ash, Sycamore, Elder, Willow, Poplar, Hawthorn, and some Alder.

This area is of value in its own right but also as good habitat for breeding birds, mammals and invertebrates. This habitat is considered of local importance (higher value).

Scrub (WS1)

Much of the marginal areas of the site are covered with thick stands of scrub vegetation. The area to the north of the vegetated surveyed area is dominated by Bramble with some

other tool herbs. The area to the southwest of the site is dominated by goat willow, gorse, dogwood, wild rose, and some stands of butterfly bush.

A linear area to the south of the site – bordering The Manse, contains stands of cherry laurel an invasive non-native species.

This habitat is considered to be of local importance (lower value.)

Wet Woodland (WN6)

A small area to the south of the vegetated western part of the site contains pooled areas of water - apparently due to a drainage issue which has been ongoing for some time. Stands of alder have grown up in this area - between the flowing water feature (ditch / stream) and the southern boundary of the site at 'The Manse'.

This area of habitat is considered to be of local importance (higher value).

Dry Meadows and Grassy verges GS2)

The area to the northwest of the site - north of the drainage ditch, is covered by a mixture of grasses and tall herbs to include Hogweed, Nettle, Field bindweed, Creeping buttercup, Great Willowherb Chervil, Broad-leaved dock, rose-bay willowherb and cleavers. A number of mammal tracks were observed at the outer margins of this area close to the tree line/ woodland steep bank, by station road.

This habitat is considered to be of local importance (lower value).

Wet grassland (GS4)

The remainder of the grassland within the site western end of the site consists of wet grassland. This includes the area along the stream/ditch margins and an area of wet grasslands to the eastern boundary, close to the bus station parking area. Species observed

included great willowherb, hard rush, amphibious bistort, Nathan's potemegaton (instream), watercress, lesser water parsnip, watermint, and horsetail.

This habitat is considered to be of local importance (lower value).

Drainage Ditch / Lowland Stream (FW4 /FW2)

The water feature which bisects the (vegetated) eastern end of the site to the east, close slowly in a westerly direction this drainage feature is converted at both its eastern and western ends and is hydrologically connected to the river Shannon some 350metres downstream. The habitat itself is limited due to the restricted flow regime in this modified channel. A few macrophytes our present and on 2 occasions a water hen was observed using the feature.

This habitat is considered to be of local importance (higher value).

Tall Herb Swamp (FS2)

Within the area where elder have established are 2 pools of shallow water present at all times during the surveys (April - June) and which support an assemblage of plants which correspond to Tall Herb Swamp habitat. Yellow iris and water horse tail dominate, with areas of Willowherb and creeping buttercup at the margins.

This habitat is considered to be of local importance (higher value).

Recolonizing Bare Ground (ED3)

Recolonizing bare ground occurs at the western extremity of the vegetated area of the site, near to the access gates from Southern Station road. Areas of rubble also occur around the existing water interceptor – with stones, gravel and broken tarmac. Some pioneer vegetation emerging to include coltsfoot, bramble, butterfly bush, pheasant berry, hogweed, creeping buttercup, columbine, and some goat willow at margins.

This habitat is considered to be of local importance (lower value) due to its limited habitat opportunities for wildlife.

Recolonizing bare ground

Buildings and artificial surfaces (BL3)

Located within the mid-section of the wider site are the existing bus depot buildings and the depot itself, with parking areas for both buses and staff parking. This habitat is considered to be of local importance (lower value), due to its low habitat opportunities for wildlife.

4.8.2 Flora

The desktop study did not find records for any Annex II flora in the vicinity of the proposed development site. Furthermore, no records of plant species protected through their inclusion within the Flora (Protection) Order, 2015 were recorded during the field surveys.

Invasive non-native species

No non-native invasive species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 were recorded within the site boundary. However, the desktop study revealed one such species (Japanese Knotweed – *Reynoutria japonica*) was recorded within the 2km grid square in the vicinity of the site.

However, four species which are known to be non-native and considered invasive to some extent, were identified on site, namely the Cherry Laurel (*Prunus laurocerasus*), the Butteryfly Bush (*Buddleia davidii*), the Pheasant Berry (*Leycesteria Formosa)* and Old Man's Beard *(Clematis vitalba)*.

In Elizabethan times (late 1500s), Cherry Laurel was introduced to Ireland from Turkey as an ornamental plant for aristocratic landscape gardening. Buddleia originates in China and was introduced to Ireland in the 1800s.

Pheasant Berry, originally from Southwest China, was first recorded in the wild in Ireland in 1955. Old Man's Beard (also known as Traveller's Joy) is a fairly recent garden escape, batie

to Europe and Southern UK but not Ireland. All four are considered to be of **medium to high impact invasive species.**

The risk assessment undertaken by Invasive Species Ireland has generated prioritised lists of established and potential invasive species for Ireland and Northern Ireland. These lists been used to inform the selection of species for the development of Invasive Species Action Plans for potential and established invasive species. The risk assessment has also allowed the development of 'Amber list' species. These lists identify species that, under the right ecological conditions, may have an impact on the conservation goals of a site, or impact on a water body achieving good/high ecological status under the Water Framework Directive.

During works, care should be taken not to proliferate such species which could spread to other areas in the locality, creating a risk to local biodiversity.

No Third Schedule species, subject to articles 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011, were found within the 2km grid radius of the site. However, good biosecurity practices are recommended when undertaking on site works to ensure minimal risk of transfer of invasive species to the site from the local area.

4.8.3 Fauna

Invasive species

No invasive species were identified during the field surveys, however the desktop study revealed that two undesirable species were recorded within the vicinity (2km) of the site.

Records of Grey Squirrel (*Sciurus carolinensis*) and Zebra mussel (*Dreissena (Dreissena) polymorpha)* are shown in NBDC. These species are high impact invasive species, and are listed on the third Schedule and are thus not subject to articles 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I number 477/2011).

Terrestrial mammals

Signs of mammal activity were observed on site at the time of survey. Mammal trails were evident in the grassland area and close to the margins of the wooded areas.

A mammal hole was also located beneath a central stand of hawthorn and elder. A trail camera was installed for a period of 6 weeks to confirm whether the hole is in use and to ascertain if it was in use by Badger. Badger (*meles meles*) are a protected species under the Wildlife Act.

On review of the footage, it revealed that the hole was in use by a family of foxes with four young cubs. Foxes are not a protected species under law, but should be dealt with humanely, Den closure, during the Autumn / early winter months and prior to the next breeding season (December-June) and occupation by cubs, is advised in advance of site clearance works.

Figure 4.3 Images of Fox family footage captured on site

There is also marginal cover and vegetation which may be suitable for other small mammals. Such as hedgehog (*Erinaceus europaeus*) and pygmy shrew (*Sorex minutus*), protected under the Wildlife Act, have been recorded in the vicinity (NBDC), and thus is it possible that this species is supported on site also. These species use hedgerows as wildlife corridors to navigate the landscape safely. The site is thus considered as of **local importance (higher value)** for mammals.

Bats

The 2km NBDC search returned records of one bat species Daubenton's Bat *(Myotis daubentonii*). This species is associate water and will feed on invertebrates in river corridors and over lakes. Given the prevalence of water around the general area, it is unsurprising that Daubenton's might be recorded the general vicinity. Daubenton's may also use the ditch/ stream within the proposed site as a linear feature on which to commute and forage, although no observations of this species were recorded during the site surveys.

A ground-level assessment of all trees / structures within the site was undertaken on 23rd March 2023, to examine their suitability to support roosting bats and their potential to act as important landscape features for commuting and foraging bats. The site contained no trees with potential roosting features for bats.

The assessment was based on guidelines in Bat Surveys for Professional Ecologists: Good Practice Guidance (Collins, 2016) and included inspections of trees and structures for potential roost features (PRFs), and for signs of bats (staining at roost entrances, droppings, carcasses, insect remains).

During the bat activity survey on 20th June, the perimeter of the site was walked, several passes of the southernmost treeline (along The Manse) by soprano pipistrelle was recorded, and three pipistrelles. One record of one Leisler bat flying overhead near the westernmost boundary of the site was recorded also.

A precautionary approach has been adopted towards the use of the site by roosting, foraging and commuting bats. The bat species identified while carrying out the bat survey were all common species and of "Least Concern" (Nelson et al., 2019). The local bat populations using the proposed development site and the surroundings as foraging and commuting habitat are valued as being of **local importance (higher value).**

SCI (Special Conservation Interest) bird species

Records of 4 SCI bird species within the 2km polygon of the proposed development, were returned from the desk study.

- Lapwing (*Vanellus vanellus*) [A142]
- Black-headed Gull (*Chroicocephalus ridibundus*) [A179]
- Little Grebe (*Tachybaptus ruficollis*) [A004]
- Whooper Swan (*Cygnus cygnus*) [A038]

These species may be associated with either the Lough Ree SPA or River Shannon Callows SPA, both nearby European sites however are unlikely to be present on site due to the lack of suitable habitat for these species. A number of gull species were observed flying overhead during the breeding bird surveys, but none were recorded as using the site itself.

The accompanying AA Screening report and Natura Impact Statement examines the potential impact of the proposed development in further detail.

Breeding Birds

All bird species, their nests and eggs are protected under the that occur naturally in Ireland are fully protected at all times by the Wildlife Act 1976 and relevant amending legislation.

Breeding bird surveys were undertaken during the period April - June 2023.

Breeding bird surveys for passerines were undertaken according to the countryside bird survey methodology and the species recorded according the BTO abbreviations as in Figure 4.5 below.

In total, 24 bird species were recorded on or near the lands. Of these, 2 were red listed species, 4 were amber listed and 18 were green listed.

Figure 4.4 Image of female blackbird feeding fledgling blackbird during spring 2023

Terrestrial species observed on site and on the surrounding lands during the surveys included four amber listed species which were identified as possible breeders; Great tit, Goldfinch, Bullfinch and Linnet.

Code	Species	BoCCI List
MH	Moorhen (in stream)	Green
HS	House sparrow	Amber
LI	Linnet	Amber
R.	Robin	Green
MA	Mallard (in stream)	Amber
BT	Blue tit	Green
BC	Blackcap	Green
D.	Dunnock	Green
WR	Wren	Green
CD	Collared Dove	Green
ST	Song Thrush	Green
WW	Willow warbler	Green

BF	Bullfinch	Green
C.	Carrion crow	Red
GO	Goldfinch	Green
GT	Great Tit	Green
LB	Lesser Black-backed Gull	Amber
B.	Blackbird	Green
CH	Chaffinch	Green
WP	Woodpigeon	Green
JD	Jackdaw	Green
MG	Magpie	Green
RO	Rook	Green
SI	Swift (flying overhead)	Red

Fig 4.5 Bird species recorded on site during breeding bird surveys.

Based on the desk study and survey findings, breeding birds are thus valued as being of **local importance (higher value)** for the purposes of this assessment.

Amphibians

Amphibian surveys were carried out during March and April 2023 for Frogs and Newts respectively. The ponded area was walked and inspected for signs of frog spawn or tadpoles, and a leaf search carried out for newt eggs. Refugia such as logs and stones were also inspected for any adult specimens. No evidence of the presence of amphibians were found on site during either survey.

Despite the lack of evidence of amphibians, the area still represents suitable habitat for these species, and is considered of **Local (higher value)** for this receptor.

Fish

The site has a small ditch running through the centre of the site. It is a shallow water body of approximately 20cm depth during the time of survey. The stream is situated within an urban setting and is culverted both at the downstream and upstream ends of this open section. As such it is unlikely to represent good habitat for fish and it is unlikely to be a high value receptor in this regard.

The shallow wetted area to the South of the site was also inspected for the presence of fish but none found. It is considered that this habitat is sub optimal for fish as would be subject to seasonal fluctuations in water level. The site thus represents sub-optimal habitat for fish species, and is considered of **Local (lower value)** on site for this receptor. However, the site holds hydrological connectivity to the Shannon river some 400m downstream, and so is screened into the assessment for the **High value (Regional value)** of the Shannon fisheries receptor.

