Newcastle LRD, Limerick

Natura Impact Statement

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Contract

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This report describes work commissioned by Genesis Planning Consultants by an instruction dated 8 November 2024. The Client's representative for the contract was Ronan Woods of Genesis Planning Consultants. Olly Lynch Milner (BSc, MSc) and Mia Heigh (BSc) of JBA Consulting carried out this work.

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Abbreviations

AA	Appropriate Assessment
CIEEM	Chartered Institute of Ecology and Environmental Management
CJEU	Court of Justice of the European Union
DEHLG	Department of the Environment, Heritage and Local Government
EC	European Community
EPA	Environmental Protection Agency
EU	European Union
GSI	Geological Survey of Ireland
IROPI	Imperative Reasons of Overriding Public Interest
NBDC	National Biodiversity Data Centre
NIS	Natura Impact Statement
NPWS	National Parks and Wildlife Services
OPR	Office of the Planning Regulator
QI	Qualifying Interest
SAC	Special Area of Conservation
SCI	Special Conservation Interest
SPA	Special Protection Area
S-P-R	Source-Pathway-Receptor
WFD	Water Framework Directive
ZoI	Zone of Influence

1 Introduction

1.1 Background

JBA Consulting Engineers and Scientists Ltd (hereafter JBA) has been commissioned by Genesis Planning Consultants to undertake a Natura Impact Statement in relation to the proposed residential development at Newcastle, Co. Limerick. The proposed development site is adjacent to Monaleen Road and the Dublin Road.

. It has been prepared in accordance with Article 6(3) of the Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora). A Screening for Appropriate Assessment (AA) for the proposed development has been carried out (JBA, 2025). The assessment concluded that potential likely significant effects from the proposed development may negatively affect local Natura 2000 sites, notably the Lower River Shannon SAC.

The Zone of Influence (ZoI) within which potential impacts from any proposed project must be considered for significance, depends on a variety of factors. This includes the nature, location and extent of the proposed works, the ecological receptors present within the Natura 2000 sites within the area and the potential for in- combination impacts (DEHLG, 2009).

1.2 Legislative Context

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (1992), the 'Habitats Directive' - provides legal protection for habitats and species of European importance. Article 2 of the Directive requires the maintenance or restoration of habitats and species of European Community interest, at a favourable conservation status. Articles 3 - 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000 sites. Natura 2000 sites are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated Directive 2009/147/EC of the European Parliament and of the Council on the Conservation of Wild Birds (2009).

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans or projects affecting Natura 2000 sites.

Article 6(3) establishes the requirement for Appropriate Assessment:

"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."

Article 6(4) deals with the steps that should be taken when it is determined, as a result of Appropriate Assessment, that a plan/project will adversely affect a European site. Issues dealing with alternative solutions, imperative reasons of overriding public interest and compensatory measures need to be addressed in this case.

Article 6(4) states:

"If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and / or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission to other imperative reasons of overriding public interest."

The requirements of Articles 6(3) and 6(4) of the Habitats Directive have been transposed into Irish legislation by means of inter alia the European Communities (Birds and Natural Habitats) Regulations 2011-2015 (S.I. No. 477 / 2011) as amended.

1.3 Appropriate Assessment Process

Guidance on the Appropriate Assessment (AA) process was produced by the European Commission in 2002, which was subsequently developed into guidance specifically for Ireland by the Department of Environment, Heritage and Local Government (DEHLG 2010). Office of the Planning Regulator (OPR) produced a Practice Note in 2021, PN01 - Appropriate Assessment Screening for Development Management (OPR 2021). These guidance documents identify a staged approach to conducting an AA, as shown Figure 1-1.

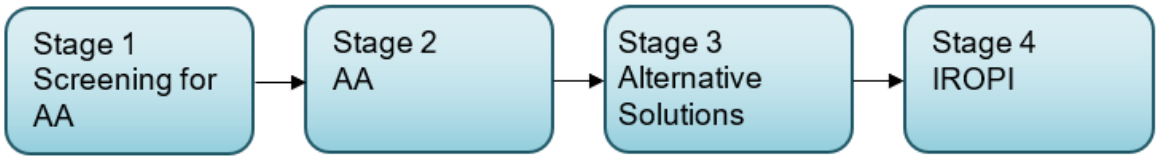


Figure 1-1: The Appropriate Assessment Process (DEHLG, 2010)

1.3.1 Stage 1 - Screening for AA

The initial screening stage of the Appropriate Assessment is to determine:

- Whether the proposed plan or project is directly connected with or necessary for the management of the European designated site for nature conservation (Natura 2000 site)
- If it is likely to have a significant effect on the European designated site, either individually or in combination with other plans or projects.

For those sites where, potential likely significant effects are identified, either alone or in combination with other plans or projects, further assessment is necessary to determine if the proposals will have an adverse impact on the integrity of a European designated site, in view of the site's conservation objectives (i.e., the process proceeds to Stage 2).

1.3.2 Stage 2 - AA

This stage requires a more in-depth evaluation of the plan or project, and the potential direct and indirect impacts of them on the integrity and interest features of the European designated site(s), alone and in-combination with other plans and projects, taking into account the site's conservation objectives. Where required, mitigation or avoidance measures will be suggested.

The competent authority can only agree to the plan or project after having ascertained that it will not adversely affect the integrity of the site(s) concerned. If this cannot be determined, and where mitigation cannot be achieved, then alternative solutions will need to be considered (i.e., the process proceeds to Stage 3).

1.3.3 Stage 3 - Alternative Solutions

Where adverse impacts on the integrity of Natura 2000 sites are identified, and mitigation cannot be satisfactorily implemented, alternative ways of achieving the objectives of the plan or project that avoid adverse impacts need to be considered. If none can be found, the process proceeds to Stage 4.

1.3.4 Stage 4 - IROPI

Where adverse impacts of a plan or project on the integrity of Natura 2000 sites are identified and no alternative solutions exist, the plan will only be allowed to progress if imperative reasons of overriding public interest (IROPI) can be demonstrated. In this case compensatory measures will be required.

The process only proceeds through each of the four stages for certain plans or projects. For example, for a plan or project, not connected with management of a site, but where no likely significant impacts are identified, the process stops at stage 1. Throughout the process, the precautionary principle must be applied, so that any uncertainties do not result in adverse impacts on a site.

This report is in support of a Stage 1 Screening for Appropriate Assessment.

1.3.5 Court of Justice of the European Onion (CJEU) Rulings

The CJEU issued a ruling on the consideration of avoidance and reduction measures as a result of the case known as *People over Wind, Peter Sweetman v Coillte Teoranta (C-323/17)* (2018). This judgement stated that measures intended to reduce or avoid effects on a European site should only be considered within the framework of an AA, and it is not permissible to take into account such measures at the screening stage. In practice, this means that any activities that are not integral to the project (i.e. the project could conceivably take place without them) and have the effect of avoiding or reducing an impact on a European site, cannot be considered at the screening stage.

More recently, the decision of the CJEU *Eco Advocacy CLG Case (C-721/21)* (2023), delivered in June 2023, found that Article 6(3) of the Habitats Directive must be interpreted as meaning that:

"*in order to determine whether it is necessary to carry out an appropriate assessment of the implications of a plan or project for a site, account may be taken of the features of that plan or*

project which involve the removal of contaminants and which therefore may have the effect of reducing the harmful effects of the plan or project on that site, where those features have been incorporated into that plan or project as standard features, inherent in such a plan or project, irrespective of any effect on the site." (Para. 53(3) of the Judgement).

This recent judgement therefore clarifies that features which have been incorporated into a project as standard features, inherent in that project, and irrespective of any effect on any European site may be taken into account for the purposes of a Stage 1 Screening for Appropriate Assessment under Article 6(3) of the directive.

The CJEU ruling in *Grace & Sweetman (C-164/17)* (2018) clarified the difference between avoidance and reduction (mitigation) measures and compensation. Measures intended to compensate for the negative effects of a project cannot be taken into account in the assessment of the implications of a project and instead are considered under Article 6(4). This means that any project where an effect on the integrity of a Natura 2000 site remains and can only be offset by compensation, would need to proceed under Article 6(4), demonstrating "imperative reasons of overriding public interest".

The CJEU ruling in the case of *Holohan v An Bord Pleanála (C-461/17)* (2018) also clarified the importance in Appropriate Assessment of taking into account habitat types and species outside the boundary of the Natura 2000 site where implications of the impacts on those habitat and species may impact the conservation objectives of the Natura 2000 site. In this assessment functionally linked and supporting habitat for species outside of Natura 2000 sites are assessed where they could potentially impact the conservation objectives of any Natura 2000 sites within the Zone of Influence (ZoI).

The CJEU ruling in response to questions referred by the Irish High Court in the *Eco Advocacy CLG Case (C-721/21)* (2023) indicated that an applicant for permission in its AA screening report/and a decision maker in undertaking its AA screening can take into account "standard features", i.e. all the constituent elements of that project inherent in it/elements that are incorporated into a projects design not with the aim of reducing its negative effects (even where these have the effect of reducing harmful effects on a European site).

1.4 Methodology

The Screening for Appropriate Assessment has been prepared with regards to the Birds and Habitats Directives, the European Communities (Birds and Natural Habitats) Regulations 2011-15 as amended and relevant jurisprudence of the EU and Irish courts. The following documents have also been used to provide guidance for the assessment:

- DEHLG (2009 rev 2010) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government (DEHLG 2010);
- Office of the Planning Regulator (2021) OPR Practice Note PN01 - Appropriate Assessment Screening for Development Management (OPR 2021);
- European Communities (EC) (2019) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (European Commission 2019);

- EC (2021/ C 437/01) Commission notice Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC ;
- EC (2022) Guidance document on assessment of plans and projects in relation to Natura 2000 sites - A summary (European Commission 2022);
- EC (2021) Guidance document on the strict protection of species of Community interest under the Habitats Directive 92/43/EEC; and
- CIEEM (2024). Guidelines for Ecological Impact Assessment in the UK and Ireland - Terrestrial, Freshwater and Coastal, Second Ed.

1.4.1 Desktop Study

A desktop study was conducted of available published and unpublished information, along with a review of data available on the National Parks and Wildlife Service (NPWS) and National Biodiversity Data Centre (NBDC) web-based databases, to identify key habitats and species, including legally protected and species of conservation concern, that may be present within ecologically relevant distances from the project as explained below, A baseline habitat assessment was performed using satellite imagery of the site. The data sources below were consulted for the desktop study:

- Aerial photography available from www.osi.ie and ESRI World Imagery.
- NPWS website (www.npws.ie) where Natura 2000 site synopses, data forms and conservation objectives were obtained along with Annex I habitat distribution data and status reports.
- Catchment data (www.catchments.ie)
- NBDC Biodiversity Maps (maps.biodiversityireland.ie)
- Environmental Protection Agency Maps (https://gis.epa.ie/EPAMaps)
- Geological Survey Ireland (GSI) website (www.gsi.ie)
- GSI - Groundwater data viewer (https://dcenr.maps.arcgis.com)
- BSBI Plant Records (bsbi.org/maps)
- Planning Applications (myplan.ie)

1.4.2 Site Surveys

A general ecological walkover survey was carried out on 04 March 2025.

The ecological walkover survey recorded habitats and protected species, following the methods outlined in the documents below:

- Heritage Council (2011). Best Practice Guidance for Habitat Survey and Mapping (Smith et al. 2011).
- Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes (NRA 2009).
- Bat Surveys for professional Ecologists: Good Practice Guidelines (4th Edition). Bat Conservation Trust (Collins 2024).

Aerial photographs and site maps assisted the survey. Habitats have been named and described following Fossitt (2000). Nomenclature for higher plants follows that given in The New

Flora of the British Isles 4th Edition (Stace 2019). Identification of Irish plants generally follows Webb's An Irish Flora (Parnell and Curtis 2012).

1.4.3 Assessment Criteria

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of qualifying interest. The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. Upon the conclusion of the AA, the competent authority may grant consent to the plan or project only after having ascertained that it will not adversely affect the integrity of the Natura 2000 site(s) concerned.

This screening assessment uses the source-pathway-receptor (S-P-R) model as outlined in guidance (OPR, 2021). Using the source-pathway-receptor model allows for the potential significant effects to be eliminated if no viable source, pathway, or receptor is present.

The S-P-R method uses an examination of the construction methods or project description to allow sources of impact to be determined. This also allows a zone of influence (ZoI) for the project to be generated based on the size, scale and nature of the works involved. The pathways for impact are also analysed to see if a functional pathway for impact is present. This report analyses three pathways: surface water, groundwater and land. Using information gathered from desk sources (e.g. mapped qualifying interests from the Conservation Objectives for the site) and from field surveys, receptors within the ZoI are identified. In some cases, sensitive receptors may also play a role in determining the ZoI. If any of the three parts to the model are not present (source-pathway-receptor) the potential for a likely significant effect from the project on the Natura 2000 network can be discounted.

1.4.4 The Zone of Influence

The ZoI was used to identify Natura 2000 sites that could be impacted by the project. For each of these sites, the QI/SCI features and their associated conservation objectives were identified, and the possibility of likely significant effect was determined by a combination of location, ecological and hydrological connectivity, sensitivity of receptor and magnitude of the source of impact.

1.4.5 The Adverse Effect on Site Integrity Test

An assessment of whether there could be an adverse effect on site integrity is done using the source-pathway-receptor model which is used to determine the risk of impact to a site or Qualifying Interests (OPR, 2021). Risk is the likelihood or expected frequency of a specified adverse consequence or impact.

