Screening Report for Appropriate Assessment of a residential development at Foxburrow, Portlaoise, Co. Laois

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1.0 Introduction

Biodiversity is a contraction of the words 'biological diversity' and describes the enormous variability in species, habitats and genes that exist on Earth. It provides food, building materials, fuel and clothing while maintaining clean air, water, soil fertility and the pollination of crops. A study by the Department of Environment, Heritage and Local Government placed the economic value of biodiversity to Ireland at €2.6 billion annually (Bullock et al., 2008) for these 'ecosystem services'.

All life depends on biodiversity and its current global decline is a major challenge facing humanity. In 1992, at the Rio Earth Summit, this challenge was recognised by the United Nations through the Convention on Biological Diversity which has since been ratified by 193 countries, including Ireland. Its goal to significantly slow down the rate of biodiversity loss on Earth has been echoed by the European Union, which set a target date of 2010 for *halting* the decline. This target was not met but in 2010 in Nagoya, Japan, governments from around the world set about redoubling their efforts and issued a strategy for 2020 called 'Living in Harmony with Nature'. In 2011 the Irish Government incorporated the goals set out in this strategy, along with its commitments to the conservation of biodiversity under national and EU law, in the second national biodiversity action plan (Dept. of Arts, Heritage and the Gaeltacht, 2011). A third plan was published in 2017.

The main legislation for conserving biodiversity in Ireland have been the Directive 2009/147//EC of the European Parliament and of the Council of November 2009 on the conservation of wild birds (Birds Directive) and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive). Among other things, these require member states to designate areas of their territory that contain important bird populations in the case of the former; or a representative sample of important or endangered habitats and species in the case of the latter. These areas are known as Special Protection Areas (SPA) and Special Areas of Conservation (SAC) respectively. Collectively they form a network of sites across the European Union known as Natura 2000. The Birds and Habitats Directives have been transposed into Irish legislation by the European Communities (Birds and Natural Habitats) Regulations 2011-2015. A report into the economic benefits of the Natura 2000 network concluded that "there is a new evidence base that conserving and investing in our biodiversity makes sense for climate challenges, for saving money, for jobs, for food, water and physical security, for cultural identity, health, science and learning, and of course for biodiversity itself" (EU, 2013).

Unlike traditional nature reserves or national parks, Natura 2000 sites are not 'fenced-off' from human activity and are frequently in private ownership. It is the responsibility of the competent national authority to ensure that 'good conservation status' exists for their SPAs and SACs and specifically that Article 6(3) of the Habitats Directive is met. Article 6(3) 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.

Sections 177U and 177V of the Planning and Development Act 2000 sets out the purpose of AA Screening is as follows:

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

The test at stage 1 AA Screening is that:

The competent authority shall determine that an appropriate assessment of a proposed development is required if it cannot be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site.

The test at stage 2 (Appropriate Assessment) is:

Whether or not the proposed development, individually or in-combination with other plans or projects would adversely affect the integrity of a European site.

However, where this is not the case, a preliminary screening must first be carried out to determine whether or not a full AA is required. This screening is carried out by An Bord Pleanala.

2.0 The Purpose of this document

This document provides a screening report of a proposed residential housing development on a site at Foxburrow, Portlaoise, Co. Laois, and its potential effects in relation to Natura 2000 sites (SACs and SPAs). The lands are disturbed in nature, with spoil heaps and half-built development.

This document will assess whether significant effects to the Natura 2000 network are likely to occur in accordance with Article 6(3) of the Habitats Directive and the Planning and Development (Amendment) Act, 2010.

It should be noted that under the European Communities (Birds and Natural Habitats) Regulations it is the relevant competent authority, in this case An Bord

Pleanala, which carries out any AA or screening for AA. This report therefore aids in that decision.

