

Appropriate Assessment Screening & Natura Impact Statement - Information for a Stage 1 (AA Screening) and Stage 2 (Natura Impact Statement) AA for a proposed housing development at Crowpark, Trim, Co. Meath.



19th June 2026

Prepared by: Bryan Deegan (MCIEEM) of Altemar Ltd.

On behalf of: Loughlynn Developments

Altemar Ltd., 50 Templecarrig Upper, Delgany, Co. Wicklow. 00-353-1-2010713. info@altemar.ie

Directors: Bryan Deegan and Sara Corcoran

Company No.427560 VAT No. 9649832U

www.altemar.ie

Document Control Sheet

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| Project | Appropriate Assessment Screening & Natura Impact Statement - Information for a Stage 1 (AA Screening) and Stage 2 (Natura Impact Statement) AA for a proposed housing development at Crowpark, Trim, Co. Meath. | | |
| Report | Appropriate Assessment Screening & Natura Impact Statement | | |
| Date | 19 th June 2026 | | |
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1 Introduction

The following Appropriate Assessment Screening and Natura Impact Statement – Information for a Stage 1 (AA Screening) and Stage 2 (Natura Impact Statement) AA has been prepared by Altemar Ltd. for a proposed housing development at Crowpark, Trim, Co. Meath.

An Appropriate Assessment is an assessment of the potential effects of a proposed project or plan, on its own, or in combination with other plans or projects, on one or more European sites. European sites are those sites designated as Special Areas of Conservation (SAC) or Special Protection Areas (SPA).

The AA Screening stage examines the likely significant effects of a plan or project, either on its own, or in combination with other plans and projects, upon a European site and considers whether, on the basis of objective scientific evidence, it can be concluded that there are no likely significant effects on any European site, in view of best scientific knowledge and the conservation objectives of the relevant European sites.

The Natura Impact Statement examines whether the plan or project, either alone, or in combination with other plans and projects, in the view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European sites.

1.1 Altemar Ltd.

Since its inception in 2001, Altemar has been delivering ecological and environmental services to a broad range of clients. Operational areas include residential, infrastructural, renewable, oil & gas, private industry, local authorities, EC projects and State/semi-State Departments. Bryan Deegan is the managing director of Altemar. Bryan is an environmental scientist and marine biologist with 30 years' experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. Bryan Deegan (MCIEEM) holds a MSc in Environmental Science, BSc (Hons.) in Applied Marine Biology, NCEA National Diploma in Applied Aquatic Science and a NCEA National Certificate in Science (Aquaculture). Bryan Deegan carried out all elements of this Appropriate Assessment Screening and Natura Impact Statement.

2 Methodology

2.1 Guidance

This Appropriate Assessment Screening Report has been prepared with regard to the following guidance documents, as relevant:

2.1.1 European Commission Guidance

- 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);
- Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC (European Commission, 2019);
- Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC. Clarification of the Concepts of Alternative Solutions, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence. Opinion of the European Commission (European Commission January 2007, updated 2012);
- Communication from the Commission on the Precautionary Principle (European Commission 2000)¹;

¹ The precautionary principle is a guiding principle that derives from Article 191 of the Treaty on the Functioning of the European Union and has been developed in the case law of the European Court of Justice (e.g. ECJ case C-127/02 – Waddenzee, Netherlands).

This guidance document notes that the precautionary principle “covers those specific circumstances where scientific evidence is insufficient, inconclusive or uncertain and there are indications through preliminary objective scientific evaluation that there are reasonable grounds for concern that the potentially dangerous effects on the environment, human, animal or plant health may be inconsistent with the chosen level of protection”.

Applying the precautionary principle in the context of screening for appropriate assessment requires that where there is uncertainty or doubt about the risk of significant effects on a European site(s), it should be assumed that significant effects are likely, and AA must be carried out.

- Nature and Biodiversity Cases – Ruling of the European Court of Justice (European Commission 2006); and
- Article 6 of the Habitats Directive – Rulings of the European Court of Justice (European Commission Final Draft September 2014).
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission;

2.1.2 Irish Guidance

- OPR Practice Note PN01. Appropriate Assessment Screening for Development Management (Office of the Planning Regulator, 2021);
- Applications for Approval for Local Authority Developments made to An Bord Pleanála under 177AE of the Planning and Development Act, 2000, as amended (Appropriate Assessment) – Guidelines for Local Authorities (An Bord Pleanála, 2013);
- Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (Department of Environment, Heritage and Local Government 2010 revision); and
- Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPW 1/10 & PSSP 2/10 (NPWS, 2010).

2.1.3 UK Guidance

- Sustainability and Environmental Appraisal LA 115 Habitats Regulations assessment (formerly HD 44/09) (Design Manual for Roads and Bridges, UK Highways Agency September 2019); and
- Habitat Regulations Assessment Advice Note 10: Habitats Regulations Assessment relevant to nationally significant infrastructure projects Version 8 (The Planning Inspectorate, November 2017).

2.1.4 Other International Guidance

- Methodological Guideline for Impact Assessment of Transportation Infrastructure Significantly Affecting Natura 2000 Sites – Guidance on the provisions of Article 6(3, 4) of the Habitats Directive (Federal Ministry of Transport, Building and Housing of the Federal Republic of Germany 2004).

In addition, the following guidance has informed the approach to characterising impacts, including determining magnitude and significance of impacts, as relevant in the application to Appropriate Assessment and European sites:

- Guidelines for Ecological Impact Assessment in the UK and Ireland (Chartered Institute of Ecology and Environmental Assessment, 2018);
- Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022);
- Environmental Guidelines Series for Planning and Construction of National Roads (National Roads Authority, 2005-2009); and
- A guide to the assessment of air quality impacts on designated nature conservation sites (Institute of Air Quality management, 2020)

2.2 Background to the Appropriate Assessment

The Habitats Directive 92/43/EEC (together with the Birds Directive (2009/147/EC)) forms the cornerstone of Europe's nature conservation policy. The Directive protects over 1000 animals and plant species and over 200 "habitat types" which are of European importance. In the Habitats Directive, Articles 3 to 9 provide the legislative means to protect habitats and species of European Community interest through the establishment and conservation of an EU-wide network of conservation sites (NATURA, 2000). These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Birds Directive), Article 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment:

"Any plan or project not directly connected with or necessary to the management of the [NATURA 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the component 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."

As outlined in "Managing European sites, The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC" (European Commission, 21 November 2018) *"The purpose of the appropriate assessment is to assess the implications of the plan or project in respect of the site's conservation objectives, either individually or in combination with other plans or projects. The conclusions should enable the competent authorities to ascertain whether the plan or project will adversely affect the integrity of the site concerned. The focus of the appropriate assessment is therefore specifically on the species and/or the habitats for which the European site is designated."*

As outlined in the EC guidance document on Article 6(4) (January 2007)²:

"Appropriate assessments of the implications of the plan or project for the site concerned must precede its approval and take into account the cumulative effects which result from the combination of that plan or project with other plans or projects in view of the site's conservation objectives. This implies that all aspects of the plan or project which can, either individually or in combination with other plans or projects, affect those objectives must be identified in the light of the best scientific knowledge in the field."

Assessment procedures of plans or projects likely to affect European sites should guarantee full consideration of all elements contributing to the site integrity and to the overall coherence of the network, both in the definition of the baseline conditions and in the stages leading to identification of potential impacts, mitigation measures and residual impacts. These determine what has to be compensated, both in quality and quantity. Regardless of whether the provisions of Article 6(3) are delivered following existing environmental impact assessment procedures or other specific methods, it must be ensured that:

- *Article 6(3) assessment results allow full traceability of the decisions eventually made, including the selection of alternatives and any imperative reasons of overriding public interest.*
- *The assessment should include all elements contributing to the site's integrity and to the overall coherence of the network as defined in the site's conservation objectives and Standard Data Form, and be based on best available scientific knowledge in the field. The information required should be updated and could include the following issues:*
 - *Structure and function, and the respective role of the site's ecological assets;*
 - *Area, representativity and conservation status of the priority and nonpriority habitats in the site;*
 - *Population size, degree of isolation, ecotype, genetic pool, age class structure, and conservation status of species under Annex II of the Habitats Directive or Annex I of the Birds Directive present in the site;*
 - *Role of the site within the biographical region and in the coherence of the European network; and,*
 - *Any other ecological assets and functions identified in the site.*
- *It should include a comprehensive identification of all the potential impacts of the plan or project likely to be significant on the site, taking into account cumulative impacts and other impacts likely to arise as a result of the combined action of the plan or project under assessment and other plans or projects.*

² European Commission. (2007). Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission;

- *The assessment under Article 6(3) applies the best available techniques and methods, to estimate the extent of the effects of the plan or project on the biological integrity of the site(s) likely to be damaged.*
- *The assessment provides for the incorporation of the most effective mitigation measures into the plan or project concerned, in order to avoid, reduce or even cancel the negative impacts on the site.*
- *The characterisation of the biological integrity and the impact assessment should be based on the best possible indicators specific to the European assets which must also be useful to monitor the plan or project implementation.”*

2.3 Assessment Methodology

The above referenced guidance sets out a staged process for carrying out Appropriate Assessment. To determine if an Appropriate Assessment is required, documented screening is required. Screening identifies the potential for effects on the conservation objectives of European sites, if any, which would arise from a proposed plan or project, either alone or in combination with other plans and projects (i.e. likely significant effects).

Significant effects on a European site are those that would undermine the conservation objectives supporting the favourable conservation condition of the Qualifying Interest (QI) habitats and/or the QI/Special Conservation Interest (SCI) species of a European site(s). In order to comply with the above Guidelines and legislation, the Appropriate Assessment process must be structured as follows:

1) Screening stage:

- Description of plan or project, and local site or plan area characteristics;
- Identification of relevant European sites, and compilation of information on their qualifying interests and conservation objectives
- Identification and description of individual in combination effects likely to result from the proposed project;
- Assessment of the likely significance of the effects identified above. Exclusion of sites where it can be objectively concluded that there will be no likely significant effects; and,

Conclusions

2) Appropriate Assessment (Natura Impact Statement):

- Description of the European sites that will be considered further;
- Identification and description of potential adverse impacts on the conservation objectives of these sites likely to occur from the project or plan; and,
- Mitigation Measures that will be implemented to avoid, reduce or remedy any such potential adverse impacts
- Assessment as to whether, following the implementation of the proposed mitigation measures, it can be concluded, beyond all reasonable scientific doubt, that there will be no adverse impact on the integrity of the relevant European Site in light of its conservation objectives"
- Conclusions.

If it can be demonstrated during the AA screening phase (Stage 1), that the proposed project will not have a significant effect, whether alone or in combination with other plans or projects, on the conservation objectives of a Natura 2000 site, then no further AA (Stage 2) will be required. In addition, Article 6(3) of the Habitats Directive should be interpreted to mean that, when deciding at the screening stage whether a full Appropriate Assessment (AA) is required for a plan or project, measures intended to avoid or reduce harmful effects on the site must not be considered.

In establishing which European sites are potentially at risk (in the absence of mitigation) from the proposed Project, a source-pathway-receptor approach was applied. In order for an impact to occur, there must be a risk enabled by having a source (e.g. water abstraction or construction works), a receptor (e.g. a European site or

its QI(s) or SCI(s)³), and a pathway between the source and the receptor (e.g. pathway by air for airborne pollution, or a pathway by a watercourse for mobilisation of pollution). For an impact to occur, all three elements must exist; the absence or removal of one of the elements means there is no possibility for the impact to occur.

The identification of source-pathway-receptor connection(s) between the proposed Project and European sites essentially is the process of identifying which European sites are within the Zone of Influence (Zoi) of the proposed Project, and therefore potentially at risk of significant effects. The Zoi is the area over which the proposed Project could affect the receiving environment such that it could potentially have significant effects on the QI habitats or QI/SCI species of a European site, or on the achievement of their conservation objectives⁴.

The identification of a source-pathway-receptor link does not automatically mean that significant effects will arise. The likelihood for significant effects will depend upon the characteristics of the source (e.g., extent and duration of construction works), the characteristics of the pathway (e.g. direction and strength of prevailing winds for airborne pollution) and the characteristics of the receptor (e.g. the sensitivities of the European site and its QIs/SCIs).

The 'likely significant effects' test is based on the precautionary principle⁵. The precautionary principle means that, based on the most reliable available information, where there is uncertainty or doubt as to the absence of significant effects, the project cannot be screened out and an appropriate assessment must be carried out.

2.4 Desktop Data Review

The desktop data sources used to inform the assessment presented in this report are as follows:

- Online data available on European sites and protected habitats/species as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie, including conservation objectives documents
- Online data available on protected species as held by the National Biodiversity Data Centre (NBDC) from www.biodiversityireland.ie
- Information on the surface water network and surface water quality in the area available from www.epa.ie
- Information on groundwater resources and groundwater quality in the area available from www.epa.ie and www.gsi.ie
- Ordnance Survey of Ireland mapping and aerial photography available from www.osi.ie
- Information on the location, nature and design of the proposed development supplied by the applicant's design team.

2.5 Field Surveys

A field survey of the proposed development site was carried out by Altemar Ltd. on the 17th September 2025, which included a bat assessment. Twelve wintering bird surveys were carried out at the subject lands from

³ The term qualifying interest is used when referring to the habitats or species for which an SAC is designated; the term special conservation interest is used when referring to the bird species (or wetland habitats) for which an SPA is designated.

⁴ As defined in the Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018)

⁵ The precautionary principle is a guiding principle that derives from Article 191 of the Treaty on the Functioning of the European Union and has been developed in the case law of the European Court of Justice (e.g., ECJ case C-127/02 – Waddenzee, Netherlands).

The guidance document Communication from the Commission on the Precautionary Principle (European Commission, 2000) notes that the precautionary principle "covers those specific circumstances where scientific evidence is insufficient, inconclusive or uncertain and there are indications through preliminary objective scientific evaluation that there are reasonable grounds for concern that the potentially dangerous effects on the environment, human, animal or plant health may be inconsistent with the chosen level of protection".

Applying the precautionary principle in the context of screening for appropriate assessment requires that where there is uncertainty or doubt about the risk of significant effects on a European site(s), it should be assumed that significant effects are possible and AA must be carried out.

November 2025 to March 2026, aimed at providing information to assist in assessing the potential impact of the proposed development on wintering birds within/over the development area, in particular species listed as Qualifying Interests of nearby SPAs. A mammal survey was carried out during the survey period. The surveys were conducted by Jeff Boyle (BSc.) on the 30th January, 2025, Frank Spellman (MSc.) on the 22nd April, 21st/27th November, 8th December, 2025, Jack Doyle (MSc.) on the 11th/21st February, 3rd/25th March, 4th June, 17th September, 4th November, 2025, Emma Peters (BSc. Environmental Science) on the 25th/30th September 2025, and Luke Dodebier (BSc. Wildlife Biology) on the 16th December 2025, 8th/28th January, 12th February, 18th/30th March 2026. The surveys were carried out in mild dry conditions and covered all the lands within the site outline and the land immediately outside the site. The purpose of the field surveys was to identify habitat types according to the Fossitt (2000) habitat classification and map their extent. In addition, more detailed information on the species composition and structure of habitats, conservation value and other data were gathered. Additionally, an otter survey was carried out along the River Boyne to the south of the site on the 8th December 2025. See accompanying Ecological Impact Assessment by Altamar Ltd for additional information.

3 Stage 1 Provision of Information for Screening Assessment

3.1 Management of the Site

The plan or project is not directly connected with, or necessary to the management of Natura 2000 sites.

3.2 Description of the Proposed Project

The proposed development comprises a Large-Scale Residential Development (LRD) on lands at Crowpark (1st Division), Kildalkey Road, Trim, Co. Meath.

The scheme provides a total of 183 residential units, comprising 127 houses and 56 apartments. The housing mix includes 19 no. detached 4-bedroom houses, 9 no. semi-detached/end-terrace 4-bedroom houses, 4 no. detached 3-bedroom houses, 43 no. semi-detached/end-terrace 3-bedroom houses, and 52 no. mid-terrace 3-bedroom houses, with building heights from 2 to 2 ½ storeys. The apartment element comprises 56 no. units in two blocks of up to four stores, including 16 no. one-bedroom and 40 no. two-bedroom units.

The development also includes a crèche facility, new vehicular and pedestrian accesses from Kildalkey Road.

The proposal provides for associated infrastructure and site works, including landscaping, public and communal open space, internal streets and footpaths, car and bicycle parking, bin stores, private open space, boundary treatments, plant and waste management areas, utility infrastructure and a foul sewer connection to the existing network adjoining the OPW offices on Jonathan Swift Street, to be delivered beneath the River Boyne and Trim Pitch & Putt.

The proposed site outline, location and layout are demonstrated in Figures 1-3.



Figure 1. Proposed site location



0 0.1 0.2 0.3 0.4 km

Project: Trim Housing Development
 Location: Trim, Co. Meath
 Date: 14th April, 2025
 Drawn By: Bryan Deegan (Altamar)

ALTEMAR
 Marine & Environmental Consultancy

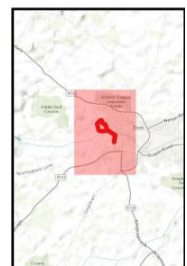
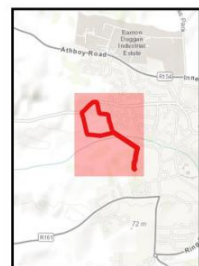
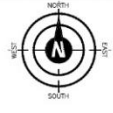


Figure 2. Proposed site outline

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DIMENSIONS
 UNLESS OTHERWISE SPECIFIC DIMENSIONS SHOWN ARE IN MILLIMETRES. NO DIMENSIONS TO BE SCALED FROM THIS DRAWING. ALL DIMENSIONS TO BE CHECKED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES TO BE REPORTED TO THE ARCHITECT.



PROPOSED SITE LAYOUT PLAN (KEY PLAN - OVERALL RED LINE BOUNDARY & 1:500 SITE LAYOUT SHEETS)
 SCALE 1:2,000

O.S. Ref: 2716-D

GROSS AREA OF SITE EDGED RED = 6.087 HA

NET DEVELOPMENT AREA (NDA) OF SITE = 5.648 HA

183 RESIDENTIAL UNITS PROPOSED (127 HOUSES + 56 APARTMENTS)

PROPOSED DENSITY = 32.40 DPH

PROPOSED PUBLIC OPEN SPACE PROVISION (8,877m²) = 15.72% NDA

| | |
|---|-------|
| Special Area of Conservation Boundary Line | ----- |
| Flood Zone "10" Boundary Line (coincident with Southern "A2" zoning boundary) | ----- |

o'daly architects
 1st Floor - Unit 15/8 - Mullighoy Industrial Estate
 Navan - County Meath - Tel: (046) 9621283
 Mobile: (087) 9625213 | Email: info@odaly.ie

| | |
|----------------------|--------------------|
| Registered Architect | Registered Planner |
| RIAI 2026 | RIAI 2026 |

Client:
 Loughgyn Developments Ltd.

Project Name and Address:
 Proposed Large Residential Development (LRD) at "Crowpark 1st Division", Killybeg Road, Trim, County Meath.

Project Stage:
 Planning

Drawing Name:
 Proposed Site Layout Key Plan (1:2000) (Overall Red Line Boundary)

Drawn By: ind
Scale: 1:2000 @ A2

Checked By: ind
Date: 17.04.2026

Drawing Number: 24004-AR-110
Revision: P01

Figure 3. Proposed overall site layout key plan

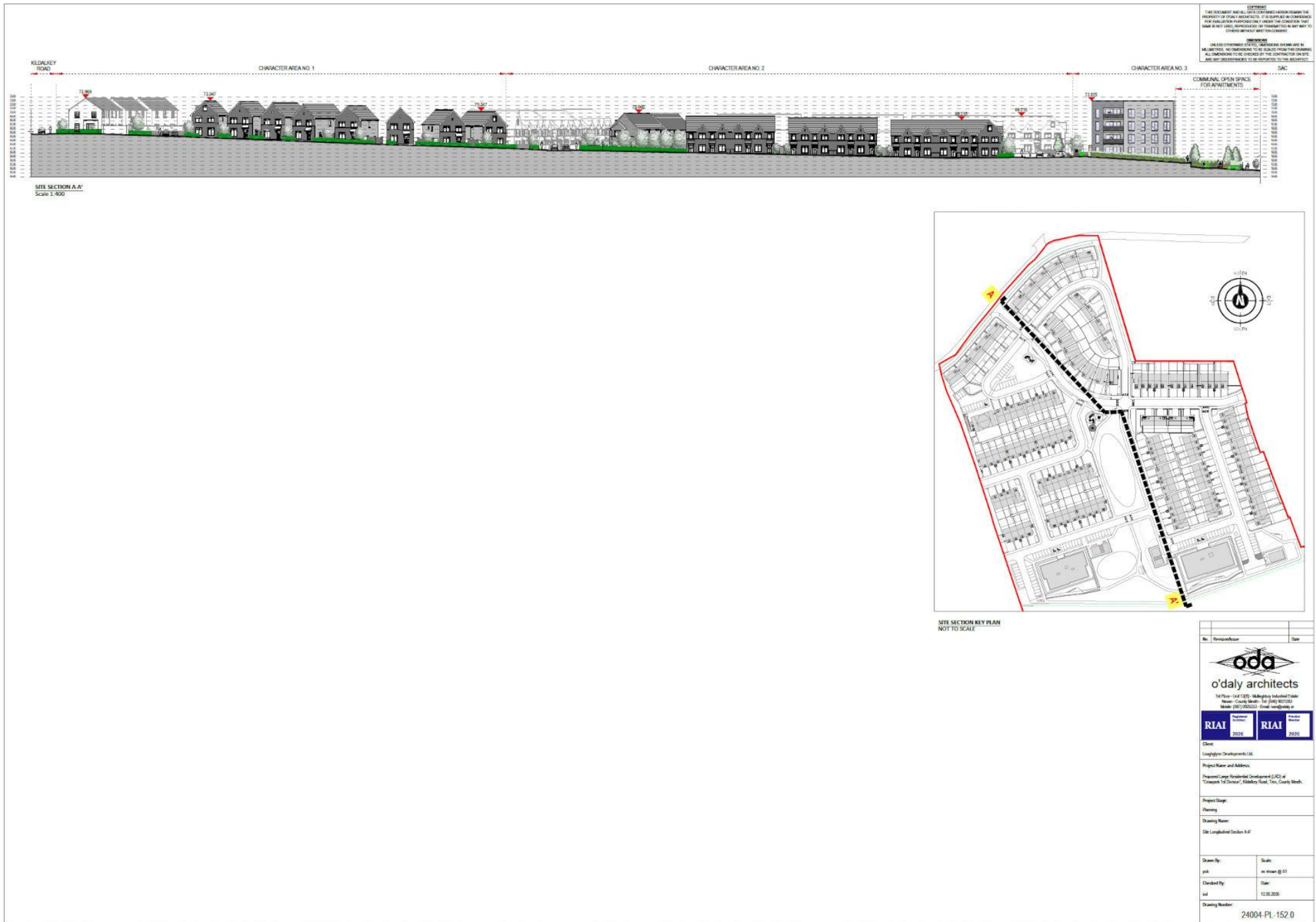


Figure 4. Proposed Longitudinal Section A-

3.3 Drainage

An Engineering Assessment Report has been prepared by Waterman Moylan Consulting Engineers Limited Engineers to accompany this planning application. The report outlines the following:

'Foul Water Drainage

2.1 Introduction

The site will be served with a new foul sewer system, which will drain by gravity sewers to a proposed pump station located at the southeast of the site and will pump to the outfall into existing 225mm diameter foul sewer on Jonathan Swift Street.

The proposed pumping station is confirmed to comply with Uisce Éireann's Wastewater Infrastructure Standard Details, connection application will be issued to Uisce Éireann for approval with pumping station included.

Waterman Moylan Drawing No. 23-041-P200 - Proposed Drainage Layout shows the proposed foul water sewer network for the subject site.

Uisce Éireann Pre-Connection Enquiry

A pre-connection enquiry, Uisce Éireann Reg. Ref. CDS26001987, was submitted to Uisce Éireann on the 5th March, 2026 for the units pertaining to the development. A response from Uisce Éireann was received and confirmation of feasibility can be found in Appendix A.

Uisce Éireann have confirmed that a connection to the existing foul water infrastructure is feasible without infrastructure upgrade by Uisce Éireann. A survey will be required to determine the condition / Diameter / Invert levels at Discharge Point of the existing network and determine if capacity exists. If diameter is not 225mm ID at a minimum then an upgrade may be required. It is advised to contact Uisce Eireann prior to submission of connection application. Connection to the Networks may be through 3rd party lands and all relevant wayleaves and permissions would need to be obtained by the Client

Existing capacity constraints are known to occur within the adjoining Eldergrove and Avondale housing developments due to surface water ingress into the foul sewer network. As identified within the Uisce Éireann Confirmation of Feasibility correspondence issued in 2023, the existing foul network in the area is subject to operational constraints associated with inflow and infiltration.

Extensive surveys and investigations have been undertaken to identify the source of the surface water ingress; however, the exact source could not be conclusively determined.

Following consultation with Uisce Éireann, it was concluded that the most feasible solution to facilitate the proposed development was to provide a pumped foul connection to the existing 225 mm diameter foul sewer located on Jonathan Swift Street.

The proposed foul rising main will be installed via Horizontal Directional Drilling (HDD) beneath the River Boyne in order to minimise environmental and infrastructural impacts.

Confirmation of feasibility for the proposed connection arrangement has been received from Uisce Éireann. In addition, the required consents and agreements associated with the HDD crossing have been obtained from the Office of Public Works (OPW) and Trim Pitch and Putt Club. Please refer to Appendix E, F & G for the Uisce Éireann Confirmation of Feasibility correspondence, OPW consent letter and Trim Pitch and Putt Club consent agreement

These extension works are not currently on the Uisce Éireann investment plan therefore, the applicant will be required to fund these local network upgrades. The fee will be calculated at connection application stage.

The applicant will be responsible for the necessary consents that may be required to install the rising main in private lands (If required).

Foul Water – General

Foul water sewers within the proposed development will be laid to comply with the requirements of the Building Regulations, and in accordance with the recommendations contained in the Technical Guidance Documents, Section H.

Foul water sewers which will be taken into charge will be laid strictly in accordance with Uisce Éireann's requirements for taking in charge.

In accordance with the Uisce Éireann "Code of Practice for Wastewater Infrastructure", 150mm nominal internal diameter sewers have been proposed for carrying wastewater from 20 properties or less; whilst 225mm nominal internal diameter have been proposed for carrying wastewater from more than 20 properties. Furthermore, where there are at least ten dwelling units connected, the 150mm diameter pipes are laid at a minimum gradient of 1:60 for up to nine connected dwelling units.

The pumping station has been located with a 20m separation distance from the nearest dwelling. This complies with Section 5.5 of the Uisce Éireann "Code of Practice for Wastewater Supply", which states that a Type 3 pumping station require a minimum buffer zone of 15m.

Surface Water Drainage

Introduction

The surface water drainage for the development has been designed with individual soakaways for each house unit and surface water from the public areas will be divided into four catchments, each discharging via gravity into separate underground soakaways. The proposed houses in the north will drain into the soakaway located at the centre of the site. Part of the proposed houses in the centre will drain into the soakaway to the south. The apartment block in the southwest will drain into the southwest soakaway, and the apartment block in the southeast will drain into the southeast soakaway.

The proposed houses in the north will drain into the surface water network and outfall onto a soakaway located at the centre of the site.

The layout of the proposed surface water drainage network is shown on Waterman Moylan Drawing No. 23-041-P200 - Proposed Drainage Layout.

Surface Water – General

Sustainable Urban Drainage Systems (SUDS) have been developed and are in use to alleviate the detrimental effects of traditional urban storm water drainage practice that typically consisted of piping runoff of rainfall from developments to the nearest receiving watercourse. Surface water drainage methods that take account of quantity, quality and amenity issues are collectively referred to as sustainable urban drainage systems; they are typically made up of one or more structures built to manage surface water runoff.

The proposed surface water drainage system for this development has been designed as a sustainable urban drainage system and uses permeable pavement, grass swales, soakaway to:

Treat runoff and remove pollutants to improve quality Restrict outflow and to control quantity

Increase amenity value

Strict separation of surface water and wastewater will be implemented within the development. Drains will be laid out to minimise the risk of inadvertent connection of waste pipes etc. to the surface water system.

Surface water local drains will be 150 mm to 225 mm wide and generally will consist of PVC (to IS 123) or concrete socket and spigot pipes (to IS 6). These drains will be laid to comply with the requirement of the Building Regulations 2010, and in accordance with the recommendations contained in the Technical Guidance Documents, Section H.

Surface water public sewers will be 225 mm to 525 mm wide and generally will consist of PVC or concrete socket and spigot pipes (to IS 6) and laid strictly in accordance with the requirements of Meath County Council.

Proposed Surface Water Drainage Strategy

The surface water network for the proposed development has been divided into four separate catchments as shown in the following figure 2. It is proposed that surface water will drain by a network of gravity surface water pipes to the soakaway in each catchment.

The layout of the proposed surface water drainage network is shown on Waterman Moylan Drawing No. 23-041-P200 - Proposed Drainage Layout.

During site investigations, Petrifying Tufa springs, which constitute a protected habitat associated with the adjoining SAC, were identified within the wider study area. The presence of these features was identified through ecological assessment undertaken by Dr. Joanne Denyer.

Following identification of the Tufa springs, the proposed surface water drainage strategy was developed in consultation with Dr. Joanne Denyer and Dr. Robbie Meehan (Hydrologist) to ensure that the existing hydrological regime across the site and adjoining SAC is maintained. The proposed drainage design has therefore been carefully developed to avoid any alteration to existing groundwater flows, seepage patterns, or hydrological conditions which could adversely impact the Petrifying Tufa habitat.

Accordingly, the proposed development is not expected to result in any hydrological impacts on the identified Tufa springs or the adjoining SAC.

Catchment 1

Catchment 1 is located to the north area of the site and covers a catchment area of c. 2.20 hectares. The total impermeable area is c. 1.05 hectares. The excess surface water for the 1 in 100-year storm + 20% climate change will outfall onto soakaway.

Catchment 2

Catchment 2 is located at the central and south area of the site and covers a catchment area of c. 1.28 hectares. The impermeable area is approximately 0.52 hectares. The excess surface water for the 1 in 100-year storm + 20% climate change will outfall onto soakaway.

Catchment 3

Catchment 3 is located at the southeast area of the site and covers a catchment area of c. 0.34 hectares. The impermeable area is approximately 0.22 hectares. The excess surface water for the 1 in 100-year storm + 20% climate change will outfall onto soakaway.

Catchment 4

Catchment 4 is located at the southwest area of the site and covers a catchment area of c. 0.36 hectares. The impermeable area is approximately 0.23 hectares. The excess surface water for the 1 in 100-year storm + 20% climate change will outfall onto soakaway.'

The drainage layout is shown in Figure 5.

3.4 Site-Specific Flood Risk Assessment

The Site-Specific Flood Risk Assessment has been prepared by JBA Consulting. In relation to the flood risk of the development area, the report outlines the following:

'The design of the proposed development has ensured that none of the proposed building structures to be constructed on the site will be located inside an NIFM flood zone. The only work that will traverse the NIFM flood zone is the horizontal directional drilling beneath the River Boyne associated with the installation of the 125 mm rising main beneath the river. The Method Statement for this directional drilling has been completed by Dunnes Drilling Limited of Clonmore, Togher, County Louth, and has been included with this application...'

3.5 Hydrogeological Assessment

A hydrogeological assessment has been prepared by EurGeol. Dr. Robert T. Meehan for the proposed development, detailing the Land, Soils, Geology, Hydrology and Hydrogeology baseline of the site and outlining the potential impacts of the proposed development. The following impacts are outlined which are directly relevant to this Appropriate Assessment Screening and Natura Impact Statement:

'LIKELY AND SIGNIFICANT IMPACTS ON LAND, SOILS, GEOLOGY, HYDROLOGY AND HYDROGEOLOGY

The potential impacts of the proposed LRD Project and mitigation measures that will be put in place to eliminate or reduce them are set out below.

The proposed LRD Site is situated adjacent to the River Boyne SAC, as well as a Drinking Water Protected Area abstracting from surface water as the River Boyne is used as a water supply source downstream of Trim Town.

The site is not within a Source Protection Zone for a Public Drinking Water Supply, a Zone of Contribution to a Group Scheme.

Potential effects on groundwater quality with regard to contaminants such oils, fuels, cement and sediments (i.e. from drilling, compaction of foundations, and excavation works).

The not-insignificant depth of overburden at the proposed LRD site will also ensure that access road construction, trenching for electrical cabling, temporary construction compounds and routeway drainage and attenuation (i.e. straw bales and silt fencing / barriers) would have no potential to disrupt groundwater flowpaths downslope. Locally, trenching or drains will typically extend no more than 0.6 m below ground level.

No point recharge features such as swallow holes, dolines etc are present at the ground surface on the proposed LRD Site, as the setting is within an aquifer that does not illustrate any karst features anywhere in the vicinity of Trim.

...There will be no basements in any of the houses on the site, and the foundation levels will be set just below existing ground levels in the majority, largely on the pre-existing, in situ subsoil. In only a few cases will cut-and-fill happen where split level houses are proposed to be constructed.

Detailed desk study review of available soils, subsoils and bedrock geological maps for the site show the presence of deep soil and subsoil beneath the majority of the site, with bedrock close to (within 1 metre of) the surface in a restricted locality in the southeastern portion of the site. The construction activity at the site will comprise the extraction and movement of relatively small portions of soil and subsoil material. It is envisaged that no rock-breaking will be required across the site area during construction, as the proposed alteration of site levels where required will require removal of glacial till material for the most part, as ensured by the design of the geometry of the proposed cut and fill and the related proposed floor levels for the site. Bedrock will only be encountered while boring the proposed tunnel for the proposed 125 mm rising main beneath the River Boyne at the southeastern extremity of the site.

As the proposed development will not involve major excavations as no subterranean car parks or basements are proposed, the construction works will not impact on groundwater resources local to any of the proposed structures on the site. The proposed 125 mm rising main borehole will not pump or dewater the area within and

around it, and will drill in the saturated zone, in and beneath the water table. The full procedural and Method Statement for the directional drilling is included in the report by Dunnes Drilling Limited (Dunnes, 2025).

A significant amount of the extracted topsoil will be retained on the site for use in landscaping and remediation of the site following completion of the construction phase. This is described in more detail in the enclosed Construction and Environmental Management Plan.

In the course of the works it is estimated that there will be an approximate 5% loss of the usable topsoil, subsoil and rock material due to the nature of handling such material.

In extraction, any existing topsoil layer that require removal (approx. 300 mm - 500 mm) will be removed from phased working areas. Any subsoil material from the phased working areas will then be removed from the ground using a mechanical excavator; this will be to a maximum depth of approximately 0.75 m where required. No blasting shall be employed in the removal of topsoil or subsoil.

Any topsoil or subsoil stockpiles will likely only store a maximum of 100m³ of topsoil at any one time (depending on the exact sequence of works).

The maximum dimensions of any stockpiles shall be 2 m in height, approximately 5 m deep and approx. 10 m long. On this basis, it is estimated that there should be no more than 2 no. stockpiles of topsoil required.

The stockpiles will be formed so that they do not hold ponds of water on the surface and the stock piles will be rolled or tamped smooth such that the upper layer will resist water ingress into the material below. Where the spoil is wet, it may be spread to allow air drying during periods of dry weather.

All works will be carried out under the supervision of suitably experienced and competent overseers.

All personnel on site will be informed of all ground conditions to be expected on site and made aware of any mitigation measure necessary to successfully complete the construction of the project.

During the initial site preparation and construction stage, there will be a significant volume of machinery and equipment at the subject site, including trucks, excavators and screeners. There will be potential for leakage of fuel and oil from these vehicles into the surrounding groundmass, particularly during refuelling operations. The storage of large quantities of fuel or oils on site is not anticipated. A Construction Management Programme will be implemented by the Principal Contractor for the duration of the construction phase, which will also cover associated and related environmental issues. This will require all potentially polluting material e.g. fuel and oil, be stored in appropriate, bunded containment; that all spills are cleaned promptly; and spill cleanup waste disposed of appropriately, and that all spills are notified to the site manager. Given the site topography, with a gently sloping gradient down-hill towards the springs and the River Boyne, and given the results from trial pitting on the site, it is not expected that any significant volumes of shallow, 'perched' groundwater will be encountered during excavation work. Surface water, which may collect in shallow excavations, has the potential to be contaminated with silt or other contaminants and would not be considered suitable for the discharge to any local surface water bodies without appropriate treatment. Hence, surface water will infiltrate to ground during construction, as happens currently on the site, and will be managed by the straw bales and silt fences as described above. Though the above outlines a significant work package to be carried out on-site, there will be little impact to the site as the bedrock substrate and any associated landscaping of soil and subsoil will not be overcompacted when restoring the site.'