Applied to the proposed Scheme, it expresses the likelihood of an adverse impact arising because of the Scheme activities. A hazard presents a risk when it is likely to affect something of value (i.e. the Natura 2000 sites and their QIs / SCIs). It is the combination of the probability of the hazard occurring and its consequences that is the basis of a risk assessment which an NIS essentially is:

Risk = probability of an event x consequential damage

The source-pathway-receptor model is a useful tool to determine if a risk is present, and to help quantify the risk to see if the threshold of an adverse effect on site integrity is reached. For a risk to be present, all three elements must be present.

Source: The source considered in this NIS is the proposed works or activity that will occur as a result of the proposed Scheme. Key considerations in assessing the source are the nature and scale of the potential impacts that may arise, e.g. type of contaminants that may arise, the contaminant loading and other physical attributes. The point of occurrence is a critical reference point for assessing the attributes of the source of any potential adverse impacts.

Pathway: Pathways are established by surface water, ground water, and land and air connections. The pathway includes everything between the source and the receptor; from point of release of potential adverse impacts, such as contaminants, to the receptor. The location, nature, connectivity and extent of wells, groundwater dependent ecosystems, aquifers and faults can all influence the nature of a pathway. Rivers, streams and drainage ditches could all act as potential pathways for potential waterborne impacts. The pathway includes assessment of surface and groundwater bodies, and WFD status may be reviewed as relevant. Land and air pathways to be considered include those that may transfer direct physical impacts, noise and visual disturbance (vibrations) and dust or other airborne particles.

Receptor: The receptor is the QI / SCI features of the relevant Natura 2000 sites, their Site-Specific Conservation Objectives (SSCOs) and the overall integrity of the Natura 2000 sites. To determine the significance of potential adverse impacts on the integrity of the Natura 2000 site, the SSCOs of each site are assessed relative to the potential impacts that may occur because of the proposed works. The conservation objectives are the fundamental unit on which the assessment is based. If the project were to undermine or make these objectives more difficult to achieve, the conservation status of the QI / SCI features becomes harder to achieve, and the quality and condition of the site will be reduced, reducing the 'integrity' of the Natura 2000 site. Each Natura 2000 site will either have specific or generic conservation objectives.

The overall aim of SSCOs is to maintain or restore the favourable conservation conditions of the Annex I habitats and/or the Annex II species for which a Natura 2000 site has been selected, under which the site-specific objectives contain more detailed attributes, measures and targets.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing;
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and

- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

The conservation objectives for SPAs are also to maintain or restore the favourable conservation condition of the bird species listed as SCIs for SPAs, which are defined by the following list of attributes and targets:

- Population trend: Measure of percentage change and whether the long-term population trend is stable or increasing; and
- Distribution: Number, range, timing and intensity of use of areas. There is to be no significant decrease in the range, timing or intensity of use of areas by specific or generic bird species, other than that occurring from natural patterns of variation.

The conservation objectives for non-breeding birds SCIs for SPAs are as follows:

- To maintain the favourable conservation condition of the non-breeding water bird Special Conservation Interest species listed for a SPA; and
- To maintain the favourable conservation condition of the wetland habitat for a SPA as a resource for the regularly occurring migratory water birds that utilise it.

Site integrity is assessed on the basis of each conservation objective of each qualifying interest feature. Should any conservation objective be undermined by the proposed Scheme, the site integrity will therefore be adversely affected. Low-impact effects that are too small or short-lived to undermine the achievements of the conservation objectives are therefore not likely to adversely affect the site integrity.

1.4.6 In-Combination Effects

In relation to the assessment of potential of in-combination effects, where there is no effect at all via a pathway, there is no possibility of in-combination effects. Where potential likely significant effects are identified, the in-combination assessment is carried forwards to a Stage 2 Appropriate Assessment.

1.5 Competent Persons

The assessment was prepared by Olly Lynch Milner BSc (Hons), MSc. Olly is an Assistant Ecologist with JBA Consulting and has one years' experience in ecological consultancy.

The assessment has been reviewed by Dominic Tilley BSc MSc PhD. Dominic is Senior Ecologist with JBA Consulting, with over 10 years' post graduate experience and with three years in ecological consultancy.

1.6 Limitations and Constraints

This NIS is based on ecological site surveys and existing data from the above-mentioned sources. The assessment necessarily relies on some assumptions and is inevitably subject to some limitations as detailed below. These do not affect the conclusion, but the following points are recorded in order to ensure the basis of the assessment is clear:

- The precautionary principle is utilised when determining potential ecological sensitivities within the proposed projects Zone of Influence (ZoI).

- Information on the works and conditions on site are based on the current knowledge at the time of writing. Changes to the site since this report was drafted cannot be accounted for. However, significant changes to the site are not foreseen to happen prior to the start of the project.
- This assessment is based on methodology for proposed works as described in this report. Where changes to methodology occur, an ecologist will need to be consulted to determine if the changes are likely to alter the ecological impacts and would therefore need reassessment.
- Data from biological record centres or online databases is historical information, datasets may be incomplete, inaccurate or missing. The absence of records for an area may be due to the under recording in the area and not necessarily imply the absence of species. These records are therefore to be treated as minimum information available for the area.
  Site surveys were undertaken during suboptimal period for habitats and flora surveys (March 2025). Hence numbers/species recorded may not be representative of activity or diversity during the optimal surveying period (April to September inclusive). While the site visit was sub-optimal for habitat classification, plants were identified vegetatively, and indicators of quality were noted in order to make the assessment of value.
- The NIS addresses issues around European designated sites and does not exempt works from responsibilities related to habitats and species covered under separate national legislation.

2 Project Description

2.1 The Project

The proposed project involves a Large-scale Residential Development (LRD) at Newcastle, Co. Limerick. The proposed project is not directly connected with, or necessary to the management of any Natura 2000 site and there is the potential for likely significant effects upon the Natura 2000 sites identified in Section 4. Therefore, the proposed project is subject to the requirements of the AA process.

2.2 Site Location

The proposed project site is located in Newcastle, Co. Limerick (Figure 2-1). It is abounded by Monaleen Road to the East, Castletroy Golf Course to the South, and the Dublin Road (R445) to the North and a housing estate to the West. The site currently is predominantly improved agricultural grasslands and is zoned New Residential.

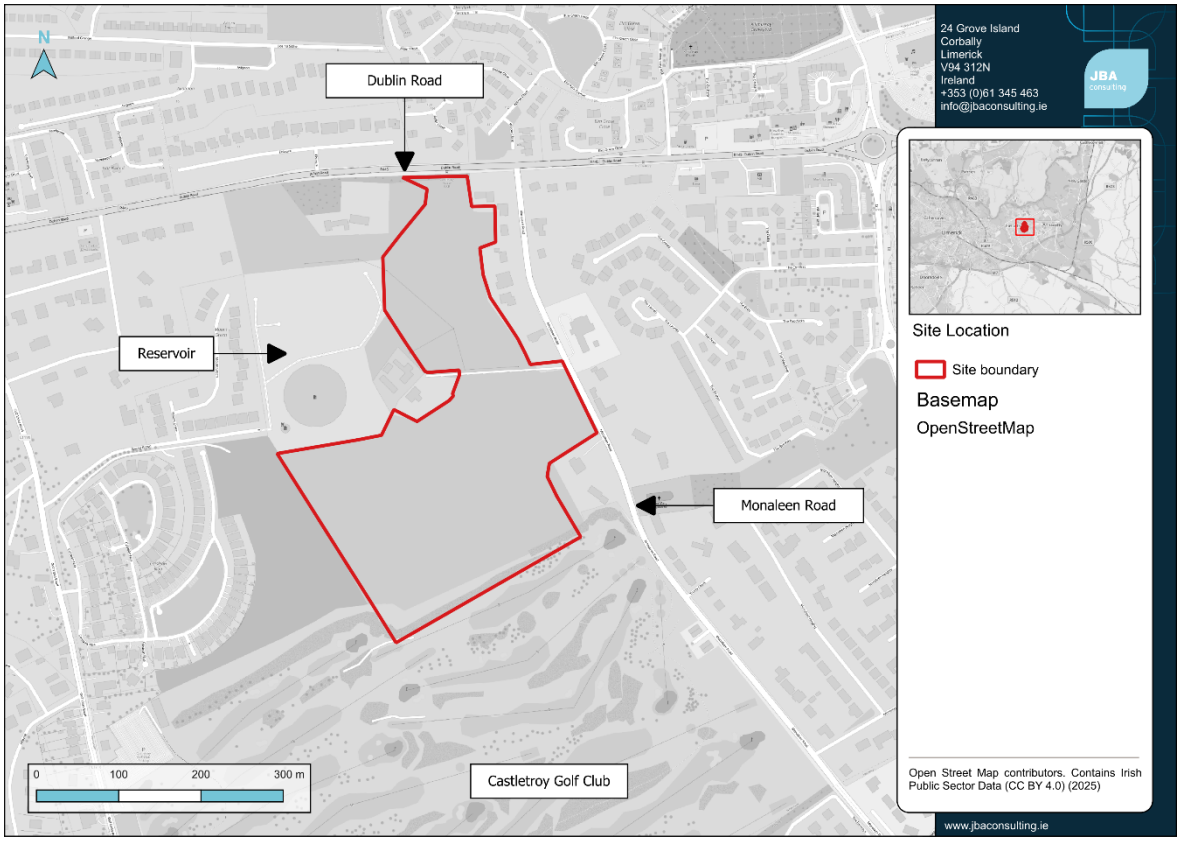


Figure 2-1: Site Location

2.3 Proposed Works

The development will consist of the provision of approximately 504 housing units of a variety of types, with associated site ancillary and landscaping works. Draft site layout is presented in Appendix A.

2.4 Zone of Influence

The Zone of Influence is considered using the Source-Pathway-Receptor model, therefore only designated sites that are connected to the project site are recorded and assessed. This zone of influence uses the precautionary principle, as the work is primarily anticipated to only impact the footprint of the site.

Connections are assessed for impacts relating to noise disturbance (500m) (Cutts et al. 2013), air pollution (emissions and dust) (250m), and any supporting habitats for SAC/SPA species beyond this distance that may have QI species that utilise the site. The ZoI for air pollution was considered as per the Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction (IAQM 2024), including ex-situ habitats used by QI Species associated with local Natura 2000 sites.

The project will primarily affect the site only, but a wider area of influence is used for impacts relating to the following:

- Surface water – any downstream hydrological connections to Natura 2000 site(s);
- Groundwater - determined by the underlying aquifer - 300 m considering groundwater conditions;
- Air (disturbance) - noise disturbance to supporting ex-situ habitat(s) of QI and/or SCI species within or adjacent to the site (500m);
- Air (emissions and dust) - air pollution (250m) using IAQM guidance and the precautionary principle; and
- Land – physical disturbance to supporting ex-situ habitat(s) of QI and/or SCI species within or adjacent to the site.

As the surface water and groundwater bodies are intrinsically linked, a ZoI of 10 km for Natura 2000 sites will be considered and/or any Natura 2000 sites that may be hydrologically connected further than this 10 km radius.

This large-scale project is large is located in an urbanised area, with the nearest surface waterbodies being approximately 1 km away, meaning the urban area likely acts a significant barrier to the generation of impacts on the Natura 2000 sites. However, significant effects through groundwater pathways cannot be excluded and therefore mitigation measures to protect groundwater are required.

2.5 AA Screening Summary and Conclusion

2.5.1 Project impacts on Natura 2000 sites.

Table 2-1presents a summary of the elements of the Project that are relevant for ecology.

Table 2-1: Description of likely impacts of the project on the Natura 2000 sites

Project Elements	Comment
Size and scale	The proposed project is an LRD of 504 houses and associated amenities, developed over an area of 9.7ha located along Monaleen Road, Newcastle, Limerick.

Project Elements	Comment		
Land-take	There will be no direct land take from any Natura 2000 sites.		
Distance from Natura 2000 sites or key features of the site	**Natura 2000 site**	**Approximate direct distance**	**Approximate hydrological distance**
	Lower River Shannon SAC	900m	900m
Resource requirements (water abstraction etc.)	There will be no surface water nor groundwater abstraction on-site during operations. Excavations and infill will be required.		
Emissions (disposal to land, water or air)	**Construction Phase:** **Water** Wastewater will be treated on site before disposal to the foul water network. There is a potential for groundwater pollution through excavations and removal of topsoil. **Air** There will be a localised increase in emissions from construction vehicles. There will be an increase in dust emissions from the site. **Operation Phase:** **Water** SuDS and foulwater networks to be connected to be implemented. **Air** Localised increase in traffic.		
Excavation requirements	The maximum depth of excavations will be 3m		
Transportation requirements	**Temporary Impacts:** Levels of traffic to the site during the construction and operational phase will increase **Permanent Impacts:** Localised increase in traffic; development of active travel networks.		
Duration of construction, operation, decommissioning etc.	The planning permission is for 10 years. Operation is to be permanent, and no decommissioning is anticipated.		

2.5.2 Changes to Natura 2000 sites

Table 2-2 presents a summary of the likely changes to Natura 2000 sites as a result of the proposed development.

Table 2-2: Description of likely changes to the Natura 2000 sites

Potential Impact	Comments
Reduction of habitat area	There will be no temporary or permanent reduction in habitat area of the Lower River Shannon SAC.

