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## NATURA IMPACT STATEMENT

[UPDATED]

for

PROPOSED RESIDENTIAL DEVELOPMENT

OFF ATHBOY ROAD

TRIM

CO. MEATH

On behalf of



Greenwalk  
Homes

JANUARY 2026

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## DOCUMENT CONTROL

Revision No.	Date	Detail	Author
F5	30/01/2026	Updated following project updates arising from FI request.	DW

## 1 INTRODUCTION

### 1.1 Overview

Gannon + Associates were commissioned by Greenwalk Homes Limited, the applicant, to produce an Appropriate Assessment Screening and Natura Impact Statement in regards to a proposed residential development at Crowpark, Trim, Co. Meath.

The proposed development site is located in the north-eastern section of Trim town, situated south of the R154 Athboy Road in the townlands of Crowpark and Corporationland. The site comprises three agricultural fields and associated boundary hedgerows and ditches, with the Whitehall Stream flowing through the site. The proposed development broadly comprises the construction of 85no. residential units and associated works.

A further information (FI) request was issued by Meath County Council on 14<sup>th</sup> October 2025. This request included items under the headings Design & Layout, Childcare Facility, Transportation, Surface Water and Flooding. Following this FI request there have been some updates to the design of the proposed development. As such, this NIS has been updated to reflect these changes in order to provide a complete and robust assessment.



FIGURE 1. PROPOSED DEVELOPMENT SITE (LOOKING NORTH).

This report contains information for the competent authority, in this case Meath County Council, to allow them to assess whether the proposed development (either individually or in combination with other plans or projects) will have adverse effects on the integrity of European sites. The integrity of a European Site is defined by the conservation objectives of the site and its structure and function.

### 1.2 Legislative Context

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (hereafter referred to as “The Habitats Directive”) provides a legal protection to both habitats and species of European Community interest. Articles 3 to 9 of the Directive give the legislative means to provide this protection via the designation and conservation of an EU-wide network of sites. This network of sites is composed of Special Areas of Conservation (SACs), designated under the Habitats Directive,

and Special Protection Areas (SPAs), designated under the Conservation of Wild Birds Directive 79/409/ECC (hereafter referred to as “The Birds Directive”), which together form the Natura 2000 network of protected sites.

Articles 6(3) and 6(4) of the Habitats Directive layout the decision-making process for any projects or plans likely to affect European sites. 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.”*

### 1.3 Management of European Sites

The proposed project comprises a residential development and is not connected to, or necessary for, the management of any European site.

## 2 METHODOLOGY

### 2.1 Legislation and Guidance

The following guidance documents were consulted and followed in the completion of this report:

- Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC (European Commission, 2021);
- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (Department of Environment, Heritage and Local Government, 2010);
- Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPW 1/10 & PSSP 2/10;
- Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (European Commission, 2001); and
- Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC (European Commission, 2018).

### 2.2 Stage 1 Screening Methodology

The Appropriate Assessment Screening methodology utilised in this report follows the above guidance. This includes adherence to the following steps:

- Establish whether the plan is directly connected with or necessary for the management of a European site;
- Description of the plan or project and the description and characterisation of other projects or plans that in combination have the potential for having significant effects on the European site;
- Identification of European sites potentially affected;
- Identification and description of potential effects on the European site;
- Assessment of the likely significance of the impacts identified on the European site; and
- Exclusion of sites where it can be objectively concluded that there will be no significant effects.

### 2.3 Stage 2 Appropriate Assessment Methodology

Stage 2 of the Appropriate Assessment process assesses the impact of the project or plan (either alone or in combination with other projects or plans) on the integrity of the relevant Natura 2000 sites, with respect to the conservation objectives of the sites and their ecological structure and function. This stage also considers specific mitigation measures which are proposed in order to avoid any adverse effects on the integrity of relevant European sites.

### 2.4 Desktop Study

A review of available relevant information was conducted in order to reach the conclusions outlined in this report. This review, completed in June 2025, relied on the following information sources:

- Information on European sites and their qualifying features and conservation objectives, available from the National Parks and Wildlife Service (NPWS) at [www.npws.ie](http://www.npws.ie);
- Information on waterbodies, water quality data and catchment areas available from the Environmental Protection Agency (EPA) at [www.epa.ie](http://www.epa.ie);
- Information on geology, soils and hydrogeology available from the Geological Society of Ireland (GSI) available at [www.gsi.ie](http://www.gsi.ie);
- Satellite imagery and mapping available from multiple sources including: Ordnance Survey Ireland (OSI), Google, Bing and Digital Globe;

- Information on the status of EU protected species and habitats in Ireland (NPWS 2019a & 2019b);
- Information on any relevant consented, in-progress or existing developments available from the respective County Council online resources;
- Information on the location, design and extent of the proposed development provided by the applicant and/or their agents.

## 2.5 Field Surveys

Field surveys of the proposed development site were carried out by a qualified ecologist with Gannon + Associates on 18<sup>th</sup> April 2025, 29<sup>th</sup> April 2025 & 30<sup>th</sup> May 2025. The purpose of these surveys was to identify any potential source-pathway-receptor links between the proposed development and any European sites.

### 2.5.1 Habitat Surveys

Habitats within and bounding the proposed development site were classified to level 3 according to Fossitt (2000) and assessed for their potential to support qualifying interests (QIs) and special conservation interest (SCI) species of relevant European sites.

### 2.5.2 Otter Surveys

The otter surveys involved a thorough search of the proposed development site for any signs of mammal activity. Surveys encompassed the entirety of the proposed development site and extended out to a minimum 150m radius, where access allowed. Signs searched for included, but were not limited to, the following:

- Tracks and paths;
- Droppings / spraints;
- Hairs;
- Resting places (e.g., holts, couches etc.); and
- Feeding remains.

In addition to the field surveys, a camera trap survey was also undertaken in order to determine the presence/absence of otter within the proposed development. Camera traps were installed along the Whitestown Stream within the development site in order to monitor potential otter activity along the stream (18<sup>th</sup> – 29<sup>th</sup> April 2025). A camera trap was also installed pointed at a mammal path observed under the existing boundary fence into the adjacent property east of the proposed development site (29<sup>th</sup> April – 30<sup>th</sup> May 2025).

### 2.5.3 Breeding Kingfisher Surveys

Breeding kingfisher surveys were undertaken over three visits in April and May 2025. Surveys encompassed the entirety of the Whitehall Stream within the proposed development site, in addition to the accessible open channels downstream of the proposed development site. Surveys were undertaken as per Cummins *et al.* (2010). Banks were searched for potential kingfisher burrows and evaluated for their potential to support breeding kingfisher.





### 3 CHARACTERISTICS OF THE PROJECT

#### 3.1 Site Location

The proposed development site is located in the north-eastern section of Trim town, situated south of the R154 Athboy Road in the townlands of Crowpark and Corporationland. The site comprises three agricultural fields and associated boundary hedgerows and ditches, with the Whitehall Stream flowing through the site. The site is bound to the west by continuing agricultural land, to the south by one-off residential dwellings, to the north by the Belfry housing development and to the east by a mix of residential dwellings, private gardens and partly the Whitehall Stream.

The proposed development site is wholly located outside of any European sites and there are no European sites directly bounding the site. The closest European site to the proposed development is the River Boyne and River Blackwater SAC, which is situated approximately 360m to the south. River Boyne and River Blackwater SPA is situated approximately 410m to the south. All other European sites are greater than 14km distant from the proposed development site.

#### 3.2 Description of Proposed Development

##### 3.2.1 Overview

The development will consist of:

The construction of 85 no. residential dwellings comprising: 73 no. houses (6 no. 2 bedroom dwellings, 64 no. 3 bedroom dwellings and 3 no. 4 bedroom houses [all 2 storey]) and 12 no. apartments/duplex apartments in 1 no. 3 storey building (comprising 6 no. ground floor 1-bedroom apartments and 6 no. 3-bedroom duplex units above - all apartments/duplex units to include terrace/private amenity space);

Vehicular/pedestrian access from the Athboy Road (R154) via internal roads within 'The Belfry' to include associated works, along with temporary construction access from the adjoining agricultural lands to the west from the Athboy Road;

The provision of 161 no. surface resident car parking spaces (including visitor/EV) as well as bicycle storage for apartments (24 no. in 2 no. single storey structures); internal road and shared surface networks including pedestrian paths;

Provision of c. 0.494 ha of public open space centrally within the site to integrate with the existing open space to the north (to include associated works) within the Belfry as well as the provision of an outdoor play area and landscaped planting;

Provision of foul and surface water drainage (attenuation areas) as well as bin stores; public lighting and all associated landscaping and boundary treatment works, site development and infrastructural works, ESB substations, and all ancillary works necessary to facilitate the development.

##### 3.2.2 Drainage

###### 3.2.2.1 Surface Waters

The topography of the subject site indicates that the development site is generally flat, albeit falls from south to north. The topographical survey also indicates that an OPW channel traverses the central section of the site – the Whitehall Stream, as described further below. This OPW channel effectively separates the subject site's area into two. Therefore, the proposed development site has been divided into two principal catchments areas for the collection and disposal of stormwater runoff from impermeable areas.

For each catchment, the surface water runoff shall be collected in separate storm water pipes of size 225mm to 375mm diameter and shall be discharged into detention basins. The attenuated water from each of the detention basins shall then pass through a petrol interceptor and a hydrobrake (proposed separately for each detention basin) before ultimately discharging into the existing open ditch.