3.0 Methodology

The methodology for this screening statement is clearly set out in a document prepared for the Environment DG of the European Commission entitled 'Assessment of plans and projects significantly affecting Natura 2000 sites 'Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (Oxford Brookes University, 2001). Chapter 3, part 1, of the aforementioned document deals specifically with screening while Annex 2 provides the template for the screening/finding of no significant effects report matrices to be used.

In accordance with this guidance, the following methodology has been used to produce this screening statement:

Step 1: Management of the Natura 2000 site
This determines whether the project is necessary for the conservation management of the site in question.

Step 2: Description of the Project
This step describes the aspects of the project that may have an impact on the Natura 2000 site.

Step 3: Characteristics of the Natura Site
This process identifies the conservation objectives of the site and determines whether significance effects to Natura 2000 sites will arise as a result of the plan. This is done through a literature survey and consultation with relevant stakeholders – particularly the National Parks and Wildlife Service (NPWS). All potential effects are identified including those that may act alone or in combination with other projects or plans.

Using the precautionary principle, and through consultation and a review of published data, it is normally possible to conclude at this point whether potential impacts are likely. Deficiencies in available data are also highlighted at this stage.

Step 4: Assessment of Significance
Assessing whether an effect is significant must be made in light of the conservation objectives for that SAC or SPA.

A full AA of a proposed development is required if it cannot be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site.

The steps are compiled into a screening matrix, a template of which is provided in Appendix II of the EU methodology.

Reference is also made to guidelines for Local Authorities from the Department of the Environment, Heritage and Local Government (DoEHLG, 2009).

A full list of literature sources that have been consulted for this study is given in the References section to this report while individual references are cited within the text where relevant.

Screening Template as per Annex 2 of EU methodology:

This plan is not necessary for the management of any Natura 2000 site and so Step 1 as outlined above is not relevant.

4.0 Brief description of the project

The proposed development is for the construction of a housing estate on this site to include new access roadway, dwelling homes and related infrastructure. The project is described thus, as per the planning application:

Boderg Developments Limited intend to apply to An Bord Pleanála for permission for a strategic development at a 4.492 ha site at Foxburrow, Beladd, Portlaoise, County Laois.

The proposed development will complete the development of Foxburrow estate, which was previously permitted and partially constructed under Laois County Council Reg. Ref. 05/893.

The development will consist of: the removal or adaptation of existing foundation pads for the previously permitted and partially constructed houses; and the provision of 155 No. residential units comprised of 115 No. two-storey terraced, semi-detached and detached dwellings (44 No. 4-bedroom houses, 48 No. 3-bedroom houses and 23 No. 2-bedroom houses); 4 No. 1-bed maisonettes in a two-storey block; and 36 No. apartments provided in 3 No. three storey apartment buildings, with each block proposing 12 No. units, providing a total of 18 No. one bedroom apartments and 18 No. two bedroom apartments.

The development also proposes the provision of 289 No. ancillary car parking spaces; cycle parking; the creation of a pedestrian link towards the north-west corner of the site through to the neighbouring Grenville estate and the facilitation of a vehicular link through to Grenville; hard and soft landscaping; boundary treatments; solar panels; the relocation of an existing ESB substation and the provision of a new substation; bin stores and all associated site development works above and below ground

The site location is shown in figures 1 and 2. The site is located to the east of Portlaoise, close to existing residential areas. This part of Co. Laois is predominantly composed of built development and transport arteries, although agricultural land is still to be found on lands to the east. OSI maps show a small

water course, the Ratheven Stream, running to the east of the site boundary. This drains to the Triogue River, which flows north, joining the River Barrow to the north-east of Mountmellick. The River Barrow at this point lies within the River Barrow and River Nore SAC.