4.9 Screening of Ecological Features

The screening of ecological features is given in Table 6 below, which summarizes the ecological evaluation of all receptors taking into consideration legal protection, conservation status and local abundance, and identifies the Key Ecological Receptors (KERs). Those features screened out are not considered further in this assessment.

Ecological features that are screened in are assessed for potential impact during construction and operation in the following sections.

Table 6. Summary of ecological features and the screening assessment.

Ecological feature	Value	Screening
River Shannon Callows SAC [000216]	International	**Screened In**
River Shannon Callows SPA [004096]	International	**Screened In**
Lough Ree SAC [000440]	International	**Screened In**
Lough Ree SPA [004064]	International	**Screened In**
Lough Ree pNHA	National	**Screened In**
Crosswood Bog (000678)	National	Screened out: distance
Carn Park Bog pNHA	National	Screened out: distance
Waterstown lake (001732)	National	Screened out: distance
Castlesampson Esker pNHA	National	Screened out: distance
Feacle Turlough (001634)	National	Screened out: distance
Hedgerow	Local (high value)	**Screened in:** nesting potential.
Tree line/ Mixed woodland	Local (high value)	**Screened in:** nesting potential
Grassland	Local (lower value)	Screened out: low value
Dry Meadows / Grassy verges grassland	Local (lower value)	Screened out: low value
Wetlands/ Marsh habitat	Local (high value)	**Screened in**
Wet grassland	Local (lower value)	Screened out: low value
Mammals	National	**Screened in**
Mammals – Bats (foraging / commuting)	Local	**Screened in**
Mammals – Bats (roosting)	International	Screened out: low potential
Birds	Local (higher value)	**Screened in**
Amphibians	Local (higher value)	**Screened in**
Fish	Local (Regional)	**Screened in (as a downstream receptor)**

5 Potential Impacts

5.1 Introduction

The impacts on the valued ecological features are assessed here. The initial assessment considers the potential impact pathways and whether these apply to the ecological features. The impact assessment considers the project and the anticipated effects in the absence of any mitigation.

The key construction and operational impacts assessed are:

- **Habitat loss**
- **Disturbance to habitats and species**
- **Impacts on water quality**

5.2 Do Nothing Scenario

If the proposed works were not to go ahead, it is likely that the current regime of management of the land will continue as currently.

The following sections describe the nature of temporary impacts predicted for designated protected sites, habitats and species in the absence of implemented mitigation measures.

5.3.1 Protected sites

European Sites

The potential for the proposed development to result in likely significant effects on European sites[1] that lie within the ZoI of the proposed development. In the context of European sites this is focused on the habitats and species for which the sites are selected (QIs for SACs and SCIs for SPAs) and the conservation objectives supporting their conservation status in each site. This assessment is directly related to the assessment methodology for European sites required under the Habitats Directive, which is presented separately in the Appropriate Assessment (NIS) Report (Coiscéim Ltd 2023) for the proposed development that accompanies this application.

The assessment presented in the Appropriate Assessment Screening Report concluded that the potential impacts associated with the proposed development have the potential to affect the conservation objectives supporting the qualifying interests or special conservation interests of European sites; either alone or in combination with any other plans or projects.

The assessment considered potential impacts arising from Habitat Degradation, and hydrological impacts on nearby European sites (Shannon Callows SAC, Shannon Callow SPA, Lough Ree SAC and Lough Ree SPA) and outlined the mitigation measures specific to the development to avoid and minimise impacts on those European sites. The report concludes that no significant impacts which may affect the integrity of the designated sites - either on their own or in combination with other developments, are anticipated.

In summary, the proposed development does not have the potential to affect the special conservation interests and conservation objectives, and therefore the integrity, of any of the European sites within its vicinity.

National Sites

The nearest NHA sites are the Carrickynaghtan Bog NHA (001623) at 3.2 km south of the site, Clonydonnin Bog NHA (000565) at 10.5km southeast of the site.

The nearest pNHA (proposed National Heritage Area) sites are Lough Ree pNHA at 1.1km north of the site. It is connected hydrologically to the site, however, it is located upstream of the hydrological connection, where the drainage ditch / culverted stream flows from the site into the Shannon at Athlone town. This pNHA has similar species and habits of interest as the European Sites occupying the same site, and as such, similar risks will be relevant – i.e. those around and ensuring that no deterioration of water quality /WFD status can occur as result of the works. water quality measures in place for those sites will also apply here. It is considered that in the absence of mitigation, the proposed works may cause an impact of Low magnitude, giving rise to an impact of **Minor significance** on the Lough Ree pNHA could occur in the absence of mitigation.

Other pNHA sites within a 15km radius are Crosswood Bog pNHA (000678) at 4km distance, Carn Park Bog pNHA (002336) 6.5km, Waterstown lake pNHA (001732) at 6.6km, Castlesampson Esker pNHA (001625) at 8.32km, and Feacle Turlough pNHA (001634) at 12.8km.

Due to the above distances outlined for these sites, it is considered that the proposed development does not have the potential to affect any designated features, and therefore the integrity, of any other national sites within its vicinity.

5.3.2 Habitats

Treelines and Woodland

Tree lines are present along the overgrown hedgerows of the northern and eastern boundaries.

This habitat may provide birds with nesting possibilities and bats with somewhere suitable to roost. Treelines provide shelter and a corridor for wildlife to move. A mammal cam was installed underneath a central area with a small copse of trees, as a mammal hole was located there.

[1] The Natura 2000 network is a European network of important ecological sites, as defined under Article 3 of the Habitats Directive 92/43/EEC, which comprises both special areas of conservation and special protection areas. Special conservation areas are sites hosting the natural habitat types listed in Annex I, and habitats of the species listed in Annex II, of the Habitats Directive, and are established under the Habitats Directive itself. Special protection areas are established under Article 4 of the Birds Directive 2009/147/EC for the protection of endangered species of wild birds. The aim of the network is to aid the long-term survival of Europe's most valuable and threatened species and habitats. In Ireland these sites are designed as *European sites* - defined under the Planning Acts and/or the Birds and Habitats Regulations as (a) a candidate site of Community importance, (b) a site of Community importance, (c) a candidate special area of conservation, (d) a special area of conservation, (e) a candidate special protection area, or (f) a special protection area. They are commonly referred to in Ireland as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

This habitat is considered to be of local importance (higher value). The removal of treelines as a result of the proposed works is considered an impact of medium magnitude, giving rise to an impact of **Minor** significance.

While it is unrealistic to preserve all treelines on site, efforts should be made in the design process to retain as much existing vegetation as possible. Mitigation measures are proposed to offset this impact.

Hedgerow and Scrub

Hedgerow borders the majority of the site, with two dissecting hedgerows dissecting the area into three.

Hedgerows provide nesting opportunities to passerine birds, and provide wildlife corridors to species such as bats, badger and hedgehog to prevent habitat fragmentation and to provide shelter. Measures will thus be proposed to ensure that breeding birds are not endangered by vegetation removal activities. A mammal hole was located along the upper dissecting hedgerow.

This is considered to be a habitat of local importance (high value) and regional importance (medium value), This habitat is considered to be of local importance (higher value). The removal of Hedgerow / Scrub vegetation as a result of the proposed works is considered an impact of medium magnitude, giving rise to an impact of **Minor** significance.

Buildings and artificial surfaces

The value of this habitat is low, and no major interventions are planned for the main area of the bus depot. The area to the south which also contains some spoil heaps and mounding, may provide some habitat for small mammals and some pioneer species of plant. The overall habitat value is considered to be of local (lower) value.

5.3.3 Species

Mammals - Terrestrial

Habitat Loss and Disturbance

While no sightings of protected mammal species were made during the site surveys, there is suitable habitat within the lands, and some of which will be lost as a result of the planned works. The ideal habitat of badger is a mixture of pasture grassland and hedgerow, scrub, or woodland. However, badger can also occur in urban areas, where foraging habitat is available and disturbance is minimal.

The proposed development site provides a suitable habitat for badger – providing areas of open pasture grassland, as well as hedgerow, scrub and tree lines.

No records of badger sightings have been submitted to the NBDC within the vicinity of the proposed development. While the presence of badger is unconfirmed on site, precautionary measures are proposed.

The local hedgehog population may be impacted by the proposed development. Habitat loss, and noise disturbance may deter these small mammals from using the treelines, hedgerows within and bordering the site. records of Hedgehog sightings have been submitted to the NBDC within the 2km desktop search of the proposed development. While the presence of hedgehog is unconfirmed on site, precautionary measures are proposed.

Mammals – Bats (commuting, foraging)

Habitat Loss

The local bat species may be disturbed during the construction phase due to noise and lighting. Strong spotlighting on-site may temporarily displace bats from any of the lit areas and may have an impact on local populations. Site lighting will impact the bats' usage of the site for foraging and general commuting. It is thus proposed that mitigation is put in place to minimise disturbance for foraging/ commuting bats.

Amphibians

Habitat Loss

The ditch/ lowland stream habitat will be lost as a result of the works. The wetland area to the south of the site has some potential for amphibian breeding habitat, although none were recording during dedicated frog and newt surveys during 2023.

Fish

Water Quality

Impacts on water quality as a result of silt mobilization and site runoff to the Shannon river could adversely impact fish, and **minor to moderate** impacts could result, in the absence of mitigation.

5.4 Operational Phase

The following sections described the nature of permanent impacts predicted for designated protected sites, habitats and species in the absence of implemented mitigation measures during the operational phase.

5.4.1 European Sites

Operational phase impacts are not likely to differ significantly from the present baseline in terms of hydrological degradation or disturbance, as outlined in the accompanying NIS.

5.4.2 National Sites

Operational phase of the project will be the use of roads and expanded capacity for bus parking within the Depot development. A potential risk factor within the new design may involve light pollution along hedgerows and in green central open spaces from street lighting, which may impact birds and mammals occupying this zone during evening and night-time. Mitigation has been put in place as described in section 6.3 to account for this eventuality.

No impact on any NHA or pNHA is anticipated as a result of the projected use of the development.

5.4.3 Habitats

Hedgerow and scrub

Hedgerows will be removed before the operational phase of the development.

Tree lines

The tree line present along the upper eastern boundary will be preserved for the operational phase. The overgrown hedgerow and tree line may provide birds with nesting possibilities and bats with somewhere suitable to roost.

Buildings and Artificial Surfaces

The existing Hard surfaces will be used and expanded to offer further parking and road surface capacity in the operational phase of the development.

Significant operational phase impacts are not anticipated for this habitat.

5.4.2 Fauna

Breeding Birds

Operational phase impacts on the local breeding bird populations are anticipated given that the majority of the hedgerows and treelines on site will not be retained.

Mammals – Badger

There will be a lack of suitable habitat for foraging activities. Outdoor lighting and noise from bus and traffic use will also constitute a disturbance to badger. Mitigation measures around lighting design are thus proposed in section 6.3.

Mammals – Hedgehog

Hedgerow habitat will be significantly reduced after the construction phase, causing a loss of suitable habitat for this species. Light and noise from buses and traffic during the operational phase can be anticipated.

Mammals – Bat (commuting and foraging)

Bat activities, including commuting, foraging may be impacted by lighting of the proposed development during the operational phase due to the scale of the proposed works. Consideration for this impact and details of how this impact will be avoided are outlined in the following mitigation section.

5.5 Cumulative Impacts

Potential sources of cumulative impacts were identified based on the ecology of valued ecological features. Potential sources of cumulative impacts were sought within ranges, territories or catchments where there is the potential for a significant impact on a site or species. The following plans were identified as potential sources of cumulative impacts:

- Westmeath County Development Plan 2021-2027
- Athlone 2040 – A Vision for Athlone
- EMRA Regional Spatial and Economic Strategy

Planning Applications:

- Planning app 99813901 on Southern Station Road. New bus station to consist of 2 stories of public and staff facilities and a double height concourse situated directly to the east of Athlone Train Station. Bus Eireann (Granted January 2024)
- Planning app 2191 Wineport, Ballykeeran, Athlone. Development which will consist of demolition of the existing dwelling and construction of a one and a half-story dwelling in lieu of the existing house including new garage, new site entrance, new driveway, together with all ancillary site works. A Natura Impact Statement has been prepared in respect of this planning application (Conditional Granted 21/02/2024)
- Planning app 22172 on Grace Road, Athlone. The development will consist of the following: (i) Proposed change of use from a Tile Centre to a Gymnasium, Gymnasium will include an indoor Astro Turf Pitch, dressing rooms and toilet facilities (ii) alterations to selected elevations (iii) external signage (iv) and all associated internal, external and site works (Grant Date 30/6/2022)
- Planning app 20473 Vitabond Ltd Enterprise Road, Grace Road, Diskin Enterprise Centre. Permission for construction of a new ESB substation to the south of the existing factory and elevational change involving relocation of an existing door on the south elevation including all ancillary site works (Grant Date 28/06/2021).