3.6 Petrifying Spring Survey and Assessment

Dr Joanne Denyer was commissioned by Loughglynn Developments Limited to undertake detailed plot survey and condition assessment of petrifying spring habitat Kildalkey Road, Trim, Co. Meath. Petrifying springs with tufa formation (*Cratoneurion*) [7220] are an EC Habitats Directive Annex I priority habitat. Part of the survey site is located within the River Boyne and River Blackwater SAC [site code 002299]. Whilst there are several examples of Annex I priority petrifying springs recorded from this SAC, they are not currently listed as a Qualifying Interest for the site. However, given that Petrifying Springs with tufa formation (*Cratoneurion*) [7220]

are an EC Habitats Directive Annex I priority habitat, the impact on these habitats have been considered in this Appropriate Assessment Screening. The extent of these habitats is shown in Figure 6 below:



Figure 6. Location of petrifying springs/seepage area within the survey area (Denyer Ecology, 2026)

The potential impacts on these habitats are outlined by Dr Denyer as follows:

‘Petrifying springs can be damaged by direct habitat loss (removal or disturbance of springs) and changes to water quality (e.g. pH, mineral composition and nutrient levels) and quantity (e.g. flow rate). Changes to land-use in the recharge area of the petrifying springs (for instance from creation of hardstanding areas and changes in groundwater flow and direction resulting from landscaping and excavation) can reduce water flow. In addition, surface water run-off into the recharge area can potentially negatively impact petrifying spring water quality. Potential impacts and recommended mitigation measures and monitoring are summarised below.

Direct disturbance

- The spring/ seepages should be **protected** from any **direct disturbance**. There should be no construction works in the petrifying spring/ seepage zones within the SAC as shown on Figure 3.1.
- The spring/ seepages should be **protected from recreational disturbance/** pressure resulting from the proposed development. Public access is required to the western spring (‘St Patrick’s Well’). This should be limited to the well only and access to the riverbank from this location prevented/ discouraged as this would cause damage to the petrifying spring and adjacent hydrophilous tall-herb vegetation.’

Hydrogeological impacts

An assessment of potential hydrogeological impacts on petrifying springs within the site from the proposed LRD and required design and mitigation features to avoid impacts are detailed in Meehan (2025)

'Hydrogeological assessment for proposed Large Scale Residential Development (LRD), by Loughglynn Developments Limited, at a site on the Kildalkey road, Trim, County Meath –Land, soils, geology, hydrology and hydrogeology.'

This states that no works will be undertaken in the vicinity of the springs, that the depths of the groundwater across the site are well below the level of any of the construction activities (e.g. foundations and other excavations into the subsurface on the site) and the proposed rising main borehole will not pump or dewater the area within and around it (Section 9.2 of the Hydrogeological assessment). Required mitigation and avoidance measures are detailed.

The hydrogeological assessment concludes:

'Due to the nature of proposed LRD developments being near-surface construction activities, impacts on groundwater are generally negligible and surface water is generally the main sensitive receptor assessed during impact assessments. The design of the proposed LRD Project has maintained the existing hydrological and hydrogeological regime on the site in as much as possible.'

This means that all SUDS measures will discharge as diffusely as possible and at as shallow a depth as possible, using individual shallow soakaways for each house individually and wide, expansive, shallow soakaways for the road network.

This will mean no significant effects on groundwater levels and / or flows, and / or surface water, will occur as a result of the proposed LRD Project.'

Mitigation measures are proposed to ensure no significant effects are likely on the Petrifying springs with tufa formation (*Cratoneurion*) [7220] habitat as outlined in the accompanying EclA.

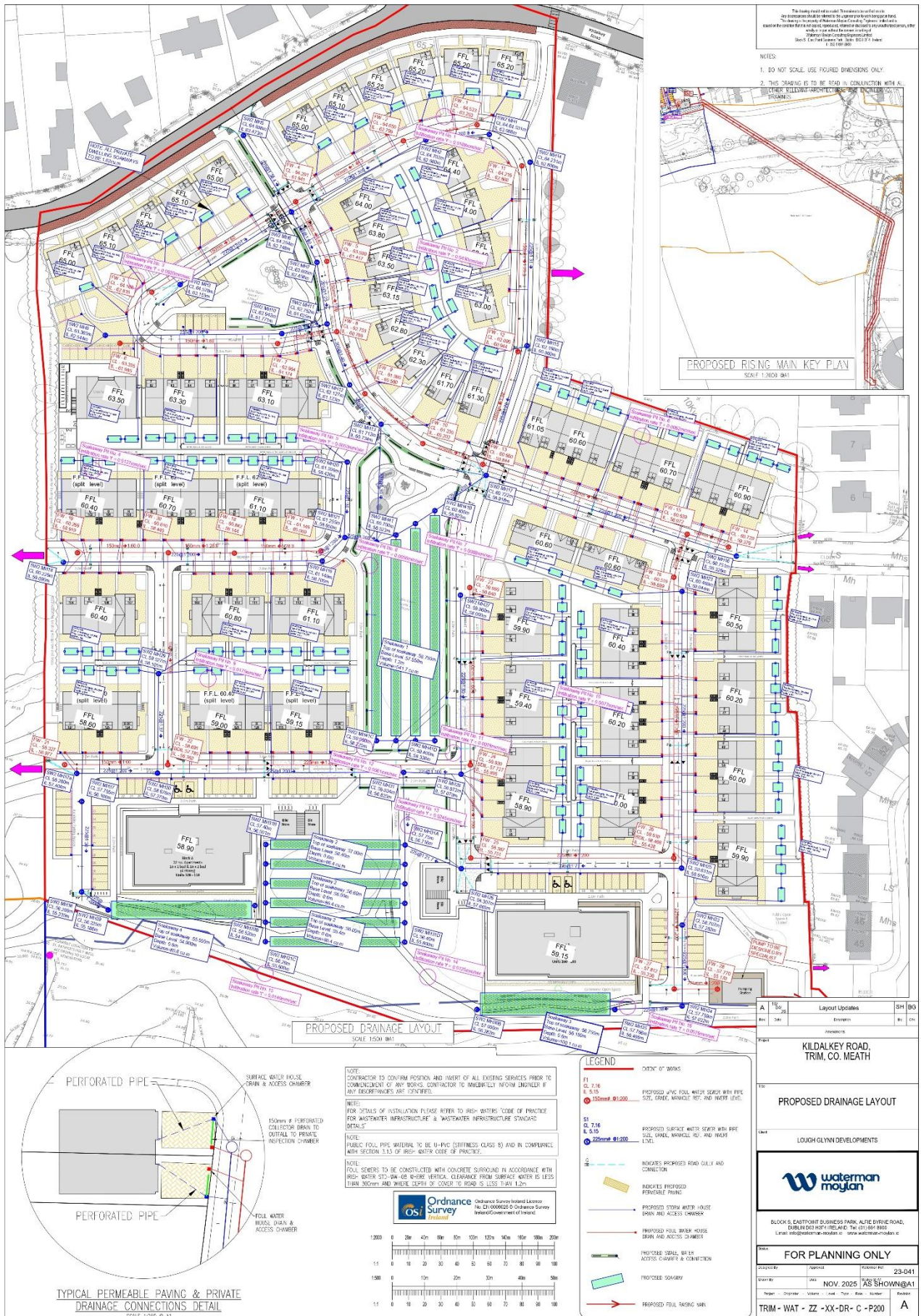


Figure 7. Proposed drainage layout

3.7 Lighting

The lighting strategy for the proposed development has been prepared by ORS. The site lighting report outlines the following:

'Site Lighting Design


It is proposed to install new luminaires throughout the scheme:


- 49 x Metro Streetlight 27w LED 2700K (38 x Street Optic R03 and 11 x Forward Throw A Optic) mounted on 6m columns with no tilt.
- 19 x Metro Streetlight 14w LED 2700K Street Optic R01 (9 no. with integrated external shield along the southern boundary) mounted on 6m columns with no tilt.


The design also includes 8 x 36w Streetlights LED 4000K mounted on 6m columns as an estimated representation of the existing lighting along Kildalkey Road.

1.1 Proposed Lighting Fittings

The lighting design is based on the following light fittings:

| Veelite Metro Streetlight 27w LED Street Optic R03 | | |
|---|---------------|---|
|  | Led: | No. 38 x 27w 12 LED / 2700K G4 |
| | Construction: | Die-cast aluminium. IP66. IK09 as standard. Driver and LED Modules are accessible for maintenance or replacement. |
| | Finish: | Grey RAL 9006 as standard. Other RAL colours on request. |
| | Life: | L90 B10 >100,000 hours. (at 25°C). |
| | Height: | Mounted on 6m columns with no tilt. |

| Veelite Metro Streetlight 27w LED Forward Throw A Optic | | |
|--|---------------|---|
|  | Led: | No. 11 x 27w 12 LED / 2700K G4 |
| | Construction: | Die-cast aluminium. IP66. IK09 as standard. Driver and LED Modules are accessible for maintenance or replacement. |
| | Finish: | Grey RAL 9006 as standard. Other RAL colours on request. |
| | Life: | L90 B10 >100,000 hours (at 25°C) |
| | Height: | Mounted on 6m columns with no tilt. |

| Veelite Metro Streetlight 14w LED Street optic R01 | | |
|---|---------------|---|
|  | Led: | No. 19 x 14w 8 LED / 2700K G4 (of which 9 no. with integrated external shield along the southern boundary) |
| | Construction: | Die-cast aluminium. IP66. IK09 as standard. Driver and LED Modules are accessible for maintenance or replacement. |
| | Finish: | Grey RAL 9006 as standard. Other RAL colours on request. |
| | Life: | L90 B10 >100,000 hours (at 25°C) |
| | Height: | Mounted on 6m columns with no tilt. |

The majority of light spill will be contained within the site boundary specifically along the southern, eastern and western boundaries, and open space areas will be kept unlit. The proposed site lighting layout is shown in Figure 8. Lighting is compliant with bat lighting guidelines with a temperature of 2700K

3.8 Landscape

The landscape plan for the proposed development has been prepared by Jane McCorkell Design. The landscape plan is shown in Figure 9.



Figure 9. Proposed landscape plan

4 Identification of Relevant Natura 2000 Sites

4.1 Screening Assessment

The proposed development site is within a European site. As outlined in Office of the Planning Regulator (2021) *“The zone of influence of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. This should be established on a case-by-case basis using the Source- Pathway-Receptor framework and not by arbitrary distances (such as 15 km).”*

A key factor in the consideration as to whether or not a particular European site is likely to be affected by the proposed development is its distance from the development location. It is generally, but not necessarily, the case that the greater the distance from the plan or project the smaller the likelihood of impacts. In this case, the nearest European sites to the proposed development are within the site outline (River Boyne and River Blackwater SAC & SPA). The proposed development site consists of agricultural lands located in Trim, Co. Meath with the River Boyne traversing the southern site boundary and through the overall redline (Figure 13). The works will involve intensive HDD works to install a 125mm rising main under the River Boyne through rock. In the absence of mitigation, there is significant potential for impacts on the River Boyne and River Blackwater SAC and SPA. Additionally, given that the site is directly adjacent to (and within) the River Boyne, there is the potential for dust, construction pollutants and contaminated surface water runoff to enter these European sites and potentially cause significant effects.

In the interest of carrying out a thorough assessment in line with both the Habitats Directive, and the precautionary principle, the Zol was expanded for this assessment to include designated sites within 15km of the proposed development site, and sites beyond 15km with the potential for a hydrological connection. This was done in the interest of ensuring that any pathways, however indirect or remote, were considered. All Natura 2000 sites within 15km, and beyond 15km with the potential for a hydrological pathway are listed in Table 1. The qualifying interests, and the potential impact of the development on each European site and qualifying interest, are screened in/out in Table 2. SPA's and SAC's within 15km are seen in Figures 10 & 11. Watercourses and waterbodies with connections to SACs & SPAs are demonstrated in Figures 12 & 13.

Table 1. Proximity to designated sites of conservation importance

| Site Code | NATURA 2000 Site | Distance |
|--------------------------------------|--------------------------------------|-------------|
| <i>Special Areas of Conservation</i> | | |
| IE002299 | River Boyne and River Blackwater SAC | Within site |
| IE002203 | Girley (Drewstown) Bog SAC | 14.8 km |
| <i>Special Protection Areas</i> | | |
| IE004232 | River Boyne and River Blackwater SPA | Within site |

Table 2. Initial screening of Natura 2000 sites within 15km and Natura 2000 sites beyond 15km with potential of source-pathway-receptor connectivity to the proposed development

| Natura Code | Name | Screened In/Out | Details/Reason |
|--------------------------------------|--------------------------------------|-----------------|---|
| Special Areas of Conservation | | | |
| IE002299 | River Boyne and River Blackwater SAC | IN | <p>Conservation Objectives</p> <p>The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.</p> <p>Qualifying Interests</p> <p>Alkaline fens [7230] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0] <i>Lampetra fluviatilis</i> (River Lamprey) [1099] <i>Salmo salar</i> (Salmon) [1106] <i>Lutra lutra</i> (Otter) [1355]</p> <p>Potential Impact</p> <p>This SAC is located downstream, directly adjacent to and partially within the proposed development site.</p> <p>Given the nature of the proposed works in direct proximity to this SAC, involving HDD drilling under the River Boyne, it is considered that there is a direct hydrological & ecological pathway to this SAC. In the absence of mitigation, there is the potential for significant effects on the qualifying interests of this SAC via construction phase dust, surface water and ground water flow paths. There is also the potential for disturbance to Otter (<i>Lutra lutra</i>) which may inhabit and forage within the River Boyne. There is the potential for the spread of invasive species as shown in Figure 14. Extensive mitigation measures are required to ensure that significant effects are unlikely to occur via these pathways.</p> <p>No significant effects are foreseen via drainage during operation as surface water will be routed to 4 no. soakaways within the site, in accordance with SuDs principles and the requirements of Meath County Council. Foul water will be pumped to the foul water rising main (to be installed under the River Boyne) for treatment within the public system.</p> <p>For these reasons (mitigation measures are required in relation direct pathways for significant effects), it is necessary to proceed to a NIS on the effects of the project on this site in view of its conservation objectives.</p> <p>Significant effects are likely - Natura Impact Statement Required.</p> |
| IE002203 | Girley (Drewstown) Bog SAC | OUT | <p>Conservation Objectives</p> <p>The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.</p> <p>Qualifying Interests</p> |

| Natura Code | Name | Screened In/Out | Details/Reason |
|---------------------------------|--------------------------------------|-----------------|---|
| | | | <p>Degraded raised bogs still capable of natural regeneration [7120]</p> <p>Potential Impact</p> <p>This SAC is located approximately 14.8km from the proposed development site. There is no direct or indirect 'source-pathway-receptor linkage to this SAC.</p> <p>No potential impact is foreseen. There is no direct or indirect pathway from this site to the SAC. The proposed development will not impact on the conservation interests of the site.</p> <p>No significant effects likely.</p> |
| Special Protection Areas | | | |
| IE004232 | River Boyne and River Blackwater SPA | IN | <p>Conservation Objectives</p> <p>The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.</p> <p>Qualifying Interests</p> <p>Kingfisher (<i>Alcedo atthis</i>) [A229]</p> <p>Potential Impact</p> <p>This SPA is located downstream, directly adjacent to and partially within the proposed development site.</p> <p>Given the nature of the proposed works in direct proximity to this SPA, involving HDD drilling under the River Boyne, it is considered that there is a direct hydrological & ecological pathway to this SAC. In the absence of mitigation, there is the potential for significant effects on the qualifying interests of this SPA via construction phase dust, surface water and ground water flow paths. There is also the potential for disturbance arising from noise and vibration to impact on Kingfisher (<i>Alcedo atthis</i>), the sole SCI of this site. There is the potential for the spread of invasive species as shown in Figure 14. Extensive mitigation measures are required to ensure that significant effects are unlikely to occur via these pathways.</p> <p>No significant effects are foreseen via drainage during operation as surface water will be routed to 4 no. soakaways within the site, in accordance with SuDs principles and the requirements of Meath County Council. Foul water will be pumped to the foul water rising main (to be installed under the River Boyne) for treatment within the public system.</p> <p>For these reasons (mitigation measures are required in relation direct pathways for significant effects), it is necessary to proceed to a NIS on the effects of the project on this site in view of its conservation objectives.</p> <p>Significant effects are likely - Natura Impact Statement Required.</p> |

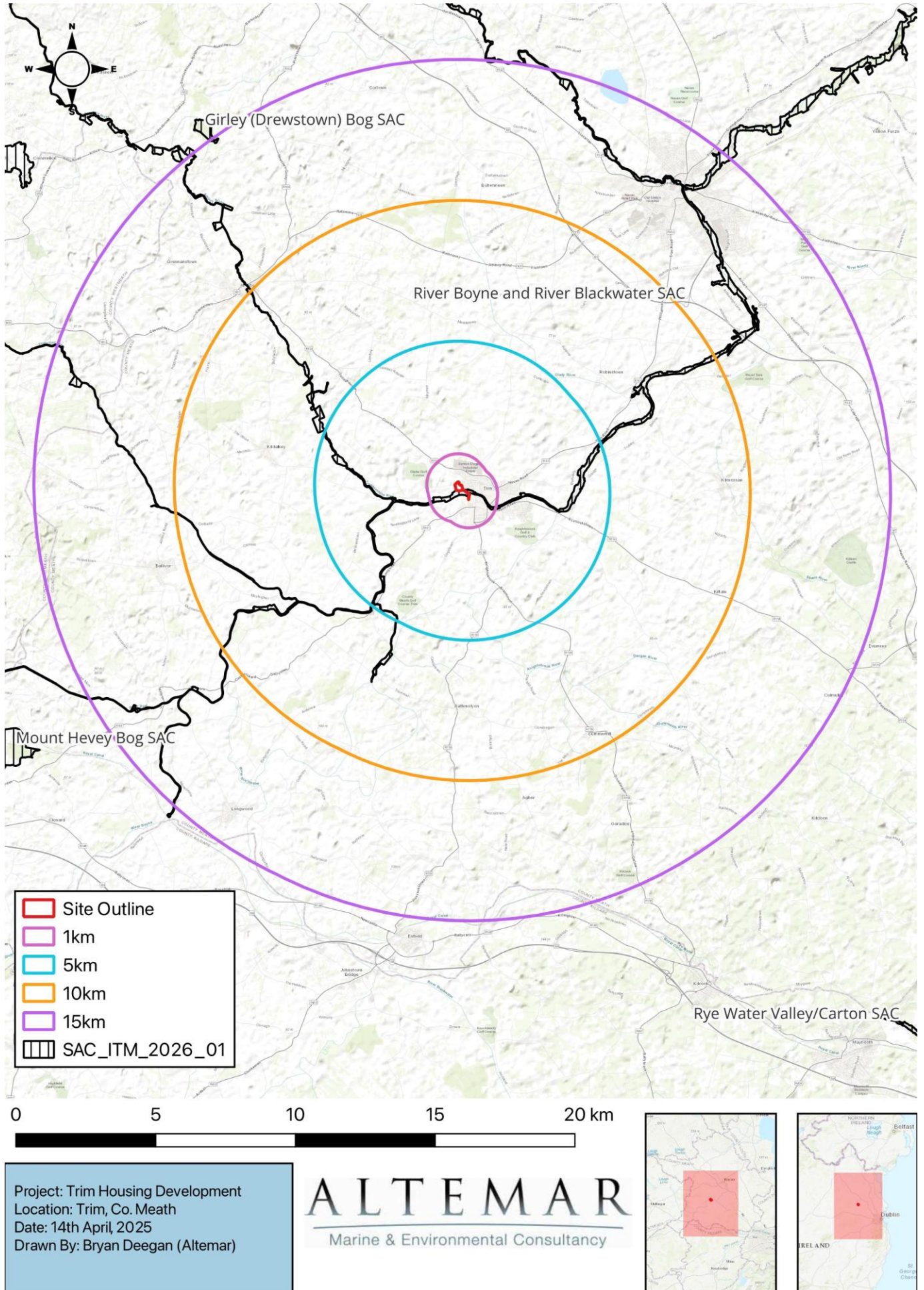


Figure 10. Special Areas of Conservation (SAC) within 15km of the proposed works site

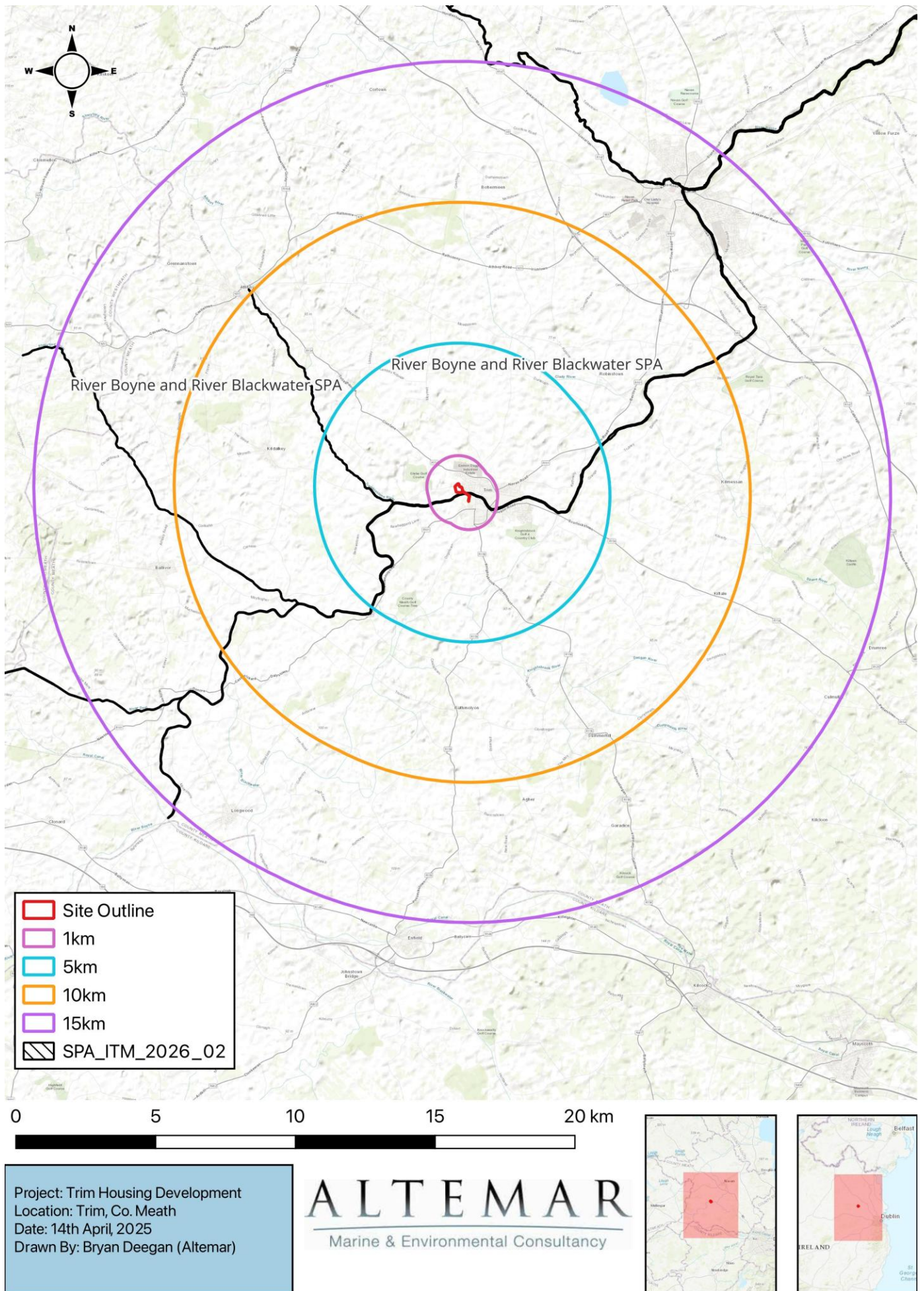


Figure 11. Special Protection Areas (SPA) within 15km of the proposed works site

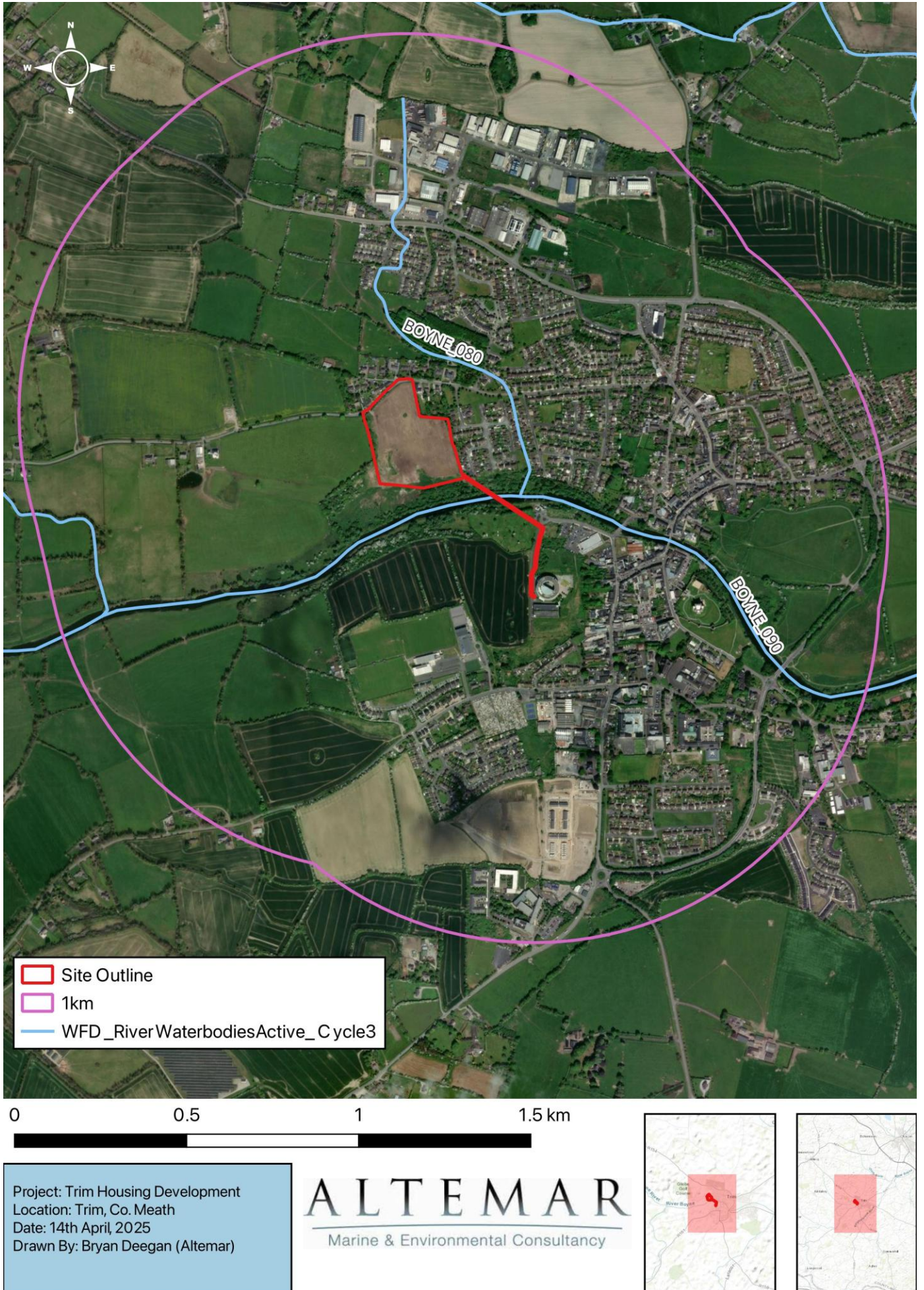


Figure 12. Waterbodies proximate to the proposed works site



0 100 200 m

Project: Trim LRD
 Location: Trim, Co. Meath
 Date: 10.06.26
 Drawn By: Jeff Boyle (Altamar)

ALTEMAR
 Marine & Environmental Consultancy

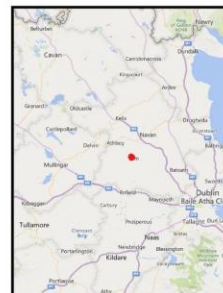


Figure 13. River Boyne and River Blackwater SAC & SPA directly adjacent to and within the proposed development site



0 100 200 300 400 500 600 m

Project: Proposed Development
 Location: Trim, Co.Meath.
 Date: 16th April 2026
 Drawn By: Emma Peters (Altamar)

ALTEMAR
 Marine & Environmental Consultancy



Figure 14. Fossitt (2000) habitat map including invasive species locations (orange and green crosses denote badger setts as outlined in accompanying EClA)

4.2 Results of Source-Pathway-Receptor Assessment

Two European Sites have been identified as having source-pathway-receptor connectivity with the Proposed Development. The River Boyne and River Blackwater SAC & SPA are directly linked to the proposed development site via hydrological and terrestrial linkages throughout the overall site.

The following European Sites are therefore considered to fall within the precautionary ZOI of the Proposed Development:

- **River Boyne and River Blackwater SAC (002299)**
- **River Boyne and River Blackwater SPA (004232)**

All other European sites are screened out in Table 2 above, due to a lack of any source-pathway-receptor connection with the Proposed Development, do not have the potential to be significantly affected by said development, and thus, do not require further consideration in this report. The following section identifies the potential for impacts on the European Sites within the ZOI screened IN in Table 2.

4.3 Assessment of Likely Significant Effects on European Sites

Based on the baseline and receiving ecological environment, and the nature and characteristics of the proposed project, the following potential impacts have been identified:

- Uncontrolled releases of silt, sediments and/or other pollutants (dust) to air due to earthworks.
- Surface water run-off containing silt, sediments and/or other pollutants into nearby waterbodies.
- Increased noise, and/or vibrations as a result of construction activity
- Increased lighting in the vicinity as a result of construction activity.
- Introduction and/or spread of invasive species
- Flooding events at the Site of the Proposed Development.
- Increased human presence in the vicinity as a result of the Proposed Development.

The potential for likely significant effects resulting from the Proposed Development was determined based on a range of key indicators (as per EC, 2021):

- Habitat loss or alteration
- Habitat/species fragmentation
- Disturbance and/or displacement of species
- Changes in water quality and resource
- Indirect effects (invasive species, increased population density, additional developments)

The potential impacts of the proposed development on the receiving environment, their ZOI, and the European sites at risk of likely significant effects are summarised using the Key Indicators in Table 3.

Table 3. Summary of the Potential Impacts of the Proposed Project on the Receiving Environment, their Potential Zol, and the European sites within the Zol

| Potential Direct or Indirect impacts and zone of influence of the Potential Effects | Are there any European sites within the zone of influence? |
|---|---|
| <p>Habitat loss and fragmentation</p> <p>Habitat loss will be confined to the lands within the proposed development boundary. Two European sites are within the site boundary (The River Boyne and River Blackwater SAC & SPA).</p> | <p>Yes</p> <p>There is the potential for habitat loss and fragmentation to occur as a result of the proposed development.</p> |
| <p>Ex-situ habitat loss – SCI bird species</p> | <p>No</p> <p>There are no important <i>ex-situ</i> sites located within the proposed development site and as such there is no potential for loss of such sites. Wintering Bird Surveys carried out by Altemar Ltd. in 2025 & 2026 deemed the overall lands to be unsuitable feeding and/or roosting sites for wintering birds, due to habitat conditions being dominated by uneven topography, recolonising bare ground and bare ground. Small areas of consistently waterlogged areas were present in the centre of the site with some rushes, but with no significant vegetation/reed cover. The proposed site is of low importance to the local wintering bird population as per the findings outlined in the Wintering Bird Assessment (Appendix II & III) and therefore, there are no European sites are within the Zol of this impact.</p> |
| <p>Disturbance and displacement impacts – SCI bird species</p> <p>Potentially up to several hundred metres from the proposed development boundary, dependent upon the predicted levels of noise, vibration and visual disturbance associated with the proposed development, in conjunction with the sensitivity of the qualifying interest species to disturbance effects.</p> | <p>Yes</p> <p>The River Boyne and River Blackwater SPA is within the potential disturbance or displacement Zol of the Project.</p> |
| <p>Disturbance and displacement impacts – Otter</p> | <p>Yes</p> <p>The proposed development site is hydrologically linked to the River Boyne and River Blackwater SAC. Surveys did not identify otters to be present within the River Boyne to the south of the proposed development site. However, impacts to otters via disturbance cannot be ruled out in the absence of mitigation as they may inhabit and commute along the River Boyne within the ZOI of the proposed development.</p> |
| <p>Mortality risk – SCI bird species</p> <p>Areas where proposed new bridge structures, railway line and/or other such elevated structures are introduced.</p> | <p>No</p> <p>No SCI species of any European sites are at risk of mortality arising from collision with the proposed development due to low levels of flightlines over the site (as outlined in the Wintering Bird Assessment, Appendix II & III) and the proposed residential structures which are in line with the surrounding</p> |

| Potential Direct or Indirect impacts and zone of influence of the Potential Effects | Are there any European sites within the zone of influence? |
|---|--|
| | environment (3 floor apartments at maximum height). |
| <p>Habitat degradation as a result of hydrological impacts</p> <p>Habitat degradation as a result of contamination of surface waters and groundwaters which then contribute to the surface water environment. Habitats and species downstream/hydrologically connected to the proposed Project.</p> <p>Flood impacts which could transport pollutants to nearby receptors.</p> | <p>Yes</p> <p>Hydrologically connected sites - River Boyne and River Blackwater SAC & SPA.</p> |
| <p>Habitat degradation as a result of hydrogeological impacts</p> <p>Groundwater dependant habitats, and habitats that are downstream of the project, and the species those habitats support, in the local area that lie downgradient of the proposed Project.</p> | <p>Yes</p> <p>The proposed development site is upgradient of River Boyne and River Blackwater SAC & SPA. A Source-Pathway Receptor (SPR) risk assessment was undertaken for the construction phase by EurGeol. Dr. Robert T. Meehan, PGeo. within the associated Hydrogeological Assessment for the proposed development. It is concluded that in the absence of mitigation, significant effects are likely on these European Sites.</p> |
| <p>Habitat degradation as a result of air quality impacts</p> <p>Habitat areas within c. 250m (IAQM, 2024) of the proposed project and haul routes for construction vehicles.</p> | <p>Yes</p> <p>River Boyne and River Blackwater SAC & SPA.</p> <p>Dust from construction sites deposited on vegetation may create ecological stress within the local plant community. Potential air quality impacts to ecological receptors are primarily related to the deposition of dust on vegetation, which can interfere with photosynthesis, affect plant health, or alter sensitive habitats where dust loads are excessive. The guidance (IAQM, 2024) states that dust impacts to vegetation can occur up to 50 m from the site and 50 m from site access roads, up to 250 m for the site entrance.</p> |
| <p>Indirect impacts - Habitat degradation as a result of the introduction and/or spread of non-native invasive species</p> <p>Habitats and species downstream/hydrologically connected to the proposed Project.</p> <p>Introduction and/or spread of invasive species as a result of construction works</p> | <p>Yes</p> <p>Hydrologically and terrestrially connected sites including River Boyne and River Blackwater SAC & SPA.</p> |
| <p>Indirect impacts - Disturbance and displacement impacts as a result of increased population density</p> | <p>Yes</p> <p>The Proposed Development will increase the population density within the vicinity of the site and as such has the potential to cause disturbance and displacement impacts. This impact can also occur cumulatively with other developments in the area.</p> |

4.4 Summary

In the absence of mitigation measures, the Proposed Development has the potential to affect the receiving water, land and air environment and, consequently, has the potential to have likely significant effects on European site(s). The only impacts associated with the Proposed Development are:

- Pollution/contamination events during construction and/or operation of surface and/or ground origin affecting water quality in hydrologically connected European Sites (River Boyne and River Blackwater SAC & SPA).
- Air quality impacts during the construction phase arising from airborne dust and other particulates to adjacent European Sites (River Boyne and River Blackwater SAC & SPA).
- Accidental introduction and/or spread of non-native invasive species to downstream European Sites (River Boyne and River Blackwater SAC & SPA).
- Disturbance and displacement impacts to Otters (River Boyne and River Blackwater SAC) and Kingfisher (River Boyne and River Blackwater SPA).
- Petrifying springs with tufa formation (*Cratoneurion*) [7220] are an EC Habitats Directive Annex I priority habitat and are present on site. While it is not a qualifying interest of any European site within the ZOI of the proposed development, potential impacts on this habitat were considered in the ecological assessment, but effects on this habitat are not considered relevant to the assessment of adverse effects on the integrity of the European site, as the site's conservation objectives do not relate to this species.