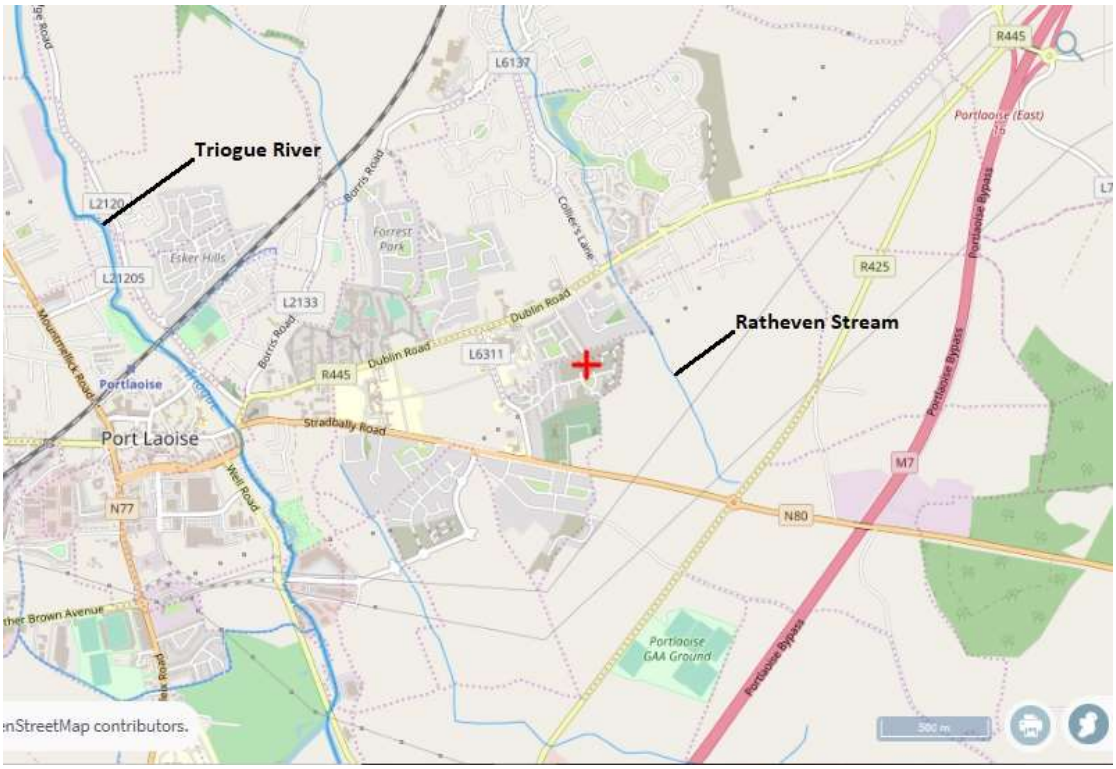

Figure 1 – Site location (red cross). There are no Natura areas in this view (from www.epa.ie).

The site was visited for this study on September 24th 2019. This is within the optimal period for general habitat survey and for a study of this nature it is essential that pathways between the site and Natura 2000 areas be fully identified. In this regard a full assessment was possible. The lands were cleared for development some years ago and some infrastructure was installed at this time. The habitats are now best described as a combination of **dry meadow – GS2** (where soil is deep), **scrub – WS1** (where trees such as Birch *Betula sp.* and Grey Willow *Salix cinerea*) have colonised, **bare ground – ED2** in areas of thin or exposed soil and stones, and **artificial surfaces – BL3** where there is tarmac or asphalt etc. These are habitats of low or negligible biodiversity value.

There are no water courses on the site, no bodies of open water or habitats which could be considered wetlands. There are no plants growing on the site which are listed as alien invasive species on Schedule 3 of SI No. 477 of 2011.

The development will see site clearance and a construction phase using standard building materials.

A drainage system has been partly constructed which includes an attenuation storage and a surface water discharge pipe leading to local water courses, presumably the Ratheven Stream. New attenuation capacity is planned as part of this development. Surface water is therefore separate from the foul sewer

network. These are standard measures in all development applications and are not included to avoid or reduce an effect to a Natura 2000 area.