On examination of the associated AA and NIS reports of each of the above list projects, an assessment of the with likely impact pathways and potential significant cumulative effects remained in the context of this project was undertaken. No significant cumulative or in-combination effects are anticipated.

6 Mitigation

The following mitigation is recommended to ensure that the proposed works and the operational development do not adversely impact on the ecological receptors outlined in Section 4.

6.1 Do Nothing Scenario

If the proposed works were not to go ahead, it is likely that the current regime of management of the land will continue as currently.

6.2 European Sites Mitigations

6.2.1 European Sites

Construction Phase

Section 6.3 of the NIS outlines the Specific Measures to prevent silt runoff to nearby watercourses.

Additionally, it is proposed that an Ecological Clerk of Works (*ECoW*) be present on site to ensure that the methodology around silt mobilization prevention measures are effective, and to confirm the efficacity of all other mitigation measures in place (to include mitigation around invasive species control).

Operational Phase

No significant impacts are anticipated for this phase for European sites.

6.2.2 National Sites

Construction Phase

Measures to prevent silt and contaminant runoff to surface waters are described in sections 6.3.3 and 6.3.4 of this report. These measures should ensure that no adverse effects are incurred by species relevant to Lough Ree pNHA.

Additionally, it is proposed that a suitably qualified Ecological Clerk of Works be present on site to ensure that all mitigation measures are carried out in the appropriate manner and that the methodology around silt mobilization prevention measures are effective, and to confirm the efficacity of all other mitigation measures in place. (to include mitigation around invasive species control).

Operational Phase

Operational lighting should produce the lowest light levels permitted under health and safety, as this would be preferable for the bat species using these habitats. The specification and colour of light treatments, such as single bandwidth lights / no UV light, would ensure that foraging bats are not affected by broad visible or blue light to which they are most sensitive. LED luminaires are ideal and should be used where possible due to their sharp cut-off, lower

intensity, and dimming capability. A warm white spectrum (ideally less than 2700K) should be used to reduce the blue light component. The LED luminaires could also feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to the Bats.

Additionally, in order to reduce the amount of light spillage, louvres and hoods should be affixed to outdoor lights to reduce the amount of light spill into hedgerows and tree lines.

6.3 Ecological Feature Specific Mitigations

6.3.1 Habitats

Hedgerow and Scrub

The value of hedgerow and scrub habitat is high at this site, due to the opportunities for hedgerow species occupying the perimeter and vegetated stands of scrub within the site itself. These swathes of vegetation act as wildlife corridors and provide opportunities for small breeding birds/ passerines to nest and for mammals to forage and shelter. Measures are thus be proposed to ensure that breeding birds are not endangered by the vegetation removal activities, and to ensure that awareness around the breeding bird season – **1st March to 31st August inclusive** is fully in place.

Fingertip searches by an Ecologist shall be undertaken shortly (within 48 hours of commencement of works), to ensure no nesting birds are present. If nesting birds are found, vegetation retention will be required until chicks are fledged.

In addition, replacement planting is proposed for the southern perimeter of the site, where vegetation removal is proposal to allow construction of the link road.

Retention of hedgerow and treeline is planned for the northern and western boundaries of the site (See Appendix C).

Tree lines / Mixed woodland

The Northern perimeter area of mixed woodland, will be retained as per the layout plan (Appendix C).

This area consists of semi-mature to mature trees which are largely native or naturalized species, and which provide food sources and habitats to birds, pollinators, mammals and bats.

Checks, conducted by an ecologist in advance of demolition works, of all trees and scrub areas shall be carried out to ensure that no birds are nesting within them and to check for the presence of mammals.

Additionally, it is proposed that sufficient alternative bird nesting habitat is provided on site within the new design. This can be provided by increased planting in the border areas as described in the landscape plan and which provides shrub and tree planting which will benefit birds and other species.

Eradication of Invasive Species and Biosecurity

Measures for the eradication of invasive species (See Habitat Map in Appendix B for locations) within the site will be taken to clear these non-native invasive species, and will be managed by a specialist contractor licenced for invasive species removal. This will help to ensure a minimal risk of spreading these species within the general locality as a result of the works, and also will

ensure that a higher proportion of native species occupy the site as an integral part of the new development.

Wetland area

The removal of the semi-permanent wetted area with alder to the south of the site represents good habitat for amphibian species and invertebrates, and a in turn a source of food for mammals birds and bats.

It is proposed that an area of wetland be retained as part of the natural SUDs (Sustainable Urban Drainage) to ensure that some suitable wetland habitat remains, and to support those species currently using the area. Appendix C outlines the layout with the SUDs feature in the south western area of the site.

6.3.2 Species

Terrestrial Mammals

Construction Phase

Presence of ECoW (Ecological Clerk of Works)

In addition, and as described in section 6.2 above, an Ecological Clerk of Works will be contracted to ensure that mitigation measures during construction are adequate and correctly implemented.

The duties of the ECoW shall include pre-works checks for the presence of mammals including badger and hedgehog.

Prevention of Physical Injury

Uncovered deep excavations could be hazardous for badgers commuting/ foraging in the area. Badger could fall into open excavations, becoming trapped and potentially hurt and distressed. To protect otters from indirect harm during construction, all open excavations will be covered when not in use and backfilled as soon as possible. Excavations will also be covered at night, and any deep excavations which must be left open will have appropriate egress ramps in place to allow mammals to safely exit should they fall in. Battering the excavation sides to a safe angle of repose may also reduce risks to wildlife. These mitigation measures will protect badger and other mammals from general site obstacles, preventing accidental trapping or entanglement.

Reduction of Light Spillage

In order to reduce the amount of light spillage, louvres and hoods should be affixed to lights during construction activities to reduce the amount of light spill onto hedgerows and tree lines.

Operational Phase

Light spillage

Operational lighting should produce the lowest light levels permitted under health and safety, as this would be preferable for the species using these habitats. LED luminaires are ideal and should be used where possible due to their sharp cut-off, lower intensity, and dimming capability. A warm white spectrum (ideally less than 2700K) should be used to reduce the blue light component. The LED luminaires could also feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to wildlife (bats in particular).

Wildlife corridor retention

Habitat fragmentation will be avoided for small mammals through the preservation of the upper boundary tree line / wooded area and the replacement planting of trees and shrubs as proposed (Appendix C), to help preserve the wildlife corridor connectivity at the perimeter of the site.

Mammals – Bat (commuting/ foraging)

Construction Phase

Lighting

General bat activity may be impacted during both the construction and operational phase of the development if the outdoor lighting is insensitively designed or operated. For this reason, we recommend the following measures to prevent any impacts to local bat populations (Soprano and Common Pipistrelles) using the area:

Hours of illumination:

The peak time for feeding for bats is at dusk when they emerge from roosts to go foraging for insects. It is thus recommended that no works take place during the hours of darkness. Where there is need for lighting, it will be switched off during this dusk (1 hour) period, to benefit bats foraging and/or commuting in the locality. Additionally, lighting shall be controlled by occupancy / motion sensors to remain off / low if there was no exterior works activity.

Directional lighting:

In order to reduce the amount of light spillage, louvres and hoods should be affixed to lights during construction activities to reduce the amount of light spill into nearby areas of hedgerow and tree line.

Roosting Bats

In the event of the unforeseen discovery of bats during construction phase work, all works in the relevant area will cease. A suitably qualified, experienced, and licensed bat worker will be engaged to prepare a mitigation strategy for bats, and to consult with the NPWS. A derogation licence for the removal of a roost and/or disturbance of bats may be required in such a scenario.

It is also recommended that the felling of any mature tree specimens to the south of the site, be removed via the 'soft-felling' technique which involves the gradual cutting of tree limbs which are left grounded overnight to allow any bats to make their way out. Bat roosting sites can change depending on a variety of factors and therefore the presence of bats should never be

ruled out completely to allow any bat which may be resident time to escape. The ECoW shall supervise this process.

If any bat tree roosts are confirmed, and will be removed by the proposed felling works, then a derogation licence will be required from the NPWS and appropriate alternative roosting sites will be provided in the form of bat boxes.

Bat boxes

While there is low potential for bats to roost at the site, there is still the possibility that they may use the trees within the site boundary - in particular, the more mature specimens, as summer or transient roosts. As such, it is recommended that a number of bat boxes (no.4 to 6) be mounted on remaining trees to provide additional habitat for bats in the vicinity.

It is important to site bat boxes carefully and this should be undertaken by a bat specialist. Some general points to follow include:

- Straight limb trees (or telegraph pole) with no crowding branches or other obstructions for at least 3 metres above and below position of bat box.
- Diameter of tree should be wide and strong enough to hold the required number of boxes.
- Locate bat boxes in areas where bats are known to forage or adjacent to suitable foraging areas. Locations should be sheltered from prevailing winds.
- Bat boxes should be erected at a height of 4-5 metres to reduce the potential of vandalism and predation of resident bats.
- It is recommended to erect a number of bat boxes on one tree at an array of aspects. South facing boxes will receive the warmth of the sun, which is necessary for maternity colonies. In large bat box scheme it is generally recommended to have three bat boxes arranged at the same height facing North, South-East and South-West. This ensues a range of temperatures are available all day. If the South facing boxes become warm, bats can safely remove to the cooler North facing box.
- Locations for bat boxes should be selected to ensure that the lighting plan for the proposed site does not impact on the bat boxes.

Operational Phase

Operational lighting should produce the lowest light levels permitted under health and safety, as this would be preferable for the bat species using these habitats. The specification and colour of light treatments, such as single bandwidth lights / no UV light, would ensure that foraging bats are affected by broad visible or blue light to which they are most sensitive. LED luminaires are ideal and should be used where possible due to their sharp cut-off, lower intensity, and dimming capability. A warm white spectrum (ideally less than 2700K) should be used to reduce the blue light component. The LED luminaires could also feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to Bats.

Additionally, in order to reduce the amount of light spillage, louvres and hoods should be affixed to outdoor lights where possible to reduce the amount of light spill into nearby areas of hedgerow and tree line. The lighting plan (Appendix D) outlines the proposals for the development and includes considerations for lighting pole placement and low lighting levels.

Breeding Birds

Construction Phase

Any removal of hedgerows and shrub vegetation will be conducted outside of the breeding bird season (**1st March – 30th September inclusive**).

Where there is need for vegetation removal work within the breeding bird season, the area due for removal will be checked in advance by a suitably qualified and experienced ecologist for nesting birds. Where the presence of nesting birds cannot be ruled out, vegetation removal will be postponed until the appropriate window when nesting has finished.

Additionally, the construction site lighting, as described in Section 6.3.2 below, will not spill into hedgerows and treelines, preventing light disruption to nesting birds and offspring.

Operational Phase

Replacement planting is proposed for the lower (southern) site boundary where removal of treeline and scrub vegetation is proposed.

Permanent exterior lighting for the residence and garden, will be sensitively designed and cowled to prevent light spill onto area where wildlife may use. Specifically for birds, lighting will not spill into hedgerows and treelines, thus preventing light disruption to nesting birds and offspring.

Aquatic Habitats

Construction Phase

The mitigation measures as outlined in Section 6.3.3 to 6.3.7 (Water Quality) below will prevent impacts on nearby water bodies and aquatic species due to surface water-based pollutants or sedimentation derived impacts.

Operational Phase

The drainage design measures proposed as part of the development will ensure that there will be no long-term effects on water quality to nearby water bodies, including groundwater.