Potential Impact	Comments
Disturbance to key species	**Temporary Impacts** There will be no disturbance to QIs of the Lower River Shannon SAC. **Permanent Impacts** There will be no disturbance to QIs of the Lower River Shannon SAC.
Habitat or species fragmentation	There will be no temporary or permanent habitat or species fragmentation within the Lower River Shannon SAC.
Reduction in species density	There will be no temporary or permanent reduction in species density within the Lower River Shannon SAC.
Changes in key indicators of conservation value (water quality etc.)	There is potential for water pollution to occur during the construction phase which would lead to a deterioration of water quality. There is potential for temporary and/or long-term changes in key indicators of conservation value for the Lower River Shannon SAC.
Climate change	There will be a localised increase in number of vehicles meaning an increase in emissions.

2.5.3 Overall Impacts to Natura 2000 Sites

Table 2-3 presents a summary of the likely impacts on Natura 2000 sites as a result of the proposed development.

Table 2-3: Description of likely impacts on the Natura 2000 sites as a whole

Potential Impact	Comments
Interference with the key relationships that define the structure of the site	Interference with the key relationships that define the structure of the Lower River Shannon SAC are not anticipated.
Interference with key relationships that define the function of the site	Interference with the key relationships that define the structure of the Lower River Shannon SAC are not anticipated.

2.5.4 Significance of Effects

Table 2-4 presents a summary of the likely significance of the impacts of the proposed development on the Natura 2000 sites.

Table 2-4: Indication of significance of impacts.

Potential Impact	Indicators
Loss (Estimated percentage of lost area of habitat)	No direct loss in habitat area to Lower River Shannon SAC.
Fragmentation	No fragmentation of habitat and/or species of the Lower River Shannon SAC.
Disruption & disturbance	No disruption and/ or disturbance to QI / SCI species of the Lower River Shannon SAC.

Potential Impact	Indicators
Change to key elements of the site (e.g., water quality etc.)	Groundwater quality may be reduced through construction leading to impacts on the Lower River Shannon SAC.

2.5.5 Unknown Impacts

Based upon best scientific judgement, no significant effects are expected from the elements mentioned above; and there are no elements where the scale or magnitude of impacts is unknown.

2.6 Concluding Statement

In carrying out the AA screening, mitigation measures have not been taken into account. Following this initial screening of the proposed project, it can be concluded that significant impacts are anticipated via the groundwater pathway on the following Natura 2000 site:

- Lower River Shannon SAC

Given the anticipated impacts on the above Natura 2000 site as a result of the proposed development, this report declares that this proposed project must progress to next stage, Stage 2: Appropriate Assessment / Natura Impact Statement (NIS), so that mitigation measures may be outlined and incorporated into the proposed construction works, in order to safeguard the integrity of the Natura 2000 site from any adverse significant effect via the source receptor-pathways highlighted in this report

3 Natura 2000 Sites

This section provides baseline information on the Natura 2000 sites within the Zone of Influence of the proposed works using the source-pathway-receptor model. A short description of the Natura 2000 sites is provided, along with details of the QIs and SCIs, their respective site-specific conservation objectives, and the attributes used to define favourable conservation status and site vulnerabilities.

These European Natura 2000 sites are shown in Table 3-1 and mapped in Figure 3-1 below. The Natura 2000 site descriptions, QIs/ SCIs, respective project-relevant threats/pressures for the sites and Conservation Objectives are also discussed.

Table 3-1: Natura 2000 sites within the ZoI of the proposed site

Site Name	Code	Direct Distance	Indirect hydrological Connection/Distance
Lower River Shannon SAC	002165	907 m	907 metres through a groundwater pathway
River Shannon and River Fergus Estuaries SPA	004077	4.7 km	10.4 km through a groundwater pathway to the River Shannon and then a surface water connection from here to SPA.

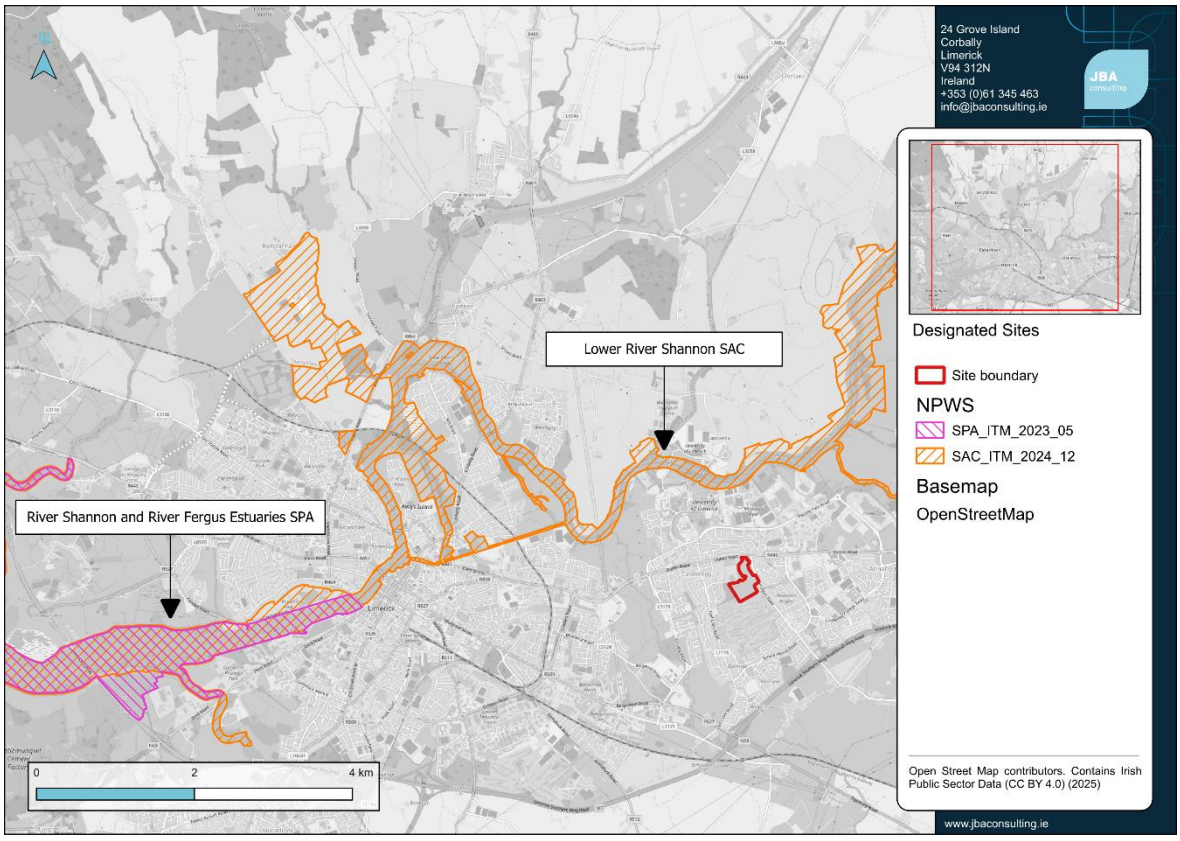


Figure 3-1: Retained Natura 2000 sites.

Of these Natura 2000 sites, the Lower River Shannon SAC has been screened into the NIS due to potential impacts via a groundwater pathway.

River Shannon and River Fergus Estuaries SPA has been screened out as during the AA screening it was determined that likely significant effects are not anticipated.

3.1 Lower River Shannon SAC 002165

3.1.1 Site synopsis

This SAC is Ireland's largest estuarine complex, formed by the Shannon and Fergus Estuaries. It encompasses a range of habitats including intertidal mudflats, sandbanks, alluvial woodlands, and lagoons, supporting a wide range of flora and fauna. The site is notable for its extensive reedbeds, rare plant species like Triangular Club-rush, and significant populations of wintering waterfowl, including Whooper Swan and Golden Plover. It also provides critical habitat for protected species such as the Freshwater Pearl Mussel, Atlantic Salmon, Otter, and Bottle-nosed Dolphin. The SAC is designated for its unique habitats and species, reflecting its importance for biodiversity conservation in Ireland (NPWS 2013).

The site is designated for:

- Sandbanks which are slightly covered by sea water all the time [1110]
- Estuaries [1130]
- Mudflats and sandflats not covered by seawater at low tide [1140]
- Coastal lagoons [1150]
- Large shallow inlets and bays [1160]
- Reefs [1170]
- Perennial vegetation of stony banks [1220]
- Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]
- Salicornia and other annuals colonising mud and sand [1310]
- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]
- Mediterranean salt meadows (*Juncetalia maritimi*) [1410]
- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]
- Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410]
- Alluvial forests with Alnus glutinosa and Fraxinus excelsior (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0]
- Freshwater Pearl Mussel *Margaritifera margaritifera* [1029]
- Sea Lamprey *Petromyzon marinus* [1095]
- Brook Lamprey *Lampetra planeri* [1096]
- River Lamprey *Lampetra fluviatilis* [1099]
- Salmon *Salmo salar* [1106]
- Common Bottlenose Dolphin *Tursiops truncatus* [1349]
- Otter *Lutra lutra* [1355]

For each of the designated habitats occurring in the SAC, the Conservation Objectives are to maintain their favourable conservation condition. This is generally defined maintaining stable or increasing permanent habitat area and preserving associated species compositions.

For each of the designated species occurring in the SAC, the Conservation Objectives are to restore their favourable conservation condition. This is generally defined maintaining stable or increasing populations and distribution.

Full details are presented in the Conservation Objectives and supporting documentation (NPWS 2012a, 2012b).

3.1.2 Site Vulnerability (Threats and Pressures)

Threats, pressures and activities with negative impacts on the SCIs of the Lower River Shannon SAC Discharges, Invasive non-native species, Urbanised areas, human habitation, Air pollution, air-borne pollutants (EEA 2024).

Table 3-2: Relevant threats and pressures and negative impacts on the SCIs of the Lower River Shannon SAC

Threats and Pressures	Rank
Air pollution, air-borne pollutants	Medium
Discharges	Medium
Urbanised areas, human habitation	Medium
Invasive non-native species	Low
Nautical sports	Low
Paths, tracks, cycling tracks	Low

4 Existing Environment

4.1 Baseline Conditions

An ecological walkover survey was conducted for this site on 4 March 2025. This walkover survey was largely to record the Fossitt habitats on site, and any other ecological features of concern, such as protected bird, mammal and/or plant species.

4.2 Habitats

Based on satellite imagery and confirmed by site visits; the site was primarily composed of agricultural grassland with low ecological value. However, there were some features with greater ecological value present, namely the treelines, scrub areas, and adjacent small woodland areas.

No EU Habitats Directive Annex I habitats and no ex-situ habitats for QIs of nearby Natura 2000 sites were found to be present within the site. The list of habitats observed are presented in Table 4-1 and are mapped in Figure 4-1.

Table 4-1: List of habitats recorded within and around the proposed project area

Habitat	Fossitt	Annex I link?
Buildings and artificial surfaces	BL3	None
Recolonising bare ground	ED3	None
Improved agricultural grassland	GA1	None
Hedgerow	WL1	None
Treelines	WL2	None
Scrub	WS1	None
Scrub/Treeline mosaic	WS1, WL2	None

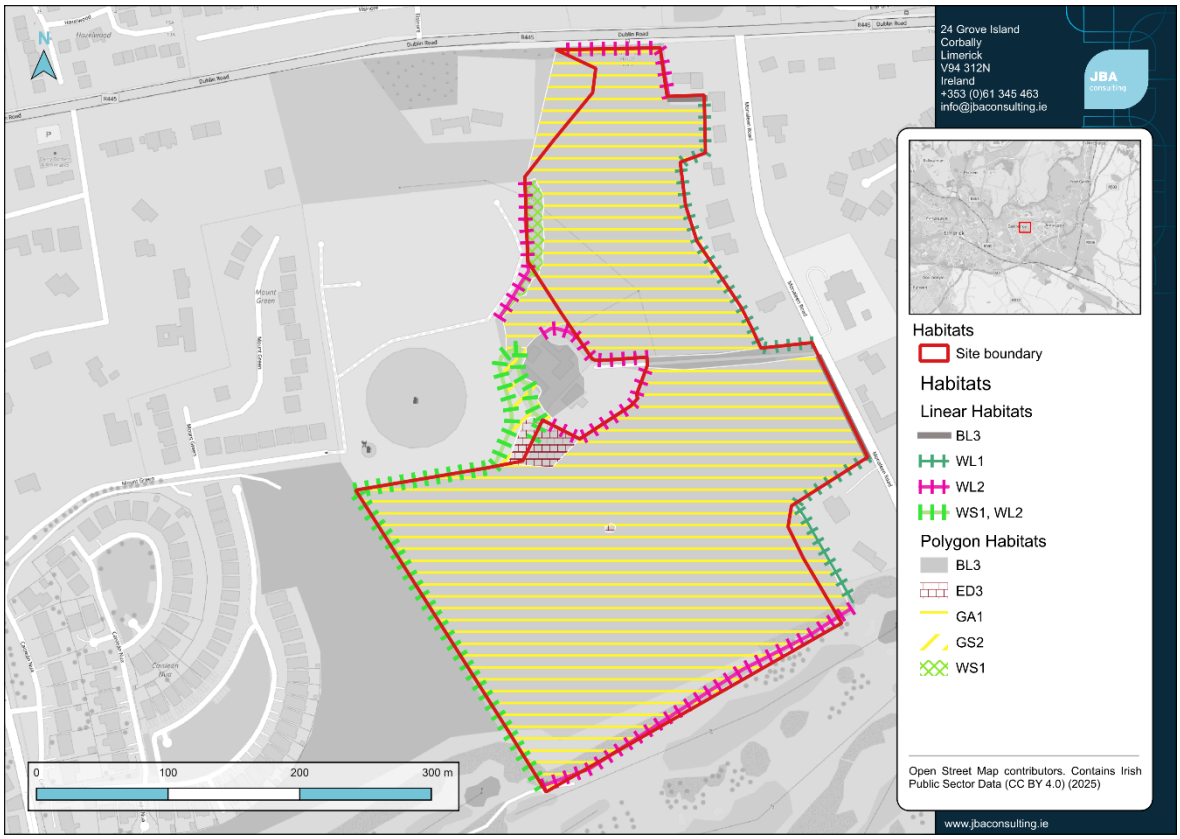


Figure 4-1: Habitats recorded within the project site

4.3 Protected Species

This section outlines the records of protected flora and fauna collected from the NBDC database (NBDC 2025). A custom polygon covering the proposed site and a 5km buffer was queried for NBDC records since 01/01/2015, and with the full list of protected species listed in Appendix A.