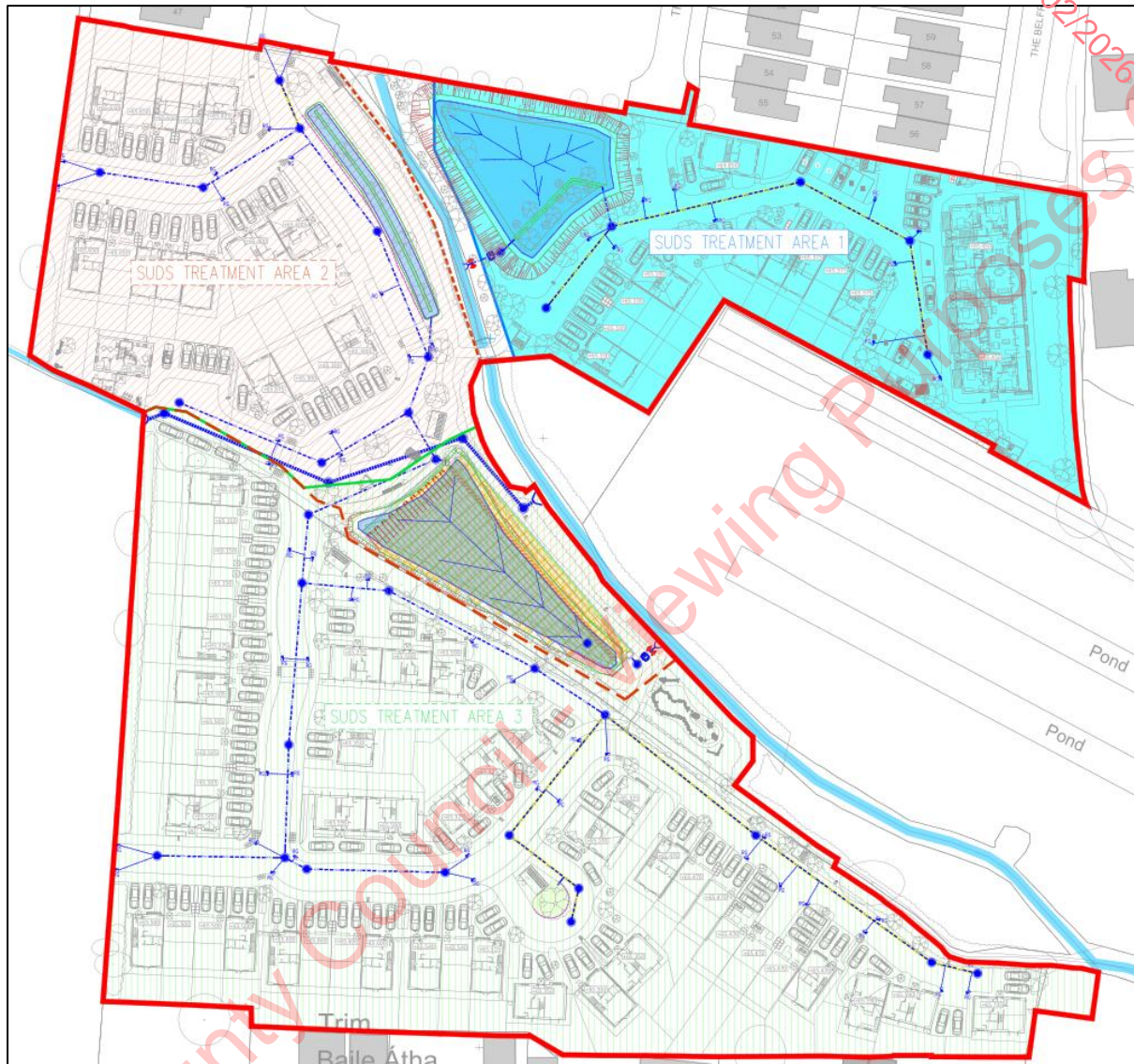


FIGURE 4. PROPOSED DRAINABLE AREAS (CS CONSULTING).

The proposed development's surface water drainage network has been designed through InfoDrainage Design and Modelling Software to cater for the 1-in-100-year storm event, increased by 20% for the predicted effects of climate change.

Meath County Council's Drainage Division requires that all developments adhere to their policy of implementing Sustainable Drainage Systems (SuDS). SuDS not only entail restricting stormwater discharge during extreme storm events but also to integrate sustainable water management solutions to create safe places. The features proposed shall reduce run-off volumes and pollution concentrations and enhance groundwater recharge.

The proposed SuDS features within the subject development shall consist of:

- a) Permeable paving for car-parking bays.
- b) Detention Basins, one at each catchment.
- c) One Conveyance Swale at the north of catchment 2.
- d) One Bioretention Area at the south of catchment 2.

The restriction of post development run-off to greenfield discharge rates is intended to be achieved primarily through the provision of onsite attenuation storage, which shall retain excess runoff during extreme rainfall events and allow this to be discharged at a controlled rate.

#### Catchment 1

Catchment 1 has an area of circa 0.62ha and the greenfield runoff rate has been established as 2.2 l/s. Attenuation is provided in the form of a detention basin with an open swale channel running through the base. The channel shall be 150mm deep and fall east to west at a 1:100 gradient. Land drains shall collect and direct stormwater runoff to the open swale channel. The proposed detention basin shall be 800mm deep with a maximum water depth of 500mm and 300mm of freeboard above, with side slopes of 1:3 gradient. A total attenuation storage volume of 165m<sup>3</sup> shall be provided within the proposed detention basin. Stormwater from this catchment shall discharge into an existing ditch [the Whitehall Stream] via a flow control device, at a maximum rate of 2.2 l/s.

#### Catchment 2

Catchment 2 has an area of 2.05ha and the greenfield runoff rate has been established as 7.3 l/s. Attenuation is provided in the form of a detention basin with an open swale channel running through the base. The channel shall be 150mm deep and fall north to south at a 1:250 gradient. Land drains shall collect and direct stormwater runoff to the open swale channel. Additional SuDS are proposed through a conveyance swale to the north of Catchment 2 and a bioretention area to the south. The proposed detention basin shall be 1300mm deep with maximum water depth of 1000mm and 300mm of freeboard above, with side slopes of 1:3 gradient. A total attenuation storage volume of 473m<sup>3</sup> shall be provided within the proposed detention basin. The proposed conveyance swale is 4.1m wide at the top and 0.5m wide at the bottom with 1:3 side slopes, and a total depth of 450mm with an additional allowance of 150mm of freeboard above the top water level. The proposed bioretention area is made up of 1.1m deep planting soil and filtration medium of average 30% porosity, with an additional allowance of 150mm of freeboard above the top water level. It should be noted that both the conveyance swale and bioretention area serve the main purpose of interception and treatment of the surface water runoff. Stormwater from this catchment shall discharge into an existing ditch [the Whitehall Stream] via a flow control device, at a maximum rate of 7.3 l/s.

#### **Updates to surface water design following FI Request**

The revised surface water strategy now incorporates 1:4 side slopes for both the northern and central attenuation basins, and the design has been amended to ensure that the maximum stored water depth within each basin does not exceed 300mm.

These revisions have resulted in an increase in the required footprint of the attenuation areas, with the northern basin increasing on plan from 450m<sup>2</sup> to 744m<sup>2</sup>, and the central basin increasing from 800m<sup>2</sup> to 890m<sup>2</sup>.

The attenuation systems shall be provided with an impermeable membrane, where required, at or above the highest recorded groundwater strike level. This will prevent groundwater ingress into the attenuation systems.

The northern attenuation depression incorporates a swale/channel designed to convey the main flow surface-water runoff to outfall into the existing open ditch. The remainder of the attenuation depression will fall from north to south, towards the outfall location. The full area of the open space area will have an arrangement of filter drains (below the soil level) connected to the main channel flow, so the open

space can drain in a normal rain fall event, therefore keeping the area dry and functional with no ponding. Only under 1-in-30+100-year event, will the area see water with the maximum water depth within this northern detention area limited to 300mm.

The central attenuation system comprises an attenuation tank designed to accommodate the 1-in-30-year storm event, located beneath a detention basin sized for the 1-in-100-year event. During storms up to the 1-in-30-year event, surface water will be retained within the attenuation tank, and no standing water is expected within the overlying detention basin.

The attenuation depression will fall towards the outfall location. The full area of the open space area will have an arrangement of filter drains (below the soil level) connected to the outfall, so the open space can drain in a normal rain fall event, therefore keeping the area dry and functional with no ponding. Only under 1-in-100-year event, will the area see water with the maximum water depth within this area limited to 300mm.

The culverting of the existing ditch which crosses the centre of the proposed development site has been revised, and it is now proposed to connect this ditch to the OPW channel (i.e. the Whitehall Stream) adjacent to the Catchment 2 attenuation area.

### **3.2.2.2 Foul Waters**

All foul effluent generated from the proposed development will be collected in separate foul pipes and flow under gravity to the existing 9" diameter Asbestos Cement sewer pipe running along the eastern boundary of the development site.