6.3.3 Measures to Protect Water Quality

The site compound and the active works shall be contained in an area which is always separated from the downstream waterbody, to prevent sediment delivery to or pollution of the watercourse which runs 200m to the east of the site.

The Accompanying CEMP report provides details on the proposed site construction methodology and actions to prevent silt and contaminant mobilisation to any downstream watercourses.

In addition, the following action are outlined and shall be adhered to:

- Any bare earth shall be covered outside active works timings to prevent rainfall induced silt mobilization and delivery to the stream.
- Disturbed areas of ground shall be kept to an absolute minimum within the site, and covered with geotextile, re-seeded or re-surfaced as per plans, as soon as possible following disturbance.

Relevant legislation and best practice guidance that have been considered includes but not limited to the following:

CIRIA C532 Control of water pollution from construction sites. Guidance for consultants and contractors (CIRIA, 2019 - www.ciria.org)

CIRIA C515 Groundwater control – design and practice, 2nd ed. (CIRIA, 2019 - www.ciria.org)

CIRIA Guidance C741: *Environmental good practice on site guide* (Charles & Edwards, 2015; CIRIA, 2019 - www.ciria.org)

Inland Fisheries Ireland 2016 *Guidance on Protection of Fisheries During Construction Works In and Adjacent to Waters*

Adoption of a surface water / groundwater plan including appropriate barrier controls to prevent any seepage of potentially polluted surface water from the site into the groundwater table below (e.g. geotextile barriers).

Oil booms and oil soakage pads should be maintained on-site to enable a rapid and effective response to any accidental spillage or discharge. These shall be disposed of correctly and records will be maintained by the environmental manager of the used booms and pads taken off site for disposal.

Fail-safe site drainage and bunding through drip trays on plant and machinery will be provided to prevent discharge of chemical spillage from the sites to surface water.

6.3.4 Pollution Control and Spill Prevention

Spill kits containing absorbent pads, granules and booms will be stored in the site compound with easy access in the case of an emergency. A minimum stock of spill kits will be maintained at all times and site foremen's vehicles will carry large spill kits at all times. Absorbent material will be used with pumps and generators at all times and used material disposed of in accordance with the Waste Management Plan. All used spill materials e.g. Absorbent pads will be placed in a bunded container in the contractor's compound. The material will be disposed of by a licenced waste contractor at a licenced facility. Records will be maintained by the environmental site manager.

Regular inspections and maintenance of plant and machinery checking for leaks, damage or vandalism will be made on all plant and equipment.

In the event of a spill, the Contractor will ensure that the following procedures are in place:

Emergency response awareness training for all Project personnel on-site works.

Appropriate and sufficient spill control materials will be installed at strategic locations within the site. Spills kits for immediate use will be kept in the cab of mobile equipment.

Spill kits will be stored in the site compound with easy access for delivery to site in the case of an emergency. A minimum stock of spill kits will be maintained at all times and site vehicles will carry spill kits at all times. Spill kits must include suitable spill control materials to deal with the type of spillage that may occur and where it may occur. Typical contents of an on-site spill kit will include the following as a minimum;

- Absorbent granules;
- Absorbent mats/cushions;
- Absorbent booms
- Spill kits will contain gloves to handle contaminated materials and sealable disposal sacks.
- Track-mats, geotextile material and drain covers.
- All potentially polluting substances such as oils and chemicals used during construction will be stored in containers clearly labelled and stored with suitable precautionary measures such as bunding within the site compound.
- Potentially contaminated run off from plant and machinery maintenance areas will be managed within the site compound surface water collection system.
- Damaged or leaking containers will be removed from use and replaced immediately.

6.3.5 Site Works: General Avoidance Measures

General avoidance measures that should be incorporated within the scheme include:

Limiting the hours of work to daylight hours, to limit disturbance to nocturnal and crepuscular animals;

Due to the potential presence of Badger and Bats the use of lighting at night should be avoided. If the use of lighting is essential, then a directional cowl should be fitted to all lights to prevent light spill and to be directed away from treelines and hedgerows.

Contractors must ensure that no harm comes to wildlife by maintaining the site efficiently and clearing away materials which are not in use, such as wire or bags in which animals can become entangled;

Any pipes should be capped when not in use (especially at night) to prevent animals becoming trapped. Any excavations should be covered overnight to prevent animals from falling and getting trapped. If that is not possible, a strategically placed plank should be placed to allow animals to escape.

6.3.6 Site Compound

The site compound shall be located as far as possible from the central drainage ditch/ stream.

Only plant and materials necessary for the construction of the works will be permitted to be stored at the compound location.

There will be a drainage collection system for washing area to prevent run-off into surface waters.

Absorbents used to contain spillages of hazardous materials shall be kept on site and will be clearly labelled.

6.3.7 Adherence to Best Practice Guidance

The activities of the project for the construction phase shall remain within the boundary of the proposed site. Within this area, the mitigation measures outlined above shall be implemented.

The works will also strictly adhere to best practice environmental guidance including but not limited to the following:

CIRIA Guidance C532 Control of water pollution from construction sites. Guidance for consultants and contractors. (CIRIA, 2019 - www.ciria.org);

CIRIA Guidance C741: *Environmental good practice on site guide* (Charles & Edwards, 2015; CIRIA, 2019 - www.ciria.org);

CIRIA Guidance C750D: *Groundwater control: design and practice* (Preene *et al.*, 2016; CIRIA, 2019 - www.ciria.org);

Inland Fisheries Ireland 2016 *Guidance on Protection of Fisheries During Construction Works In and Adjacent to Waters;*

Construction method statements will be submitted to Westmeath County Council for agreement prior to site works commencing.

6.3.8 Biosecurity

During the desktop study, there were no records of non-native invasive species listed on the Third schedule of the in the vicinity. However, there is a risk that such species could be introduced to the site during construction via machine tracks, boots or clothes that have been contaminated. As such, it is important that vigilance on plant machinery use, such as checks for plant material in tyre treads and tyre washing be used routinely where plant may be travelling from different sites into the site area.

7 Residual Impacts

Residual ecological impacts are those that remain once the development proposals have been implemented. The main aim of ecological mitigation, compensation, and enhancement is to minimise or eliminate residual impacts.

7.1 Do Nothing Scenario

If the proposed works were not to go ahead, it is likely that the current regime of management of the land will continue as currently with no residual impacts.

7.2 Potential Residual Impacts

7.3 Construction Phase

The mitigation measures proposed (Sections 6.3 & 6.4) to safeguard the ecological features of note during the construction phase will be strictly adhered to, and thus minimal lasting residual impacts are anticipated.

The local breeding bird and bat populations may be temporarily displaced during the construction stage.

7.4 Operational Phase

The proposed mitigation measures for the operational phase should act to safeguard the environment and biodiversity, for the benefit of all local species.

The residual impacts on hedgerow and tree lines would be permanent habitat loss, assessed as **significant at a local level**. This may lead to the displacement of local bat and breeding bird populations. The replanting of marginal treeline to the south of the site will compensate in part for the loss of vegetation at the site overall, and the design of natural SUDs to ensure the continuity of wetland habitat, will also represent mitigation in part for the loss of the wetted area.

However, the overall ecological impact is assessed as of Medium in magnitude at the local level, giving rise to a **Minor negative impact** as a result of the proposed development.

8 Enhancements for wildlife

8.1 Enhancement of Grasslands for Pollinators

Bird habitat will be reduced within the site area as a result of the proposed works. In an urban environment the scope for replacement vegetation is limited and while replacement planting is proposed within the landscaping plan to the south of the site as a liner feature and around the new wetland area, the scrub and tall herb vegetation which is a key feature of the site and good breeding bird habitat for passerines, will be lost.

Since the change of use would mean that a majority of the site area will be given over to hardstanding areas, there is some scope for the placement of swift boxes within the fabric of this new more urban environment.

Swift are a Red-listed species which are declining in numbers at present. They are a summer visitor to Ireland and breed here before returning to winter in Africa.

They nest often within/near urban areas, usually in small recesses in buildings, both occupied and derelict.

Since Swifts were observed on site during the surveys, it is proposed the swift boxes be incorporated into the fabric of the build, and either mounted outside the bus depot buildings or within the brickworks of a building structure.

Some examples of swift boxes (External and Internal) are provided below. They can be obtained online at supplier such as NHBS (NHBS.com) (*see https://www.nhbs.com/search?q=swift+box*) or Birwtach Ireland (one model available online).

Figure 8.1 Externally mounted Swift boxes

Figure 8.2 Internally mounted Swift brick/box

When installing a Swift box(es) it is important to install an 'attraction system' to entice the birds to nest at the new site. By installing an attraction call system, we mimick the calls at a typical nest site, which help Swifts to find suitable locations where they might nest for the first time. Attraction calls should be played until Swifts have taken up residence in at least two or ideally all of the nest boxes. See Birdwatch Ireland (Genesis Call system) *Genesis tm* for example of an attraction call system. Further details on swift box choice and installation can be found at:
https://www.swiftconservation.ie/wp-content/uploads/2024/03/Which-box-compressed.pdf

9 Summary of Impact Assessment

9.1 Natura 2000 sites

Two Natura 2000 Sites were 'screened in' to the level 2 Natura Impact Assessment (as per accompanying NIS report). The potential impacts were examined, and mitigation measure were described to avoid or reduce any impacts to a negligible level such that the integrity of the sites are upheld. Significant environmental impact for both construction and operational phases can be ruled out for all Natura 2000 sites.

9.2 EcIA Table

Table 7 below presents a summary of the EcIA assessment when mitigation approaches are considered and included. Residual impacts are also described.

Table 7. Summary of Impacts:

Ecological Features	Impact	Importance of Feature	Impact without Mitigation	Mitigation	Significance of Effects of Residual Impacts (following mitigations)
Construction Impacts					
European Sites: River Shannon Callows SAC [000216] River Shannon Callows SPA [004096] Lough Ree SAC [000440] Lough Ree SPA [004064]	Degradation of downstream water quality via accidental introduction of pollutants, sediment and sediment-bound fertilisers.	International	short term impact of Low Magnitude - Moderate impact	Strict adherence to: - Mitigation as Outlined in accompanying Natura Impact Statement - Actions to avoid Silt mobilization as per the CEMP report - Mitigation in Section 6.2.1 and 6.2.2 for protected sites. - Best practice guidance listed in Section 6.3.4, which pertains to the protection of surface and groundwaters - All surface water and groundwater mitigation measures listed in Sections 6.3.3 to 6.3.7. - ECoW Presence (as per section 6.2) on site during works to check compliance	Low, short-term impact (Negligible significance)
pNHA – Lough Ree	Degradation of downstream water quality via accidental introduction of pollutants, sediment and sediment-bound fertilisers.	National	Low, short-term impact - Minor impact	Strict adherence to: - Mitigation in Section 6.2.1 and 6.2.2 for protected sites. - Actions to avoid Silt mobilization as per the CEMP report - Best practice guidance listed in Section 6.3.4, which pertains to the protection of surface and groundwaters - All surface water and groundwater mitigation measures listed in Sections 6.3.3 to 6.3.7. - ECoW Presence (as per section 6.2) on site during works to check	Low, short-term impact (Negligible significance)

Ecological Features	Impact	Importance of Feature	Impact without Mitigation	Mitigation	Significance of Effects of Residual Impacts (following mitigations)
				compliance	
Mammals - Badger	Disturbance and displacement from physical construction activities/ storage and noise of activities.	Local	Moderate, short-term impact if badgers are found living on-site	Strict adherence to: - General avoidance measures in Section 6.3.3, ensuring that no animals become tangle or trapped in construction equipment; nor disturbed by on-site compound lighting - Pre-works survey by ECoW - All mitigation guidance Section 6.3.2. pertaining to site lighting, including its time management	Low, short-term impact (Neutral significance)
Mammals – Hedgehog	Disturbance from physical construction activities/ storage and noise of activities	Local	Low, short-term impact - Minor significance	Strict adherence to: - General avoidance measures in Section 6.3.3, ensuring that no animals become tangle or trapped in construction equipment - Pre-works checks by ECoW - All mitigation guidance Section 6.3.2. pertaining to site lighting, including its time management	Low, short-term impact (Neutral significance)
Mammals – Bats (foraging / commuting)	Disturbance from compound and general site lighting, deterring foraging and commuting activities in and around the site.	Local	Moderate, long-term impact - Minor significance	Strict adherence to: - General avoidance measures in Section 6.3.3, ensuring that no animals become disturbed by on-site compound lighting - All mitigation guidance Section	Low, short-term impact (Negligible significance)

