

Wyeth Nutritionals Ireland Limited
Project New Card
Report for AA Screening

REP/01

Issue 1 | 23 March 2016

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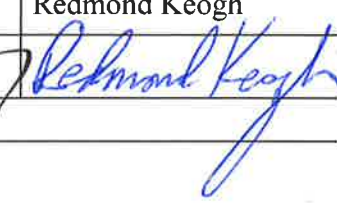
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1 Introduction

This report for screening for Appropriate Assessment contains the information required for the consenting authority, Limerick County Council to undertake screening for Appropriate Assessment of a new R & D facility which Wyeth Nutritionals Ireland Limited proposes to construct at its existing production facility at Askeaton, County Limerick.

The report provides information on, and assesses the potential for the proposed development to significantly impact on Natura 2000 sites. This report has been prepared by Arup.

The aims of this report are to:

- Determine whether the project is directly connected with, or necessary to the conservation management of any Natura 2000 sites.
- Determine whether the project, alone or in combination with other projects, is likely to have significant effects on Natura 2000 sites in view of their conservation objectives.

Screening was undertaken without the inclusion of mitigation.

2 Legislative background

According to the EU Habitats Directive (92/43/EEC) and the EU Birds Directive (79/409/EEC), member states are required to establish a Natura 2000 network of sites of highest biodiversity importance for rare and threatened habitats and species across the EU. In Ireland, the Natura 2000 network of European sites includes Special Areas of Conservation (SACs, including candidate SACs) and Special Protection Areas (SPAs, including proposed SPAs).

SACs are selected for the conservation of Annex I habitats (including priority types which are in danger of disappearance) and Annex II species (other than birds). SPAs are selected for the conservation of Annex II birds and other regularly occurring migratory birds and their habitats. The Annex habitats and species, for which each site is selected, are the *qualifying interests* of the site. *Conservation objectives* for the site are defined for these qualifying interests.

A key requirement of the Directives is that the effects of any plan or project, alone, or in combination with, other plans or projects, on the Natura 2000 site network, should be assessed before any decision is made to allow that plan or project to proceed. This process is known as Appropriate Assessment (AA).

The obligation to undertake an appropriate assessment derives from Article 6(3) and 6(4) of the Habitats Directive (92/43/EEC), and both involve a number of steps and tests that need to be applied in sequential order. Article 6(3) is

concerned with the strict protection of sites, while Article 6(4) is the procedure for allowing derogation from this strict protection in certain restricted circumstances.

Article 6(3) of the Habitats Directive states:

“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) 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 social or economic nature, the Member State 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 competent authority (in this case Limerick County Council) is required to carry out its obligations under Article 6(3) and 6(4) of the Habitats Directive before it can agree to the plan or project. This assessment is generally carried out using a stage by stage approach as summarised below. Each stage determines whether a further stage in the process is required. If, for example, the conclusions at the end of Stage One are that there will be no significant impacts on the Natura 2000 site, there is no requirement to proceed further.

- **Stage 1 - Screening for appropriate assessment** – 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 these impacts are likely to be significant;
- **Stage 2 - Appropriate Assessment** – This is required if it cannot be excluded, on the basis of objective information, that the development, individually or in combination with other plans or projects, will have a significant effect on a Natura 2000 site. During this stage, 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 is considered. Additionally, where there are adverse impacts, an assessment is made of the potential mitigation of those impacts;
- The appropriate assessment must include a final determination by the competent authority as to whether or not a proposed development would

adversely affect the integrity of a Natura 2000 site. In order to reach a final determination, the consenting authority must undertake examination, analysis and evaluation, followed by findings, conclusions and a final determination. The appropriate assessment must contain complete, precise and definitive findings and conclusions, and may not have lacunae or gaps.

- **Stage 3 – Assessment of alternative solutions**- the process which examines alternative ways of achieving the 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 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.

3 Methodology

3.1 Introduction

If, based upon the currently available information, there are aspects of the proposed development that could have a significant effect on any Natura 2000 sites, then further analysis in the form of an Appropriate Assessment is required.

If the outcome of the screening exercise is that there are no significant impacts predicted, then an Appropriate Assessment is not required.

This report for Appropriate Assessment screening contains the information required for the consenting authority, Limerick County Council, to undertake screening for Appropriate Assessment (AA) of the construction and operation of the proposed Wyeth Nutritionals Ireland Limited R & D facility. This report is based on a desk study, and a number of site visits by an Arup ecologist and specialist ecologists between September 2015 and March 2016.

In order to address the four steps above for the screening assessment, information is presented in this report is as follows:

- Overview of the proposed development and its receiving environment (Section 4)
- Description of the existing ecological environment at the site (Section 5.1).
- Identification of relevant Natura 2000 sites which may be within the zone of influence of the proposed development (Section 5.2).
- Identification of the potential effects of the proposed development on the Natura 2000 sites (Section 6)
- Assessment of likely significant effects on the Natura 2000 site (Section 7).
- Description of other projects and plans which may have the potential for having significant effects on the Natura 2000 site (Section 6.2).

- Screening statement and conclusions (Section 8 and Appendix A).

It is noted that the proposed R & D facility is not directly connected with or necessary to the management of any Natura 2000 site.

3.2 Guidance and data sources

This screening report for Appropriate Assessment was prepared with regard to the following guidance documents, where relevant:

- *Managing Natura 2000 Sites: The Provision of Article 6 of the Habitats Directive 92/43/EEC* (EC Environment Directorate-General, 2000); [hereafter referred to as MN2000]
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodical Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission Environment Directorate-General, 2001)
- *Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC*. (European Commission, 2007)
- *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities* (Department of Environment, Heritage and Local Government, 2010 revision)
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NFW/10 and PSSP 2/10*
- *Guidelines for Good Practice Appropriate Assessment of Plans under Article 6(3) Habitats Directive* (International Workshop on Assessment of Plans under the Habitats Directive, 2011)

Sources of information that were used to collect data on the Natura 2000 network of sites and on the existing ecological environment are listed below:

- Ordnance Survey of Ireland mapping and aerial photography (www.osi.ie) (accessed 16.02.2016)
- Google Maps aerial photography (accessed 16.02.2016)
- National Parks and Wildlife Service online mapping and data on European Sites (www.npws.ie) (accessed 16.02.2016)
- Information on environmental quality data available from www.epa.ie (Envision Online Environmental Map Viewer)
- Status of EU Protected Habitats in Ireland (NPWS 2013)
- Limerick City and County Council online planning records accessed on 17.02.2016
- National Biodiversity Centre Data Centre database www.biodiversityireland.ie (accessed 17.02.2016).
- Natura Impact Report of Variation No 3 to the Limerick County Development Plan 2010 – 2016 (February 2015).

4 Overview of the proposed development and its receiving environment

4.1 Location of the proposed development

The proposed development will be located within the existing Wyeth Nutritionals Ireland Limited facility at Coolrahee, Askeaton, County Limerick. The proposed development will be located in the southern part of the site (refer to **Figure 1**). Wyeth Nutritionals Ireland Limited facility currently produces infant formula at the existing facility in Askeaton and operates under Industrial Emissions Licence P0395-03.

A description of the receiving environment is provided in the following **Section 4.2**. A description of the ecological environment is provided in **Section 5**.

4.2 Description of receiving environment

The existing Wyeth facility is an industrial complex and mainly comprises buildings/plant equipment, hardstanding and landscaped areas. The site of the proposed development, located in the southern portion of the Wyeth facility, comprises areas of hardstanding and landscaped grass areas. There are no watercourses within the site.

Agricultural lands lie to the north, west and south of the Wyeth Nutritionals Ireland Limited facility. One-off residential and farm properties scattered throughout the general area.

The nearest watercourse to the Wyeth facility is the River Deel which is located approximately 20m to the east of the existing Wyeth facility's site boundary (refer to **Figure 1**). The river flows in a northerly direction before entering the Shannon Estuary downstream.

The River Deel is part of the River Shannon and River Fergus Estuaries Special Protection Area (SPA) (Site Code 004077) (refer to **Section 5.2** for details). The boundary of the SPA is immediately adjacent to the existing Wyeth facility's eastern site boundary. The site of the proposed development is located a further 22.5m west of the eastern Wyeth site boundary.

The boundary of the Lower River Shannon Special Area of Conservation (SAC) (Site Code 002165), and the Inner Shannon Estuary – South Shore proposed Natural Heritage Area (pNHA) into which the River Deel flows, are located approximately 1.37km downstream of the site (refer to **Section 5.2** for details).

A local road lies adjacent to the western boundary of the Wyeth facility. The N69 is approximately 350m south of the site. Askeaton Town is located to the south of the N69.



Figure 1 Approximate Location of Proposed Development (indicated by star)

4.3 Description of the proposed development during the operational phase

The proposed new R&D facility will adjoin an existing building known as the RTF building. The layout of the proposed development is shown on the following **Figure 2**. The proposed development comprises the following elements:

- Relocation of an existing loading dock area on the southern elevation of the RTF building to accommodate the new works. This will require the modification of the southern elevation consisting of two new roller door openings and the construction of a protective canopy over the loading areas.
- Realignment of the main car park access road that currently runs along the western elevation of the RTF building to accommodate the proposed R&D building works.
- Construction of two proposed new buildings that will adjoin the existing RTF building. One building will house the office and meeting areas for the R&D

employees while providing a sensory area on the ground floor for the sensory testing of new product formulas. The second building will be a pilot plant facility equipped with unit operations to facilitate the rapid development of small scale prototype formulations, along with being fitted out with relevant large scale pilot facilities to mimic typical industrial scale processes. The pilot plant will operate to food-grade standards and will be capable of providing small scale volumes of clinical supplies.

- Construction of a new entrance lobby onto the existing northern façade of the RTF building to improve access control into the building.
- Ancillary site development work including but not limited to car park & service yard lighting, internal road pedestrian crossing, and CCTV to secure the car park and service yard areas.
- External lighting for the proposed development will comprise low impact LED pole lighting and bollard light fittings as appropriate and similar to those that exist on site at present.

The site is subject to an IED licence (P0395-03), and during operation, all discharges and emissions from the proposed development will be within the current operating limits set by the IED licence for the existing facility.

Surface water from the proposed development will be connected via a hydrocarbon interceptor to the existing facility's surface water network. The surface water drainage network at Wyeth Nutritionals Ireland Limited discharges to the adjacent River Deel under the existing facility's IED licenced discharge point. All process and foul water will be directed to the site's wastewater treatment plant.

