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NATURA IMPACT STATEMENT OF A PROPOSED DEVELOPMENT AT BRIAN GEARY MOTORS, RAHEEN, LIMERICK

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1 INTRODUCTION

1.1 REQUIREMENT FOR AN APPROPRIATE ASSESSMENT

In April 2026, Whitehill Environmental was commissioned by Node Architecture on behalf of Brian Geary Motors, to provide the necessary information to allow the competent authority (in this case Limerick City and County Council) to conduct an Article 6 (3) Appropriate Assessment for a proposed development on a greenfield site at the Raheen Business Park, Raheen, Co. Limerick. This information is being submitted as a Natura Impact Statement (NIS). This NIS was undertaken on the basis that potential negative impacts and subsequent effects upon European sites within the Zone of Influence of the application site cannot be ruled out.

The purpose of the assessment is to determine the appropriateness of the proposed project, in the context of the conservation status of the site or sites. In Ireland, an Appropriate Assessment takes the form of a Natura Impact Statement (NIS), which is a statement of the likely impacts of the plan or project on a Natura 2000 site. The NIS comprises a comprehensive assessment of the plan or project and it examines the direct and indirect impacts that the plan or project might have on its own or in combination with other plans or projects on one or more Natura 2000 sites in view of the sites' conservation objectives.

1.2 THE AIM OF THE REPORT

This Natura Impact Statement (NIS) has been prepared in accordance with the current guidance (DoEHLG, 2009, Revised February 2010), and it provides an assessment of the potential significant effects of the proposed development on Natura 2000 sites with the Zone of Influence of the development.

An NIS should provide the information required in order to establish whether or not a proposed development is likely to have a significant impact on certain Natura sites in the context of their conservation objectives and specifically on the habitats and species for which the Natura 2000 conservation sites have been designated.

Accordingly, a comprehensive assessment of the potential significant effects of this application on European sites was carried out in April 2026 by Noreen McLoughlin, MSc, MCIEEM of Whitehill Environmental. This assessment allowed areas of potential ecological value and potential ecological constraints associated with this proposed development to be identified and it also enabled potential ecological impacts associated with the proposed development to be assessed and mitigated for.

1.3 REGULATORY CONTEXT

RELEVANT LEGISLATION

The Birds Directive (Council Directive2009/147/EC) recognises that certain species of birds should be subject to special conservation measures concerning their habitats. The Directive requires that Member States take measures to classify the most suitable areas as Special Protection Areas (SPAs) for the conservation of bird species listed in Annex 1 of the Directive. SPAs are selected for bird species (listed in Annex I of the Birds Directive), that are regularly occurring populations of migratory bird species and the SPA areas are of international importance for these migratory birds.

The EU Habitats Directive (92/43/EEC) requires that Member States designate and ensure that particular protection is given to sites (Special Areas of Conservation) which are made up of or support particular habitats and species listed in annexes to this Directive.

Articles 6(3) and 6(4) of this Directive also call for the undertaking of an Appropriate Assessment for plans and projects not directly connected with or necessary to the management of, but which are likely to have a significant effect on any European designated sites (i.e. SACs and SPAs).

The Water Framework Directive (WFD) (2000/60/EC), which came into force in December 2000, establishes a framework for community action in the field of water policy. The WFD was transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003). The WFD rationalises and updates existing legislation and provides for water management on the basis of River Basin Districts (RBDs). RBDs are essentially administrative areas for coordinated water management and are comprised of multiple river basins (or catchments), with cross-border basins (i.e. those covering the territory of more than one Member State) assigned to an international RBD. The aim of the WFD is to ensure that waters achieve at least good status by 2027 and that status does not deteriorate in any waters.

Appropriate Assessment and the Habitats Directive

Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora – 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. Natura 2000 sites are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC).

Articles 6(3) and 6(4) of the Habitats Directive sets 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 Appropriate Assessment Process

The aim of Appropriate Assessment is to assess the implications of a proposal in respect of a designated site's conservation objectives.

The 'Appropriate Assessment' itself is an assessment which must be carried out by the competent authority which confirms whether the plan or project in combination with other plans and projects will have an adverse impact on the integrity of a European site.

Screening for Appropriate Assessment shall be carried out by the competent authority as set out in Section 177U(1) and (2) of the Planning and Development Act 2000 (as amended) as follows:

'(1) A screening for appropriate assessment of a draft Land use plan or application for consent for proposed development shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that Land use plan or proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site.

(2) A competent authority shall carry out a screening for appropriate assessment under subsection (1) before—

(a) a Land use plan is made including, where appropriate, before a decision on appeal in relation to a draft strategic development zone is made, or

(b) consent for a proposed development is given.'

The competent authority shall determine that an Appropriate Assessment is not required if it can be excluded, that the proposed development, individually or in combination with other plans or project will have a significant effect on a European site.

Where the competent authority cannot exclude the potential for a significant effect on a European site, an Appropriate Assessment shall be deemed required.

Where an Appropriate Assessment is required, the conclusions of the Appropriate Assessment Report (Natura Impact Statement (NIS)) should enable the competent authority to ascertain whether the plan or proposed development would adversely affect the integrity of the European site. If adverse impacts on the integrity of a European site cannot be avoided, then mitigation measures should be applied during the appropriate assessment process to the point where no adverse impacts on the site remain. Under the terms of the

Habitats Directive consent can only be granted for a project if, as a result of the appropriate assessment either (a) it is concluded that the integrity of any European sites will not be adversely affected, or (b) after mitigation, where adverse impacts cannot be excluded, there is shown to be an absence of alternative solutions, and there exists imperative reasons of overriding public interest for the project should go ahead.

Section 177(V) of the Planning and Development Act 2000 (as amended) outlines that the competent authority shall carry out the Appropriate Assessment, taking into account the Natura Impact Statement (amongst any other additional or supplemental information). A determination shall then be made by the competent authority in line with the requirements of Article 6(3) of the Habitats Directive as to whether the plan or proposed development would adversely affect the integrity of a European site, prior to consent being given.

2 METHODOLOGY

2.1 APPROPRIATE ASSESSMENT

This NIS has been prepared with reference to the following:

- European Commission (2018). Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.
- European Commission (2021). Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.
- European Commission (2006). Nature and Biodiversity Cases: Ruling of the European Court of Justice.
- European Commission (2007). Clarification of the Concepts of: Alternative Solution, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence, Opinion of the Commission.
- Department of Environment, Heritage and Local Government (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities.
- The AA has also been undertaken in consideration of the European Union (CJEU) judgment on Case C323/17 (People over Wind, Peter Sweetman v Coillte Teoranta), which concluded that "it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects [mitigation] of the plan or project on that site.". Other caselaw relevant to Screening are Waddenzee (C127/02), Holohan and Others v An Bord Pleanála (C461/17) and Court of Appeal case C1/2009/0041/QBACF Citation No [2009] EWCA Civ. 1061.
- Most recent and pertinent case law pertaining to AA screening comes from *Eco Advocacy v. An Bord Pleanála* Case C-721/21. This case recently determined that "standard design measures" can be included at design stage if they are an inherent part of the plan, namely a measure: *'incorporated into that plan or project as standard features, inherent in such a plan or project, irrespective of any effect on the site'.*

The EC Guidance sets out a number of principles as to how to approach decision making during the process. The primary one is 'the precautionary principle' which requires that the conservation objectives of Natura 2000 should prevail where there is uncertainty.

When considering the precautionary principle, the emphasis for assessment should be on objectively demonstrating with supporting evidence that:

- There will be no significant effects on a Natura 2000 site;
- There will be no adverse effects on the integrity of a Natura 2000 site;

- There is an absence of alternatives to the project or plan that is likely to have an adverse effect to the integrity of a Natura 2000 site; and
- There are compensation measures that maintain or enhance the overall coherence of Natura 2000.

This translates into a four stage process to assess the impacts, on a designated site or species, of a policy or proposal.

The EC Guidance states that "each stage determines whether a further stage in the process is required". Consequently, the Council may not need to proceed through all four stages in undertaking the Appropriate Assessment.

The four-stage process is:

Stage 1: Screening – The process which identifies the likely impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether or not these impacts are likely to be significant;

Stage 2: Appropriate Assessment – The consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts;

Stage 3: Assessment of Alternative Solutions – The process which examines alternative ways of achieving objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site;

Stage 4: **Assessment where no alternative solutions exist and where adverse impacts remain –** An assessment of the compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

In complying with the obligations set out in Articles 6(3) and following the guidelines described above, this screening statement has been structured as a stage by stage approach as follows:

- Description of the proposed project;
- Identification of the Natura 2000 sites close to the proposed development;

- Identification and description of any individual and cumulative impacts on the Natura 2000 sites likely to result from the project;
- Assessment of the significance of the impacts identified above on site integrity. Exclusion of sites where it can be objectively concluded that there will be no significant effects;
- Description of proven mitigation measures.

2.2 STATEMENT OF COMPETENCY

This NIS was carried out by Noreen McLoughlin, BA, MSc, MCIEEM. Noreen has an honours degree in Zoology and an MSc in Freshwater Ecology from Trinity College, Dublin and she has been a full member of the Chartered Institute of Ecology and Environmental Management for over 20 years. Noreen has over 22 years' experience as a professional ecologist in Ireland.

2.3 FIELD BASED STUDIES

A visit to the site of the proposed application at Raheen was conducted by Noreen McLoughlin on March 6th 2025, when field notes, species lists and photographs were taken. The site was surveyed in accordance with the Heritage Council's *Habitat Survey Guidelines* (Smith et al., 2010) and the Institute of Environmental Assessment's *Guidelines for Baselines Ecological Assessment* (IEA, 1995). A Phase 1 habitat survey of the site was undertaken and the habitats within the application site were classified in accordance to Level 3 of *A Guide to Habitats in Ireland* (Fossit, 2000). These habitats are denoted in the text along with their habitat code, e.g., the habitat code for improved agricultural grassland is GA1. A species list was compiled and target notes were made. Any mammal and bird activity was also noted.

The site was additionally surveyed by ecologist Jessica Hamilton BSc ACIEEM of BEC Consultants in May 2026. This botanical survey involved a walkover of the site with a focus on the grassland areas to look for the presence of Meadow Barley, a protected plant species that is listed in the Flora Protection Order. Habitats within the site were mapped to Fossitt (2000) and Annex I level (Martin *et al.*,2018), if applicable, following Smith *et al* (2011). Data was collected in the field on a ruggedized tablet using QField

2.4 DESK STUDIES & CONSULTATION

Information on the site and the area of the proposed development was studied prior to the completion of this statement. The following data sources were accessed in order to complete a thorough examination of potential impacts:

- National Parks and Wildlife Service - Aerial photographs and maps of designated sites, information on habitats and species within these sites and information on protected plant or animal species, conservation objectives, site synopses and standard data forms for relevant designated sites.
- Environmental Protection Agency (EPA)- Information pertaining to water quality, geology and licensed facilities within the area;
- Myplan.ie – Mapped based information;
- National Biodiversity Data Centre (NBDC) – Information pertaining to protected plant and animal species within the study area;
- Bing maps & Google Street View – High quality aerials and street images;
- Node Architects - Plans and Specifications relating to the proposed development, etc – Plans and Specifications relating to the development etc
- Limerick City and County Council – Information on planning history in the area.

2.5 ASSESSMENT METHODOLOGY

The proposed development was assessed to identify its potential ecological impacts and from this, the Zone of Influence (ZoI) of the proposed development was defined. Based on the potential impacts and their ZoI, the Natura 2000 sites potentially at risk from direct, indirect or in-combination impacts were identified. The assessment considered all potential impact sources and pathways connecting the proposed development to Natura 2000 sites, in view of the conservation objectives supporting the favourable conservation condition of the site's Qualifying Interests (QIs) or Special Conservation Interests (SCIs).