Ecological Features	Impact	Importance of Feature	Impact without Mitigation	Mitigation	Significance of Effects of Residual Impacts (following mitigations)
	Removal of feeding and roosting grounds (hedgerow and tree line)			6.3.2. pertaining to site lighting, including its time management	
Breeding Birds	General disturbance from physical construction activities/ storage and noise of activities Disturbance and removal of breeding sites (hedgerow and tree line)	Local	Moderate, long-term impact - Minor significance	Strict adherence to: - General avoidance measures in Section 6.3.3, ensuring that no animals become tangle or trapped in construction equipment; nor disturbed by on-site compound lighting - Best practice guidance listed in Section 6.3.4, which pertains to the protection of surface and groundwaters - All surface water and groundwater mitigation measures listed in Sections 6.3.6 & 6.3.7. - There is to be no removal (trimming) of trees or hedges during the breeding bird season (March – September inclusive) - ECoW checks & presence on site (section 6.2)	Low, short-term impact (Negligible significance)
Operation Impacts					

Ecological Features	Impact	Importance of Feature	Impact without Mitigation	Mitigation	Significance of Effects of Residual Impacts (following mitigations)
pNHA – Lough Ree	N/a	National	No impact - No significance	n/a	No impact - No significance
Mammals - Badger	Light spillage into hedgerows and treelines from street lighting, leading to avoidance of the area; ultimately resulting in habitat fragmentation in the local area. Loss of semi-natural dry grassland for foraging. Loss of lower western tree line habitat where badger sett was found.	Local	Medium, long-term impact - Moderate significance	Strict adherence to: - Retention of northern hedgerow / tree line - All mitigation guidance in Section 6.3.2. pertaining to site lighting, including its time management	Low, long-term impact (Minor significance)
Mammals – Hedgehog	Light spillage into hedgerows and treelines from street lighting, leading to avoidance of the area; ultimately resulting in habitat fragmentation in the local area. Loss of habitat.	Local	Medium, long-term impact - Minor significance	Strict adherence to: - Retention of northern hedgerow / tree line All mitigation guidance in Section 6.3.2. pertaining to site lighting, including its time management	Low, long-term impact (Negligible significance)
Mammals – Bats (foraging / commuting)	Light spillage into hedgerows and treelines from street lighting, leading to avoidance of the area; ultimately resulting in habitat	Local	Medium, long-term impact - Minor significance	Strict adherence to: All mitigation guidance Section 6.2. pertaining to site lighting, including its time management	Low, long term impact (Negligible significance)

Ecological Features	Impact	Importance of Feature	Impact without Mitigation	Mitigation	Significance of Effects of Residual Impacts (following mitigations)
	fragmentation in the local area.				
Breeding Birds	Disturbance to breeding sites	Local	Medium, long-term impact - Minor significance	Strict adherence to: - All mitigation guidance Section 6.2. pertaining to site lighting, including its time management	Negligible, long term impact (Negligible significance)

10 Conclusion

The construction and operation of the proposed project has been shown to have potential for impact on a number of habitats with local and regional importance (hedgerow, grassland, and tree line) and faunal groups (breeding birds, hedgehog, bats, mammals) of local ecological importance.

Based upon the information supplied regarding the site layout, construction methodology and drainage; and provided that the development is constructed in accordance with the mitigation measures outlined above, no significant impact is anticipated in combination with other projects and plans, as result of the development and associated works, on the ecology of the area or on any nature conservation sites within its vicinity.

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Westmeath County Council (2021) Westmeath County Development Plan 2021 – 2027

A Appendix A

Relevant Policy and Legislation

The legislation discussed below is intended as a guide only and does not replace formal legal advice.

A.1 Biodiversity Policy Guidance

'Biodiversity: The National Biodiversity Action Plan 2017-2021 (DCHG, 2017) sets out actions through which a range of government, civil and private sectors will undertake to achieve Ireland's 'Vision for Biodiversity' and has been developed in response to The Earth Summit, held in Rio de Janeiro in 1992 (UN Convention on Biological Diversity) and subsequent EU and International Biodiversity strategies and policies.

As part of the Action Plan process Local Authorities (LA) must produce Biodiversity Action Plans (BAP). BAPs highlight local biodiversity issues and set out a series of objectives and action plans for the conservation of priority species and habitats where they occur in each district or county.

A.2 Designated Sites and Nature Conservation

A.2.1 Statutory Designated Nature Conservation Sites

Sites with statutory designations receive varying degrees of legal protection under Irish statute (i.e. Wildlife Act 1976 and Wildlife (Amendment) Act (2000) and European Directives (i.e. the EC Birds Directive (2009/147/EC) and EC Habitats Directive (92/43/EC). The EU directives were transposed into Irish national law and subsequent amendments were revised and consolidated in the European Communities (Birds and Natural Habitats) Regulations 2011 and Irish Statutory Instrument 477/2011

There are a number of statutory designations used for sites of high nature conservation value in Ireland, which are applied depending upon the importance of the site in a local, regional, national or international context. These include:

- National
- Natural Heritage Area (NHA)
- Wildfowl Sanctuary
- Statutory Nature Reserve
- Refuge for Fauna
- European
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)
- International
- UNESCO Biosphere Reserve
- Ramsar Convention Site
- National Park (Category II) Sites

A.2.2 Non-Statutory Designations

Non-statutory sites are afforded no statutory legal protection but are normally recognised by local planning authorities and statutory agencies as being of local nature conservation value.

A proposed Natural Heritage Area (pNHA) is an area deemed to be of special interest containing important wildlife habitat and often containing rare or threatened species. They may also be selected on the basis of their geology or geomorphology.

A.2.3 Protected and Notable Species

A number of species are protected under Irish and international legislation. In Ireland, primary protection is provided under the 1976 Wildlife Act and Wildlife (Amendment) Acts (2000 & 2010) and revision 2018. Species of European importance receive additional protection in Ireland under the Birds and Natural habitats Regulations 2011.

The Flora (Protection) Order (2015) makes it illegal to cut, uproot or damage a listed species in any way. It is illegal to alter, damage or interfere in any way with their habitats.

A.2.4 Birds

Almost all resident wild birds are protected under the 1976 Wildlife Act (and amendments). This makes it an offence to:

- intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built
- take, destroy or possess the egg of any wild bird.

A.3 Bats

All Irish bat species are European Protected Species (EPS), protected under the Wildlife Act (and amendments) and the Conservation of Habitat and Species Regulations 2017 (as amended). This makes it an offence to:

- deliberately capture, injure or kill a bat
- intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats
- damage or destroy a bat roosting place (even if bats are not occupying the roost at the time)
- intentionally or recklessly obstruct access to a bat roost.

A.4 Badger

The European Badger is protected under the 1976 Wildlife Act (and amendments), making it an offence to:

- deliberately capture, injure or kill a Badger
- intentionally or recklessly obstruct or destroy a Badger sett

The exclusion of badgers from setts and subsequent destruction of setts on a development site must be conducted under licence from the NPWS and by experienced badger experts or other suitably qualified personnel.

A.5 Reptiles and Amphibians

Common Frog *Rana temporaria*, Natterjack Toad, *Bufo calamita*, Smooth Newt *Triturus vulgaris* and Common Lizard *Zootoca vivipara* are all protected under the Wildlife Act 1976 (and amendments).

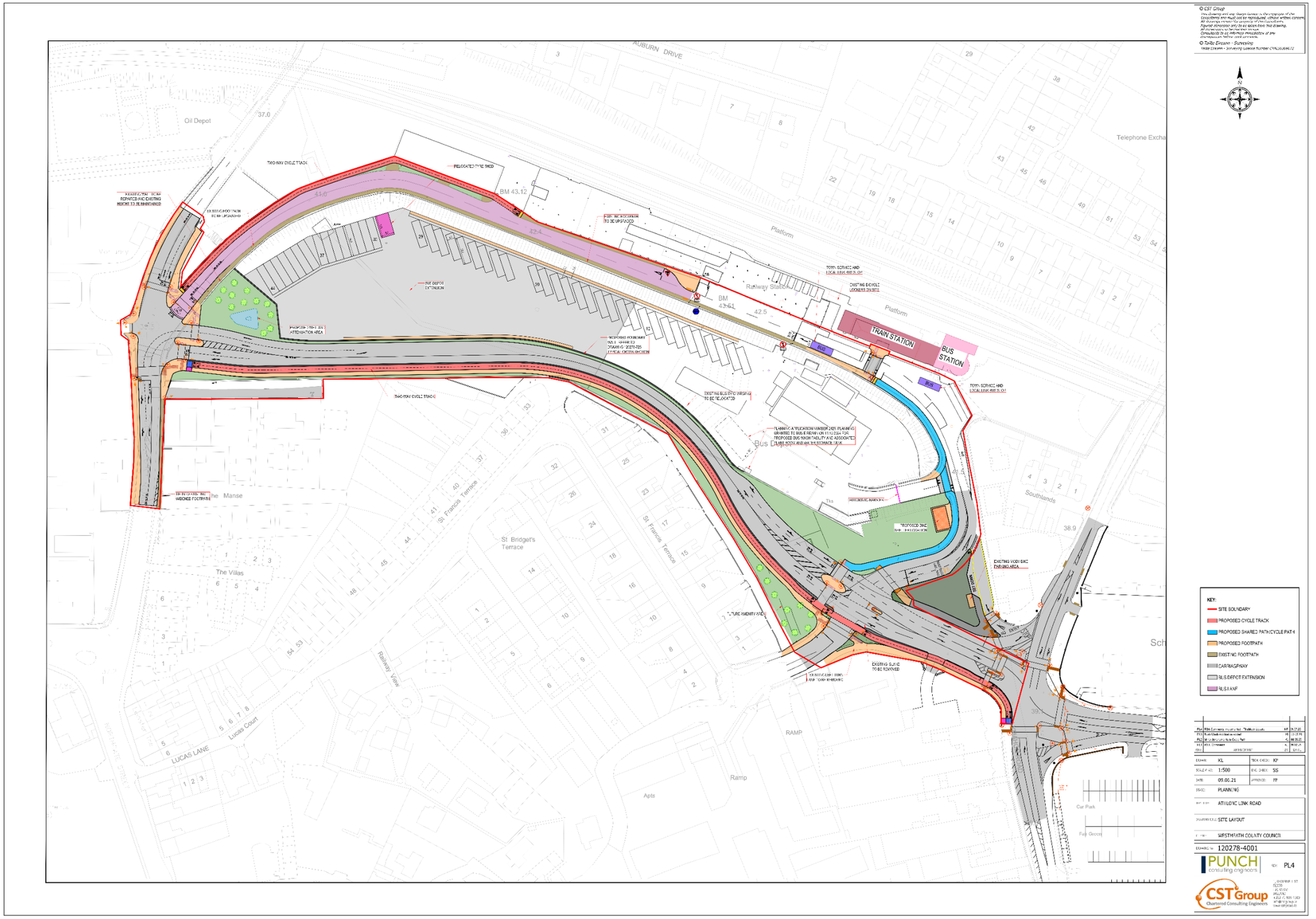
A.6 Invasive Non-native Species

Certain invasive non-native animals and plants are listed under the Third Schedule of S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011. This makes it an offence to release, plant them in the wild or cause them to disperse, spread or otherwise cause them to grow. If these species occur on a site proposed for development or other work which may disturb the ground, control of these species is likely to be required.