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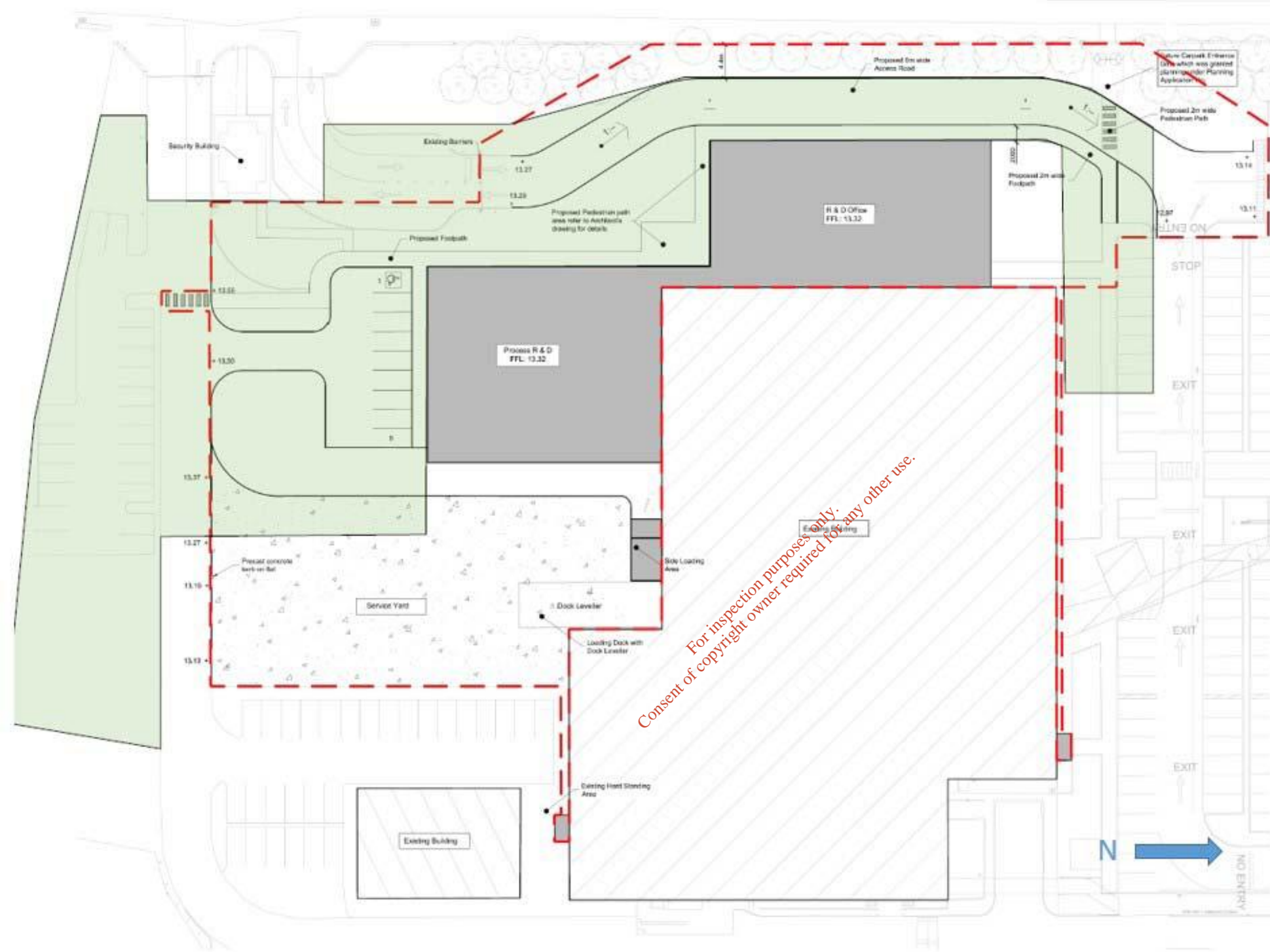


Figure 2 Layout of Proposed Development (The site boundary for planning purposes is shown by the red dashed line. The area which it is envisaged the contractor will use as the area for the construction compound is indicated by green area.)

4.4 Description of the proposed development during the construction phase

It is intended that construction will commence in August 2016, subject to planning approval. The construction works will take approximately 12 months to complete. Following completion of construction, there will be a period of installation and commissioning of the process equipment.

The footprint of the construction works will be located on areas of hardstanding and landscaped grass areas at the southern end of the site. The proposed development site will form part of the existing industrial complex and will be mostly screened to north and east by the existing building complex.

It is intended that the construction compound will be located within the site of the existing facility. The area which it is envisaged the contractor will use as the area for the construction compound is indicated by green area shown on **Figure 2** above.

All construction activity will take place within the boundary of the Wyeth site. No construction works will take place within the River Deel and the River Shannon and River Fergus Estuaries Special Protection Area (SPA). No material or spoil from the works will be deposited in the SPA.

The employment of standard construction management controls will minimise the risk of pollution of soil, storm water run-off or groundwater. A Construction Management Plan will be implemented by the Contractor to ensure that there will be no pollution of the receiving environment and in particular the River Deel, the SPA, and the Lower River Shannon cSAC downstream, during the construction period. These measures will include surface water control using silt traps and a hydrocarbon interceptor, daily inspection of the drainage gullies and the daily removal of silt.

Construction will be undertaken in accordance with Construction Industry Research and Information Association (CIRIA) UK guidance note on the control and management of water pollution from construction sites, *Control of Water Pollution from Construction Sites, guidance for consultants and contractors* (Masters-Williams et al 2001).

Additional specific guidance is provided in the CIRIA technical guidance on *Control of Water Pollution from Linear Construction Projects* (Murnane E, Heap A and Swain A 2006).

Surface water run-off during site works will be controlled using standard construction management measures. The existing surface water drainage network, within the site, controls surface water discharges. During construction, surface water will be discharged via a hydrocarbon interceptor to the existing site drainage network to the River Deel through the existing facility's IED licensed emission point. Surface water discharge from the proposed development during the construction period will be within the current operating limits set by the IED

licence for the existing facility. There will be no other discharge points to the River Deel during construction.

Control measures, as recommended in the guidance above, will be implemented to minimise the risk of spills, sedimentation and contamination of soils and waters and thereby minimise the risk of pollution of the River Deel, the SPA, and the cSAC downstream.

No particularly noisy construction activities are envisaged during the construction phase. Given the existing background noise and disturbance on this industrial site, significant noise impacts on the receiving environment are not predicted to occur. The building contractor will employ standard procedures to minimise the potential for noise disturbance to the surrounding area to ensure the construction noise criteria are not exceeded. The Contractor will also comply with the recommendations of BS 5228-1:2009+A1:2014: Part 1 and the European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001.

A dust minimisation plan and a construction waste management plan will be prepared and implemented by the building contractor during the construction phase of the project. Measures will be undertaken by the contractor to ensure that the site and surroundings are maintained to a high standard of cleanliness.

The Construction Waste Management Plan will be prepared by the contractor in accordance with the Department of the Environment, Community and Local Government (DoECLG) "*Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects*".

As a modern industrial facility, the implementation of environmental protection measures occurs at the existing site as standard, and no difficulties in implementing standard construction environmental protection measures (i.e. prevention of siltation or hydrocarbon contamination in surface water run-off) under the supervision of site engineers is envisaged. Thus significant impacts on the receiving environment and in particular the River Deel, the SPA and the SAC are not predicted to occur.

5 Ecological overview

5.1 Ecological environment at the site of the proposed development

5.1.1 Overview

The ecological environment at the site and its surrounding area was determined by a desk study and by a number of site visits by an Arup ecologist and specialist ecologists between September 2015 and March 2016.

The site of the proposed development comprises areas of hardstanding and a small landscaped grass area at the southern end of the Wyeth facility. There are no habitats of ecological value within the footprint of the proposed development and associated construction works. There are no mature trees of ecological value at the site.

There are no watercourses within the site. The nearest watercourse is the River Deel immediately to the east of the Wyeth Nutritionals Ireland Limited site. Its location in relation to the Wyeth facility is shown on **Figure 1**. The river flows in a northerly direction before entering the Shannon Estuary approximately 1.37km downstream to the north. There is an area of scrub along the eastern boundary of the Wyeth facility which acts as a buffer between the existing facility and the River Deel.

The stretch of River Deel adjacent to the existing facility is tidal and is part of the Lower River Shannon and River Fergus Estuaries Special Protection Area (SPA) site code 004077 (refer also to **Section 5.4**). The SPA is located adjacent to the eastern boundary of the existing facility, and approximately 22.5m from the site of the proposed development at its nearest point. The location of the SPA in relation to the site of the proposed development is shown on **Figure 4**. The River Deel flows to the Lower River Shannon cSAC approximately 1.37km downstream of the site of the proposed development (refer to **Figure 4**).

The site of the proposed development is located within the zoned Strategic Development Location (SDL) 'Askeaton' in the *Natura Impact Report of Variation No.3 to the Limerick County Development Plan 2010 – 2016* (February 2015). The Report (page 15) states that in relation to the SDL 'Askeaton',

"... the SDL is dominated by low value habitats and no habitats representative of Annex I qualifying habitats of the Lower River Shannon cSAC occur within it.

Habitats surrounding the SDL that are representative of Annex I qualifying habitats of the Lower River Shannon cSAC include:

...Mudflats representative of the Annex I habitat mudflats and sandflats not covered by sea-water at low tide. "

At low tide conditions, stretches of linear mudflat occur along the River Deel in the vicinity of the Wyeth site. Although not examined in detail during the site survey, these mudflats may be representative of *Annex I habitat 'Mudflats and*

sandflats not covered by sea-water at low tide. “ These however are outside the boundary of the cSAC.

No works will be carried out within the SPA and no materials or spoil will be deposited on the mudflats.

It is unlikely that the site of the proposed development is used by species of the SPA due to the habitat types present. Winter bird surveys were carried out in the vicinity of the Wyeth facility from November 2015 and March 2016 inclusive (refer to the following **Section 5.2** for details). An otter survey was undertaken in March 2016 (refer to following **Section 5.3** for details).

Bird species heard but not seen during the site visit in September 2015 were Robin and Blackbird. No mammal species were recorded during the site visit. Due to the nature of the buildings on the site they would be unsuitable for bat roosts. No trees suitable for bat roosts were recorded during the site visit.

5.1.2 Winter Bird Survey

A winter bird survey of the bird species in the SPA was undertaken by Dixon Brosnan consulting ecologists at two locations in the vicinity of the Wyeth facility during the months of November and December 2015 and January, February and March of 2016. The first of these locations was at the northeast corner of the Wyeth Nutrition facility and was located on high ground overlooking the River Deel. The second survey location was at the Askeaton Swimming Club (located to the south of the Wyeth Nutrition facility) and had a clear open view of the River Deel stretching north. Six of the Qualifying Interests of the SPA were observed along the River Deel during the winter bird survey: Cormorant, Teal, Curley, Redshank, Greenshank and Blackheaded Gull. The results of the bird surveys are appended to this report (**Appendix B**).

5.1.3 Otter Survey

An otter survey was undertaken by DixonBrosnan consulting ecologists on the 7th March 2016. Both banks of the River Deel were surveyed for signs of otter 150m upstream and 150m downstream of the site of the proposed development. Spraints were observed approximately 30m north of the boundary of the site. No otter holts were recorded in the survey area. No works will be undertaken within the SPA boundary. There will be no impact on water quality of the SPA. The area of scrub between the Wyeth facility and the River Deel will act as a buffer between the site and the River Deel. There will be no significant impact on otter as a result of the proposed development.

5.2 Identification of Natura 2000 sites which may be within the zone of influence of the proposed development

The proposed development is not directly connected with, or necessary for, the management of any Natura 2000 site. No habitat loss will occur within any Natura 2000 site as a result of this proposed development.

Natura 2000 sites (European sites) are only at risk from significant effects where a source-pathway-receptor link exists between a proposed development and a Natura 2000 site(s). This can take the form of a direct impact (e.g. where the proposed development and/or associated construction works are located within the boundary of the Natura 2000 site(s) or an indirect impact where impacts outside of the Natura 2000 site(s) affect ecological receptors within (e.g. impacts to water quality which can affect riparian habitats at a distance from the impact source).

Considering the Natura 2000 sites present in the region, their Qualifying Interests (QIs) and conservation objectives, and any potential impact pathways that could link those sites to the proposed development area, a distance of 15km was considered appropriate to encompass all Natura 2000 sites potentially within the Zone of Influence (ZoI)¹ of the proposed development.

Consultation of NPWS online data identified six Natura 2000 sites located within 15km of the site of the proposed development. The six sites identified are listed below and indicated on the following **Figure 3**.

Table 1 below provides details of the relevant Natura 2000 sites within 15km of the proposed development, and the relevance of these Natura 2000 sites to the proposed development, i.e. Natura 2000 sites are considered relevant where a source-pathway-receptor link exists between the proposed development and the Natura 2000 site. In ecological and environmental impact assessment, for an impact to occur, there must be a risk enabled by having a source (e.g. construction works at a proposed development site), a 'receptor' (e.g. a cSAC or other ecologically sensitive feature), and a pathway between the source and the receptor (e.g. a watercourse which connects the proposed development site to the cSAC).