The conservation objectives relating to each Natura 2000 site and its QIs/SCIs are cited generally for SACs as "to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or Annex II species for which the SAC has been selected", and for SPAs "to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA".

As defined in the Habitat's Directive, the favourable conservation status of a habitat is achieved when:

- Its natural range and area it covers within that range is 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;

The favourable conservation status of a species is achieved when:

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

Where site-specific conservation objectives (SSCOs) have been prepared for a European site, these include a series of specific attributes and targets against which effects on conservation condition, or integrity, can be measured. Where potential significant effects are identified, then these SSCOs should be considered in detail.

3 DETAILS OF THE PROPOSED DEVELOPMENT

3.1 DEVELOPMENT DESCRIPTION

Brian Geary Car Sales Limited seeks a seven year planning permission for development, to extend the existing site and business at Ballycummin, Raheen Co. Limerick. The proposed development will comprise*: (a) construction of a two-storey motor sales & service facility with photovoltaic panels including a motor showroom and service workshop; (b) Valet building & bin store; (c) car wash; (d) ESB Substation; (e) external plant enclosure; (f) car parking including vehicle display, customer and employee spaces; (g) signage including (a) 1 no. totem sign; (b) 3 no. free standing internal arch signs; (c) 1 no. directional signs; (d) 2 no. facade screens; and (e) building signage; (h) a new entrance off the R526 road; and (i) all associated site works including landscaping, boundary treatment and pedestrian connection to existing operational site.*

An extract from the planning drawings as submitted is shown in Figure 1.

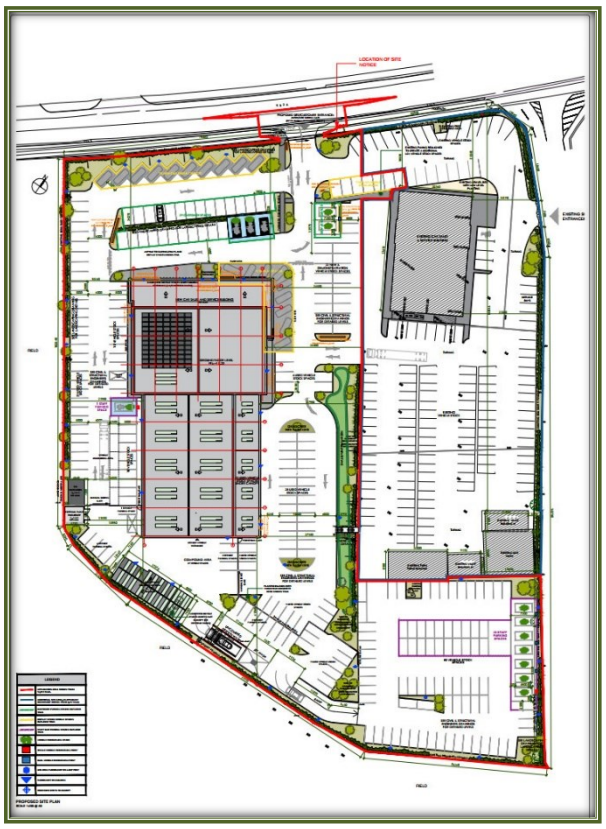


Figure 1 – Extract from Planning Drawings (as prepared by Node Architecture).

SURFACE WATER

Existing Surface Water Drainage

A topographical survey undertaken by NCW Surveys Ltd. in March 2018 identified a 300 mm surface water pipe within the site that connects to a 900 mm surface water pipeline located along the north-western boundary of the existing showroom site. A manhole within the site facilitates the connection between these pipelines. Surface water from the site currently discharges via this network beneath the R526 road and ultimately drains to Loughmore Common, located to the north of the site.

A site inspection undertaken in March 2025 confirmed that the existing showroom site is well drained, with regularly maintained ACO drains and gullies present at key locations throughout the development.

Proposed Surface Water Drainage Strategy

Details on the proposed surface water drainage have been presented in the accompanyting report prepared by Punch Consulting Engineers. The proposed surface water drainage system has been designed using Causeway Flow software in accordance with the Department of the Environment and Local Government publication Recommendations for Site Development Works for Housing Areas, the Greater Dublin Strategic Drainage Study (GDSDS) and the requirements of the Limerick Development Plan 2022–2028.

A new surface water drainage network will be constructed and will operate entirely independently of the foul water drainage system. Surface water runoff from roof areas and hardstanding surfaces will be collected via a gravity drainage network and managed through a combination of Sustainable Drainage Systems (SuDS), attenuation storage and controlled discharge.

The development incorporates a range of SuDS measures including permeable paving, porous asphalt, swales, rain gardens, bioretention areas and infiltration trenches. These measures have been designed to maximise infiltration, reduce runoff volumes, improve water quality and attenuate flows prior to discharge from the site.

Surface water from the development will ultimately discharge to the existing 900mm surface water sewer located along the northern boundary of the site.

An attenuation tank will be provided within the northern section of the development. The tank is positioned downstream of the permeable paving and porous asphalt drainage catchments and has been modelled as a depth/area storage node (S2-3) within the

Causeway Flow network. The tank provides approximately 2.686m of storage depth and receives runoff from hardstanding areas, roof drainage and SuDS features including swales and bioretention areas via proposed 150mm diameter connections.

The attenuation tank will temporarily store runoff during peak rainfall events and release flows at a controlled rate to the existing surface water sewer. This ensures that post-development discharge rates do not exceed greenfield runoff rates and prevents surcharging within the drainage network.

Hydrological modelling was undertaken using an M5-60 rainfall value of 17 mm and a Ratio (R) value of 0.318. The drainage system has been designed to accommodate the 1% Annual Exceedance Probability (AEP) rainfall event (1 in 100-year return period), including allowances of 30% for climate change and 10% for urban creep. All finished floor levels will be set a minimum of 500mm above the predicted drainage water levels associated with the 100-year design storm event.

Sustainable Drainage Systems (SuDS)

The proposed development has been designed in accordance with the principles of Sustainable Drainage Systems (SuDS). These measures will reduce runoff volumes, improve water quality, provide attenuation storage and contribute to biodiversity and amenity benefits within the site.

Under normal rainfall conditions, relatively small volumes of runoff will enter the receiving drainage network as rainfall will be retained within SuDS features and subsequently infiltrated to ground or lost through evapotranspiration. All SuDS components will incorporate high-level overflow structures to safely convey excess flows during extreme rainfall events. Ongoing maintenance of all SuDS infrastructure will be undertaken to ensure long-term operational effectiveness.

The principal SuDS measures proposed are outlined below.

- Permeable Pavements - Permeable paving is proposed within display parking areas and along the front of the building, while porous asphalt is proposed throughout much of the site, including rear parking areas and selected parking bays east of the proposed building. These systems provide treatment through:
    - Filtration of sediments and associated pollutants;

- Biodegradation of hydrocarbons such as petrol and diesel within the pavement structure;
- Adsorption of contaminants onto aggregate surfaces;
- Settlement and retention of suspended solids.

The use of permeable pavements has been agreed in principle with Limerick City and County Council as an alternative to conventional oil separators. CIRIA C753 (The SuDS Manual) notes that runoff from permeable pavements typically does not occur during rainfall events of up to 5 mm.

- Engineered Swales - An engineered swale incorporating an infiltration trench is proposed within the site. The swale will provide additional attenuation storage and facilitate infiltration of runoff. The base of the swale and infiltration trench will be lined with permeable geotextile membrane and will incorporate a high-level overflow connected to the drainage network.

  In accordance with CIRIA C753, swales may be considered to provide interception storage, resulting in zero runoff from the first 5 mm of rainfall during approximately 80% of summer rainfall events and 50% of winter rainfall events.

- Rain Gardens - Rain gardens are proposed to receive overland flow from adjacent paved areas. These features will provide treatment and attenuation of runoff from low-intensity rainfall events through filtration, infiltration and evapotranspiration.

  The rain gardens will comprise landscaped areas incorporating highly permeable soils to a depth of approximately 900 mm. Perforated drainage pipes will be installed at low level to facilitate drainage of excess water, which will subsequently discharge to the main surface water drainage network.

- Bioretention Areas - Bioretention areas are proposed throughout the site and will incorporate engineered soils, drainage stone and subsoil layers. These systems facilitate the downward filtration of runoff through a filter medium, removing suspended solids and contaminants while providing additional attenuation storage.

  The systems will be lined with permeable membrane and will incorporate high-level overflows connected to the drainage network. In accordance with CIRIA C753, bioretention systems provide interception storage equivalent to the first 5 mm of rainfall during approximately 80% of summer rainfall events and 50% of winter rainfall events.

- Infiltration Trenches - Infiltration trenches will provide additional attenuation storage within the void spaces of the stone-filled trench structure. These features will be lined and will incorporate high-level overflows to accommodate exceedance flows.

  CIRIA C753 identifies infiltration trenches as providing interception storage, with no runoff generated from the first 5 mm of rainfall during approximately 80% of summer rainfall events and 50% of winter rainfall events.

- Petrol Interceptor - A Class 1 bypass separator is proposed upstream of the attenuation tank to treat runoff originating from vehicle parking and circulation areas. The separator will remove hydrocarbons and fine sediment particles from runoff, thereby reducing the risk of downstream contamination associated with accidental spillages.

  Bypass separators provide full treatment of flows generated by rainfall intensities up to 6.5 mm/hour, which represents in excess of 99% of rainfall events. Flows exceeding this threshold are permitted to bypass the treatment chamber. Class 1 separators are designed to achieve an effluent oil concentration of less than 5 mg/l under standard testing conditions.

- Attenuation Tank - The attenuation tank will provide the primary storage component of the drainage network and has been sized to reduce peak runoff rates from the development to greenfield equivalent discharge rates. The tank will provide temporary storage during storm events and controlled discharge to the receiving stormwater network, thereby reducing flood risk and preventing hydraulic overloading of downstream infrastructure.

3.2 SITE LOCATION AND SURROUNDING ENVIRONMENT

The application site is circa 1.45ha and it is located in the townland of Ballycummin in Raheen, which is in the south-western outskirts of Limerick City. The site is approximately 4.7km south-west of the city centre. The site is adjacent to the existing Brian Geary Motors facility and access to the site will be via the creation of a new entrance that is just south of the R526. This site is bounded to the north-west by the R526, to the north-east / east by the existing car showroom and the Co-oP Store, to the south by a separate industrial site and to the west by the Eli Lily site

The land-use surrounding the site is mixed. To the north, east and south the sub-urban landscape of Limerick is the main feature, where industrial, commercial and residential areas are the dominant land-uses. The habitats associated with these areas include buildings and artificial surfaces and amenity grasslands and gardens. Further beyond these sub-urban areas and in the rural areas outside of Limerick city, agriculture is the main land-use and improved agricultural grassland is the dominant habitat. Other habitats represented locally include neutral and unmanaged grasslands, hedgerows and treelines. The River Shannon estuary and its associated habitats is circa 3.2km north of the site. Site location maps are shown in Figures 2 and 3, whilst an overview of the local habitats surrounding the application site can be seen in the aerial photograph in Figure 4.