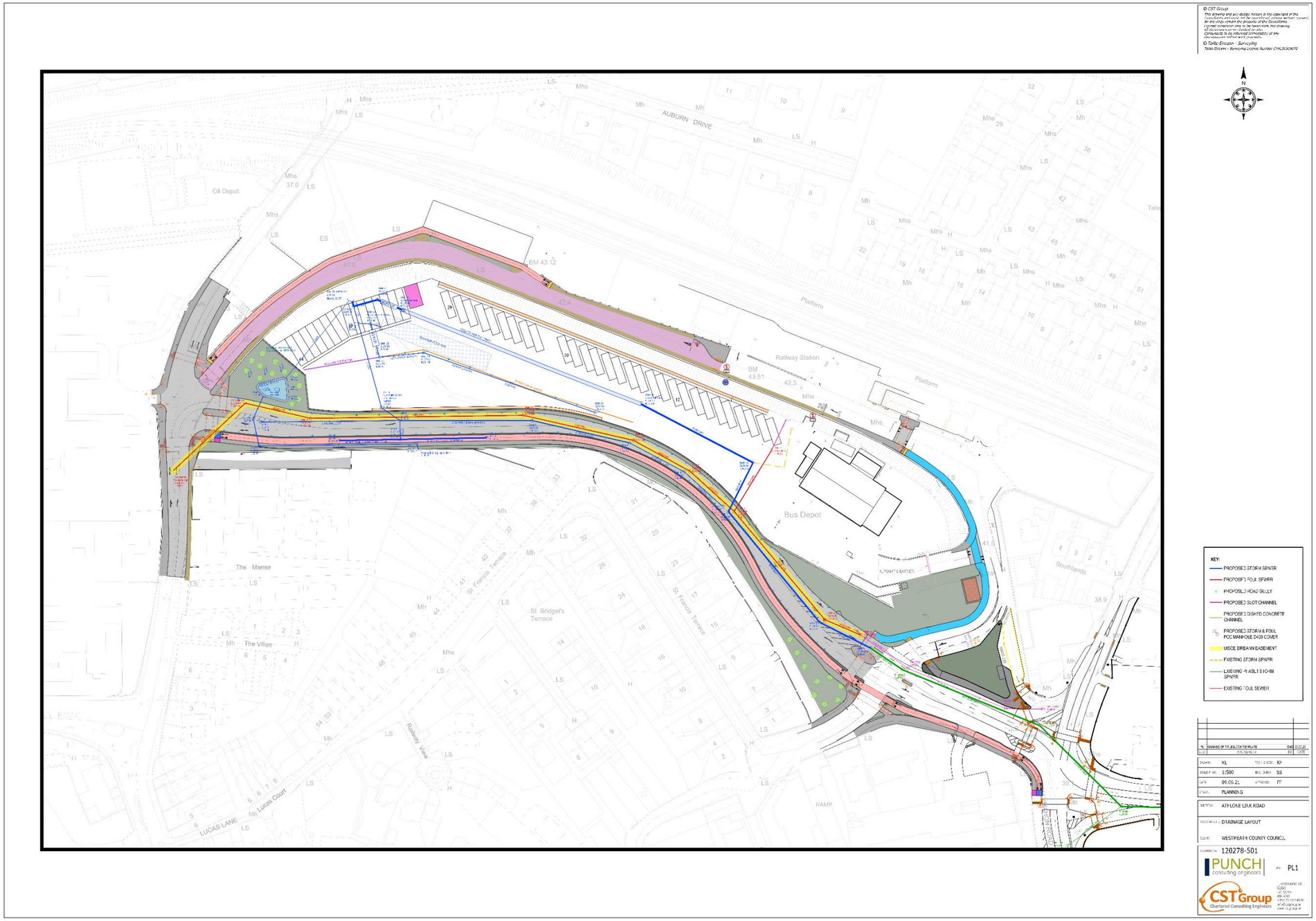
European Council's Regulation on the prevention and management of the introduction and spread of invasive alien species [1143/2014] sets out to prevent, minimise and mitigate the adverse impacts of the introduction and spread, both intentional and unintentional, of invasive alien species on biodiversity and the related ecosystem services as well as on human health and the economy.

Appendix B Habitat Map

Appendix C Site Layout Plan



Appendix D Proposed Site Drainage Plan



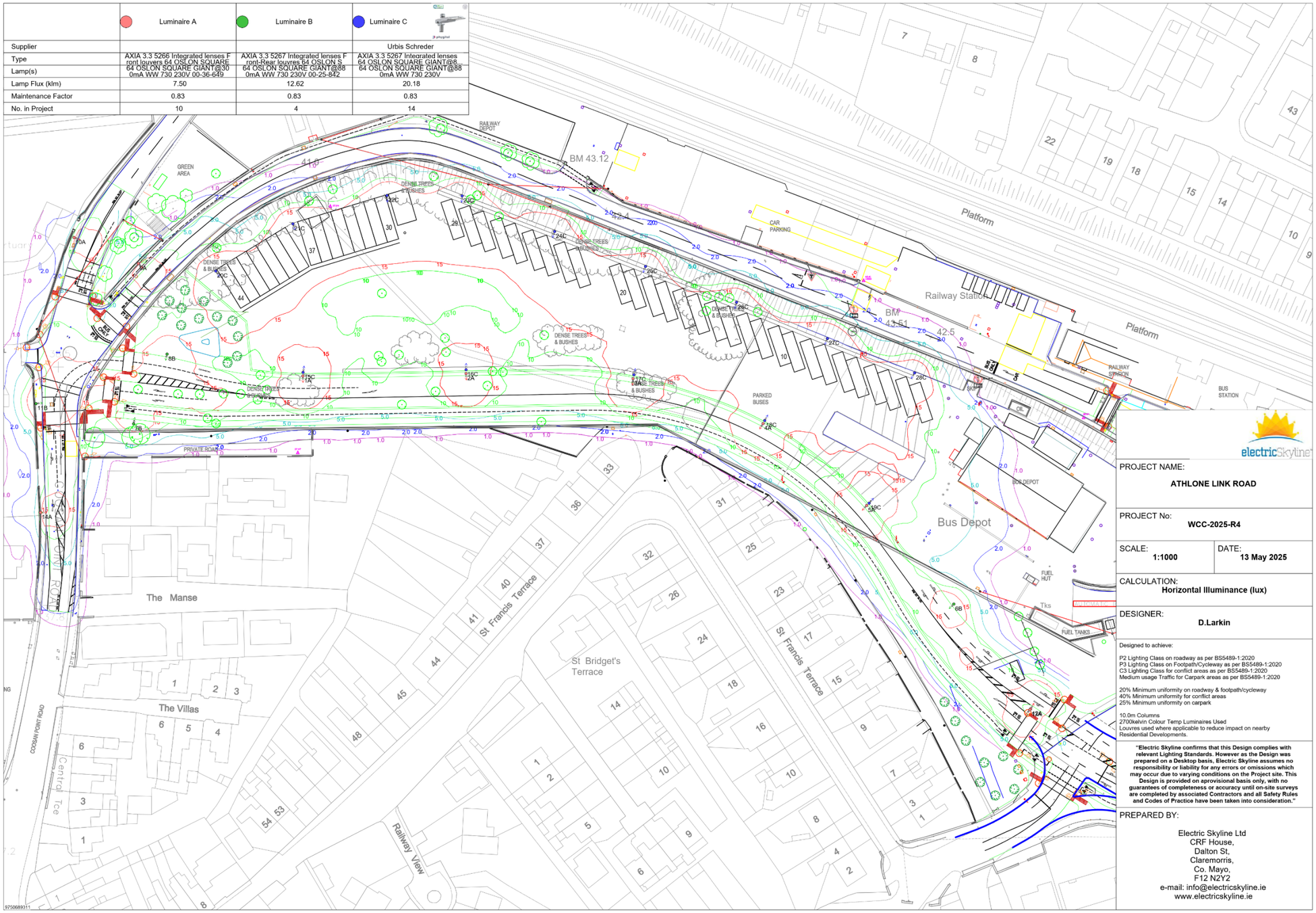
KEY:
- PROPOSED STORM SEWER
- PROPOSED FOUL SEWER
- PROPOSED ROAD GULLY
- PROPOSED SLOT CHANNEL
- PROPOSED DISHED CONCRETE CHANNEL
- PROPOSED STORM & FOUL PCC MANHOLE C/W COVER
- UISCE EIREANN EASEMENT
- EXISTING STORM SEWER
- EXISTING FOUL SEWER

DRAWN:	KL
SCALE @ A1:	1:500
DATE:	06.05.21
STATUS:	PLANNING
JOB TITLE:	ATHLONE LINK ROAD
DRAWING TITLE:	DRAINAGE LAYOUT
CLIENT:	WESTMEATH COUNTY COUNCIL
DRAWING No:	120278-501
REV:	PL1

PUNCH consulting engineers
CST Group Chartered Consulting Engineers

Appendix E Lighting Plan

	Luminaire A	Luminaire B	Luminaire C
Supplier			Urbis Schreder
Type	AXIA 3.3 5266 Integrated lenses Front louvers 64 OSLON SQUARE	AXIA 3.3 5267 Integrated lenses Front-Rear louvres 64 OSLON S	AXIA 3.3 5267 Integrated lenses 64 OSLON SQUARE GIANT@8
Lamp(s)	64 OSLON SQUARE GIANT@30 0mA WW 730 230V 00-36-649	64 OSLON SQUARE GIANT@88 0mA WW 730 230V 00-25-842	64 OSLON SQUARE GIANT@88 0mA WW 730 230V
Lamp Flux (klm)	7.50	12.62	20.18
Maintenance Factor	0.83	0.83	0.83
No. in Project	10	4	14



electricSkyline

PROJECT NAME:
ATHLONE LINK ROAD

PROJECT No:
WCC-2025-R4

SCALE:
1:1000

DATE:
13 May 2025

CALCULATION:
Horizontal Illuminance (lux)

DESIGNER:
D.Larkin

Designed to achieve:

P2 Lighting Class on roadway as per BS5489-1:2020
P3 Lighting Class on Footpath/Cycleway as per BS5489-1:2020
C3 Lighting Class for conflict areas as per BS5489-1:2020
Medium usage Traffic for Carpark areas as per BS5489-1:2020

20% Minimum uniformity on roadway & footpath/cycleway
40% Minimum uniformity for conflict areas
25% Minimum uniformity on carpark

10.0m Columns
2700kelvin Colour Temp Luminaires Used
Louvres used where applicable to reduce impact on nearby Residential Developments.

"Electric Skyline confirms that this Design complies with relevant Lighting Standards. However as the Design was prepared on a Desktop basis, Electric Skyline assumes no responsibility or liability for any errors or omissions which may occur due to varying conditions on the Project site. This Design is provided on aprovisional basis only, with no guarantees of completeness or accuracy until on-site surveys are completed by associated Contractors and all Safety Rules and Codes of Practice have been taken into consideration."

PREPARED BY:

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F12 N2Y2
e-mail: info@electricskyline.ie
www.electricskyline.ie

Appendix F Qualifying Interests of Nearby European Sites

Site name and code	Distance from Operation	Reasons for designation[2] (*= Priority Annex I Habitat)[3] (Sourced from NPWS online Conservation Objectives)
Special Areas of Conservation (SACs)		
River Shannon Callows SAC [000216]	The European site is approx. 0.9km from the proposed development boundary	Otter (*Lutra lutra*) [1355] *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410] Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) [6510] Alkaline fens [7230] Limestone pavements*[8240] Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)* [91E0] **NPWS (2022) Conservation Objectives: *River Shannon Callows SAC 000216*. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.**
Middle Shannon Callows SPA [004096]	The European site is approx. 0.9km from the proposed development boundary	Whooper Swan (*Cygnus cygnus*) [A038] Wigeon *(Anas penelope*) [A050] Corncrake (*Crex crex*) [A122] Golden Plover (*Pluvialis apricaria*) [A140] Lapwing (*Vanellus vanellus*) [A142] Black-tailed Godwit (*Limosa limosa*) [A156] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Wetland [A999] **NPWS (2022) Conservation Objectives: *Middle Shannon Callows SPA 004096*. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage**
Lough Ree SAC [000440]	The European site is approx. 1.4km from the proposed development boundary	Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition* - type vegetation [3150] Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210] Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Alkaline fens [7230] Limestone pavements [8240] Bog woodland [91D0]

[2] "Qualifying Interests" for SACs and "Special Conservation Interests" for SPAs based on relevant Statutory Instruments for each SPA, and NPWS Conservation Objectives for SACs downloaded from www.npws.ie in September 2018. Data on NHA/pNHA sites from the site synopsis documents published by the NPWS (where available).