The following Annex II and IV (Habitats Directive) and Annex I (Bird's Directive) species have been recorded within 5km (species highlighted in blue are species of Qualifying Interest for Natura 2000 sites within the project ZoI) (Table 4-2).

Table 4-2: Annex species recorded within 5 km of the development site

Species name	Date of last record	Designation
Birds (Birds Directive)		
Common Kingfisher *Alcedo atthis*	07/07/2021	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive Annex I Bird Species
Little Egret *Egretta garzetta*	02/03/2024	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive Annex I Bird Species
Peregrine Falcon *Falco peregrinus*	14/01/2018	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive Annex I Bird Species
Whooper Swan *Cygnus cygnus*	02/03/2020	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive Annex I Bird Species
Red-throated Diver *Gavia stellata*	03/03/2020	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive Annex I Bird Species
Invertebrates (Habitats Directive)		
Freshwater White-clawed Crayfish *Austropotamobius pallipes*	26/08/2015	Protected Species: EU Habitats Directive Annex II & Annex V || Protected Species: Wildlife Acts
Terrestrial Mammals (Habitats Directive)		
European Otter *Lutra lutra*	03/09/2018	Protected Species: EU Habitats Directive Annex II & Annex IV || Protected Species: Wildlife Acts
Lesser Horseshoe Bat *Rhinolophus hipposideros*	27/01/2015	Protected Species: EU Habitats Directive Annex II & Annex IV || Protected Species: Wildlife Acts

None of the Bird's Directive Annex I species that were recorded in the vicinity of the study site were QIs of the River Shannon and River Fergus Estuaries SPA.

Only Otter, was a QI of the Lower River Shannon SAC, which is the predominant SAC within the ZoI. However, considering the location of the proposed study site, the distance from any watercourse and the Lower River Shannon SAC, and the lack of water courses on the site, it is unlikely that Otter is using the proposed project site as an area of *ex-situ* breeding or foraging habitat.

4.4 Invasive Species

Butterfly Bush *Buddleja davidii* was recorded on site. This is a medium impact invasive species (NBDC 2025), which grows widely in urban areas and can form large colonies on disturbed ground due to the production of a large number of windblown seed (Stroh et al. 2023). This species is not listed on the First Schedule of European Union (Invasive Alien Species) Regulations S.I. No. 374/2024.

4.5 Local Waterbodies

4.5.1 Surface Water

No surface water bodies were recorded during the site visit. The nearest Surface waterbodies is the Mulkear (Limerick)_050 (WFD IE_SH_25M040590) (1.1 km south-east of the site) and the Groody River/Shannon (Lower)_060 (WFD IE_SH_25S012600) (920 metres west of the site) (Figure 4-2). There was no drainage ditches observed on the site that may connect the site to these waterbodies. The site is located in the Shannon[Lower]_SC_090 sub-catchment (WFD ID 25D_9), which lies in the Lower Shannon Catchment (WFD ID 25D).

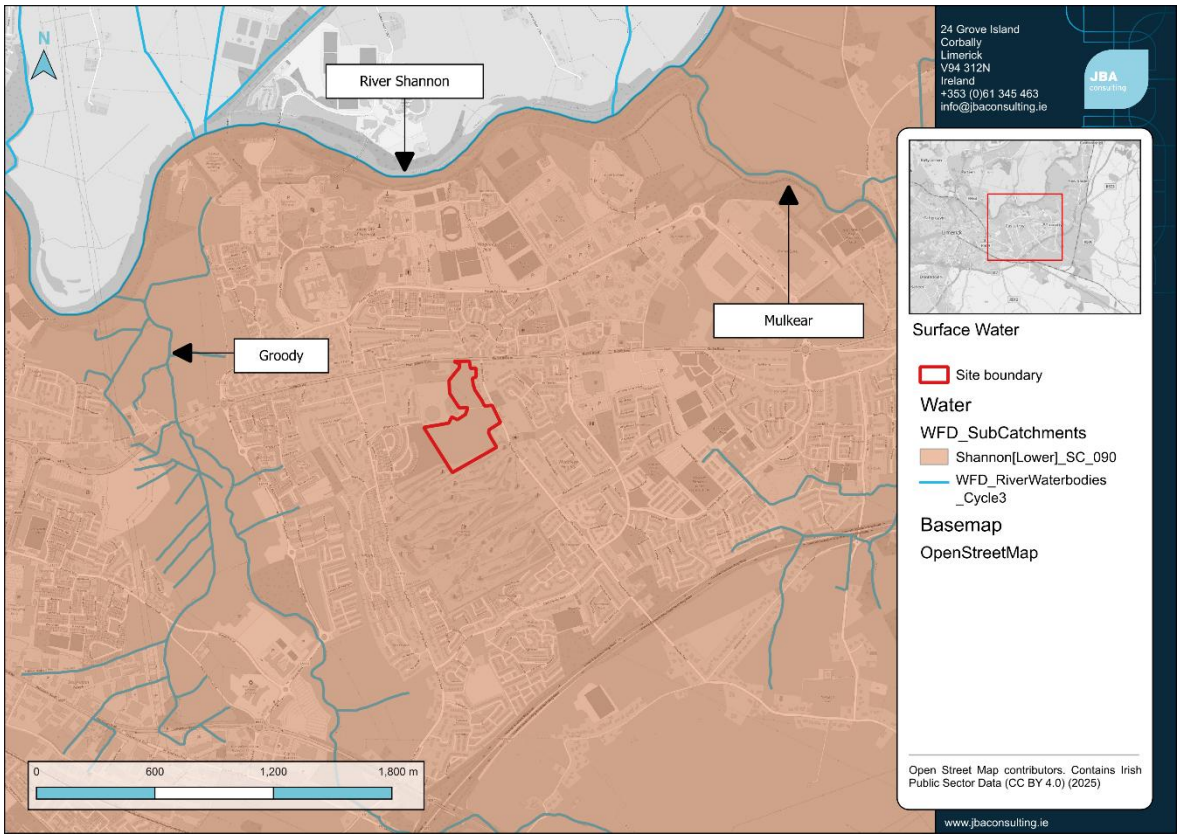


Figure 4-2: Surface water network in vicinity of site

4.5.2 Groundwater Bodies

The proposed project site is located within the Limerick City East (IE_SH_G_138) groundwater body (Figure 4-3). The Overall Groundwater Status of the Limerick City East body is 'Good' as of the 2019-2024 monitoring period. The Lower River Shannon SAC shares this groundwater

body with the proposed site. Table 4-3 details the underlying geology of the proposed site and groundwater and geological conditions.

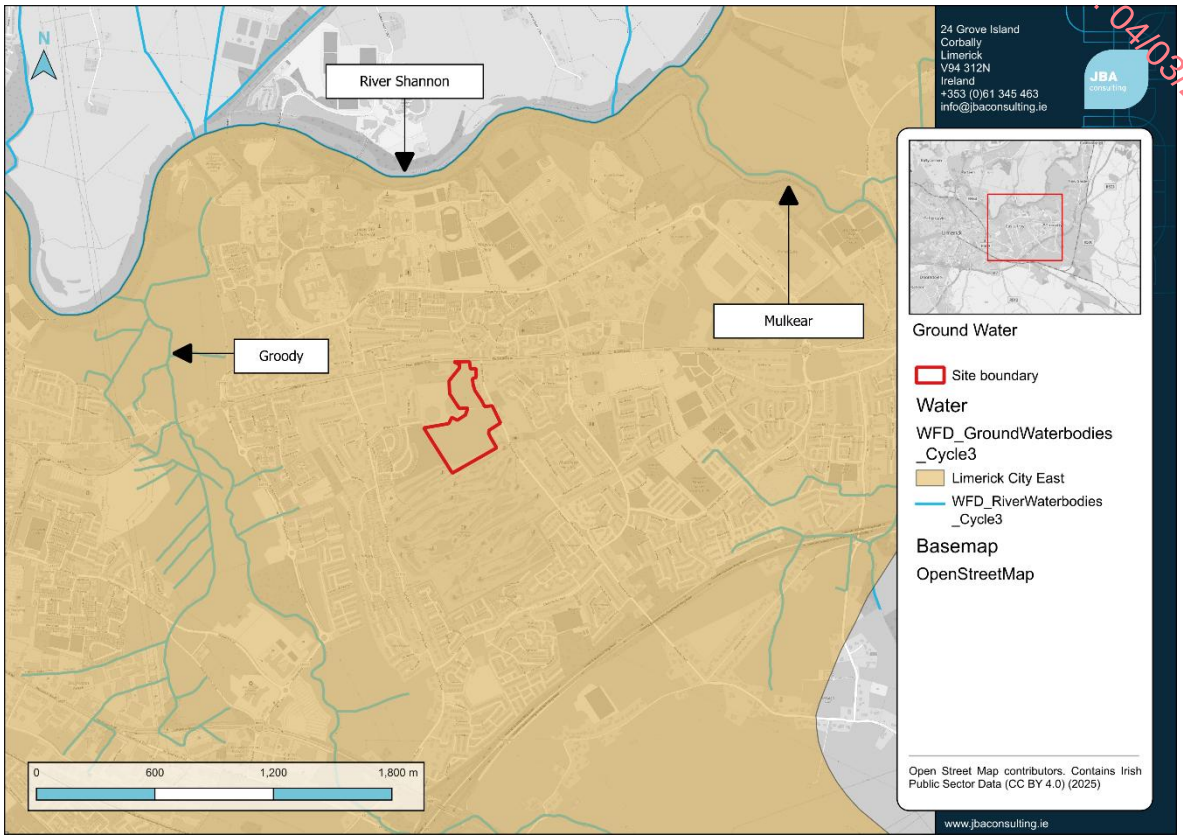


Figure 4-3: Groundwater bodies in relation to project site

Table 4-3: Underlying Groundwater, Geography and Geological Conditions

Feature	Source	
WFD Groundwater Body	EPA	Limerick City East
Teagasc Soils	GSI	Not mapped - classified as Urban. However, during site visits, was observed to be of clays with associated water logging.
Subsoils (Quaternary Sediments)	GSI	Bedrock outcrop or subcrop. Till derived from basic igneous rocks. Gravels derived from Limestones.
Subsoil permeability	GSI	Not mapped at this site.
Bedrock Geology	GSI	Volcaniclastic Rocks.
Bedrock Aquifer	GSI/EPA	Locally Important Aquifer - Bedrock which is Generally Moderately Productive
Groundwater Recharge	GSI	60% Recharge Coefficient in majority of site. Small area of 85% Recharge Coefficient in the Northern section of the site. High permeability subsoil (sand & gravel) overlain by poorly drained soil or peat.
Groundwater Vulnerability	GSI/EPA	Extreme in Southern half of site. Rock at or near Surface or Karst in Northern section of

Feature	Source	
		site.

The Extreme groundwater vulnerability (Figure 4-4) is a reflection of the lack of quaternary deposits in the area. The bedrock is comprised of Volcanisitc Rock, with Locally Important Aquifer - Bedrock which is Generally Moderately Productive. The recharge levels would imply limited infiltration at the site. Overall, this is a low groundwater sensitivity area.