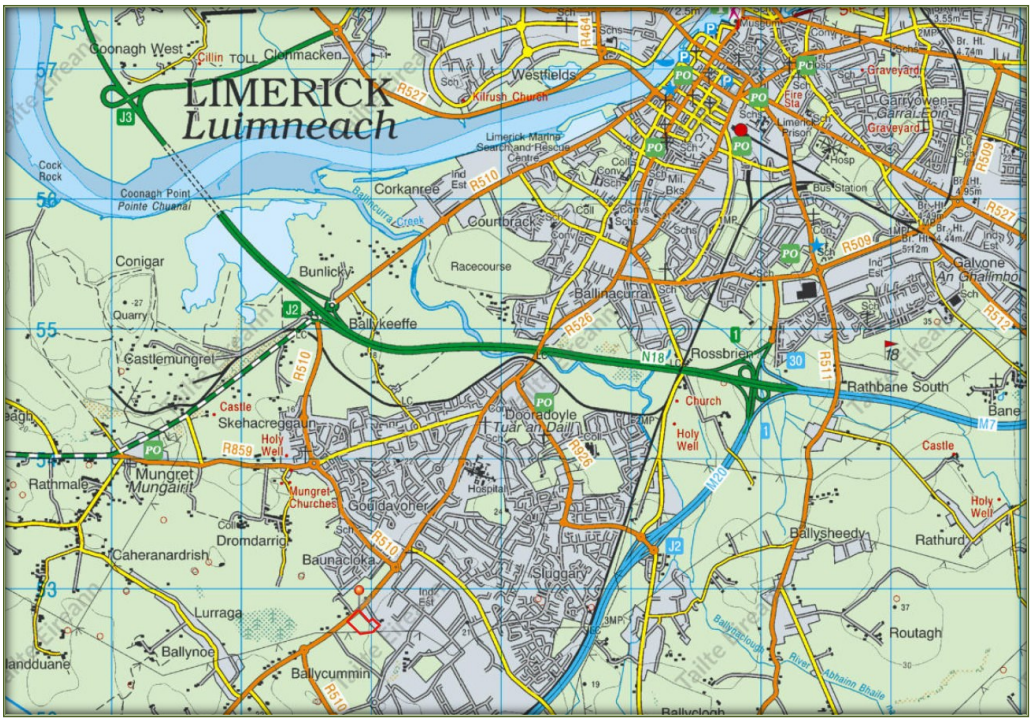


Figure 2 – Site Location Map (Site Pinned)

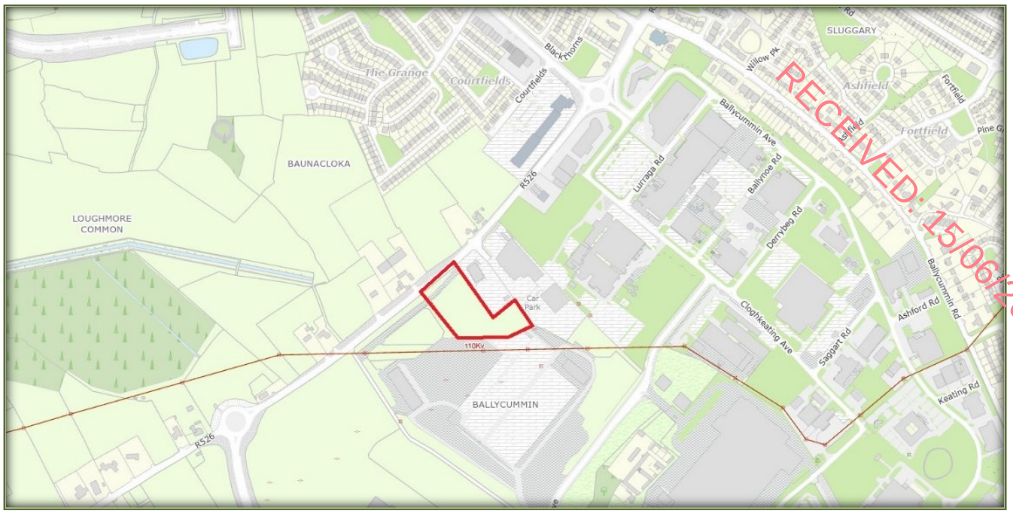


Figure 3 – Site Location Map (Site Outlined in Red)

Figure 4 – Aerial Photograph Showing Habitats Surrounding the Application Site © Google

HABITATS WITHIN THE SITE

The habitats within the site were surveyed by BEC Consultants in May 2026[1]. No part of the site lies within any area that has been designated for nature conservation purposes. The subject site comprises a greenfield parcel of land located adjacent to the existing Brian Geary car showroom in Raheen, Limerick. A review of historical aerial imagery indicates that the site has remained largely unmanaged for approximately the past 20 years, with no evidence of recent agricultural use. As a result, the current vegetation reflects natural colonisation and succession processes typical of unmanaged land. The dominant habitats present within the site are described below.

GS2 - Dry meadows

Dry meadows (Fossitt code GS2) is the dominant habitat type within the site and it occurs throughout the site, with some gently sloping areas in the north-east and a lower-lying area in the centre. As the site has not been grazed or mown in recent years, the majority of the grassland is rank. Large areas of the grassland are co-dominated by a mix of Cock's-foot (*Dactylis glomerata*), False-Oat Grass (*Arrhenatherum elatius*) and Yorkshire Fog (*Holcus lanatus*), along with other grass species, including Meadow Grasses (*Poa* spp.), Sweet Vernal grass (*Anthoxanthum odoratum*) and Meadow Foxtail (*Alopecurus pratensis*).

Herbs occur in varying quantities throughout the sward and include species such as Creeping Cinquefoil (*Potentilla reptans*), Silverweed (*Potentilla anserina*), Common Knapweed (*Centaurea nigra*), Meadow Buttercup (*Ranunculus acris*), Agrimony (*Agrimonia eupatoria*), Creeping Thistle (*Cirsium arvense*) and Cowslip (*Primula veris*).

A small area (approx. 88 m2) of the lower-lying area of grassland can be classified as potential Annex I habitat - *Lowland hay meadows* (EU code 6510). It was classified as potential (p6510) due to the presence of high-quality and positive indicator species, but it lacked the correct structure i.e. rank and not mown. (Martin, J.R., 2026, pers. comm.). The high-quality and positive indicator species recorded are listed below:

[1] *Hamilton, J.J. (2026) Survey for Meadow Barley at Brian Geary Toyota, Raheen, Co. Limerick. Unpublished report by BEC Consultants Ltd.*

Common / Scientific Name	Type of Indicator
Common Bird's-foot-trefoil *Lotus corniculatus*	High-quality
Common Knapweed *Centaurea nigra*	Positive
Meadow Buttercup *Ranunculus acris*	Positive
Meadowsweet *Filipendula ulmaria*	Positive
Meadow Foxtail *Alopecurus pratensis*	Positive
Meadow Vetchling *Lathyrus pratensis*	Positive
Ribwort Plantain *Plantago lanceolata*	Positive

WS1 – Scrub

An area of Grey Willow (*Salix cinerea*) and Hawthorn (*Crataegus monogyna*) scrub occurs in the centre of the site and extends northwards. The field layer here contains species such as Hairy Sedge (*Carex hirta),* and grasses such as Bent grasses (*Agrostis* spp.) and Sweet Vernal-grass. A dense thicket of Bramble (*Rubus fruticosus* agg.) occurs around the periphery.

Other Habitats

Other habitats occurring within the site include a Treeline (WL2) that runs, in part, along the north-western boundary of the site. It includes Ash (*Fraxinus excelsior*), Field Maple (*Acer campestre*) and Hawthorn. In the east of the site is an area of Recolonising Bare Ground (ED3), which contains a mix of ruderal species including Creeping Thistle (*Cirsium arvense*), Smooth Sow-thistle (*Sonchus oleraceus*) and Creeping Buttercup (*Ranunculus repens*). In the north of the site is an area of Bare Ground (ED2) that occurs in association with an old trackway.

Meadow Barley was not identified during the field survey, however, as the survey took place in May, it was outside the optimal survey period of June-July when Meadow Barley is more conspicuous.

A close up aerial of the site is presented in Figure 5, whilst a habitat map of the site is presented in Figure 6.

Figure 5 – Aerial Photo of the Site and its Surrounding Habitats © Google

Figure 6 – Habitat Map of the Site (BEC Consultants, 2026)

AQUATIC ENVIRONMENT

Water Features and Quality – Surface Water

The application site is located within the Shannon Estuary South Hydrometric Area (24) and Catchment (24), the Ballynaclogh Sub-Catchment (010) and Sub-Basin (010). There are no drains or streams within or adjacent to the application site. The closest watercourse to the site is the Loughmore Canal which is c200m west of the site. This canal forms part of the Loughmore Common Turlough pNHA. Excess surface water from the Raheen Industrial estate is discharged into the Loughmore Canal. This feature was constructed originally in the 1970s for receiving surface water discharge from the Raheen Industrial Estate. This canal drains via a pipe towards the Bernakyle River, which is 2.9km west of the application site. This river flows north-west until its confluence with the River Maigue. The River Maigue flows into the Shannon Estuary at Carrigclogher.

The Bernakyle River has been classed as moderate status as has the River Maigue. The River Shannon Estuary is a transitional water body and near Limerick City, its status has been described as poor. Under the requirements of the Water Framework Directive in Ireland, this status is unsatisfactory, and good status should be achieved in the River Shannon and other watercourses within the current cycle of the WFD, i.e., by 2027. The EPA cite the main pressures on the Bernakyle River and its tributaries in the Raheen area as agriculture and urban run-off pressures. Figure 7 presents an illustration of water quality in watercourses within the Raheen area.

The EPA have not classified the ecological status of the Loughmore Canal as it is not defined by them as a "watercourse" in terms of their Water Framework Directive monitoring requirements. However, a number of studies on this canal have been carried out privately in recent years as part of a range of appeals and submissions in relating to ongoing and potential developments in the Raheen area. These reports are available on many recent planning applications for the Raheen area, including a recent one from March 2026[2]. In 2024, TetraTech Ltd prepared an environmental report on Loughmore Canal on behalf of Mr Tom Ryan, who farms locally in the Raheen area. This report concluded that sediment samples from Loughmore Common and the upstream Barnakyle Stream show lower concentrations of metals, PAHs, VOCs and hydrocarbons relative to those recorded at the Raheen Business Park outfall and along Loughmore Canal.

Using EPA soil guideline ranges as a proxy, most substances were within acceptable limits, with only marginal exceedances of chromium at two canal bank locations. Contaminants

[2] *Submission by Mr Tom Ryan against Planning File Ref 26/60284 (Regeneron Ireland).*

identified along the canal, including PAHs and VOCs (some classified as hazardous), are consistent with anthropogenic inputs associated with industrial activity.

Contamination is concentrated within canal sediments and adjacent bank soils, likely reflecting historical dredging and deposition practices. These materials act as a reservoir for pollutants and present a potential exposure risk to human and animal receptors.

Figure 7 – Aerial Photo showing Site (Outlined in Red) and EPA Water Quality Status – Yellow = Moderate; Brown = Poor. The Location of the Loughmore Canal, which connects to the Barnakyle Stream, is Highlighted in Pink (Source, EPA).

Ground Water

The application site is within the Limerick City Southwest Groundwater Body and the overall status of this groundwater body is noted to be good, however it is considered to be *At Risk* of not maintaining this good status. Groundwater vulnerability within the site itself is noted to be high. Groundwater vulnerability at the Loughmore Commons Turlough pNHA is noted to be Extreme / Bedrock at surface and this is consistent with its classification as a turlough. The groundwater vulnerability of the site and surrounding here is shown in Figure 8.

A geotechnical site investigation which includes infiltration tests, shallow borehole drilling and a trial pit investigation was previously completed in January 2020. Bedrock was not encountered during the site investigation. Trial pits were excavated to depths of between 1.9m (Trial Pit 03) to 3m (Trial Pit 02). Cable percussion holes were drilled to depths between 2.0m (BH03) and 3.8m (BH02). Refusal was reportedly due to cobbles and boulders rather than encountering bedrock. Groundwater was not encountered in any of the trial holes, with

the exception of the infiltration test hole 1, where it was encountered at 1.2m below ground level.