As mentioned previously, an OPW channel [the Whitehall Stream] runs through the site. This makes it impractical to have a continuous foul pipe network for the proposed development, as it would need to traverse the existing OPW channel. For this reason, it is proposed to make two connections to the existing 9" diameter Asbestos Cement (AC) sewer pipe:

- A 225mm diameter uPVC pipe will serve the northern part of the site (Catchment 1), discharging into a newly constructed manhole.
- The southern part of the development (Catchment 2) will be served by another 225mm diameter uPVC pipe, which will discharge into an existing manhole located on the same AC sewer pipe.



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 4 To be read with relevant Engineers Drawings.
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 Sheets:  
 1:1,000 | 2710-15  
 1:2,500 | 2710-D  
 1:2,500 | 2710-B
- Planning Application Red  
 Line 2.656Ha  
 Net Site Area  
 2.54Ha  
 Public Open Space  
 0.495Ha (19.5%)  
 10 no. duplex  
 (6 x 1 bed, 4 x 2 bed)  
 72 no. houses  
 (6 x 2 bed, 64 x 3 bed,  
 3 x 4 bed)  
 82 no. units total  
 32.3 units/Ha
- E2A 68 Denotes proposed house type and number
  - ▲ Denotes entrance to building
  - 0.05/3.00 Denotes proposed finished floor level
  - 0.05/1.00 Denotes proposed road level
  - 4.00 Denotes proposed rear garden size
  - Denotes existing ground contour
  - Denotes secure bicycle store
  - Denotes 2 no. visitor bicycle parking spaces
  - Denotes duplex parking space
  - Denotes visitor parking space
  - Denotes proposed public lighting

Please refer to CS Consulting drawings and reports for all proposed road levels, drainage and attenuation details, and other engineering works.

Please refer to Cunane Stratton Reynolds Landscape Architecture drawings for surface finishes, landscaping details, planting details and specification, and boundary details.

This drawing is also to be read in conjunction with reports and drawings from the following consultants included with this application:

John Spain Associates  
 ENX Engineering Consultants  
 Gannon and Associates

A Revised and submitted as further information		Jan 26	KL
revisions		date	info
description		drawing no.	
Site Layout		2430 P 301	
<b>DRAFT</b>		sheet	
A		A	
job		scale	
Lands at Athboy Road, Trim, Co. Meath		1:500 A1	
client		date	
Greenwalk Homes Limited		Jan 25	
ISSUE		drawn	
Planning, Further Information		checked	
CONROY CROWE KELLY ARCHITECTS		KL	
65 MERRION SQUARE DUBLIN 2		KL	
PHONE 6613990/1 FAX 6765715			
E-MAIL info@ckk.ie			



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**LEGEND:**

- SITE BOUNDARY
- EXISTING FOUL SEWER
- PROPOSED FOUL WATER SEWER
- PROPOSED FOUL INSPECTION CHAMBER
- PROPOSED BACKDROP MANHOLE
- CONCRETE SURROUND PROTECTION



RECEIVED: 04/02/2026



ALL INVERT/COVER LEVELS AND PIPE DIAMETERS TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF ANY DRAINAGE WORKS.

ALL INVERT/COVER LEVELS AND PIPE DIAMETERS TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF ANY DRAINAGE WORKS.

EXIST'G OUTFALL  
CL. 65.580  
L. 61.780

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REV	DESCRIPTION	DRN BY	CHK BY	DATE
P1	ISSUED FOR PLANNING	MM	LJ	20.06.2025
P2	FINAL DRAFT ISSUE	MM	LJ	01.07.2025
P3	ISSUED FOR PLANNING	MM	LJ	18.07.2025

<b>PROJECT</b>	The Belfry, Trim, Co. Meath
<b>CLIENT</b>	Conroy Crawe Kelly Architects
<b>JOB No.</b>	G116
<b>DRAWING No.</b>	G116-CSC-XXX-DR-C-0005
<b>STATUS</b>	STATUS S2 - Suitable for Information
<b>TITLE</b>	Proposed Foul Water Layout

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11-1303 (01 5460853) • info@csconsulting.ie • www.csconsulting.ie

**DRAWN BY**  
MM

**CHECKED BY**  
CL

**SCALE**  
1:500/A1

**REVISION**  
P3  
DATE  
11/04/2025

### 3.3 Baseline Environment

#### 3.3.1 Habitats

The proposed development site broadly comprises three connected agricultural fields utilised for cattle grazing. The following habitats were recorded within the proposed development site. These habitats were classified according to Fossitt (2000) and identified to level 3.

- GA1 Improved Agricultural Grassland;
- WL1 Hedgerows;
- FW4 Drainage Ditches;
- FW2 Lowland/Depositing River;
- WS1 Scrub; and
- ED3 Recolonising Bare Ground.

The proposed development comprises almost entirely **improved agricultural grassland (GA1)**, currently utilised for cattle grazing. This habitat grades to **dry meadows and grassy verges (GS2)** in some areas, particularly along the field edges. Grass species recorded within the agricultural fields include perennial ryegrass, cock's foot, Yorkshire fog, crested dog's tail, sweet vernal grass, creeping bent and meadow foxtail. The herbaceous component is dominated by meadow buttercup and creeping buttercup. Other species recorded include white clover, nettle, docks, ragwort, daisy and germander speedwell, with some infrequent small patches of soft rush in places. Cow parsley, hedge mustard and herb Robert were also noted close to field edges.



FIGURE 8. AGRICULTURAL GRASSLAND WITHIN PROPOSED DEVELOPMENT SITE (LOOKING EAST).

There are existing **hedgerows (WL1)** forming the western boundary of the site and crossing the centre of the site. The hedgerow which crosses the centre of the site is part of the townland boundary between the Crowpark and Corporationland townlands. The hedgerows predominantly comprise hawthorn, ash, beech, dog rose and elder, with an understorey of bramble, ivy, nettle, cow parsley, and docks.



FIGURE 9. HEDGEROW CROSSING CENTRE OF PROPOSED DEVELOPMENT SITE.

The Whitehall Stream flows through the northern section of the proposed development site. This is classified as a **lowland / depositing river (FW2)**. There is no remaining established riparian habitat along this section of the stream. The stream is heavily modified, emerging from a culvert under the Belfy residential development, and entering a submerged culvert/drain under a farm access track into adjacent property.



FIGURE 10. WHITEHALL STREAM WITHIN PROPOSED DEVELOPMENT SITE.

There are **drainage ditches (FW4)** associated with the field boundaries within and bounding the proposed development site. Standing water was noted in a number of these ditches during the April field visits, which were preceded by periods of rainfall. No flow was observed within any ditch, which are

largely filled with debris and vegetation. No direct or flow or observable connectivity was noted between the ditches on-site and the Whitehall Stream. The ditches likely attenuate water and percolate to ground, with assumed ultimate overflow to the Whitehall Stream.

There is a minor area of **scrub (WS1)** at the north-east corner of the proposed development site, comprising predominantly elder, bramble and ivy. There are some areas of **bare ground (ED)** at farm gates and along access tracks within the proposed development site.

No invasive plant species listed in Part 1 of the Third Schedule were recorded within the proposed development site during the survey.

### 3.3.2 Hydrology

The Whitehall Stream (EPA code: 07B04) flows north-to-south through the centre of the northern portion of the proposed development site. This watercourse is heavily modified and is culverted underground for almost the entirety of its length. The stream rises in agricultural land north of Trim, and then flows culverted under Oaktree Business Park, the R154 and the Belfry residential development. The stream emerges from the culvert at the northern boundary of the proposed development site and flows in an open channel for approximately 60m through the proposed development site, before entering a short culvert under a farm access track and emerging in open channel again adjacent to the eastern boundary of the proposed development site, within the neighbouring property. The stream flows in an open channel for approximately 200m adjacent to the proposed development site before entering a culvert before crossing the Butterstream Manor residential development access road.

There is a short (c.50m) section of open channel adjacent to residential properties in Butterstream Manor, where the stream is again culverted and remains culverted until shortly before it outflows into the River Boyne approximately 750m downstream of the proposed development site.



FIGURE 11. WHITEHALL STREAM AS IT FLOWS THROUGH BUTTERSTREAM RESIDENTIAL DEVELOPMENT IN OPEN CHANNEL FOR APPROXIMATELY 50M.



FIGURE 12. OUTFLOW POINT OF WHITEHALL STREAM INTO RIVER BOYNE APPROXIMATELY 750M DOWNSTREAM OF PROPOSED DEVELOPMENT SITE.

### 3.3.3 *Ex-situ* connectivity

The potential for the habitats within and adjacent to the proposed development site to support qualifying interest (QI) or special conservation interest (SCI) species from any European sites on an *ex-situ* basis is discussed below. The qualifying faunal species of nearby European sites cumulatively comprise of otter, Atlantic salmon, river lamprey and kingfisher.

#### **Otter**

No holts, resting places or signs of otter were recorded within the proposed development site during field surveys, and there was no otter activity recorded during the camera trap survey. The Whitehall Stream is a highly modified watercourse, with only minor sections in open channel and is culverted under-ground for almost the entirety of its length from source to where it flows into the River Boyne. These culverts include numerous grates which likely comprise a barrier to any potential otter movement. The proposed development site does not contain suitable habitat for otter, and there are no records of otter utilising the Whitehall Stream within the surrounding area.