4.5 In-Combination Effects

There are several proposed developments (last five years) located in the area immediately surrounding the subject site that have been assessed for potential in-combination effects through the examination of planning documentation. The following is a list of planning applications in close proximity to the subject site as identified on the Department of Housing, Local Government and Heritage's 'National Planning Application Database' portal⁶:

Table 4. In combination effects evaluated.

| Ref. No. | Address | Proposal |
|----------|---|---|
| 2560882 | At a site of c. 2.65 hectares bounded by 'The Belfry' to the north the rear of dwellings on the Kildalkey Road to the south Talbot Court/Butterstream Gardens to the east and agricultural lands to the west at Athboy Road , Trim , Co. Meath. | The development will consist of: (A) 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); (B) 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; (C) 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) and terraced houses in secure shelters to their front curtilage (totalling 90 no. spaces); internal road and shared surface networks including pedestrian paths; (D) Provision of c. 0.491 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; (E) 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. A Natura Impact Statement has been prepared and will be submitted to the planning authority with the application. Significant Further Information/Revised Plans submitted on this application |
| 221176 | Emmet Street , Trim , Co. Meath | permission for amendments to permitted application reference no. 211907, which amended planning application reference TA t 90634 (ABP-306550-20) which amended planning application reference TT/800019. Planning application reference no. 219907 had granted permission for a three-storey apartment building containing 12 no. apartments, which amended a previously approved apartment block under planning references TA190634 (ABP-306550 20) and TT/800019, at Emmet Street, Trim, Co. Meath. The proposed amendments include 1) the revised location of Stairwell Window. 2) alterations of Window Type 2, change of dimension from 3350mm to 2530mm wide to facilitate boiler and Flue position. 3) the inclusion of a Lift Shaft to Provide the Necessary 3450mm Height between the Finished 2nd Floor level and the underside of the Lift Eye Beam for Health and Safety Purposes. 4) a change to the North Facing Fa.-;ade, change from stone effect cladding to Painted Render. 5) the inclusion of a Roof AOV - TGD Part 8. 6) the inclusion of approx. 48 PV Panels in adherence to TGO Part L & BER and 7) all necessary ancillary and site works. The Site is within the curtilage of the Old Town Wall (a Protected Structure under the provision of the Part IV of the Planning and Development Regulations 2001) |
| 25145 | Charterschool Land , Manorlands 2nd Divions & Commons Td 7th Division , Trim Co. Meath | EXTENSION OF DURATION OF PLANNING PERMISSION SHD307507-20 - the development will consist of the following: • 320 no. dwellings comprising: o 136 no. houses comprising 10 no. 2-bed, 105 no. 3-bed and 21 no. 4-bed; o 120 no. apartments within 4 no. 3-5 storey blocks comprising 11 no. studio, 30 no. 1-bed, 71 no. 2-bed and 8 no. 3-bed; o 64 no. duplex apartments within 8 no. 3-storey blocks comprising 32 no. 2-Bed and 32 no. 3-Bed. o All |

⁶ <https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de>

| Ref. No. | Address | Proposal |
|----------|---|---|
| | | units with associated private gardens/ balconies/ terraces to the north/ south/ east/ west elevations. • A creche and community centre (total floor area c.739 sq.m). • 563 no. car parking spaces, 188 no. secure/covered bike parking areas and communal bin stores for apartments/duplexes. • Vehicular and pedestrian accesses from Summerhill Road (R158) with associated upgrades including new cycleways and footpaths. • All other site works, landscaping, boundary treatments, ESB substation/switchrooms, plant and services provision required to facilitate the development. The application contains a statement setting out how the proposal will be consistent with the objectives of the Meath County Council Development Plan 2013-2019 and Trim Development Plan 2014-2020. The application contains a statement indicating why permission should be granted for the proposed development, having regard to a consideration specified in section 37(2)(b) of the Planning and Development Act, 2000, as amended, notwithstanding that the proposed development materially contravenes a relevant development plan or local area plan other than in relation to the zoning of the land. |
| 2460132 | Crowpark (1st Division) , Kildalkey Road , Trim Co.Meath | the development will consist of the construction of a storey and a half style dwelling with a car port, a detached domestic garage, a domestic wastewater disposal system, new site entrance and all associated site works. Significant Further Information / Revised Plans submitted on this application. |
| 2560546 | Manorland , 2nd Division , Trim Co. Meath C15 HF30 | Retention Permission is being sought for the domestic extensions constructed to the rear and side of existing dwelling along with the attic conversion for use as home office and study. Retention is also being sought for 2 No. buildings that accommodate workshops and a garage |
| 2460076 | Mercy Convent , Emmet Street , Townparks South Trim Co.Meath C15 WD62 | i the development will consist of the change of use from residential convent to tourism accommodation in ten apartment suites, removal of modern toilet and bathroom block, reconfiguration, refurbishments, repairs and alterations to the internal layout. The ten apartment suites will be available for short term let, which will include, at times, letting out the convent as a whole, including the chapel. The development will include new storage areas, bike store and plant room in existing sheds, new canopy to the rear entrance, changes to the elevations, changes to the site layout, connection to all public services and all associated site works. The Convent is a protected structure, ref: 91275, and is located within the Trim historical architectural conservation area and the Trim zone of archaeological potential. Trees to be protected are located within the convent site |
| 2660137 | Trim Castle Hotel , Castle Street , Trim Co Meath | the development will consist of: Alterations to the first floor of the existing hotel to provide for additional bedrooms which will consist of: (i) change of use of restaurant area at 1st floor level to provide for 7 no. en-suite bedrooms; (ii) change to internal layout to provide for associated corridors, internal doors and necessary alterations. There are no external changes proposed; and (iv) all other associated engineering works, drainage, landscaping, lighting, and ancillary works necessary to facilitate the development |

As part of the assessment of the impact of the Proposed Development, account has also been taken of cumulative projects, i.e. developments that are currently permitted or under construction within the surrounding area. Upon an examination of the above listed plans and projects within the general vicinity of Proposed Development, and adopting a precautionary approach, it is concluded that the potential for in-combination effects on European Sites involving construction surface waters, ground water and dust arising from the Proposed Development, cannot be fully ruled out in the absence of suitable mitigation.

The proposed development has the potential to affect the receiving water and air environment and, consequently, has the potential to have likely significant effects on European sites(s). As the proposed development itself is likely to affect the QIs/SCIs or conservation objectives of a European site(s) in the absence of mitigation, there is also the potential for other plans or projects to act in combination with it to result in likely significant effects on European sites. It is therefore necessary to proceed to Stage 2 NIS.

5 Appropriate Assessment Conclusions

The Proposed Development has been assessed for its potential to result in likely significant effects on European Sites, with the following factors considered:

- the Nature, size and location of the Proposed Development and possible impacts arising from the associated construction works and its operational lifetime.
- the potential for in-combination effects alongside other plans and projects leading to effects on European sites
- the qualifying interests and conservation objectives of all relevant European Sites

An initial screening of the proposed works, using the precautionary principle (without the use of any mitigation measures) and the Source/Pathway/Receptor links between the proposed works and Natura 2000 sites with the potential to result in significant effects on the conservation objectives and qualifying interests of the Natura 2000 sites was carried out in Table 1. Based on best scientific knowledge and objective information and assessment, the possibility of significant effects caused by the proposed project was excluded for the following Natura 2000 sites:

Special Areas of Conservation

- Girley (Drewstown) Bog SAC (002203)

These complete, precise and definitive findings, based on the best available scientific evidence, remove all reasonable scientific doubt that the Proposed Development will have any significant effects on the European Sites listed above. It is also noted that, no measures intended to avoid or reduce the potential harmful effects of the project on any European Site have been considered in this Appropriate Assessment Screening Report and its conclusions. The project is limited in scale and extent, and the potential zone of influence is restricted to the immediate vicinity of the proposed development and designated sites which are hydrologically and terrestrially and linked to the Proposed Development site.

However, upon examination of the relevant information including in particular the nature of the potential impact pathways associated with the Proposed Development, the possibility cannot be excluded that the Proposed Development may have a likely significant effect on the European Sites listed below:

Special Areas of Conservation

- River Boyne and River Blackwater SAC (002299)

Special Protection Area

- River Boyne and River Blackwater SPA (004232)

In the absence of mitigation measures there is potential for silt laden material, sediments and contaminated surface & ground water drainage to enter the River Boyne and thus the River Boyne and Blackwater SAC & SPA. There is the potential for habitat loss and fragmentation because of the construction works directly adjacent to and within the River Boyne and River Blackwater SAC & SPA. There is also the potential for airborne dust to potentially cause significant effects on these European Sites. The construction and operation of the proposed development also has the potential to cause disturbance impacts to Otter (QI species of the River Boyne and River Blackwater SAC) and Kingfisher (SCI of the River Boyne and River Blackwater SPA).

Therefore, an NIS is required in respect of the effects of the project on the River Boyne and River Blackwater SAC (002299) and River Boyne and River Blackwater SPA (004232) because it cannot be excluded on the basis of best objective scientific information following screening, in the absence of control or mitigation measures that the plan or project, individually and/or in combination with other plans or projects, will have a significant effect on the named European Site/s.

A Natura Impact Statement is required for the Proposed Development.

6 Stage 2: Natura Impact Statement

A Natura Impact Statement (NIS) is Stage 2 of the Appropriate Assessment process. In the case of the proposed LRD at Crowpark, Trim, Co. Meath, acting on a strictly precautionary basis, an NIS is required in respect of the effects of the project on River Boyne and River Blackwater SAC and SPA (due to the potential for significant effects) because it cannot be excluded on the basis of best objective scientific information, in the absence of control or mitigation measures, following screening that the plan or project, individually and/or in combination with other plans or projects, will have a significant effect on the named European Site/s.

A Stage 2 Appropriate Assessment or NIS is not required for the effects of the project on all other listed Natura sites within, and sites beyond, 15km because, it can be excluded, on the basis of the best objective scientific information following screening, that the plan or project, individually and/or in combination with other plans or projects, will have not a significant effect on the European Site/s.

The NIS evaluates the potential for direct, indirect effects, alone or in combination with other plans and projects having taken into account the use of mitigation measures. The NIS is informed by the accompanying Ecological Impact Assessment (EclA), including the proposed mitigation measures that are outlined in the Outline Construction Waste Management Plan & Waste Management Plan to reduce the potential effects of the proposed project on species/habitats of conservation importance and the surrounding environment.

A further review of the Conservation Objectives and qualifying interests is necessary to determine if significant effects are likely to impact the identified Natura 2000 sites.

6.1 River Boyne and River Blackwater SAC (Site code: 002299)

As outlined in the River Boyne and River Blackwater SAC Site Synopsis⁷ (NPWS, version date 06.01.2014):

'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. These riverine stretches drain a considerable area of Meath and Westmeath, and smaller areas of Cavan and Louth. The underlying geology is Carboniferous Limestone for the most part, with areas of Upper, Lower and Middle well represented. In the vicinity of Kells Silurian Quartzite is present while close to Trim are Carboniferous Shales and Sandstones. There are many large towns adjacent to but not within the site, including Slane, Navan, Kells, Trim, Athboy and Ballivor. The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (= priority; numbers in brackets are Natura 2000 codes):*

[7230] Alkaline Fens

*[91E0] Alluvial Forests**

*[1099] River Lamprey (*Lampetra fluviatilis*)*

*[1106] Atlantic Salmon (*Salmo salar*)*

*[1355] Otter (*Lutra lutra*)*

*The main areas of alkaline fen in this site are concentrated in the vicinity of Lough Shesk, Freehan Lough and Newtown Lough. The hummocky nature of the local terrain produces frequent springs and seepages which are rich in lime. A series of base-rich marshes have developed in the poorly-drained hollows, generally linked with these three lakes. Open water is usually fringed by Bulrush (*Typha latifolia*), Common Club-rush (*Scirpus lacustris*) or Common Reed (*Phragmites australis*), and this last species also extends shorewards where a dense stand of Great Fen-sedge (*Cladium mariscus*) frequently occurs. This in turn grades into a sedge and grass community (*Carex* spp. and Purple Moor-grass, *Molinia caerulea*), or one dominated by Black Bog-rush (*Schoenus nigricans*). An alternative aquatic/terrestrial transition is a floating layer of vegetation. This is normally based on Bogbean (*Menyanthes trifoliata*) and Marsh Cinquefoil (*Potentilla palustris*). Other species gradually become established on this cover, especially plants tolerant of low nutrient status e.g. bog mosses (*Sphagnum* spp.). Diversity of plant and animal life is high in the fen and the flora includes many rarities. Plants of interest include Narrow-leaved Marsh-orchid (*Dactylorhiza traunsteineri*), Fen Bedstraw (*Galium uliginosum*), Cowbane (*Cicuta virosa*), Frogbit (*Hydrocharis morsus-ranae*) and Least Bur-reed (*Sparganium minimum*). These species tend to be restricted in*

⁷ <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY002299.pdf>

their distribution in Ireland. Also notable is the abundance of aquatic stoneworts (*Chara* spp.) which are characteristic of calcareous wetlands.

The rare plant Round-leaved Wintergreen (*Pyrola rotundifolia*) occurs around Newtown Lough. This species is listed in the Red Data Book and this site represents its only occurrence in Co. Meath.

Wet woodland fringes many stretches of the Boyne. The Boyne River Islands are a small chain of three islands situated 2.5 km west of Drogheda. The islands were formed by the build-up of alluvial sediment in this part of the river where water movement is sluggish. All of the islands are covered by dense thickets of wet, willow (*Salix* spp.) woodland, with the following species occurring: Osier (*S. viminalis*), Crack Willow (*S. fragilis*), White Willow (*S. alba*), Purple Willow (*Salix purpurea*) and Rusty Willow (*S. cinerea* subsp. *oleifolia*). A small area of Alder (*Alnus glutinosa*) woodland is found on soft ground at the edge of the canal in the north-western section of the islands. Along other stretches of the rivers of the site Rusty Willow scrub and pockets of wet woodland dominated by Alder have become established, particularly at the river edge of mature deciduous woodland. Ash (*Fraxinus excelsior*) and Downy Birch (*Betula pubescens*) are common in the latter, and the ground flora is typical of wet woodland with Meadowsweet (*Filipendula ulmaria*), Wild Angelica (*Angelica sylvestris*), Yellow Iris (*Iris pseudacorus*), horsetails (*Equisetum* spp.) and occasional tussocks of Greater Tussock-sedge (*Carex paniculata*).

The dominant habitat along the edges of the river is freshwater marsh, and the following plant species occur commonly in these areas: Yellow Iris, Creeping Bent (*Agrostis stolonifera*), Canary Reed-grass (*Phalaris arundinacea*), Marsh Bedstraw (*Galium palustre*), Water Mint (*Mentha aquatica*) and Water Forget-me-not (*Myosotis scorpioides*). In the wetter areas Common Meadow-rue (*Thalictrum flavum*) is found. In the vicinity of Dowth, Fen Bedstraw (*Galium uliginosum*), a scarce species mainly confined to marshy areas in the midlands, is common in this vegetation. Swamp Meadow-grass (*Poa palustris*) is an introduced plant which has spread into the wild (naturalised) along the Boyne approximately 5 km south-west of Slane. It is a rare species which is listed in the Red Data Book and has been recorded among freshwater marsh vegetation on the banks of the Boyne in this site. The only other record for this species in the Republic of Ireland is from a site in Co. Monaghan.

The secondary habitat associated with the marsh is wet grassland and species such as Tall Fescue (*Festuca arundinacea*), Silverweed (*Potentilla anserina*), Creeping Buttercup (*Ranunculus repens*), Meadowsweet and Meadow Vetchling (*Lathyrus pratensis*) are well represented. Strawberry Clover (*Trifolium fragiferum*), a plant generally restricted to coastal locations in Ireland, has been recorded from wet grassland vegetation at Trim. At Rosnaree river bank on the River Boyne, Round-Fruited Rush (*Juncus compressus*) is found in alluvial pasture, which is generally periodically flooded during the winter months. This rare plant is only found in three counties in Ireland.

Along much of the Boyne and along tributary stretches are found areas of mature deciduous woodland on the steeper slopes above the floodplain marsh or wet woodland vegetation. Many of these are planted in origin. However the steeper areas of King Williams Glen and Townley Hall wood have been left unmanaged and now have a more natural character. East of Curley Hole the woodland has a natural appearance with few conifers. Broadleaved species include oaks (*Quercus* spp.), Ash, willows, Hazel (*Corylus avellana*), Sycamore (*Acer pseudoplatanus*), Holly (*Ilex aquifolium*), Horse-chestnut (*Aesculus hippocastanum*) and the shrubs Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*) and Elder (*Sambucus nigra*). Southwest of Slane and in Dowth, some more exotic tree species such as Beech (*Fagus sylvatica*), and occasionally Lime (*Tilia cordata*), are seen. The coniferous trees Larch (*Larix* sp.) and Scots Pine (*Pinus sylvestris*) also occur. The woodland ground flora includes Barren Strawberry (*Potentilla sterilis*), Enchanter's-nightshade (*Circaea lutetiana*) and Ground-ivy (*Glechoma hederacea*), along with a range of ferns. Variation occurs in the composition of the canopy - for example, in wet patches alongside the river, White Willow and Alder form the canopy.

Other habitats present along the Boyne and Blackwater include lowland dry grassland, improved grassland, reedswamp, weedy waste ground, scrub, hedge, drainage ditch and canal. In the vicinity of Lough Shesk, the dry slopes of the morainic hummocks support grassland vegetation which, in some places, is partially colonised by Gorse (*Ulex europaeus*) scrub. Those grasslands which remain unimproved for pasture are species-rich, with Common Knapweed (*Centaurea nigra*), Creeping Thistle (*Cirsium arvense*) and Ribwort Plantain (*Plantago lanceolata*) commonly present. Fringing the canal alongside the Boyne south-west of Slane are areas with Reed Sweet-grass (*Glyceria maxima*), Great Willowherb (*Epilobium hirsutum*) and Meadowsweet.

The Boyne and its tributaries form one of Ireland's premier game fisheries and the area offers a wide range of angling, from fishing for spring salmon and grilse to seatrout fishing and extensive brown trout fishing. Atlantic Salmon (*Salmo salar*) use the tributaries and headwaters as spawning grounds. Although this species is still fished

commercially in Ireland, it is considered to be endangered or locally threatened elsewhere in Europe and is listed on Annex II of the Habitats Directive. Atlantic Salmon run the Boyne almost every month of the year. The Boyne is most important as it represents an eastern river which holds large three-sea-winter fish from 20-30 lb. These fish generally arrive in February, with smaller spring fish (10 lb) arriving in April/May. The grilse come in July, water permitting. The river gets a further run of fish in late August and this run would appear to last well after the fishing season. The salmon fishing season lasts from 1st March to 30th September.

The Blackwater is a medium sized limestone river which is still recovering from the effects of the arterial drainage scheme of the 1970s. Salmon stocks have not recovered to the numbers that existed pre-drainage. The Deel, Riverstown, Stoneyford and Tremblestown Rivers are all spring-fed, with a continuous high volume of water. They are difficult to fish because some areas are overgrown, while others have been affected by drainage with resultant high banks.

This site is also important for the populations of two other species listed on Annex II of the E.U. Habitats Directive which it supports, namely River Lamprey (*Lampetra fluviatilis*), which is present in the lower reaches of the Boyne River, and Otter (*Lutra lutra*), which can be found throughout the site. In addition, the site also supports many more of the mammal species occurring in Ireland. Those which are listed in the Irish Red Data Book include Pine Marten, Badger and Irish Hare. Common Frog, another Red Data Book species, also occurs within the site. All of these animals, with the addition of the Stoat and Red Squirrel, which also occur within the site, are protected under the Wildlife Act, 1976.

Whooper Swans winter regularly at several locations along the Boyne and Blackwater Rivers. Known sites are at Newgrange (approx. 20 in recent winters), near Slane (20+ in recent winters), Wilkinstown (several records of 100+) and River Blackwater from Kells to Navan (104 at Kells in winter 1996/97, 182 at Headfort in winter 1997/98, 200-300 in winter 1999/00). The available information indicates that there is a regular wintering population of Whooper Swans based along the Boyne and Blackwater River valleys. The birds use a range of feeding sites but roosting sites are not well known. The population is substantial, certainly of national, and at times international, importance. Numbers are probably in the low hundreds.

Intensive agriculture is the main land use along the site. Much of the grassland is in very large fields and is improved. Silage harvesting is carried out. The spreading of slurry and fertiliser poses a threat to the water quality of this salmonid river and to the lakes. In the more extensive agricultural areas sheep grazing is carried out. Fishing is a main tourist attraction on the Boyne and Blackwater and there are a number of Angler Associations, some with a number of beats.

Fishing stands and styles have been erected in places. The Eastern Regional Fishery Board have erected fencing along selected stretches of the river as part of their salmonid enhancement programme. Parts of the river system have been arterially dredged. In 1969 an arterial dredging scheme commenced and disrupted angling for 18 years. The dredging altered the character of the river completely and resulted in many areas in very high banks. The main channel from Drogheda upstream to Navan was left untouched, as were a few stretches on the Blackwater. Ongoing maintenance dredging is carried out along stretches of the river system where the gradient is low. This is extremely destructive to salmonid habitat in the area. Drainage of the adjacent river systems also impacts on the many small wetland areas throughout the site. The River Boyne is a designated Salmonid Water under the E.U. Freshwater Fish Directive.

The site supports populations of several species listed on Annex II of the E.U. Habitats Directive, and habitats listed on Annex I of this Directive, as well as examples of other important habitat types. Although the wet woodland areas appear small there are few similar examples of this type of alluvial wet woodland remaining in the country, particularly in the north-east. The semi-natural habitats, particularly the strips of woodland which extend along the river banks, and the marsh and wet grasslands, increase the overall habitat diversity and add to the ecological value of the site, as does the presence of a range of Red Data Book plant and animal species and the presence of nationally rare plant species.'

6.2 River Boyne and River Blackwater SPA (Site code: 004232)

As outlined in the River Boyne and River Blackwater SPA Site Synopsis⁸ (NPWS, version date 25.11.2010):

'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 Cos 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/Athboy River from the junction with the River Boyne at Kilnagross Bridge west of Trim to the bridge in Athboy, Co. Meath; the Stoneyford River from its junction with the River Boyne to Stonestown 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.

Most of the site is underlain by Carboniferous limestone but Silurian quartzite also occurs in the vicinity of Kells and Carboniferous shales and sandstones close to Trim.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive of special conservation interest for the following species: Kingfisher.

A survey in 2010 recorded 19 pairs of Kingfisher (based on 15 probable and 4 possible territories) in the River Boyne and River Blackwater SPA. A survey conducted in 2008 recorded 20-22 Kingfisher territories within the SPA. Other species which occur within the site include Mute Swan (90), Teal (166), Mallard (219), Cormorant (36), Grey Heron (44), Moorhen (84), Snipe (32) and Sand Martin (553) – all figures are peak counts recorded during the 2010 survey.

The River Boyne and River Blackwater Special Protection Area is of high ornithological importance as it supports a nationally important population of Kingfisher, a species that is listed on Annex I of the E.U. Birds Directive.'

As outlined in the Conservation Objectives document⁹ (NPWS, 2022):

'The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- *its natural range, and area 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 favourable conservation status of a species is achieved when:

- *population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, 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 on a long-term basis.*

⁸ <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004232.pdf>

⁹ https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004232.pdf

Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

| Bird Code | Common Name | Scientific Name |
|------------------|--------------------|------------------------|
| A229 | Kingfisher | <i>Alcedo atthis</i> |

6.3 Status of Qualifying Interest and Special Conservation Interests for European Sites

Table 4. Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for Natura 2000 sites

| Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for relevant European sites | | |
|--|---|--|
| Natura 2000 Site Name & Code | Qualifying Interests | Current Conservation Status & Trend |
| Special Areas of Conservation (SAC) | | |
| River Boyne and River Blackwater SAC (002299) | Alkaline fens [7230] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) [91E0] <i>Lampetra fluviatilis</i> (River Lamprey) [1099] <i>Salmo salar</i> (Salmon) [1106] <i>Lutra lutra</i> (Otter) [1355] | Bad Bad Inadequate Bad Favourable |
| Special Protection Areas (SPA) | | |
| River Boyne and River Blackwater SAC (004232) | Kingfisher (<i>Alcedo atthis</i>) [A229] | Inadequate |

Table 5. Site specific conservation objectives for Natura 2000 sites

| River Boyne and River Blackwater SAC (002299) | | |
|--|--|--|
| Attribute | Measure | Target |
| Alkaline fens [7230] – To maintain the favourable conservation condition, which is defined by the following list of attributes and targets: | | |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes |
| Habitat distribution | Occurrence | No decline, subject to natural processes |
| Ecosystem function: soil nutrients | Soil pH and appropriate nutrient levels at a representative number of monitoring stops | Maintain soil pH and nutrient status within natural ranges |
| Ecosystem function: peat formation | Percentage cover of peat-forming vegetation and water table levels | Maintain active peat formation, where appropriate |
| Ecosystem function: hydrology - groundwater levels | Water levels (centimetres); duration of levels; hydraulic gradients; water supply | Maintain, or where necessary restore, appropriate natural hydrological regimes necessary to support the natural structure and functioning of the habitat |
| Ecosystem function: hydrology - surface water flow | Drain density and form | Maintain, or where necessary restore, as close as possible to natural or semi-natural, drainage conditions |

| | | |
|---|--|--|
| Ecosystem function: water quality | Various | Maintain appropriate water quality, particularly pH and nutrient levels, to support the natural structure and functioning of the habitat |
| Vegetation composition: community diversity | Abundance of variety of vegetation communities | Maintain variety of vegetation communities, subject to natural processes |
| Vegetation composition: typical brown mosses | Percentage cover at a representative number of monitoring stops | Maintain adequate cover of typical brown moss species |
| Vegetation composition: typical vascular plants | Percentage cover at a representative number of monitoring stops | Maintain adequate cover of typical vascular plant species |
| Vegetation composition: native negative indicator species | Percentage cover at a representative number of monitoring stops | Cover of native negative indicator species at insignificant levels |
| Vegetation composition: nonnative species | Percentage cover at a representative number of monitoring stops | Cover of non-native species less than 1% |
| Vegetation composition: native trees and shrubs | Percentage cover in local vicinity of a representative number of monitoring stops | Cover of scattered native trees and shrubs less than 10% |
| Vegetation composition: algal cover | Percentage cover at, and in local vicinity of, a representative number of monitoring stops | Cover of algae less than 2% |
| Vegetation structure: vegetation height | Percentage cover at a representative number of monitoring stops | At least 50% of the live leaves/flowering shoots are more than either 5cm or 15cm above ground surface depending on community type |
| Physical structure: disturbed bare ground | Percentage cover at, and in local vicinity of, a representative number of monitoring stops | Cover of disturbed bare ground not more than 10% |
| Physical structure: tufa formations | Percentage cover in local vicinity of a representative number of monitoring stops | Physical structure: tufa formations Percentage cover in local vicinity of a representative number of monitoring stops Disturbed proportion of vegetation cover where tufa is present is less than 1% |
| Indicators of local distinctiveness distinctiveness, subject to natural processes | Occurrence and population size | No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat; maintain features of local distinctiveness, subject to natural processes |

| | | |
|---|---|--|
| Transitional areas between fen and adjacent habitats the alkaline fen ecosystem and the services it provides | Hectares; distribution ecosystem and the services it provides | Maintain adequate transitional areas to support/protect the alkaline fen ecosystem and the services it provides |
| Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)* [91E0] – To restore the favourable conservation condition | | |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes. See map 3 for surveyed woodland areas |
| Habitat distribution | Occurrence | No decline, subject to natural processes. The surveyed woodland locations are shown on map 3 |
| Woodland size | Hectares | Where topographically possible, "large" woods at least 25ha in size and "small" woods at least 3ha in size |
| Woodland structure: cover and height Percentage; metres; centimetres | Percentage; metres; centimetres | Total canopy cover at least 30%; median canopy height at least 7m; native shrub layer cover 10-75%; native herb/dwarf shrub layer cover at least 20% and height at least 20cm; bryophyte cover at least 4% |
| Woodland structure: community diversity and extent | Hectares | Maintain diversity and extent of community types |
| Woodland structure: natural regeneration | Seedling: sapling: pole ratio | Seedlings, saplings and pole age-classes of target species for 91E0* woodlands and other native tree species occur in adequate proportions to ensure survival of woodland canopy |
| Hydrological regime: flooding depth/height of water table | Metres | Appropriate hydrological regime necessary for maintenance of alluvial vegetation |
| Woodland structure: dead wood | Number per hectare | At least 19 stems/ha of dead wood of at least 20cm diameter |
| Woodland structure: veteran trees | Number per hectare | No decline |
| Woodland structure: indicators of local distinctiveness | Occurrence; population size | No decline in distribution and, in the case of red listed and other rare or localised species, population size |
| Woodland structure: indicators of overgrazing | Occurrence | All five indicators of overgrazing absent |
| Vegetation composition: native tree cover | Percentage | No decline. Native tree cover at least 90% of canopy; target species cover at least 50% of canopy |
| Vegetation composition: typical species | Occurrence | At least 1 target species for 91E0* woodlands present; at least 6 positive indicator species for 91E0* woodlands present |
| Vegetation composition: negative indicator species | Occurrence | Negative indicator species cover not greater than 10%; regeneration of negative indicator species absent |
| Vegetation composition: problematic native species | Percentage | Cover of common nettle (<i>Urtica dioica</i>) less than 75% |
| River Lamprey <i>Lampetra fluviatilis</i> [1099] - To restore the favourable conservation condition | | |

| | | |
|---|--|--|
| Distribution | Percentage of river accessible | Restore access to all water courses down to first order streams |
| 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 |
| Population structure of larvae | Number of age/size classes | At least three age/size classes of larval brook/river lamprey present |
| Larval lamprey density in fine sediment | Larval lamprey/m ² | Mean density of brook/river larval lamprey in sites with suitable habitat more than 5/m ² |
| Extent and distribution of spawning nursery habitat | m ² and occurrence | No decline in extent and distribution of spawning and nursery beds |

Salmon *Salmo salar* [1106] – To restore the favourable conservation condition

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

Otter *Lutra lutra* [1355] - To maintain the favourable conservation condition

| | | |
|--------------------------------------|----------------------------------|--|
| Distribution | Percentage positive survey sites | No significant decline |
| Extent of terrestrial habitat | Hectares | No significant decline. Area mapped and calculated as 447.6ha along river banks/ lake shoreline/around ponds |
| Extent of freshwater (river) habitat | Kilometres | No significant decline. Length mapped and calculated as 263.3km |
| Extent of freshwater (lake) habitat | Hectares | No significant decline. Area mapped and calculated as 31.6ha |
| Couching sites and holts | Number | No significant decline |
| Fish biomass available | Kilograms | No significant decline |
| Barriers to connectivity | Number | No significant increase |

River Boyne and River Blackwater SPA 004232

| Attribute | Measure | Target |
|---|--------------------------------------|---|
| Kingfisher <i>Alcedo atthis</i> [A229] - To maintain the Favourable conservation condition | | |
| Population size | Number of breeding territories/pairs | No significant decline in the long term |

| River Boyne and River Blackwater SPA 004232 | | |
|---|--|---|
| Attribute | Measure | Target |
| Productivity rate | Number of fledged young per confirmed breeding pair | Sufficient productivity to maintain the population trend as stable or increasing |
| Spatial distribution of territories | Numbers and distribution of occupied territories across site | No significant loss of distribution in the long term, other than that occurring due to natural patterns of variation |
| Extent and quality of nesting banks and other suitable nesting features | Hectares; condition assessment | Sufficient area of high quality nesting habitat to support the population target |
| Forage spatial distribution, extent, abundance and availability | Location, hectares, and forage biomass | Sufficient number of locations, area of suitable forage habitat and available forage biomass to support the population target |
| Water quality | Water quality indicators | Both biotic (i.e. Q-value) and abiotic indices reflect overall good-high quality status |
| Barriers to connectivity | Number, location, shape and hectares | No significant increase |
| Disturbance to breeding sites | Intensity, frequency, timing and duration | Disturbance occurs at levels that do not significantly impact upon breeding Kingfisher |

7 Analysis of the Potential Impacts on Natura 2000 Sites.

7.1 Construction Impacts

In the absence of mitigation measures, the Proposed Development has the potential to affect the receiving water, land and air environment and, consequently, has the potential to have likely significant effects on European site(s). The only impacts associated with the Proposed Development are:

- Pollution/contamination events during construction and/or operation of surface and/or ground origin affecting water quality in hydrologically connected European Sites (River Boyne and River Blackwater SAC & SPA).
- Air quality impacts during the construction phase arising from airborne dust and other particulates to adjacent European Sites (River Boyne and River Blackwater SAC & SPA).
- Accidental introduction and/or spread of non-native invasive species to downstream European Sites (River Boyne and River Blackwater SAC & SPA).
- Disturbance and displacement impacts to Otters (River Boyne and River Blackwater SAC) and Kingfisher (River Boyne and River Blackwater SPA).
- Petrifying springs with tufa formation (*Cratoneurion*) [7220] are an EC Habitats Directive Annex I priority habitat and are present on site. While it is not a qualifying interest of any European site within the ZOI of the proposed development, potential impacts on this habitat were considered in the ecological assessment, but effects on this habitat are not considered relevant to the assessment of adverse effects on the integrity of the European site, as the site's conservation objectives do not relate to this species.

Demolition, construction and operational phase mitigation measures are required on site particularly as clearance of the site is proposed which will remove all existing terrestrial habitats and, in the absence of mitigation, would lead to silt laden and contaminated runoff entering the River Boyne. Compliance with the Water Pollution Acts and Inland Fisheries guidance¹⁰ documentation would be seen as the primary method of ensuring no significant impact on designated conservation sites. Mitigation measures are required to ensure compliance with the Water

The potential adverse effects on the qualifying interests and conservation measures of the European Sites are considered below in Table 6.

7.2 Operational Impacts

Once developed, the site would be seen as a stable ecological environment. Appropriate measures should be taken to prevent contaminated surface water run-off and silt from entering adjacent habitats. The construction of new drainage networks will have to comply with SUDS and County Council requirements and, as a result, would have a negligible impact on habitats and species surrounding the proposed development site.

Impacts on European Sites

Hydrological Impacts

Once the proposed development is complete and in the operational phase, surface water runoff will discharge to the soakaways located within each of the four catchments on-site, and foul water from the site will be discharged to the public network via the proposed pumping station and connection beneath the River Boyne. In the absence of mitigation, it is considered that significant impacts on designated conservation sites would be unlikely.

The proposed development includes a sustainable drainage strategy. No mitigation is required to prevent significant effects on designated sites. The development will comply with MCC requirements and the Water Pollution Acts, and standard measures will be in place to prevent downstream impacts.

Petrifying Springs Habitats

The biodiversity value of the habitats on site will improve as landscaping matures. As identified in the Petrifying Spring Survey and Assessment (Denyer, 2025), potential impacts on petrifying springs during operation include recreational disturbance/pressure during the operational phase. As outlined in this report, 'Public access is

¹⁰ <https://www.fisheriesireland.ie/documents/624-guidelines-on-protection-of-fisheries-during-construction-works-in-and-adjacent-to-waters/file.html>

required to the western spring ('St Patrick's Well'). This should be limited to the well only and access to the riverbank from this location prevented/ discouraged as this would cause damage to the petrifying spring and adjacent hydrophilous tall-herb vegetation.' (Denyer, 2025).