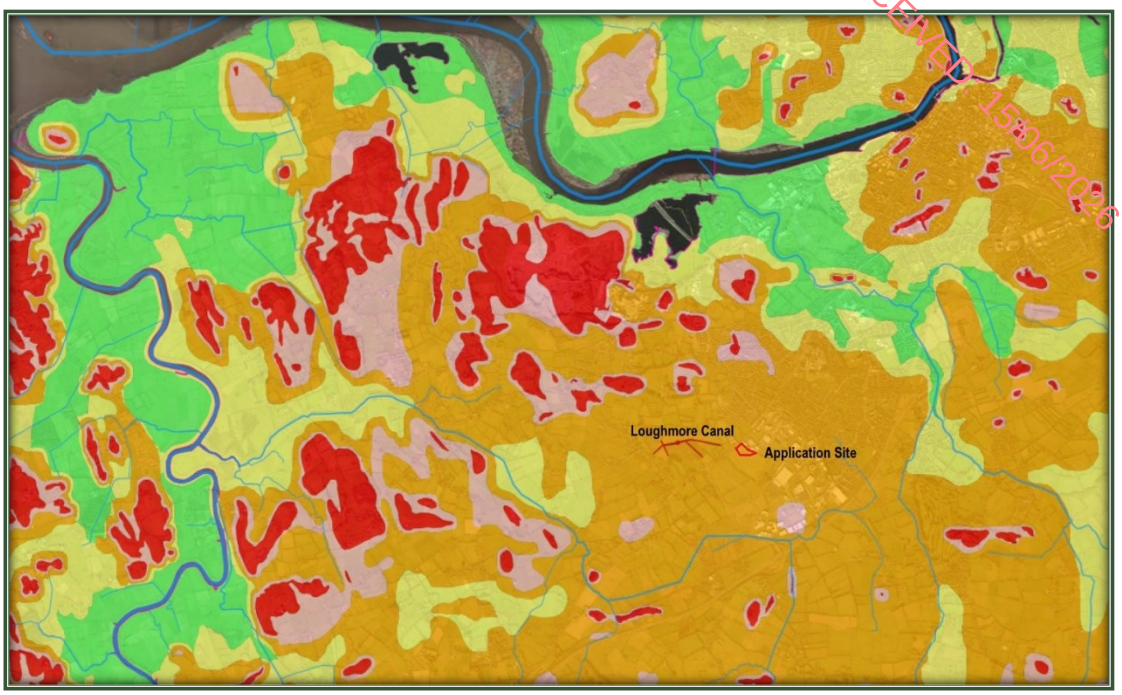


Figure 8 – Aerial Photo showing Site (Outlined in Red) and Ground Water Quality Vulnerability (Source, EPA). Green = Low; Yellow = Moderate; Orange = High; Pink = Extreme; Red = Bedrock at Surface. Application Site = High and Loughmore Canal = Bedrock at Surface.

4 STAGE 1 – APPROPRIATE ASSESSMENT SCREENING

4.1 NATURA 2000 SITES IDENTIFIED

In accordance with the guidelines issued by the Department of the Environment and Local Government, a list of Natura 2000 sites within 15km of the proposed development have been identified and described according to their site synopsis, qualifying interests and conservation objectives. In addition, any other sites further than this, but potentially within its zone of interest were also considered. The zone of impact may be determined by an assessment of the connectivity between the application site and the designated areas by virtue of hydrological connectivity, atmospheric emissions, flight paths, ecological corridors etc.

For significant effects to arise, there must be a potential impact facilitated by having a *source*, i.e., the proposed development and activities arising out of its construction or operation, a *receptor*, i.e., the European site and its qualifying interests and a subsequent *pathway* or *connectivity* between the source and receptor, e.g., a water course. The likelihood for significant effects on the European site will largely depend on the characteristics of the source (e.g., nature and scale of the construction works), the characteristics of the existing pathway and the characteristics of the receptor, e.g., the sensitivities of the Qualifying Interests (habitats or species) to changes in water quality.

The site of the proposed development is within 15km of five sites that have been designated under the EU Habitats Directive and the EU Birds Directive. These designated areas and their closest points to the proposed development site are outlined in Table 1 and maps showing their location relative to the application site are shown in Figures 9 and 10. A full description of these sites can be read on the website of the National Parks and Wildlife Service.

Site Name & Code	Distance	Qualifying Interests	Screened In/Out
Lower River Shannon SAC 002165	2.3km north 9km downstream of the surface water discharge point	• Sandbanks which are slightly covered by sea water all the time • Estuaries • Mudflats and sandflats not covered by seawater at low tide • Coastal lagoons • Large shallow inlets and bays • Reefs • Perennial vegetation of	*Screened In - Potential impacts and subsequent significant effects are possible during construction and operation of the proposed development due to the proximity and potential source – pathway – receptor linkages between the application site and the SAC and these significant effects will be considered further.*

		stony banks • Vegetated sea cliffs of the Atlantic and Baltic coasts • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows (Glauco-Puccinellietalia maritimae) • Mediterranean salt meadows (Juncetalia maritimi) • Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation • Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae)* • Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae) • *Margaritifera margaritifera* (Freshwater Pearl Mussel) • *Petromyzon marinus* (Sea Lamprey) • *Lampetra planeri* (Brook Lamprey) • *Lampetra fluviatilis* (River Lamprey) • *Salmo salar* (Salmon) • *Tursiops truncatus* (Common Bottlenose Dolphin) • *Lutra lutra* (Otter)	
River Shannon and River Fergus Estuaries SPA 004077	2.6km north 9km downstream of the surface water discharge point	• Cormorant (*Phalacrocorax carbo)* • Whooper Swan *(Cygnus cygnus)* • Light-bellied Brent Goose *(Branta bernicla hrota)* • Shelduck (*Tadorna tadorna*) • Wigeon (*Anas penelope*) • Teal (*Anas crecca*) • Pintail (*Anas acuta*) • Shoveler (*Anas clypeata*) • Scaup (*Aythya marila*) • Ringed Plover (*Charadrius hiaticula)* • Golden Plover (*Pluvialis apricaria)* • Grey Plover *(Pluvialis squatarola)* • Lapwing (*Vanellus vanellus*) • Knot (*Calidris canutus*) • Dunlin (*Calidris alpina*) • Black-tailed Godwit (*Limosa limosa)*	*Screened In - Potential impacts and subsequent significant effects are possible during construction and operation of the proposed development due to the proximity and potential source – pathway – receptor linkages between the application site and the SPA and these significant effects will be considered further.*

		• Bar-tailed Godwit (*Limosa lapponica)* • Curlew (*Numenius arquata*) • Redshank (*Tringa totanus*) • Greenshank (*Tringa nebularia)* • Black-headed Gull (*Chroicocephalus ridibundus)* • Wetland and Waterbirds	
Tory Hill SAC 000439	8.8km south	• Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) • Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae • Alkaline fens	*Screened Out – There are no source-pathway-receptor linkages between the application site and this SAC, therefore significant effects upon this SAC arising from the construction and operation of the proposed development can be ruled out.*
Askeaton Fen Complex SAC 002279	11.7km west	• Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae • Alkaline fens	*Screened Out – There are no source-pathway-receptor linkages between the application site and this SAC, therefore significant effects upon this SAC arising from the construction and operation of the proposed development can be ruled out.*
Curraghchase *Woods SAC 000174*	13.3km west	• Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae) • *Taxus baccata* woods of the British Isles • *Rhinolophus hipposideros* (Lesser Horseshoe Bat)	*Screened Out – There are no source-pathway-receptor linkages between the application site and this SAC, therefore significant effects upon this SAC arising from the construction and operation of the proposed development can be ruled out.*

Table 2 – Natura 2000 Sites Within 15km of the Proposed Site

Figure 9 – The Application Site in relation to the Natura 2000 Sites within 15km (SACs – Red Hatching, SPAs – Pink Hatching)

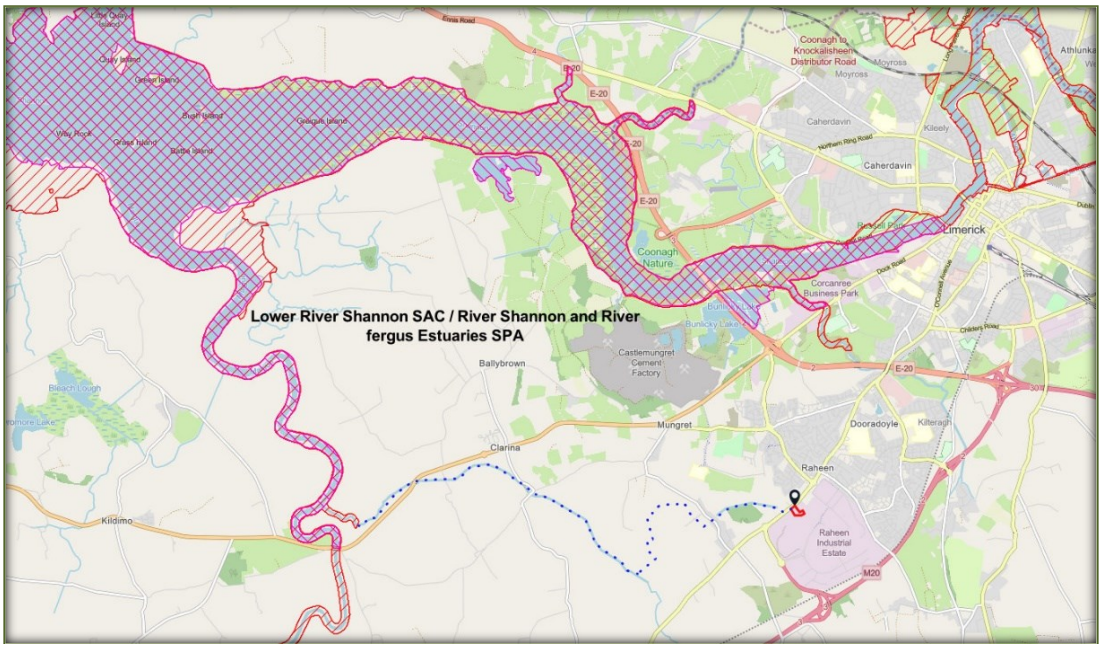


Figure 10 – The Application Site (Pinned) in relation to the Designated Sites. SACs - Red Cross Hatching, SPAs – Red Vertical Hatching.

4.2 IDENTIFICATION OF POTENTIAL IMPACTS

The proposed development at the Raheen Business Park is hydrologically connected to the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA via local surface water gullies and ultimate surface water discharge to the Loughmore Canal. Therefore, in the absence of mitigation, significant effects upon the SAC / SPA cannot be ruled out as there is a potential source – pathway – receptor linkages between the application site, the designated areas and their qualifying interests.

Only those features of the development that have the potential to affect the integrity and conservation objectives of the identified Natura sites and protected species have been considered. A number of factors were examined at this stage and dismissed or carried forward for Appropriate Assessment as relevant. The following areas were examined in relation to potential impacts from the proposed development on the Natura 2000 sites identified:

1. Significant effects upon the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA arising from a deterioration of local surface or ground water quality due to pollution during the construction of the proposed development.

2. Significant effects upon the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA arising from a deterioration of local surface or ground water quality due to pollution during the operation of the proposed development.

3. Cumulative Impacts

4.3 ASSESSMENT OF SIGNIFICANCE

This section considers the list of sites identified in Section 3.3. It can be considered that with the exception of the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA that the remainder of the sites identified in Section 3.3 can be excluded from the Appropriate Assessment process as significant negative effects upon these sites are not likely to occur. This is based on their distance from the proposed development and the fact that they are outside of its Zone of Influence. The remaining concerns will therefore focus upon the protected habitats and species of the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA.

4.4 SCREENING CONCLUSIONS

The proposed development is not directly connected with, nor necessary for, the nature conservation management of the designated sites. Therefore, having regard to the location of the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA in relation to the proposed development at Brian Geary Motors, Raheen, and the potential for significant effects to arise, the project must proceed to the next stage of Appropriate Assessment, namely a Natura Impact Statement.