The site is within the catchment of the Triogue River and so a part of the wider basin of the River Barrow (from www.wfdireland.net).

The project will involve a construction phase which will see earth works and the movement of heavy machinery. Standard construction materials will be in use and this will see the presence of potentially polluting materials on the site, including oils, fuels and concrete.

The operation phase will see the new homes inhabited on a permanent basis. Post-construction landscaping is planned using a range of native and non-native (but not invasive) species.

Freshwater for the dwellings will be sourced from the mains supply for Portlaoise Town. This originates from a number of groundwater wells.

Wastewater is to be treated in the municipal treatment plant for Portlaoise. This is run by Irish Water under licence from the Environmental Protection Agency (EPA).

The proposed site layout is presented in figure 3.

Figure 2 – Indicative site boundary (in red line) (from www.google.com).

Figure 3 – proposed site layout

5.0 Brief description of Natura 2000 sites

In assessing the zone of influence of this project upon Natura 2000 sites the following factors must be considered:

- Potential impacts arising from the development
- The location and nature of Natura 2000 sites
- Pathways between the development and the Natura 2000 network

The site is not located within or directly adjacent to any Natura 2000 area. For projects of this nature an initial 2km radius is normally examined (IEA, 1995). There are no such areas in this radius. As the site lies within the catchment of the Triogue River there is a pathway to the River Barrow & River Nore SAC (site code: 2162) although the distance to the boundary of this area is nearly 10km at its nearest point. This is considered to be the only Natura 2000 area within the zone of influence of the development as pathways do not exist to other areas.

River Barrow & River Nore SAC (site code: 2162)
The rivers Barrow and Nore are among the longest rivers in Ireland and this large SAC stretches from the Slieve Bloom mountains in the north to Creadun head in county Wexford in the south.

The River Barrow and River Nore drain a large part of the low-lying areas of Leinster and are important rivers for a wide range of aquatic or semi-aquatic habitats and species (NPWS, 2016).

The reasons why these rivers are important at a European level are defined in their 'qualifying interests', and these are listed in table 1.

Table 1 – Qualifying interests of the River Barrow and River Nore SAC

Aspect	**Level of Protection**	**NPWS Assessment**
Alluvial wet woodland (code: 91E0)	Habitats Directive Annex I priority	Bad
Old oak woodlands (code: 91A0)		Bad
Atlantic salt meadows (code: 1330)	Habitats Directive Annex I	Inadequate
Mediterranean salt meadows (code: 1410)		Inadequate
Petrifying springs with tufa formation (code: 7220)		Inadequate
Hydrophilous tall herbs (code: 6430)		Bad
Floating river vegetation (code: 3260)		Inadequate
Estuary (code: 1130)		Inadequate
Salicornia mudflats (code: 1310)		Inadequate
Dry heath (code: 4030)		Bad
Tidal mudflats (code: 1140)		Inadequate
Sea Lamprey *Petromyzon marinus* (Code: 1095)	Habitats Directive Annex II	Bad
Brook Lamprey *Lampetra planeri* (Code: 1099)		Good
Aquatic snail *Vertigo moulinsiana* (Code: 1016)		Bad
River Lamprey *Lampetra fluviatilis* (Code: 1096)	Habitats Directive Annex II, V	Good
Freshwater Pearl Mussel *Margaritifera margaritifera* (Code: 1029)		Bad
Nore freshwater pearl mussel *Margaritifera margaritifera durrovensis* (Code: 1990)		Bad
Freshwater Crayfish *Austropotamobius pallipes* (Code: 1092)		Bad
Twaite Shad *Alosa fallax fallax* (Code: 1103)		Bad

Atlantic Salmon *Salmo salar* (Code: 1106)		Inadequate
Otter *Lutra lutra* (Code: 1355)		Good
Killarney fern *Trichomanes speciosum* (Code: 1421)		Good