An assessment of potential hydrogeological impacts on petrifying springs within the site from the proposed LRD and required design and mitigation features to avoid impacts are detailed in Meehan (2025) *'Hydrogeological assessment for proposed Large Scale Residential Development (LRD), by Loughglynn Developments Limited, at a site on the Kildalkey road, Trim, County Meath –Land, soils, geology, hydrology and hydrogeology.'*

This states that no works will be undertaken in the vicinity of the springs, that the depths of the groundwater across the site are well below the level of any of the construction activities (e.g. foundations and other excavations into the subsurface on the site) and the proposed rising main borehole will not pump or dewater the area within and around it (Section 9.2 of the Hydrogeological assessment). Required mitigation and avoidance measures are detailed.

The hydrogeological assessment concludes:

'Due to the nature of proposed LRD developments being near-surface construction activities, impacts on groundwater are generally negligible and surface water is generally the main sensitive receptor assessed during impact assessments. The design of the proposed LRD Project has maintained the existing hydrological and hydrogeological regime on the site in as much as possible.

This means that all SUDS measures will discharge as diffusely as possible and at as shallow a depth as possible, using individual shallow soakaways for each house individually and wide, expansive, shallow soakaways for the road network.

This will mean no significant effects on groundwater levels and / or flows, and / or surface water, will occur as a result of the proposed LRD Project.'

Mitigation measures are proposed to ensure no significant effects are likely on the Petrifying springs with tufa formation (Cratoneurion) [7220] habitat.

Qualifying Interest Terrestrial mammal species - Otter

The Proposed Development will increase the population density within the vicinity of the site and as such has the potential to cause disturbance and displacement impacts. This impact can also occur cumulatively with other developments in the area. Increased operational lighting and noise can impact nocturnal otters.

Potential impacts relating to increased human presence in the vicinity of the River Boyne may impact on Otter inhabiting the River Boyne. Mitigation measures are described in Table 7.

SCI Bird Species – Kingfisher

The Proposed Development will increase the population density within the vicinity of the site and as such has the potential to cause disturbance and displacement impacts. This impact can also occur cumulatively with other developments in the area. Increased operational lighting and noise can impact Kingfisher.

No operational impacts are foreseen on Kingfisher with the implementation of ecologically sensitive design mitigation measures as described in Table 7.

7.3 Mitigation Measures

Mitigation measures to prevent significant impacts on European sites are outlined in Table 7. These measures include the measures outlined in the CEMP, CMP, Hydrogeological Assessment Report (Meehan 2025) and associated EclA.

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of Natura 2000 sites

| Natura 2000 Site | Qualifying Interests | Potential for Adverse Effects |
|--|--|--|
| <p>River Boyne and River Blackwater SAC</p> | <p>Alkaline fens [7230]</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]</p> <p><i>Lampetra fluviatilis</i> (River Lamprey) [1099]</p> <p><i>Salmo salar</i> (Salmon) [1106]</p> <p><i>Lutra lutra</i> (Otter) [1355]</p> | <p><u>Construction Phase</u></p> <p><u>Habitat degradation as a result of hydrological impacts</u></p> <p>In the absence of mitigation measures, there is the potential for a pollution event (e.g. fuel or petrochemical spills) or flood event of sufficient magnitude during construction to negatively affect the water quality of the River Boyne and Blackwater SAC. This in turn could have the potential to affect the natural conditions that support the conservation objectives of the QI species of this SAC.</p> <p>Although no otters or otter holts were noted during site assessments, there is a high likelihood that Otter may be commute and forage along this section of the River Boyne and as such, a pollution event during construction or operation has the potential to affect the water quality e.g. by negatively affecting the quantity and quality of prey available. These potential hydrological impacts could occur to such a degree that the conservation objectives of River Boyne and River Blackwater SAC are undermined.</p> <p>The proposed works will involve intensive HDD works under the River Boyne to install a foul rising main. With the level of exposed earth along the working corridor and potential need for dewatering of excavations, there is the potential for impacts on aquatic biodiversity from silt or petrochemicals via contaminated surface water runoff and open-cut installation adjacent to/through waterbodies, in addition to ‘Frac Out’ impacts. If on-site concrete production is required or cement works are carried out in the vicinity of watercourses there is potential for contamination of watercourses. The use of plant and machinery, as well as the associated temporary storage of construction materials, oils, fuels and chemicals could lead to pollution on site or in adjacent watercourses.</p> <p>Impacts on the SAC from upstream sources have the potential to directly impact on the qualifying interests of the SAC in the absence of mitigation measures.</p> <p>The habitats and species of conservation interest of this SAC are not on site as per the ecological surveys undertaken in 2024 and 2025 by Altemar Ltd (note: the status of Salmon and River Lamprey in this section of the River Boyne is unknown in the absence of site-specific fisheries assessments). However, the range of the species that are of conservational interest and the habitats that support them may extend into the proposed development site and are located downstream of the proposed works.</p> <p>In the absence of mitigation, given the context and scale of the proposed in-stream works, and potential for surface water run-off containing silt/petrochemicals/pollutants to enter waterbodies along the construction corridor, mitigation measures are required to prevent deterioration of the River Boyne.</p> <p><u>Habitat degradation as a result of hydrogeological impacts</u></p> <p>The proposed development site is upgradient of River Boyne and River Blackwater SAC. A Source-Pathway Receptor (SPR) risk assessment was undertaken for the construction phase by EurGeol. Dr. Robert T. Meehan, PGeo. within the associated Hydrogeological Assessment for the proposed development. Accidental spillage during refuelling of</p> |

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of Natura 2000 sites

| Natura 2000 Site | Qualifying Interests | Potential for Adverse Effects |
|------------------|----------------------|---|
| | | <p>construction plant with petroleum hydrocarbons is a significant pollution risk to the groundwater at the proposed LRD Project Site. The accumulation of small spills of fuels and lubricants during routine plant use can also be a significant pollution risk. It is also a nutrient supply for adapted micro-organisms, which can rapidly deplete dissolved oxygen in waters, resulting in death of aquatic organisms.</p> <p>Hydrocarbon has a high toxicity to humans, and all flora and fauna, including fish, and is persistent in the environment. Large spills or leaks have the potential to result in significant effects (i.e. contamination of soils and subsoils and pollution of the underlying bedrock aquifer) on the geological and water environment.</p> <p>The Proposed Project construction phase activities that will require earthworks result in the removal of vegetation cover and excavation of mineral topsoil and subsoil. Potential sources of sediment laden water include:</p> <ul style="list-style-type: none"> • Drainage and seepage water resulting from infrastructure excavation; • Stockpiled excavated material providing a point source of exposed sediment; • Construction of the subsurface rising main resulting in the entrainment of sediment from any excavations during construction; and, • Erosion of sediment from emplaced site drainage channels. <p>These activities can result in the release of suspended solids to surface watercourses and could result in an increase in the suspended sediment load, resulting in increased turbidity which in turn could affect the water quality and fish stocks of downstream water bodies, as well as potentially the drinking water supply sourced from the River Boyne. Potential impacts could be significant if not mitigated.</p> <p>Release of effluent from domestic waste water treatment systems has the potential to impact on groundwater and surface waters if site conditions are not suitable for an on-site percolation unit.</p> <p>It is concluded that in the absence of mitigation, significant effects are likely on this SAC. Therefore, mitigation measures are required.</p> <p><u>Habitat degradation as a result of air quality impacts</u></p> <p>In the absence of mitigation measures, dust may enter the SAC during strong winds and specific aspects of the proposed project e.g. excavations, intensive HDD works and removal of soil on site. While construction dust tends to be deposited within 250 m of a construction site, and 50m from site access roads & haul routes, the majority of the deposition occurs within the first 50 m (IAQM, 2024). Dust from construction sites deposited on vegetation may create ecological stress within the local plant community. Potential air quality impacts to ecological receptors are primarily related to the deposition of dust on vegetation, which can interfere with photosynthesis, affect plant health, or alter sensitive habitats where dust loads are excessive. It is considered that given the nature of the QIs of this SAC, and the direct proximity of this European site within the works area, in the absence of construction phase controls, the</p> |

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of Natura 2000 sites

| Natura 2000 Site | Qualifying Interests | Potential for Adverse Effects |
|------------------|----------------------|--|
| | | <p>proposed development could significantly impact on the Qualifying Interests & conservation objectives of this SAC. Construction phase mitigation measures should be in place to ensure that the SAC is not impacted.</p> <p><u>Habitat loss and fragmentation</u> There is the potential habitat loss and fragmentation to occur as a result of the proposed development, given it is within the River Boyne and River Blackwater SAC. Under EC 2021 Guidance¹¹, land take is not just surface clearing but includes any structural use of the designated site volume. This would include sub-surface land take from the physical borehole created by HDD beneath the Boyne and temporary surface land take which could include the launch and reception pits for the HDD, alongside associated construction compound areas, often require clearing soil, riparian margins, or vegetation. Even if this land lacks QI species, it provides critical buffer and hydrological protection functions to the river. Impacts largely relate to sub-surface and hydrological impacts which may arise from the HDD operations including Frac-out, vibrational and acoustic disturbance, riparian severance and fragmentation and groundwater and de-watering drawdown. Mitigation measures are required as detailed in Table 7.</p> <p><u>Habitat degradation as a result of the introduction and/or spread of non-native invasive species</u> Japanese knotweed (<i>Fallopia japonica</i>) (invasive species listed in the First Schedule of regulation 49 & 50 in the European Communities (Birds and Natural Habitats) Regulations 2024) was noted during the habitat surveys located approximately 25m east of the rising main works area as shown in Figure 14. Sea Buckthorn (invasive species listed in the First Schedule of regulation 49 & 50 in the European Communities (Birds and Natural Habitats) Regulations 2024) was noted in the eastern section of the site as shown in Figure 14. The introduction and/or spread of invasive species to downstream European sites via watercourses could potentially result in the degradation of existing habitats present. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat. Invasive species can also be introduced by construction machinery and/or personnel. Mitigation measures are required to prevent these potential impacts as described in Table 7.</p> <p><u>Disturbance and displacement impacts – Otter</u> Surveys by Altemar Ltd in 2025 & 2026 did not identify otters to be present within the River Boyne to the south of the proposed development site. However, impacts to otters via disturbance cannot be ruled out in the absence of mitigation as they may inhabit and commute along the River Boyne within the ZOI of the proposed development. For</p> |

¹¹ [https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52021XC1028\(02\)](https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52021XC1028(02))

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of Natura 2000 sites

| Natura 2000 Site | Qualifying Interests | Potential for Adverse Effects |
|--|---|--|
| | | <p>mammal species such as otter, disturbance effects would not be expected to extend beyond 250m¹² and therefore Otters outside of this range are unlikely to be affected during construction works. Out of an abundance of caution, mitigation measures are required to prevent disturbance to otter during construction. Disturbance can occur from noise, vibration, lighting and increased human presence.</p> <p><u>Operation Phase</u> <u>Habitat degradation as a result of hydrological impacts</u> Hydrocarbons from vehicles within the site confines will pass through the Sustainable Drainage System’s hydrocarbon interceptors which will clean water and expose potential hydrocarbons to sunlight, to allow the breakdown of same, within the proposed surface water drainage network. These mitigation measures are considered sufficient to eliminate potential risks to ground/soils and subsoils, and groundwater and surface water quality. All drainage systems will be inspected to ensure compliance with Water Pollution Acts.</p> <p><u>Disturbance and displacement impacts – Otter</u> The Proposed Development will increase the population density within the vicinity of the site and as such has the potential to cause disturbance and displacement impacts. This impact can also occur cumulatively with other developments in the area. Increased operational lighting and noise can impact nocturnal otters.</p> |
| <p>River Boyne and River Blackwater SPA</p> | <p>Kingfisher (<i>Alcedo atthis</i>) [A229]</p> | <p><u>Construction Phase</u> <u>Habitat degradation as a result of hydrological impacts</u> In the absence of mitigation measures, there is the potential for a pollution event (e.g. fuel or petrochemical spills) or flood event of sufficient magnitude during construction to negatively affect the water quality of the River Boyne and Blackwater SPA. This in turn could have the potential to affect the natural conditions that support the conservation objectives of the SCI species of this SAC (Kingfisher). Low numbers of Kingfisher were noted within and near to the site during 2024, 2025 (5 no. Kingfisher) & 2026 (1 no. Kingfisher) Wintering Bird Surveys (Appendix II & III). Kingfisher commute and forage along this section of the River Boyne and as such, a pollution event during construction or operation has the potential to affect the water quality e.g. by negatively affecting the quantity and quality of prey available. These potential hydrological impacts could occur to such a degree that the conservation objectives of River Boyne and River Blackwater SPA are undermined.</p> |

¹² This is consistent with Transport Infrastructure Ireland (TII) guidance (Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes and Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes) documents. This is a precautionary distance, and likely to be moderated by the screening effect provided by existing surrounding vegetation and buildings, with the actual Zol of construction related disturbance likely to be much less in reality.

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of Natura 2000 sites

| Natura 2000 Site | Qualifying Interests | Potential for Adverse Effects |
|------------------|----------------------|--|
| | | <p>The proposed works will involve intensive HDD works under the River Boyne to install a foul rising main. With the level of exposed earth along the working corridor and potential need for dewatering of excavations, there is the potential for impacts on aquatic biodiversity from silt or petrochemicals via contaminated surface water runoff and open-cut installation adjacent to/through waterbodies, in addition to ‘Frac Out’ impacts. If on-site concrete production is required or cement works are carried out in the vicinity of watercourses there is potential for contamination of watercourses. The use of plant and machinery, as well as the associated temporary storage of construction materials, oils, fuels and chemicals could lead to pollution on site or in adjacent watercourses. Impacts on the SPA from upstream sources have the potential to directly impact on the qualifying interests of the SPA in the absence of mitigation measures.</p> <p>The Kingfisher (sole SCI of this SPA) is present on within the River Boyne immediately adjacent to the site as per the ecological surveys undertaken in 2024, 2025 & 2026 by Altemar Ltd and the habitats that support them may extend into the proposed development site and are located downstream of the proposed works.</p> <p>In the absence of mitigation, given the context and scale of the proposed in-stream works, and potential for surface water run-off containing silt/petrochemicals/pollutants to enter waterbodies along the construction corridor, mitigation measures are required to prevent deterioration of the River Boyne.</p> <p><u>Habitat degradation as a result of hydrogeological impacts</u></p> <p>The proposed development site is upgradient of River Boyne and River Blackwater SPA. A Source-Pathway Receptor (SPR) risk assessment was undertaken for the construction phase by EurGeol. Dr. Robert T. Meehan, PGeo. within the associated Hydrogeological Assessment for the proposed development. Accidental spillage during refuelling of construction plant with petroleum hydrocarbons is a significant pollution risk to the groundwater at the proposed LRD Project Site. The accumulation of small spills of fuels and lubricants during routine plant use can also be a significant pollution risk. It is also a nutrient supply for adapted micro-organisms, which can rapidly deplete dissolved oxygen in waters, resulting in death of aquatic organisms.</p> <p>Hydrocarbon has a high toxicity to humans, and all flora and fauna, including fish, and is persistent in the environment. Large spills or leaks have the potential to result in significant effects (i.e. contamination of soils and subsoils and pollution of the underlying bedrock aquifer) on the geological and water environment.</p> <p>The Proposed Project construction phase activities that will require earthworks result in the removal of vegetation cover and excavation of mineral topsoil and subsoil. Potential sources of sediment laden water include:</p> <ul style="list-style-type: none"> • Drainage and seepage water resulting from infrastructure excavation; • Stockpiled excavated material providing a point source of exposed sediment; • Construction of the subsurface rising main resulting in the entrainment of sediment from any excavations during construction; and, |

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of Natura 2000 sites

| Natura 2000 Site | Qualifying Interests | Potential for Adverse Effects |
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| | | <ul style="list-style-type: none"> • Erosion of sediment from emplaced site drainage channels. <p>These activities can result in the release of suspended solids to surface watercourses and could result in an increase in the suspended sediment load, resulting in increased turbidity which in turn could affect the water quality and fish stocks of downstream water bodies, as well as potentially the drinking water supply sourced from the River Boyne. Potential impacts could be significant if not mitigated.</p> <p>Release of effluent from domestic waste water treatment systems has the potential to impact on groundwater and surface waters if site conditions are not suitable for an on-site percolation unit.</p> <p>It is concluded that in the absence of mitigation, significant effects are likely on this SPA. Therefore, mitigation measures are required.</p> <p><u>Habitat degradation as a result of air quality impacts</u></p> <p>In the absence of mitigation measures, dust may enter the SPA during strong winds and specific aspects of the proposed project e.g. excavations, intensive HDD works and removal of soil on site. While construction dust tends to be deposited within 250 m of a construction site, and 50m from site access roads & haul routes, the majority of the deposition occurs within the first 50 m (IAQM, 2024). Dust from construction sites deposited on vegetation may create ecological stress within the local plant community. Potential air quality impacts to ecological receptors are primarily related to the deposition of dust on vegetation, which can interfere with photosynthesis, affect plant health, or alter sensitive habitats where dust loads are excessive. It is considered that given the nature of the SCI of this SPA, and the direct proximity of this European site within the works area, in the absence of construction phase controls, the proposed development could significantly impact on the special conservation interest & conservation objectives of this SPA. Construction phase mitigation measures should be in place to ensure that the SPA is not impacted.</p> <p><u>Habitat loss and fragmentation</u></p> <p>There is the potential habitat loss and fragmentation to occur as a result of the proposed development, given it is within the River Boyne and River Blackwater SPA. Under EC 2021 Guidance¹³, land take is not just surface clearing but includes any structural use of the designated site volume. This would include sub-surface land take from the physical borehole created by HDD beneath the Boyne and temporary surface land take which could include the launch and reception pits for the HDD, alongside associated construction compound areas, often require clearing soil, riparian margins, or vegetation. Even if this land lacks QI species, it provides critical buffer and hydrological protection functions to the river. Impacts largely relate to sub-surface and hydrological impacts which may arise from the HDD</p> |

¹³ [https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52021XC1028\(02\)](https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52021XC1028(02))

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of Natura 2000 sites

| Natura 2000 Site | Qualifying Interests | Potential for Adverse Effects |
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| | | <p>operations including Frac-out, vibrational and acoustic disturbance, riparian severance and fragmentation and groundwater and de-watering drawdown. Mitigation measures are required as detailed in Table 7.</p> <p><u>Habitat degradation as a result of the introduction and/or spread of non-native invasive species</u> Japanese knotweed (<i>Fallopia japonica</i>) (invasive species listed in the First Schedule of regulation 49 & 50 in the European Communities (Birds and Natural Habitats) Regulations 2024) was noted during the habitat surveys located approximately 25m east of the rising main works area as shown in Figure 14. Sea Buckthorn (invasive species listed in the First Schedule of regulation 49 & 50 in the European Communities (Birds and Natural Habitats) Regulations 2024) was noted in the eastern section of the site as shown in Figure 14. The introduction and/or spread of invasive species to downstream European sites via watercourses could potentially result in the degradation of existing habitats present. These species may outcompete other native species present, negatively impacting the species composition, diversity and abundance and the physical structural integrity of the habitat. Invasive species can also be introduced by construction machinery and/or personnel.</p> <p>Mitigation measures are required to prevent these potential impacts as described in Table 7.</p> <p><u>Disturbance and displacement impacts – Kingfisher</u> Wintering Bird Surveys by Altemar Ltd in 2024, 2025 (5 no. Kingfisher) & 2026 (1 no. Kingfisher) identified low numbers of Kingfisher within the River Boyne immediately adjacent to the proposed development site. Disturbance could arise through visual, acoustic, and vibrational sources from the proposed works. Hydrological impacts could cause indirect displacement via foraging habitat degradation. Noise, vibration, and human presence create a risk of nest abandonment, burrow collapse, and reduced productivity if works occur between March and August. Sediment, frac-out, and visual movement create a risk of temporary or permanent displacement from feeding territories, increasing competition and stress on the local population. Mitigation measures are required as detailed in Table 7.</p> <p><u>Operation Phase</u> <u>Habitat degradation as a result of hydrological impacts</u> Hydrocarbons from vehicles within the site confines will pass through the Sustainable Drainage System’s hydrocarbon interceptors which will clean water and expose potential hydrocarbons to sunlight, to allow the breakdown of same, within the proposed surface water drainage network. These mitigation measures are considered sufficient to eliminate potential risks to ground/soils and subsoils, and groundwater and surface water quality. All drainage systems will be inspected to ensure compliance with Water Pollution Acts.</p> |

Table 6. Potential for adverse effects on the qualifying interests and conservation objectives of Natura 2000 sites

| Natura 2000 Site | Qualifying Interests | Potential for Adverse Effects |
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| | | <p><u>Disturbance and displacement impacts – Kingfisher</u> The Proposed Development will increase the population density within the vicinity of the site and as such has the potential to cause disturbance and displacement impacts. This impact can also occur cumulatively with other developments in the area. Increased operational lighting and noise can impact Kingfisher.</p> |

Table 7. Mitigation measures

| Sensitive Receptors | Potential Impacts and Mitigation Measures to Prevent Impacts on Natura 2000 sites |
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| <p>River Boyne and River Blackwater SAC & SPA</p> | <p><u>Construction Phase</u> <u>Habitat degradation as a result of hydrological & hydrogeological impacts (on the River Boyne and River Blackwater SAC/SPA)</u> Construction & Environmental Management Plan Waterman Moylan Consulting Engineers have prepared a CMP for the proposed development. The following measures designed to limit hydrological impacts on the River Boyne are outlined in this document, which will be implemented:</p> <p><i>‘Site Specific Environmental Risk – River Boyne</i> <i>Construction runoff is heavily laden with silt especially when topsoil has been stripped and heavy rainfall occurs. The River Boyne and ditches within the site are particularly susceptible to pollution from surface water runoff with high silt content. Works within or adjacent to the watercourse/ditches will also give rise to risk of pollution. In this regard it is not intended to carry out any works within the SAC or adjacent/in the River Boyne</i> <i>Sediment control plans will be implemented on site to mitigate against the risks of working in proximity of the River Boyne or ditches which provide a flow path to the river.</i> <i>Sediment basins and interception drains/traps will be installed before any major site grading takes place. Silt fences will be installed along the southern boundary of the site and adjacent ditches that ultimately drain to the river in order to keep sediment contained on site at appropriate locations to be determined on site by the Project Ecologist prior to any works commencing.</i> <i>The main run-off interception drains/traps with outlet protection measures together with silt fencing will be installed prior to the works commencing and will be used to convey stormwater run-off through the development site and to protect existing watercourses in the event of a breach.</i> <i>During periods of heavy rainfall or other extreme weather events, additional inspections of sediment control measures, silt fencing, diversion drains, settlement ponds and drainage infrastructure will be undertaken by the Contractor. Any damaged or ineffective measures will be repaired or replaced immediately to ensure continued protection of the River Boyne, adjoining watercourses and surrounding environmental receptors from sediment-laden runoff and potential pollution</i> <i>Sediment control measures which will be implemented on site are set out below. The type and location of the measures to be implemented will be determined on site by the Project Ecologist prior to the works commencing.</i></p> <p>Sediment Control Measures</p> <ul style="list-style-type: none"> • Straw Bales |

| Sensitive Receptors | Potential Impacts and Mitigation Measures to Prevent Impacts on Natura 2000 sites |
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| | <p><i>Straw bales will be placed at the base of a slope to act as a sediment barrier. Straw bales are temporary in nature and may perform for only a period of weeks or months. Proper installation and maintenance are necessary to ensure their performance.</i></p> <ul style="list-style-type: none"> <p>• <i>Silt Fencing</i> <i>A silt fence is made of a woven synthetic material, geotextile and acts to filter run-off. Silt fencing will be placed as a temporary barrier along the contour at the base of a disturbed area. The material is durable and will last for more than one season if properly installed and maintained. Silt fencing is not intended to be used as a perimeter fence or in area of concentrated flow. If concentrated flow conditions exist, a more robust filter will be considered.</i></p> <p>• <i>Diversion Drains</i> <i>Diversion drains are simple linear ditches, often with an earth bund, for channelling water to a desired location. They can have straw bales inserted along the ditch to reduce flow and assist in removing sediment. If the drains are being eroded, they can be lined with geotextile fabric or large stones or boulders.</i></p> <p>• <i>Silt Traps/Settlement Ponds</i> <i>Silt Traps will be placed at the lower parts of the site and prior to discharge to the natural outfalls from the site. These are generally bunded areas with a high-level outlet which create a pond behind the barrier. Sediment settles within the pond to reduce the silt in the runoff. Silt traps area deemed temporary and proper installation and regular maintenance is needed to ensure their performance.</i></p> <p>Site Specific Environmental Risk - Groundwater Protection <i>The excavations for the proposed foundations, percolation areas, drainage pipes, pumping station, water supply, and utilities may impact the ground water in the site.</i> <i>The site investigation did not identify the presence of a high-water table. It is therefore anticipated that there should be little or no impact upon the groundwater. However, in the event that a high-water table is encountered then an appropriate dewatering scheme to keep the excavations free from water will be implemented. Specialist contractors in dewatering will provide expert advice on the dewatering and treatment in order to ensure the quality of water leaving site is high.</i> <i>Typically improvements to the quality of the discharge of surface water from deep excavations are achieved through the provision of settlement ponds/tanks. Settlement ponds/tanks will be maintained and regularly monitored visually for hydrocarbon sheen and suspended solids.</i> <i>Periodic laboratory testing of discharge water samples will be carried out in accordance with the requirements of Meath County Council before discharge back to the surrounding surface water drainage system.'</i></p> <p>Altamar Ltd. have produced a CEMP which outlines additional measures as follows:</p> <p><u>Contamination of watercourses</u></p> <ul style="list-style-type: none"> • Appointment of an ecologist to oversee enabling works and the implementation of mitigation measures outlined. • Staging of project to reduce risks to watercourses from contamination |

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| | <ul style="list-style-type: none"> • Earthwork operations will be carried out such that surfaces, as they are being raised, shall be designed with adequate drainage, falls and profile to control run-off and prevent ponding and flowing. • Any discharges to the surface water system during construction must be discussed with the ecologist, undergo desilting and petrochemical interception and have twice daily turbidity monitoring. • Local watercourses and drains will be protected from dust, silt and contaminated surface water throughout the works. • Local silt traps established throughout site as discussed with the ecologist. • Mitigation measures on site include dust control, stockpiling away from watercourse and drains • Stockpiling of loose materials will be kept to a minimum of 20m from watercourses and drains. • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses. • Fuel, oil and chemical storage will be sited within a bunded area. The bund will be at least 50m away from drains, ditches or watercourses, excavations and other locations where it may cause pollution. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. Any water-filled excavations, including the attenuation tank during construction, that require pumping will not directly discharge to the streams. Prior to discharge of water from excavations adequate filtration will be provided to ensure no deterioration of water quality. • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. • During the construction works silt traps will be put in place in the vicinity of all runoff channels the streams to prevent sediment entering the surface water drainage network. • Planting in the vicinity of the stream crossings should be put in place as soon as possible to allow biodiversity corridors to establish. • On-site inspections will be carried out by project ecologist during enabling works and until drainage connection is complete. • Maintenance of any drainage structures (e.g. de-silting operations) must not result in the release of contaminated water to the surface water network. • No entry of solids or concrete to the associated drainage network during the connection of pipework • The program for the felling of trees will be carried out in consultation with the project ecologist and arborist. The ecologist will be present for the felling of trees within 10m of watercourses. <p><u>Aquatic Biodiversity</u></p> <p>Environmental risks due to construction and operation of the proposed development do potentially occur, particularly in relation runoff from steep site and/or drains that could lead to the watercourses. This could not only result in negative impacts on instream biodiversity, also with the watercourses acting as a vector, carry pollutants and impact beyond the site boundary and into the River Boyne. The following mitigation measures are to be implemented during construction:</p> <ul style="list-style-type: none"> • Given the proximity to the River Boyne, a robust silt barrier fence would be placed along the streams within the redline. This would passively remove silt from the runoff. • As back up to the barrier, there would be a sump pump with a float switch at the lowest point of the fence. The sump would be in a 60cm diameter vertical pipe placed uphill of the fence, the top of the pipe would be 40 cm above the ground level at the silt curtain. Water would |

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| | <p>only enter it in extreme weather if water is building up behind the silt fence. The outlet of the pump leads to a large silt bag that would need to be downstream of the curtain and maintained.</p> <ul style="list-style-type: none"> • Inspection of the integrity of the silt fence will be a requirement of the daily on site checklist and twice daily during periods of heavy rain. Repairs if required are to be made as a matter of urgency. Spare fencing is to be retained on site in a location that is easily accessible. • IFI are to be notified immediately of breaches in the silt fence that have resulted in silt laden runoff entering the watercourses. • Water from trenches and excavations will not flow directly into drains or watercourses without settlement interception. Vigilance will be required due to the proximity of the stream. Any petrochemical spills are to be cleaned up immediately. • All pavement construction within 20m of watercourses is required to take place during dry weather. This minimises the risk to watercourses and contamination of runoff. All associated plant to be cleaned and washed down in a controlled environment and at a designated location greater than 30m from a watercourse/drain leading to a watercourse. • Drip trays placed below all small plant. Spill kits will be present on all working sites to clean up spillages. A record of all spillages will be kept and monitored. Generators and small plant not be used within 10m of watercourses. • All mobile plant to be refuelled in a central refuelling area in the contractor's compound where a spillage containment sump will be constructed within the refuelling area. All collected fuel will be disposed offsite under license. A record of all spillages will be kept and monitored. • On roads and car park areas and saw cutting, coring and grooving operations will be supported by the use of suction sweepers/cleaning equipment to immediately collect any detritus generated by these works. The silt barrier is to remain in place during all construction works. • Stockpiling of loose materials will be kept to a minimum of 40m from watercourses and drains. In the event that stockpiles are required, they will have suitable barriers to prevent runoff of fines into the drainage system and watercourses. Damping down of stockpiles will take place in dry windy weather to prevent wind blown movement of fines. • Fuel, oil and chemical storage will be sited within a bunded area. The bund must be able to take the volume of the largest container plus 10% and be located at least 10m away from drains, ditches, excavations and other locations where it may cause pollution. Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. • No foul water will be discharged on site, unless through nominated and secure sewer connection. It will not be discharged to drains or watercourses. <p>Dunnes Drilling (the contractor assigned to carry out the HDD works under the River Boyne) have prepared a Method Statement which outlines the mitigation that will be in place during the drilling works as follows:</p> <p><i>'ENVIRONMENTAL ASSESSMENTS AND CONTROLS</i></p> <p><i>All personnel shall be briefed of the environmental procedure requirements as per The Client's information received which includes constraints associated with the works. All works shall be conducted in accordance with Dunnes Drilling management systems, associated plans and guidance information.</i></p> <p><i>An SPA shall be completed by the site supervisor, this will include environmental considerations. The findings of the assessment shall be brought to the attention of all personnel who may be affected by the operational processes.</i></p> <p><i>Any mud, dirt or construction materials associated with Dunnes Drilling activities shall be cleaned up from the area at the earliest opportunity and the area returned to its previous condition.</i></p> |

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| | <p><i>If there is any suspect that the ground may be contaminated, then the work should cease immediately. The area shall be cordoned off and reported immediately to The Client.</i></p> <p><i>Segregation techniques shall be established so material may either be recycled or removed to a licensed waste treatment facility. Copies of waste carrier licenses shall be obtained, and consignment / transfer notes collected when waste materials are removed from the project area. The consignment / transfer notes shall be retained for designated timescales as per legislative requirements. Spill kits to be positioned at the workface. All stationary plant will be banded. During the works, any nearby watercourse will be monitored for any changes in colour or signs of bentonite frac out. Should any pollution of any nature be identified the works will be stopped immediately and The Client will be notified.</i></p> <p>FAILURE MODES AND FRAC OUT</p> <p>INTRODUCTION</p> <p><i>The purpose of this section is to establish procedures for addressing potential impacts associated with a "frac out" of drilling fluid during the horizontal directional drill (HDD) process. The term "frac out" is used to describe an inadvertent release of drilling fluid resulting from the fluid escaping from an underground HDD borehole and rising to the surface. The HDD installation technique is susceptible to difficulties caused by subsurface ground conditions. This document establishes the criteria by which Dunnes Drilling will determine when a proposed HDD is unsuccessful. Dunnes Drilling will provide on-site inspection during the HDD process to monitor the progress on the drill and to maintain daily progress reports.</i></p> <p>HDD PROCESS</p> <p><i>The HDD process generally includes three distinct phases beginning with the drilling of a pilot hole from the entry point on one side of the HDD along a designed profile to an exit point at the surface on the other side of the HDD. The second phase entails the reaming of the pilot hole to a diameter large enough to accept the cable ducts to be installed. Finally, the cable ducts are pulled into place within the enlarged hole.</i></p> <p>DRILLING FLUID</p> <p><i>The HDD process involves use of a drilling fluid (also referred to as drilling mud) made up primarily of water and bentonite (if required), with pH values between 8 and 10. Bentonite is a naturally occurring, non-toxic, inert substance and is frequently used for drilling potable water wells. Therefore, the environmental impacts of an inadvertent release of drilling fluid in a watercourse is a temporary increase in local turbidity until the drilling fluid dissipates with the current or is settled. The primary purpose of drilling fluid is to remove the cuttings from the borehole, stabilize the borehole and act as a coolant and lubricant during the drilling process. The water and clay drilling fluid consists of 1 to 5 percent active clays and from 0 to 40 percent inert solids with the rest being water. The primary active clay component is bentonite. The drilling fluid is first prepared in the mixing tank with both new and clean recycled drilling fluid. The fluid is pumped at 40 to 100 gallon per minute rates through the center of the drill pipe to the cutters. Return flow is through the annulus created between the wall of the boring and the drill pipe. The cuttings are then carried to either the entry or exit pit, depending on a combination of elevation difference and drilling/hole opening direction. A reduction or loss of drilling fluid returns does not necessarily indicate that these fluids are being released to the environment through fractures. The loss</i></p> |

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| | <p><i>of returns may occur because of lower pressures and volumes, thereby allowing gravity and friction to overcome the ability of the fluid to return to the bore site. As previously described, drilling fluid will likely be absorbed by the formation or drawn down into fractures within the formation. Within the boundaries of the worksites drill fluid would be controlled through the use of pits at the crossing entry and exit points and typical fluid handling equipment such as Selwood pumps. Drill fluid is released regularly on the drill rigs as part of normal operations when sections of drill pipe are separated. The worksite will be graded such that fluid released on the rig will flow into the fluid pit in front of the rig.</i></p> <p>....</p> <p>FRAC OUT PREVENTION</p> <p><i>The risk of a frac out in a sensitive area can be mitigated through profile design and through implementation of specific measures throughout the installation process. Dunnes Drilling operatives are responsible for execution of the HDD operation, including actions for detecting and controlling drilling fluid seepage. Dunnes Drilling will closely supervise the progress of the HDD with onsite inspections.</i></p> <p>PROFILE DESIGN</p> <p><i>The HDD profile is designed to minimize the potential for the release of drilling fluid in sensitive areas. The type of subsurface material and the depth of cover material are factors considered in developing the profile of an HDD crossing. Cohesive soils, such as clays, dense sands, and competent rock are considered ideal materials for containment of drill fluid.</i></p> <p><i>In the vicinity of the entry and exit points of the crossing the depth of cover will be minimal. It is probable and expected that frac outs will occur in these segments of the crossing. The crossings are designed such that these segments will be in upland areas.</i></p> <p>PREVENTATIVE MEASURES IMPLEMENTED DURING INSTALLATION</p> <p><i>Key preventative measures implemented during installation are geared toward keeping the drill fluid contained in the borehole and preventing its escape to surrounding ground formations. This is accomplished through monitoring and management of drill fluid pressures and drill fluid volumes.</i></p> <p>DRILL FLUID PRESSURE MONITORING AND MANAGEMENT</p> <p><i>Drill fluid pressures are affected by several factors. A description of some of these factors and how they can be managed follows.</i></p> <ul style="list-style-type: none"> <i>• Drill fluid density. Greater drill fluid densities result in greater downhole pressures. A large component of drill fluid density is the concentration of cuttings in the fluid. By controlling drilling and hole opening penetration rates and maximising the effectiveness of drill fluid recycling equipment drill fluid densities can be kept below acceptable limits.</i> <i>• Drill fluid viscosity. Greater drill fluid viscosities result in greater downhole pressures. However, greater viscosities also help seal off fissures and other escape paths into the surrounding formation from the HDD borehole. Similarly increased viscosity improves the cuttings carrying capability of the drill fluid. Drill fluid viscosity must be carefully managed to obtain a balance between these conflicting requirements.</i> <i>• Borehole cleanliness. Cuttings tend to settle out of the flow of drill fluid in the annular space around the drill pipe string. Accumulations of cuttings or cutting beds restrict the flow of drill fluid through the annular space. This results in an increase in the pressure required to maintain flow. Careful management of drill fluid properties and the regular use of borehole swabbing techniques will keep the borehole free of cuttings beds and their associated pressure increases.</i> |