The risk of the impact does not automatically mean it will occur, nor that it will be significant. However, identification of the risk means that there is a possibility of ecological or environmental damage occurring, with the level and significance of the impact depending upon the nature and exposure to the risk and the characteristics of the receptor.

Given the limited nature of the development, the only Natura 2000 sites which could be theoretically affected by the proposed development is the River Shannon and River Fergus Estuaries SPA and the Lower River Shannon cSAC. The River Shannon and River Fergus Estuaries SPA lies approximately 22.5m east of the site of the proposed development. The Lower River Shannon cSAC is located approximately 1.37km north of and downstream of the site and overlaps with the

¹ The zone of influence is a distance within which the proposed development could potentially affect the conservation condition of QI habitats or species. There is no set recommended distance for which European sites are considered as being relevant for AA. Available guidance (NPWS, 2010) recommends that 'the distance should be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects'. As a general rule of thumb, it is often considered appropriate to examine all European sites within 15km as a starting point. In some instances where there are hydrological connections, a whole river catchment or a groundwater aquifer may need to be included. Taking this into account, as a starting point all European sites within 15km of the proposed development were examined. This distance was considered to be sufficient for the purposes of this assessment as any European sites outside of the 15km distance either do not have any hydrological or any other linkages to the proposed development site, or are located at such distance from the proposed development site that no significant effects would occur.

SPA (refer also to **Figure 3**). Identification of impacts on these two Natura 2000 sites is addressed in **Section 6** of this report.

The remaining designated sites in the **Table 1** below are not considered to be of relevance as they are not located within the zone of influence of the proposed development either due to their distance from the proposed development and/or the lack of connectivity/pathway between the proposed development and these designated sites. There will be no direct or indirect impacts from the proposed development on any Qualifying Interest (QI) habitats and species of these designated sites. Furthermore, the site of the proposed development is not of ecological interest for any of the transient QI species of these designated sites.

Table 1: Natura 2000 Sites identified within 15km of the site

Candidate Special Areas of Conservation (cSAC)	Site Code	Distance from Site (km)
Askeaton Fen Complex cSAC	002279	4.1
Barrigone cSAC	00432	3.19
Curraghchase Woods cSAC	00174	6.53
Lower River Shannon cSAC	002165	1.37
Special Protection Areas (SPA)	Site Code	Distance from Site (km)
River Shannon and River Fergus Estuaries SPA	004077	22.5m approximately
Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA	004161	11.11

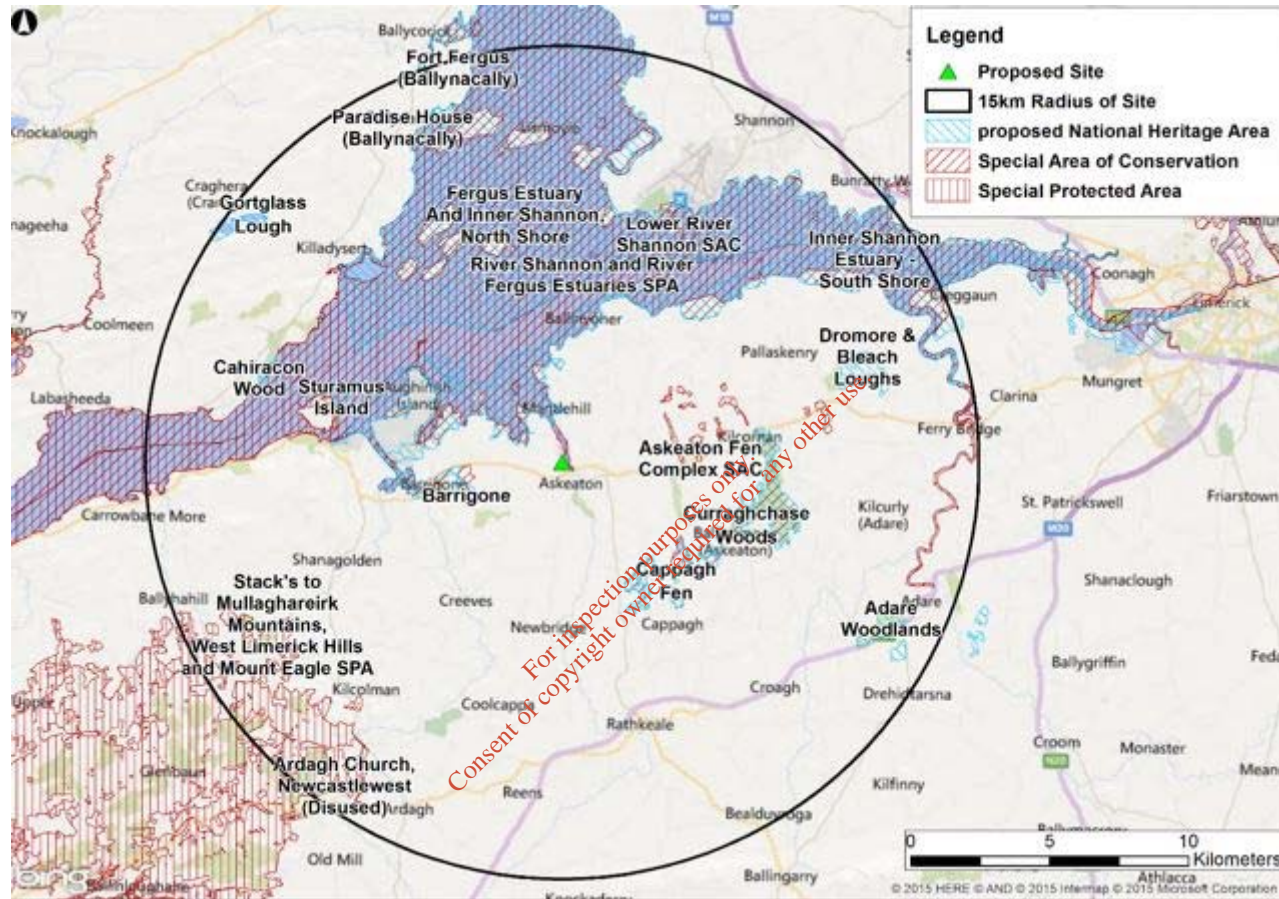


Figure 3 Natura 2000 Sites within 15km of the Proposed Development

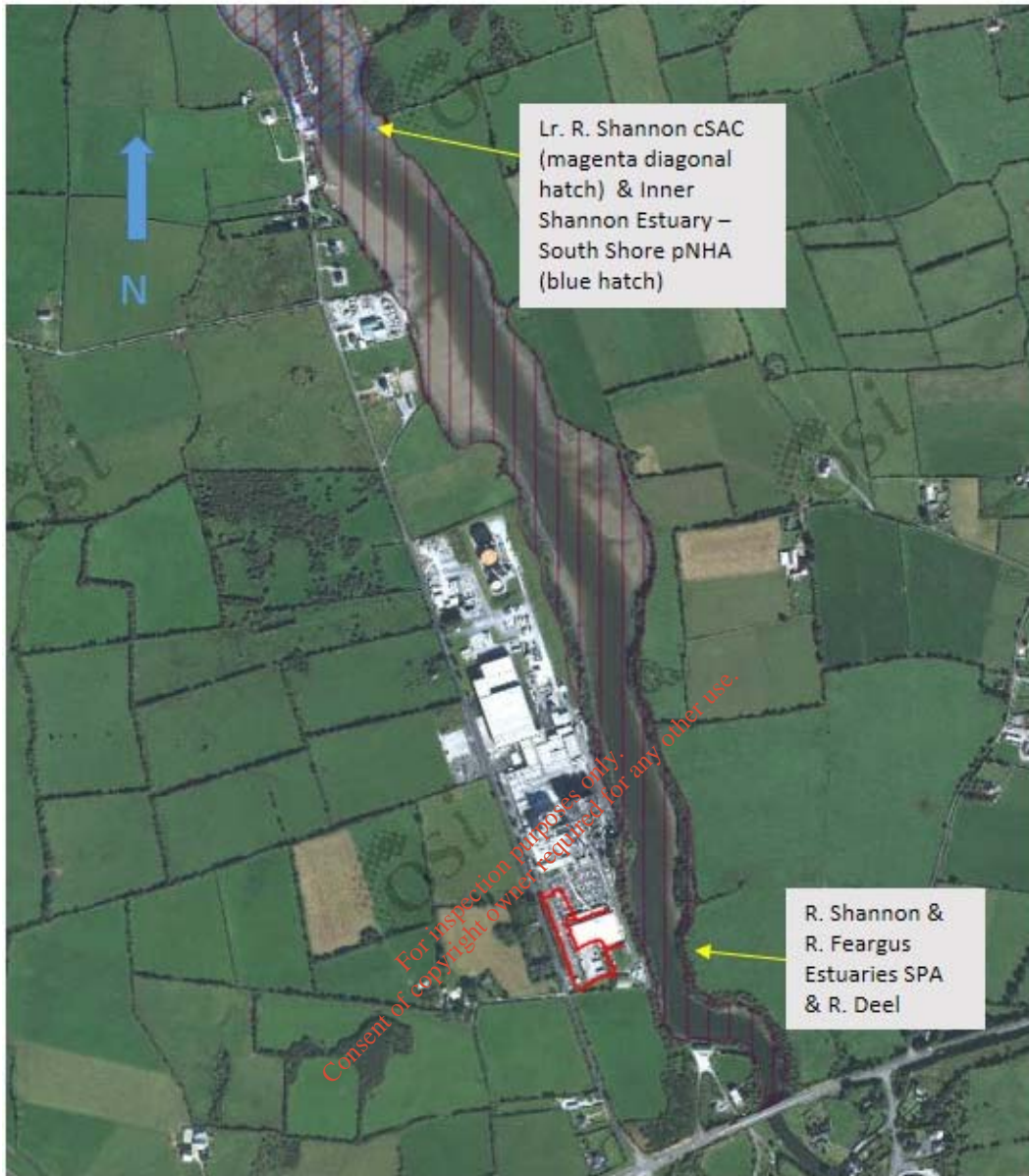


Figure 4 Sketch of approximate boundary of site of proposed development (outlined in red) in relation to the SPA (approximately 22.5m to the east at its nearest point) and the cSAC and the pNHA (approximately 1.37km).