- Alluvial Wet Woodland (91E0): This is a native woodland type that occurs on heavy soils, periodically inundated by river water but which are otherwise well drained and aerated. The main pressures are identified as alien invasive species, undergrazing and overgrazing. Pollution from agricultural land may also be significant.
- Old Oak Woodlands: This native woodland type is typified by Sessile Oak *Quercus patrea,* Holly *Ilex aquifolium* and Hard Fern *Blechnum spicant*. Its range is much reduced from historic levels while the principle threats are alien invasive species and overgrazing by deer but also cattle, goats and sheep.
- Atlantic and Mediterranean salt meadows: these are intertidal habitats that differ somewhat in their vegetation composition. They are dynamic habitats that depend upon processes of erosion, sedimentation and colonisation by a typical suite of salt-tolerant organisms. The main pressures are invasion by the non-native *Spartina anglica* and overgrazing by cattle and sheep.
- Petrifying Springs: These are very localised habitats that arise from the precipitation of excess calcium carbonate in supersaturated running water. They are associated with characteristic bryophytes. They are vulnerable to changes in water quality, flow regime and intensification of land use practices.
- Hydophilous tall herbs: This is a wetland type associated with river floodplains in lowlands, although a different community applies to this classification in the uplands. It is the lowland community that is likely to be represented in the River Barrow and River Nore SAC. The main pressures listed for this habitat are grazing by cattle, invasion by the alien Himalayan Balsam *Impatiens glandulifera,* and nitrogen pollution (via both water and air deposition).
- Floating river vegetation: There is currently no satisfactory definition of this habitat type in Ireland and it is considered broad, encompassing all rivers. The NPWS says that “the main problems for river habitats in Ireland are damage through eutrophication and other processes linked to water pollution, rather than direct habitat loss and destruction.”
- Estuary: This is the portion of a river that is influenced by the tide but retaining a significant freshwater influence. Substrates can range from rocks and boulders, to expanses of fine mud and sand. They are an important resource for birds and other fauna and many estuaries have twin designations (i.e. both SAC and SPA). It considered that the majority of estuary habitat is in good condition however approximately a quarter is negatively affected by excess nutrient input and damaging fishing practices.
- Salicornia mudflats: This is a pioneer saltmarsh community and so is associated with intertidal areas. It is dependant upon a supply of fresh, bare mud and can be promoted by damage to other salt marsh habitats. It is

chiefly threatened by the advance of the alien invasive Cordgrass *Spartina anglica.* Erosion can be destructive but in many cases this is a natural process.

- Dry heath: This is a community of heather shrubs that occurs on well-drained, acidic, nutrient-poor mineral or peaty soils. Pressures on this habitat arise from high levels of sheep grazing, as well as afforestation, mining and quarrying. Unregulated burning is also identified as an important threat to the structure of this habitat.
- Tidal mudflats. This is an intertidal habitat characterised by find silt and sediment. Most of the area in Ireland is of favourable status however water quality and fishing activity, including aquaculture, are negatively affecting some areas.
- Sea lamprey. This is an anadromous species of jawless fish. Their population densities are considered low in many catchments and are negatively affected by barriers to migration, such as weirs, dams etc. Pollution and drainage works are also identified as threats to its conservation status.
- Brook and river lamprey: These species are similar to the sea lamprey although they spend their entire life cycle in freshwater and are considerably smaller. As juveniles they are indistinguishable at the species level and are only differentiated by their size at adults. Since surveys are carried out on the juvenile life stage the two species are jointly assessed. Although threatened by pollution, along with all aquatic life, they are assessed as being of 'good' status.
- Freshwater pearl mussel. This is one of the most threatened species in Ireland and one of a small number that is listed on the International Union for the Conservation of Nature's (IUCN) red list. Although it is long-lived, its populations have not reproduced in many years. This has been due to over-extractions for their pearls and more recently by dramatic deteriorations in water quality. Freshwater pearl mussels need exceptionally high-quality water for breeding and depend upon another threatened species, the Atlantic salmon, for part of its life cycle.
- Nore freshwater pearl mussel: As above however this subspecies is confined to a sub-catchment of the upper river Nore.
- Freshwater crayfish: This crustacean is Ireland's largest species of non-marine invertebrate and is found throughout limestone river, canal and lake catchments. The greatest threats to its conservation status arise from the non-native invasive species and disease (especially associated with the American Signal crayfish which has yet to be recorded in Ireland).
- Twaite shad. This is a localised fish species in Ireland, breeding at the upper tidal reaches of rivers in the south-east. They are threatened by non-native invasive species such as Dace and the Asian clam, which are now established in the tidal reaches of the Nore/Barrow. They spend their adult life at sea and here they are susceptible to capture by industrial fisheries.
- Atlantic salmon: This once abundant fish has suffered a dramatic decline in recent decades. On land they are threatened by pollution and barriers to migration while at sea mortality may occur through industrial fisheries, parasites from aquaculture operations and climate change. The Habitats Directive only protects the salmon in its freshwater habitat and here specific