5 STAGE 2 – NATURA IMPACT STATEMENT

5.1 INTRODUCTION

The main objective of this stage (Stage 2, Natura Impact Statement) in the Appropriate Assessment process is to determine whether the proposed development at the Raheen Business Park (either alone or in combination with other plans, programmes and projects) will result in significant adverse impacts to the integrity of the Lower River Shannon SAC and the River Shannon and Fergus Estuaries SPA with respect to these sites' structures, species, functions and/or conservation objectives. This stage also outlines the mitigation measures that should be taken in order to avoid any negative impacts of this application, should it receive consent.

In this section, the Natura 2000s sites identified in the previous section will be described in greater detail in terms of their site characteristics and conservation objectives.

5.2 NATURA 2000 SITES IDENTIFIED

LOWER RIVER SHANNON (SAC SITE CODE 0002165)

This site is a very large, long SAC, approximately 14 km wide and 120 km long, encompassing: the drained river valley which forms the River Shannon estuary; the broader River Fergus estuary, plus a number of smaller estuaries e.g. Poulnasherry Bay; the freshwater lower reaches of the Shannon River, between Killaloe and Limerick, plus the freshwater stretches of much of the Feale and Mulkear catchments; a marine area at the mouth of the Shannon estuary with high rocky cliffs to the north and south; ericaceous heath on Kerry Head and Loop Head; and several lagoons. The underlying geology ranges from Carboniferous limestone (east of Foynes) to Namurian shales and flagstones (west of Foynes) to Old Red Sandstone (at Kerry Head). The salinity of the system varies daily with the ebb and flood of the tide and with annual rainfall fluctuations seasonally.

The site contains many Annexed habitats, including the most extensive area of estuarine habitat in Ireland. A good range of Annexed species are also present, including the only known resident population of the common bottlenose dolphin *Tursiops truncatus* in Ireland, all three Irish species of lamprey, and a good population of *Salmo salar*. A number of birds listed on the EU Birds Directive either winter or breed in the site. The site is internationally important for with more than 50,000 individuals occurring in winter. Several species listed in the Irish Red Data Book are present, perhaps most notably the only known Irish populations of *Scirpus triqueter*.

The full NPWS site synopsis for this SAC can be read on the website of the National Parks and Wildlife Service, along with the Site Specific Conservation Objectives for this site, the conservation objective supporting documents and the Natura 2000 standard data form. All these documents were referred to in the preparation of this NIS.

In 2012, the NPWS published Site Specific Conservation Objectives (SSCOs) for this SAC[3]. These conservation objectives were also supported by a number of other documents relating to the marine, coastal, lagoon and woodland habitats and the watercourses of this large and complex SAC. In general, these SSCOs aim to define the favourable conservation condition for the particular habitats or species at that site. They outline certain attributes (e.g., distribution, population structure, water quality) for different species and habitats with targets, which define favourable condition for a habitat or species at a particular site. The restoration or maintenance of habitats and species within the Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at national level. For the Lower River Shannon SAC, these SSCOs can be downloaded on the NPWS website. Arising from the proposed development at Clonmacken Road, any potential threats to the attributes and targets as defined in these SSCOs were assessed and where necessary, mitigated for.

For each Qualifying Interest of the SAC, the specific conservation objective is either to *maintain or restore* the favourable conservation condition of that interest, by defining a list of attributes and targets which are indicative of the conservation status of that interest. For habitats, the main attributes include habitat area; habitat and community distribution; vegetation structure/composition and physical structure. The main target is to ensure that the habitats are stable or increasing in area and that the other attributes are maintained or restored. For the Annex II species of the SAC, the main attributes are population trend and distribution, whilst the targets aim to ensure that the long term population trends of the species are stable or increasing and that there is no significant decrease in the numbers or range of areas used by the species, other than that occurring from natural patterns of variation.

[3] *NPWS (2012) Conservation Objectives: Lower River Shannon SAC 002165. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.*

Qualifying Interests of the Lower River Shannon SAC

The Lower River Shannon SAC covers an extensive area of the south-west of Ireland. It is over 68,000 hectares in area and it has many qualifying interests and therefore there are certain qualifying interests within this SAC that will not be potentially impacted upon from this proposed development, either due to the distance involved or because they are features that are not sensitive to changes in water quality and are therefore outside of its Zone of Influence. Therefore, these features can be screened out from further AA assessment. All QIs of the SAC are listed below Table 2. They are screened in or out and rationale for this process is also outlined.

Qualifying Interest [Code]	Objective	Screened In / Out	Rationale
Freshwater pearl mussel *Margaritifera margaritifera* [1029]	To *restore* its favourable conservation condition	Out	Within this SAC, this species only occurs within the Cloon River in Co. Clare. It does not occur within the Zone of Influence of the application site as it is effectively upstream of any influences arising from the proposed development. Significant effects upon this species can be ruled out.
Sea lamprey *Petromyzon marinus* [1095]	To *restore* its favourable conservation condition	In	As this is a water dependant species which potentially occurs within the Zone of Influence of this application site, significant effects cannot be ruled out.
Brook Lamprey *Lampetra planeri* [1096]	To *maintain* its favourable conservation condition	In	As this is a water dependant species which potentially occurs within the Zone of Influence of this application site, significant effects cannot be ruled out.
River Lamprey *Lampetra fluviatilis* [1099]	To *maintain* its favourable conservation condition	In	As this is a water dependant species which potentially occurs within the Zone of Influence of this application site, significant effects cannot be ruled out.
Salmon *Salmo salar* [1106]	To *restore* its favourable conservation condition	In	As this is a water dependant species which potentially occurs within the Zone of Influence of this application site, significant effects cannot be ruled out.
Sandbanks which are slightly covered by sea water all the time [1110]	To *maintain* its favourable conservation condition	Out	Map 3 of the SSCOs illustrates the location of this QI in the SAC. It occurs at the mouth of the River Shannon, approximately 80km downstream of the application site. Its favourable conservation condition is not defined by any targets relating to water quality. Significant effects upon this QI can therefore be ruled out.

Estuaries [1130]	To *maintain* its favourable conservation condition	In	The River Shannon at its closest point to the application site is considered an estuarine habitat and this is shown in Map 4 of the SSCO. Water quality is not a target for the maintenance of this QI at favourable conservation condition; however, as this aquatic habitat occurs within the Zone of Influence of the application site and it is hydrologically connected to it, significant effects upon this QI will not be ruled out.
Mudflats and sandflats not covered by seawater at low tide [1140]	To *maintain* its favourable conservation condition	Out	Map 5 of the SSCOS indicates that this habitat occurs in the Shannon Estuary and in the River Maigue at points close to the application site. However, the favourable conservation condition is not defined by any targets relating to water quality and therefore significant effects upon this QI can therefore be ruled out. There will be no loss or fragmentation of this habitat in the SAC.
Coastal lagoons [1150]	To *restore* its favourable conservation condition	Out	Map 6 of the SSCOs illustrates the location of this QI in the SAC. There are a number of coastal lagoons within this SAC. The closest one to the application site is near Shannon airport and this is over 26km downstream of the application site. Given this distance, significant effects upon this QI can be ruled out.
Large shallow inlets and bays [1160]	To *maintain* its favourable conservation condition	Out	Map 7 of the SSCOs illustrates the location of this QI in the SAC. It occurs in the Shannon Estuary, downstream of Kilrush which is over 68km downstream of the application site. Given this distance, significant effects upon this QI can be ruled out.
Reefs [1170]	To *maintain* its favourable conservation condition	Out	Map 8 of the SSCOs illustrates the location of this QI in the SAC. The favourable conservation condition is not defined by any targets relating to water quality and therefore significant effects upon this QI can therefore be ruled out. There will be no loss or fragmentation of any of the reef habitats in the SAC arising from the proposed development.
Perennial vegetation of stony banks [1220]	To *maintain* its favourable conservation condition	Out	Map 10 of the SSCOs illustrates the location of this QI in the SAC. Its closest location is at Ballymacrinan Bay, which is 65km downstream of the application site. Given this distance, significant effects upon this QI can be ruled out.
Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	To *maintain* its favourable conservation condition	Out	Map 11 of the SSCOs illustrates the location of this QI in the SAC. Its closest location is at Burrane, which is 59km downstream of the application site.

			Given this distance, significant effects upon this QI can be ruled out.
Salicornia and other annuals colonising mud and sand [1310]	To *maintain* its favourable conservation condition	Out	Map 12 of the SSCOs illustrates the location of this QI in the SAC. Its distribution is sparse and the closest mapped location to the application site is over 70km downstream. Given this distance, significant effects upon this QI can be ruled out.
Atlantic salt meadows [1330]	To *restore* its favourable conservation condition	Out	This is the most common saltmarsh habitat within the SAC. Map 12 of the SSCOs illustrates the location of this QI in the SAC. Its closest potential point to the application site is approximately 10km downstream of the application site. Given this distance and the fact that water quality is not a target in restoring this QI, significant effects upon this QI can be ruled out.
Bottlenose dolphin *Tursiops truncates* [1349]	To *maintain* its favourable conservation condition	In	As this is a water dependant species which potentially occurs within the Zone of Influence of this application site (See Map 16 of SSCOs) and which may be affected by deteriorations in water quality, significant effects cannot be ruled out.
Otter *lutra lutra* [1355]	To *restore* its favourable conservation condition	In	As this is a water dependant species which potentially occurs within the Zone of Influence of this application site (See Map 17 of SSCOs) and which is affected by deteriorations in water quality, significant effects cannot be ruled out.
Mediterranean salt meadows [1410]	To *restore* its favourable conservation condition	Out	Map 12 of the SSCOs illustrates the location of this QI in the SAC. It occurs in small pockets throughout the SAC. Its closest potential point to the application site is at Killadysert, approximately 38km downstream of the application site. Given this distance and the fact that water quality is not a target in restoring this QI, significant effects upon this QI can be ruled out.
Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation [3260]	To *maintain* its favourable conservation condition	In	Map 13 of the SSCOs illustrates the location of this QI in the SAC. It occurs in the freshwater upper areas of the Shannon and also in the transitional waters. It has been mapped at points close to the application site (*Schoenoplectus triqueter* subtype). As this is a water dependant habitat, potential significant effects upon this QI cannot be ruled out.
Molinia meadows on calcareous, peaty or clayey-silt-laden soils	To *maintain* its favourable conservation	Out	Full distribution of this habitat within the SAC is unknown, but it has been recorded on the eastern banks of the Shannon, just

(*Molinion caeruleae*) [6410]	condition		north of Castleconnell, Co. Limerick. It is a terrestrial habitat and water quality is not a target in maintaining its favourable conservation condition in the SAC. It is unlikely to occur within the Zone of Influence of the application site and therefore significant effects upon this habitat can be ruled out.
Alluvial forests with Alnus glutinosa and Fraxinus excelsior [91E0]	To *restore* its favourable conservation condition	Out	Map 14 of the SSCO illustrates the location of this habitat within the SAC. It is found upstream of Limerick city and therefore it is outside of the Zone of Influence of the proposed development. In addition, water quality is not a target in maintaining its favourable conservation condition in the SAC. Therefore, significant effects upon this QI can be ruled out.

Table 2 – The Qualifying Interests of the Lower River Shannon SAC

SSCOs of the Qualifying Interests

The additional attributes and targets which define the SSCOs of the qualifying interests of the Lower River Shannon SAC which were screened into this AA are outlined below in Tables 3 – 10.