Table 2: Details of Natura 2000 Sites within 15km of the Proposed Development

Site Name and Code	Approximate Distance from Development Site	Connectivity/Pathway	Qualifying Habitats and Species	Conservation Management Objectives
River Shannon and River Fergus Estuaries SPA (Site Code 004077)	22.5m	Potential indirect pathway via proposed surface water drainage system which will link via a hydrocarbon interceptor to the existing Wyeth Nutritionals Ireland Limited surface water drainage network which discharges to the River Deel under IED licence. Surface water discharges to the River Deel will comply with this licence	Cormorant (<i>Phalacrocorax carbo</i>) [A017]	To maintain the favourable conservation condition of Cormorant in the River Shannon and River Fergus Estuaries SPA,
			Whooper Swan (<i>Cygnus cygnus</i>) [A038]	As previous
			Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]	As previous
			Shelduck (<i>Tadorna tadorna</i>) [A048]	As previous
			Wigeon (<i>Anas penelope</i>) [A050]	As previous
			Teal (<i>Anas crecca</i>) [A052]	As previous
			Pintail (<i>Anas acuta</i>) [A054]	As previous

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Site Name and Code	Approximate Distance from Development Site	Connectivity/Pathway	Qualifying Habitats and Species	Conservation Management Objectives
			Shoveler (<i>Anas clypeata</i>) [A056]	As previous
			Scaup (<i>Aythya marila</i>) [A062]	As previous
			Ringed Plover (<i>Charadrius hiaticula</i>) [A137]	As previous
			Golden Plover (<i>Pluvialis apricaria</i>) [A140]	As previous
			Grey Plover (<i>Pluvialis squatarola</i>) [A141]	As previous
			Lapwing (<i>Vanellus vanellus</i>) [A142]	As previous
			Knot (<i>Calidris canutus</i>) [A143]	As previous
			Dunlin (<i>Calidris alpina</i>) [A149]	As previous
			Black-tailed Godwit (<i>Limosa limosa</i>) [A156]	As previous

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Site Name and Code	Approximate Distance from Development Site	Connectivity/Pathway	Qualifying Habitats and Species	Conservation Management Objectives
			Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]	As previous
			Curlew (<i>Numenius arquata</i>) [A160]	As previous
			Redshank (<i>Tringa totanus</i>) [A162]	As previous
			Greenshank (<i>Tringa nebularia</i>) [A164]	As previous
			Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]	As previous
			Wetland and Waterbirds [A999]	As previous
Lower River Shannon SAC (Site Code 002165)	1.37	Potential indirect pathway via proposed surface water drainage system which will link via a hydrocarbon interceptor to the existing Wyeth Nutritionals Ireland Limited surface water drainage network which discharges to the River Deel under IED licence. Surface water	Sandbanks which are slightly covered by sea water all the time [1110]	To maintain the favourable conservation condition of Sandbanks which are slightly covered by sea water all the time in the Lower River Shannon SAC,
			Estuaries [1130]	To maintain the favourable conservation condition of

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Site Name and Code	Approximate Distance from Development Site	Connectivity/Pathway	Qualifying Habitats and Species	Conservation Management Objectives
		<p>discharges to the River Deel will comply with this licence.</p> <p style="color: red; transform: rotate(-45deg); font-weight: bold;">Consent of copyright owner required for any other use. For inspection purposes only.</p>		Estuaries in the Lower River Shannon SAC,
			Mudflats and sandflats not covered by seawater at low tide [1140]	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Lower River Shannon SAC,
			*Coastal lagoons [1150]	To restore the favourable conservation condition of Coastal lagoons in the Lower River Shannon SAC,
			Large shallow inlets and bays [1160]	To maintain the favourable conservation condition of Large shallow inlets and bays in the Lower River Shannon SAC,
			Reefs [1170]	To maintain the favourable conservation condition of Reefs in the Lower River Shannon SAC,
			Perennial vegetation of stony banks [1220]	To maintain the favourable conservation condition of Perennial vegetation of stony banks in the Lower River Shannon SAC,
			Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	To maintain the favourable conservation condition of

Site Name and Code	Approximate Distance from Development Site	Connectivity/Pathway	Qualifying Habitats and Species	Conservation Management Objectives
		<p style="color: red; font-style: italic;">For inspection purposes only. Consent of copyright owner required for any other use.</p>		Vegetated sea cliffs in the Lower River Shannon SAC,
			Salicornia and other annuals colonising mud and sand [1310]	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the Lower River Shannon SAC,
			Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) [1330]	To restore the favourable conservation condition of Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) in the Lower River Shannon SAC,
			Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]	To restore the favourable conservation condition of Mediterranean salt meadows (<i>Juncetalia maritimi</i>) in the Lower River Shannon SAC,
			Water courses of plain to montane levels with the <i>Ranunculon fluitantis</i> and Callitricho-Batrachion vegetation [3260]	To maintain the favourable conservation condition of <i>Molinia</i> meadows on calcareous, peaty or clayey-silt laden soils (<i>Molinion caeruleae</i>) in the Lower River Shannon SAC
			*Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i>	To restore the favourable conservation condition of

Site Name and Code	Approximate Distance from Development Site	Connectivity/Pathway	Qualifying Habitats and Species	Conservation Management Objectives
		<p style="color: red; font-size: 12px; transform: rotate(-45deg);">For inspection purposes only. Consent of copyright owner required for any other use.</p>	<p><i>(Alno-Padion, Alnion incanae, Salicion albae)</i> [91E0]</p>	<p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion, Alnion incanae, Salicion albae</i>) in the Lower River Shannon SAC,</p>
			<p><i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029]</p>	<p>To restore the favourable conservation condition of Freshwater Pearl Mussel in the Lower River Shannon SAC</p>
			<p><i>Petromyzon marinus</i> (Sea Lamprey) [1095]</p>	<p>To restore the favourable conservation condition of Sea Lamprey in the Lower River Shannon SAC,</p>
			<p><i>Lampetra planeri</i> (Brook Lamprey) [1096]</p>	<p>To restore the favourable conservation condition of Brook Lamprey in the Lower River Shannon SAC,</p>
			<p><i>Lampetra fluviatilis</i> (River Lamprey) [1099]</p>	<p>To maintain the favourable conservation condition of River Lamprey in the Lower River Shannon SAC,</p>
			<p><i>Salmo salar</i> (Salmon) [1106]</p>	<p>To restore the favourable conservation condition of Salmon in the Lower River Shannon SAC,</p>

Site Name and Code	Approximate Distance from Development Site	Connectivity/Pathway	Qualifying Habitats and Species	Conservation Management Objectives
			<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]	To maintain the favourable conservation condition of Bottlenose Dolphin in the Lower River Shannon SAC,
			<i>Lutra lutra</i> (Otter) [1355]	To restore the favourable conservation condition of Otter in the Lower River Shannon SAC,

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The site of the proposed development is not directly connected with or necessary to the management of the above Natura 2000 sites.

With regard to the Qualifying Interests of the SPA, the results of the winter bird surveys (refer to **Section 5.2** above) show that six of the qualifying bird species of the SPA, listed in **Table 2** above, were recorded during the surveys. The SPA species recorded during the surveys are as follows:

- Cormorant
- Teal
- Curlew
- Redshank
- Greenshank
- Blackheaded Gull

With regard to the Qualifying Interests of the Lower River Shannon SAC, the conservation objectives for Freshwater Pearl Mussel relate to the population in the Cloon River, County Clare only. Signs of Otter were recorded approximately 30m downstream of the site (refer to **Section 5.3** above). No Otter holts were recorded during the survey.

During construction and operation, surface water from the proposed development will discharge to the River Deel via a hydrocarbon interceptor to the existing IED licensed discharge point and will comply with the limits of the licence. No silt or polluting substance will enter the River Deel, the SPA or the cSAC and therefore there will be no effects on the water quality and habitats and species (including Lamprey species and Salmon) of the Natura 2000 sites, (refer to **Section 6** for details).

5.2.1 Other designated conservation areas (other than Natura 2000 sites)

17 proposed Natural Heritage Areas (pNHAs) occur within 15km of the site of the proposed development. These are shown in the following **Table 3**.

Table 3: pNHAs within 15km of the Site of the Proposed Development

pNHA	Site Code	Distance from Site of Proposed Development (km)
Adare Woodlands	00429	12.3
Ardagh Church, Newcastlewest (Disused)	00430	12.6
Ballinvirick Marsh	001427	5.95
Ballymorrisheen Marsh	001425	4.5
Barrigone	00432	3.3

Cahiracon Wood	001000	11.1
Cappagh Fen	001429	5.55
Cloonsnaghta Lough	001004	14.48
Curraghchase Woods	00174	6.5
Dromore & Bleach Loughs	001030	10.31
Fergus Estuary And Inner Shannon, North Shore	002048	5.36
Fort Fergus (Ballynacally)	0035	14.07
Gorteennamrock	001433	5.03
Gortglass Lough	001015	13.79
Inner Shannon Estuary - South Shore	00435	1.46
Paradise House (Ballynacally)	0062	12.76
Sturamus Island	001436	7.92

There is a potential indirect pathway from the site of the proposed development to the Inner Shannon Estuary - South Shore pNHA via the proposed surface water drainage system at the proposed development which will drain to the existing Wyeth Nutritionals Ireland Limited surface water drainage system via a hydrocarbon interceptor. This, in turn, discharges to the River Deel under IED licence. The River Deel flows to the Inner Shannon Estuary – South Shore pNHA.

As part of the design of the proposed development, a hydrocarbon interceptor will be installed as part of the surface water drainage system. In addition, surface water discharges from the drainage network from the existing production facility to the River Deel are governed by Wyeth Nutritionals Ireland Limited's IED licence and therefore it is unlikely that there will be a significant risk of pollution to the River Deel as a result of surface water drainage for the car park and therefore no impact on the Inner Shannon Estuary – South Shore pNHA as a result of the proposed development. There will be no impact on any other pNHAs as a result of the proposed development due to their lack of connectivity with, and distance from, the site.

5.2.2 Rare and protected species

The site of the proposed development is located within 10 kilometre grid square R35. The National Parks and Wildlife Service database (www.npws.ie) was consulted with regard to rare species and species protected under the Flora Protection Order (1999) within this square. The NPWS database records of rare or protected plant species within 10 kilometre square grid R35 are as follows.

Table 4: NPWS recorded species within 10K Grid R35

Species	Location	Date of Last Record
<i>Papaver hybridum</i> (Round Prickly-headed Poppy)	Askeaton R3050	1900
<i>Viola hirta</i> (Hairy Violet)	R3652	1890
<i>Hordeum secalinum</i> (Meadow Barley)	Mantlehill R330530	1988

None of the above species were recorded at the site of the proposed development during the site visit.

The National Biodiversity Centre Database was also consulted with regard to protected species recorded within the 10 kilometre grid square R35. Known records listed on the database include the following Birds of Conservation Concern Red Listed species, EU Birds Directive Annex 1 species, Flora Protection Order species and EU Habitats Directive Annex II species.

Table 5: Protected Species recorded in 10 kilometre square R35, included on the National Biodiversity Centre Database

Species	Date of last record	BoCC Red List	EU Birds Directive Annex 1	Flora Protection Order	EU Habitats Directive Annex II species
Northern Pintail (<i>Anas Acuta</i>)	1984	Yes			
Greater White-fronted Goose (<i>Anser albifrons</i>)	1984		Yes		
Short-eared Owl (<i>Asio flammeus</i>)	2005		Yes		
Dunlin (<i>Calidris alpine</i>)	2011		Yes		
Red Knot (<i>Calidris canutus</i>)	2011	Yes			
Twite (<i>Carduelis flavirostris</i>)	2011	Yes			
Hen Harrier (<i>Circus cyaneus</i>)			Yes		
Common Kingfisher (<i>Alcedo atthis</i>)	2011		Yes		
Northern Pintail	1984	Yes			
Northern Shoveler (<i>Anas clypeata</i>)	2011	Yes			
Corncrake (<i>Crex crex</i>)	1972	Yes	Yes		

Species	Date of last record	BoCC Red List	EU Birds Directive Annex 1	Flora Protection Order	EU Habitats Directive Annex II species
Whooper Swan (<i>Cygnus Cygnus</i>)	2011		Yes		
Little Egret (<i>Egretta garzetta</i>)	2011		Yes		
Yellowhammer (<i>Emberiza citronella</i>)	2011	Yes			
Merlin (<i>Falco columbarius</i>)	2011		Yes		
Peregrine Falcon (<i>Falco peregrinus</i>)	2011		Yes		
Great Northern Diver (<i>Gavia immer</i>)	2011		Yes		
Herring Gull (<i>Larus argentatus</i>)	2011	Yes			
Little Gull (<i>Larus minutus</i>)	2005		Yes		
Black-headed Gull (<i>Larus ridibundus</i>)	2011	Yes			
Bar-tailed Godwit (<i>Limosa lapponica</i>)	2011		Yes		
Eurasian Curlew (<i>Numenius arquata</i>)	2011	Yes			
Red-necked Phalarope (<i>Phalaropus lobatus</i>)	2005	Yes	Yes		
Ruff (<i>Philomachus pugnax</i>)	2006		Yes		
European Golden Plover (<i>Pluvialis apricaria</i>)	2011	Yes	Yes		
Common Redshank (<i>Tringa tetanus</i>)	2011	Yes			
Barn Owl (<i>Tyto alba</i>)	2011	Yes			
Northern Lapwing (<i>Vanellus vanellus</i>)	2011	Yes			
Meadow Barley (<i>Hordeum secalinum</i>)	1988			Yes	
Otter (<i>Lutra lutra</i>)	2005)				Yes

Birds of Conservation Concern (Bof CC) Red List species included in the above table, and which were recorded during the winter survey, are Blackheaded gull, Curlew and Redshank.