conservation objectives have been set for water quality. Salmon will only spawn in clean, sediment-free beds of gravel.

- Otter: This aquatic mammal lives its entire life in and close to wet places, including rivers, lakes and coastal areas. They will feed on a wide variety of prey items. Despite local threats from severe pollution incidents and illegal fishing, its population is considered stable and healthy, and so is assessed as being of 'good' status.
- Killarney Fern: This plant was once collected by Victorian fern 'hunters' until it was nearly extirpated. It is now considered stable but remains very localised in its distribution. Its preferred habitat is dark, wet ravines and rocky cracks.

Whether the SAC is likely to be significantly affected must be measured against its 'conservation objectives'. Site specific conservation objectives have been set for the River Barrow and River Nore SAC (NPWS, 2011). This document sets specific objectives for each of the qualifying interests of the SAC. It is not considered necessary to reproduce these in their entirety but where relevant are discussed in more detail later in this document.

6.0 Data collected to carry out the assessment

Describe the individual elements of the plan (either alone or in combination with other plans or projects) likely to give rise to impacts on the SAC:

The site is composed of disturbed ground of low biodiversity value. The only pathway between the development and the River Barrow SAC is via surface or wastewater flows.

The EU's Water Framework Directive (WFD) stipulates that all water bodies must attain 'good ecological status' by 2015 or, with exceptions, by 2027 at the latest. In 2010 the first River Basin Management Plan (RBMP) was published to address ecological issues and this included a 'programme of measures' which was to be completed. The EPA carries out a routine monitoring programme throughout the catchment. The nearest monitoring station along the Triogue River is downstream of Portlaoise Town. The most recent data, from 2015, show Q4, or unpolluted status. This deteriorates to Q3 – moderately polluted – north of the town and polluted status is maintained until it reaches the main channel of the Barrow. The Triogue catchment overall has most recently been assessed by the EPA as of 'poor' or 'moderate' status downstream of Portlaoise (from www.epa.ie).

In 2018 a second RBMP was published which highlights 190 'priority areas for action' where resources are to be focussed over the 2018-2021 period. The Triogue is not among these however a number of tributaries of the Barrow are included.

The Conservation Objectives document for the River Barrow and River Nore SAC shows that a number of species (features of interest) are present along the upper River Barrow including White-clawed Crayfish, Atlantic Salmon and Lampreys. The Triogue River itself does not fall within the SAC boundary. There are no records of the Killarney fern, Desmoulin's Whorl Snail or Freshwater Pearl Mussel along the Barrow downstream of the subject site. Freshwater Pearl Mussel is not known to be present in water downstream of this project.

The Barrow does provide habitat however for the White-clawed Crayfish, all Lamprey species, Atlantic salmon and Otter. The Twaite shad is only found in estuarine waters.