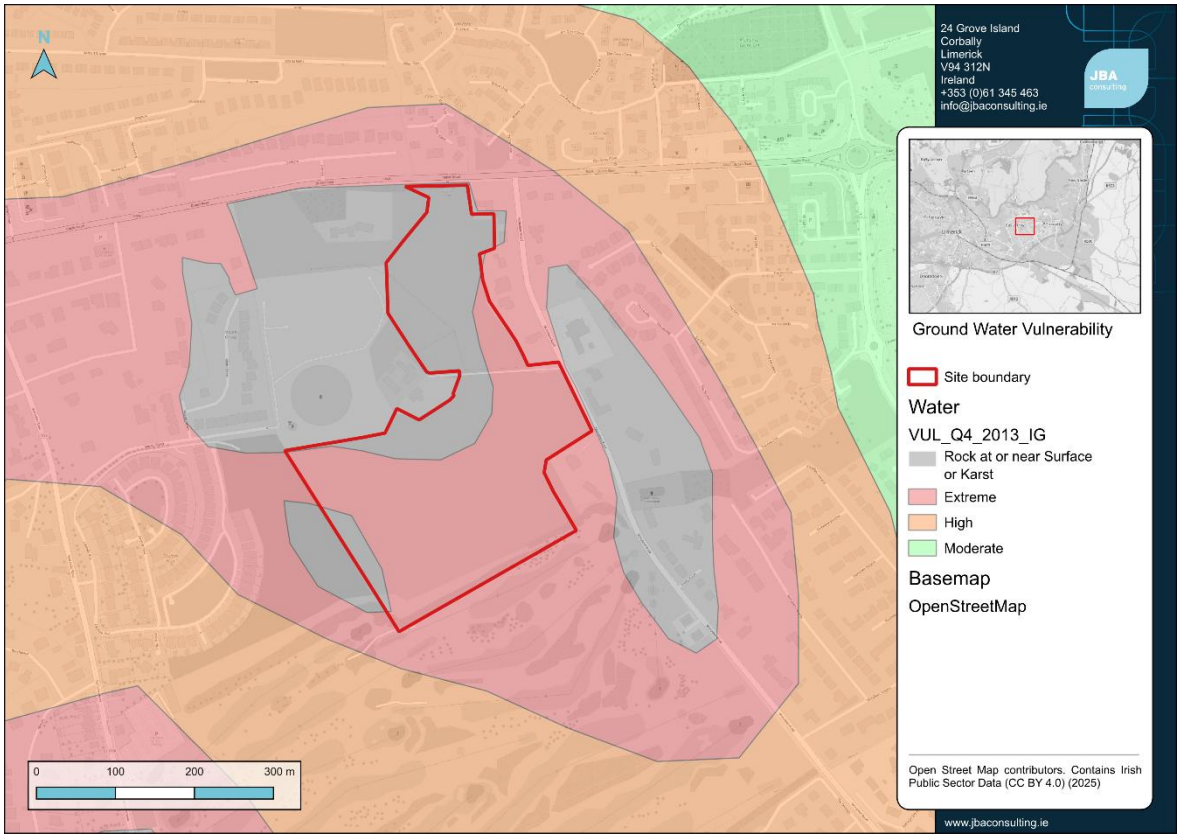


Figure 4-4: Groundwater Vulnerability at the project site

5 Other Relevant Plans and Projects

5.1 Cumulative Effects

As part of the Screening for an Appropriate Assessment, in addition to the proposed works, other relevant projects and plans in the region that may induce cumulative impacts must also be considered at this stage. The following projects or plans were identified as potential sources of cumulative impacts:

- Limerick Development Plan 2022-2028
- Limerick Biodiversity Action Plan 2025-2030
- River Basin Management Plan 2022-2027
- Other projects granted planning permission in the vicinity of the site

5.2 Plans

5.2.1 Limerick Development Plan 2022-2028

The purpose of each Development Plan or Strategy, is to set out the overall strategy for the proper planning and sustainable development of the area. The Plans seek to develop and improve, in a sustainable manner, the social, economic, cultural, and environmental assets of each county.

Biodiversity Conservation and Management supports are laid out in each Plan and Strategy to support these objectives. All Natura 2000 sites within the considered zone of influence of each Plan, must be assessed for potential to be impacted by each Plan and for there to potentially be in-combination impacts as a result of each Plan. County Development Plans are designed to be taken in conjunction with other similar plans and programmes, to have the overall effect of strengthening the management of and enhancing the protection and conservation of Natura 2000 sites. Specific statements, policies and objectives are formulated within each Plan to allow the Council to take appropriate steps to avoid the deterioration of Natura 2000 sites. Each Plan updates the policies and objectives of the Council in accordance with the Regional Planning Guidelines and National Policy. The outcomes of these Plans are Projects that will in themselves, require specific Natura Impact Assessments where relevant. Prior to any works commencing on a project that may impact the Natura 2000 network, the project shall be subject to a full Natura Impact Assessment in accordance with the requirements of Article 6(3) of the EU Habitats Directive (Directive 92/43/EEC). This requirement is made explicit in each Plan.

Therefore, provided that any works that may occur as a result of the Plan are assessed for individually or included in the NIS for the Plan, the Plan should not significantly adversely affect relevant Natura 2000 sites in combination with the proposed project.

5.2.2 Limerick Biodiversity Action Plan 2025-2030

The Limerick Biodiversity Action Plan 2025–2030 (LCCC 2024) is the adopted Biodiversity Action Plan (BAP) for Co. Limerick.

The overarching goal of a BAP is to ensure that every citizen, community, business, local authority, semi-state and state agencies operating in Limerick realises and appreciates the biodiversity of the county and its importance and actions that may be required to address biodiversity The plan was prepared in accordance with The Heritage Council's Local Authority Biodiversity Action Plan Guidelines, which provide best practice guidance for local authorities on preparing and implementing biodiversity conservation actions within their functional area.

These actions to address biodiversity loss in the county, while fully intended to have a positive impact, may have the potential to have in-combination or cumulative effects with the current proposed project. A thorough list of these potential actions can be found in Table 2-1 of the Appropriate Assessment report that was conducted for this plan (Fehily Timoney 2024). Such planned actions could have the following impacts on the receiving environment and Natura 2000 sites (even if unintended consequences of a well-intended action):

- Habitat destruction/fragmentation/deterioration;
- Surface water run-off carrying suspended silt and contaminants, into local watercourses;
- Changes to groundwater quality, yield and/or flow paths;
- Plan related activities (noise, vibration, lighting, human presence, etc) leading to disturbance/displacement of species;
- Plan related activities leading to a reduction in species populations/density;
- Air pollution due to dust and other airborne emissions; and
- Disturbance and potential spread of invasive species.
- Detailed assessment of the above impacts in relation to each action detailed in the BAP can be consulted in Table 3-1 of the (Fehily Timoney 2024) AA screening report.
- However, as all actions contained in a BAP are planned to be a positive benefit to the receiving environment, especially in comparison to existing and baseline conditions, as in agreement with the AA screening for this plan, the actions, in and of themselves, will not generate a source of negative impacts on the receiving environment. Hence, the LBAP 2025-2030 was determined in the AA Screening to not likely have a significant effect on any European sites in Limerick.
- Hence, this plan is not anticipated to have in-combination or cumulative effects with the proposed project.

5.2.3 River Basin Management Plan 2022-2027

This Water Action Plan sets out a roadmap to restore Ireland's water bodies to the equivalent of 'good status' or better and to protect water from any further deterioration. Ireland's water quality has declined in spite of actions taken to date. This plan focuses on protecting and restoring water quality by preventing and reducing pollution, by restoring the natural ecosystem functions of rivers and by continuing to invest in water infrastructure (DHLGH 2024). The stated aim of improving water quality means that this plan is not anticipated to contribute to cumulative or in-combination effects with the current project.

5.3 Projects

Planning applications in the vicinity of the proposed site which could act in combination with the proposed development were sought on the planning website MyPlan.ie. Planning applications from the last three years that have been granted permission are considered. Applications for

single one-off houses, home extensions, internal alterations and retention are not considered. These are presented in Table 5-1 and Figure 5-1.

Table 5-1: Other projects granted planning permission within 2km of the proposed site within the last 3 years

Planning Reference	Summary of Development	Address	Decision Date
2360263	A development comprising 13 no. residential units, (2 no. semi-detached houses & 11 no. Terrace houses), boundary treatments, ancillary surface car parking, site services, bin storage, bike storage, vehicular & pedestrian access to the proposed development and all associated site development works and landscape works	Monaleen Heights, Newcastle, Castletroy, Co. Limerick	20/09/2023
2560113	a Large-Scale Residential Development (LRD) - development of a Purpose-Built Student Accommodation (PBSA) scheme on land fronting the Groody Road and Dublin Road, Castletroy, in the townland of Newcastle, Limerick for a period of seven years.	Groody Road , Newcastle Castletroy , Limerick	25/09/2025

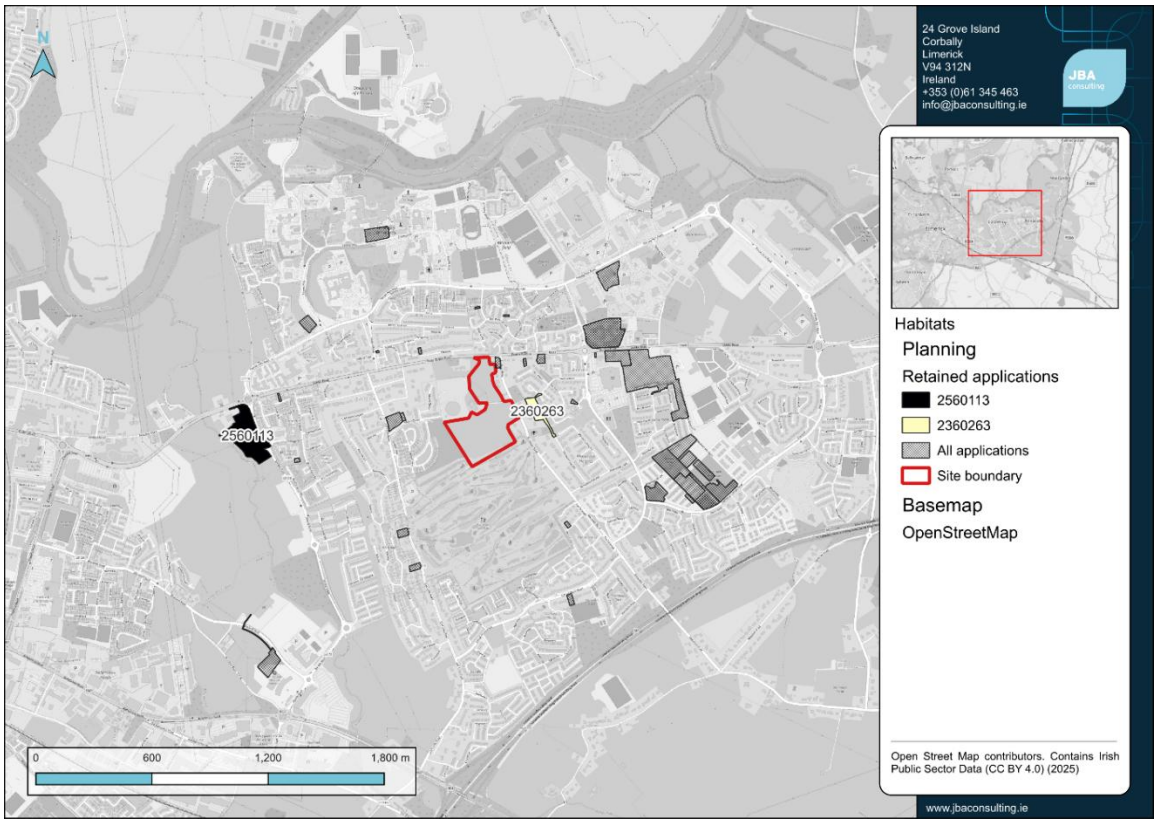


Figure 5-1: Planning application ns within 2km of the proposed development site.

6 Appropriate Assessment

6.1 Introduction

This section of the NIS presents the detailed assessment of potential direct and indirect impacts on of the proposed development on the Lower River Shannon SAC.

The screened in QIs are:

- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]
- Sea Lamprey *Petromyzon marinus* [1095]
- Brook Lamprey *Lampetra planeri* [1096]
- River Lamprey *Lampetra fluviatilis* [1099]
- Salmon *Salmo salar* [1106]
- Otter *Lutra lutra* [1355]

6.2 Potential Sources of Impact

The AA Screening produce by JBA (2025) determined that pathways of impact existed between the proposed development and the Lower River Shannon SAC, and likely significant effects were predicted in the absence of mitigation measures. This section further examines the source > pathway > receptor chains that could potentially result in likely significant adverse effects arising within that Natura 2000 site.

6.3 Impact Identification

Adverse impacts that have the potential to cause a significant effect on the QIs / SCIs of the Lower River Shannon SAC during the construction and operational phases of the project, may occur via the groundwater pathway.

- **Contamination of groundwater:** the disruption of groundwater flow, or abstraction of water can impact on groundwater quality and quality of groundwater dependent habitats. While there are no groundwater dependent habitats in the ZoI of this project, the connectivity between the groundwater and surface waterbodies is present, predominantly due to groundwater discharges to the nearby watercourses and SAC. Any impacts to the groundwater body at this site could therefore impact surface waterbodies and the designated sites.

6.3.1 Groundwater Pathways

The project site shares the Limerick City East groundwater body with the Lower River Shannon SAC. Coupled with the topography of the land, and the groundwater characteristics (Table 4-3), a groundwater pathway to this SAC cannot be excluded.

This groundwater pathway merges into an indirect surface water pathway when the groundwater pathway joins the River Shannon North of the project site.

Construction:

During construction excavation works will expose the bed rock creating potential openings into the aquifer and allowing potentially contaminated water to enter the aquifer and therefore the Lower River Shannon SAC.

The GWB could be at risk of being contaminated by accidental hydrocarbon spills or from other contamination sources. Considering the extreme vulnerability of the site and the porous and permeable underlying bedrock, entry of pollutants to the groundwater body has the opportunity to flow downslope in a northerly direction towards the River Shannon and the Lower River Shannon SAC. This pollution, if of a significant scale and volume, can impact the aquatic QIs of the Lower River Shannon SAC,

Therefore, groundwater impacts on the Lower River Shannon SAC cannot be excluded, therefore mitigation measures are required.