It is unlikely that the above species occur on the site of the proposed development as the site comprises areas of hardstanding and a small landscaped grass area.

It is considered there will be no impact on rare and protected species as a result of the proposed development (refer also to **Section 6**).

6 Identification of the potential effects of the proposed development on Natura 2000 sites

The site of the proposed development is not directly connected with or necessary to the management of the above Natura 2000 sites.

There is the potential for an indirect pathway to the River Shannon and River Fergus SPA, and hence to the Lower River Shannon cSAC, via the proposed stormwater drainage system. The proposed stormwater drainage system will drain via a hydrocarbon interceptor to the existing Wyeth Nutritionals Ireland Limited facility site drainage network which, in turn, drains to the River Deel under IED licence. All emissions from the facility must comply with this licence. Therefore there will be no pollution of, or impacts on, the water quality of the River Deel, the SPA and the cSAC and their species as a result of surface water drainage for the proposed development.

The site is of little value for foraging or roosting for the bird species of the SPA.

No works will be undertaken within the SPA. There will be no significant impacts on the qualifying habitats or species (refer to **Table 2**) of these Natura 2000 sites as a result of the construction and operation of the proposed development (refer to the following Sections 6 and 7 for further details).

A noise assessment of the proposed development was undertaken by Arup and is appended to this report (**Appendix C**). The noise report states that noise management measures will be employed by the contractor during construction to ensure that the construction noise criteria will not be exceeded. The Contractor will comply with the recommendations of BS 5228-1:2009+A1:2014: Part 1 and the European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001.

According to the noise assessment report (**Appendix C**), in order to assess the effect of noise from the proposed development on the bird species of the SPA, four locations at the western bank of the River Deel were assessed (see Figure 1 of **Appendix C** for location). The noise report states that the highest noise level predicted at these locations is 44dBA. Results from the environmental noise survey in 2015 indicate that at the western boundary of the site, a night-time noise

level of 47dBA is experienced. The noise report states that it is conservative to assume that this noise level is not any greater along the eastern boundary, as the eastern boundary is located further away from any local roads which are a main noise source. Therefore, using 47dBA as a baseline noise level, a total noise level of 49dBA is predicted, an increase of 2dBA. This increase is categorised as imperceptible, therefore it is considered that there will be no disturbance to the qualifying species of the SPA as a result of the operation of the proposed development.

6.1 Consultation

The Limerick City and County Heritage Officer Mr. Tom O'Neill, and the Development Applications Unit of the Department of Arts, Heritage and the Gaeltacht were consulted by email during the preparation of this report.

6.2 Other development nearby which may lead to cumulative impacts upon Natura 2000 sites

Limerick City and County Council online planning records for the area were consulted on the 16 February 2016. This search indicated that there were no existing or permitted developments in the vicinity of the site which, in combination with the proposed development, could result in cumulative impacts upon Natura 2000 Sites.

7 Assessment of likely significant effects on Natura 2000 sites

The proposed development will not result in any significant impacts on Natura 2000 sites. This judgement has been arrived at on the following basis:

- All development activity will take place within the Wyeth site. No works will take place within the River Shannon and River Fergus Estuaries Special Protection Area (SPA) the boundary of which is located approximately 22.5m east of the site of the proposed development. No material or spoil from the works will be deposited in the SPA. There will be no encroachment on the mudflats of the SPA.
- There will be no loss of Natura 2000 site habitat area, no fragmentation of the habitats of Natura 2000 sites, no disturbance to the qualifying species of the Natura 2000 sites, no impacts on population density of these species, no impacts on water resources and no impacts on water quality of the Natura 2000 sites.
- The area of scrub along the boundary between the SPA and the site will provide a buffer to minimise disturbance to species of the SPA.

- External lighting for the proposed development will comprise low impact LED pole lighting and bollard light fittings as appropriate and similar to those that exist on site at present.
- There is a potential indirect pathway between the proposed development and the two relevant Natura 2000 sites, via the existing Wyeth Nutritionals Ireland Limited surface water drainage system. The surface water drainage network at the existing Wyeth facility discharges to the River Deel via an IED licensed (P0395) discharge point. All emissions from the Wyeth site are governed by the limits of its IED licence. Surface water drainage from the proposed development will link to this existing drainage network at the facility. A hydrocarbon interceptor will be installed as part of the proposed surface water drainage system for proposed development. All surface water discharges to the River Deel via the IED licensed discharge point will comply with the IED licence during operation. All process and foul water will be directed to the site's wastewater treatment plant. Therefore there will be no effects on the habitats or species of the SPA and the cSAC as a result of the proposed development.
- According to the noise assessment report (**Appendix C**), in order to assess the effect of noise from the proposed development on the bird species of the SPA, four locations at the western bank of the River Deel were assessed (see Figure 1 of **Appendix C** for location). The noise report states that the highest noise level predicted at these locations is 44dBA. Results from the environmental noise survey in 2015 indicate that at the western boundary of the site, a night-time noise level of 47dBA is experienced. The noise report states that it is conservative to assume that this noise level is not any greater along the eastern boundary, as the eastern boundary is located further away from any local roads which are a main noise source. Therefore, using 47dBA as a baseline noise level, a total noise level of 49dBA is predicted, an increase of 2dBA. This increase is categorised as imperceptible, therefore it is considered that there will be no disturbance to the qualifying species of the SPA as a result of the operation of the proposed development.
- No particularly noisy construction activities are envisaged during the construction phase. Given the existing background noise and disturbance on this industrial site, significant noise impacts on the receiving environment are not predicted to occur. The building contractor will employ measures to minimise the potential for noise disturbance to the surrounding area to ensure the construction noise criteria are not exceeded. The Contractor will comply with the recommendations of BS 5228-1:2009+A1:2014: Part 1 and the European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001.
- The site is part of an existing industrial complex and is screened from much of the SPA to the east and cSAC to the north by the existing building complex. This will mean that works during the construction phase of the development will not be visible for the most part and this would minimise the disturbance effects of construction activities on the species of the nearby River Shannon and River Fergus Estuaries Special Protection Area (SPA).

- A Construction Management Plan, a Dust Management Plan and a Waste Management Plan will be implemented by the contractor during the works.
- During construction, surface water run-off during site works will be controlled using standard construction management measures. The existing surface water drainage network, within the site, controls surface water discharges. During construction, surface water will be discharged via a hydrocarbon interceptor to the existing site drainage network to the River Deel through the existing facility's IED licensed emission point. All discharges and emissions from the proposed development during the construction period will be within the current operating limits set by the IED licence for the existing facility. There will be no other discharge points to the River Deel during construction. Boundaries for construction vehicles will be clearly indicated to lessen the chances of sediment or pollutants ending up in the river.

Control measures, as recommended in the guidance above, will be implemented to minimise the risk of spills, sedimentation and contamination of soils and waters and thereby minimise the risk of pollution of the River Deel, the SPA, and the cSAC downstream. There will be no pollution or siltation of the water of the River Deel as a result of the proposed development, therefore there will be no impacts on the Qualifying Interests Lamprey species or Salmon of the cSAC downstream.

- As a modern industrial facility, the implementation of environmental protection measures occurs at the existing site as standard, and no difficulties in implementing standard construction environmental protection measures (i.e. prevention of siltation or hydrocarbon contamination in surface water run-off) under the supervision of site engineers is envisaged. Thus significant impacts on the receiving environment and in particular the River Deel, the SPA and the cSAC are not predicted to occur.
- It is intended that the construction compound will be located within the site of the existing facility. The area which it is envisaged the contractor will use as the area for the construction compound is indicated by green area shown in **Figure 2**.

8 Screening Statement and Conclusions

The assessment for screening identified six Natura 2000 sites within the zone of influence of the site of the proposed development, however only two of these are of relevance to the proposed development i.e. the River Shannon and River Fergus Estuaries SPA, and the Lower River Shannon cSAC. The remaining sites are not considered due to the distance to, and lack of connectivity with, the remaining sites and due to the low value of the site of the proposed development for foraging species of these Natura 2000 sites.

Based on the information provided above, and by applying the precautionary principle, it is the opinion of Arup that it was possible to rule out likely significant impacts on any Natura 2000 site. Therefore it is the opinion of Arup that it is not necessary to undertake any further stage of the Appropriate Assessment process. Refer to **Appendix A Finding of No Significant Effects Report**.

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Appendix A

Findings of No Significance Report

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A1 Findings of No Significance Report

Name of Project:

Wyeth Nutritionals Ireland Limited car park

Names of Natura 2000 Sites within 15km of site:

- Askeaton Fen Complex cSAC (Site Code 002279)
- Barrigone cSAC (Site Code 00432)
- Curraghchase Woods cSAC (Site Code 00174)
- Lower River Shannon cSAC (Site Code 002165)
- River Shannon and River Fergus Estuaries SPA (Site Code 004077)
- Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (Site Code 004161)

Only the Lower River Shannon cSAC (Site Code 002165) and the River Shannon and River Fergus Estuaries SPA (Site Code 004077) are of relevance to the proposed development. The remaining Natura Sites listed are not considered in this report due to the lack of pathway/connectivity with the site and the low value of the site for foraging species of the Natura 2000 sites.

Is the project or plan directly connected with or necessary to the management of the sites?

No

Are there other projects or plans that together with the project or plan being assessed could affect the site?

No

THE ASSESSMENT OF SIGNIFICANCE OF EFFECTS

Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 sites.

The proposed development will not result in any significant impacts on Natura 2000 sites.

Explain why these effects are not considered significant.

The assessment concludes that the project is not likely to significantly affect any Natura 2000 sites (directly or indirectly). The proposed development will not result in any significant impacts on Natura 2000 sites. This judgement has been arrived at on the following basis:

- All development activity will take place within the Wyeth site. No works will take place within the River Shannon and River Fergus Estuaries Special Protection Area (SPA) the boundary of which is located approximately 22.5m

east of the site of the proposed development. No material or spoil from the works will be deposited in the SPA. There will be no encroachment on the mudflats of the SPA.