#### **Atlantic Salmon**

The Whitehall Stream is a highly modified watercourse, with only minor sections in open channel and is culverted under-ground for almost the entirety of its length from source to where it flows into the River Boyne. The Whitehall Stream is therefore highly unlikely to offer any significant spawning grounds for salmon. Salmon spawn in clean gravels in well oxygenated waters with good water quality (i.e., Q4 or higher).

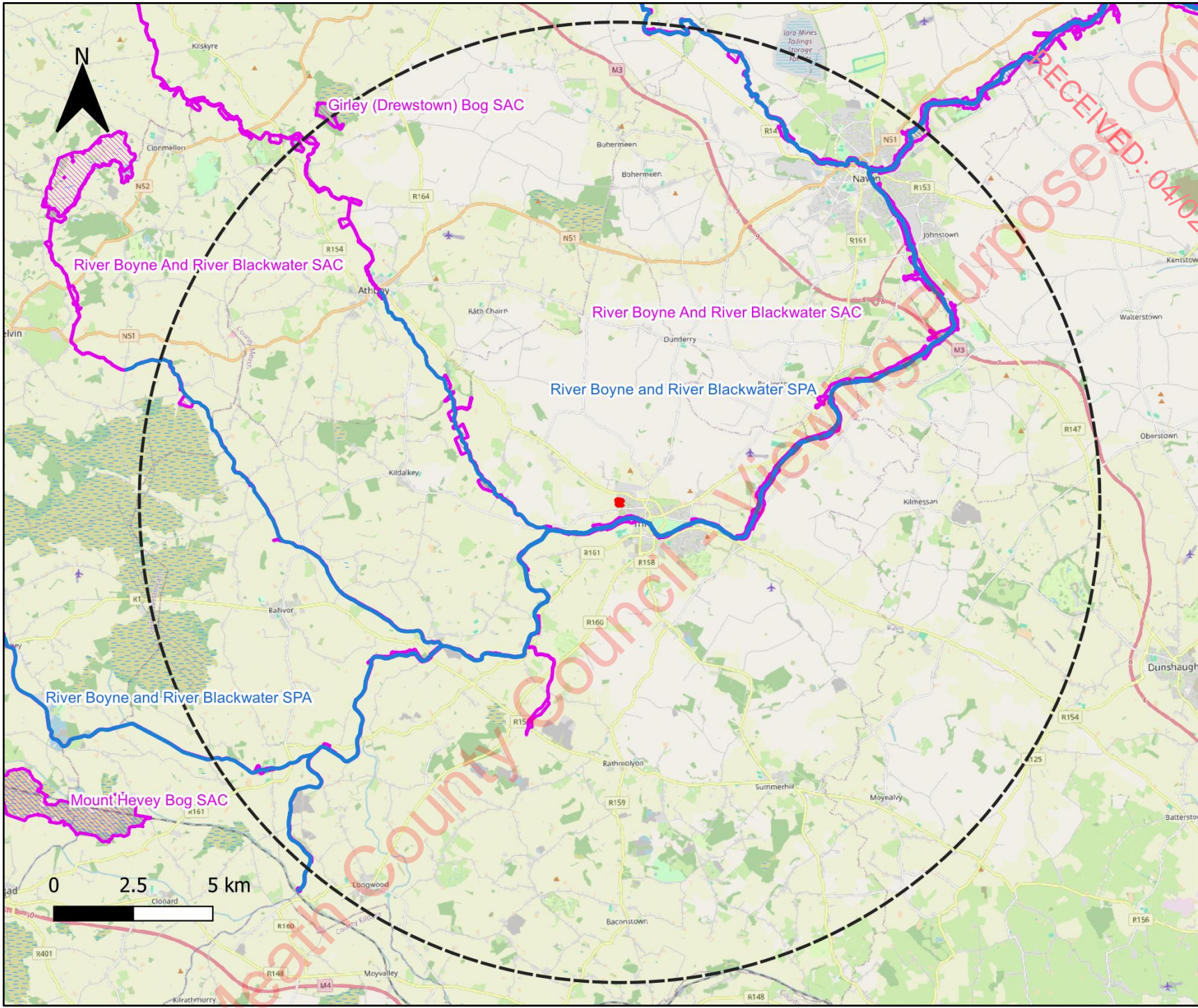
#### **River Lamprey**

A historic survey of juvenile lamprey in the Boyne catchment indicated good distribution of lamprey within the system (O'Connor, 2006). However, the juvenile lamprey recorded during this survey were considered to likely comprise brook lamprey (NPWS, 2021), which are not a qualifying interest of the River Boyne and Blackwater SAC. The Whitehall Stream was not included in this survey, however,

while highly modified and limited in habitat value, it is possible that brook lamprey occur within the stream.

### **Kingfisher**

No kingfisher activity of nesting burrows was recorded along the Whitehall Stream. The stream within the proposed development site does not offer suitable nesting banks for kingfisher. The open channel section of the Whitehall Stream east of the proposed development site was not directly accessible during surveying, however the nature of the watercourse (i.e. a narrow fast-moving stream) and nature of the visible banks (heavily overgrown with no exposed soil on steep or vertical faces), comprise unsuitable nesting habitat for kingfisher. Similarly, no suitable kingfisher nesting habitat was recorded on the open channel sections of the Whitehall Stream at the Butterstream Manor development and prior to the outfall to the River Boyne.



**Legend**

-  Site Boundary
-  15km Radius
-  SACs
-  SPAs

**Title**

Figure 12: European sites within 15km of the proposed development site.

**Project**

Proposed residential development, Crowpark, Trim, Co. Meath

**Client**



Date: 18/06/2025 Scale: 1:150,000  
Imagery: OpenStreetMaps

Notes:  
Site boundaries are for demonstrative purposes and do not represent exact legal or planning boundaries.



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#### 4 STAGE 1 - SCREENING FOR APPROPRIATE ASSESSMENT

##### 4.1 Source-Pathway-Receptor and Assessment of Significance

In order to identify any connectivity between the proposed development and European sites, and to identify any potential effects on European sites as a result of the proposed development, a source-pathway-receptor approach has been applied.

In order for there to be a potential effect on a European site from the proposed development, there must be connectivity via an identified source (e.g. noise emissions or surface water run-off), a receptor (e.g. a qualifying interest or special conservation interest of a European site) and a pathway between the source and the receptor (e.g. a watercourse). As a starting point, and adopting the precautionary principle, all European sites within a 15km distance of the proposed development have been included for source-pathway-receptor assessment. Following this, if necessary, further European sites outside of this 15km area are assessed where connectivity may exist. In this case, the Boyne Coast and Estuary SAC, Boyne Estuary SPA and North-West Irish Sea SPA were also included for assessment due to potential hydrological connectivity identified.

Where source-pathway-receptor connectivity is identified between the proposed development and a European site, the potential effect is then further assessed for its significance.

TABLE 1. EUROPEAN SITES WITHIN 15KM OF THE PROPOSED DEVELOPMENT, OR WHERE A SOURCE-PATHWAY-RECEPTOR LINK EXISTS.

Site Name and Code	Dist. to Site	Qualifying Features <sup>a</sup>	Source-Pathway-Receptor Assessment	Assessment of Significance
<b>Special Areas of Conservation (SAC)</b>				
River Boyne and River Blackwater SAC [002299]	360m	[7230] Alkaline Fens [91E0] Alluvial Forests* [1099] River Lamprey ( <i>Lampetra fluviatilis</i> ) [1106] Atlantic Salmon ( <i>Salmo salar</i> ) [1355] Otter ( <i>Lutra lutra</i> )	The SAC is located approximately 360m south of the proposed development site at its closest point. This is significantly beyond any zone of sensitivity for noise or dust-related effects on habitats or species within the SAC (i.e. 50m <sup>b</sup> , as outlined in IAQM (2014) and 150m for otter as outlined in NRA (2009)), and there is no potential for such effects as a result of the proposed development during either construction or operation.	A source-pathway-receptor link exists between the proposed development and the SAC via the Whitehall Stream, which flows through the proposed development site. This SAC is designated for a range of freshwater habitats and species. A reduction in water quality as a result of the proposed development has the potential

<sup>a</sup> \* = priority; numbers in brackets are Natura 2000 codes.

<sup>b</sup> The Institute of Air Quality Management 'Guidance on the Assessment of dust from demolition and construction' (IAQM, 2014) prescribes potential dust emission risk classes to ecological receptors. The guidelines specify that, for highly sensitive ecological receptors, sensitivity to dust is 'High' up to 20m from the source, 'Medium' up to 50m from the source and reduces to 'Low' at distances over 50m from the source.