Operation:

The main operational impact of this project on the groundwater would be the potential permanent impact on the storage and movement of water in the groundwater aquifer, depending on excavation depth and the height of the groundwater. The replacement of the current grassland habitat with hard surfaces can create an impervious barrier that may prevent groundwater recharge at this location. While groundwater contamination and transport of pollutants to the Natura 2000 sites is not anticipated during the operational phase, this alteration of flow may impact downstream groundwater dependent habitats or species reliant on those habitats. However, none of the QIs of the Natura 2000 sites are groundwater dependent habitats and considering the largely urbanised environment of the surroundings, this alteration should not have significant impacts on the Lower River Shannon SAC.

6.4 Summary

This large-scale project is large is located in an urbanised area, with the nearest surface waterbodies being approximately 1 km away, meaning the urban area likely acts a significant barrier to the generation of impacts on the Natura 2000 sites. However, significant effects through groundwater pathways cannot be excluded and therefore mitigation measures to protect groundwater are required.

Table 6-1 Qualifying Interests, mitigation measures and potential impacts

Qualifying Interest	Relevant COs	Potential Direct Impact on Attribute	Potential Indirect Impact on Attribute
Salmon *Salmo salar* [1106] Sea Lamprey *Petromyzon marinus* [1095] Brook Lamprey *Lampetra planeri* [1096] River Lamprey *Lampetra fluviatilis* [1099]	Distribution Water Quality	Reduced water quality may have a detrimental impact on species distribution	Reduced water quality may have a detrimental impact on food source and animal health. Reduction in available habitat through water pollution.
Otter *Lutra lutra* [1355]	Distribution Fish biomass available		
Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]	Water quality: nutrients	Alteration of nutrient levels	

6.4.1 Operational Impacts

There are not permanent impacts expected from the site's operation on the SCIs of the Natura 2000 site.

6.4.2 Do Nothing Impact

If the proposed project does not go ahead there will be no impact from construction or operations on the screened in SCIs of the Lower River Shannon SAC.

7 Mitigation

This section describes the avoidance and mitigation measures required to prevent or reduce impacts generated during the construction and operation of the proposed development to the screened in QIs of the Lower River Shannon SAC.

The screened in QIs are:

- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]
- Sea Lamprey *Petromyzon marinus* [1095]
- Brook Lamprey *Lampetra planeri* [1096]
- River Lamprey *Lampetra fluviatilis* [1099]
- Salmon *Salmo salar* [1106]
- Otter *Lutra lutra* [1355]

7.1 Environmental Clerk of Works

Oversight of the works is required by an Environmental Clerk of Works (ECoW). The ECoW will be a competent ecologist with water management. The role of the ECoW is to ensure that the mitigation measures prescribed are incorporated and adhered to and will monitor the effectiveness of the mitigation measures in protecting the ecology of the environment around the site. The ECoW will have the power to give a stop-works instruction if it is apparent through their monitoring that the mitigation measures are not achieving the desired effects.

All prescribed mitigation measures will be adhered to throughout the duration of construction and operational phases, under guidance of the site ECoW. All mitigation measures should be assessed and implemented were feasible and practical, to the best judgement of the site ECoW, to account for the most up to date guidelines and best practices.

7.2 Construction Phase

The activities of the project for the construction phase shall remain within the boundary of the proposed site, with the exception of the need to transport materials to/from the site. Within this area, a number of mitigation measures and best practices are required to minimise the potential of significant effects on designated sites or associated habitats and species.

Should there be any slight variation in mitigation between these reports, it will be assumed that the most stringent measures are applicable. This will be determined and assessed by the site ECoW.

7.2.1 Construction and Environmental Management Plan

A Construction and Environmental Management Plan (CEMP) will be prepared for the proposed development. The CEMP covers mitigation measures that will reduce the impact of noise, vibration, dust, emissions, drainage and water quality, and waste management. The CEMP will also outline the measures to be taken in the event of an environmental emergency, such as chemical/oil spills. The CEMP will be drawn up with reference to Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan.

The CEMP will also strictly adhere to legislation and best practice environmental guidance including but not limited to the following / or the most up to date versions of:

- Water Framework Directive (2000/60/EC);
- S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009;
- Local Government (Water Pollution) Acts 1977-1990;
- CIRIA C512: Environmental Handbook for Building and Civil Engineering Projects (CIRIA 2000).
- CIRIA Guidance C532 Control of water pollution from construction sites. Guidance for consultants and contractors (Masters-Williams 2001).
- CIRIA C741: Environmental good practice on site guide,(Charles and Edwards 2015);
- CIRIA C750D: Groundwater control: design and practice (Preene et al. 2016));
- CIRIA Guidance C811: Environmental good practice on site guide (Kwan et al. 2023)

7.2.2 Concrete Management Procedures

Cement can have detrimental effects on aquatic ecology and water quality through altering pH and increasing sediment load. This can lead to reduced growth rate of aquatic flora, increased toxicity towards fish and other organisms. Therefore, it is paramount that any concrete mixing on site is prevented from entering the waterways. This includes wash water from the cleaning of equipment (EirGrid 2016).

Concrete will be used during the construction phase of the proposed development. The following measures will be implemented to prevent liquid concrete/cement entering the freshwater aquatic environment.

- Any in-situ concrete work will be lined and areas bunded to stop any accidental spillage.
- Batch loads of concrete will be delivered on an as needed basis; the concrete will be delivered in ready mix trucks as much as feasibly possible.
- Concrete batching will take place off site or in a designated area with impermeable surface.

- Concrete delivery, concrete pours and related construction methodologies will be part of the procedure agreed with the contractor to mitigate any possibility of spillage or contamination of the local environment. Particular attention will be paid during the pouring process in order to avoid leakages or spills of concrete.
- Washout of concrete plant will occur off site as much as feasibly possible.
- Trucks will return to point of origin, or a designated impermeable area with waste control facilities and not be washed out on site.
- If wash out on site is required, the following guidelines apply, and details will be provided in the CEMP.
    - Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan (NRA 2007) which gives advice on distances to water courses.
    - NRA Guidance on concrete wash out: Advice Note - Washout Areas (NRA n.d.) which advices on good practice in a practical manner.
    - C811 Environmental good practice on site guide (fifth edition) which includes best practices for concrete including advice on pours, storage, dust and washout water.
    - Managing concrete wash waters on construction sites: good practice and temporary discharges to ground or to surface waters (EA 2011) which includes advice dependent on the size of the project.
    - Water Run-Off from Construction Sites (WAT-SG-75), (SEPA 2021) which also has a hierarchy of methods: ***Isolate, Collect, Reuse, Dispose*** and guidance at each stage.

In the event that washout needs to be carried out on site, this will be limited to small discrete bits of equipment such as hand tools and chutes. Ready-mix trucks will not be washed out on site.

- All concrete washout water and solids will be retained in a lined skip or impermeable lined wash out pits, so that the wash material does not reach the soil surface and then migrate to surface waters or into the ground water
- The collected concrete washout water and solids will be neutralised and emptied on a regular basis and transported to a licenced facility.
- Raw, uncured or waste concrete will be stored appropriately, and away from open drains, prior to disposal by licenced contractor.
- Precast concrete will be used as much as feasibly possible
- Secondary protection shuttering will be used for concrete pours; all pours to be carried out in dry weather conditions
- Geomembrane sheet with permeability of less than $1x10^{-8}$ m/s will be appropriately laid within the boundaries of the foundations to prevent pollutant entries into the groundwater.
- The contractor will:
    - be required to use experienced operators for the work
    - provide an appropriate level of continuous monitoring during any concrete pours by experienced management
    - have method statements approved by the client prior to commencing works.

- Do not discharge gully pot residues to surface water or groundwater.
- Washdown water from the washing of equipment that has come into contact with concrete must be collected in an impervious (lined) container.
- On-site batching of concrete is not envisaged, but ready to use mortar silos is possible. These systems involve the delivery and storage of dry cement and aggregates in silos; water is added at the point of delivery to make mortar or plaster.

The following controls shall be put in place for the on-site batching of concrete, mortar and render:

- The plant shall be maintained in good condition and regular inspections will be undertaken, including of hydraulic hoses.
- Delivery of cement shall be by means of a sealed system to prevent escape of cement.
- The plant shall be situated on a paved area at least 20m from any temporary or permanent drainage features.
- Emergency procedures shall be in place to deal with accidental spillages of cement or mortar.

The weather forecast will be checked prior to the pouring of the concrete and no such works will be undertaken when bad weather is forecast.

- Any works at any time when water levels that may cause inundation of the works area will be avoided.
- Concrete will not be poured at times when rain is forecast as this may lead to run off and over spillage.
- Concrete (including waste and wash down) will be contained and managed appropriately to prevent water pollution.
- Pouring will occur in the dry, with appropriate curing times (48 hours) before re-flooding.

7.2.3 Site Compound

The site compound will be located within the site boundary. Only plant and materials necessary for the works will be permitted to be stored at the compound location.

Site establishment by the Contractor will include the following:

- Setting up of access control to the site
- Construction traffic alert signage on both sides of the road as you approach the compound
- Site offices and facilities (canteen, toilets, drying rooms, etc.)
- Office for construction management team
- Secure compound for the storage of all on-site machinery and materials
- Temporary car parking facilities
- Permanent and temporary fencing
- Site Security to restrict unauthorized entry
- Dedicated yard foreman to ensure compliance with environmental requirements

- Bunded storage of fuels and refuelling area
- The bunded areas will only be used for the storage of hazardous materials e.g. diesel, oils, lubricants, paints etc
- The bunds will be sized to contain 110% of the largest vessel contained within the bunded area
- The diesel tanks will be double skinned and stored within the bunded area
- All refuelling of vehicles will be carried out at the fuel stores within the main site compound and only ADR trained personnel will be permitted to operate fuel bowsers
- A maintenance programme for the bunded areas will be managed by the site environmental manager. The removal of rainwater from the bunded areas will be their responsibility
- Records will be maintained of materials taken off site for disposal
- A separate container will be located in the Contractor's compound to store absorbents used to contain spillages of hazardous materials
- The container will be clearly labelled, and the contents of the container will be disposed of by a licenced waste contractor at a licenced site
- All waste management records including waste transportation and disposal records will be maintained on site by the person with responsibility for environmental management
- Contractors will be made aware of the presence of the hazardous waste container and instructions of when and how to use same
- The site environmental manager will be responsible for maintaining all training records
- The contents of any tank will be clearly marked on the tank, and a notice displayed requiring that valves and trigger guns be locked when not in use
- Drainage collection system for washing area to prevent run-off into surface water system
- When not in use for construction purposes, all materials, plant and machinery will be stored in the site compound or offsite
- Copies of all records will be made available to the ECOW to monitor compliance.

7.2.4 Water Quality

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

- Water Framework Directive (2000/60/EC)
- European Communities Environmental Objectives (Surface Waters) Regulations, 2009 (S.I. No. 272 of 2009)
- Local Government (Water Pollution) Acts 1977-2023
- CIRIA C532: *Control of water pollution from construction sites*. Guidance for consultants and contractors. (www.ciria.org)
- CIRIA C741: *Environmental good practice on site guide* (Charles & Edwards, 2015; CIRIA, 2020 - www.ciria.org)
- CIRIA C750D: *Groundwater control: design and practice* (Preene *et al.*, 2016) (www.ciria.org)

To prevent water pollution:

- Adoption of a surface water management plan including appropriate barrier controls to minimise any polluted surface water from leaving the site in an uncontrolled manner. Where required this will include the use of silt traps on drains, silt busters, settlement ponds etc, during construction.
- Leave vegetation undisturbed with a minimum 5m wide vegetation strip along the boundary to act as buffer strip.
- Minimise area of exposed ground by maintaining existing vegetation in vicinity of site compound infrastructure.
- Only clear ground in areas that are actively worked.
- Do not leave stockpiles of materials exposed.
- Cover vehicles transporting waste materials or soils to/from site.
- Oil booms and oil soakage pads will be maintained on-site to enable a rapid and effective response to any accidental spillage or discharge. These shall be disposed of correctly. 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 site.
- Appropriate geotextile/geosynthetic barriers, similar in grade to those used in road construction in groundwater sensitive areas, will be installed within the areas of concrete pouring on site, in order to prevent potential pollutant seepage into the groundwater or to cause runoff.
- Silt and oil interceptors to prevent runoff from the site.

7.2.5 Pollution Control and Spill Prevention

- Spill kits containing absorbent pads, granules and booms 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 foreperson's vehicles will carry large spill kits at all times.
- Absorbent material will be used with pumps and generators at all times.
- Used material disposed of in accordance with the Waste Management Plan. All used spill materials 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 procedure 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.
- 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.

All tank and drum storage areas on the site will, as a minimum, be bunded to a volume not less than the following:

- 110% of the capacity of the largest tank or drum within the bunded area, or
- 25% of the total volume of substances which could be stored within the bunded area.

The site compound fuel storage areas and cleaning areas will be rendered impervious and will be constructed to ensure no discharges will cause pollution to surface or ground waters.

- Designated locations for refuelling are within 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.

7.2.6 Groundwater

The overall characteristics of the groundwater mean that the site is low sensitivity, however mitigation measures to protect groundwater are necessary. These measures are standard good practices measures including but not limited to:

- Bunded storage areas for hydrocarbons as described in section 7.2.4
- Hydrocarbons to be stored on spill pallets if ground cannot be made impervious as described in section 7.2.4
- Refuelling in designated areas as described in 7.2.4
- A geotextile sheet will be laid within the boundaries of the foundations to prevent pollutant entries into the groundwater, with permeability of less than $1x10^{-8}$ m/s as described in the concrete management procedures.
- De-watering of excavation will be carried out, with waters being circulated though a silt buster before being discharged to the foul water network. If possible closed loop de-watering should be considered to provide water for dust suppression and road cleaning.