Sea Lamprey (1095)

The SSCO for this habitat is to *restore* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Distribution: Extent of Anadromy	% of river accessible	Greater than 75% of main stem length of rivers accessible from the estuary
Population: structure of juveniles	Number of age / size groups	At least three age / size groups present
Juvenile density in fine sediment	Juveniles / m^2	Juvenile density at least $1/m^2$
Extent and distribution of spawning habitat	M^2 and occurrence	No decline in extent and distribution of spawning beds.
Availability of juvenile habitat	Number of positive sites in 3rd order channels (and greater), downstream of spawning areas	More than 50% of sample sites positive

Table 3– SSCOs for Sea Lamprey

River Lamprey (1099)

The SSCO for this habitat is to *maintain* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Distribution: extent of anadromy	% of river accessible	Access to all watercourses down to first order streams
Population: structure of juveniles	Number of age / size groups	At least three age / size groups of river lamprey present
Juvenile density in fine sediment	Juveniles / m^2	Mean catchment juvenile density of river lamprey at least 2/m^2
Extent and distribution of spawning habitat	M^2 and occurrence	No decline in extent and distribution of spawning beds
Availability of juvenile habitat	Number of positive sites in 2nd order channels (and greater), downstream of spawning areas	More than 50% of sample sites positive

Table 4 – SSCOs for River Lamprey

Brook Lamprey (1096)

The SSCO for this habitat is to *maintain* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Distribution	% of river accessible	Access to all watercourses down to first order streams
Population: structure of juveniles	Number of age / size groups	At least three age / size groups of brook lamprey present
Juvenile density in fine sediment	Juveniles / m^2	Mean catchment juvenile density of brook lamprey at least 2/m^2
Extent and distribution of spawning habitat	M^2 and occurrence	No decline in extent and distribution of spawning beds
Availability of juvenile habitat	Number of positive sites in 2nd order channels (and greater), downstream of spawning areas	More than 50% of sample sites positive

Table 5 – SSCOs for Brook Lamprey

Salmon (1106)

The SSCO for this habitat is to *restore* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Distribution: extent of anadromy	% of river accessible	100% of river channels down to second order accessible from estuary
Adult spawning fish	Number	Conservation Limit (CL) for each system consistently exceeded
Salmon fry abundance	No of fry / 5 mins electrofishing	Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry / 5 minute sampling
Out-migrating smolt abundance	Number	No significant decline
Number and distribution of redds	Number and Occurrence	No decline in number and distribution of spawning redds due to anthropogenic causes
Water quality	EPA Q Value	At least Q4 at all sites sampled by the EPA.

Table 6 – SSCOs for Salmon

Estuaries (1130)

The SSCO for this habitat is to *maintain* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat Area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes.
Community Distribution	Hectares	The following community types should be maintained in, or restored to, a natural condition: intertidal sand to mixed sediment with polychaetes, molluscs and crustaceans community complex; Estuarine subtidal muddy sand to mixed sediment with gammarids community complex; Subtidal sand to mixed sediment with Nucula nucleus community complex; Subtidal sand to mixed sediment with *Nephtys* spp. community complex; Fucoid-dominated intertidal reef community complex; Faunal turf-dominated subtidal reef community; and Anemone-dominated subtidal reef community.

Table 7 – SSCOs for Estuaries

Bottlenose Dolphin (1349)

The SSCO for this habitat is to *maintain* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Access to suitable habitat	Number of Artificial Barriers	Species range within the site should not be restricted by artificial barriers to site use.
Habitat use: critical areas	Location and hectares	Critical areas, representing habitat use preferentially by bottlenose dolphin, should be maintained in a natural condition.
Disturbance	Level of Impact	Human activities should occur at levels that do not adversely affect the bottlenose dolphin population at the site.

Table 8 – SSCOs for Bottlenose Dolphin

Otter (1355)

The SSCO for this habitat is to *restore* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Distribution	% positive survey sites	No Significant Decline
Extent of Terrestrial Habitats	Hectares	No significant decline. Area mapped and calculated as 596.8ha above high water mark (HWM); 958.9ha along riverbanks / around ponds
Extent of Marine Habitats	Hectares	No significant decline. Area mapped and calculated as 4,461.6ha
Extent of Freshwater (River) Habitat	Km	No significant decline. Length mapped and calculated as 500.1km
Extent of Freshwater (Lake/Lagoon) Habitat	Hectares	No significant decline. Length mapped and calculated as 125.6ha
Couching Sites and Holts	Number	No significant decline
Fish Biomass Available	Kg	No significant decline
Barriers to connectivity	Number	No significant increase

Table 9 – SSCOs for Otter

Water Courses of Plain to Montaine Levels (3260)

The SSCO for this habitat is to *maintain* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat distribution	Occurrence	No decline, subject to natural processes
Habitat area	Km	Area stable or increasing, subject to natural processes
Hydrological regime: river flow	m/s	Maintain appropriate hydrological regimes
Hydrological regime: tidal influence	Daily water level fluctuations - m	Maintain natural tidal regime
Hydrological regime: freshwater seepages	m/s	Maintain appropriate freshwater seepage regimes
Substratum composition: particle size range	Mm	The substratum should be dominated by the particle size ranges, appropriate to the habitat sub-type (frequently sands, gravels and cobbles)
Water quality: nutrients	mg / l	The concentration of nutrients in the water column should be sufficiently low to prevent changes in species composition or habitat condition.
Vegetation	Occurrence	Typical species of the relevant habitat sub-type should be

composition: typical species		present and in good condition
Floodplain connectivity	Area	The area of active floodplain at and upstream of the habitat should be maintained.
Riparian Habitat	Area	The are of riparian woodland at and upstream of the bryophyte sub-type should be maintained.

Table 10 – SSCOs for Water Courses of Plain to Montaine Levels

As there is a hydrological connectivity between the application site and the SAC, potential negative effects and subsequent impacts upon all the QIs listed above cannot be ruled out at this stage.

RIVER SHANNON AND RIVER FERGUS ESTUARIES SPA 004077

The River Shannon and River Fergus Estuaries form the largest estuarine complex in Ireland. The site comprises all of the estuarine habitat west from Limerick City and south from Ennis, extending west as far as Killadysert and Foynes on the north and south shores of the Shannon respectively (a distance of some 25 km from east to west). Also included are several areas in the outer Shannon estuary, notably Clonderalaw Bay and Poulnasherry Bay. The site has vast expanses of intertidal flats. The main macro-invertebrate community is a Macoma-Scrobicularia-Nereis community which provides a rich food resource for the wintering birds. Eelgrass (*Zostera* spp.) is present in places. The intertidal flats are often fringed with salt marsh vegetation, areas which provide important high tide roost sites for the birds. In the innermost parts of the estuaries, the tidal channels or creeks are fringed with species such as *Phragmites australis* and *Scirpus* spp. *Spartina anglica* is frequent in parts.

This is the most important coastal wetland site in the country and regularly supports in excess of 50,000wintering waterfowl. It has internationally important populations of *Calidris alpina, Limosa limosa* and *Tringa totanus*. A further 16 species have populations of national importance. The site is particularly significant for *Calidris alpina* (11% of national total), *Pluvialis squatarola* (7.5% of total), *Vanellus vanellus* (6.5% of total),*Tringa totanus* (6.1% of total) and *Tadorna tadorna* (6.0% of total). It has *Cygnus cygnus, Pluvialis apricaria* and *Limosa lapponica* in significant numbers. The site was formerly frequented by a population of *Anser albifrons flavirostris* but these have now abandoned the area. The site provides both feeding and roosting areas for the wintering birds and habitat quality for most of the estuarine habitats is good.

In 2012, the NPWS published full SSCOs for this site[4]. These SSCOs, along with the full NPWS site synopsis for this SPA can be read on the website of the National Parks and Wildlife Service. The conservation objective supporting documents and the Natura 2000 standard data form are also obtainable here. All these documents were referred to in the preparation of this NIS.

Qualifying Interests of the River Shannon and River Fergus Estuaries SPA

There are 21 bird species listed as Special Conservation Interests (SCIs) for this SPA, whilst wetlands and waterbirds is also an additional interest. All these species are water dependant and are therefore likely to be indirectly affected by any deteriorations in water quality arising out of the construction and operation of the proposed developments. Therefore, it was considered prudent to screen all these SCIs into this AA process.

The SCI species for the River Shannon and Fergus Estuary SPA are listed below in Table 11 along with their current conservation condition. The primary objective of this SPA is to **maintain** the favourable conservation condition of these non-breeding waterbird SCI species listed for this SPA.

This objective is defined by the following attributes and targets:

- To be favourable, the long-term population trend for each waterbird Special Conservation Interest species should be stable or increasing. Waterbird populations are deemed to be unfavourable when they have declined by 25% or more, as assessed by the most recent population trend analysis.

- To be favourable, there should be no significant decrease in the range, timing or intensity of use of areas by the waterbird species of Special Conservation Interest, other than that occurring from natural patterns of variation.

Factors that can adversely affect the achievement of Objective 1 include:

- Habitat modification: activities that modify discreet areas or the overall habitat(s) within the SPA in terms of how one or more of the listed species use the site (e.g. as a feeding resource) could result in the displacement of these species from areas within the SPA and/or a reduction in their numbers.

[4] *NPWS (2012) Conservation Objectives: River Shannon and River Fergus Estuaries SPA 004077. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.*

- Disturbance: Anthropogenic disturbance that occurs in or near the site and is either singular or cumulative in nature could result in the displacement of one or more of the listed waterbird species from areas within the SPA, and a reduction in their numbers.

- Ex-situ factors: several of the listed waterbird species may at times use habitats situated within the immediate hinterland of the SPA or in areas ecologically connected to it. The reliance on these habitats will vary from species to species and from site to site. Significant habitat changes or increased levels of disturbance within these areas could result in the displacement of one or more of the listed waterbird species from areas within the SPA, and/or a reduction in their numbers

Species	Site Conservation Condition	BoCCI Category[5]
Cormorant (*Phalacrocorax carbo)*	Undetermined	Amber
Whooper Swan *(Cygnus cygnus)*	Favourable	Amber
Light-bellied Brent Goose *(Branta bernicla hrota)*	Undetermined	Amber
Shelduck (*Tadorna tadorna*)	Undetermined	Amber
Wigeon (*Anas penelope*)	Highly Unfavourable	Amber
Teal (*Anas crecca*)	Undetermined	Amber
Pintail (*Anas acuta*)	Undetermined	Red
Shoveler (*Anas clypeata*)	Undetermined	Red
Scaup (*Aythya marila*)	Undetermined	Amber
Ringed Plover (*Charadrius hiaticula)*	Undetermined	Amber
Golden Plover (*Pluvialis apricaria)*	Undetermined	Red
Grey Plover *(Pluvialis squatarola)*	Undetermined	Amber
Lapwing (*Vanellus vanellus*)	Undetermined	Red
Knot (*Calidris canutus*)	Undetermined	Red
Dunlin (*Calidris alpina*)	Undetermined	Amber
Black-tailed Godwit (*Limosa limosa)*	Undetermined	Amber
Bar-tailed Godwit (*Limosa lapponica)*	Undetermined	Amber
Curlew (*Numenius arquata*)	Undetermined	Red
Redshank (*Tringa totanus*)	Undetermined	Red
Greenshank (*Tringa nebularia)*	Undetermined	Amber
Black-headed Gull (*Chroicocephalus ridibundus)*	Undetermined	Red
Wetland and Waterbirds	N/A	N/A

Table 11 – Species of the River Shannon and River Fergus Estuaries SPA

[5] BoCCI – Birds of Conservation Concern Ireland. See Lynas et al. (2007) for detailed listing criteria;

The Conservation Objectives for waterbird SCIs of the River Shannon and River Fergus Estuary SPA are listed below:

Parameter	Attribute	Measure	Target
Population	Population trend	Percentage change as per population trend assessment using water bird count data collected through the Irish Wetland Bird Survey and other surveys.	Long term population trend stable or increasing
Range	Distribution	Number and range of areas used by water birds as determined by regular low tide and other water bird surveys	No significant decrease in the range, timing or intensity of use of areas by the QI, other than that occurring from natural patterns of variation

Table 12 – Conservation Objectives of the Conservation Interests of the SPA (Species)

For wetlands, the conservation objective is to maintain the favourable conservation condition of the wetland habitats at the River Shannon and River Fergus Estuaries SPA as a resource for the regularly occurring migratory waterbirds that utilise it. This is defined by the following attributes and targets.