			<p>The Whitehall Stream flows through the proposed development site. This watercourse ultimately enters the River Boyne approximately 750m downstream of the proposed development site. In applying the precautionary principle, this constitutes hydrological connectivity between the proposed development and the SAC. There is therefore potential for surface waters containing pollutants to enter the stream, and subsequently the SAC, during the construction phase.</p> <p>As outlined in Section 3.2, during operation surface waters will be directed to two on-site attenuation areas with overflow outfalls to the Whitehall Stream via petrol interceptors and hydrobrakes, as required by Meath County Council Drainage Division. Foul waters will connect to existing network which runs east of the proposed development site. There is no pathway for effects during the operational phase.</p> <p>There is potential connectivity between the proposed development and the SAC via surface waters during the construction phase. <b>This connectivity is therefore further assessed for its significance.</b></p>	<p>to negatively impact these habitats and species.</p> <p><b>Therefore, in the absence of mitigation measures or further analysis, the possibility of negative effects to the qualifying interest habitats and species of the SAC as a result of water quality impacts cannot be excluded in view of the relevant conservation objectives.</b></p>
Girley (Drewstown) Bog SAC [002203]	14.5km	[7120] Degraded Raised Bog	<p>The SAC is located approximately 14.1km north-west of the proposed development site at its closest point. This is significantly beyond any zone of sensitivity for dust-related effects on habitats within the SAC (i.e. 50m, as outlined in IAQM (2014)), and there is no potential for such effects as a result of the proposed development during either construction or operation.</p> <p>The SAC is situated within a different surface water catchment area to the proposed development and there is no hydrological connectivity to the SAC.</p> <p><b>There is no source-pathway-receptor connectivity</b> between the proposed development and the SAC. There is no potential for impact.</p>	<p>There is no potential pathway for effects and therefore <b>no potential for significant effects on the SAC as a result of the proposed development.</b></p>
Boyne Coast and Estuary SAC [001957]	37.2km	<p>[1130] Estuaries [1140] Tidal Mudflats and Sandflats [1210] Annual vegetation of drift lines [1310] <i>Salicornia</i> Mud [1330] Atlantic Salt Meadows [2110] Embryonic Shifting Dunes [2120] Marram Dunes (White Dunes) [2130] Fixed Dunes (Grey Dunes)*</p>	<p>The SAC is located approximately 37.2km north-east of the proposed development site at its closest point. This is significantly beyond any zone of sensitivity for dust-related effects on habitats and species within the SAC (i.e. 50m, as outlined in IAQM (2014)), and there is no potential for such effects as a result of the proposed development during either construction or operation.</p> <p>The Whitehall Stream flows through the proposed development site. This watercourse ultimately enters the River Boyne approximately 750m downstream of the proposed development site. The</p>	<p>There is no potential pathway for effects and therefore <b>no potential for significant effects on the SAC as a result of the proposed development.</b></p>

			<p>River Boyne ultimately enters the Boyne Estuary, and the SPA, over 50km further downstream. This represents a considerable downstream distance, and associated dilution factor, between the proposed development and the SPA, across which any potential pollutants would be naturally attenuated, blocked or diluted to insignificant concentrations.</p> <p>As outlined in Section 3.2, during operation surface waters will be directed to two on-site attenuation areas with overflow outfalls to the Whitehall Stream via petrol interceptors and hydrobrakes, as required by Meath County Council Drainage Division. Foul waters will connect to existing network which runs east of the proposed development site. There is no pathway for effects during the operational phase.</p> <p>There is no functional hydrological connectivity between the proposed development and the SPA.</p> <p><b>There is no source-pathway-receptor connectivity</b> between the proposed development and the SAC. There is no potential for impact.</p>	
<b>Special Protection Areas (SPA)</b>				
River Boyne and River Blackwater SPA [004232]	410m	Kingfisher ( <i>Alcedo atthis</i> ) [A229]	<p>The SPA is located approximately 410m south of the proposed development site at its closest point. This is beyond any potential zone of sensitivity for noise or dust-related effects on SCI species within the SPA (i.e. 50-100m as per Goodship &amp; Furness (2022)). There is no potential for such effects as a result of the proposed development during either construction or operation.</p> <p>The Whitehall Stream flows through the proposed development site. This watercourse ultimately enters the River Boyne approximately 750m downstream of the proposed development site. In applying the precautionary principle, this constitutes hydrological connectivity between the proposed development and the SPA. There is therefore potential for surface waters containing pollutants to enter the stream, and subsequently the SPA, during the construction phase.</p> <p>As outlined in Section 3.2, during operation surface waters will be directed to two on-site attenuation areas with overflow outfalls to the Whitehall Stream via petrol interceptors and hydrobrakes, as required by Meath County Council Drainage Division. Foul waters will connect to existing network which runs east of the proposed development site. There is no pathway for effects during the operational phase.</p>	<p>A source-pathway-receptor link exists between the proposed development and the SPA via the Whitehall Stream, which flows through the proposed development site. This SPA is designated for breeding kingfisher. While there is no suitable kingfisher breeding habitat within the proposed development site, a reduction in water quality could affect the foraging requirements of this species, should they be of sufficient magnitude/duration.</p> <p><b>Therefore, in the absence of mitigation measures or further analysis, the possibility of negative effects to kingfisher as a result of water quality impacts cannot be excluded in view of the relevant conservation objectives.</b></p>

			<p>The SPA is designated for breeding kingfisher. This species nests in burrows on clear tall vertical banks of slow-flowing streams and rivers (Cummins <i>et al.</i>, 2010). The Whitehall Stream flows through the proposed development site and is a narrow fast-flowing channel. No suitable earth banks or burrows were recorded along the Whitehall Stream during breeding kingfisher surveys, and the watercourse does not offer suitable breeding habitat for this species. As such, there is no <i>ex-situ</i> connectivity between the proposed development and the SCI species of the SPA. However, as outlined above, there is potential hydrological connectivity between the proposed development and the SPA. As such, there is potential for effects on water quality, in the absence of any mitigation measures, which may impact the quality of habitat for kingfisher.</p> <p>There is potential connectivity between the proposed development and the SPA via surface waters during the construction phase. <b>This connectivity is therefore further assessed for its significance.</b></p>	
Boyne Estuary SPA [004080]	36.0km	<p>Shelduck (<i>Tadorna tadorna</i>) [A048] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Lapwing (<i>Vanellus vanellus</i>) [A142] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Redshank (<i>Tringa totanus</i>) [A162] Turnstone (<i>Arenaria interpres</i>) [A169] Little Tern (<i>Sterna albifrons</i>) [A195] Wetland and Waterbirds [A999]</p>	<p>The SPA is located approximately 36km north-east of the proposed development site at its closest point. This is significantly beyond any zone of sensitivity for noise or dust-related effects on habitats or SCI species within the SPA (e.g. IAQM (2014) &amp; IECS (2013)<sup>c</sup> respectively), and there is no potential for such effects as a result of the proposed development during either construction or operation.</p> <p>The Whitehall Stream flows through the proposed development site. This watercourse ultimately enters the River Boyne approximately 750m downstream of the proposed development site. The River Boyne ultimately enters the Boyne Estuary, and the SPA, over 50km further downstream. This represents a considerable downstream distance, and associated dilution factor, between the proposed development and the SPA, across which any potential pollutants would be naturally attenuated, blocked or diluted to insignificant concentrations.</p> <p>As outlined in Section 3.2, during operation surface waters will be directed to two on-site attenuation areas with overflow outfalls to the Whitehall Stream via petrol interceptors and hydrobrakes, as required by Meath County Council Drainage Division. Foul waters will connect to existing network which runs east of the proposed development site. There is no pathway for effects during the operational phase.</p>	There is no potential pathway for effects and therefore <b>no potential for significant effects on the SPA as a result of the proposed development.</b>

<sup>c</sup> The Waterbird Disturbance and Mitigation Toolkit, produced by the Institute of Estuarine & Coastal Studies (IECS), University of Hull, provides information on disturbance effects to a range of waterbirds (such as those listed as SCI species of this SPA) from construction works at coastal sites. The maximum distance from a receptor for which there is a potential for disturbance impacts from noise is 300m, which assumes high noise producing activities at source (120dB), such as piling. The proposed development is situated significantly further than this distance from the SPA.

			<p>There is no functional hydrological connectivity between the proposed development and the SPA.</p> <p>The SPA is designated for 10 overwintering waterbird species and for breeding little tern. These species predominately utilise coastal habitats (e.g. tidal flats, saltmarsh and shingle beach). Some of these species utilise terrestrial habitats for foraging at times during the winter. The proposed development site comprises three agricultural fields situated over 36km from the nearest point of the Boyne Estuary. Agricultural grassland is the most abundant habitat in the wider environment. The proposed development does not comprise a scarce or unique resource. Furthermore, the distance between the proposed development and the SPA is significantly beyond the foraging ranges of these species (SNH, 2016; Gillings &amp; Fuller, 1999).</p> <p>There is no potential for <i>ex-situ</i> effects arising from the proposed development.</p> <p>There is potential connectivity between the proposed development and the SPA via surface waters during the construction phase. <b>This connectivity is therefore further assessed for its significance.</b></p>	
North-West Irish Sea SPA	39.7km	<p>Red-throated Diver (<i>Gavia stellata</i>) [A001] Great Northern Diver (<i>Gavia immer</i>) [A003] Fulmar (<i>Fulmarus glacialis</i>) [A009] Manx Shearwater (<i>Puffinus puffinus</i>) [A013] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Shag (<i>Phalacrocorax aristotelis</i>) [A018] Common Scoter (<i>Melanitta nigra</i>) [A065] Little Gull (<i>Larus minutus</i>) [A177] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Common Gull (<i>Larus canus</i>) [A182] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] Herring Gull (<i>Larus argentatus</i>) [A184] Great Black-backed Gull (<i>Larus marinus</i>) [A187] Kittiwake (<i>Rissa tridactyla</i>) [A188] Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194] Little Tern (<i>Sterna albifrons</i>) [A195] Guillemot (<i>Uria aalge</i>) [A199] Razorbill (<i>Alca torda</i>) [A200]</p>	<p>The SPA is located approximately 39.7km east of the proposed development site at its closest point. This is significantly beyond any zone of sensitivity for noise or dust-related effects on habitats or SCI species within the SPA (e.g. IAQM (2014) &amp; IECS (2013) respectively), and there is no potential for such effects as a result of the proposed development during either construction or operation.</p> <p>The Whitehall Stream flows through the proposed development site. This watercourse ultimately enters the River Boyne approximately 750m downstream of the proposed development site. The River Boyne ultimately enters the Boyne Estuary, and the SPA, over 50km further downstream. This represents a considerable downstream distance, and associated dilution factor, between the proposed development and the SPA, across which any potential pollutants would be naturally attenuated, blocked or diluted to insignificant concentrations.</p> <p>As outlined in Section 3.2, during operation surface waters will be directed to two on-site attenuation areas with overflow outfalls to the Whitehall Stream via petrol interceptors and hydrobrakes, as required by Meath County Council Drainage Division. Foul waters will connect to existing network which runs east of the proposed development site. There is no pathway for effects during the operational phase.</p>	<p>There is no potential pathway for effects and therefore <b>no potential for significant effects on the SPA as a result of the proposed development.</b></p>