7.3 Embedded mitigation

7.3.1.1 Drainage

Once the development is complete, water runoff will be managed via SuDS, and water retaining measures that are designed to withstand storm and flood events.

This water retention will allow for potential contaminants to be filtered and for sediments to be retained before the waters discharge into the drainage network. In doing so, risk of contamination to the surface water network will be minimised. Furthermore, by retaining the water and allowing for a slow release, the risk of in-combination impacts will also be minimised. The SuDS will not allow for infiltration into the groundwater.

The drainage system will be equipped with oil interceptors of sufficient size for the area, and for extreme weather events. Attenuation tanks have been designed for a 1 in a 100-year storm event + 20% climate change allowance. The discharge rate will be controlled with an inline HydroBrake fitted in the outlet manhole from the new attenuation tank and will control flow to discharge at 3.2 l/s to the existing adjacent open drainage culvert.

Best practice guidance for SuDS considered includes but not limited to the following:

- CIRIA C753: *The SuDS Manual* (Woods Ballard et al. 2015)

7.4 Operational Impacts

The embedded mitigation measures, including oil interceptors and SuDS will retain water, and filter sediments and particulate matter from entering foul water network and/or running off the site. The interceptors will be equipped with an alarm and will be maintained following manufacturer guidance. Any amount that does flow off site will be minimal and is not expected to be in sufficient quantity to impact the QI species or habitats.

Therefore, no operational impacts are anticipated.

7.5 Residual Impacts

The residual impacts are the impacts remaining after all mitigation measures have been put in place. If the recommendations in the CEMP, this NIS and the relevant sections of the EIAR are followed, then there should be no impact on water quality or any other qualifying interest of the Lower River Shannon SAC.

Therefore, no residual impacts are anticipated on the Lower River Shannon SAC.

7.6 Qualifying Interests, Potential Impacts and Mitigation Measures

Table 6-1summarises the QI's, the potential impacts from the proposed development as well as a summary of mitigation measures.

Table 7-1 Qualifying Interests, mitigation measures and potential impacts

Qualifying Interest	Source of Impact	Relevant COs	Impact on Attribute	Mitigation Measures	Residual Impact
Lower River Shannon SAC					
Salmon *Salmo salar* [1106] Sea Lamprey *Petromyzon marinus* [1095] Brook Lamprey *Lampetra planeri* [1096] River Lamprey *Lampetra fluviatilis* [1099]	Groundwater	Water Quality	Reduced water quality may have a detrimental impact on species distribution	Implement Concrete Management Procedures Implement Water protection measures Implement Pollution control measures Implement groundwater protection measures. Prevent water infiltration to avoid groundwater contamination. Prevent water runoff from the site. SuDS to prevent infiltration of water and carry excess runoff to foul water network. De-watering of excavation to be carried out to prevent any infiltration. Use of silt busters with clean water to be discharged to foul water network. Ensure machinery is in good conditions.	No adverse impact
Otter *Lutra lutra* [1355]		Fish biomass available	Reduced water quality may have a detrimental impact on food source and animal health.		
Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]		Water quality: nutrients	Reduced water quality may have a detrimental impact on supporting species.		

8 In-combination Assessment

Two developments were identified within the locality works that may have cumulative and/or combination effects on the proposed works (Sub Section 5.3). These are listed and discussed further in Table 8-1.

Table 8-1: In-combination assessment.

Planning Reference	Summary of Development	Project Relevant Potential Impacts	Residual Effects
2560113	Large-Scale Residential Development (LRD) - development of a Purpose-Built Student Accommodation (PBSA	Water pollution and disturbance	The NIS submitted with this planning application concluded that, subject to the implementation of the mitigation measures outlined, the proposed works would not result in any adverse effects either individually or in combination with other plans or projects on the relevant European sites in relation to the sites conservation objectives

9 NIS Conclusion

The proposed project is identified in having potential impacts on the Lower River Shannon SAC.

Adverse effects may occur during the construction phase through groundwater pathways. Where potentially significant adverse impacts were identified, a suite of mitigation and avoidance measures have been stipulated to offset them. With the recommended mitigation proposals in place and, provided the mitigation measures are effectively managed, a residual impact of 'not significant' and no in combination effects with other projects and plans is anticipated.

It is concluded that provided that the mitigation measures outlined are strictly adhered to, adverse effects as a result of the proposed development are not likely to occur on the Lower River Shannon SAC.

To confirm this conclusion, a checklist on methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC from (European Commission 2021) has been completed with regards to conservation objectives in Table 7-1.

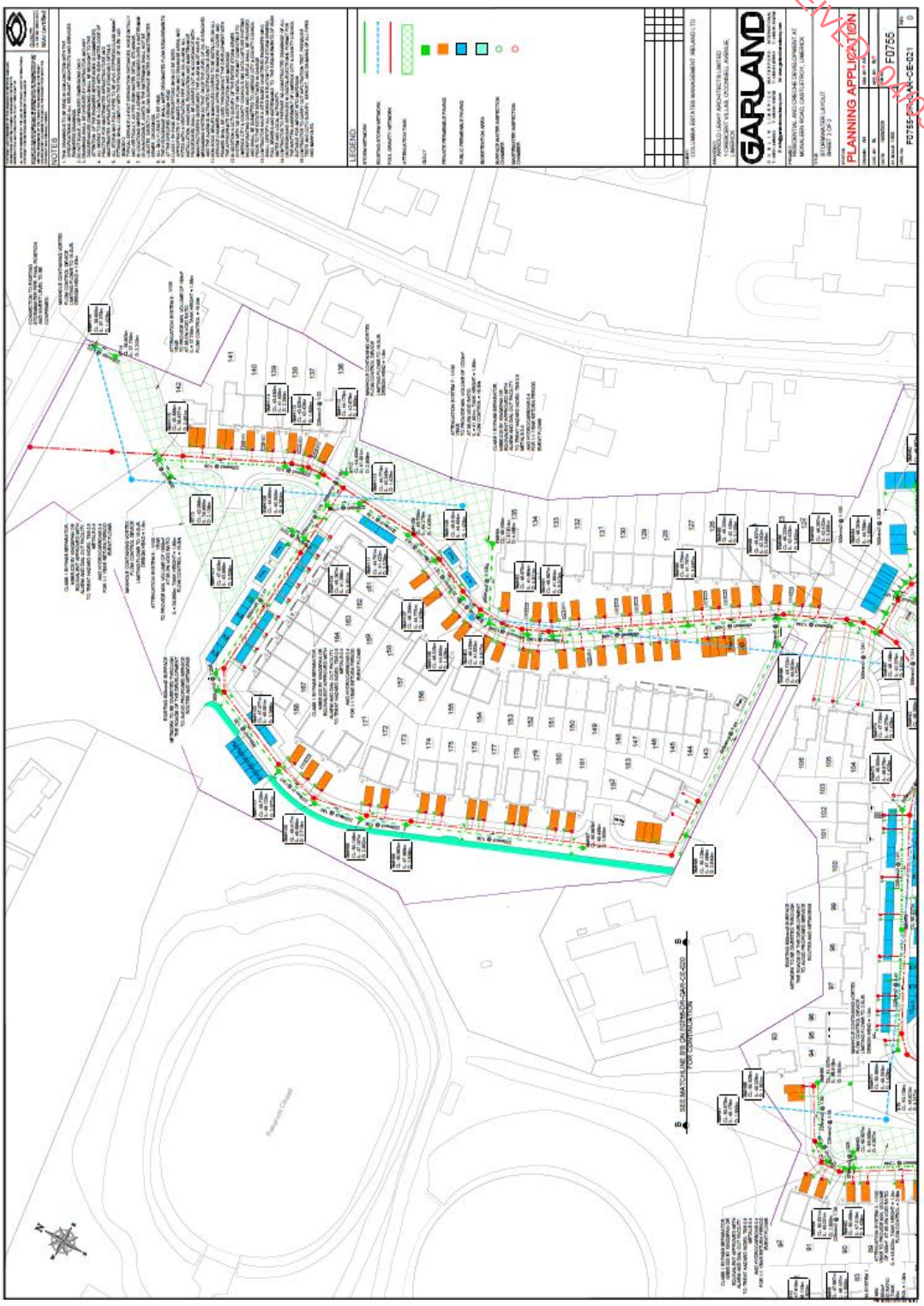
Table 9-1 Assessing the effects on the integrity of the Natura 2000 site.

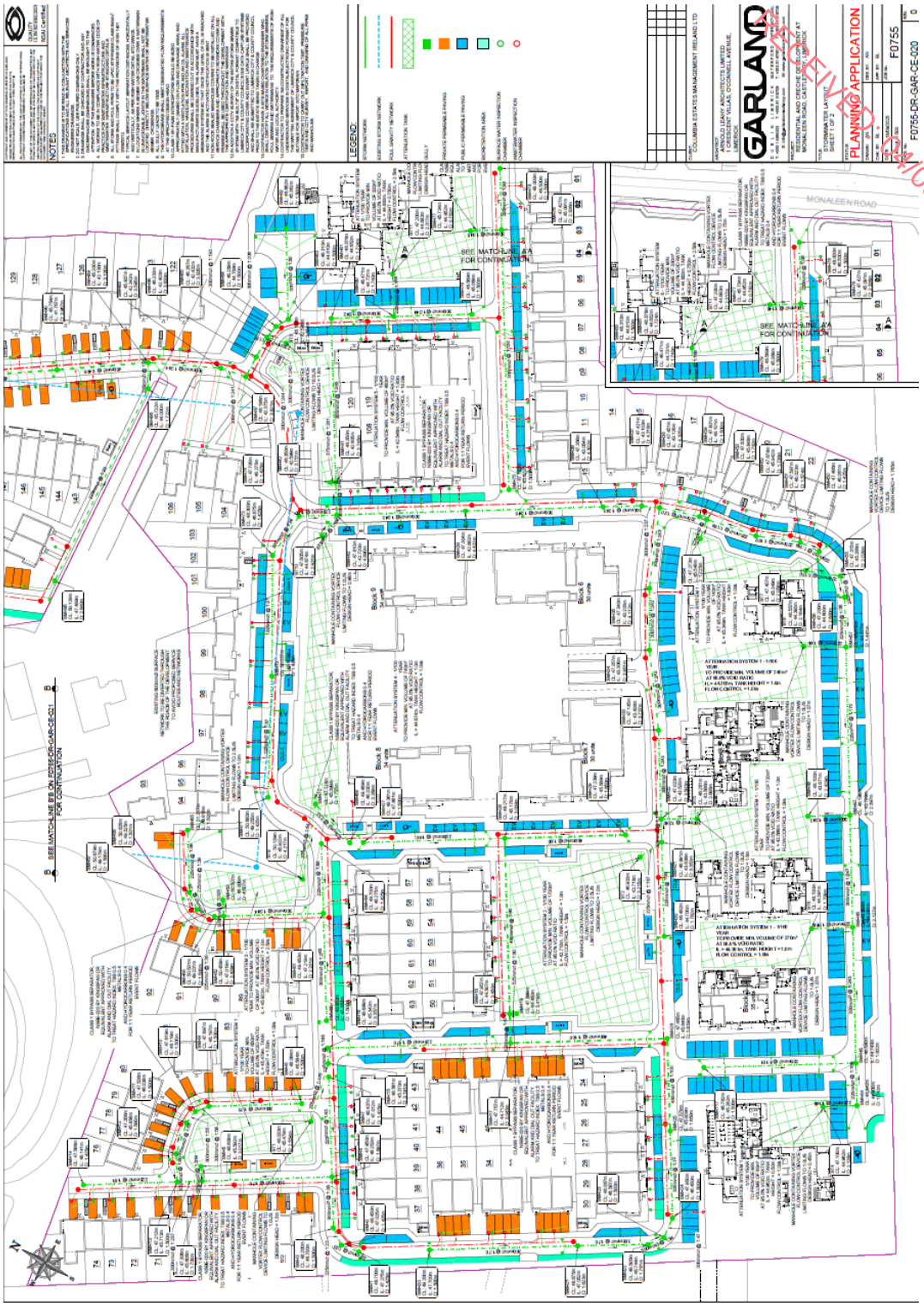
Does the plan or project have the potential to:	Yes/No
Hamper or cause delays in progress towards achieving the site's conservation objectives?	No - Following mitigation, no significant adverse residual impacts have been identified that will hamper or delay achievement of the conservation objectives of the Lower River Shannon SAC
Reduce the area, or quality, of protected habitat types or habitats of protected species present on the site?	No - Potential adverse impacts on the habitats or protected species of the Lower River Shannon SAC are not expected given the mitigation measures that have been detailed.
Reduce the population of the protected species significantly present on the site?	No - Potential impacts to key species of the Lower River Shannon SAC are not expected, as impacts can be avoided by implementing the mitigation measures detailed in this NIS and the CEMP.
Result in disturbance that could affect the population size or density or the balance between species?	No - Potential impacts to key species for which the Lower River Shannon SAC are designated are not expected, as impacts can be avoided by implementing the mitigation measures detailed in this NIS and the CEMP. Population sizes and ecosystem function will be maintained.
Cause the displacement of protected species significantly present on the site and thus reduce the distribution area of those species in the site?	No - Protected species will not be significantly displaced, and the distribution areas of species in the Lower River Shannon SAC will be maintained.
Result in a fragmentation of Annex I habitats or habitats of species?	No – Potential impacts resulting in fragmentation of species or habitats of the Lower River Shannon SAC are not expected as impacts can be avoided by implementing the mitigation measures detailed.
Result in a loss or reduction of key features, natural processes or resources that are essential for the maintenance or restoration of relevant habitats and species in the site (e.g. tree cover, tidal exposure, annual flooding, prey, food resources)?	No - Potential adverse impacts on key features of the Lower River Shannon SAC are not expected, as impacts can be avoided by implementing the mitigation measures detailed in the NIS and CEMP. Prey and food resources will not be affected; water quality will not be affected.
Disrupt the factors that help maintain the favourable conditions of the site or that are needed to restore these to a favourable condition within the site?	No - Potential adverse impacts via surface water; land and air; and groundwater pathways identified during the screening process can be mitigated against. The conservation objectives of the Lower River Shannon SAC that allow favourable condition of the site have been assessed individually, and no adverse effects on the measures of favourable condition will occur.
Interfere with the balance, distribution and density of species that are the indicators of the favourable conditions of the site?	No - Potential impacts to the population size, density or balance of key species are not expected, as impacts can be avoided by implementing the mitigation measures detailed in the NIS and CEMP.