- There will be no loss of Natura 2000 site habitat area, no fragmentation of the habitats of Natura 2000 sites, no disturbance to the qualifying species of the Natura 2000 sites, no impacts on population density of these species, no impacts on water resources and no impacts on water quality of the Natura 2000 sites.
- The area of scrub along the boundary between the SPA and the site will provide a buffer to minimise disturbance to species of the SPA.
- External lighting for the proposed development will comprise low impact LED pole lighting and bollard light fittings as appropriate and similar to those that exist on site at present.
- There is a potential indirect pathway between the proposed development and the two relevant Natura 2000 sites, via the existing Wyeth Nutritionals Ireland Limited surface water drainage system. The surface water drainage network at the existing Wyeth facility discharges to the River Deel via an IED licensed (P0395) discharge point. All emissions from the Wyeth site are governed by the limits of its IED licence Surface water drainage from the proposed development will link to this existing drainage network at the facility. A hydrocarbon interceptor will be installed as part of the proposed surface water drainage system for proposed development. All surface water discharges to the River Deel via the IED licensed discharge point will comply with the IED licence during operation. All process and foul water will be directed to the site's wastewater treatment plant. Therefore there will be no effects on the habitats or species of the SPA and the cSAC as a result of the proposed development.
- According to the noise assessment report (**Appendix C**), in order to assess the effect of noise from the proposed development on the bird species of the SPA, four locations at the western bank of the River Deel were assessed (see Figure 1 of **Appendix C** for location). The noise report states that the highest noise level predicted at these locations is 44dBA. Results from the environmental noise survey in 2015 indicate that at the western boundary of the site, a night-time noise level of 47dBA is experienced. The noise report states that it is conservative to assume that this noise level is not any greater along the eastern boundary, as the eastern boundary is located further away from any local roads which are a main noise source. Therefore, using 47dBA as a baseline noise level, a total noise level of 49dBA is predicted, an increase of 2dBA. This increase is categorised as imperceptible, therefore it is considered that there will be no disturbance to the qualifying species of the SPA as a result of the operation of the proposed development.
- No particularly noisy construction activities are envisaged during the construction phase. Given the existing background noise and disturbance on this industrial site, significant noise impacts on the receiving environment are not predicted to occur. The building contractor will employ measures to minimise the potential for noise disturbance to the surrounding area to ensure

the construction noise criteria are not exceeded. The Contractor will comply with the recommendations of BS 5228-1:2009+A1:2014: Part 1 and the European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001.

- The site is part of an existing industrial complex and is screened from much of the SPA to the east and cSAC to the north by the existing building complex. This will mean that works during the construction phase of the development will not be visible for the most part and this would minimise the disturbance effects of construction activities on the species of the nearby River Shannon and River Fergus Estuaries Special Protection Area (SPA).
- A Construction Management Plan, a Dust Management Plan and a Waste Management Plan will be implemented by the contractor during the works.
- During construction, surface water run-off during site works will be controlled using standard construction management measures. The existing surface water drainage network, within the site, controls surface water discharges. During construction, surface water will be discharged via a hydrocarbon interceptor to the existing site drainage network to the River Deel through the existing facility's IED licensed emission point. All discharges and emissions from the proposed development during the construction period will be within the current operating limits set by the IED licence for the existing facility. There will be no other discharge points to the River Deel during construction. Boundaries for construction vehicles will be clearly indicated to lessen the chances of sediment or pollutants ending up in the river.

Control measures, as recommended in the guidance above, will be implemented to minimise the risk of spills, sedimentation and contamination of soils and waters and thereby minimise the risk of pollution of the River Deel, the SPA, and the cSAC downstream. There will be no pollution or siltation of the water of the River Deel as a result of the proposed development, therefore there will be no impacts on the Qualifying Interests Lamprey species or Salmon of the cSAC downstream.

- As a modern industrial facility, the implementation of environmental protection measures occurs at the existing site as standard, and no difficulties in implementing standard construction environmental protection measures (i.e. prevention of siltation or hydrocarbon contamination in surface water run-off) under the supervision of site engineers is envisaged. Thus significant impacts on the receiving environment and in particular the River Deel, the SPA and the cSAC are not predicted to occur.
- It is intended that the construction compound will be located within the site of the existing facility. The area which it is envisaged the contractor will use as the area for the construction compound is indicated by green area shown in **Figure 2**.

List of Agencies consulted

The following were consulted by email:

Mr. Tom O'Neill, Heritage Officer, Limerick City and County Council.

Manager Development Applications Unit (DAU) of the Department of Heritage, Arts and the Gaeltacht

DATA COLLECTED TO CARRY OUT THE ASSESSMENT

Who carried out the assessment?

The assessment was carried out by Arup.

Sources of Data -

Sources of data included:

- *Managing Natura 2000 Sites: The Provision of Article 6 of the Habitats Directive 92/43/EEC* (EC Environment Directorate-General, 2000); [hereafter referred to as MN2000]
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodical Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission Environment Directorate-General, 2001)
- *Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC*. (European Commission, 2007)
- *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities* (Department of Environment, Heritage and Local Government, 2010 revision)
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPW 1/10 and PSSP 2/10*
- *Guidelines for Good Practice Appropriate Assessment of Plans under Article 6(3) Habitats Directive* (International Workshop on Assessment of Plans under the Habitats Directive, 2011)

Sources of information that were used to collect data on the Natura 2000 network of sites and on the existing ecological environment are listed below:

- Ordnance Survey of Ireland mapping and aerial photography (www.osi.ie) (accessed 16.02.2016)
- Google Maps aerial photography (accessed 16.02.2016)
- National Parks and Wildlife Service online mapping and data on European Sites (www.npws.ie) (accessed 16.02.2016)
- Information on environmental quality data available from www.epa.ie (Envision Online Environmental Map Viewer)
- Status of EU Protected Habitats in Ireland (NPWS 2013)
- Limerick City and County Council online planning records accessed on 17.02.2016
- National Biodiversity Centre Data Centre database www.biodiversityireland.ie (accessed 17.02.2016).
- Natura Impact Report of Variation No 3 to the Limerick County Development Plan 2010 – 2016 (February 2015).

OVERALL CONCLUSIONS

Based on the information provide above, and by applying the precautionary principle, it was determined by Arup that it was possible to rule out likely significant impacts on any European Sites. It is the opinion of Arup that it is not necessary to undertake any further stage of the Appropriate Assessment process.

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Appendix B

Results of Winter Bird Surveys 2015 - 2016

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B1 Results of Winter Bird Surveys 2015 – 2016

Date	Tides	Location	Weather	Notes
05/11/2015	Low: 08:18 High:14:12	Wyeth Nutrition Facility – north east corner	Sea state 2-3. Wet, with high cloud cover. Wind SW 15kph. Cloud 7/8. 14°C	Site located on high ground overlooking River Deel.
05/11/2015	Low: 08:18 High:14:12	Askeaton swimming club	Wet, with moderate cloud cover. Wind SW 12kph. Cloud 6/8. 14°C. Water calm.	Site located south of the Wyeth Nutrition Facility with clear open view of the River Deel stretching North.

Winter Survey Results - 05/11/2015

Date	Location	
05/11/2015	Wyeth Nutrition Facility	Askeaton swimming club
Time of survey:	12.30 – 14.00	15.00 – 16.30
Tide/River state:	Mid	High
Species present & abundance		
Black-headed Gull	11	
Common Gull	10	
Lesser Black-backed Gull		1
Grey Heron	1	2
Cormorant	4	1
Curlew	1	1
Oystercatcher	1	
Curlew Sandpiper		1
Mallard	8	
Robin	3	2
Woodpigeon	6	3
Blackbird	6	1
Chaffinch	3	2
Wren	1	1
Blue tit	1	
Long-tailed tit		8
Pied Wagtail	1	
Rook		1
Hooded Crow	11	1
Magpie	1	

Fly-by: 38 Curlew

Date	Tides	Location	Weather	Notes
16/12/2015	Low: 15:02 High:09:04	Wyeth Nutrition Facility – north east corner	Sea state 2-3. Wet, with high cloud cover. Wind SW 25-35kph. Cloud 6/8. 10°C	Site located on high ground overlooking River Deel.
16/12/2015	Low: 15:02 High:09:04	Askeaton swimming club	Wet, with moderate cloud cover. Wind SW 05kph. Cloud 4/8. 12°C. Water – strong flow.	Note: Fox noted on bank nearest the Wyeth Nutrition Facility. Site located south of the Wyeth Nutrition Facility with clear open view of the River Deel stretching North.

Winter Survey Results - 16/12/2015

Date	Location	
16/12/2015	Wyeth Nutrition Facility	Askeaton swimming club
Time of survey:	12.15 – 13.45	13.55 – 15.25
Tide/River state:	Low	Low
Species present & abundance		
Black-headed Gull	60	18
Common Gull	1	
Little Egret		3
Cormorant		1
Curlew	12	2
Greenshank	1	1
Redshank	8	2
Common Sandpiper		1
Teal	22	3
Mallard	5	15
Robin	3	2
Woodpigeon	2	1
Blackbird	1	1
Chaffinch		3
Pied Wagtail		2
Hooded Crow	4	1
Magpie	3	1
Jackdaw		2
Goldfinch	1	1
Raven	1	
Dipper		1
Redpoll	1	

Date	Tides	Location	Weather	Notes
12/01/2016	Low: 13:31 High:07:25	Wyeth Nutrition Facility – north east corner	Sea state 3-4. Wet, with high cloud cover. Wind SW 25-35kph. Cloud 4/8. 3-4°C. Some drizzle and hail stone	Site located on high ground overlooking River Deel.
12/01/2016	Low: 13:31 High:07:25	Askeaton swimming club	Wet, with moderate cloud cover. Wind SW 15kph. Cloud 2/8. 4°C. Water – strong flow.	Site located south of the Wyeth Nutrition Facility with clear open view of the River Deel stretching North.

Winter Survey Results - 12/01/2016

Date	Location	
12/01/2016	Wyeth Nutrition Facility	Askeaton swimming club
Time of survey:	11.45 – 13.15	13.30 – 15.00
Tide/River state:	Low	Low
Species present & abundance		
Black-headed Gull	28	5
Common Gull		1
Grey Heron		1
Little Egret		1
Cormorant	1	
Curlew	6	1
Greenshank	1	1
Redshank	9	5
Common Sandpiper		1
Teal	51	9
Mallard	5	5
Robin		1
Woodpigeon		14
Blackbird	2	1
Chaffinch	1	
Pied Wagtail		2
Hooded Crow	3	3
Song thrush		1
Goldfinch	2	
Greenfinch	1	
Linnet		8
Bullfinch	1	

Fly-by: Wyeth Facility (3 Greater Black-backed Gulls, 12 Rooks, 2 Magpies, 8 Curlew, 3 Hooded Crows, 16 Black Headed Gulls, 2 Jackdaws, 2 Cormorant) & Askeaton Swimming Club (35 Rooks, 3 Woodpigeons, 10 Jackdaws, 2 Common Gulls).

Date	Tides	Location	Weather	Notes
17/02/2016	Low: 07:08 High:13:53	Wyeth Nutrition Facility – north east corner	Sea state 2-3.Rain 0mm. Wind SW 10-30kph. Cloud4/8. Temp.3°C	Note: Large number of Curlew noted in field opposite the facility. Site located on high ground overlooking River Deel.
17/02/2016	Low: 07:08 High:13:53	Askeaton swimming club	Wind SW 05-10kph. Cloud 4/8. 5°C. Water very high with strong flow.	Site located south of the Wyeth Nutrition Facility with clear open view of the River Deel stretching North.

Date	Location	
17/02/2016	Wyeth Nutrition Facility	Askeaton swimming club
Time of survey:	11:45 – 13:15	13:25 – 14:55
Tide/River state:	Mid - High	High
Species present & abundance		
Black-headed Gull	28	6
Common Gull	3	
Cormorant	2	
Curlew	147	
Oystercatcher	1	
Greenshank	1	
Redshank	2	
Snipe	4	
Common Sandpiper		1
Teal	17	11
Mallard	2	7
Robin	2	2
Woodpigeon	1	2
Blackbird	1	2
Chaffinch	3	
Wren		2
Grey Wagtail		1
Pied Wagtail		2
Rook		1
Hooded Crow	3	
Starling	13	

Date	Tides	Location	Weather	Notes
01/03/2016	Low: 16:36 High: 10:40	Wyeth Nutrition Facility – north east corner	Sea state 3. Wet conditions - drizzle. Wind SW 30-50kph. Cloud 7/8. Temp. 9°C	Note: Rookery situated near construction security entrance and possible others in near by locations Site located on high ground overlooking River Deel.
01/03/2016	Low: 16:36 High: 10:40	Askeaton swimming club	Wind SW 10-30kph. Cloud 7/8. 9°C. Wet conditions – drizzle. Water- moderate flow.	Site located south of the Wyeth Nutrition Facility with clear open view of the River Deel stretching North.