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| | <ul style="list-style-type: none"> • <i>The drill fluid pressures in the borehole will vary throughout the installation processes. They will change with the depth of cover, the distance drilled, and the borehole diameter. However, changes in pressure should be gradual and can to a large extent be predicted. Rapid or unexpected changes in pressure are indicators of potential problems downhole. It is critical that drill fluid pressures be monitored and throughout the pilot hole process, when pressures are the highest.</i> • <i>Measured pressure approximately equal to predicted pressure. This is an indication that conditions are normal and the driller will be allowed to proceed with the pilot hole drilling.</i> • <i>Measured pressure greater than predicted pressure. This is an indication that the annular space behind the drill bit is becoming plugged with cuttings or that the concentration of cuttings in the drill fluid returns is too high resulting in excess drill fluid density. The driller will be required to implement measures to clean the annular space and or reduce the concentration of cuttings. This typically involves "swabbing" the borehole by slowly retracting the drilling assembly while pumping clean drill fluid into the bore to flush out cuttings and replace the cuttings laden fluid with clean, less dense fluid. The composition of the drill fluid pumped into the bore may also be modified to improve its cuttings carrying capacity.</i> • <i>Measured pressure less than predicted pressure. If the measured pressure is significantly less than the predicted pressure this is normally an indication that some of the drill fluid is escaping from the borehole. It is extremely important to note that having fluid escape from the borehole is not necessarily an indication that a frac out has occurred or is about to occur. It is quite normal to have a significant amount of fluid lost to the surrounding formation without a frac out occurring. Nevertheless, if the measured pressure is less than the predicted pressure, and in particular if this is the result of a sudden drop in pressure, Eco Drill will implement measures to reduce or eliminate the loss of drill fluid from the borehole. One measure that may be implemented is the use of Lost Circulation Materials (LCM) to plug a fissure in the formation. The use of additives to improve the sealing properties of the drill fluid is another measure.</i> <p>FRAC OUT MANAGEMENT <i>Management of frac outs is key to minimizing the environmental impact of the HDD crossings and ensuring their successful completion. Managing frac outs requires that appropriate equipment is available, that the frac outs are detected in a timely manner, and that appropriate procedures are used to minimize the volume of fluid released and its environmental impact.</i></p> <p>RESPONSE EQUIPMENT <i>Equipment for containing, controlling and cleaning up any drill fluid released during a frac out will be kept on site throughout the installation process. Heavy equipment not specifically designated for control and clean-up of drill fluid such as excavators and Vac Tanker will also be available on site. Frac out containment machinery and equipment to be provided by client. The following list identifies some materials and equipment that will be maintained at the HDD site in sufficient quantities to help ensure containment of frac outs of drilling fluid:</i></p> <ul style="list-style-type: none"> • <i>Excavator</i> • <i>Shovels, brushes and buckets</i> |

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| | <ul style="list-style-type: none"> • <i>Silt fencing</i> • <i>On-Call vacuum tanker and skips with an approved waste disposal site</i> <p>MONITORING AND DETECTION</p> <p><i>An obvious key to the timely detection of a frac out is monitoring of the surface above the HDD crossing for drill fluid. Dunnes Drilling will employ an operative to visually monitor the ground above the HDD crossing for frac outs. He will be supplemented by information from the rig operator as described above, namely pressure monitoring and volume monitoring.</i></p> <p><i>The monitoring operative will survey the site along the HDD centreline. The monitor will be in constant radio contact with the rig operator who will keep them informed of the position of the downhole tool.</i></p> <p><i>The rig operator will also keep the monitor informed of the drill fluid pressures and mud volume balance and will provide his professional opinion of level of risk of a frac out occurring at any given time. Armed with this information the monitor will be able to decide if monitoring a difficult area, such as a water course is warranted. It will also allow them to allocate their resources in the most effective manner.</i></p> <p><i>The identification of a potential frac out prior to it occurring is dependent upon the skill and experience of the people involved. Similarly, the operatives who will supervise monitoring and mitigation efforts will also be experienced in this type of work.</i></p> <p>CORRECTIVE ACTION FOR FRAC OUTS</p> <p><i>If a frac out occurs, The Client will be immediately notified. Dunnes Drilling will suspend forward progress of the drilling operations if excessive loss of mud circulation is noted and conduct a detailed examination of the drill path and surrounding area for evidence of a release to the surface.</i></p> <p><i>The HDD equipment may continue to operate during this period. It is important to initially maintain operations since soils such as sands, gravels, and some clays do not have the frictional characteristics necessary to maintain a void or hole from a drill. The weight or load from the soils has enough downward pressure to cause the hole to collapse. Shutting down the drilling operation further jeopardizes the success of the drill and it may not be possible to regain circulation. The weight of the settled soils may impede removal of the drill stem. The necessary torque to start the drill head rotating again, in the collapsed soils, may be more than the stress of the pipe can bear; in which case the drill stem and head will twist apart. The pieces may have to be abandoned in place and the process started again, without an assurance that the second attempt will have greater success. Once the clean-up response has started, the drilling activities will immediately resume. After the drilling fluid seepage has been contained. Dunnes Drilling will make every effort to determine why the seepage occurred. Once the cause of the seepage has been determined, measures will be enacted to control the factors causing the seepage and to minimize the chance of recurrence.</i></p> <p>MINIMIZATION OF VOLUME RELEASED</p> <p><i>The first action required when a frac out is detected is to minimize the volume of drill fluid that is released. This will be done by immediately halting pumping of drill fluid downhole. Pumping will not resume until the situation is assessed and, if possible, the fluid release is contained and controlled. As it is probable that the frac out will resume as soon as fluid pumping starts again containment and control measures will have to be able to contend with a further release of fluid. Normally the frac out stops of its own accord when the drilling assembly progresses a short distance ahead of the release point.</i></p> <p><i>The risk of failure of the HDD installation increases dramatically as the duration over which pumping is halted increases. Hence, actions will be taken quickly in order that pumping may resume as quickly as possible.</i></p> |

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| | <p>CONTAINMENT AND CONTROL OF DRILL FLUID RELEASED</p> <p><i>The types of measures implemented to contain the fluid released will depend on the type of area in which the release occurs.</i></p> <p><i>Surface release</i></p> <p><i>If an inadvertent release of drilling fluid is observed aboveground, the following measures will be implemented:</i></p> <ul style="list-style-type: none"> • <i>Immediately notify The Client.</i> • <i>Attempt to regain returns. Trip drill pipe and downhole tools back toward the direction of flow until returns through the drilled hole return to the entry/exit pit. Correct the bentonite properties, if necessary, and start drilling back in the same hole to see if the seepage continues. By swabbing the tool through the hole, this may remove any build-up of cuttings that created the inadvertent release. If the fracture is mitigated and controlled, resume HDD activities.</i> • <i>Evaluate the release to determine if containment structures are necessary. If containment structures are necessary. If the volume of the release is too small for containment measures to be practical, the area will be allowed to dry. This applies to surface releases only. The containment structures i.e. local excavation, subject to permit, will be made around the affected area to prevent flow of the drilling fluid.</i> • <i>If there is a threat to a sensitive resource or to public health and safety, HDD activities will be suspended immediately.</i> <p>WATERCOURSE</p> <p><i>The HDD profile is designed in order to minimize the potential for an inadvertent release into a watercourse. Frac outs in watercourses are rare due to the provision of adequate depth of cover. However, if an inadvertent release is observed in a watercourse, the following measures will be implemented</i></p> <p><i>Temporarily suspend forward progress and immediately notify The Client. Dunnes Drilling operatives will monitor the extent of the drilling fluid plume and observe if the release results in distressed or dying fish.</i></p> <p><i>Water samples may be required to be collected at both upstream and downstream locations from any plume associated with an inadvertent release of drilling fluid for any further</i></p> <p><i>Attempt to regain returns. Trip drill pipe and downhole tools back toward the direction of flow until returns through the drilled hole return to the entry/exit pit. Correct the bentonite properties, if necessary, and start drilling back in the same hole to see if the seepage continues. By swabbing the tool through the hole, this may remove any build-up of cuttings that may have contributed to creating the inadvertent release. If the fracture is mitigated and controlled, resume HDD activities.</i></p> <p><i>Implementation of containment and control measures is most difficult in watercourses.</i></p> <p><i>The effectiveness of the measures implemented to limit the release of drill fluid will be closely monitored. If the measures are not effective and if the environmental impact of the release is deemed unacceptable the HDD installation will be abandoned. Another attempt using a modified profile or at an alternate location may be made.</i></p> <p>ADDITIONAL CONTROL MEASURES</p> <p><i>A determination will be made of the cause of the frac out. If it is determined that downhole pressures are excessive then measures to reduce them will be implemented. These measures are described above and include swabbing the hole and or modifying the drill fluid properties.</i></p> <p>DRILL FLUID CLEAN UP</p> |

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| | <p><i>Measures to clean up drill fluid released by a frac out will be by use of suction tankers.'</i></p> <p>Additionally, the following mitigation has been outlined in the associated Hydrogeological Assessment by Dr. Robert T. Meehan (2025):</p> <p>Impact: Contamination of Soil, Subsoil and Bedrock by Leakages and Spillages of Hydrocarbons or Chemicals in the proposed LRD Site Construction</p> <p>Mitigation:</p> <ul style="list-style-type: none"> • On-site re-fuelling will be undertaken using a double skinned bowser with spill kits kept on site for accidental leakages or spillages; • Only designated trained operatives will be authorised to refuel plant on-site; • Taps, nozzles or valves associated with refuelling equipment will be fitted with a lock system; • All fuel storage areas will be bunded appropriately for the duration of the construction phase. All bunded areas will be fitted with a storm drainage system and an appropriate oil interceptor. Ancillary equipment such as hoses, pipes will be contained within the bunded area; • Fuel, oil and chemical stores including tanks and drums will be regularly inspected for leaks and signs of damage; • The electrical control building will be bunded appropriately to the volume of oils likely to be stored and to prevent leakage of any associated chemicals to groundwater or surface water. The bunded area will be fitted with a storm drainage system and an appropriate oil interceptor; • The plant used during construction will be regularly inspected for leaks and fitness for purpose; • Safety data sheets for all chemicals used will be kept on-site; and, • An emergency response plan for the construction phase to deal with accidental spillages is contained within the Construction and Environmental Management Plan. <p>Impact: Earthworks (Removal of Vegetation Cover, Excavations and 'Cut-and-Fill') Resulting in Suspended Solids Entrainment in Surface Waters (Proposed Project)</p> <p>Mitigation by avoidance:</p> <ul style="list-style-type: none"> • Avoid physical damage to watercourses, and associated release of sediment; • Avoid excavations within close proximity to surface water courses; • Avoid the entry of suspended sediment from earthworks into watercourses; and, • Avoid the entry of suspended sediment from the construction phase surface system into watercourses, achieved in part by utilising sediment control systems such as straw bales and silt fences, and not implementing any alteration to the infiltration regime by avoiding the use of settlement ponds and drainage channels, and allowing percolation across the entire site towards the vegetation of the buffer zone. <p>Mitigation by Design:</p> <ul style="list-style-type: none"> • Source controls: • Straw bales and silt fences / barriers, erosion and velocity control measures such as use of sand bags, filter fabrics, and other similar/equivalent or appropriate systems. • Small working areas, covering stockpiles, weathering off stockpiles, cessation of works in certain areas or other similar/equivalent or appropriate measures. • In-Line controls: |

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| | <ul style="list-style-type: none"> • Erosion and velocity control measures such as check dams, sand bags, oyster bags, straw bales, non-channel baffles, silt bags, silt fences, sedimats, filter fabrics, sediment traps, or other similar/equivalent or appropriate systems. Full avoidance of treatment systems such as temporary sumps and attenuation ponds, temporary storage lagoons, sediment traps, and settlement ponds, and proprietary settlement systems. • Monitoring: <ul style="list-style-type: none"> • An inspection and maintenance plan for the on-site construction sediment control system will be prepared in advance of commencement of any works. Regular inspections of all installed structures will be undertaken, especially after heavy rainfall, to check for blockages, and ensure there is no build-up of standing water in parts of the systems where it is not intended. • Any excess build-up of silt levels at dams, or any other sediment control features that may decrease the effectiveness of the feature, will be removed. Checks will be carried out on a daily basis. • During the construction phase field testing and laboratory analysis of a range of parameters with relevant regulatory limits and EQSs will be undertaken for the River Boyne and the springs / streamlets on the site, and specifically following heavy rainfall events (as per the CMP included with this LRD application). <p>Impact: Potential Release of Hydrocarbons During Construction and Storage (Proposed Project)</p> <p>Mitigation:</p> <ul style="list-style-type: none"> • On site re-fuelling of machinery will be carried out using a mobile double skinned fuel bowser. The fuel bowser, a double-axel custom-built refuelling trailer will be re-filled off site, and will be towed around the site by a 4 x 4 jeep to where machinery is located. The 4 x 4 jeep will also carry fuel absorbent material and pads in the event of any accidental spillages. The fuel bowser will be parked on a level area in the construction compound when not in use and only designated trained and competent operatives will be authorised to refuel plant on site. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations; • Onsite refuelling will be carried out by trained personnel only; • A permit to fuel system will be put in place; • Fuels stored on site will be minimised. Fuel storage areas if required will be bunded appropriately for the fuel storage volume for the time period of the construction and fitted with a storm control system and an appropriate oil interceptor; • The plant used during construction will be regularly inspected for leaks and fitness for purpose; and, • An emergency plan for the construction phase to deal with accidental spillages will be included within the Construction and Environmental Management Plan. Spill kits will be available to deal with and accidental spillage in and outside the re-fuelling area. <p>Impact: Groundwater and Surface Water Contamination from Waste Water Disposal (Proposed Project)</p> <p>Mitigation: It is proposed to manage waste water from the staff welfare facilities in the control buildings by means of a sealed storage tank, with all waste water being tankered off site by permitted waste collector to waste water treatment plants. It is not proposed to treat waste water onsite.</p> <p>Impact: Potential Hydrological Effects on Designated Sites (Proposed Project)</p> <p>Mitigation:</p> <ul style="list-style-type: none"> • The proposed mitigation measures which will include 25 m buffer zones for avoidance of sensitive hydrological features (streams and rivers); • Pre-construction drainage control measures; |

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| | <ul style="list-style-type: none"> • Robust sediment control measures will ensure that the quality of runoff from the proposed LRD Project area will be very high; and, • Best practice measures with regard use of oils, fuels (as outlined above) <p>Impact: Effects of Construction Works on the WFD Status of Downstream Waterbodies (Proposed Project)</p> <p>Mitigation: Comprehensive surface water mitigation and sediment controls are outlined above. Hydrocarbons from vehicles within the site confines will pass through the site interceptor system which will clean water and expose potential hydrocarbons to sunlight, to allow the breakdown of same, within the proposed surface water drainage network. These mitigation measures are considered sufficient to eliminate potential risks to ground/soils and subsoils, and groundwater and surface water quality, and will ensure the protection of surface water quality and flows in all downstream receiving watercourses.</p> <p><u>Habitat loss and fragmentation (on the River Boyne and River Blackwater SAC/SPA)</u></p> <p>HDD works and associated construction activity will take place within the River Boyne and River Blackwater SAC/SPA. The following measures will be in place to reduce the potential for significant effects via habitat loss and fragmentation:</p> <p>Footprint Loss & Habitat Destruction</p> <ul style="list-style-type: none"> • Micro-Siting Pits: Place the HDD launch and reception compounds entirely outside the most sensitive areas. Set them back behind existing hedgerows or fields to minimize direct clearing within the SAC/SPA. • Physical Demarcation: Install structural claddings or exclusionary fencing along the precise edge of the working footprint before work begins. This stops construction vehicles from straying into unpermitted parts of the SAC/SPA. • Soil Segregation: Strip, separate, and store the topsoil and subsoil from the compound footprint locally. Cover and protect these bunds to retain the native seed bank. • Progressive Re-seeding: Reinststate the launch and reception pits immediately after drilling finishes. Use locally sourced, native river-bank seed mixes and tree species (like Alder and Willow) to restore the habitat buffer. <p>Ecological & Structural Fragmentation</p> <p>Fragmentation along a river corridor involves creating physical, visual, and behavioural barriers that cut off species movement.</p> <ul style="list-style-type: none"> • Dark Movement Corridors: Establish strict "No-Light Zones" directed at the river and riparian strip. Use directional, baffled LED lights on the housing site facing away from the SAC/SPA to allow Otters and Kingfishers to commute safely at night. • Retaining Safe Stepping Stones: If a hedgerow or treeline must be cut to allow machinery access, bridge the gap at night using temporary artificial trellises or brushwood bundles to maintain visual and physical connectivity for bats and birds. • Acoustic Hoarding: Erect temporary acoustic barriers (like specialized acoustic quilts or dense timber hoarding) around the HDD rig. This stops loud machinery noises from creating a "behavioural wall" that blocks Otters from moving up or down the river. • Seasonal Working Windows: Do not create a barrier during high-traffic ecological seasons. Stop all drilling during the Atlantic Salmon migration and spawning run (October to April) and peak Kingfisher nesting periods to avoid disrupting population links. |

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| | <p>Sub-Surface Fragmentation & Hydrogeology</p> <p>The borehole itself can create a pathway for groundwater loss, which fragments wetland habitats by lowering the water table. The below measures will be implemented in addition to the full suite of measures as outlined in the Method Statement by Dunnes Drilling:</p> <ul style="list-style-type: none"> • Bentonite Grouting: Seal the outer annular space of the installed pipe using specialized grout to prevent the borehole from acting as a permanent land drain that diverts groundwater away from the river. • Clay Bund Interceptors: Install low-permeability clay plugs along the pipeline trench within the housing site boundaries. This stops water from tracking along the newly dug pipe path and dry-draining local wet soils. <p><u>Disturbance and displacement impacts via lighting, noise, vibration and human presence (on the River Boyne and River Blackwater SAC/SPA)</u></p> <p><u>Otter – River Boyne and River Blackwater SAC</u></p> <p>Appointment of Ecological Clerk of Works</p> <p>A suitably qualified Ecological Clerk of Works (ECoW) will be appointed at the outset of the construction works to ensure that all environmental and ecological commitments are adhered to throughout the project. The ECoW will be specifically responsible for overseeing the correct implementation of all protective measures for European sites as detailed in this Natura Impact Statement (NIS). The ECoW will provide guidance on the required mitigations to the Project Team, and in particular the Site Manager. The Site Manager shall ensure that all personnel working on-site are trained and aware of the mitigation measures detailed below. While the Ecological Clerk of Works (ECoW) oversees ecological and environmental compliance, they are not solely responsible. All project staff, including the appointed contractor(s) environmental personnel, share the responsibility for ensuring that environmental best practices are adhered to. The appointed contractor(s) staff must work together to maintain high environmental standards and mitigate impacts, thereby ensuring the success of the project’s environmental commitments.</p> <p>The ECoW will monitor works practices with targeted efforts and attendance at site at project start up to ensure mitigation measures and best practice measures are in place. The ECoW will also be present onsite to monitor excavation and dewatering operations during the project construction phase. The frequency of the ECoW’s attendance on site will be dictated by the nature of the works. It is recommended that a weekly site visit be completed during the construction visit, but this may need to be more frequent during specific works practices such as deep excavations or dewatering. The ECoW will be fully apprised of all of the mitigation measures included in the project EclA and NIS.</p> <p>The appointed ECoW will be a member of the Chartered Institute of Ecology and Environmental Management (CIEEM), or equivalent, and will have at least 5 years consultancy experience, with commensurate experience in the role of ECoW for work on similar construction projects. The appointed Ecologist or environmental scientist will have the authority to stop works or temporarily halt or delay ongoing works where further consideration or on-site improvements of mitigation may be necessary.</p> <p>Surveys for the Presence of Otters</p> <ul style="list-style-type: none"> • Preconstruction surveys for otters will be carried out along the River Boyne in the area to the south of the site given the time between the original surveys and site clearance and construction works commencing on site. |

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| | <ul style="list-style-type: none"> • If otters or evidence of otters is found during pre-construction surveys, an otter management plan will be developed by the appointed ecologist. No works will commence until this plan is developed and further mitigation is implemented to ensure no impacts on otters. • The construction corridor will be marked out prior to the commencement of construction. • All mitigation measures as outlined within the accompanying CMP, CEMP and elsewhere within the EclA and NIS in relation to protection of surface waters will be implemented in full. <p><u>Kingfisher – River Boyne and River Blackwater SPA</u></p> <p>In addition to the appointment of an EcOW, the following measures will be in place for the protection of Kingfisher:</p> <p>Visual & Acoustic Buffers (The 100m Zone)</p> <ul style="list-style-type: none"> • Establish a Disturbance Buffer: Ensure that heavy drilling machinery, generators, and the primary HDD launch/reception pits are physically set back as far as possible—ideally more than 100m from identified nesting banks. • Acoustic Screen Hoarding: Erect 3-metre-high, high-density timber or acoustic blanket hoarding around the HDD drilling rig. This physical barrier blocks the line-of-sight and absorbs engine noise, preventing the birds from abandoning nearby territories. • Muffled Generators: Use only ultra-silent, enclosed, and baffled generators for the continuous pumping operations required during the HDD pull-back phase. <p>Seasonal Restrictions & Pre-Construction Surveys</p> <ul style="list-style-type: none"> • The Breeding Window Blackout: Ban all high-vibration HDD drilling and heavy excavation within the SPA boundaries during the peak Kingfisher breeding season, which runs from March 1st to August 31st. • Pre-Construction Checks: Retain an experienced project ornithologist to conduct specialized Kingfisher surveys along a 300m stretch upstream and downstream of the HDD crossing point 2–3 weeks before any work begins. If an active nesting burrow is found, works must halt until the chicks have fully fledged. <p>Protecting Foraging Clarity & Prey Dynamics</p> <ul style="list-style-type: none"> • Zero-Turbidity Controls: Implement the highest standard of surface water protection. Runoff from the housing development site must pass through a multi-stage settlement system (e.g., silt traps, flocculant pods, or hydrocarbon interceptors) before any clean water is discharged. Turbid, muddy runoff prevents Kingfishers from hunting. • Frac-Out Interception: If a bentonite blowout occurs, it will instantly cloud the river and coat fish spawning gravels. Your Frac-Out Contingency Plan must include immediate automated pressure shut-offs to prevent visibility loss in the Kingfisher's hunting territory. <p>Preserving and Reinstating Hunting Perches</p> <ul style="list-style-type: none"> • Perch Preservation: Kingfishers rely on low-hanging branches over the water to hunt. Map and fence off all overhanging riparian trees within your site boundary using strict root protection zones. • Temporary/Artificial Perches: If minor bankside tree trimming is unavoidable to safely complete the HDD setup, install temporary wooden posts or branches over the river nearby to serve as substitute hunting perches during the construction window. |

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| | <p>Light Pollution Control Kingfishers are strictly diurnal (daytime) hunters and rely on specific light cycles. Artificial light spilling onto the river disrupts their behaviour and exposes sleeping birds to nocturnal predators.</p> <ul style="list-style-type: none"> • Zero-Spill LED Lighting: All construction and security lighting on the housing site must use highly directional, baffled LED luminaires. • Asymmetric Beam Angles: Light fixtures must be tilted downwards and fitted with cowls or shields to ensure 0 lux spill onto the SPA river channel and riparian banks. • Night-Time Blackout: No artificial lighting is permitted within the SPA boundary between dusk and dawn. This ensures the natural dark corridor of the River Boyne is fully preserved. <p>Construction Noise Reduction Sudden or sustained loud noises from the HDD rig, excavators, and generators will disrupt Kingfisher communication and territory defence.</p> <ul style="list-style-type: none"> • Strict Decibel Limits: Ambient noise levels at the edge of the active SPA boundary must not exceed 55 dB during daytime hours. • No-Honk Policy: Heavy machinery and delivery trucks must be fitted with broadband "white noise" reversing alarms instead of high-pitched beepers. General vehicle horn blowing must be strictly prohibited on-site. • Acoustic Enclosures: The HDD power pack and mud-mixing pumps must sit inside localized acoustic booths or wraps to dull low-frequency engine drone. <p>Sub-Surface Vibration Mitigation Heavy vibrations travel efficiently through water and riverbanks, which can cause soft, sandy Kingfisher nesting burrows to collapse structurally.</p> <ul style="list-style-type: none"> • Continuous Vibration Monitoring: Install seismic monitoring geophones on the riverbanks adjacent to the HDD route. • Peak Particle Velocity (PPV) Thresholds: Ground vibrations must be kept below 2.0 mm/s PPV at the riverbank to guarantee nest burrow stability. If a threshold is breached, an automated SMS alert must instantly trigger a stop-work order until drilling pressures or methods are adjusted. • No Impact Piling: If trench sheet shoring is required for the launch and reception pits, it must be installed using silent, hydraulic "press-in" methods rather than drop-hammer or vibratory piling hammer methods. <p>Human Presence & Visual Disturbance The physical movement of workers, high-visibility jackets, and vehicles can easily scare a Kingfisher away from its hunting perch or nest.</p> <ul style="list-style-type: none"> • Visual Screening Fencing: Install a continuous, 2.4-metre-high solid timber hoarding fence along the entire landward edge of the SPA boundary before any ground is broken. This completely cuts off the line-of-sight between human activity on the housing site and the river corridor. • Restricted Access Zones: The riparian zone outside the immediate, fenced HDD corridor must be designated an Ecological Exclusion Zone. No workers, personal vehicles, or material storage are allowed inside this zone. |

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| | <ul style="list-style-type: none"> ● Eco-Induction (Toolbox Talks): Every contractor and site worker must undergo a mandatory ecological induction before entering the site. This training covers the legal protection of the Kingfisher, boundary restrictions, and the strict penalties for entering exclusion zones. <p><u>Habitat degradation as a result of air quality impacts (on the River Boyne and River Blackwater SAC/SPA)</u> As outlined in the CMP by Waterman Moylan, the following measures will be in place:</p> <ul style="list-style-type: none"> ● The use of hardcore access route to work front; ● A regime of ‘wet’ road sweeping can be set up to ensure the roads around the immediate site are as clean and free from dirt / dust arising from the site, as is reasonably practicable. This cleaning will be carried out by approved mechanical sweepers. ● Footpaths immediately around the site can be cleaned by hand regularly, with damping as necessary. ● High level walkways and surfaces such as scaffolding can be cleaned regularly using safe ‘wet’ methods, as opposed to dry methods. ● Vehicle waiting areas or hard standings can be regularly inspected and kept clean by brushing or vacuum sweeping and will be regularly sprayed to keep moist, if necessary. ● Vehicle and wheel washing facilities can be provided at site exit(s) where practicable. If necessary vehicles can be washed down before exiting the site. ● Netting can be provided to enclose scaffolding in order to mitigate escape of air borne dust from the demolition. ● Vehicles and equipment shall not emit black smoke from exhaust system, except during ignition at start up. ● Engines and exhaust systems should be maintained so that exhaust emissions do not breach stationary emission limits set for the vehicle / equipment type and mode of operation. ● Servicing of vehicles and plant should be carried out regularly, rather than just following breakdowns. ● Internal combustion plant should not be left running unnecessarily. ● Exhaust direction and heights should be such as not to disturb dust on the ground and to ensure adequate local dispersal of emissions. ● Where possible fixed plant such as generators should be located away from residential areas. ● The number of handling operations for materials will be kept to a minimum in order to ensure that dusty material is not moved or handled unnecessarily. ● The transport of dusty materials and aggregates should be carried out using covered / sheeted lorries. ● Material handling areas should be clean, tidy and free from dust. ● Vehicle loading should be dampened down and drop heights for material to be kept to a minimum. ● Drop heights for chutes / skips should be kept to a minimum. ● Dust dispersal over the site boundary should be minimised using static sprinklers or other watering methods as necessary. ● Stockpiles of materials should be kept to a minimum and if necessary, they should be kept away from sensitive receptors such as residential areas etc. ● Stockpiles were necessary, should be sheeted or watered down. ● Methods and equipment should be in place for immediate clean-up of spillages of dusty material. |

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| | <ul style="list-style-type: none"> • No burning of materials will be permitted on site. • Earthworks excavations should be kept damp where necessary and where reasonably practicable. • Cutting on site should be avoided where possible by using pre-fabrication methods to facilitate any temporary works that may be required to enable the demolition. • Equipment and techniques for cutting / grinding / drilling / sawing etc, which minimise dust emissions and which have the best available dust suppression measures, should be employed. • Prior to commencement, the main contractor should identify the demolition operations which are likely to generate dust and to draw up action plans to minimise emissions, utilising the methods highlighted above. Furthermore, the main contractor should prepare environmental risk assessments for all dust generating processes, which are envisaged. • The main contractor should allocate suitably qualified personnel to be responsible for ensuring the generation of dust is minimised and effectively controlled. • Demolition works to incorporate water spray to reduce dust. <p><u>Habitat degradation as a result of the introduction and/or spread of invasive species (River Boyne and River Blackwater SAC/SPA)</u></p> <p>Biosecurity and Invasive Species Management</p> <p><u>General Procedures for Construction</u></p> <p>Biosecurity of both plant and animal species will be employed pre and post works and will form part of the Appointed Contractor's CEMP. The biosecurity protocols will include:</p> <ul style="list-style-type: none"> • Implement Check–Clean–Dry procedures for all plant, equipment and PPE before entering and leaving site. • Restrict machinery movement and use designated access routes to protect the riparian zones. • Identify and demarcate any invasive species areas to prevent disturbance. • Inspect, segregate and appropriately manage excavated soils to avoid spread of invasive plant material. • Follow IFI field work protocol for field survey work (2010) aquatic biosecurity protocols for all works near watercourses • Deliver toolbox talks to all personnel on invasive species awareness and biosecurity requirements. • Maintain ongoing environmental supervision to ensure compliance and address issues promptly. <p><u>Specific Procedures for Construction</u></p> <ul style="list-style-type: none"> • All existing areas containing Japanese knotweed & Sea Buckthorn will be marked with tape/fenced to create a 7m exclusion zone. • No machinery/personnel will be permitted to enter the invasives exclusion zone without prior consultation and supervision by a qualified ecologist or invasive species specialist. • All measures outlined in the Invasive Species Management Plan (Appendix IV) will be adhered to. |

| Sensitive Receptors | Potential Impacts and Mitigation Measures to Prevent Impacts on Natura 2000 sites |
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| | <ul style="list-style-type: none"> • A pre-construction assessment for invasive species will be carried out prior to construction and an updated Invasive Species Management Plan provided. <p><u>Protection of Petrifying Springs with Tufa formation (<i>Cratoneurion</i>) [7220]</u></p> <p>Petrifying springs with tufa formation (<i>Cratoneurion</i>) [7220] are an EC Habitats Directive Annex I priority habitat and are present on site. While it is not a qualifying interest of any European site within the ZOI of the proposed development, potential impacts on this habitat were considered in the Appropriate Assessment Screening & Natura Impact Statement, but effects on this habitat are not considered relevant to the assessment of adverse effects on the integrity of the European site, as the River Boyne and River Blackwater SAC & SPA conservation objectives do not relate to this species. Considering this, the following measures will be in place as outlined in Dr Joanne Denyer’s Petrifying Spring Survey and Assessment:</p> <p>‘Direct disturbance</p> <ul style="list-style-type: none"> • <i>The spring/ seepages should be protected from any direct disturbance. There should be no construction works in the petrifying spring/ seepage zones within the SAC.</i> • <i>The spring/ seepages should be protected from recreational disturbance/ pressure resulting from the proposed development. Public access is required to the western spring (‘St Patrick’s Well’). This should be limited to the well only and access to the riverbank from this location prevented/ discouraged as this would cause damage to the petrifying spring and adjacent hydrophilous tall-herb vegetation.’</i> <p>Hydrogeological Impacts</p> <p>An assessment of potential hydrogeological impacts on petrifying springs within the site from the proposed LRD and required design and mitigation features to avoid impacts are detailed in Meehan (2025) ‘<i>Hydrogeological assessment for proposed Large Scale Residential Development (LRD), by Loughglynn Developments Limited, at a site on the Kildalkey road, Trim, County Meath –Land, soils, geology, hydrology and hydrogeology.</i>’</p> <p>This states that no works will be undertaken in the vicinity of the springs, that the depths of the groundwater across the site are well below the level of any of the construction activities (e.g. foundations and other excavations into the subsurface on the site) and the proposed rising main borehole will not pump or dewater the area within and around it (Section 9.2 of the Hydrogeological assessment). Required mitigation and avoidance measures are detailed (as outlined above).</p> <p>The hydrogeological assessment concludes:</p> <p><i>‘Due to the nature of proposed LRD developments being near-surface construction activities, impacts on groundwater are generally negligible and surface water is generally the main sensitive receptor assessed during impact assessments. The design of the proposed LRD Project has maintained the existing hydrological and hydrogeological regime on the site in as much as possible.</i></p> <p><i>This means that all SUDS measures will discharge as diffusely as possible and at as shallow a depth as possible, using individual shallow soakaways for each house individually and wide, expansive, shallow soakaways for the road network.</i></p> |

| Sensitive Receptors | Potential Impacts and Mitigation Measures to Prevent Impacts on Natura 2000 sites |
|---------------------|---|
| | <p><i>This will mean no significant effects on groundwater levels and / or flows, and / or surface water, will occur as a result of the proposed LRD Project.'</i></p> <p>Monitoring</p> <ul style="list-style-type: none"> • All survey and monitoring of the petrifying springs (pre- during and post-construction) must be undertaken by an experienced petrifying spring ecologist. • The petrifying springs must be surveyed pre-construction to provide an updated baseline from the 2025 surveys. As the vegetation was disturbed in 2024/ 2025 the petrifying spring vegetation is recovering and is likely to change in the next 1-2 years. The pre-construction surveys must be undertaken within 12 months of construction works starting. • The petrifying springs must be monitored annually during construction. This will include a repeat of the detailed baseline plots at least once and annual walk-over surveys. • The petrifying springs must be monitored post construction, once the site is operational) to assess any impact from recreational access. This should be undertaken one year after operation commences and then every two years for a minimum of five years in total. If there is any disturbance to the petrifying springs, then access to the petrifying springs must be reviewed. <p>Therefore, it was concluded that <i>'There are no predicted significant hydrogeological impacts to the Annex I priority petrifying springs from the proposed development. This is because no works will be undertaken in the vicinity of the springs, the depths of the groundwater across the site are well below the level of any of the construction activities and the proposed rising main borehole will not pump or dewater the area within and around it (Meehan, 2025).'</i></p> <p>Operational Phase</p> <ul style="list-style-type: none"> • Hydrocarbons from vehicles within the site confines will pass through the Sustainable Drainage System's hydrocarbon interceptors which will clean water and expose potential hydrocarbons to sunlight, to allow the breakdown of same, within the proposed surface water drainage network. These mitigation measures are considered sufficient to eliminate potential risks to ground/soils and subsoils, and groundwater and surface water quality. All drainage systems will be inspected to ensure compliance with Water Pollution Acts. • A project ecologist will be appointed to oversee completion of all landscape and drainage works. • Monitoring and post-construction surveys of petrifying springs habitat. <p>Impacts on the River Boyne and River Blackwater which may arise from increased human presence during operation can be limited as follows:</p> |

| Sensitive Receptors | Potential Impacts and Mitigation Measures to Prevent Impacts on Natura 2000 sites |
|---------------------|---|
| | <ul style="list-style-type: none"> • Eco-Defensive Planting: Install a wide (3–5 metre), continuous buffer zone along the lower edge of the housing estate. Plant this densely with native, thorny species like Hawthorn (<i>Crataegus monogyna</i>), Blackthorn (<i>Prunus spinosa</i>), and Holly (<i>Ilex aquifolium</i>). This forms an impassable natural barrier to humans and dogs. • Anti-Climb Boundary Fencing: Erect a high-quality, 2-metre-high weld-mesh or timber palisade fence on the development side of the thorny buffer. This must be a permanent structure maintained by the estate management company to block the creation of informal "desire lines" or trails down to the water. • Educational Interpretation Boards: Install high-quality, weather-resistant signs at key open space viewpoints overlooking the valley. These boards should highlight the ecological importance of the River Boyne's Kingfishers and Otters, explaining that keeping a distance preserves their habitats. • Homeowner Welcome Packs: Work with the developer to include an "Ecological Awareness Leaflet" in the welcome pack for every new homeowner. This booklet details the sensitivity of the adjacent SAC/SPA, rules on pet management, and the ban on dumping garden waste over the boundary fence. • Buffer Zones as "No-Go" Areas: Designate the slope between the houses and the SAC/SPA boundary as a low-intervention biodiversity zone with no footpaths, lighting, or benches. • A line of native canopy trees will act as a permanent visual screen, ensuring that human movement and vehicle headlights on the high ground do not startle birds or otters below (as shown in the landscape plan). |

8 Adverse Effects on the conservation objectives of Natura 2000 sites likely to occur from the project (post mitigation)

A robust series of mitigation measures are proposed. These would ensure that surface water runoff from the proposed works site is clean, uncontaminated and that dust from the works would not significantly impact on the River Boyne. It should be noted that the early implementation of ecological supervision on site will be at the initial mobilisation and enabling works. This is seen as an important element to the project, particularly in relation to the construction phase of the housing development.