7.0 The Assessment of Significance of Effects

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

In order for an effect to occur there must be a pathway between the source (the development site) and the receptor (the SAC or SPA). Where a pathway does not exist an impact cannot occur.

The proposed development is not located within or directly adjacent to any Natura area but lies within the catchment of the River Barrow and River Nore SAC.

Habitat Loss
No direct habitat loss can occur within any Natura area. The boundary of the River Barrow & River Nore SAC is too distant for even indirect effects to habitats to occur.

Indirect disturbance
Because of the separation distance, there can be no disturbance effects to species or habitats in the SAC.

Pollution
There is a pathway from the site via surface and groundwater flows to the Triogue river, and so indirectly to the Barrow. In terms of the conservation objectives of the SAC previously identified, maintaining good water quality has been stated as an objective for the White-clawed crayfish, Twaite shad, Atlantic salmon, Freshwater Pearl Mussel, Nore Freshwater Pearl Mussel, floating river vegetation, and petrifying springs. Of these the highest water quality is demanded of the Freshwater Pearl Mussel and the Nore Freshwater pearl Mussel. This project is outside the catchment of these species. The required water quality relevant to this study is for the Atlantic salmon, for which Q4 (unpolluted) status is needed. This standard is currently not being met along the Triogue, or the Barrow downstream of its confluence. Poor water quality can affect Atlantic salmon by reducing available dissolved oxygen levels in water and reducing the quality of spawning habitat (Hendry et al., 2003). This arises from nutrient and sediment inputs.

There is a pathway from the site via surface water flows to the Triogue via the drainage system for the site. However this will be fully compliant with SUDS standards and so no effects to water quality are predicted to occur from this source. These are standard measures in all development projects and are not introduced to avoid or reduce an effect to a Natura 2000 area. These are therefore not considered to be mitigation in an AA context.

The Portlaoise wastewater treatment plant is licenced to discharge treated effluent to the Triogue River (licence number: D0001-01). This plant has a treatment capacity of 39,000 population equivalent (P.E.). The Annual Environmental Report for 2017 shows that mean organic and hydraulic loading was within this limit and final effluent was compliant with standards set under

the Urban Wastewater Treatment Directive. Monitoring the receiving water, at points both upstream and downstream of the outfall show that “slight deterioration in water quality has been identified. The plant was compliant with its ELVs and therefore it is not considered that this deterioration was caused by WWTP discharge”. The project will result in a projected increase in loading to the treatment plant however the AER states that the capacity is not likely to be exceeded within the next three years. Additional input from this development therefore will not impact on the standard of effluent. It is considered therefore that this project will not hamper efforts to improve water quality to the required standard for Atlantic Salmon.

During the site clearance and construction phase any loss of sediment will be temporary in nature while there is no direct pathway to any water course. There are no effects which are likely to arise from this phase of the project which could result in significant effects to either the SAC or SPA.

Abstraction
There is no evidence that groundwater abstraction is negatively affecting any Natura 2000 area.

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

Implementation of the WFD will ensure that improvements to water quality throughout the Barrow basin are maintained, although ‘good ecological status’ may be some time off. This area is within the Barrow Owenass Triogue Water Management Unit and the Action Plan prepared for this in 2010 identified the principle pressures on water quality as being from agriculture (50%), municipal wastewater treatment plants (~15%) and unsewered properties (~10%). Many of these unsewered properties were old, unsuitable or poorly situated septic tanks, something that is being addressed through the Water Services Act. It is considered that this project will not contribute negatively to this effect.

Development of the built environment is provided for under the Portlaoise Local Area Plan 2018-2024.

List of agencies consulted

Due to the low ecological sensitivity of this site, third party observations were not sought.

8.0 Conclusion and Finding of No Significant Effects

This project has been screened for AA under the appropriate methodology. It has found that significant effects to the Natura 2000 network are not likely to arise, either alone or in combination with other plans or projects.

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