Parameter	Attribute	Measure	Target
Area	Wetland habitat	Area (ha)	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 32,261 hectares, other than that occurring from natural patterns of variation

Table 13 – Conservation Objectives of the Conservation Interests of the SPA (Wetlands)

Ex-Situ Habitats for the Wintering Birds of the SPA

The site was subject to a walkover survey in early March 2025, within the recognised wintering bird season (September–March). This survey was undertaken to inform an appraisal of the potential for the site to support ex-situ habitat for Special Conservation Interest (SCI) species associated with the River Shannon and River Fergus Estuaries SPA, which falls within the Zone of Influence of the proposed development.

No SCI species were recorded during the site visit, and no evidence of use by wintering waterbirds (e.g. feeding signs, roosting, regular flight activity) was observed. It is acknowledged that a single site visit does not constitute a comprehensive wintering bird survey; however, the assessment of ex-situ habitat function is informed primarily by habitat suitability.

The habitats within the site comprise unmanaged grassland with scattered bramble scrub. These habitats are not consistent with those known to support SCI species of the identified SPAs, which are predominantly coastal and estuarine waterbirds. Such species typically utilise intertidal habitats for feeding and may rely on adjacent improved or actively managed agricultural grasslands / arable lands as supporting ex situ foraging habitat.

In contrast, the subject site:

- Lacks the short, actively managed sward required by grazing waterfowl;
- Does not exhibit the soil conditions or wet features typically associated with wader foraging;
- Is partially enclosed and structurally heterogeneous, reducing suitability for species that favour open landscapes with clear sightlines;
- Shows no evidence of management practices (e.g. grazing, mowing) that would enhance its suitability for SCI species.

On this basis, the site is not considered to provide suitable ex-situ habitat for SCI species of the River Shannon and River Fergus Estuaries SPA.

5.3 IDENTIFICATION OF POTENTIAL IMPACTS

INTRODUCTION

The identification of potential impacts and the assessment of their significance typically requires the identification of the type and magnitude of the impacts. For example, will the impacts be short term or long term, direct, indirect or cumulative and will they occur during construction or operation. This section will establish whether the impacts of the proposed development at Brian Geary Motors that were identified in the previous section, are likely to occur and whether or not they are significant. These potential impacts will be examined with respect to the conservation objectives of the Natura 2000 site identified.

In the screening section of this report, the following possible future impacts on the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA were identified. These impacts all have the potential to have significant negative effects upon the Qualifying Interests that were screened in above. These concerns are again listed below and they will be dealt with in more detail in this section.

1. Significant effects upon the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA arising from a deterioration of local surface or ground water quality due to pollution during the construction of the proposed development.

2. Significant effects upon the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA arising from a deterioration of local surface or ground water quality due to pollution during the operation of the proposed development.

3. Cumulative Impacts and Effects

5.4 CONSTRUCTION PHASE

Deterioration in Water Quality in the River Shannon During Construction

The construction of new structures and associated infrastructure will involve excavation, soil disturbance, concrete works and other groundworks on a site with potential hydrological connectivity to the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA via local surface water gullies serving the Industrial Park. These gullies discharge to the Loughmore Canal.

Groundwater vulnerability at the site is mapped as high within the site. Excavation works, depending on depth and extent, may locally increase the susceptibility of the underlying aquifer to contamination by reducing the protective depth of overlying soils.

In the absence of appropriate pollution prevention and sediment control measures, there is a risk that silt-laden or contaminated surface water runoff could enter the local drainage network. This network ultimately discharges to the Loughmore Canal, which is upstream of the Bernakyle River, the River Maigue and the Shannon Estuary, thereby providing a pathway for downstream deterioration of water quality in the SAC and SPA.

In addition, accidental spillages of hydrocarbons, cement or other construction related contaminants could infiltrate to ground and impact groundwater quality. Given the potential hydraulic connectivity between groundwater and surface water receptors in the wider catchment, this may also contribute to indirect effects on downstream surface waters, including that in the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA.

Therefore, in the absence of mitigation, the potential for direct and indirect adverse effects on the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA cannot be excluded.

POST CONSTRUCTION / OPERATIONAL IMPACTS

During the operational phase, the principal risk of pollution arises from contaminated runoff from hardstanding areas entering the site's surface water drainage network. The site has potential hydrological connectivity to the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA via local surface water gullies, which ultimately discharge to the Loughmore Canal and, subsequently, to the Bernakyle River, the River Maigue and the Shannon Estuary.

A range of Sustainable Drainage Systems (SuDS) measures have been incorporated into the design to attenuate flows and provide treatment of runoff prior to discharge. However, failure in the installation, operation or maintenance of these systems could result in the discharge of untreated or insufficiently treated runoff to the receiving drainage network.

Such discharges could facilitate the transport of pollutants downstream, with the potential to adversely affect water quality within connected watercourses and, ultimately, designated Natura 2000 sites.

Therefore, operational surface water management must ensure that all runoff is appropriately collected, attenuated and treated prior to discharge, such that there is no deterioration in the ecological or chemical status of receiving waters and no adverse effect on the integrity of the Lower River Shannon SAC or the River Shannon and River Fergus Estuaries SPA.

CUMULATIVE IMPACTS

The proposed development site is situated within the Shannon Estuary South catchment. Therefore, any national, regional or local land use plans, along with any existing or proposed projects, further upstream in the catchment, or in the same groundwater body, have the potential to affect water quality in the Shannon Estuary South catchment and therefore also have the potential to act in-combination with the proposed development to affect the above European sites.

Any plan or existing/proposed project that could potentially affect the Natura 2000 sites above in-combination with the proposed development must adhere to the overarching environmental protective policies and objectives of the relevant land use plan. These policies and objectives will ensure the protection of Natura 2000 sites and will include the requirement for any future project to undergo Screening for Appropriate Assessment and/or Appropriate Assessment. Objective EH 01 in the Limerick City and County Development Plan 2022 – 2028 relate to the protection of European sites, AA and commitments to not permit projects giving rise to adverse effects on the integrity of European sites

Future Plans / Other Projects

The Limerick City and County Council planning map tool was used to identify any current or future or projects which may potentially impact on Natura 2000 sites when considered in combination with the proposed development.

In the preceding five years, many other developments of varying sizes have been granted permission in the urban and sub-urban areas of Limerick and in the Raheen area. Many of these developments pertained to small scale commercial, industrial or residential developments that were screened for AA by the applicants or by Limerick City and County Council in the planning report. In these cases, significant effects upon the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA were screened out. Larger developments considered as part of this NIS in-combination assessment are summarised in Table 14.

Planning Ref	Description	Address	AA Screening / NIS	Status
22/190	10-year permission for development of a Biopharmaceutical Manufacturing Campus with an overall floor area of 47,384 sqm. Construction of a 4-storey Biopharmaceutical Manufacturing building approx. 18,534 sqm and 33 metres high with roof-mounted plant/equipment & solar panels for Eli Lilly (Kinsale) Ltd	Ballycummin The IDA Business & Technology Park Raheen, Co. Limerick. Site is adjacent to this current application site for Brian Geary Motors.	An NIS was submitted with this application (EIS, 2022). No adverse effects on the integrity of Natura 2000 sites were identified, alone or in combination, following mitigation	Granted by An Coimisiún Pleanála following an Appeal
22/803	Analog Devices International applied for a ten-year planning permission for an extension to our C1 R&D Pilot Line building to provide R&D and 1st Industrial deployment/Manufacturing use in the proposed C2 Fanfare building	Raheen Industrial Business Park, Raheen, Co. Limerick.	An NIS was submitted with this application (JBA Consulting, 2022). No adverse effects on the integrity of Natura 2000 sites were identified, alone or in combination, following mitigation	Granted by An Coimisiún Pleanála following an Appeal (September 2023)
2360609	Analog Devices International applied for a 10-year planning permission for the regeneration of a building and site.	surrounded by three roads Ballynoe Road / Derrybeg Road / Ballycummin Ave, adjoining the existing Analog Devices Campus, at Raheen Business Park, Raheen, Limerick, V94 W863	An NIS was submitted with this application (Whitehill Environmental, 2023). No adverse effects on the integrity of Natura 2000 sites were identified, alone or in combination, following mitigation	Granted by An Coimisiún Pleanála following an Appeal (September 2023)
23/60703	Development that will consist of: (1) The partial demolition of 1895sq.m of a building currently in use	Southcourt Raheen, Dooradoyle	An NIS was submitted with this application (MKO 2023). No adverse	Granted by An Coimisiún Pleanála following an

	as the South Court Hotel and the construction of a 6 no. storey, 2 no. basement (a total of 8 levels) mixed use development on a 0.935ha site. For Can2 Investments Ltd.	Co. Limerick	effects on the integrity of Natura 2000 sites were identified, alone or in combination, following mitigation	Appeal (March 2025)
24/61160	The proposed development consists of extensions, modifications, alterations and new structures to previously permitted and partly built Biopharmaceutical Manufacturing Campus (Limerick City and County Council Reg. Ref. 22190 and as amended by planning permission Reg. Ref.23152), with a proposed total additional floor area of approximately 67,997 square metres, located on the existing Eli Lilly site. For Eli Lilly (Kinsale) Ltd	Ballycummin The IDA Business & Technology Park Raheen, Co. Limerick. Site is adjacent to this current application site for Brian Geary Motors.	An NIS was submitted with this application (Altemar, 2024). No adverse effects on the integrity of Natura 2000 sites were identified, alone or in combination, following mitigation	Granted by Limerick City and County Council in April 2024
25/60418	A single industrial building, which will include two high bay warehouse units with associated two-storey office and staff welfare areas. Ancillary site development includes the provision of bicycle and vehicular parking, vehicular circulation areas, landscaping proposals, fascia signage, and rooftop PV panels. For Gerry Reynolds	Cloughacloka Road,, Raheen Business Park,, Limerick	An NIS was submitted with this application (Enviroplan Consulting, 2025). No adverse effects on the integrity of Natura 2000 sites were identified, alone or in combination, following mitigation	Granted by An Coimisiún Pleanála following an Appeal (March 2025)

Table 14 – Decisions Recently Granted in the Raheen Area

Any future application that has the potential to impact upon the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA will also be subjected to Appropriate Assessment as required under Articles 6(3) of the Habitats Directive. Following mitigation, the current development will have no cumulative impacts upon the SACs / SPAs identified when considered in combination with any other development that has been screened for no impacts themselves (Stage 1) or where potential impacts have been mitigated against (Stage 2 AA / NIS).

6 MITIGATION MEASURES

The primary method of mitigation for any development should be avoidance of that impact. Consideration was therefore given to avoiding any direct or indirect impacts on the sensitive ecological receptors within and beyond the site.

In order to protect the existing ecological features on site and surrounding area, including the downstream designated sites of the Lower River Shannon SAC, the River Shannon and River Fergus Estuaries SPA and the Loughmore Common Turlough pNHA, the following mitigation measures are recommended. It is recommended that certain works are overseen by an Ecological Clerk of Works (ECoW) who should be employed for visits during the site preparation, main works on site, site clean-up and landscaping. The mitigation measures outlined in this report are site specific and they should be incorporated into a Construction and Environmental Management Plan.