Date	Location	
1/3/2016	Wyeth Nutrition Facility	Askeaton swimming club
Time of survey:	10:45 - 12:15	12:30 - 14:00
Tide/River state:	high	high - moderate flow
Species present & abundance		
Black-headed Gull		43
Little Egret		1
Cormorant	2	
Curlew	1	
Greenshank	1	
Redshank	5	3
Common Sandpiper		1
Teal	8	4
Mallard	1	7
Woodpigeon	3	30
Blackbird	2	
Chaffinch	5	8
Grey Wagtail		3
Pied Wagtail		2
Hooded Crow	7	2
Magpie	2	
Kestrel		1
Reed Bunting	3	

Appendix C

Noise Assessment Report

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C1 Noise Assessment Report

See Noise Assessment Report overleaf.

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Nestle
Project Newcard
Noise impact assessment

REP1

Issue | 15 March 2016

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Job number 233421-00

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Document Verification

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1 Introduction

It is proposed to construct an extension to the existing R&D pilot plant at the Nestlé facility in Askeaton, Co. Limerick. A number of new noise sources will be provided as part of the development. This report was prepared to assess the potential noise impact due to the constructional and operational phases of the development. The facility is licensed by the Environmental Protection Agency (EPA) under Industrial Emissions (IE) Licence Register No. P0395-03.

2 Methodology

2.1 Environmental noise survey methodology

The survey methodology followed the Environmental Protection Agency (EPA) 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in relation to Scheduled Activities' NG4 and ISO 1996 'Description and Measurement of Environmental Noise'.

2.1.1 Monitoring locations

Figure 1 shows the six monitoring locations where baseline monitoring was undertaken. These locations are referred to as:

- NSL1 – New house approximately 200m north of the site, at roadside;
- NSL2 – 260m south, at lay-by beside B&B;
- NSL3 – Askeaton, 460m south, on the footpath at a retirement home;
- NSL 4 – Ballysteen Road, 470m southeast, in gateway;
- NSL 5 – Ballysteen Road, 870m east, in gateway;
- NSL6 – 460m east, laneway at rear of house.

2.1.2 Instrumentation

The monitoring was carried out using a Bruel & Kjaer 2250 Type 1 sound level meter. The calibration was checked before and after the monitoring using a Bruel & Kjaer 4231 Calibrator.

2.1.3 Monitoring procedure

Measurement locations at residential properties were at the property boundaries. The measurement locations are shown in **Figure 1**.

2.1.4 Measurement parameters

At each location, the noise level was measured for a 30-minute period. The limits in IE licence P0395-03 refer to the noise emitted from the licensed activity only, i.e. the specific noise. During the survey, the specific noise levels due to noise emissions from the Nestle facility were established based primarily on the noise level statistics.

The “A” suffix denotes the fact that the sound levels have been “A-weighted” in order to account for the non-linear nature of human hearing. All sound levels in this report are expressed in terms of decibels (dB) relative to 2×10^{-5} Pa.

2.2 Assessment criteria

Nestle is licenced by the EPA to operate under their IE licence. The licence assigns a daytime noise limit ($L_{Aeq, 30min}$) of 55dB (07:00 to 19:00hrs.) and a 45dB night-time (23:00 to 07:00hrs.) limit at noise sensitive locations. Although not a specific limit of the site, the EPA ‘*Guidance Note for Noise: Licence Application, Surveys and Assessments in Relation to Scheduled Activities*’ NG4, 2012 applies a noise limit of 50dB for the evening time (19:00 to 23:00hrs.).

The impact of the development is assessed through the application of significance criteria based on predicted changes in noise level due to the operational phase of the development. This was achieved by calculating the change in L_{Aeq} and categorising the significance (refer to **Table 2**).

Table 2: Changes in Noise Level – Significance Criteria

Change in Sound Level (dB)	Subjective Reaction	Significance Level
<3	Inaudible	Imperceptible
4-5	Perceptible	Slight
6-10	Up to doubling of loudness	Moderate
11-15	Over a doubling of loudness	Significant
>16		Profound

Source: Based on a number of noise documents including *EPA Guidelines*, *BS4142* and *PPG24*

2.3 Assessment methodology

Calculations used to predict impacts associated with the operational impacts of the development have been completed using SoundPLAN modelling software, Version 7.3. The following input data was used to develop the noise model:

- Details of ground conditions;
- Location of noise sensitive locations (NSLs);
- Proposed buildings; and
- Sound power levels of each individual plant source.

Noise predictions for the operational phase were made using this software according to guidelines specified in 'ISO 9613-2: *Attenuation of Sound Propagation Outdoors: General Method of Calculation*' (ISO, 1996). **Table 3** outlines the sound power level associated with new plant items.

Table 3: Sound power levels of new plant proposed for pilot plant

Floor of pilot plat	Plant	Sound power level (L_w , dB)	Operation times
Ground	Vacuum mixer	80	Continuous
	Pumps x 2	103	Continuous
First	Through louvers	94	Continuous
	DSI	105	Continuous
	Air take	72	Continuous
	AHU	63	Continuous
	AHU	66	Continuous
Second	Thermocompressor	108	Continuous
	Explosion vents x 2	77	Continuous
Roof	SD building walls	66	Continuous
	AHU	62	Continuous
Dry roof tower	Exhaust outlet	93	Continuous

The external wall cladding proposed for the development is Kingspan RW/80 panels. The noise reduction due to the cladding has been factored for internal noise sources, at a Weighted Sound Reduction Index (R_w) of 45dB. External noise sources have been assumed to have no attenuation for modelling purposes. No account has been taken noise attenuation that will arise from the implementation of ducting or enclosing of internal or external noise sources.

3 Existing environment

3.1 Introduction

In order to establish the existing environment, a series of noise surveys were carried out during daytime evening time and night-time at six noise sensitive locations (see **Figure 1**). Measurements were undertaken on the 25th and 26th May, 2015. Surveys were carried out on a week-day and during time periods which were selected in order to provide a typical snapshot of the existing baseline noise climate.

3.2 Weather report

Weather details for the daytime, evening time and night-time surveys are presented in **Table 4**.

Table 4 Weather conditions during monitoring

Period	Locations	Temp (°C)	Wind speed (m/s)	Precipitation
Daytime	All locations	14-16	1 - 4	None
Evening	All locations	11-15	0-2	None
Night-time	All locations	9-11	0-2	None

3.3 Noise sources during monitoring

A description of the noise sources audible during the surveys is provided below. Refer to **Figure 1** for the locations of noise monitoring points.

3.3.1 NSL1

This monitoring point is located approximately 200m to the north of the site at the roadside.

3.3.1.1 Daytime survey

Local traffic, birds chirping, planes and silage cutting were all audible during the survey, the plant was not audible.

3.3.1.2 Evening time survey

Local and distant traffic, birds chirping, planes and silage making were all audible during the survey, the plant was barely audible.

3.3.1.3 Night-time survey

Distant traffic, trees rustling, planes and dawn chorus were all audible during the survey, the plant was barely audible.

3.3.2 NSL2

This monitoring point is a noise sensitive location (a B&B), situated 260m south of the site.

3.3.2.1 Daytime survey

Traffic noise from the N69 and local traffic were audible during the survey, the plant was barely audible.

3.3.2.2 Evening time survey

Traffic noise from the N69, local traffic and a dog barking were audible during the survey, the plant was barely audible.

3.3.2.3 Night-time survey

Traffic noise from the N69, local traffic and trees rustling were audible during the survey, the plant was barely audible.

3.3.3 NSL3

NSL3 is situated at a noise sensitive location located in Askeaton, 460m south of the plant, adjacent to a retirement home.

3.3.3.1 Daytime survey

The main source of noise at this point was the traffic noise from the N69 and local traffic. The plant was not audible.

3.3.3.2 Evening time survey

The main source of noise at this point was the traffic noise from the N69 and local traffic. A dog was also barking during the survey. The plant was not audible.

3.3.3.3 Night-time survey

Local and distant traffic noise were audible during the survey. The plant was barely audible in traffic lulls.

3.3.4 NSL4

This monitoring location is positioned in the gateway of a house on Ballysteen Road, 470m southeast of the site.

3.3.4.1 Daytime survey

The greatest source of noise at this point was the traffic on the N69 and local traffic. Birds chirping were also audible. Low level steady plant noise was barely audible in traffic lulls.

3.3.4.2 Evening time survey

The greatest source of noise at this point was the traffic on the N69 and local traffic. Low level steady plant noise was barely audible in traffic lulls.

3.3.4.3 Night-time survey

The greatest source of noise at this point was the traffic on the N69 and local traffic. Dogs were also heard barking. Low level steady plant noise was barely audible in traffic lulls.

3.3.5 NSL5

This monitoring location is positioned in the gateway of a house on Ballysteen Road, 870m east of the site.

3.3.5.1 Daytime survey

The greatest source of noise at this point was distant traffic on the N69 and local traffic. The plant was barely audible in traffic lulls.

3.3.5.2 Evening time survey

Distant and local traffic noise was audible at this location. The plant was not audible.

3.3.5.3 Night-time survey

Distant traffic and low level steady plant noise were audible during this survey.

3.3.6 NSL6

NSL6 is situated at a laneway to the rear of a house, 460m east of the plant.

3.3.6.1 Daytime survey

Steady plant noise and distant and local traffic were audible during the survey period.

3.3.6.2 Evening time survey

Distant traffic noise and low level steady plant noise were audible during the survey.

3.3.6.3 Night-time survey

Distant traffic noise and low level steady plant noise were audible during the survey.

3.4 Measurement results

Table 5 presents the specific noise level for each location based on the noise survey

Table 5: Specific noise level monitoring results

Monitoring location	Mean specific noise level dB L _{Aeq}		
	Daytime	Evening	Night-time
NSL1	<<42	<36	<<33
NSL2	<48	<43	<<43
NSL3	<<48	<<44	<40
NSL4	<49	<50	<44
NSL5	<40	<<43	36
NSL6	45	40	41
<i>IE Limit</i>	55	50	45

< Plant barely audible

<< Plant not audible

The noise survey determined that the measured noise was broadband in character at all locations.

Measured specific noise levels are in compliance with licensed limits.

4 Potential impacts of the development

4.1 Construction phase

There is potential for noise to be generated during the construction phase of the development. The following construction noise management measures will be implemented by the contractor to minimise the potential for noise disturbance to the surrounding area and to ensure that construction noise criteria are not exceeded.

The Contractor will comply with the recommendations of BS 5228-1:2009+A1:2014: Part 1 and the European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001.

BS 5228 includes guidance on several aspects of construction site practices, including, but not limited to:

- Selection of quiet plant,
- Control of noise sources,
- Screening, and
- Working hours

Selection of quiet plant

This practice is recommended in relation to sites with static plant such as compressors and generators. It is recommended that these units be supplied with manufacturers' proprietary acoustic enclosures where possible. The potential for any item of plant to generate noise will be assessed prior to the item being brought onto the site. The least noisy item should be selected wherever possible. Should a particular item of plant already on the site be found to generate high noise levels, the first action should be to identify whether or not the item can be replaced with a quieter alternative.

General comments on noise control at source

If replacing a noisy item of plant is not a viable or practical option, consideration should be given to noise control "at source". This refers to the modification of an item of plant or the application of improved sound reduction methods in consultation with the supplier. For example, resonance effects in panel work or cover plates can be reduced through stiffening or application of damping compounds; rattling and grinding noises can often be controlled by fixing resilient materials in between the surfaces in contact.

BS 5228 states that "as far as reasonably practicable sources of significant noise should be enclosed". In applying this guidance, constraints such as mobility, ventilation, access and safety must be taken into account. Items suitable for enclosure include pumps and generators. Dismountable enclosures will also be used to screen operatives using hand tools and will be moved around site as necessary.