With the successful implementation of the mitigation measures to limit surface water impacts on the River Boyne, including mitigation/supervision, no significant impacts are foreseen from the demolition and site clearance works of the proposed project. Residual impacts of the proposed project will be localised to the immediate vicinity of the proposed works and would not impact on the integrity of proximate Natura 2000 sites.

The construction and operational mitigation proposed for the development satisfactorily addresses the mitigation of potential impacts on River Boyne and River Blackwater SAC & SPA and River Boyne through the application of the standard demolition phase controls as outlined above. In particular, the mitigation measures to ensure compliance with Water Pollution Acts, Inland Fisheries Ireland guidance and to prevent silt and pollution entering the River Boyne will satisfactorily address the potential impacts on downstream biodiversity and Natura 2000 sites. No significant adverse impacts on the conservation objectives of Natura 2000 sites are likely following the implementation of the mitigation measures outlined above.

It is essential that these measures outlined are complied with, to ensure that the proposed development does not have “downstream” environmental impacts. These measures are to protect the surface water, which is the primary vector of impacts from the site, and to ensure that it is not impacted during site clearance and construction works.

8.1 In-Combination Effects

There are several proposed developments (last five years) located in the area immediately surrounding the subject site that have been assessed for potential in-combination effects through the examination of planning documentation. The following is a list of planning applications in close proximity to the subject site as identified on the Department of Housing, Local Government and Heritage's 'National Planning Application Database' portal¹⁴;

Table 8. In combination effects evaluated.

| Ref. No. | Address | Proposal |
|----------|---|---|
| 2560882 | At a site of c. 2.65 hectares bounded by 'The Belfry' to the north the rear of dwellings on the Kildalkey Road to the south Talbot Court/Butterstream Gardens to the east and agricultural lands to the west at Athboy Road , Trim , Co. Meath. | The development will consist of: (A) 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); (B) 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; (C) 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) and terraced houses in secure shelters to their front curtilage (totalling 90 no. spaces); internal road and shared surface networks including pedestrian paths; (D) Provision of c. 0.491 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; (E) 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. A Natura Impact Statement has been prepared and will be submitted to the planning authority with the application. Significant Further Information/Revised Plans submitted on this application |
| 221176 | Emmet Street , Trim , Co. Meath | permission for amendments to permitted application reference no. 211907, which amended planning application reference TA t 90634 (ABP-306550-20) which amended planning application reference TT/800019. Planning application reference no. 219907 had granted permission for a three-storey apartment building containing 12 no. apartments, which amended a previously approved apartment block under planning references TA190634 (ABP-306550 20) and TT/800019, at Emmet Street, Trim, Co. Meath. The proposed amendments include 1) the revised location of Stairwell Window. 2) alterations of Window Type 2, change of dimension from 3350mm to 2530mm wide to facilitate boiler and Flue position. 3) the inclusion of a Lift Shaft to Provide the Necessary 3450mm Height between the Finished 2nd Floor level and the underside of the Lift Eye Beam for Health and Safety Purposes. 4) a change to the North Facing Fa.-;ade, change from stone effect cladding to Painted Render. 5) the inclusion of a Roof AOV - TGD Part 8. 6) the inclusion of approx. 48 PV Panels in adherence to TGO Part L & BER and 7) all necessary ancillary and site works. The Site is within the curtilage of the Old Town Wall (a Protected Structure under the provision of the Part IV of the Planning and Development Regulations 2001) |
| 25145 | Charterschool Land , Manorlands 2nd Divisions & Commons Td | EXTENSION OF DURATION OF PLANNING PERMISSION SHD307507-20 - the development will consist of the following: • 320 no. dwellings comprising: o 136 no. houses comprising 10 no. 2-bed, 105 no. 3-bed and 21 no. 4-bed; o 120 no. apartments within 4 no. 3-5 storey blocks comprising 11 no. studio, |

¹⁴ <https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de>

| Ref. No. | Address | Proposal |
|----------|---|---|
| | 7th Division , Trim Co. Meath | 30 no. 1-bed, 71 no. 2-bed and 8 no. 3-bed; o 64 no. duplex apartments within 8 no. 3-storey blocks comprising 32 no. 2-Bed and 32 no. 3-Bed. o All units with associated private gardens/ balconies/ terraces to the north/ south/ east/ west elevations. • A creche and community centre (total floor area c.739 sq.m). • 563 no. car parking spaces, 188 no. secure/covered bike parking areas and communal bin stores for apartments/duplexes. • Vehicular and pedestrian accesses from Summerhill Road (R158) with associated upgrades including new cycleways and footpaths. • All other site works, landscaping, boundary treatments, ESB substation/switchrooms, plant and services provision required to facilitate the development. The application contains a statement setting out how the proposal will be consistent with the objectives of the Meath County Council Development Plan 2013-2019 and Trim Development Plan 2014-2020. The application contains a statement indicating why permission should be granted for the proposed development, having regard to a consideration specified in section 37(2)(b) of the Planning and Development Act, 2000, as amended, notwithstanding that the proposed development materially contravenes a relevant development plan or local area plan other than in relation to the zoning of the land. |
| 2460132 | Crowpark (1st Division) , Kildalkey Road , Trim Co.Meath | the development will consist of the construction of a storey and a half style dwelling with a car port, a detached domestic garage, a domestic wastewater disposal system, new site entrance and all associated site works. Significant Further Information / Revised Plans submitted on this application. |
| 2560546 | Manorland , 2nd Division , Trim Co. Meath C15 HF30 | Retention Permission is being sought for the domestic extensions constructed to the rear and side of existing dwelling along with the attic conversion for use as home office and study. Retention is also being sought for 2 No. buildings that accommodate workshops and a garage |
| 2460076 | Mercy Convent , Emmet Street , Townparks South Trim Co.Meath C15 WD62 | i the development will consist of the change of use from residential convent to tourism accommodation in ten apartment suites, removal of modern toilet and bathroom block, reconfiguration, refurbishments, repairs and alterations to the internal layout. The ten apartment suites will be available for short term let, which will include, at times, letting out the convent as a whole, including the chapel. The development will include new storage areas, bike store and plant room in existing sheds, new canopy to the rear entrance, changes to the elevations, changes to the site layout, connection to all public services and all associated site works. The Convent is a protected structure, ref: 91275, and is located within the Trim historical architectural conservation area and the Trim zone of archaeological potential. Trees to be protected are located within the convent site |
| 2660137 | Trim Castle Hotel , Castle Street , Trim Co Meath | the development will consist of: Alterations to the first floor of the existing hotel to provide for additional bedrooms which will consist of: (i) change of use of restaurant area at 1st floor level to provide for 7 no. en-suite bedrooms; (ii) change to internal layout to provide for associated corridors, internal doors and necessary alterations. There are no external changes proposed; and (iv) all other associated engineering works, drainage, landscaping, lighting, and ancillary works necessary to facilitate the development |

Most of the applications in the vicinity of the site (many have been excluded due to irrelevancy and some projects within the immediate vicinity of the site have been listed above) relate to small scale projects with temporary/short term construction phases, and consist of alterations of existing structures, change of use applications or minor public infrastructural improvements. The larger-scale developments that are proposed in the wider area are subject to separate planning processes and are not foreseen to have significant in-combination effects with the proposed project, as the projects will be designed to ensure, and will not be consented unless, there are no likely significant effects on any European Sites. The proposed development will not result in any residual adverse effects on any 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.

Following an analysis of development proposals surrounding the subject site which are considered to be of relevance in terms of recency and scale, it is considered that in combination effects with other existing and proposed developments in proximity to the application area would be unlikely, neutral, not significant and localised. It is concluded that no significant effects on Natura 2000 sites are likely as a result of the proposed development in combination with other projects. No in combination effects are foreseen.

No projects in the vicinity of the proposed development would be seen to have a significant in combination effect on Natura 2000 sites.

9 Conclusion

In a strict application of the precautionary principle, it has been concluded that significant effects on the integrity of River Boyne and River Blackwater SAC & SPA are likely from the proposed works in the absence of mitigation measures, primarily as a result of direct hydrological connection to the site via dust and surface water runoff to the River Boyne and the potential for a pollution event given the presence of hazardous waste materials on-site. For this reason, an NIS was carried out to assess whether the proposed project, either alone or in combination with other plans or projects, in view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European Site. All other Natura 2000 sites were screened out at initial screening.

Demolition works will create localised light and noise disturbance that will not impact on Natura 2000 sites. Mitigation measures must be in place to ensure that there are no significant impacts on the surface water that leads to Dublin Bay.

Following the implementation of the mitigation measures outlined, the site clearance, construction works and operation of the proposed development would not be deemed to have a significant impact on the River Boyne or its corresponding SAC and SPA. No significant adverse effects are likely on any European site, alone in combination with other plans and projects based on the implementation of mitigation measures.

This report presents an Appropriate Assessment Screening and NIS for the proposed development. It outlines the information required for the competent authority to screen for appropriate assessment and to determine whether or not the proposed development, either alone or in combination with other plans or projects, in view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European site.

On the basis of the content of this report, the competent authority is enabled to conduct an Appropriate Assessment and consider whether, either alone or in combination with other plans or projects, in view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European site.

No significant effects are likely on Natura 2000 sites, their features of interest or conservation objectives. The proposed project will not will adversely affect the integrity of European sites.

10 Data used for the AA Screening/NIS Assessment

NPWS site synopses and Conservation objectives of sites within 15km were examined. There is no direct pathway to any Natura 2000 sites beyond 15km of the proposed development site. The most recent SAC and SPA boundary shapefiles were downloaded and overlaid on ESRI terrain maps and satellite imagery. Several site visits were carried out, including wintering bird and flightline assessments to determine if the site or project contained possible threats to a Natura 2000 site or any Natura 2000 species or habitats. An EclA accompanies this AA Screening and NIS.

11 References

The following references were used in the preparation of this AA screening report.

1. Department of Environment Heritage and Local Government Circular NPW 1/10 and PSSP 2/10 on Appropriate Assessment under Article 6 of the Habitats Directive – Guidance for Planning Authorities March 2010.
2. Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities, Department of the Environment, Heritage and Local Government 2009;
www.npws.ie/publications/archive/NPWS_2009_AA_Guidance.pdf
3. Managing NATURA 2000 Sites: the provisions of Article 6 of the Habitats Directive 92/43/EEC, European Commission 2000;
ec.europa.eu/environment/nature/Natura2000/management/docs/art6/provision_of_art6_en.pdf
4. 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;
ec.europa.eu/environment/nature/Natura2000management/docs/art6/Natura_2000_assess_en.pdf
5. Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission;
ec.europa.eu/environment/nature/Natura2000/management/docs/art6/guidance_art6_4_en.pdf
6. Guidance document on the implementation of the birds and habitats directive in estuaries and coastal zones with particular attention to port development and dredging;
ec.europa.eu/environment/nature/Natura2000/management/docs/guidance_doc.pdf
7. The Status of EU Protected Habitats and Species in Ireland.
www.npws.ie/publications/euconservationstatus/NPWS_2007_Conservation_Status_Report.pdf
8. NPWS (2024) Conservation Objectives: River Boyne and River Blackwater SPA 004232. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
9. NPWS (2013) Conservation Objectives: Boyne Estuary SPA 004080. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
10. NPWS (2023) Conservation Objectives: North-west Irish Sea SPA 004236. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
11. NPWS (2012) Conservation Objectives: River Nanny Estuary and Shore SPA 004158. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
12. Meahan, R. T. (2025). *Hydrogeological assessment for proposed Large Scale Residential Development (LRD), by Loughglynn Developments Limited, at a site on the Kildalkey road, Trim, County Meath – Land, soils, geology, hydrology and hydrogeology*. Report for Loughglynn Developments Limited.
13. Kildalkey Road Petrifying Springs Survey and Assessment, Denyer Ecology, 2026

12 Appendix I Habitats and Species

Extracted from accompanying EclA:

BC3 - Tilled land

The majority of the proposed development site comprised of tilled land. There was no sprouting vegetation at the time of the survey.



Plate 1. Tilled field.

WS1 – Scrub

Patches of brambles (*Rubus fruticosus agg*) scrub were mosaiced throughout the site.

WL2 – Treeline

Treelines lined the east and north boundaries of the site. The tree species included sycamore (*Acer pseudoplatanus*), ash (*Fraxinus excelsior*), alder (*Alnus glutinosa*), elder (*Sambucus nigra*), hawthorn (*Crataegus monogyna*), willow (*Salix sp.*), cypress (*Cupressus spp.*), horse chestnut (*Aesculus hippocastanum*). The hedgerow understory consisted of brambles (*Rubus fruticosus agg*), blackthorn (*Prunus spinosa*), snowberry (*Symphoricarpos albus*), red-osier dogwood (*Cornus sericea*), snowberry (*Symphoricarpos albus*), ivy (*Hedera helix*), Sea-buckthorn (*Hippophae rhamnoides*) (Invasive), French crane's-bill (*Geranium endressii*), cleavers (*Galium aparine*) and nasturtium (*Tropaeolum majus*).

GS4 – Wet Grassland/ FP1 - Calcareous springs

At the south of the site was a wet grassland into calcareous springs habitat. The grassland consisted of vascular plants such as smooth hawksbeard (*Crepis capillaris*), self-seeding willow (*Salix sp.*), ribwort plantain (*Plantago lanceolata*), greater plantain (*Plantago major*), Changing Forget-me-not (*Myosotis discolor*), black medic (*Medicago lupulina*), hogweed (*Heracleum sphondylium*), nettle (*Urtica dioica*), creeping buttercup (*Ranunculus repens*), meadow buttercup (*Ranunculus acris*), common bent grass (*Agrostis capillaris*) and rose-bay willowherb (*Chamaenerion angustifolium*).

The vascular plants found directly around the Tufa formations included meadowsweet (*Filipendula ulmaria*), pendulous sedge (*Carex pendula*), hedge bindweed (*Calystegia sepium*), cocksfoot (*Dactylis glomerata*), yellow flag (*Iris pseudacorus*), common spikerush (*Eleocharis palustris*) and marsh horsetail (*Equisetum palustre*). Bryophyte, liverworts and algae were found around the tufa formations however these were not identified to species level. Historic agricultural disturbance was noted in parts of this area.



Plate 2. Tufa formation on roots of vegetation.



Plate 3. Tufa formation in roots of vegetation.

WN5 – Wet-willow-ash woodland (outside the site boundary)

The woodland to the south of the site along the river Boyne was predominantly alder (*Alnus glutinosa*) and willow species including eared willow (*Salix aurita*), grey willow (*Salix cinerea* subsp. *oleifolia*) and osier (*Salix viminalis*) with some elder (*Sambucus nigra*), sycamore (*Acer pseudoplatanus*), and hawthorn (*Crataegus monogyna*). Species noted in the herbaceous layer included hawthorn (*Crataegus monogyna*). Species noted in the herbaceous layer included nettle (*Urtica dioica*), red deadnettle (*Lamium purpureum*), herb Robert (*Geranium robertianum*), brambles (*Rubus fruticosus* agg.), rose-hip (*Rosa canina* agg.), false oat grass (*Arrhenatherum elatius*), tall fescue (*Schedonorus arundinaceus* (*Festuca arundinacea*)), bittersweet (*Solanum dulcamara*), blue water speedwell (*Veronica anagallis-aquatica*), water mint (*Mentha aquatica*), water dock (*Rumex hydrolapathum*), pendulous sedge (*Carex pendula*), meadowsweet (*Filipendula ulmaria*), field woundwort (*Stachys arvensis*), marsh woundwort (*Stachys palustris*), hedge woundwort (*Stachys arvensis*), common knapweed (*Centaurea nigra*), bush vetch (*Vicia sepium*), water figwort (*Scrophularia auriculata*), alexanders (*Smyrniolus olusatrum*), hogweed (*Heracleum sphondylium*), ivy-leaved speedwell (*Veronica hederifolia*), sharp-flowered rush (*Juncus acutiflorus*), many horsetail species including marsh horse tail (*Equisetum palustre*), water-cress (*Nasturtium officinale* (*Rorippa nasturtium-aquaticum*)), jointed rush (*Juncus articulatus*), brooklime (*Veronica beccabunga*), purple loose-strife (*Lythrum salicaria*) and tufted vetch (*Vicia cracca*).

ED3 - Recolonising bare ground

In the areas between the grassland and tilled land was recolonising bare ground. Species noted within this habitat included white clover (*Trifolium repens*), red clover (*Trifolium pratense*), ribwort plantain (*Plantago lanceolata*), greater plantain (*Plantago major*), groundsel (*Senecio vulgaris*), thistles (*Cirsium* spp.), daisy (*Bellis perennis*), self-seeding willow (*Salix* sp.), dandelions (*Taraxacum officinale* agg.), great willowherb (*Epilobium hirsutum*), common ragwort (*Jacobaea vulgaris*), common vetch (*Vicia sativa*), nettle (*Urtica dioica*), broad-leaved docks (*Rumex obtusifolius*), black medic (*Medicago lupulina*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*) and lesser stitchwort (*Stellaria graminea*).

FW2 – Lowland/depositing river

Along the south border of the site is the River Boyne which flows east. There are four streams onsite that flow south to join with the River Boyne. The proposed HDD works will be carried out under a section of the River Boyne to connect the foul water system.



Plate 5. River Boyne at south of site



Plate 6. On-site Stream

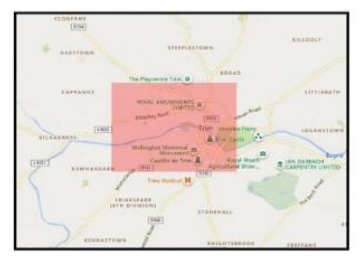
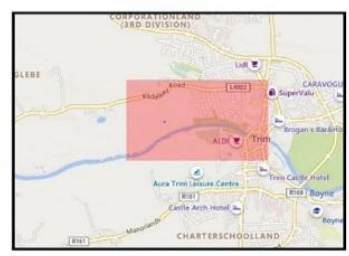
Figure 1. Fossitt (2000) Habitat Map (orange and green crosses denote Badger setts).



0 100 200 300 400 500 600 m

Project: Proposed Development
 Location: Trim, Co.Meath.
 Date: 16th April 2026
 Drawn By: Emma Peters (Altamar)

ALTEMAR
 Marine & Environmental Consultancy



Discussion of habitats:

The proposed development site is dominated by intensively managed agricultural land comprising tilled land (BC3), which forms the majority of the site. This habitat is of low ecological value due to the absence of vegetation (tilled land) during the survey period and its intensive agricultural management. Areas of recolonising bare ground (ED3) and scattered scrub (WS1) occur throughout the site and provide limited ecological value, supporting common ruderal and early successional plant species. Treelines (WL2) occur along the eastern and northern site boundaries and represent the principal terrestrial linear features within the site. These treelines contain a diverse assemblage of native and non-native tree and shrub species and provide habitat connectivity between the wider landscape and adjacent habitats. The dense understory offers shelter and foraging opportunities for birds, mammals, and invertebrates. The presence of mature trees and structurally diverse vegetation increases the ecological value of these features relative to the surrounding agricultural habitats. The treelines also support two badger setts located immediately outside the red line boundary, including a large active sett to the west and a smaller sett to the northwest, greater than 100m from the site outline. While outside the proposed development footprint, their proximity increases the ecological sensitivity of the site and highlights the importance of maintaining habitat connectivity and avoiding disturbance during construction. The most ecologically significant habitat within the site is the wet grassland (GS4) and associated calcareous spring habitat (FP1) located in the northern section of the site. The habitat supports a diverse assemblage of wetland plant species and contains tufa-forming spring systems. Tufa deposition is evident around vegetation roots and represents a specialised ecological feature associated with calcareous groundwater discharge. The presence of bryophytes, liverworts and algal communities associated with these formations further contributes to the ecological significance of the habitat. Calcareous springs are recognised as habitats of high conservation value due to their rarity and specialised ecological conditions. The habitat provides a transition between terrestrial and aquatic environments and supports local biodiversity through the provision of permanently wet conditions and diverse vegetation structure. To the south of the site, adjacent to the River Boyne, is an area of wet willow-alder-ash woodland (WN5). This habitat supports a diverse canopy and understory structure characteristic of riparian woodland systems. The woodland contains numerous wetland-associated plant species and contributes significantly to local biodiversity through the provision of shelter, nesting habitat, foraging opportunities, and ecological connectivity along the river corridor. The woodland forms part of a wider riparian network associated with the River Boyne and functions as an important ecological corridor for a range of fauna, including birds, mammals, bats, amphibians and invertebrates. The River Boyne (FW2) forms the southern boundary of the site and represents a habitat of high ecological importance at both local and regional scales. In addition to supporting aquatic and riparian biodiversity, the river provides an important ecological corridor through the landscape. Four streams traverse the site and flow southwards into the River Boyne, increasing hydrological connectivity between the site and the wider catchment. These watercourses support habitat diversity and may facilitate movement of aquatic and semi-aquatic species through the landscape.

Overall, the site comprises a mosaic of habitats ranging from low ecological value agricultural land and recolonising bare ground to habitats of higher ecological importance associated with wetland, spring, woodland and riverine environments. The wet grassland/calcareous spring habitat, riparian woodland, River Boyne and associated watercourses represent the most ecologically valuable habitats within and adjoining the site. The treelines also provide important ecological connectivity and support protected species in the immediate vicinity. Consequently, these habitats should be considered key ecological receptors during the design, assessment and implementation of the proposed development.

Flora

The plant species encountered at the various locations on site are detailed above. No rare or plant species of conservation value were noted during the field assessment. Records of rare and threatened species from NBDC and NPWS were examined. No rare or threatened plant species were recorded within the proposed development site.

Invasive species

Walkover assessments of the development site were carried out by Emma Peters on the 25th and 30th September 2025. All areas were examined for Invasive species during the optimal survey season. Two areas of sea buckthorn infestation were identified; one within the site outline along the western boundary treeline, and another area also to the west of the site, located c.50m outside the site boundary. Sea buckthorn is a Third Schedule listed species under Regulations 49 & 50 in the European Communities (Birds and Natural Habitats) Regulations 2011. No other non-native invasive species listed in the third schedule of (SI 477 of 2011) were noted on site. An Invasive Species Management Plan (Appendix IV) has been prepared to outline the extent of the infestation and the measures that will be in place to mitigate the potential impact and prevent spread of the invasive species during works in line with National and international legislation.

It should be noted that Japanese Knotweed was recorded approximately 30m outside the redline (figure 33) and c.345m from the main proposed development area.

Terrestrial Mammals

No otter holts were noted within or proximate to the site outline. An otter survey was carried out along the River Boyne to the south of the site on the 8th December 2025. No otters or signs of otters such as holts or spraint) were recorded within 150m of the proposed development site.

A large badger sett with multiple entrances was found on the western side of the field associated with the field treeline boundary. To the north of this area is another single badger sett in the treeline (see figure 33 above). During winter surveys, a camera trap was utilised to determine the activity of both setts. Both setts were active during the 2025/2026 season.

The larger sett had multiple entrances, each with fresh digging and bedding at the entrances. Latrines were also visible near the setts. The sett was on the western side of a small stream that bordered the survey area, as seen in plate 7. Given the size and activity of this site, it is likely to be a breeding badger sett. A second badger sett with a single entrance was present inside a large tree trunk to the north of the larger sett area. The tree trunk badger sett was set into the survey site boundary (plate 8). This sett was also found to be active throughout the 2025/2026 season, and is considered a satellite sett. Both setts are located at a substantial distance from the site boundary (approximately 180m and 150m respectively).



Plate 7. Large badger sett to the west of the site * entrances- orange arrows.



Plate 8. Single badger sett entrance to the west (northern hedgerow).

Bats

The bat assessment is seen in Appendix II. There were no seasonal or climatic constraints as surveys were undertaken within the active bat season in good weather conditions with surveying temperatures of greater than 10°C. Daubenton's Bat, Common Pipistrelle and Soprano Pipistrelle were noted foraging within and transiting the survey area. No definitive bat roosts were noted on site, and no bats were observed emerging from onsite trees. However, the River Boyne, to the south of the site, is considered an important bat foraging corridor.

Amphibians/Reptiles

The common frog (*Rana temporaria*) was not observed on site. However, there are features within or proximate to the site boundary and, in particular, the stream habitat proximate to the proposed development site that could be important to frog species.

Wintering Birds

Ten wintering bird surveys were carried out during the 2025/2026 wintering bird survey season. As outlined in Appendix I, the wintering bird survey concluded the following:

*A total of 22 species were recorded within, above and adjacent to the survey area across five surveys. 15 green, five amber, and two red species of conservation concern were recorded either within, over or immediately adjacent to the survey area boundary. One species listed as a Qualifying Interest of the nearby River Boyne and River Blackwater SPA (Kingfisher). One red-listed species of conservation concern in Ireland, meadow pipit (*Anthus pratensis*) was recorded foraging proximate to the survey area on two surveys.*

The proposed development in Trim is not predicted to significantly reduce available foraging areas for wintering birds, in particular those listed as Qualifying Interests of nearby SPAs. Impacts on wintering bird species moving between foraging and roosting sites are not likely in the absence of mitigation measures. The proposed development is likely to reduce the total foraging area within the survey area for red-listed species recorded during surveys. However, the reduction of foraging area for these species is not considered significant due to the scale of the development in the context of the surrounding areas and habitats available, and as the proposed site layout and landscape plan will continue to facilitate foraging by these species within the site.

Out of an abundance of caution due to the proximity of the River Boyne and River Blackwater SPA, mitigation measures are recommended. Following the full implementation of mitigation measures, no significant impacts on wintering bird species, particularly Qualifying Interests of nearby SPAs, are predicted.'

Five wintering bird surveys were carried out during the 2024/2025 wintering bird survey season. As outlined in Appendix II, the wintering bird survey concluded the following:

A total of 28 species were recorded within, above and adjacent to the survey area across five surveys. 21 green, five amber, and two red species of conservation concern were recorded either within, over or immediately adjacent to the survey area boundary. One species listed as a Qualifying Interest of the nearby River Boyne and River Blackwater SPA (Kingfisher). One red-listed species of conservation concern in Ireland, meadow pipit (*Anthus pratensis*) was recorded within or over the survey area.

The proposed development in Trim is not predicted to significantly reduce available foraging areas for wintering birds, in particular those listed as Qualifying Interests of nearby SPAs. Impacts on wintering bird species moving between foraging and roosting sites are not likely in the absence of mitigation measures. The proposed development is likely to reduce total foraging area within the survey area for red-listed species recorded during surveys. However, the reduction of foraging area for these species is not considered significant due to the scale of the development in the context of the surrounding areas and habitats available, and as the proposed site layout and landscape plan will continue to facilitate foraging by these species within the site. Out of an abundance of caution due to the proximity of the River Boyne and River Blackwater SPA, mitigation measures

are recommended. Following the full implementation of mitigation measures, no significant impacts on wintering bird species, particularly Qualifying Interests of nearby SPAs, are predicted.

Breeding Birds

The following species were noted during the 2025 Breeding Bird surveys:

| Common Name | BTO | Latin Name | BoCCI |
|---------------------------|-----|--------------------------------|-------|
| Blackbird | B. | <i>Turdus merula</i> | Green |
| Blackcap | BC | <i>Sylvia atricapilla</i> | Green |
| Blue Tit | BT | <i>Cyanistes caeruleus</i> | Green |
| Chaffinch | CH | <i>Fringilla coelebs</i> | Green |
| Chiffchaff | CC | <i>Phylloscopus collybita</i> | Green |
| Coot | CO | <i>Fulica atra</i> | Amber |
| Dunnock | D. | <i>Prunella modularis</i> | Green |
| Goldcrest | GC | <i>Regulus regulus</i> | Amber |
| Grey Heron | H. | <i>Ardea cinerea</i> | Green |
| Herring Gull | HG | <i>Larus argentatus</i> | Amber |
| Hooded Crow | HC | <i>Corvus cornix</i> | Green |
| House Martin | HM | <i>Delichon urbicum</i> | Amber |
| House Sparrow | HS | <i>Passer domesticus</i> | Amber |
| Jackdaw | JD | <i>Corvus monedula</i> | Green |
| Magpie | MG | <i>Pica pica</i> | Green |
| Mallard | MA | <i>Anas platyrhynchos</i> | Amber |
| Mistle Thrush | M. | <i>Turdus viscivorus</i> | Green |
| Moorhen | MH | <i>Gallinula chloropus</i> | Green |
| Mute Swan | MS | <i>Cygnus olor</i> | Amber |
| Robin | R. | <i>Erithacus rubecula</i> | Green |
| Rook | RO | <i>Corvus frugilegus</i> | Green |
| Song Thrush | ST | <i>Turdus philomelos</i> | Green |
| Starling | SG | <i>Sturnus vulgaris</i> | Amber |
| Swallow | SL | <i>Hirundo rustica</i> | Amber |
| Swift | SI | <i>Apus apus</i> | Red |
| Willow Warbler | WW | <i>Phylloscopus trochilus</i> | Amber |
| Woodpigeon | WP | <i>Columba palumbus</i> | Green |
| Wren | WR | <i>Troglodytes troglodytes</i> | Green |
| Confirmed Breeding | | | |
| Blackbird | B. | <i>Turdus merula</i> | Green |
| Blackcap | BC | <i>Sylvia atricapilla</i> | Green |
| Goldcrest | GC | <i>Regulus regulus</i> | Amber |
| Hooded Crow | HC | <i>Corvus cornix</i> | Green |
| House Sparrow | HS | <i>Passer domesticus</i> | Amber |
| Willow Warbler | WW | <i>Phylloscopus trochilus</i> | Amber |
| Wren | WR | <i>Troglodytes troglodytes</i> | Green |



2025/2026 Wintering Bird Assessment for a proposed housing development at Kildalkey Road, Trim, Co. Meath.



8th June 2026

Prepared by: Bryan Deegan of Altemar Ltd.

On behalf of: Loughlynn Developments Limited

Altemar Ltd., 50 Templecarrig Upper, Delgany, Co. Wicklow. 00-353-1-2010713. info@altemar.ie

Directors: Bryan Deegan and Sara Corcoran

Company No.427560 VAT No. 9649832U

www.altemar.ie

| Document Control Sheet | | | |
|-------------------------------|--|----------|---------------------------|
| Client | Loughglynn Developments Limited | | |
| Project | Wintering Bird Assessment for a proposed housing development at Kildalkey Road, Trim, Co. Meath. | | |
| Report | Wintering Bird Assessment | | |
| Date | 8 th June 2026 | | |
| Version | Author | Reviewed | Date |
| Final | Bryan Deegan | | 8 th June 2026 |

14 Summary

| | |
|------------------------------|---|
| Structure/features: | The proposed development area consists mainly of a tilled field, recolonising bare ground, bare ground and some treelines and woodland. The River Boyne is located within the site outline, as well as four on-site streams which flow to join the River Boyne. |
| Location: | Trim, Co. Meath. |
| Bird species present: | Blackbird, Blackcap, Blue Tit, Buzzard, Chaffinch, Chiffchaff, Cormorant, Dunnock, Great Tit, Herring Gull, Hooded Crow, House Sparrow, Kingfisher, Meadow Pipit, Robin, Rook, Song Thrush, Snipe, Starling, Woodpigeon, Wren |
| Proposed work: | Residential development. |
| Surveys by: | Frank Spellman & Luke Dodebier |
| Survey dates: | 21 st November, 27 th November, 8 th December, 16 th December 2025, 8 th January, 28 th January, 2 nd February, 18 th March, 28 th March, 30 th March 2026. |



Figure 1. Wintering bird survey areas.



Figure 2. Wintering bird survey location.

15 Competency of assessor

Since its inception in 2001, Altemar has been delivering ecological and environmental services to a broad range of clients. Operational areas include: residential; infrastructural; renewable; oil & gas; private industry; Local Authorities; EC projects; and, State/semi-State Departments.

This report has been prepared by Luke Dodebier and reviewed by Bryan Deegan, both of Alemar Ltd.

Bryan Deegan (MCIEEM, BSc Applied Marine Biology, MSc Environmental Science)

Bryan Deegan, the managing director of Altemar, is an Environmental Scientist and Marine Biologist with 32 years' experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. He is currently lead project ecologist for Project Pembroke and was contracted to Inland Fisheries Ireland as the sole "External Expert" to environmentally assess internal and external projects. He is also chair of an internal IFI working group on environmental assessment. Bryan Deegan (MCIEEM) holds a MSc in Environmental Science, BSc (Hons.) in Applied Marine Biology, NCEA National Diploma in Applied Aquatic Science and a NCEA National Certificate in Science (Aquaculture).

Frank Spellman (BSc Zoology, MSc (Ind) Zoology).

Frank has extensive experience in carrying out a wide range of fauna surveys as both a sub-contractor and employee for environmental consultancies and organisations in Ireland and the US. These include both roving and static acoustic bat surveys, terrestrial non-avian mammal surveys, breeding/wintering bird surveys, and freshwater ecology surveys. Frank has been lead ornithologist on numerous development projects within Ireland carrying out full wintering bird and breeding bird assessments.

Luke Dodebier (BSc Wildlife Biology).

Luke holds a BSc (Hons.) in Wildlife Biology and has 4 years' experience in ecological consultancy. Luke has worked on a large variety of projects, from large-scale renewable projects to small-scale residential projects and has seen them to completion. Luke is a skilled terrestrial ecologist experienced in Bird, mammal and flora surveying as well as associated reporting in AA, NIS and EclA.

16 Legislative context

The Wildlife Act 1976 protects wild birds in Ireland. Based on this legislation it is an offence to wilfully interfere with or destroy wild birds and their nests and eggs (other than the wild species mentioned in the Third Schedule of this Act). Under this legislation it is an offence for any person who "*wilfully takes or removes the eggs or nest of a protected wild bird otherwise than under and in accordance with such a licence, wilfully destroys, injures or mutilates the eggs or nest of a protected wild bird, wilfully disturbs a protected wild bird on or near a nest containing eggs or unflown young.*"

Habitats Directive- Council Directive 92/43/EEC 1992 on the conservation of natural habitats and of wild fauna and flora has been transposed into Irish Law, including, via, *inter alia*, the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).

Council Directive 2009/147/EC 2010 on the conservation of wild birds provides for the conservation of wild birds by, among other things, classifying important ornithological sites as Special Protection Areas. The Directive relates to the conservation of all species of naturally occurring birds in the wild state, their eggs, nests and habitats in the European territory of the Member States. The Directive prohibits in particular:

- deliberate killing or capture by any method;
- deliberate destruction of, or damage to, their nests and eggs or removal of their nests;
- taking their eggs in the wild and keeping these eggs even if empty;
- deliberate disturbance of these birds particularly during the period of breeding and rearing, in so far as disturbance would be significant having regard to the objectives of this Directive;
- keeping birds of species the hunting and capture of which is prohibited.

Under the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended), notwithstanding any consent, statutory or otherwise, given to a person by a public authority or held by a person,

except in accordance with a licence granted by the Minister under Regulation 54, a person who in respect of the species referred to in Part 1 of the First Schedule:

- deliberately captures or kills any specimen of these species in the wild,
- deliberately disturbs these species particularly during the period of breeding, rearing, hibernation and migration,
- deliberately takes or destroys eggs of those species from the wild,
- damages or destroys a breeding site or resting place of such an animal, or
- keeps, transports, sells, exchanges, offers for sale or offers for exchange any specimen of these species taken in the wild, other than those taken legally as referred to in Article 12(2) of the Habitats Directive, shall be guilty of an offence.