		Puffin ( <i>Fratercula arctica</i> ) [A204]	<p>There is no functional hydrological connectivity between the proposed development and the SPA.</p> <p>The SPA is designated for breeding seabirds. The proposed development site, comprising agricultural land over 39km from the coast, does not offer suitable breeding habitat for these species. As such, there is no connectivity between the proposed development and any SCI species of the SPA. There is no potential for ex-situ effects on SCI species of the SPA as a result of the proposed development.</p> <p>There is potential connectivity between the proposed development and the SPA via surface waters during the construction phase. <b>This connectivity is therefore further assessed for its significance.</b></p>	
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## 4.2 Plans and projects which could act in-combination

Article 6(3) of the Habitats Directive states the following:

*“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”.*

Any potential impacts from the proposed development are therefore considered in in combination with any other relevant plans or projects. The identified connectivity between the proposed development and European sites comprises hydrological connectivity via the Whitehall Stream. The potential for in-combination effects to result in adverse effects on European sites is outlined further in this report in Section 5.5.

## 4.3 Screening Statement

In conclusion, upon the examination, analysis and evaluation of the relevant information including, in particular, the nature of the proposed development and the likelihood of significant effects on any European site, in addition to considering possible in-combination effects, and applying the precautionary principles, it is concluded by the authors of this report that, on the basis of objective information, the possibility may not be excluded that the proposed development will have a significant effect on the following European sites:

- River Boyne and River Blackwater SAC [002299]; and
- River Boyne and River Blackwater SPA [004232].

The potential for the proposed development to result in adverse effects on the integrity of the above European sites is therefore examined below.

## 5 STAGE 2 - APPROPRIATE ASSESSMENT

### 5.1 Characteristics of Relevant European Sites

#### 5.1.1 River Boyne and River Blackwater SAC

A brief overview of the SAC is given below, from the Site Synopsis compiled for the site (NPWS, 2014):

“This site comprises the freshwater element of the River Boyne as far as the Boyne Aqueduct, the Blackwater as far as Lough Ramor and the Boyne tributaries including the Deel, Stoneyford and Tremblestown Rivers.”

The qualifying interests of this SAC, in addition to the corresponding current site conservation statuses and national conservation statuses, are listed below.

TABLE 2. QUALIFYING INTERESTS OF RIVER BOYNE AND RIVER BLACKWATER SAC.

Annex I Habitats (* indicates priority habitat)	Site Conservation Status (NPWS, 2021)	National Conservation Status (NPWS, 2019a)
[7230] Alkaline fens	Favourable	-
[91E0] Alluvial Forests*	Unfavourable	Bad
[1099] River Lamprey ( <i>Lampetra fluviatilis</i> )	Unfavourable	Unknown
[1106] Atlantic Salmon ( <i>Salmo salar</i> )	Unfavourable	Inadequate
[1355] Otter ( <i>Lutra lutra</i> )	Favourable	Favourable

The Annex I habitats and Annex II species for which this site is designated are described hereunder.

#### Alkaline fens

The main area of alkaline fen within the SAC is located in the vicinity of Lough Shesk, Freekan Lough, Newtown Lough in the upper reaches of the Stonyford River (NPWS, 2021). These areas of habitat are situated over 20km distant, and upstream, of the proposed development site.

#### Alluvial forests

The extent of alluvial forest within the SAC was surveyed as part of the National Survey of Native Woodlands (NSNW). The identified areas of habitat occur west of Drogheda, on the western side of the M1 motorway. This is located over 40km downstream of the proposed development site.

#### River lamprey

Surveys undertaken within the SAC to trap adult river lamprey within the SAC were undertaken between 2014 and 2015, including a fyke-netting survey. No adult river lamprey were encountered during these surveys. The only record to date within the SAC is a dead individual from the River Boyne at Slane found in late March 2015 (Gallagher et al., 2016).

#### Atlantic salmon

Atlantic salmon are widely distributed in the Boyne catchment and main tributaries (NPWS, 2019a).

#### Otter

The extent of the otter population within the SAC is unknown (NPWS, 2021). There are sightings of otter from the River Boyne within the surrounds of Trim (NBDC, 2025).

### 5.1.2 River Boyne and Blackwater SPA

A brief overview of the SPA is given below, from the Natura 2000 Standard Data Form (NPWS, 2020) completed for the site:

*“The River Boyne and River Blackwater SPA is a long linear site that comprises stretches of the River Boyne and several of its tributaries: most of the site is in Co Meath but it extends also into Counties Cavan, Louth and Westmeath. It includes the following river sections: The River Boyne from the M1 motorway bridge, west of Drogheda, to the junction with the Royal Canal, west of Longwood, Co Meath; the River Blackwater from its junction with the River Boyne in Navan to the junction with Lough Ramor in Co Cavan; the Tremblestown River (and Athboy River) from the junction with the River Boyne at Kilnagross Bridge to the bridge in Athboy, Co Meath; the Stoneyford River from its junction with the River Boyne to Stonestone Bridge in Co. Westmeath; the River Deel from its junction with the River Boyne to Cummer Bridge, Co. Westmeath. The site includes the river channel and marginal vegetation.”*

The only species of special conservation interest (SCI) for the River Nore SPA is kingfisher. The SPA supports nationally important numbers of breeding kingfisher, with a total of 19 pairs recorded during surveys in at the site in 2010 (Cummins *et al.*, 2010).

## 5.2 Impact Prediction

The source-pathway-receptor assessment identified the following connectivity between the proposed works and European sites:

- Construction Phase:
  - Accidental surface water run-off containing construction-related pollutants to River Boyne and River Blackwater SAC and River Boyne and Blackwater SPA via the Whitehall Stream.

The potential impacts on these European sites from the above connectivity are described hereunder. Any impacts identified are then further assessed in Section 5.3 for their potential to result in adverse effects on site integrity.

### Construction Phase

The Whitehall Stream flows through the proposed development site and enters the River Boyne approximately 750m downstream. There is potential for pollutants generated during the construction phase to enter the stream via surface water run-off, in the absence of mitigation, i.e.:

- Sediment generated from earth works and site clearance, including instream works required for the installation of three new headwalls for the proposed surface water overflow;
- Hydrocarbons from vehicles/spills; and
- Cementitious material from construction works involving concrete/cement, including instream works required for the installation of three new headwalls for the proposed surface water overflow.

The Whitehall Stream outflows to the River Boyne therefore the River Boyne and River Blackwater SAC River Boyne and Blackwater SPA.

### Operational Phase

There is no pathway for effects during the operational phase. As outlined in Section 3.2, during operation surface waters will be directed to two on-site attenuation areas with overflow outfalls to the Whitehall Stream via petrol interceptors and hydrobrakes, as required by Meath County Council Drainage Division. Foul waters will connect to existing network which runs east of the proposed development site.

#### 5.2.1 River Boyne and River Blackwater SAC

The potential pathway for impacts to the qualifying interest habitats of Boyne Coast and Estuary SAC from impacts to water quality are outlined below.

**TABLE 3. QUALIFYING INTERESTS OF RIVER BOYNE AND RIVER BLACKWATER SAC.**

Annex I Habitats (* indicates priority habitat)	Pathway for Impact
[7230] Alkaline fens	<p>This habitat is located upstream of the outflow location of the Whitehall Stream within the SAC. There is no pathway for impact from contaminated surface water discharge during the construction phase of the proposed development.</p> <p><b>The potential for impact on this qualifying interest as a result of the proposed development is therefore excluded.</b></p>
[91E0] Alluvial Forests*	<p>This habitat is located over 40km downstream of the outflow location of the Whitehall Stream within the SAC. Alluvial forests are generally removed from the water environment apart from during flooding events. The main identified threats to this habitat are from fragmentation, invasive species and grazing regimes. These processes are not related to the proposed development. Given the separation distance and the nature of this habitat, there</p>

	<p>is no identified pathway for impact from contaminated surface water discharge during the construction phase of the proposed development.</p> <p><b>The potential for impact on this qualifying interest as a result of the proposed development is therefore excluded.</b></p>
[1099] River Lamprey ( <i>Lampetra fluviatilis</i> )	<p>A potential hydrological connection exists between the proposed development and these qualifying interest species. There is therefore a potential for impact to these habitats via contaminated surface water discharge during construction phase, should the pollutants be of sufficient quantity and/or duration to affect water quality.</p> <p><b>The potential impact on these qualifying interests is therefore examined below.</b></p>
[1106] Atlantic Salmon ( <i>Salmo salar</i> )	
[1355] Otter ( <i>Lutra lutra</i> )	

The qualifying interest habitats for which a pathway for impact exists are further examined below.