[3] Priority Annex I habitat types are denoted with an "*" and are habitat types which are in danger of disappearance at a European level – from the definition of "priority natural habitat types" in Article 1(d) of the Habitats Directive

Site name and code	Distance from Operation	Reasons for designation[2] (*= Priority Annex I Habitat)[3] (Sourced from NPWS online Conservation Objectives)
		Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0] Lutra lutra (Otter) [1355] **NPWS (2016) Conservation Objectives*: Lough Ree SAC 000440*. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.**
Lough Ree SPA [004064]	The European site is approx. 1.4km from the proposed development boundary	Little Grebe (*Tachybaptus ruficollis*) [A004] Whooper Swan (*Cygnus cygnus*) [A038] Wigeon (*Anas penelope*) [A050] Teal (*Anas crecca*) [A052] Mallard (*Anas platyrhynchos*) [A053] Shoveler (*Anas clypeata*) [A056] Tufted Duck (*Aythya fuligula*) [A061] Common Scoter (*Melanitta nigra*) [A065] Goldeneye (*Bucephala clangula*) [A067] Coot (*Fulica atra*) [A125] Golden Plover (*Pluvialis apricaria*) [A140] Lapwing (*Vanellus vanellus*) [A142] Common Tern (*Sterna hirundo*) [A193] Wetland and Waterbirds [A999] **NPWS (2022) Conservation objectives for *Lough Ree SPA [004064]*. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.**
Crosswood Bog SAC [002337]	The European site is approx. 3.8km from the proposed development boundary	Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] **NPWS (2016) Conservation Objectives: *Crosswood Bog SAC 002337.* Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.**
Carn Park Bog SAC [002336]	The European site is approx. 6.1km from the proposed development boundary	Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] **NPWS (2015) Conservation Objectives: *Carn Park Bog SAC 002336.* Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.**

Site name and code	Distance from Operation	Reasons for designation[2] (*= Priority Annex I Habitat)[3] (Sourced from NPWS online Conservation Objectives)
Castlesampson Esker SAC [001625]	The European site is approx. 9.2km from the proposed development boundary	Turloughs [3180] Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210] **NPWS (2021) Conservation Objectives: *Castlesampson Esker SAC 001625.* Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.**
Ballynamona Bog and Corkip Lough SAC [002339]	The European site is approx. 9.6km from the proposed development boundary	Turloughs [3180] Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the *Rhynchosporion* [7150] Bog woodland [91D0] **NPWS (2016) Conservation Objectives: *Ballynamona Bog and Corkip Lough SAC 002339*. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.**
Pilgrim's Road Esker SAC [001776]	The European site is approx. 10.2km from the proposed development boundary	Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210] **NPWS (2018) Conservation Objectives: *Pilgrim's Road Esker SAC 001776*. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.**
Mongan Bog SAC [000580]	The European site is approx. 10.7km from the proposed development boundary	Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the *Rhynchosporion* [7150] **NPWS (2016) Conservation Objectives: *Mongan Bog SAC 000580.* Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.**
Mongan Bog SPA [004017]	The European site is approx. 10.7km from the proposed development boundary	Greenland White-fronted Goose (*Anser albifrons flavirostris*) [A395] **NPWS (2022) Conservation objectives for *Mongan Bog SPA [004017]*. First Order Site Specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.**
Fin Lough (Offaly) SAC [000576]	The European site is approx. 12.0km from the proposed development boundary	Alkaline fens [7230] *Vertigo geyeri* (Geyer's Whorl Snail) [1013] **NPWS (2019) Conservation Objectives: *Fin Lough (Offaly) SAC 000576.* Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.**

Site name and code	Distance from Operation	Reasons for designation[2] (*= Priority Annex I Habitat)[3] (Sourced from NPWS online Conservation Objectives)
Lough Funshinagh SAC [000611]	The European site is approx. 12.5km from the proposed development boundary	Turloughs [3180] Rivers with muddy banks with *Chenopodion rubri p.p*. and *Bidention p.p*. vegetation [3270] **NPWS (2018) Conservation Objectives: Lough Funshinagh SAC 000611. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.**

Appendix G Desktop Study Species Records (NBDC)

Feature name	Species group	Species name	Record count	Date	Title of dataset	Designation
Custom	acarine (Acari)	Acari	1	09/09/2014	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	annelid	Erpobdella	2	09/09/2014	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	annelid	Helobdella	2	09/09/2014	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	annelid	Hirudinea	1	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	annelid	Lumbricidae	1	13/08/2008	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	annelid	Piscicola	1	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	annelid	Tubificidae	4	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	bird	Barn Swallow (Hirundo rustica)	1	16/04/2020	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Blackcap (Sylvia atricapilla)	1	19/05/2020	Birds of Ireland	
Custom	bird	Black-headed Gull (Larus ridibundus)	2	11/02/2019	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Custom	bird	Blue Tit (Cyanistes caeruleus)	2	14/03/2023	Birds of Ireland	
Custom	bird	Chaffinch (Fringilla coelebs)	2	14/03/2023	Birds of Ireland	

Custom	bird	Coal Tit (Periparus ater)	1	07/04/2020	Birds of Ireland	
Custom	bird	Common Blackbird (Turdus merula)	2	18/03/2023	Birds of Ireland	
Custom	bird	Common Bullfinch (Pyrrhula pyrrhula)	3	04/03/2023	Birds of Ireland	
Custom	bird	Common Buzzard (Buteo buteo)	2	18/03/2023	Birds of Ireland	
Custom	bird	Common Moorhen (Gallinula chloropus)	4	05/02/2023	Birds of Ireland	
Custom	bird	Common Pheasant (Phasianus colchicus)	1	22/03/2020	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Custom	bird	Common Raven (Corvus corax)	3	21/05/2016	Birds of Ireland	
Custom	bird	Common Starling (Sturnus vulgaris)	2	21/02/2023	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Common Swift (Apus apus)	7	07/07/2023	Swifts of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Common Tern (Sterna hirundo)	1	29/04/2022	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Custom	bird	Common Wood Pigeon (Columba palumbus)	2	15/04/2020	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Custom	bird	Eurasian Collared Dove (Streptopelia decaocto)	2	15/03/2023	Birds of Ireland	
Custom	bird	Eurasian Curlew (Numenius arquata)	1	31/05/2020	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Custom	bird	Eurasian Jackdaw (Corvus monedula)	1	14/02/2023	Birds of Ireland	
Custom	bird	Eurasian Oystercatcher (Haematopus ostralegus)	1	11/02/2019	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Eurasian Treecreeper (Certhia familiaris)	2	21/06/2020	Birds of Ireland	
Custom	bird	European Goldfinch (Carduelis carduelis)	4	18/03/2023	Birds of Ireland	
Custom	bird	European Greenfinch (Carduelis chloris)	1	14/04/2020	Birds of Ireland	
Custom	bird	European Robin (Erithacus rubecula)	3	18/03/2023	Birds of Ireland	
Custom	bird	Goldcrest (Regulus regulus)	2	18/02/2023	Birds of Ireland	
Custom	bird	Great Tit (Parus major)	1	06/03/2018	Birds of Ireland	
Custom	bird	Grey Heron (Ardea cinerea)	2	26/04/2020	Birds of Ireland	
Custom	bird	Grey Wagtail (Motacilla cinerea)	1	14/03/2023	Birds of Ireland	

Custom	bird	Hooded Crow (Corvus cornix)	3	14/02/2023	Birds of Ireland	
Custom	bird	House Martin (Delichon urbicum)	1	12/04/2020	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	House Sparrow (Passer domesticus)	4	21/02/2023	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Lesser Black-backed Gull (Larus fuscus)	2	18/03/2023	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Little Grebe (Tachybaptus ruficollis)	1	05/02/2023	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Mallard (Anas platyrhynchos)	6	05/02/2023	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Custom	bird	Mew Gull (Larus canus)	3	29/12/2020	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Mistle Thrush (Turdus viscivorus)	1	10/01/2023	Birds of Ireland	

Custom	bird	Mute Swan (Cygnus olor)	4	05/02/2023	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Northern Lapwing (Vanellus vanellus)	1	11/02/2019	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Custom	bird	Pied Wagtail (Motacilla alba subsp. yarrellii)	1	11/07/2017	Birds of Ireland	
Custom	bird	Reed Bunting (Emberiza schoeniclus)	1	12/05/2020	Birds of Ireland	
Custom	bird	Rock Pigeon (Columba livia)	3	16/06/2022	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species
Custom	bird	Rook (Corvus frugilegus)	1	06/03/2018	Birds of Ireland	
Custom	bird	Song Thrush (Turdus philomelos)	4	20/02/2023	Birds of Ireland	
Custom	bird	Whooper Swan (Cygnus cygnus)	1	13/10/2019	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Winter Wren (Troglodytes troglodytes)	4	20/02/2023	Birds of Ireland	
Custom	conifer	Monkey-puzzle (Araucaria araucana)	1	17/04/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	conifer	Norway Spruce (Picea abies)	1	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	conifer	Scots Pine (Pinus sylvestris)	1	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	conifer	Yew (Taxus baccata)	2	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	crustacean	Asellus	3	09/09/2014	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	crustacean	Asellus aquaticus	1	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	crustacean	Crangonyx	1	09/09/2014	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	crustacean	Crangonyx pseudogracilis	1	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	crustacean	Gammarus	1	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	fern	Hard-fern (Blechnum spicant)	1	18/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	fern	Maidenhair Spleenwort (Asplenium trichomanes)	1	18/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	Flatworm (Turbellaria)	Arthurdendyus triangulatus	1	12/03/2009	New Zealand Flatworm (Arthurdendyus triangulates) Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species
Custom	flatworm (Turbellaria)	flatworms (Tricladida)	1	13/08/2008	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	flatworm (Turbellaria)	Planaria	2	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	flowering plant	Annual Meadow-grass (Poa annua)	1	31/07/1980	Species Data from the National Vegetation Database	
Custom	flowering plant	Ash (Fraxinus excelsior)	2	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Beech (Fagus sylvatica)	2	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Black Medick (Medicago lupulina)	2	10/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Bluebell (Hyacinthoides non-scripta)	4	16/04/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	Bramble (Rubus fruticosus agg.)	1	10/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Broad-leaved Dock (Rumex obtusifolius)	2	10/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Broom (Cytisus scoparius)	1	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Bulrush (Typha latifolia)	1	05/02/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Butterfly-bush (Buddleja davidii)	2	13/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	flowering plant	Carnation Sedge (Carex panicea)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Cherry Laurel (Prunus laurocerasus)	1	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species
Custom	flowering plant	Coltsfoot (Tussilago farfara)	1	13/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Columbine (Aquilegia vulgaris)	1	12/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Bird's-foot-trefoil (Lotus corniculatus)	2	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Common Couch (Elytrigia repens)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Common Knapweed (Centaurea nigra)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Common Mouse-ear (Cerastium fontanum)	2	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Common Nettle (Urtica dioica)	1	09/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Ragwort (Senecio jacobaea)	5	06/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Sorrel (Rumex acetosa)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Common Whitlowgrass (Erophila verna)	1	08/04/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Cow Parsley (Anthriscus sylvestris)	1	10/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Cowslip (Primula veris)	6	13/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Crab Apple (Malus sylvestris)	1	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Creeping Bent (Agrostis stolonifera)	3	21/09/2011	Species Data from the National Vegetation Database	