17 Wintering bird surveys

This report presents the methodology and results of 10 visits to Trim by Frank Spellman and Luke Dodebier from November to March 2025.

17.1 Survey methodology

Wintering bird surveys were carried out during the wintering bird season in Trim in order to gather baseline data to assist in assessing the potential impacts on wintering birds from future proposed developments on the site, in particular those listed as Qualifying Interests of SPAs within 15 km and other amber/red-listed birds of conservation concern in Ireland (BoCCI). Potential impacts on wintering bird species include disturbance, destruction of foraging areas, destruction of roosting areas and collision risk during construction and operation (cranes, buildings etc.). These wintering bird surveys were carried out based on the BTO Common Bird Census (Bibby *et al.*, 2000 and Gilbert *et al.*, 1998) and I-WeBS Counter Manual: Guidelines for Irish Wetland Bird Survey counters (BWI & NPWS), following CIEEM guidelines.

A 15-minute settlement period was given following arrival to allow resumption of bird activity after any possible disturbance caused by arrival to the site. Various features such as grassland, scrub, waterlogged areas, recolonising bare ground, bare ground, and treeline were present within the survey area. A roving transect survey around the perimeter was carried out on each occasion, providing clear views of all areas within and over that survey area. A vantage point in the east provided unobstructed views across the survey area (Figure 3). Flight lines, large flights, foraging, perching, bathing and any other observed behaviour by wintering bird species and other species observed within, over and immediately adjacent to the survey area were recorded. Each survey was carried out by a single surveyor. A pair of binoculars were used by the surveyor to identify and count birds at distance.

Care was taken not to double count any observations. Surveys were initiated at varying times (morning/midday/afternoon) to account for fluxes in bird activity and birds transiting to/from foraging and roosting areas. Local temperatures varied from 2 – 16°C. Winds varied from 1 – 2 on the Beaufort scale. Weather conditions were favourable on all occasions.

Peak counts for the survey area were compared to 1% national and international population sizes of relevant species for which data was available. Foraging areas, flight paths, large flights and other observations were mapped according to field sheet records.

18 Survey results/discussion

18.1.1 Habitats of wintering bird potential

A desk and ground level wintering bird habitat assessment were carried and used to examine the structures, features and vegetation on site that could provide wintering bird habitat. Potential features associated with foraging/roosting include agricultural fields, improved/amenity grassland, scrub, watercourses and drainage ditches, estuaries and intertidal zones. All open areas, vegetated areas, built areas and water-holding features within and immediately adjacent to the site were assessed for wintering bird potential.

Habitat of foraging value for wintering birds was limited throughout the site. The site consisted mainly of grassland across uneven topography (old soil heaps, previous reprofiling etc.), recolonising bare ground and bare ground. Small areas of consistently waterlogged areas were present in the centre of the site with some rushes, but with no significant vegetation/reed cover. Structures were present to the north, west and east of the site that could provide breeding habitat for gull species, but not within the site. The site is in close proximity (< 1 km) from River Boyne and River Blackwater SPA, and so there is a high potential for Qualifying Interests of this SPA to utilise and/or fly over the site.



Figure 3. Survey area and vantage points.

18.1.2 Wintering bird activity survey

A total of 22 species were recorded within, above and immediately adjacent to the survey area across 10 surveys (see Appendix 1a for individual observations of target species). Fifteen green, five amber, and two red bird species of conservation concern in Ireland (BoCCI) were recorded either within, over and immediately adjacent to the survey area. Details regarding the status, behaviour and abundances of species recorded on/over/adjacent to the site relevant to the conservation interests of Special Protected Areas (SPAs) and red listed BoCCI are discussed below.

Kingfisher (amber BoCCI) was observed in flight (Figure 4). One Kingfisher observation was made on one occasion (18th March 2026). Peak count was two individuals. This species was observed flying adjacent to the survey area on only one occasion. Despite no foraging behaviour being observed throughout the site visits, it should be noted that the species likely finds abundant foraging habitats within the River Boyne and River Blackwater SPA as opposed to the large open field in which the majority of the redline encompasses.. This species is a Qualifying interest for the adjacent River Boyne and River Blackwater SPA.

Meadow pipit (red BoCCI) was observed foraging southwest of the site on two occasions (21st November 2025 and 8th December 2025) (Figure 5) in shrubs. Peak count was two individuals. This species is not listed as a Qualifying Interest of any SPAs within 15 km of the subject site.

Snipe (red BoCCI) was observed during two surveys (28th January and 18th March 2026), in flight and foraging, respectively (Figures 4 & 5). Peak count was six individuals. Suitable foraging habitat for this species is present within the site outline, and foraging was observed. More suitable and highly abundant foraging habitat, in the form of the River Boyne and River Blackwater SPA, is present south of the majority of the works. However, it should be noted that foraging was observed in the arable lands within the site outline, and, additionally, a portion of the works will interfere with potential foraging areas in the SPA. This species is not listed as a Qualifying Interest of any SPAs within 15 km of the subject site.

Table 1. Species recorded within, above and/or immediately adjacent to the survey

| Common name | BTO | Latin name | BoCCI |
|---------------|-----|--------------------------------|-------|
| Blackbird | B. | <i>Turdus merula</i> | Green |
| Blackcap | BC | <i>Sylvia atricapilla</i> | Green |
| Blue Tit | BT | <i>Cyanistes caeruleus</i> | Green |
| Buzzard | BZ | <i>Buteo buteo</i> | Green |
| Chaffinch | CH | <i>Fringilla coelebs</i> | Green |
| Chiffchaff | CC | <i>Phylloscopus collybita</i> | Green |
| Cormorant | CA | <i>Phalacrocorax carbo</i> | Amber |
| Dunnock | D. | <i>Prunella modularis</i> | Green |
| Goldfinch | GO | <i>Carduelis carduelis</i> | Green |
| Great Tit | GT | <i>Parus major</i> | Green |
| Herring Gull | HG | <i>Larus argentatus</i> | Amber |
| Hooded Crow | HC | <i>Corvus cornix</i> | Green |
| House Sparrow | HS | <i>Passer domesticus</i> | Amber |
| Kingfisher | KF | <i>Alcedo atthis</i> | Amber |
| Meadow Pipit | MP | <i>Anthus pratensis</i> | Red |
| Robin | R. | <i>Erithacus rubecula</i> | Green |
| Rook | RO | <i>Corvus frugilegus</i> | Green |
| Song Thrush | ST | <i>Turdus philomelos</i> | Green |
| Snipe | SN | <i>Gallinago gallinago</i> | Red |
| Starling | SG | <i>Sturnus vulgaris</i> | Amber |
| Wren | WR | <i>Troglodytes troglodytes</i> | Green |

| Common name | BTO | Latin name | BoCCI |
|-------------|-----|-------------------------|-------|
| Woodpigeon | WP | <i>Columba palumbus</i> | Green |

Table 2. Peak counts of bird species recorded within, above and/or immediately adjacent to the survey area.

| Species | Peak count (2024/25) | 1% national | 1% international |
|---------------|----------------------|-------------|------------------|
| Blackbird | 5 | | |
| Blackcap | 1 | | |
| Blue Tit | 8 | | |
| Buzzard | 1 | | |
| Chaffinch | 1 | | |
| Chiffchaff | 1 | | |
| Cormorant | 1 | 1200 | |
| Dunnock | 1 | | |
| Great Tit | 2 | | |
| Herring Gull | 2 | | |
| Hooded Crow | 2 | | |
| House Sparrow | 15 | | |
| Kingfisher | 1 | | |
| Meadow Pipit | 2 | | |
| Robin | 5 | | |
| Rook | 10 | | |
| Song Thrush | 3 | | |
| Snipe | 6 | | >1,000,000 |
| Starling | 12 | | |
| Woodpigeon | 15 | | |
| Wren | 5 | | |



Figure 4. Flight observations of BoCCI species within, over and immediately adjacent to the survey area.

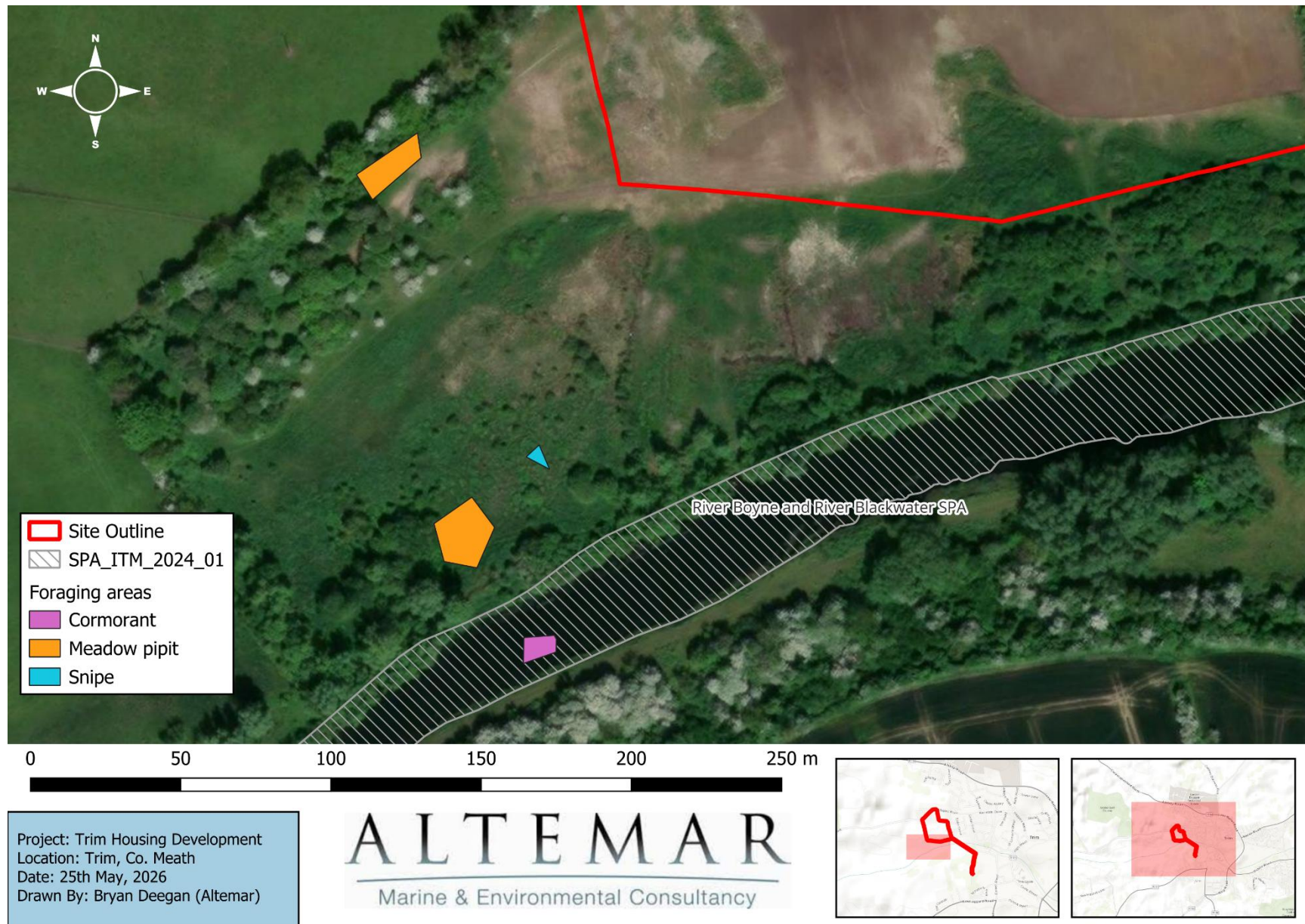


Figure 5. Foraging observations of BoCCI observed within, over and immediately adjacent to the survey area.

19 Wintering bird assessment findings

19.1 Review of local bird records

The review of existing bird records (sourced from NBDC Database) within a 2 km² grid (Reference grids N75Y) encompassing the study area reveals that 47 known bird species have previously been observed and recorded locally (*Table 3*).

Table 3: NBDC bird records within 2 km² (grids N75Y)

| Species Name | Record Count | Date of Last Record | Dataset | BoCCI Status |
|--|--------------|---------------------|------------------------|--|
| Blackbird (<i>Turdus merula</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Blackcap (<i>Sylvia atricapilla</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Blue Tit (<i>Cyanistes caeruleus</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Bullfinch (<i>Pyrrhula pyrrhula</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Chaffinch (<i>Fringilla coelebs</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Chiffchaff (<i>Phylloscopus collybita</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Coal Tit (<i>Periparus ater</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Collared Dove (<i>Streptopelia decaocto</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Dipper (<i>Cinclus cinclus</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Dunnock (<i>Prunella modularis</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Fieldfare (<i>Turdus pilaris</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Goldcrest (<i>Regulus regulus</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Goldfinch (<i>Carduelis carduelis</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Great Tit (<i>Parus major</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Greenfinch (<i>Chloris chloris</i>) | 2 | 20/12/2018 | Birds of Ireland | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Grey Heron (<i>Ardea cinerea</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Grey Wagtail (<i>Motacilla cinerea</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List |
| Hooded Crow (<i>Corvus cornix</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| House Sparrow (<i>Passer domesticus</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |

| Species Name | Record Count | Date of Last Record | Dataset | BoCCI Status |
|--|--------------|---------------------|------------------------|--|
| Jackdaw (<i>Coloeus monedula</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Kingfisher (<i>Alcedo atthis</i>) | 6 | 18/09/2019 | Birds of Ireland | Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Lapwing (<i>Vanellus vanellus</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List |
| Lesser Redpoll (<i>Acanthis cabaret</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Little Grebe (<i>Tachybaptus ruficollis</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts |
| Magpie (<i>Pica pica</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Mallard (<i>Anas platyrhynchos</i>) | 3 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Mistle Thrush (<i>Turdus viscivorus</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts |
| Moorhen (<i>Gallinula chloropus</i>) | 5 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Mute Swan (<i>Cygnus olor</i>) | 3 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Pied Wagtail (<i>Motacilla alba</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Raven (<i>Corvus corax</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Redwing (<i>Turdus iliacus</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List |
| Reed Bunting (<i>Emberiza schoeniclus</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Robin (<i>Erithacus rubecula</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts |
| Rook (<i>Corvus frugilegus</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Sand Martin (<i>Riparia riparia</i>) | 5 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |

| Species Name | Record Count | Date of Last Record | Dataset | BoCCI Status |
|--|--------------|---------------------|------------------------|--|
| Sedge Warbler (<i>Acrocephalus schoenobaenus</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Snipe (<i>Gallinago gallinago</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section III Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List |
| Song Thrush (<i>Turdus philomelos</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Starling (<i>Sturnus vulgaris</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Stock Dove (<i>Columba oenas</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List |
| Swallow (<i>Hirundo rustica</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Swift (<i>Apus apus</i>) | 4 | 07/07/2018 | Birds of Ireland | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List |
| Willow Warbler (<i>Phylloscopus trochilus</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Woodpigeon (<i>Columba palumbus</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Wren (<i>Troglodytes troglodytes</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Yellowhammer (<i>Emberiza citrinella</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List |

National Summary

| Species | Trend (%) | | | Long Term Trend | |
|---------------------------|-------------------|--------------------|--------------------|----------------------|----------------------|
| | National - 5 Year | National - 12 Year | National - 23 Year | | |
| Scaup | -33.6 | -82.9 | -89.2 | Large Decline | |
| Pochard | -19.8 | -60.4 | -79.1 | | |
| Goldeneye | -32.5 | -39.0 | -66.9 | | |
| Lapwing | -6.5 | -45.1 | -63.9 | | |
| Grey Plover | -21.9 | -42.8 | -58.8 | | |
| Golden Plover | -17.5 | -58.0 | -54.1 | | |
| Dunlin | 5.9 | -21.2 | -45.2 | Moderate Decline | |
| Curlew | -9.4 | -23.7 | -43.1 | | |
| Turnstone | -33.6 | -46.0 | -23.7 | Intermediate Decline | |
| Coot | -10.1 | 1.1 | -23.2 | | |
| Mallard | -11.3 | -19.7 | -19.1 | | |
| Wigeon | 0.9 | -17.0 | -18.2 | | |
| Tufted Duck | -20.7 | -28.9 | -17.9 | | |
| Red-breasted Merganser | -12.9 | 5.2 | -14.7 | | |
| Pintail | -0.8 | -6.0 | -13.7 | | |
| Great Crested Grebe | -39.5 | -6.1 | -10.8 | | |
| Shoveler | 23.0 | -21.3 | -10.8 | | |
| Knot | 0.0 | -12.2 | -9.8 | | |
| Bar-tailed Godwit | -32.6 | -13.9 | -5.1 | | |
| Ringed Plover | -4.3 | -26.8 | -1.1 | | |
| Grey Heron | 1.0 | -4.9 | 6.6 | | Stable or Increasing |
| Redshank | -14.0 | -28.4 | 6.7 | | |
| Shelduck | 6.3 | -0.8 | 9.3 | | |
| Oystercatcher | -17.5 | -31.1 | 10.8 | | |
| Mute Swan | 4.6 | 9.6 | 13.8 | | |
| Teal | 1.8 | 5.7 | 19.4 | | |
| Purple Sandpiper | -36.4 | -37.6 | 23.5 | | |
| Gadwall | -26.5 | 4.3 | 24.4 | | |
| Little Grebe | 6.1 | 16.7 | 38.2 | | |
| Greenshank | 0.9 | 7.3 | 41.0 | | |
| Cormorant | 38.5 | 8.4 | 42.9 | | |
| Sanderling | -23.8 | -11.1 | 84.6 | | |
| Black-tailed Godwit | 22.5 | 25.0 | 92.3 | | |
| Light-bellied Brent Goose | -11.2 | 1.2 | 93.3 | | |
| Little Egret | 34.6 | 61.5 | 483.3 | | |

Figure 6. I-WeBS National Trends Report.

19.2 Historical Surveys

19.2.1 I-WeBS

I-WeBS National and Site Trends Report 1994/95 – 2019/20 report presents national and site-specific trends of wetland birds in Ireland. This report was used to assess the trends of species recorded during wintering bird surveys at Trim in winter of 2025/26. The survey area is proximate to River Boyne (OV301) I-WeBS site.

No species were observed during surveys that are listed on River Boyne's Site Summary.

The national wetland bird trend summary (Figure 6) provides long-term population trends for wintering species in Ireland. Trends for total and individual species nationally and the River Boyne are included in Appendix 1a, 1b and 1c of this report.

20 Mitigation

The proposed site is of low importance to the local wintering bird population. However, there is the potential for minor negative impacts by the development during construction phase through collision risks to species transiting to and from foraging and roosting areas along the River Boyne corridor. Out of an abundance of caution, the following mitigation measures relevant to birds should be implemented to minimise any potential negative impact on biodiversity:

1. During the construction phase, lights should be incorporated onto cranes illuminating their entirety on a 24/7 basis to reduce collision risk to birds from cranes and other relevant equipment/structures.
2. The construction corridor will be marked out prior to the commencement of construction.
3. All construction work will be confined strictly to the construction corridor. Any construction works required outside the construction corridor will require prior approval from the ER.
4. Lighting during construction should not spill outside the proposed development.
5. An Ecological Clerk of Works (ECoW) will be appointed to oversee the construction phase and to oversee the implementation of all mitigation, including compliance with Wildlife Acts and Water Pollution Acts and ensure that biodiversity in neighbouring areas, including birds will not be impacted.
6. The effectiveness of the proposed mitigation will be monitored throughout the construction period.
7. All elements of the CEMP and other mitigation measures outlined in the accompanying NIS/EcIA will be adhered to.

21 Conclusion

This report aims to build on the baseline data and provide information to assist in assessing the potential impact of proposed developments at Trim, Co. Meath, on wintering birds within/over/adjacent to the development area. This report presents the methodology and results of 10 visits to this location by Altemar Ltd. from November 2025 to March 2026.

A total of 22 species were recorded within, above and adjacent to the survey area across five surveys. 15 green, five amber, and two red species of conservation concern were recorded either within, over or immediately adjacent to the survey area boundary. One species listed as a Qualifying Interest of the nearby River Boyne and River Blackwater SPA (Kingfisher). One red-listed species of conservation concern in Ireland, meadow pipit (*Anthus pratensis*) was recorded foraging proximate to the survey area on two surveys.

The proposed development in Trim is not predicted to significantly reduce available foraging areas for wintering birds, in particular those listed as Qualifying Interests of nearby SPAs. Impacts on wintering bird species moving between foraging and roosting sites are not likely in the absence of mitigation measures. The proposed development is likely to reduce the total foraging area within the survey area for red-listed species recorded during surveys. However, the reduction of foraging area for these species is not considered significant due to the scale of the development in the context of the surrounding areas and habitats available, and as the proposed site layout and landscape plan will continue to facilitate foraging by these species within the site.

Out of an abundance of caution due to the proximity of the River Boyne and River Blackwater SPA, mitigation measures are recommended. Following the full implementation of mitigation measures, no significant impacts on wintering bird species, particularly Qualifying Interests of nearby SPAs, are predicted.

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23 Appendix I

23.1 Appendix 1a – Individual survey observations of target species.

| Date | Species | No. | Behaviour | Height (m) | Details |
|------------|--------------|-----|-------------|------------|--|
| 2025-11-21 | Meadow pipit | 1 | Foraging | -- | Foraging in grassland/scrub |
| 2025-12-08 | Herring gull | 1 | Flight path | 30 | North flight to east of survey area. |
| 2025-12-08 | Herring gull | 2 | Foraging | -- | Foraging on scrub/saplings along west boundary of site |
| 2025-12-08 | Meadow pipit | 2 | Flight path | 20 | North flight across survey area. |
| 2025-12-16 | Cormorant | 1 | Flight path | 15 | Flying from east to west along river |
| 2025-12-16 | Herring Gull | 1 | Flight path | 25 | Flying across site from west to east |
| 2026-01-08 | Herring gull | 1 | Flight path | 15 | Flying in a circle heading north |
| 2026-01-28 | Herring gull | 2 | Flight path | 15 | Flying from north to south |
| 2026-03-18 | Snipe | 1 | Flight path | 3 | Flushed from long grass |
| 2026-03-18 | King Fisher | 1 | Flight path | 1 | Flew west along edge of river |
| 2026-03-30 | Herring Gull | 1 | Flight path | 25 | Flying from south to north west |

23.2 Appendix 1b – I-WeBS Trends for River Boyne (site code OV301).

Site Summary

| Species | Trend (%) | | | Long Term Trend |
|---------|----------------------|-----------------------|-----------------------|----------------------|
| | River Boyne - 5 Year | River Boyne - 12 Year | River Boyne - 23 Year | |
| Teal | -99.1 | -79.2 | -85.2 | Large Decline |
| Mallard | -8.2 | -19.8 | 0.0 | Stable or Increasing |
| Lapwing | -73.1 | 18.4 | 22.0 | |
| Curlew | 8.5 | -11.1 | 28.0 | |
| Wigeon | -7.6 | 621.9 | 1343.8 | |

23.3 Appendix 1c – I-WeBS Site Summary Table for OV301 River Boyne.

“Peak counts for each species in each of the most recent 10 seasons are presented. Please note:

- The mean is based only on available survey data from the most recent 5-season period, i.e. for the period 2016/17 - 2020/21, using I-WeBS core counts.
- Blank columns indicate seasons when no counts were carried out, while blank cells show that a species was absent, where other counts are in the same column.
- Counts that are poor quality are excluded from these tables, with the exception of known underestimates of individual species.
- Where peak counts were recorded outside the midwinter period (Nov, Dec, Jan) these are marked with an asterisk (*). This may indicate that higher numbers occurred during passage periods, or may be due to a lack of counts in the midwinter months.
- The 'Peak Months' column indicates the months when the highest number of peak counts were recorded.”

| Species | 1% national | 1% international | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | Mean | Peak Months |
|--------------------------|-------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|--------------------|
| Mute Swan | 90 | 100 | 32 | 16 | 4* | 7* | 12 | 7* | 3* | 2 | 4* | 2 | 4 | Dec |
| Whooper Swan | 150 | 340 | 9* | 10* | 27* | 32* | 27 | 11* | | 6* | 51* | 41* | 22 | Feb |
| Greylag Goose | 35 | 980 | | | | | | | | | | 1* | 0 | Mar |
| Shelduck | 100 | 2500 | | | 2* | 1 | | | | | | | 0 | Jan, Feb |
| Wigeon | 560 | 14000 | 128* | 243* | 89* | 184* | 296 | 300* | 220* | 250* | 100* | | 174 | Feb, Mar |
| Teal | 360 | 5000 | 82 | 103 | 108 | 103* | 64* | | 1 | | | | 0 | Feb, Dec |
| Mallard | 280 | 53000 | 47 | 56* | 120 | 125* | 79 | 105 | 96 | 60 | 86 | 8* | 71 | Jan |
| Goosander | | | | 1* | | | | | | | | | 0 | Feb |
| Little Grebe | 20 | 4700 | | 1* | 3* | 1* | 3 | 4* | 1* | 2* | 3 | | 2 | Jan, Feb, Oct, Nov |
| Cormorant | 110 | 1200 | 3 | 1* | 2 | 2* | 3* | 3 | 4* | 1* | 4 | | 2 | Nov, Dec |
| Little Egret | 20 | 1100 | 2 | 1* | 2* | 1 | 4* | 1* | 2 | | 2 | 1* | 1 | Dec |
| Grey Heron | 25 | 5000 | 2 | 2* | 2* | 1* | | 2* | 2* | 1* | 1 | 2* | 2 | Oct |
| Water Rail | | | | | | 1* | | | | | | | 0 | Jan, Feb |
| Moorhen | | | 3* | 1* | 4* | 17* | 6* | 2* | 2 | 2* | 2 | 1* | 2 | Sep, Oct |
| Oystercatcher | 610 | 8200 | 1* | | | | | | | | | | 0 | Feb |
| Golden Plover | 920 | 9300 | 600 | 1800* | 300 | 300* | 30 | | 300 | 270* | 26* | | 119 | Feb, Dec |
| Lapwing | 850 | 72300 | 550 | 667* | 430 | 250 | 429 | 50* | 350* | 77 | 110 | | 117 | Jan, Dec |
| Snipe | | | | | 1 | 19* | 25* | 14* | 7 | 13 | 8 | | 8 | Feb |
| Curlew | 350 | 7600 | 272* | 175 | 73 | 156 | 307 | 195* | 250* | 85 | 228 | 125* | 177 | Jan |
| Redshank | 240 | 2400 | | | 7 | 25 | 107* | 13 | 36 | 10 | 15 | | 15 | Jan, Dec |
| Green Sandpiper | | | | 1* | | | | | | | 1 | | 0 | Feb, Dec |
| Common Sandpiper | | | | | 1* | | | | | | | | 0 | Oct |
| Black-headed Gull | | | 61* | 21 | 60 | 68 | 106 | 8 | 120* | 120 | 250 | | 100 | Jan, Dec |
| Common Gull | | | | | 99 | | 20 | | 1* | | 1* | | 0 | Jan |
| Lesser Black-backed Gull | | | | | | | | | 22 | 3 | | 3* | 6 | Nov |
| Herring Gull | | | | | 3* | | | 1* | | | | | 0 | Mar, Sep |
| Great Black-backed Gull | | | | | | | 1 | | 2 | 1 | 1 | | 1 | Jan |
| Mediterranean Gull | | | 5 | | | | | | | | | | 0 | Jan |



2025 Wintering Bird Assessment for a proposed housing development at Kildalkey Road, Trim, Co. Meath.



15th June 2026

Prepared by: Bryan Deegan of Altemar Ltd.
On behalf of: Loughlynn Developments

Altemar Ltd., 50 Templecarrig Upper, Delgany, Co. Wicklow. 00-353-1-2010713. info@altemar.ie
Directors: Bryan Deegan and Sara Corcoran
Company No.427560 VAT No. 9649832U
www.altemar.ie

| Document Control Sheet | | | |
|-------------------------------|--|----------|----------------------------|
| Client | Loughglynn Developments | | |
| Project | Wintering Bird Assessment for a proposed housing development at Kildalkey Road, Trim, Co. Meath. | | |
| Report | Wintering Bird Assessment | | |
| Date | 15 th June 2026 | | |
| Version | Author | Reviewed | Date |
| Final | Bryan Deegan | | 15 th June 2026 |

Summary

| | |
|------------------------------|--|
| Structure/features: | The proposed development area consists mainly of a tilled field, recolonising bare ground, bare ground and some treelines and woodland. The River Boyne is located within the site outline, as well as four on-site streams which flow to join the River Boyne. |
| Location: | Trim, Co. Meath. |
| Bird species present: | Blackbird, Bullfinch, Blue Tit, Buzzard, Carrion Crow, Chaffinch, Cormorant, Dunnock, Feral Pigeon, Golden Pheasant, Goldfinch, Great Tit, Grey Heron, Hooded Crow, Herring Gull, Jackdaw, Kingfisher, Little Egret, Long-tailed Tit, Mallard, Magpie, Marsh Tit, Meadow Pipit, Robin, Rook, Snipe, Song Thrush, Starling, Wheater, Woodpigeon |
| Proposed work: | Residential development. |
| Surveys by: | Jeff Boyle & Jack Doyle |
| Survey dates: | 30 th January, 11 th February, 21 st February, 3 rd March, and 25 th March 2025. |





 Site Outline

0 0.25 0.5 0.75 1 km

Project: Trim Housing Development
 Location: Trim, Co. Meath
 Date: 14th April, 2025
 Drawn By: Bryan Deegan (Altemar)

ALTEMAR
 Marine & Environmental Consultancy

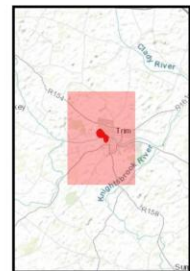
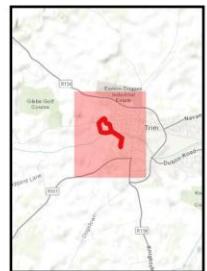


Figure 2. Wintering bird survey location.

Competency of assessor

Since its inception in 2001, Altemar has been delivering ecological and environmental services to a broad range of clients. Operational areas include: residential; infrastructural; renewable; oil & gas; private industry; Local Authorities; EC projects; and, State/semi-State Departments.

This report has been prepared by Jack Doyle and reviewed by Bryan Deegan, both of Alemar Ltd.

Bryan Deegan (MCIEEM, BSc Applied Marine Biology, MSc Environmental Science)

Bryan Deegan, the managing director of Altemar, is an Environmental Scientist and Marine Biologist with 30 years' experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. He is currently lead project ecologist for Project Pembroke and was contracted to Inland Fisheries Ireland as the sole "External Expert" to environmentally assess internal and external projects. He is also chair of an internal IFI working group on environmental assessment. Bryan Deegan (MCIEEM) holds a MSc in Environmental Science, BSc (Hons.) in Applied Marine Biology, NCEA National Diploma in Applied Aquatic Science and a NCEA National Certificate in Science (Aquaculture).

Jack Doyle (MSc Sustainable Environments) carried out the fieldwork elements of this Wintering Bird Assessment. Jack is an experienced environmental project manager, joining Altemar in March 2021. Jack has led and carried out a wide range of flora and fauna surveys across Ireland and produced ecological assessments on residential, commercial, and infrastructure projects. Jack is skilled in breeding & wintering ornithological surveys, roving and static acoustic bat surveys, terrestrial non-avian mammal surveys, and habitat identification.

Jeff Boyle (BSc Environmental Management) also carried out the fieldwork elements of this Wintering Bird Assessment. Jeff is skilled in bat detection through static detector surveys, dusk emergence, and dawn re-entry surveys. He is also experienced in habitat assessment and has undertaken flora/invasive species surveys and breeding/wintering bird surveys to produce numerous ecological assessments on a range of residential, industrial, and commercial projects.

Legislative context

The Wildlife Act 1976 protects wild birds in Ireland. Based on this legislation it is an offence to wilfully interfere with or destroy wild birds and their nests and eggs (other than the wild species mentioned in the Third Schedule of this Act). Under this legislation it is an offence for any person who "*wilfully takes or removes the eggs or nest of a protected wild bird otherwise than under and in accordance with such a licence, wilfully destroys, injures or mutilates the eggs or nest of a protected wild bird, wilfully disturbs a protected wild bird on or near a nest containing eggs or unflown young.*"

Habitats Directive- Council Directive 92/43/EEC 1992 on the conservation of natural habitats and of wild fauna and flora has been transposed into Irish Law, including, via, *inter alia*, the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).

Council Directive 2009/147/EC 2010 on the conservation of wild birds provides for the conservation of wild birds by, among other things, classifying important ornithological sites as Special Protection Areas. The Directive relates to the conservation of all species of naturally occurring birds in the wild state, their eggs, nests and habitats in the European territory of the Member States. The Directive prohibits in particular:

- deliberate killing or capture by any method;
- deliberate destruction of, or damage to, their nests and eggs or removal of their nests;
- taking their eggs in the wild and keeping these eggs even if empty;
- deliberate disturbance of these birds particularly during the period of breeding and rearing, in so far as disturbance would be significant having regard to the objectives of this Directive;
- keeping birds of species the hunting and capture of which is prohibited.

Under the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended), notwithstanding any consent, statutory or otherwise, given to a person by a public authority or held by a person,

except in accordance with a licence granted by the Minister under Regulation 54, a person who in respect of the species referred to in Part 1 of the First Schedule:

- deliberately captures or kills any specimen of these species in the wild,
- deliberately disturbs these species particularly during the period of breeding, rearing, hibernation and migration,
- deliberately takes or destroys eggs of those species from the wild,
- damages or destroys a breeding site or resting place of such an animal, or
- keeps, transports, sells, exchanges, offers for sale or offers for exchange any specimen of these species taken in the wild, other than those taken legally as referred to in Article 12(2) of the Habitats Directive, shall be guilty of an offence.

Wintering bird surveys

This report presents the methodology and results of 5 visits to Trim by Jeff Boyle & Jack Doyle from January to March 2025.

Survey methodology

Wintering bird surveys were carried out during the wintering bird season at Trim in order to gather baseline data to assist in assessing the potential impacts on wintering birds from future proposed developments on the site, in particular those listed as Qualifying Interests of SPAs within 15 km and other amber/red-listed birds of conservation concern in Ireland (BoCCI). Potential impacts on wintering bird species include disturbance, destruction of foraging areas, destruction of roosting areas and collision risk during construction and operation (cranes, buildings etc.). These wintering bird surveys were carried out based on the BTO Common Bird Census (Bibby *et al.*, 2000 and Gilbert *et al.*, 1998) and I-WeBS Counter Manual: Guidelines for Irish Wetland Bird Survey counters (BWI & NPWS), following CIEEM guidelines.

A 15-minute settlement period was given following arrival to allow resumption of bird activity after any possible disturbance caused by arrival to the site. Various features such as grassland, scrub, waterlogged areas, recolonising bare ground, bare ground, and treeline were present within the survey area. A roving transect survey around the perimeter was carried out on each occasion, providing clear views of all areas within and over that survey area. A vantage point in the east provided unobstructed views across the survey area (Figure 3). Flight lines, large flights, foraging, perching, bathing and any other observed behaviour by wintering bird species and other species observed within, over and immediately adjacent to the survey area were recorded. Each survey was carried out by a single surveyor. A pair of binoculars were used by the surveyor to identify and count birds at distance. Care was taken not to double count any observations. Surveys were initiated at varying times (morning/midday/afternoon) to account for fluxes in bird activity and birds transiting to/from foraging and roosting areas. Local temperatures varied from 3 – 12°C. Winds varied from 1 – 3 on the Beaufort scale. Weather conditions were favourable on all occasions. Peak counts for the survey area were compared to 1% national and international population sizes of relevant species for which data was available. Foraging areas, flight paths, large flights and other observations were mapped according to field sheet records.

Survey results/discussion

Habitats of wintering bird potential

A desk and ground level wintering bird habitat assessment were carried and used to examine the structures, features and vegetation on site that could provide wintering bird habitat. Potential features associated with foraging/roosting include agricultural fields, improved/amenity grassland, scrub, watercourses and drainage ditches, estuaries and intertidal zones. All open areas, vegetated areas, built areas and water-holding features within and immediately adjacent to the site were assessed for wintering bird potential.