### 5.2.1.1 Atlantic salmon

The upper stretches of the River Boyne are important spawning grounds for salmon. Spawning grounds are susceptible to smothering by suspended sediment. There is therefore a potential pathway for impact to this species via contaminated surface water discharge during the construction phase, should the pollutants be of sufficient quantity and/or duration to affect water quality. Sediment release to the river system has the potential to settle on spawning areas, which can infill the voids within the gravels and smother salmon eggs. In addition, an increase in suspended sediment can impair visibility of fish in the watercourse.

### 5.2.1.2 River lamprey

All three lamprey species are recognised as being sensitive to water pollution (Maitland, 2003). There is therefore a potential pathway for impact to these species via contaminated surface water discharge during the construction phase, should the pollutants be of sufficient quantity and/or duration to affect water quality. High levels of siltation have been shown to be unfavourable for lamprey larvae (Kelly & King, 2001). A pollution event has the potential to impact on lamprey species by smothering spawning gravels and nursery silts.

### 5.2.1.3 Otter

Otter occur throughout the SAC, with records from the NBDC of otter signs within Drogheda town. Otter are dependent on fish stocks for food, which are ultimately dependant on water quality. There is therefore a potential pathway for impact to this species via contaminated surface water discharge during the construction phase, should the pollutants be of sufficient quantity and/or duration to affect water quality. A significant impact on water quality could indirectly impact upon this qualifying interest by causing a reduction in prey populations and availability. Therefore, there is potential for the proposed development to have an impact upon this qualifying interest due to a potential deterioration in water quality during construction works.

## 5.2.2 River Boyne and Blackwater SPA

### 5.2.2.1 Kingfisher

Surveys undertaken within the SPA in 2010 recorded a total of 19 pairs (Cummins *et al.*, 2010). While there is no potential nesting habitat within the proposed development site or surrounding area, a hydrological connection exists between the proposed development and the habitat for this species within the River Boyne.

The suitability of habitat for kingfisher is reliant on the presence of suitable nesting banks, suitable perches and the abundance of prey (Cummins *et al.*, 2010). The kingfisher's diet comprises small fish such as minnows and sticklebacks, and to a lesser extent large water insects. The abundance of these

species is linked to water quality. There is therefore a potential pathway for impact to this species via contaminated surface water discharge during the construction phase, should the pollutants be of sufficient quantity and/or duration to affect water quality.

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### 5.3 Potential for Adverse Effects on Site Integrity

European and national legislation requires that the habitats and species designated under the Natura 2000 Network of protected sites are maintained at favourable conservation status. Conservation objectives have been set for European sites which define the favourable conservation status for the designated habitats and species. The conservation objectives for a site provide a reference point from which an assessment may be made of whether a project could adversely affect the integrity of a site.

Articles 1(e) and 1(i) of the Habitats Directive define favourable conservation status as follows:

“The conservation status of a natural habitat is the sum of the influences acting on it and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species. The conservation status of a natural habitat will be taken as favourable when:

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

The conservation status of a species is the sum of the influences acting on the species that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as ‘favourable’ when:

- the population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats; and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations.”

For a proportion of European sites, site-specific conservation objectives have been developed which give detailed measurable targets relative to the ecology of individual species or habitats for which a site is designated. These targets must be achieved or maintained in order to meet favourable conservation status. Site-specific conservation objectives has been published for River Boyne and River Blackwater SAC.

#### 5.3.1 Assessment of Potential for Adverse Effects on River Boyne and River Blackwater SAC & River Boyne and Blackwater SPA

Potential impacts to the European sites of River Boyne and River Blackwater SAC & River Boyne and Blackwater SPA have been identified as a result of the proposed development, in the absence of mitigation.

River lamprey are at unfavourable status within River Boyne and River Blackwater SAC. The potential release of pollutants to the River Boyne from contaminated surface waters during the construction phase via the Whitehall Stream has been identified as a potential impact on this species via smothering of spawning gravels and nursery silts.

Atlantic salmon is at unfavourable status within River Boyne and River Blackwater SAC. The potential release of pollutants to the River Boyne from contaminated surface waters during the construction phase via the Whitehall Stream has been identified as a potential impact on these species via reductions in visibility, smothering of spawning grounds and overall impacts from potential reductions in water quality.

Otter is favourable status within River Boyne and River Blackwater SAC. The potential release of pollutants to the River Boyne from contaminated surface waters during the construction phase via the

Whitehall Stream has been identified as a potential impact on this species via reductions in prey items from overall reduction in water quality.

There are no site-specific conservation objectives for the River Boyne and Blackwater SPA. The potential release of pollutants to the River Boyne from contaminated surface waters during the construction and/or operational phases via the Whitehall Stream has been identified as a potential impact on kingfisher via reductions in prey items from overall reduction in water quality.

The potential for these impacts to have an adverse effect on site integrity of River Boyne and River Blackwater SAC and River Boyne and Blackwater SPA is presented below.

**TABLE 4. ASSESSMENT OF POTENTIAL FOR ADVERSE EFFECTS ON QUALIFYING FEATURES OF RIVER BOYNE AND RIVER BLACKWATER SAC AND RIVER BOYNE AND BLACKWATER SPA.**

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
<b>River Boyne and River Blackwater SAC</b>				
1099] River Lamprey ( <i>Lampetra fluviatilis</i> )				
Distribution	% of river accessible	Restore access to all watercourses down to first order streams	The proposed development will not alter the overall distribution of river lamprey species within the SAC.	No potential for adverse effects on site integrity
Distribution of larvae	Number of positive sites in 2nd order channels (and greater), downstream of spawning areas	Not less than 50% of sample sites with suitable habitat positive for larval brook/river lamprey	A potential impact was identified on spawning habitat as a result of sediment deposition arising from an accidental release of high levels of sediment during the construction phase.	A potential release of high levels of sediment could smother nursery silts and spawning gravels and has the potential to interfere with the conservation objective of restoring favourable condition. <b>In the absence of mitigation, this would constitute a negative effect on site integrity.</b>
Population structure of larvae	Number of age / size groups	At least three age/size classes of larval brook/river lamprey present	The proposed development will not impact on the overall presence of juvenile age/size groups within the SAC.	No potential for adverse effects on site integrity
Larval lamprey density in fine sediment	Larval lamprey/m <sup>2</sup>	Mean density of brook/river larval lamprey in sites with suitable habitat more than 5/m <sup>2</sup>	The proposed development will not impact on the overall density of larval lamprey in fine sediment within the SAC.	No potential for adverse effects on site integrity
Extent and distribution of spawning nursery habitat	m <sup>2</sup> and occurrence	No decline in extent and distribution of spawning and nursery beds	While the proposed development will not result in any barriers to movement within the SAC, a potential impact was identified on spawning habitat as a result of sediment deposition arising from an accidental release of high levels of sediment during the construction phase.	A potential release of high levels of sediment could smother nursery silts and spawning gravels and has the potential to interfere with the conservation objective of maintaining favourable condition. <b>In the absence of mitigation, this would constitute a negative effect on site integrity.</b>
[1106] Atlantic Salmon ( <i>Salmo salar</i> )				
Distribution: extent of anadromy	% of river accessible	100% of river channels down to second order accessible from estuary	The proposed development is wholly located outside the boundary of the SAC and will not result in any barriers to movement within the SAC.	No potential for adverse effects on site integrity
Adult spawning fish	Number	Conservation Limit (CL) for each system consistently exceeded	There will be no overall reduction in the number of adult spawning salmon as a result of the proposed development	No potential for adverse effects on site integrity