Appendix

A Site Layout Plan

B Site Drainage Plan

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C Protected Species recorded within 5km

These records correspond with the protected species covered by national legislation that are publicly available on the NBDC database (NBDC 2025). Records for the past ten years have been extracted.

Species name	Date of last record	Designation
Invertebrates		
Freshwater White-clawed Crayfish *Austropotamobius pallipes*	26/08/2015	EU Habitats Directive Annex II & Annex V / Wildlife Acts
Mammals		
Brown Long-eared Bat *Plecotus auritus*	04/08/2021	EU Habitats Directive Annex IV / Wildlife Acts
Daubenton's Bat *Myotis daubentonii*	25/08/2021	EU Habitats Directive Annex IV / Wildlife Acts
Lesser Horseshoe Bat *Rhinolophus hipposideros*	27/01/2015	EU Habitats Directive Annex II & Annex IV / Wildlife Acts
Lesser Noctule *Nyctalus leisleri*	07/08/2021	EU Habitats Directive Annex IV / Wildlife Acts
Nathusius's Pipistrelle *Pipistrellus nathusii*	31/07/2021	EU Habitats Directive Annex IV / Wildlife Acts
Pipistrelle *Pipistrellus pipistrellus sensu lato*	07/06/2022	EU Habitats Directive Annex IV / Wildlife Acts
Soprano Pipistrelle *Pipistrellus pygmaeus*	07/08/2021	EU Habitats Directive Annex IV / Wildlife Acts
European Otter *Lutra lutra*	29/10/2018	EU Habitats Directive Annex II & Annex IV / Wildlife Acts
Birds		
Barn Owl *Tyto alba*	07/03/2022	Wildlife Acts / BoCCI - Red List
Barn Swallow *Hirundo rustica*	18/05/2023	Wildlife Acts / BoCCI - Amber List
Black-headed Gull *Larus ridibundus*	20/02/2023	Wildlife Acts / BoCCI - Red List
Common Coot *Fulica atra*	18/05/2023	Wildlife Acts / BoCCI - Amber List
Common Kestrel *Falco tinnunculus*	07/10/2022	Wildlife Acts / BoCCI - Amber List
Common Kingfisher *Alcedo atthis*	07/07/2021	EU Birds Directive Annex I / Wildlife Acts / BoCCI - Amber List
Common Pheasant *Phasianus colchicus*	18/04/2020	Wildlife Acts
Common Snipe *Gallinago gallinago*	28/01/2023	Wildlife Acts / BoCCI - Amber List
Common Starling *Sturnus vulgaris*	02/04/2023	Wildlife Acts / BoCCI - Amber List
Common Swift *Apus apus*	19/07/2023	Wildlife Acts / BoCCI - Amber List
Common Wood Pigeon *Columba palumbus*	18/05/2023	Wildlife Acts
Eurasian Curlew *Numenius arquata*	03/03/2020	Wildlife Acts / BoCCI - Red List
Eurasian Wigeon *Mareca penelope*	03/03/2020	Wildlife Acts / BoCCI - Amber List
Great Black-backed Gull *Larus marinus*	30/01/2018	Wildlife Acts / BoCCI - Amber List
Herring Gull *Larus argentatus*	28/01/2023	Wildlife Acts / BoCCI - Red List
House Martin *Delichon urbicum*	18/05/2023	Wildlife Acts / BoCCI - Amber List
House Sparrow *Passer domesticus*	20/02/2023	Wildlife Acts / BoCCI - Amber List

Species name	Date of last record	Designation
Jack Snipe *Lymnocryptes minimus*	08/04/2014	Wildlife Acts
Lesser Black-backed Gull *Larus fuscus*	28/01/2023	Wildlife Acts / BoCCI - Amber List
Little Egret *Egretta garzetta*	22/05/2019	EU Birds Directive Annex I / Wildlife Acts
Little Grebe *Tachybaptus ruficollis*	14/01/2018	Wildlife Acts / BoCCI - Amber List
Mallard *Anas platyrhynchos*	18/05/2023	Wildlife Acts
Mew Gull *Larus canus*	28/01/2023	Wildlife Acts / BoCCI - Amber List
Mute Swan *Cygnus olor*	18/05/2023	Wildlife Acts / BoCCI - Amber List
Northern Lapwing *Vanellus vanellus*	09/01/2021	Wildlife Acts / BoCCI - Red List
Peregrine Falcon *Falco peregrinus*	14/01/2018	EU Birds Directive Annex I / Wildlife Acts
Red-throated Diver *Gavia stellata*	03/03/2020	EU Birds Directive Annex I / Wildlife Acts / BoCCI - Amber List
Ringed Plover *Charadrius hiaticula*	09/05/2021	Wildlife Acts / BoCCI - Amber List
Rock Pigeon *Columba livia*	07/03/2022	Wildlife Acts
Sand Martin *Riparia riparia*	18/05/2023	Wildlife Acts / BoCCI - Amber List
Tufted Duck *Aythya fuligula*	14/01/2018	Wildlife Acts / BoCCI - Amber List

References

Charles, Philip, and Philip Edwards, eds. 2015. *Environmental Good Practice on Site Guide*. Version Fourth edition. CIRIA C 741. CIRIA.

CIEEM. 2018. 'Guidelines and Checklist for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management'. Preprint.

CIRIA. 2000. *C512: Environmental Handbook for Building and Civil Engineering Projects*. CIRIA Guidance.

Collins, J., ed. 2024. *Bat Surveys for Professional Ecologists: Good Practise Guidelines (3rd Edition) Bat Conservation Trust*. 4th edn. The Bat Conservation Trust, London.

Commission Notice Assessment of Plans and Projects in Relation to Natura 2000 Sites – Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC 2021/C 437/01 (2021). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021XC1028(02).

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (1992). https://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm.

Cutts, N., K. Hemingway, and J. Spencer. 2013. 'Waterbird Disturbance Mitigation Toolkit. Informing Esturine Planning and Construction Projects'. https://tide-toolbox.eu/tidetools/waterbird_disturbance_mitigation_toolkit/.

DEHLG. 2010. *Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities.* Unpublished report. Department of the Environment, Heritage and Local Government. https://www.npws.ie/protected-sites/guidance-appropriate-assessment-planning-authorities.

DHLGH. 2024. 'WaterAction Plan 2024 A River Basin Management Plan for Ireland'. www.gov.ie/RBMP.

Directive 2009/147/EC of the European Parliament and of the Council on the Conservation of Wild Birds (2009). https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009L0147&from=EN.

EA. 2011. 'Managing Concrete Wash Waters on Construction Sites: Good Practice and Temporary Discharges to Ground or to Surface Waters'.

Eco Advocacy CLG Case (C-721/21), C-721/21 (CJEU 2023). https://curia.europa.eu/juris/document/document.jsf?text=&docid=269410&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=3087339.

EEA. 2024. 'Natura 2000 Standard Data Form: Lower River Shannon SAC'. European Environment Agency. https://biodiversity.europa.eu/natura2000/sites/site.

EirGrid. 2016. *EirGrid Evidence Based Environmental Studies Study 6: Water Quality & Aquatic Ecology*. https://www.eirgridgroup.com/site-files/library/EirGrid/EirGrid-Evidence-Based-Study-6-Water-Quality-and-Equatic-Ecology-Main-Report.pdf.

European Commission. 2019. *Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC*. Publications Office of the European Union. https://data.europa.eu/doi/10.2779/02245.

European Commission. 2022. *Guidance Document on Assessment of Plans and Projects in Relation to Natura 2000 Sites: A Summary.* Publications Office. https://data.europa.eu/doi/10.2779/086397.

Fehily Timoney. 2024. *LIMERICK CITY AND COUNTY COUNCIL LOCAL AUTHORITY BIODIVERSITY ACTION PLAN 2024/5-2030. Appropriate Assessment Screening Report*. Limerick City and County Council.

Fossitt, Julie A. 2000. *A Guide to Habitats in Ireland*. The Heritage Council.

Grace & Sweetman (C-164/17), (C-164/17) (CJEU 25 July 2018). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A62017CJ0164&qid=1677762439151.

Holohan v An Bord Pleanála (C-461/17), C-461/17 (CJEU 7 November 2018). https://curia.europa.eu/juris/document/document.jsf?text=&docid=207428&doclang=EN.

IAQM. 2024. *Guidance on the Assessment of Dust from Demolition and Construction*. Institute of Air Quality Management.

Kwan, J., Claire Dickinson, and Cecilia MacLeod. 2023. 'C811 Environmental Good Practice on Site Guide (Fifth Edition)'. CIRIA. https://www.ciria.org/ItemDetail?iProductCode=C811d&Category=DOWNLOAD.

LCCC. 2024. *Limerick Biodiversity Action Plan 2025-2030*. https://www.limerick.ie/sites/default/files/media/documents/2025-04/objectives.actions-list-lbap-2025-2030.pdf.

Masters-Williams, H. 2001. *Control of Water Pollution from Construction Sites. Guidance for Consultants and Contractors (C532D)*. Guidance document. CIRIA. http://www.ciria.org/ItemDetail?iProductCode=C532D&Category=DOWNLOAD.

NBDC. 2025. *Biodiversity Maps. Mapping Ireland's Wildlife*. Released. https://maps.biodiversityireland.ie/.

NPWS. 2012a. *Conservation Objectives - Supporting Document: Lower River Shannon SAC 002165 - Water Courses of Plain to Montane Levels with the Ranunculion Fluitanis and Callitricho-Batrachion Vegetation*. Supporting documentation. National Parks and Wildlife Service / Department of Arts, Heritage and the Gaeltacht. https://www.npws.ie/sites/default/files/publications/pdf/002165_Lower%20River%20Shannon%20SAC%20Water%20Courses%20Supporting%20Doc_V1.pdf.

NPWS. 2012b. *Conservation Objectives: Lower River Shannon SAC 002165*. Conservation Objective Series. National Parks and Wildlife Service / Department of Arts, heritage and the Gaeltacht. https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002165.pdf.

NPWS. 2013. *Site Synopsis: Lower River Shannon SAC 002165*. Site Synopsis. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

NRA. 2007. 'Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan'. National Roads Authority. https://www.tii.ie/media/egql0gow/guidelines-for-the-creation-and-maintenance-of-an-environmental-operating-plan.pdf.

NRA. 2009. *National Roads Authority Guidelines for Assessment of Ecological Impacts of National Road Schemes.* Transport Infrastructure Ireland. http://www.tii.ie/technical-

services/environment/planning/Guidelines-for-Assessment-of-Ecological-Impacts-of-National-Road-Schemes.pdf.

NRA. n.d. 'Advice Note - Washout Areas'. National Roads Authority. https://www.tii.ie/media/0sdouncq/advice-note-washout-areas.pdf.

OPR. 2021. 'OPR Practice Note PN01 - Appropriate Assessment Screening for Development Management'. Preprint, Office of the Planning Regulator.

Parnell, J., and T. Curtis. 2012. *Webb's An Irish Flora*. 8th edn. Cork University Press.

People over Wind, Peter Sweetman v Coillte Teoranta (C-323/17), C-323/17 (CJEU 12 April 2018). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A62017CJ0323&qid=1677766011261.

Preene, M., T. O. L. Roberts, and W. Powrie. 2016. *Groundwater Control: Design and Practise, Second Edition*. Guidance Document No. C750. no. C750. CIRIA.

SEPA. 2021. 'Sector Specific Guidance: Water Run-off from Construction Sites. (WAT-SG-75)'. Scottish Environment Protection Agency. https://www.sepa.org.uk/media/340359/wat-sg-75.pdf.

S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 (2009). https://www.irishstatutebook.ie/eli/2009/si/272.

Smith, George F., Paul O'Donoghue, Katie O'Hora, and Eamonn Delaney. 2011. 'Best Practice Guidance for Habitat Survey and Mapping'. *The Heritage Council: Ireland*.

Stace, Clive. 2019. *New Flora of the British Isles*. 4th edn. C&M Floristics.

Stroh, P. A., K. J. Walker, T. A. Humphrey, O. L. Pescott, and R. J. Burkmar. 2023. *Plant Atlas 2020. Mapping Changes in the Distribution of the British and Irish Flora.* Botanical Society of Britain and Ireland.

Woods Ballard, B., S. Wilson, H. Udale-Clarke, et al. 2015. *The SuDS Manual*. CIRIA C753 C753. CIRIA.

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