<u>General Good Practice and Initial Works</u>

- Site preparation and construction must be confined to the development site only and it must adhere to all the mitigation measures outlined in this NIS and the separate EcIA that has been prepared for the site. Work areas should be kept to the minimum area required to carry out the proposed works and the area should be clearly marked out in advance of the proposed works.
- Prior to the commencement of developments on site, the site engineer and the contractors must be made aware of the ecological sensitivity of the site and its proximity and connection to the Lower River Shannon SAC, the River Shannon and River Fergus Estuaries SPA and the Loughmore Common Turlough pNHA. They must be made familiar with the mitigation measures outlined in this EcIA report and the accompanying NIS.
- It is also recommended that the mitigation measures contained herein are included in a site-specific Construction and Environment Management Plan for the site. This plan should be reviewed by an engineer prior to commencement of works. All works must then be undertaken in compliance with the approved plans and Construction and Environment Management Plan for the site.

<u>Management of Construction Waste and Soil</u>

- All construction waste must be removed from site by a registered contractor to a registered site. Evidence of the movement and safe disposal of the construction waste must be retained and presented to Local Authority upon request. The applicants and construction contractors will be responsible for the safe removal of any construction

waste generated on site. Removal of the construction waste should occur as soon as possible after construction works. There must be no disposal of construction waste or topsoil in any designated site.

- All topsoil generated from site works should be stored within the application site until it is required for landscaping. It must not be stored outside the site boundaries and it must not be used for the infilling of any area outside of the site. It must be stored at appropriate locations within the site, away from open watercourses. If there is more topsoil than is needed for landscaping, it must be removed from the site by a registered contractor for appropriate use elsewhere. The end location of the topsoil must be identified and records presented to the local authority if requested.

Protection of Water Quality and Management of Pollutants

- Efficient construction practices and sequences should be employed on site, and this will minimise soil erosion and potential pollution of local watercourses with soil and sediment. Unnecessary clearance of vegetation should be avoided and only areas necessary for building works should be cleared.
- Works within the site should be avoided during periods of heavy rainfall.
- It is vital that there is no deterioration in water quality in the watercourses within or surrounding the site. This will protect both habitats and species that are sensitive to pollution. Therefore, strict controls of erosion, sediment generation and other pollutants associated with the construction process should be implemented, including the provision of attenuation measures, silt traps or geotextile curtains to reduce and intercept sediment release into any local watercourses. Guidelines in the following best practice documents should be adhered to:
    - Construction Industry Research and Information Association (CIRIA) (2005) *Environmental Good Practice on Site (C692)*
    - Construction Industry Research and Information Association (2001) *Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors (C532)*
    - Construction Industry Research and Information Association (2000) *Environmental Handbook for Building and Civil Engineering Projects (C512)*
    - Environmental Protection Agency (2015) *List of Waste and Determining if Waste is Hazardous or Non-Hazardous*
    - Environment Agency *et al.* (2015) Guidance on the Classification and Assessment of Waste, Technical Guidance WM3

- The construction team must implement the following site-specific mitigation measures and these measures must be incorporated into a Construction and Environment Management Plan.
    - There must be no discharges of water into the public sewer during construction. Measures must be included to convey any surface water movement from construction works towards any local surface water gullies or manholes.
- The following pollution control measures must also be employed on site (the location of these areas/measures must be provided on a site plan that is made available to the construction team):
    - A dedicated re-fuelling location must be established on site, and this must be situated away from any watercourse or gully on site.
    - Spill kits stations must be provided at the fuelling location for the duration of the works.
    - Staff must be provided with training on spill control and the use of spill kits.
    - All fuel storage containers must be appropriately bunded, roofed and protected from vehicle movements. These bunds will provide added protection in the event of a flood event on site.
    - All chemicals must be stored as per manufacturer's instructions. A dedicated chemical bund will be provided on site.
    - Storage of fuel, and servicing and refuelling of equipment or machinery must be at least 20m from ground clearance or rock-breaking activities.
    - The dedicated refuelling area must be underlain by concrete hard standing. All fuel and oil tank should be inspected on a regular basis for signs of spillages, leaks and damage during use. A record of these inspections must be kept, and any improvements needed be carried out immediately.
    - The risk of fuel spillages on a construction site is at its greatest when refuelling plant. Therefore, only designated trained and competent operatives should be authorised to refuel plant on site. Plant and equipment should be brought to a designated refuelling area rather than refuelling at numerous locations about the site.
    - Chemicals used on site must be returned to the site compound and secured in a lockable and sealed container overnight in proximity to the fuel storage area.
    - Drip trays must be utilised on site for all pumps situated within 20m away from ground clearance areas.
    - Procedures and contingency plans must be established on site to address cleaning up small spillages as well as dealing with an emergency incident. A stock of

absorbent materials such as sand, spill granules, absorbent pads and booms must be kept on site, on plant working near the river and at the refuelling area.

- Daily plant inspections must be completed by all plant operators on site to ensure that all plant is maintained in good working order. Where leaks are noted on these inspection sheets, the plant must be removed from operations for repairs.
- All personnel should observe standard precautions for handling of materials as outlined in the Safety Data Sheets (SDS) for each material, including the use of PPE. Where conditions warrant, emergency spill containment supplies should be available for immediate use.

- Best practice concrete / aggregate management measures must be employed on site (these measures should be included where possible on a site plan). These will include:
  - A designated concrete wash out area should be set up on site; typically, this will involve washing the chutes, pumps into a designated IBC before removing the waste water off site for disposal. These procedures should be covered during a Site Safety & Environmental Induction session.
  - Discharge water generated during laying on concrete should be removed off site for treatment and disposal.
  - Best practice in bulk-liquid concrete management should be employed on site addressing pouring and handling, secure shuttering, adequate curing times etc.
  - Stockpile areas for sands and gravel must be kept to a minimum size, well away from the drains and watercourses (minimum 50m).
  - Where concrete shuttering is used, measures must be put in place to prevent against shutter failure and control storage, handling and disposal of shutter oils.
  - Activities which result in the creation of cement dust must be controlled by dampening down the areas.
  - Raw and uncured waste concrete must be disposed of by removal from the site;
  - Stockpile areas for sands and gravel will be kept to a minimum size, well away from the watercourses on the site.

Protection of Terrestrial Habitats and Features

A summer survey of the grassland habitats within the site should be carried out in July 2026 to determine presence or absence of meadow barley. Encroachment could have occurred from the translocated site adjacent to the application site that was created as part of the Eli Lilly development. As identified in the report prepared by BEC Consultants, there is a small area of grassland in the site with potential links to the Annex I habitat *Lowland hay meadows*. This is the area that needs to be focused on.

Birds

- The removal of any vegetation should be done outside of the bird nesting season (March to August). This includes any the scrub and grassland habitats in the centre of the site that might be used as a habitat for ground nesting birds that might breed on site. If grassland vegetation needs to be removed within the bird nesting season to facilitate initial works on the site, the ECoW must survey the area to be cleared prior to removal to check for the presence of nesting ground dwelling birds.
- To ensure that impacts on protected bird species that might use the habitats close to the site do not arise from the noise generated on site, measures to control noise on site must be undertaken. The construction plant and tools used on-site must comply with the relevant Irish regulations in relation to noise and vibration requirements. In particular, it is recommended that all equipment used on site are newer models equipped with noise dampening systems and that the equipment is maintained in good condition and serviced regularly. Site management must also ensure that each item of plant and equipment complies with the noise limits quoted in the relevant European Commission Directive 2000/14/EC. All plant and equipment should be fitted with appropriate mufflers or silencers of the type recommended by the manufacturer. Only plant and equipment that has been designed for that task should be used and all equipment should be shut down or set to minimum when not being used.

Lighting

- Lighting should be kept to a minimum around the remaining trees and hedgerows on the site. No light should fall on the hedgerows from lighting. Guidelines from Bat Conservation Ireland will be provided for considering how to avoid light pollution of the hedgerows to allow for feeding, commuting and roosting.
- Dark sky areas must be designated within the development to provide commuting and feeding corridors. Specifics on this dark sky area should be designed by a bat specialist.

- Lighting shall be controlled to avoid light pollution of green areas and shall be targeted to areas of human activity and for priority security areas. Motion-activated sensor lighting is preferable to reduce light pollution. None of the remaining mature trees or trees proposed for planting shall be illuminated.
    - All luminaires shall lack UV elements when manufactured and shall be LED
    - A warm white spectrum (ideally <2700 Kelvin) to reduce blue light component
    - Luminaires shall feature peak wavelengths higher than 550nm
    - Tree crowns shall remain unilluminated
    - Planting shall provide areas of darkness suitable for bats to feed and commute

Surface Water Management

- The overall aim of the surface water management plan should be to reduce / eliminate discharge to the public sewer. Any water discharged to the public network should be done only in high rainfall events, when the SUDS systems in the site reach full capacity. Any discharge to the public network should be of high quality, and testing of this discharge should be carried out monthly. A Class 1 bypass separator must be installed upstream of the discharge point and silt interceptors must also be included.
- A number of SUDS features have been developed as part of the plan. It is imperative that these measures are installed correctly initially. Their maintenance to ensure optimal performance in times of heavy rainfall will also be essential. The applicant must enter into a contract with an engineering firm to ensure proper maintenance and servicing of these SUDS systems.

Biodiversity Enhancement and Management

- The landscaping of the site should focus on native species that are indigenous to the area, or additionally non-native plants that provide high value sources of nectar for pollinating insects. A number of SUDS features will be incorporated into the site, and these features should focus heavily on Nature Based Solutions, e.g., bioswales, tree pits, green roofs etc.

6.1 MONITORING

The following monitoring measures are recommended:

- Any trees and bat boxes should be monitored once the development is operational.
- Regular monitoring to surface water discharge from the site should be undertaken. Results must be kept on site for future reference.

7 APPROPRIATE ASSESSMENT CONCLUSION

This current NIS has been undertaken to evaluate the potential impacts of the proposed development with regard to the effects upon the conservation objectives and qualifying interests (including the habitats and species) of the Lower River Shannon SAC and the River Shannon and River Fergus Estuary SPA. It is considered that following mitigation, that the proposed project does not have the potential to significantly affect the conservation objectives of these aforementioned Natura 2000 sites and the integrity of these sites as a whole will not be adversely impacted.

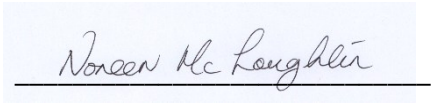
The qualifying interests of the site and their potential to be impacted upon from the potential development were listed in Section 4.2. It is considered that these potential impacts can be successfully mitigated against. With implementation of the mitigation measures there will be no deterioration in water quality or impacts upon any designated habitat or any species dependent on these designated habitats. The attributes and targets which have been set out in order to maintain or restore the favourable conservation condition of these interests in the SAC / SPA will not be impacted upon.

In light of the above, it is considered that with the implementation of the mitigation measures, that the proposed works do not have the potential to significantly affect the conservation objectives or qualifying interests of the Lower River Shannon SAC and the River Shannon and River Fergus Estuary SPA. The integrity of the site will not be adversely affected. Table 15 follows the integrity of the SAC / SPA checklist, which shows that the integrity of the site would not be affected by the proposed development.

Conservation Objective: Does the project have the potential to:	**Yes / No**
Cause delays in progress towards achieving the conservation objectives of the site?	N
Interrupt progress towards achieving the conservation objectives of the site?	N
Disrupt those factors that help to maintain the favourable conditions of the site?	N
Interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	N
Other Objectives: does the project have the potential to:	
Cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	N

Change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	N
Interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	N
Reduce the area of key habitats?	N
Reduce the population of key species?	N
Change the balance between key species?	N
Reduce diversity of the site?	N
Result in disturbance that could affect population size or density or the balance between key species?	N
Result in fragmentation?	N
Result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding, etc.)	N

Table 15 – Integrity of Site Checklist (From NPWS, Information Checklist for AA, Box 6, EC (2002)



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APPENDIX I - REFERENCES AND FURTHER READING

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