Salmon fry abundance	Number of fry/5 minutes electro-fishing	Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 min sampling	There will be no overall reduction in the abundance of fry within the SAC as a result of the proposed development	No potential for adverse effects on site integrity
Out-migrating smolt abundance	Number	No significant decline	There will be no overall reduction in the abundance of smolt within the SAC as a result of the proposed development	No potential for adverse effects on site integrity
Number and distribution of redds	Number and occurrence	No decline in number and distribution of spawning redds due to anthropogenic causes	Salmon spawn in clean gravels (NPWS, 2011a). A potential impact was identified on spawning habitat as a result of sediment deposition arising from an accidental release of high levels of sediment during the construction phase.	A potential release of high levels of sediment could smother spawning gravels and has the potential to interfere with the conservation objective of achieving favourable condition. <b>In the absence of mitigation, this would constitute a negative effect on site integrity.</b>
Water quality	EPA Q value	At least Q4 at all sites sampled by EPA	An accidental release of pollutants during the construction and/or operational phases has been identified as having the potential to impact on water quality within the SAC.	A potential release of pollutants has the potential to interfere with the conservation objective of achieving favourable condition. <b>In the absence of mitigation, this would constitute a negative effect on site integrity.</b>
[1355] Otter ( <i>Lutra lutra</i> )				
Distribution	Percentage positive survey sites	No significant decline	The proposed development is wholly located outside the boundary of the SAC. There will be no declines or changes to otter distribution as a result of the proposed development.	No potential for adverse effects on site integrity
Extent of terrestrial habitat	Hectares	No significant decline. Area mapped and calculated as 447.6ha along river banks/ lake shoreline/around ponds	The proposed development is wholly located outside the boundary of the SAC. There will be no declines or changes to the habitat area within the SAC as a result of the proposed development.	No potential for adverse effects on site integrity
Extent of freshwater (river) habitat	Kilometres	No significant decline. Length mapped and calculated as 263.3km	The proposed development is wholly located outside the boundary of the SAC. There will be no declines or changes to the habitat area within the SAC as a result of the proposed development.	No potential for adverse effects on site integrity
Extent of freshwater (lake) habitat	Hectares	No significant decline. Area mapped and calculated as 31.6ha	The proposed development is wholly located outside the boundary of the SAC. There will be no declines or changes to the habitat area within the SAC as a result of the proposed development.	No potential for adverse effects on site integrity
Couching sites and holts	Number	No significant decline	The proposed development is wholly located outside the boundary of the SAC. There will be no loss of couching sites or holts as a result of the proposed development.	No potential for adverse effects on site integrity
Fish biomass available	Kilograms	No significant decline	An accidental release of pollutants during the construction and/or operational phases has been identified as having the potential to impact on water quality within the SAC, which could impact on the availability of fish.	A potential release of pollutants has the potential to interfere with the conservation objective of achieving favourable condition. <b>In the absence of mitigation,</b>

				<b>this would constitute a negative effect on site integrity.</b>
<b>River Boyne and Blackwater SPA</b>				
Kingfisher				
		<p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: kingfisher.</p>	<p>The potential release of pollutants to the River Boyne from contaminated surface waters during the construction and/or operational phases via the Whitehall Stream has been identified as a potential impact on kingfisher via reductions in prey items from overall reduction in water quality.</p>	<p>A potential release of pollutants has the potential to interfere with the conservation objective of maintaining/restoring favourable condition. In the absence of mitigation, <b>this would constitute a negative effect on site integrity.</b></p>

## 5.4 Mitigation Measures to Address Potential Adverse Effects

### 5.4.1 Adverse Effects on Site Integrity Identified Requiring Mitigation

The potential for adverse effects on relevant European sites as a result of the proposed development, in the absence of mitigation and adopting the precautionary principle, have been determined and are detailed in Section 5.3 above. In summary, the potential adverse effects identified comprise the following:

- Potential for smothering of nursery silts and spawning gravels for river lamprey and Atlantic salmon due to the release of pollutants during construction phase;
- Potential for temporary reduction in availability of fish prey for otter due to reduction in water quality from release of pollutants during construction phase; and
- Potential for temporary reduction in availability of fish prey for kingfisher due to reduction in water quality from release of pollutants during construction phase.

### 5.4.2 Mitigation Measures

Mitigation measures are prescribed hereunder to address the above impacts such that adverse effects on site integrity of the European sites do not occur.

#### 5.4.2.1 Construction Phase Measures

##### **Pollution Control Measures**

Pollution control measures will be designed, installed, and maintained in accordance with CIRIA guidelines for 'Environmental Good Practice on Site' (C741).

##### Siltation

Silt fences will be installed along the length of both banks of the Whitehall Stream within the proposed development site, in addition to adjacent to the existing boundary fence which separates the eastern boundary of the proposed development site from the Whitehall Stream.

The silt fences are to be installed prior to the commencement of any ground disturbance works and will have the following design features:

- the geotextile fabric must be entrenched at least 100mm into the ground during installation;
- the fence posts will have a maximum spacing of 2m in order to prevent sagging of the geotextile fabric; and
- the geotextile fabric will be secured (e.g. stapled) to the fence posts.

Silt fences will remain in-situ until the disturbed areas within the sites have been reinstated and re-vegetated.

Surface water run-off from areas stripped of topsoil and surface water collected in excavations will be directed to on-site settlement ponds where measures will be implemented to capture and treat sediment laden run-off prior to discharge of surface water at a controlled rate.

Weather conditions and seasonal weather variations will also be taken account of when planning stripping of topsoil and excavations, with an objective of minimizing soil erosion.

The extent of sub-soil and topsoil stripping to be minimised to reduce the rate and volume of the run-off during construction until the topsoil and vegetation are replaced.

##### Cement-based material

Concrete batching will take place off-site where possible, or if necessary within the site it will take place in a designated area with an impermeable surface.

The wash-down of cement contaminated equipment will take place off site. No washing of any plant or equipment used in concreting operations, or concrete transport, will be carried out on site. Where concrete is delivered to the site, only chute cleaning should occur within the site using the minimal volume of water required. There will be no discharge of contaminated waters to the drainage system within the site, or any artificial drain or watercourse.

It will be ensured that excavations are sufficiently dewatered prior to any pouring of concrete. Dewatering will continue while the concrete sets.

Pour sites should be free of standing water, and plastic sheeting/covers will be at-hand in the event of sudden rainfall.

#### Hydrocarbons

Where oil and fuel are required to be stored on site these will be stored in designated areas which will be housed in a suitably sized bund such that any leaks or spills will be intercepted and will be located away from surface water drainage and features.

The minimal required refuelling or maintenance of construction plant possible will take place on site. Refuelling of construction machinery will be restricted to designated areas away from surface water drainage and will take place by direct refuelling from delivery truck or via a mobile double-skinned fuel bowser.

Spill-kits and hydrocarbon absorbent packs will be kept in designated areas and operators will be fully trained on the use of this equipment.

All waste fuels, oils and other hazardous wastes will be disposed of in accordance with the requirements of the Waste Management Acts 1996, as amended.

#### In-stream works

Some minor landscaping works are proposed along the Whitehall Stream within the proposed development site. In addition, three headwalls will be created for the overflow of surface waters from the on-site attenuation areas into the Whitehall Stream. These works will follow measures outlined in 'Guidelines on Protection of Fisheries during Construction Works and Adjacent to Waters' (Inland Fisheries Ireland, 2016), including the below.

A dry works area will be created at the proposed works locations prior to the commencement of works. The works area will be isolated from the watercourse. No in-stream works will be undertaken outside the isolated works area.

Silt fences will be installed around the works area located on the bank of the watercourse. All excavated material will be stored a minimum of 20m from the bank of the watercourse.

Any water present within the works area will be over pumped and discharged a minimum of 10m from the watercourse to a designated vegetated area.

The proposed headwalls will be constructed using precast materials where possible.

#### **5.4.2.2 Summary**

The above prescribed mitigation measures will prevent the uncontrolled release of pollutants into the environment and are best practice and proven technologies/methods. Based on the assessment of the proposed development, alone and in-combination with other plans and projects, including the implementation of prescribed mitigation measures, it is concluded that no adverse effects on the integrity of European sites will arise, in view of the site's conservation objectives.

## 5.5 Plans and projects which could act in-combination

Article 6(3) of the Habitats Directive states the following:

*“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”.*

The identified potential impacts from the proposed development are therefore considered in in combination with any other relevant plans or projects. The identified connectivity between the proposed development and European sites comprises hydrological connectivity via the Whitehall Stream. A search for relevant projects within the catchment of the Whitehall Stream was conducted using the Meath County Council online planning database:

- **Planning ref. no. 24/60523.** Development of a 316 Sq.M. industrial unit with 166 Sq.M. internal mezzanine (total floor area 482 Sq.M.), with a building parapet height of 7850mm over finished floor level. Situated approximately 500m north of the proposed development site.

The predominant land uses in the area were also considered in the assessment, these included predominantly agricultural pasture, agricultural arable crop production and residential and commercial developments.

Following the detailed assessment provided in the preceding sections, it is concluded that, the proposed development will not result in any residual adverse effects on any of the European Sites, their integrity or their conservation objectives when considered on its own. There is therefore no potential for the proposed development to contribute to any cumulative adverse effects on any European Site when considered in-combination with other plans and projects.

## 6 OUTCOME

This report assesses the potential for the proposed development to result in adverse effects on the integrity of European sites and has been informed by detailed desktop assessment and field surveys.

Connectivity was identified between the proposed development and the European sites of River Boyne and River Blackwater SAC and River Boyne and Blackwater SPA during the construction phase via the Whitehall Stream, which flows through the proposed development site. Potential impacts resulting from this connectivity have been described and have been assessed for their potential to result in adverse effects on site integrity of the European sites. Mitigation measures have been prescribed to address any potential impacts such that adverse effects on site integrity of the relevant European sites does not occur.

In light of the best scientific knowledge with relation to the above 2no. European sites where potential connectivity was identified, this report has examined and analysed the potential impact sources and pathways, how these could impact on the relevant European sites special conservation interest habitats and species, and whether the predicted impacts would adversely affect the integrity of the four relevant European sites. There is no connectivity to any further European sites and there are no other European sites at risk of effects from the works. Accordingly, it has been objectively concluded by Gannon and Associates, following an examination, analysis and evaluation of the relevant information, including in particular the nature of the predicted impacts from the construction phase and the prescribed mitigation measures which address any potential impacts, that the proposed development will not adversely affect the integrity of any European site either alone or in combination with other plans or projects.

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