Custom	flowering plant	Creeping Buttercup (Ranunculus repens)	2	14/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Creeping Cinquefoil (Potentilla reptans)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Crested Dog's-tail (Cynosurus cristatus)	2	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Daisy (Bellis perennis)	1	12/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Fairy Flax (Linum catharticum)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Feverfew (Tanacetum parthenium)	1	06/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Field Forget-me-not (Myosotis arvensis)	1	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Foxglove (Digitalis purpurea)	1	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Germander Speedwell (Veronica chamaedrys)	1	10/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Glaucous Sedge (Carex flacca)	2	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Great Mullein (Verbascum thapsus)	1	14/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Ground-elder (Aegopodium podagraria)	1	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Groundsel (Senecio vulgaris)	2	08/04/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hard Rush (Juncus inflexus)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Hedge Bindweed (Calystegia sepium)	1	10/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hedge Woundwort (Stachys sylvatica)	1	03/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Herb-Robert (Geranium robertianum)	1	12/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hoary Willowherb (Epilobium parviflorum)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Holly (Ilex aquifolium)	2	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Honeysuckle (Lonicera periclymenum)	1	14/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Horse-chestnut (Aesculus hippocastanum)	2	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	Ivy (Hedera helix)	2	10/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Ivy-leaved Duckweed (Lemna trisulca)	1	13/08/2008	River Biologists' Database (EPA)	
Custom	flowering plant	Japanese Knotweed (Fallopia japonica)	9	13/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Custom	flowering plant	Jointed Rush (Juncus articulatus)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Large-flowered Evening-primrose (Oenothera glazioviana)	1	18/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Lesser Celandine (Ranunculus ficaria)	3	16/04/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Lesser Hawkbit (Leontodon saxatilis)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Lime (Tilia platyphyllos x cordata = T. x europaea)	1	31/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Lords-and-Ladies (Arum maculatum)	1	06/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Marsh-marigold (Caltha palustris)	1	12/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Meadow Buttercup (Ranunculus acris)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Nasturtium officinale agg.	1	01/08/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Oxeye Daisy (Leucanthemum vulgare)	1	12/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Papaver dubium	1	20/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Pedunculate Oak (Quercus robur)	1	18/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Perennial Rye-grass (Lolium perenne)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Pineappleweed (Matricaria discoidea)	1	18/09/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Primrose (Primula vulgaris)	2	25/04/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Purple-loosestrife (Lythrum salicaria)	1	03/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	Ragged-Robin (Lychnis flos-cuculi)	1	06/06/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Red Clover (Trifolium pratense)	4	12/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Red Fescue (Festuca rubra)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Reed Canary-grass (Phalaris arundinacea)	2	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Ribwort Plantain (Plantago lanceolata)	3	09/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Rough Meadow-grass (Poa trivialis)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Rowan (Sorbus aucuparia)	1	18/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Rue-leaved Saxifrage (Saxifraga tridactylites)	1	08/04/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Selfheal (Prunella vulgaris)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Shepherd's-purse (Capsella bursa-pastoris)	1	08/04/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Silver Birch (Betula pendula)	3	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Silverweed (Potentilla anserina)	2	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Smooth Sow-thistle (Sonchus oleraceus)	1	19/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Soft-rush (Juncus effusus)	1	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Spear Thistle (Cirsium vulgare)	1	14/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Sycamore (Acer pseudoplatanus)	2	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	flowering plant	Taraxacum aggregate	3	09/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Timothy (Phleum pratense)	2	21/09/2011	Species Data from the National Vegetation Database	
Custom	flowering plant	Traveller's-joy (Clematis vitalba)	1	31/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	flowering plant	Tufted Vetch (Vicia cracca)	1	13/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	White Clover (Trifolium repens)	3	14/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	White Dead-nettle (Lamium album)	1	09/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Wild Teasel (Dipsacus fullonum)	2	17/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Winter Heliotrope (Petasites fragrans)	9	05/02/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Yarrow (Achillea millefolium)	1	06/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Yellow Iris (Iris pseudacorus)	1	18/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Yellow Water-lily (Nuphar lutea)	1	13/08/2008	River Biologists' Database (EPA)	
Custom	flowering plant	Yorkshire-fog (Holcus lanatus)	2	21/09/2011	Species Data from the National Vegetation Database	
Custom	horsetail	Field Horsetail (Equisetum arvense)	3	12/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	insect - beetle (Coleoptera)	14-spot Ladybird (Propylea quattuordecimpunctata)	3	13/05/2023	Ladybirds of Ireland	
Custom	insect - beetle (Coleoptera)	2-spot Ladybird (Adalia bipunctata)	1	11/06/2014	Ladybirds of Ireland	
Custom	insect - beetle (Coleoptera)	7-spot Ladybird (Coccinella septempunctata)	3	06/06/2020	Ladybirds of Ireland	
Custom	insect - beetle (Coleoptera)	Dytiscidae	1	09/09/2014	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - beetle (Coleoptera)	Elmidae	1	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - beetle (Coleoptera)	Haliplidae	2	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - beetle (Coleoptera)	Thanatophilus dispar	1	04/08/1939	Carrion Beetles of Ireland	
Custom	insect - butterfly	Brimstone (Gonepteryx rhamni)	13	18/03/2023	Butterflies of Ireland post 2021	
Custom	insect - butterfly	Green-veined White (Pieris napi)	3	06/06/2021	Butterflies of Ireland pre-2022	
Custom	insect - butterfly	Holly Blue (Celastrina argiolus)	4	07/05/2017	Butterflies of Ireland pre-2022	
Custom	insect - butterfly	Large White (Pieris brassicae)	6	20/06/2020	Butterflies of Ireland pre-2022	
Custom	insect - butterfly	Meadow Brown (Maniola jurtina)	2	04/08/2020	Butterflies of Ireland pre-2022	
Custom	insect - butterfly	Orange-tip (Anthocharis cardamines)	11	10/05/2020	Butterflies of Ireland pre-2022	

Custom	insect - butterfly	Painted Lady (Vanessa cardui)	1	02/07/2019	Butterflies of Ireland pre-2022	
Custom	insect - butterfly	Peacock (Inachis io)	15	03/08/2020	Butterflies of Ireland pre-2022	
Custom	insect - butterfly	Red Admiral (Vanessa atalanta)	8	05/09/2020	Butterflies of Ireland pre-2022	
Custom	insect - butterfly	Small Heath (Coenonympha pamphilus)	1	16/07/2019	Butterflies of Ireland pre-2022	Threatened Species: Near threatened
Custom	insect - butterfly	Small Tortoiseshell (Aglais urticae)	19	07/09/2021	Butterflies of Ireland pre-2022	
Custom	insect - butterfly	Small White (Pieris rapae)	3	08/08/2019	Butterflies of Ireland pre-2022	
Custom	insect - butterfly	Speckled Wood (Pararge aegeria)	11	01/08/2020	Irish Butterfly Monitoring Scheme	
Custom	insect - caddis fly (Trichoptera)	Hydroptilidae	2	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - caddis fly (Trichoptera)	Limnephilidae	1	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - caddis fly (Trichoptera)	Sericostoma	1	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - hymenopteran	Bombus (Bombus) lucorum	3	09/08/2020	Bees of Ireland	
Custom	insect - hymenopteran	Bombus (Bombus) terrestris	1	03/04/2020	Bees of Ireland	
Custom	insect - hymenopteran	Bombus lucorum agg.	2	27/05/2020	Bees of Ireland	
Custom	insect - hymenopteran	Common Carder Bee (Bombus (Thoracombus) pascuorum)	4	20/06/2020	Bees of Ireland	
Custom	insect - hymenopteran	Early Bumble Bee (Bombus (Pyrobombus) pratorum)	2	19/03/2022	Bees of Ireland	
Custom	insect - hymenopteran	Honey Bee (Apis mellifera)	2	03/08/2020	Bees of Ireland	
Custom	insect - hymenopteran	Large Red Tailed Bumble Bee (Bombus (Melanobombus) lapidarius)	3	19/05/2020	Bees of Ireland	Threatened Species: Near threatened
Custom	insect - hymenopteran	Small Garden Bumble Bee (Bombus (Megabombus) hortorum)	2	27/05/2020	Bees of Ireland	

Custom	insect - mayfly (Ephemeroptera)	Baetis	2	28/06/2011	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - mayfly (Ephemeroptera)	Baetis rhodani	2	13/08/2008	River Biologists' Database (EPA)	
Custom	insect - mayfly (Ephemeroptera)	Caenis	2	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - mayfly (Ephemeroptera)	Green Drake (Ephemera danica)	2	31/12/1996	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - mayfly (Ephemeroptera)	Siphlonurus lacustris	1	31/12/1910	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - moth	Angle Shades (Phlogophora meticulosa)	2	15/09/2020	Moths Ireland	
Custom	insect - moth	Brown House-moth (Hofmannophila pseudospretella)	1	12/08/1986	Moths Ireland	
Custom	insect - moth	Cinnabar (Tyria jacobaeae)	4	16/06/2022	Moths Ireland	
Custom	insect - moth	Common Marbled Carpet (Chloroclysta truncata)	1	15/05/2020	Moths Ireland	
Custom	insect - moth	Eudonia mercurella	1	12/08/1986	Moths Ireland	
Custom	insect - moth	Herald (Scoliopteryx libatrix)	1	10/03/2012	Moths Ireland	
Custom	insect - moth	Six-spot Burnet (Zygaena filipendulae)	2	25/07/2021	Moths Ireland	
Custom	insect - moth	White-shouldered House-moth (Endrosis sarcitrella)	1	12/08/1986	Moths Ireland	
Custom	insect - true bug (Hemiptera)	Aphelocheirus (Aphelocheirus) aestivalis	4	09/09/2014	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - true bug (Hemiptera)	Corixidae	3	09/09/2014	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - true fly (Diptera)	Ceratopogonidae	1	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - true fly (Diptera)	Chironomidae	4	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	

Custom	insect - true fly (Diptera)	Chironomus	1	13/08/2008	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	mollusc	Ancylus fluviatilis	1	09/09/2014	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	mollusc	Bithynia	3	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	mollusc	Common Bithynia (Bithynia (Bithynia) tentaculata)	1	04/08/1990	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Freshwater Nerite (Theodoxus (Theodoxus) fluviatilis)	1	04/08/1990	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Great Pond Snail (Lymnaea (Lymnaea) stagnalis)	2	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	mollusc	Hairy Snail (Trochulus (Trochulus) hispidus)	1	04/08/1990	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Heath Snail (Helicella itala)	1	04/08/1990	All Ireland Non-Marine Molluscan Database	Threatened Species: Vulnerable
Custom	mollusc	Jenkins' Spire Snail (Potamopyrgus antipodarum)	1	04/08/1990	All Ireland Non-Marine Molluscan Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	mollusc	Keeled Ramshorn (Planorbis carinatus)	1	04/08/1990	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Leach's Bithynia (Bithynia (Codiella) leachii)	1	04/08/1990	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Lymnaea (Stagnicola)	1	04/08/1990	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Margined Ramshorn (Planorbis planorbis)	1	04/08/1990	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Planorbis	2	28/06/2011	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	mollusc	Short-ended Pea Mussel (Pisidium subtruncatum)	1	04/08/1990	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Strawberry Snail (Trochulus (Trochulus) striolatus)	1	04/08/1990	All Ireland Non-Marine Molluscan Database	

Custom	mollusc	Theodoxus	1	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	mollusc	Valve Snail (Valvata (Cincinna) piscinalis)	1	04/08/1990	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Wandering Snail (Radix balthica)	5	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	mollusc	White-lipped Ramshorn (Anisus (Anisus) leucostoma)	1	04/08/1990	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Wrinkled Snail (Candidula intersecta)	1	04/08/1990	All Ireland Non-Marine Molluscan Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	mollusc	Zebra Mussel (Dreissena (Dreissena) polymorpha)	4	25/07/2017	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Custom	moss	Greater Water-moss (Fontinalis antipyretica)	1	13/08/2008	River Biologists' Database (EPA)	
Custom	terrestrial mammal	Daubenton's Bat (Myotis daubentonii)	7	24/08/2006	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Custom	terrestrial mammal	Eastern Grey Squirrel (Sciurus carolinensis)	1	31/12/2012	Irish Squirrel Survey 2012	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Custom	terrestrial mammal	Eurasian Pygmy Shrew (Sorex minutus)	1	31/05/2016	Mammals of Ireland 2016-2025	Protected Species: Wildlife Acts

Custom	terrestrial mammal	European Otter (Lutra lutra)	1	13/01/1980	Otter Survey of Ireland 1982	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Custom	terrestrial mammal	West European Hedgehog (Erinaceus europaeus)	6	11/09/2021	Hedgehogs of Ireland	Protected Species: Wildlife Acts