Screening

Typically screening is an effective method of reducing the noise level at a receiver location and can be used successfully as an additional measure to all other forms of noise control. The effectiveness of a noise screen will depend on the height and length of the screen and its position relative to both the source and receiver.

Working hours

Works will not be undertaken outside of normal working hours without the written permission of the local authority.

4.2 Operation phase

4.2.1 Noise sensitive locations

Six noise sensitive locations (in both upper and lower floors) were modelled to assess the impact of the development. Modelled results predicted at nearby residential receptors are presented and discussed below. In addition, to assess the effects of noise from the proposed development on the bird species of the SPA, four locations at the western bank of the River Deel (see **Figure 1** for locations) were assessed (refer to Section 4.2.2 *Special Protection Areas* for further information).

Baseline noise levels for each receptor were obtained from the onsite monitoring. Predicted noise levels are derived from the SoundPlan modelling assessment at each receptor. The change in noise level is then compared to the assessment criteria outline in Section 2.2.2. It should be noted that for the purposes of comparison to EPA limits the specific noise levels derived from the monitoring results are added to the predicted values. In some cases, the plant was not audible during monitoring.

Tables 6 to 8 below contains comparisons of predicted total noise levels to baseline values for daytime, evening time and night-time and apply a significance criteria to the change. **Figure 1** presents the noise contour map for the predicted noise levels.

4.2.1.1 Daytime assessment

Table 6 below contains comparisons of predicted total noise levels to baseline values for daytime and apply a significance criteria to the change.

Table 6 Assessment of change in noise levels for daytime

Receptor	Baseline noise level (dB)	Floor	Predicted noise level (dB)	Total noise level (dB)	Change in noise level (dB)	Compliant with EPA daytime limit? (55dB L _{Aeq})	Significance level (see Table 2)
NSL1	<<42	Ground	19.2	42	0.0	Yes	Imperceptible
		1st	19.2	42	0.0	Yes	Imperceptible
NSL2	<48	Ground	31.6	48	0.1	Yes	Imperceptible
		1st	31.6	48	0.1	Yes	Imperceptible
NSL3	<<48	Ground	26	48	0.0	Yes	Imperceptible
		1st	26.1	48	0.0	Yes	Imperceptible
NSL4	<49	Ground	26.8	49	0.0	Yes	Imperceptible
		1st	26.8	49	0.0	Yes	Imperceptible
NSL5	<40	Ground	20.2	40	0.0	Yes	Imperceptible
		1st	20.2	40	0.0	Yes	Imperceptible
NSL6	45	Ground	23.1	45	0.0	Yes	Imperceptible
		1st	23.5	45	0.0	Yes	Imperceptible

< Plant barely audible

<< Plant not audible

As presented in **Table 6**, impacts associated with the development are considered imperceptible. Furthermore, the baseline stated at NSL1, 2, 3, 4 and 5 are overstated, as according to the noise surveys undertaken at these locations, plant from the facility was either barely audible or not audible.

The results for the assessment show that the maximum increase occurring at noise sensitive locations adjacent to the development is 0.1dBA. This change is deemed imperceptible and complies with the daytime noise limits stated in Section 2.2.2.

4.2.1.2 Evening time assessment

Table 7 below contains comparisons of predicted total noise levels to baseline values for evening time and apply a significance criteria to the change.

Table 7 Assessment of change in noise levels for evening time

Receptor	Baseline noise level (dB)	Floor	Predicted noise level (dB)	Total noise level (dB)	Change in noise level (dB)	Compliant with EPA evening time limit? (50dB L _{Aeq})	Significance level (see Table 2)
NSL1	<36	Ground	19.2	36	0.1	Yes	Imperceptible
		1st	19.2	36	0.1	Yes	Imperceptible
NSL2	<43	Ground	31.6	43	0.3	Yes	Imperceptible
		1st	31.6	43	0.3	Yes	Imperceptible
NSL3	<<44	Ground	26	44	0.1	Yes	Imperceptible
		1st	26.1	44	0.1	Yes	Imperceptible
NSL4	<50	Ground	26.8	50	0.0	Yes	Imperceptible
		1st	26.8	50	0.0	Yes	Imperceptible
NSL5	<<43	Ground	20.2	43	0.0	Yes	Imperceptible
		1st	20.2	43	0.0	Yes	Imperceptible
NSL6	40	Ground	23.1	40	0.1	Yes	Imperceptible
		1st	23.5	40	0.1	Yes	Imperceptible

< Plant barely audible

<< Plant not audible

As presented in **Table 7**, impacts associated with the development are considered imperceptible. Furthermore, the baseline stated at NSL1, 2, 3, 4 and 5 are overstated, as according to the noise surveys undertaken at these locations, plant from the facility was either barely audible or not audible.

The results for the assessment show that the maximum increase occurring at noise sensitive locations adjacent to the development is 0.3dBA. This change is deemed imperceptible and complies with the evening time noise limits stated in Section 2.2.2.

4.2.1.3 Night-time assessment

Table 8 contains comparisons of predicted total noise levels to baseline values for night-time and apply a significance criteria to the change.

Table 8 Assessment of change in noise levels for night-time

Receptor	Baseline noise level (dB)	Floor	Predicted noise level (dB)	Total noise level (dB)	Change in noise level (dB)	Compliant with EPA night-time limit? (45dB LAeq)	Significance level (see Table 2)
NSL1	<<33	Ground	19.2	33	0.2	Yes	Imperceptible
		1st	19.2	33	0.2	Yes	Imperceptible
NSL2	<<43	Ground	31.6	43	0.3	Yes	Imperceptible
		1st	31.6	43	0.3	Yes	Imperceptible
NSL3	<40	Ground	26	40	0.2	Yes	Imperceptible
		1st	26.1	40	0.2	Yes	Imperceptible
NSL4	<44	Ground	26.8	44	0.1	Yes	Imperceptible
		1st	26.8	44	0.1	Yes	Imperceptible
NSL5	36	Ground	20.2	36	0.1	Yes	Imperceptible
		1st	20.2	36	0.1	Yes	Imperceptible
NSL6	41	Ground	23.1	41	0.1	Yes	Imperceptible
		1st	23.5	41	0.1	Yes	Imperceptible

< Plant barely audible

<< Plant not audible

As presented in **Table 8**, impacts associated with the development are considered imperceptible. Furthermore, the baseline stated at NSL1, 2, 3 and 4 are overstated, as according to the noise surveys undertaken at these locations, plant from the facility was either barely audible or not audible.

The results for the assessment show that the maximum increase occurring at noise sensitive locations adjacent to the development is 0.3dBA. This change is deemed imperceptible and complies with the night-time noise limits stated in Section 2.2.2.

4.2.2 Special Protection Areas (SPAs)

The River Shannon and River Fergus Estuaries Special Protection Area (SPA) is located at the eastern boundary of the Nestle site. In order to assess the effect of noise from the proposed development on the bird species of the SPA, four locations at the western bank of the River Deel were assessed (see **Figure 1** for location).

The highest noise level predicted at these locations is 44dBA, see **Figure 1**. Results from the 2015 Environmental Noise Survey indicate that at the western boundary of the site, a night-time noise level of 47dBA is experienced. It is conservative to assume that this noise level is not any greater along the eastern

boundary, as the eastern boundary is located further away from any local roads which are a main noise source.

Therefore, using 47dBA as a baseline noise level, a total noise level of 49dBA is predicted, an increase of 2dBA. This increase is categorised as an imperceptible, refer to **Table 2**.

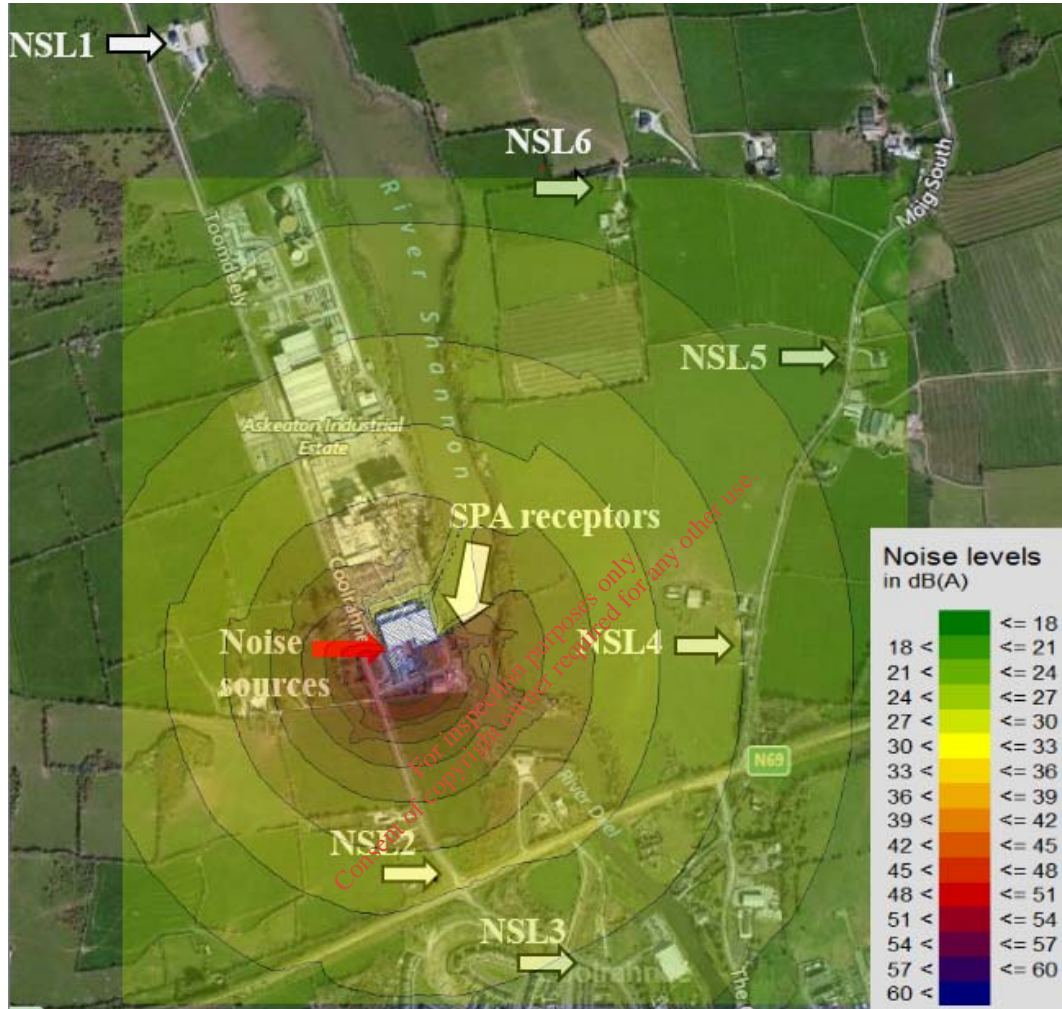


Figure 1: Operational phase noise levels at noise sensitive locations

[background mapping © Microsoft Corporation © 2016 Bing Maps] not to scale

5 Conclusions

A noise assessment was carried out to assess the potential noise impact for the proposed extension to the existing R&D pilot plant at the Nestlé facility in Askeaton, Co. Limerick.

The results of the assessment show that the maximum increase occurring at noise sensitive locations adjacent to the development is considered imperceptible and complies with the daytime, evening time and night-time noise limits stated in Section 2.2.

Furthermore, the inclusion of noise reduction measures such as ducting and internal structures, which are not included in this assessment, will reduce noise emissions further.

Ultimately, the facility will be obliged to comply with the noise limits outlined in Section 2.2 of this report as stated in IE Licence P0395-03. Noise monitoring results are reported annually via the facility's Annual Environmental Report which is submitted to the EPA.

6 References

Environmental Protection Agency (EPA) 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in relation to Scheduled Activities' NG4

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