Habitat of foraging value for wintering birds was limited throughout the site. The site consisted mainly of grassland across uneven topography (old soil heaps, previous reprofiling etc.), recolonising bare ground and bare ground. Small areas of consistently waterlogged areas were present in the centre of the site with some rushes, but with no significant vegetation/reed cover. Structures were present to the north, west and east of the site that could provide breeding habitat for gull species, but not within the site. The site is in close proximity

(< 1 km) from River Boyne and River Blackwater SPA, and so there is a high potential for Qualifying Interests of this SPA to utilise and/or fly over the site.



Project: Trim Housing Development
 Location: Trim, Co. Meath
 Date: 8th May 2026
 Drawn By: Bryan Deegan (Altamar)

ALTEMAR
 Marine & Environmental Consultancy

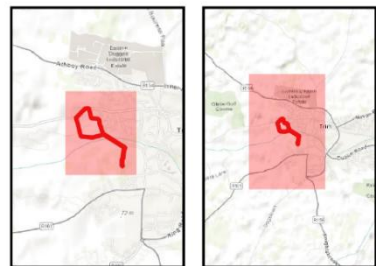


Figure 3. Survey area and vantage points.

Wintering bird activity survey

A total of 28 species were recorded within, above and immediately adjacent to the survey area across 5 surveys (see Appendix 1a for individual observations of target species). 21 green, five amber, and two red bird species of conservation concern in Ireland (BoCCI) were recorded either within, over and immediately adjacent to the survey area. Details regarding the status, behaviour and abundances of species recorded on/over/adjacent to the site relevant to the conservation interests of Special Protected Areas (SPAs) and red listed BoCCI are discussed below.

Kingfisher (amber BoCCI) was observed in flight (Figure 4). One Kingfisher observation was made on one occasion (25th March 2025). Peak count was one individual. This species was observed flying adjacent to the survey area on only one occasion. Despite no foraging behaviour being observed throughout the site visits, it should be noted that the species likely finds abundant foraging habitats within the River Boyne and River Blackwater SPA as opposed to the large open field in which the majority of the redline encompasses. This species is a Qualifying interest for the nearby River Boyne and River Blackwater SPA.

Meadow pipit (red BoCCI) was observed foraging throughout much of the site on one occasion (21st February 2025) (Figure 4) in shrubs. Peak count was one individual. This species is not listed as a Qualifying Interest of any SPAs within 15 km of the subject site.

Snipe (red BoCCI) was observed during one survey (21st February 2025) in flight (Figure 4). Peak count was one individual. Suitable foraging habitat for this species is present within the site outline and foraging was observed. More suitable and highly abundant foraging habitat in the form of the River Boyne and River Blackwater SPA as is present south of the majority of the works. However, it should be noted foraging was observed in the arable lands of the redline. This species is not listed as a Qualifying Interest of any SPAs within 15 km of the subject site.

Table 1. Species recorded within, above and/or immediately adjacent to the survey

| Common name | BTO | Latin name | BoCCI |
|-----------------|-----|-----------------------------------|-------|
| Blackbird | B. | <i>Turdus merula</i> | Green |
| Bullfinch | BF | <i>Pyrrhula pyrrhula</i> | Green |
| Blue Tit | BT | <i>Cyanistes caeruleus</i> | Green |
| Buzzard | BZ | <i>Buteo buteo</i> | Green |
| Chaffinch | CH | <i>Fringilla coelebs</i> | Green |
| Cormorant | CA | <i>Phalacrocorax carbo</i> | Amber |
| Dunnock | D. | <i>Prunella modularis</i> | Green |
| Feral Pigeon | FP | <i>Columba livia f. domestica</i> | Green |
| Goldfinch | GO | <i>Carduelis carduelis</i> | Green |
| Great Tit | GT | <i>Parus major</i> | Green |
| Greenfinch | GR | <i>Chloris chloris</i> | Amber |
| Grey Heron | H. | <i>Ardea cinerea</i> | Green |
| Hooded Crow | HC | <i>Corvus cornix</i> | Green |
| Herring Gull | HG | <i>Larus argentatus</i> | Amber |
| Jackdaw | JD | <i>Corvus monedula</i> | Green |
| Kingfisher | KF | <i>Alcedo atthis</i> | Amber |
| Little Egret | ET | <i>Egretta garzetta</i> | Green |
| Long-tailed Tit | LT | <i>Aegithalus caudatus</i> | Green |
| Mallard | MA | <i>Anas platyrhynchos</i> | Amber |
| Magpie | MG | <i>Pica pica</i> | Green |
| Marsh Tit | MT | <i>Poecile palustris</i> | Green |
| Meadow Pipit | MP | <i>Anthus pratensis</i> | Red |

| Common name | BTO | Latin name | BoCCI |
|-------------|-----|----------------------------|-------|
| Robin | R. | <i>Erithacus rubecula</i> | Green |
| Rook | RO | <i>Corvus frugilegus</i> | Green |
| Snipe | SN | <i>Gallinago gallinago</i> | Red |
| Song Thrush | ST | <i>Turdus philomelos</i> | Green |
| Wheater | W. | <i>Oenanthe oenanthe</i> | Green |
| Woodpigeon | WP | <i>Columba palumbus</i> | Green |

Table 2. Peak counts of bird species recorded within, above and/or immediately adjacent to the survey area.

| Species | Peak count (2024/25) | 1% national | 1% international |
|-----------------|----------------------|-------------|------------------|
| Blackbird | 12 | | |
| Bullfinch | 2 | | |
| Blue Tit | 2 | | |
| Buzzard | 1 | | |
| Chaffinch | 1 | | |
| Cormorant | 1 | 1200 | |
| Dunnock | 5 | | |
| Feral Pigeon | 1 | | |
| Goldfinch | 6 | | |
| Great Tit | 2 | | |
| Greenfinch | 1 | | |
| Grey Heron | 1 | 5000 | |
| Hooded Crow | 4 | | |
| Herring Gull | 31 | | |
| Jackdaw | 2 | | |
| Kingfisher | 1 | | |
| Little Egret | 1 | 1100 | |
| Long-tailed Tit | 3 | | |
| Mallard | 2 | 53000 | >1,000,000 |
| Magpie | 13 | | |
| Marsh Tit | 2 | | |
| Meadow Pipit | 1 | | |
| Robin | 3 | | |
| Rook | 15 | | |
| Snipe | 3 | | >1,000,000 |
| Song Thrush | 1 | | |
| Wheater | 1 | | |
| Woodpigeon | 4 | | |



Figure 4. Flight observations and foraging of wintering birds, SPA conservation interests, and red BoCCI species.

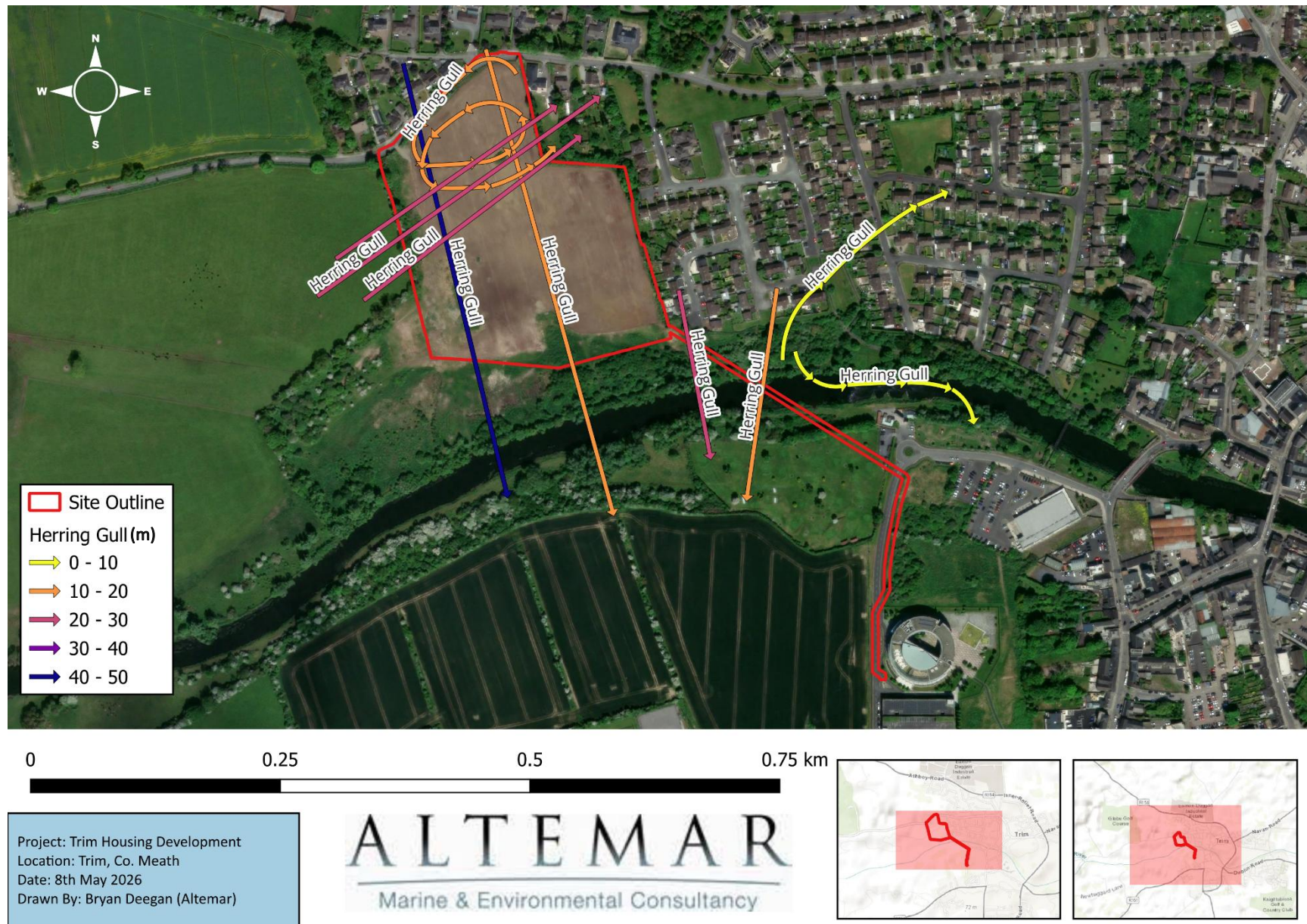


Figure 5. Flight observations of Herring Gulls observed within, over and immediately adjacent to the survey area



Figure 6. Flight observations of Grey Herons observed within, over and immediately adjacent to the survey area

Wintering bird assessment findings

Review of local bird records

The review of existing bird records (sourced from NBDC Database) within a 2 km² grid (Reference grids N75Y) encompassing the study area reveals that 47 known bird species have previously been observed and recorded locally (Table 3).

Table 3: NBDC bird records within 2 km² (grids N75Y)

| Species Name | Record Count | Date of Last Record | Dataset | BoCCI Status |
|--|--------------|---------------------|------------------------|--|
| Blackbird (<i>Turdus merula</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Blackcap (<i>Sylvia atricapilla</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Blue Tit (<i>Cyanistes caeruleus</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Bullfinch (<i>Pyrrhula pyrrhula</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Chaffinch (<i>Fringilla coelebs</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Chiffchaff (<i>Phylloscopus collybita</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Coal Tit (<i>Parus ater</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Collared Dove (<i>Streptopelia decaocto</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Dipper (<i>Cinclus cinclus</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Dunnock (<i>Prunella modularis</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Fieldfare (<i>Turdus pilaris</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Goldcrest (<i>Regulus regulus</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Goldfinch (<i>Carduelis carduelis</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Great Tit (<i>Parus major</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Greenfinch (<i>Chloris chloris</i>) | 2 | 20/12/2018 | Birds of Ireland | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Grey Heron (<i>Ardea cinerea</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Grey Wagtail (<i>Motacilla cinerea</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List |
| Hooded Crow (<i>Corvus cornix</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| House Sparrow (<i>Passer domesticus</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |

| Species Name | Record Count | Date of Last Record | Dataset | BoCCI Status |
|--|--------------|---------------------|------------------------|--|
| Jackdaw (<i>Coloeus monedula</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Kingfisher (<i>Alcedo atthis</i>) | 6 | 18/09/2019 | Birds of Ireland | Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Lapwing (<i>Vanellus vanellus</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List |
| Lesser Redpoll (<i>Acanthis cabaret</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Little Grebe (<i>Tachybaptus ruficollis</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts |
| Magpie (<i>Pica pica</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Mallard (<i>Anas platyrhynchos</i>) | 3 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Mistle Thrush (<i>Turdus viscivorus</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts |
| Moorhen (<i>Gallinula chloropus</i>) | 5 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Mute Swan (<i>Cygnus olor</i>) | 3 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Pied Wagtail (<i>Motacilla alba</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Raven (<i>Corvus corax</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Redwing (<i>Turdus iliacus</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List |
| Reed Bunting (<i>Emberiza schoeniclus</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Robin (<i>Erithacus rubecula</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts |
| Rook (<i>Corvus frugilegus</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Sand Martin (<i>Riparia riparia</i>) | 5 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |

| Species Name | Record Count | Date of Last Record | Dataset | BoCCI Status |
|--|--------------|---------------------|------------------------|--|
| Sedge Warbler (<i>Acrocephalus schoenobaenus</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Snipe (<i>Gallinago gallinago</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section III Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List |
| Song Thrush (<i>Turdus philomelos</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Starling (<i>Sturnus vulgaris</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Stock Dove (<i>Columba oenas</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List |
| Swallow (<i>Hirundo rustica</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Swift (<i>Apus apus</i>) | 4 | 07/07/2018 | Birds of Ireland | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List |
| Willow Warbler (<i>Phylloscopus trochilus</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List |
| Woodpigeon (<i>Columba palumbus</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Wren (<i>Troglodytes troglodytes</i>) | 2 | 31/12/2011 | Bird Atlas 2007 - 2011 | |
| Yellowhammer (<i>Emberiza citrinella</i>) | 1 | 31/12/2011 | Bird Atlas 2007 - 2011 | Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List |

National Summary

| Species | Trend (%) | | | Long Term Trend | |
|---------------------------|-------------------|--------------------|--------------------|----------------------|----------------------|
| | National - 5 Year | National - 12 Year | National - 23 Year | | |
| Scaup | -33.6 | -82.9 | -89.2 | Large Decline | |
| Pochard | -19.8 | -60.4 | -79.1 | | |
| Goldeneye | -32.5 | -39.0 | -66.9 | | |
| Lapwing | -6.5 | -45.1 | -63.9 | | |
| Grey Plover | -21.9 | -42.8 | -58.8 | | |
| Golden Plover | -17.5 | -58.0 | -54.1 | | |
| Dunlin | 5.9 | -21.2 | -45.2 | Moderate Decline | |
| Curlew | -9.4 | -23.7 | -43.1 | | |
| Turnstone | -33.6 | -46.0 | -23.7 | Intermediate Decline | |
| Coot | -10.1 | 1.1 | -23.2 | | |
| Mallard | -11.3 | -19.7 | -19.1 | | |
| Wigeon | 0.9 | -17.0 | -18.2 | | |
| Tufted Duck | -20.7 | -28.9 | -17.9 | | |
| Red-breasted Merganser | -12.9 | 5.2 | -14.7 | | |
| Pintail | -0.8 | -6.0 | -13.7 | | |
| Great Crested Grebe | -39.5 | -6.1 | -10.8 | | |
| Shoveler | 23.0 | -21.3 | -10.8 | | |
| Knot | 0.0 | -12.2 | -9.8 | | |
| Bar-tailed Godwit | -32.6 | -13.9 | -5.1 | | |
| Ringed Plover | -4.3 | -26.8 | -1.1 | | |
| Grey Heron | 1.0 | -4.9 | 6.6 | | Stable or Increasing |
| Redshank | -14.0 | -28.4 | 6.7 | | |
| Shelduck | 6.3 | -0.8 | 9.3 | | |
| Oystercatcher | -17.5 | -31.1 | 10.8 | | |
| Mute Swan | 4.6 | 9.6 | 13.8 | | |
| Teal | 1.8 | 5.7 | 19.4 | | |
| Purple Sandpiper | -36.4 | -37.6 | 23.5 | | |
| Gadwall | -26.5 | 4.3 | 24.4 | | |
| Little Grebe | 6.1 | 16.7 | 38.2 | | |
| Greenshank | 0.9 | 7.3 | 41.0 | | |
| Cormorant | 38.5 | 8.4 | 42.9 | | |
| Sanderling | -23.8 | -11.1 | 84.6 | | |
| Black-tailed Godwit | 22.5 | 25.0 | 92.3 | | |
| Light-bellied Brent Goose | -11.2 | 1.2 | 93.3 | | |
| Little Egret | 34.6 | 61.5 | 483.3 | | |

Figure 7s. I-WeBS National Trends Report.

Historical Surveys

I-WeBS

I-WeBS National and Site Trends Report 1994/95 – 2019/20 report presents national and site-specific trends of wetland birds in Ireland. This report was used to assess the trends of species recorded during wintering bird surveys at Trim in winter of 2024/25. The survey area is proximate to River Boyne (OV301) I-WeBS site.

One species (Mallard) was observed during surveys that is listed on River Boyne's Site Summary. This species was labelled as having a Stable or Increasing long term trend. Mean peak count at River Boyne for cormorant is 1. Mean peak count for herring gull is 31.

The national wetland bird trend summary (Figure 7) provides long-term population trends for wintering species in Ireland. Trends for total and individual species nationally and River Boyne are included in Appendix 1b, 1c, 1d, and 1e of this report.

Mitigation

The proposed site is of low importance to the local wintering bird population. However, there is the potential for minor negative impacts by the development during construction phase through collision risks to species transiting to and from foraging and roosting areas along the River Boyne corridor. Out of an abundance of caution, the following mitigation measures relevant to birds should be implemented to minimise any potential negative impact on biodiversity:

1. During the construction phase, lights should be incorporated onto cranes illuminating their entirety on a 24/7 basis to reduce collision risk to birds from cranes and other relevant equipment/structures.
2. The construction corridor will be marked out prior to the commencement of construction.
3. All construction work will be confined strictly to the construction corridor. Any construction works required outside the construction corridor will require prior approval from the ER.
4. Lighting during construction should not spill outside the proposed development.
5. An Ecological Clerk of Works (ECoW) will be appointed to oversee the construction phase and to oversee the implementation of all mitigation, including compliance with Wildlife Acts and Water Pollution Acts and ensure that biodiversity in neighbouring areas, including birds will not be impacted.
6. The effectiveness of the proposed mitigation will be monitored throughout the construction period.
7. All elements of the CEMP and other mitigation measures outlined in the accompanying NIS/EcIA will be adhered to.

Conclusion

This report aims to build on the baseline data and provide information to assist in assessing the potential impact of proposed developments at Trim, Co. Meath, on wintering birds within/over/adjacent to the development area. This report presents the methodology and results of 5 visits to this location by Altamar Ltd. from January to March 2025.

A total of 28 species were recorded within, above and adjacent to the survey area across five surveys. 21 green, five amber, and two red species of conservation concern were recorded either within, over or immediately adjacent to the survey area boundary. One species listed as a Qualifying Interest of the nearby River Boyne and River Blackwater SPA (Kingfisher). One red-listed species of conservation concern in Ireland, meadow pipit (*Anthus pratensis*) was recorded within or over the survey area.

The proposed development in Trim is not predicted to significantly reduce available foraging areas for wintering birds, in particular those listed as Qualifying Interests of nearby SPAs. Impacts on wintering bird species moving between foraging and roosting sites are not likely in the absence of mitigation measures. The proposed development is likely to reduce total foraging area within the survey area for red-listed species recorded during surveys. However, the reduction of foraging area for these species is not considered significant due to the scale of the development in the context of the surrounding areas and habitats available, and as the proposed site layout and landscape plan will continue to facilitate foraging by these species within the site.

Out of an abundance of caution due to the proximity of the River Boyne and River Blackwater SPA, mitigation measures are recommended. Following the full implementation of mitigation measures, no significant impacts on wintering bird species, particularly Qualifying Interests of nearby SPAs, are predicted.

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Appendix I

Appendix 1a – Individual survey observations of target species.

| Date | Species | No. | Behaviour | Height (m) | Details |
|------------|--------------|-----|-------------|------------|--|
| 30/01/2025 | Little Egret | 1 | Foraging | -- | Southern bank of River Boyne and River Blackwater SPA |
| 11/02/2025 | Cormorant | 1 | Flight path | 5 | West flight from south of survey area over SPA. |
| 11/02/2025 | Grey Heron | 1 | Flight path | 5 | Southeast flight from south of survey area over SPA. |
| 11/02/2025 | Grey Heron | 1 | Flight path | 1 | West flight across survey area. |
| 11/02/2025 | Grey Heron | 1 | Flight path | 15 | Northwest flight across survey area. |
| 11/02/2025 | Herring Gull | 3 | Flight path | 15 | South flight from southeast of survey area over SPA. |
| 11/02/2025 | Herring Gull | 1 | Flight path | 5 | Northeast flight from east of survey area. |
| 11/02/2025 | Herring Gull | 2 | Flight path | 5 | East flight from south of survey area over SPA. |
| 11/02/2025 | Herring Gull | 6 | Flight path | 50 | South flight across survey area. |
| 11/02/2025 | Herring Gull | 1 | Flight path | 15 | South flight across survey area. |
| 11/02/2025 | Marsh Tit | 2 | Flight path | 3 | East flight from south of survey area over SPA. |
| 21/02/2025 | Herring Gull | 14 | Flight path | 20 | Circling flight north of survey site. |
| 21/02/2025 | Herring Gull | 2 | Flight path | 30 | South flight from east of survey area over SPA. |
| 21/02/2025 | Herring Gull | 31 | Flight path | 25 | Northeast flight across survey area. |
| 21/02/2025 | Herring Gull | 13 | Flight path | 25 | Northeast flight across survey area. |
| 21/02/2025 | Herring Gull | 20 | Flight path | 30 | Northeast flight across survey area. |
| 21/02/2025 | Meadow Pipit | 1 | Foraging | -- | Shrubs southeast of site. |
| 21/02/2025 | Snipe | 1 | Flight path | 10 | East flight from foraging area within the survey area. |
| 21/02/2025 | Snipe | 3 | Foraging | -- | Grassland southeast of site. |
| 21/02/2025 | Snipe | 1 | Foraging | -- | Grassland on eastern boundary of site. |
| 03/03/2025 | Mallard | 2 | Flight path | 2 | West flight from south of survey area over SPA. |
| 03/03/2025 | Starling | 1 | Foraging | | Shrubs southeast of site. |
| 25/03/2025 | Kingfisher | 5 | Flight path | 3 | West flight from south of survey area over SPA. |

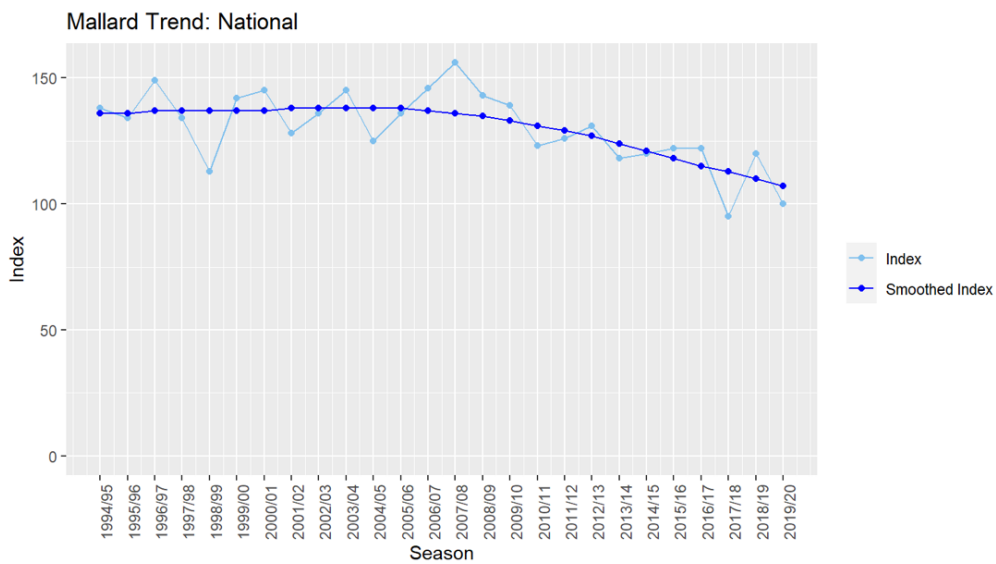
Appendix 1b – I-WeBS Trends for River Boyne (site code OV301).

Site Summary

| Species | Trend (%) | | | Long Term Trend |
|---------|----------------------|-----------------------|-----------------------|----------------------|
| | River Boyne - 5 Year | River Boyne - 12 Year | River Boyne - 23 Year | |
| Teal | -99.1 | -79.2 | -85.2 | Large Decline |
| Mallard | -8.2 | -19.8 | 0.0 | Stable or Increasing |
| Lapwing | -73.1 | 18.4 | 22.0 | |
| Curlew | 8.5 | -11.1 | 28.0 | |
| Wigeon | -7.6 | 621.9 | 1343.8 | |

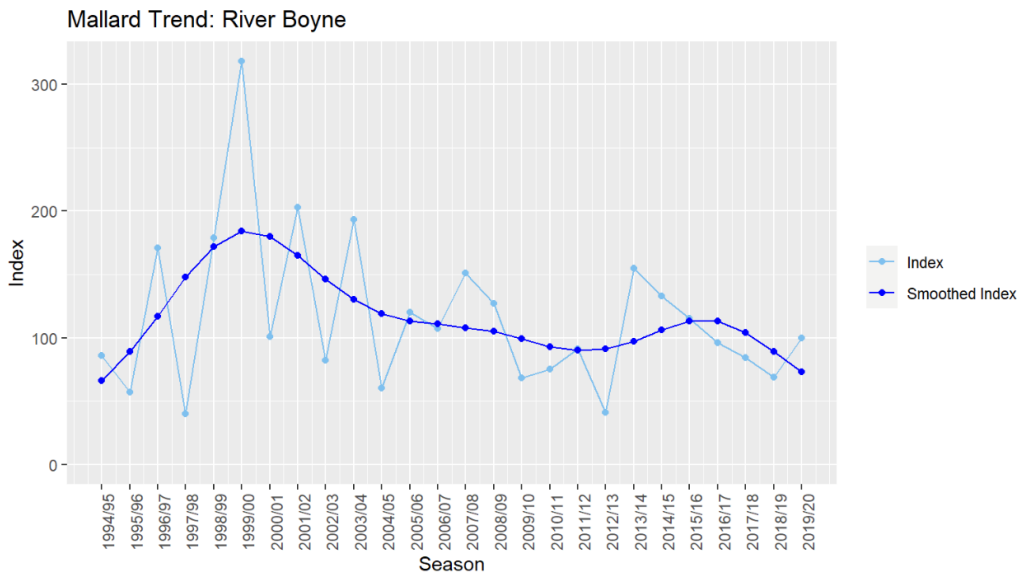
Appendix 1c – I-WeBS National Trends of relevant species recorded in this report.

Mallard



Appendix 1d – I-WeBS River Boyne Trends of relevant species recorded in this report.

Mallard





**Invasive Species Management Plan the proposed
Residential Development at Kildalkey Road, Trim, Co.
Meath.**



16th June 2026

Prepared by: Bryan Deegan MSc., BSc. (MCIEEM) of Altemar Ltd.

On behalf of: Loughglynn Developments Limited

Altemar Ltd., 50 Templecarrig Upper, Delgany, Co. Wicklow. 00-353-1-2010713. info@altemar.ie
Directors: Bryan Deegan and Sara Corcoran
Company No.427560 VAT No. 9649832U
www.altemar.ie

| Document Control Sheet | | | |
|-------------------------------|---|-----------------|----------------------------|
| Client | Loughglynn Developments Limited | | |
| Project | Invasive Species Management Plan a proposed residential development at Kildalkey Road, Trim, Co. Meath. | | |
| Report | Invasive Species Management Plan | | |
| Date | 16 th June 2026 | | |
| Version | Author | Reviewed | Date |
| Draft 01 | Bryan Deegan | Gayle O'Farrell | 16 th June 2026 |

25.1 Introduction

The development will consist of 183 no. residential units comprising 127 no. dwelling houses, including 28 no. 4-bedroom houses and 99 no. 3-bedroom houses, 56 no. apartments including 16 no. 1-bedroom apartments and 40 no. 2-bedroom apartments, 1 no. creche, associated internal roads, pedestrian and cycle infrastructure, public open spaces, landscaping, boundary treatments, car parking, bicycle parking, drainage infrastructure and all associated site development works on site at Kildalkey Road, Trim, Co. Meath.

During site assessments for the proposed project, Sea Buckthorn was noted on site. An Invasive Species Management Plan has been prepared to outline the extent of the infestation and the measures that will be in place to mitigate the potential impact and prevent spread of the invasive species during works in line with National and international legislation.

The proposed site outline is demonstrated in Figure 1. A site visit was carried out by Emma Peters on the 25th and 30th September 2025 and the presence and extent of invasive species on site was recorded. The location of the sea buckthorn is seen in Figure 2. Areas requiring treatment and post-treatment monitoring are demonstrated in Figure 3.



0 0.1 0.2 0.3 0.4 km

Project: Trim Housing Development
 Location: Trim, Co. Meath
 Date: 14th April 2026
 Drawn By: Bryan Deegan (Altamar)

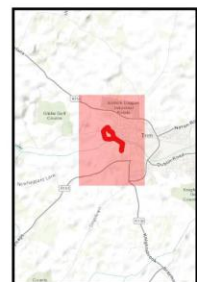
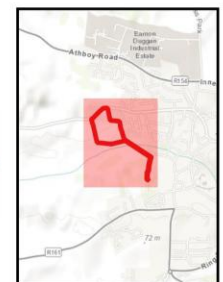
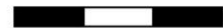


Figure 1. Proposed Site Outline



0 20 40 60 m





Project: Trim Housing Development
 Location: Trim, Co. Meath
 Date: 14th April 2026
 Drawn By: Bryan Deegan (Altamar)

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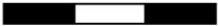


Figure 2. Sea buckthorn locations



 Sea buckthorn treatment/exclusion area
 Site Outline

0 20 40 60 m



Project: Trim Housing Development
 Location: Trim, Co. Meath
 Date: 14th April 2026
 Drawn By: Bryan Deegan (Altamar)

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Figure 3. Areas requiring exclusion, treatment and post-treatment monitoring.

25.2 Invasive Species Assessment

The following management plan was compiled by Bryan Deegan MCIEEM of Altemar Ltd. Bryan is an ecologist with over 30 years survey experience and former project manager for the EU LIFE project CAISIE on invasive species. This was a €1.5 million EU project that carried out surveys and developed control tools for aquatic and riparian invasive species in Ireland.

The control of invasive species in Ireland comes under the Wildlife (Amendment) Act 2000 where it states that ‘Any person who— [...] plants or otherwise causes to grow in a wild state in any place in the State any species of flora, or the flowers, roots, seeds or spores of flora, [‘refers only to exotic species thereof’][...] otherwise than under and in accordance with a licence granted in that behalf by the Minister shall be guilty of an offence.’

Under the European legislation, the Birds and Natural Habitats Regulations 2011 (SI 477 of 2011), Section 49(2) prohibit the introduction and dispersal of species listed in the Third Schedule whereby “any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow [...] shall be guilty of an offence.” Relevant species within this legislation include but, are not limited to (See Table 1):

| | | |
|--------------------|---------------------------------|----------------------|
| Giant hogweed | <i>Heracleum mantegazzianum</i> | Throughout the State |
| Giant knotweed | <i>Fallopia sachalinensis</i> | Throughout the State |
| Giant-rhubarb | <i>Gunnera tinctoria</i> | Throughout the State |
| Himalayan balsam | <i>Impatiens glandulifera</i> | Throughout the State |
| Himalayan knotweed | <i>Persicaria wallichii</i> | Throughout the State |
| Japanese knotweed | <i>Reynoutria japonica</i> | Throughout the State |
| Rhododendron | <i>Rhododendron ponticum</i> | Throughout the State |
| Hottentot-fig | <i>Carpobrotus edulis</i> | Throughout the State |
| Sea-buckthorn | <i>Hippophae rhamnoides</i> | Throughout the State |

This report applies the most relevant and current guidance in relation to non-native invasive plant species in construction projects. The following literature was referred to in preparation of this report.

- S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011.
<http://www.irishstatutebook.ie/eli/2011/si/477/made/en/pdf>
- NRA Guidelines on The Management of Noxious Weeds and Non-Native
- Invasive Plant Species on National Roads

25.3 Site Survey

Walkover assessments of the development site were carried out by Emma Peters on the 25th and 30th September 2025. All areas were examined for Invasive species during the optimal survey season. Two areas of sea buckthorn infestation were identified; one within the site outline along the western boundary treeline, and another area also to the west of the site, located c.50m outside the site boundary. Sea buckthorn third Schedule listed species under Regulations 49 & 50 in the European Communities (Birds and Natural Habitats) Regulations 2011. No other non-native invasive species listed in the third schedule of (SI 477 of 2011) were noted on site (Plants Table 1 & Animals Table 2).

Table 1. Plant species listed in the Third Schedule of SI 477 of 2011

| Common Name | Species | Location | Present on site |
|------------------------------|------------------------------------|-----------------------------|-----------------|
| American skunk-cabbage | <i>Lysichiton americanus</i> | Throughout the State | Not observed |
| A red alga | <i>Grateloupia doryphora</i> | Throughout the State | Not observed |
| Brazilian giant-rhubarb | <i>Gunnera manicata</i> | Throughout the State | Not observed |
| Broad-leaved rush | <i>Juncus planifolius</i> | Throughout the State | Not observed |
| Cape pondweed | <i>Aponogeton distachyos</i> | Throughout the State | Not observed |
| Cord-grasses <i>Spartina</i> | <i>(all species and hybrids)</i> | Throughout the State | Not observed |
| Curly waterweed | <i>Lagarosiphon major</i> | Throughout the State | Not observed |
| Dwarf eel-grass | <i>Zostera japonica</i> | Throughout the State | Not observed |
| Fanwort | <i>Cabomba caroliniana</i> | Throughout the State | Not observed |
| Floating pennywort | <i>Hydrocotyle ranunculoides</i> | Throughout the State | Not observed |
| Fringed water-lily | <i>Nymphoides peltata</i> | Throughout the State | Not observed |
| Giant hogweed | <i>Heracleum mantegazzianum</i> | Throughout the State | Not observed |
| Giant knotweed | <i>Fallopia sachalinensis</i> | Throughout the State | Not observed |
| Giant-rhubarb | <i>Gunnera tinctoria</i> | Throughout the State | Not observed |
| Giant salvinia | <i>Salvinia molesta</i> | Throughout the State | Not observed |
| Himalayan balsam | <i>Impatiens glandulifera</i> | Throughout the State | Not observed |
| Himalayan knotweed | <i>Persicaria wallichii</i> | Throughout the State | Not observed |
| Hottentot-fig | <i>Carpobrotus edulis</i> | Throughout the State | Not observed |
| Japanese knotweed | <i>Fallopia japonica</i> | Throughout the State | Not observed |
| Large-flowered waterweed | <i>Egeria densa</i> | Throughout the State | Not observed |
| Mile-a-minute weed | <i>Persicaria perfoliata</i> | Throughout the State | Not observed |
| New Zealand pigmyweed | <i>Crassula helmsii</i> | Throughout the State | Not observed |
| Parrot's feather | <i>Myriophyllum aquaticum</i> | Throughout the State | Not observed |
| Rhododendron | <i>Rhododendron ponticum</i> | Throughout the State | Not observed |
| Salmonberry | <i>Rubus spectabilis</i> | Throughout the State | Not observed |
| Sea-buckthorn | <i>Hippophae rhamnoides</i> | Throughout the State | Present |
| Spanish bluebell | <i>Hyacinthoides hispanica</i> | Throughout the State | Not observed |
| Three-cornered leek | <i>Allium triquetrum</i> | Throughout the State | Not observed |
| Wakame | <i>Undaria pinnatifida</i> | Throughout the State | Not observed |
| Water chestnut | <i>Trapa natans</i> | Throughout the State | Not observed |
| Water fern | <i>Azolla filiculoides</i> | Throughout the State | Not observed |
| Water lettuce | <i>Pistia stratiotes</i> | Throughout the State | Not observed |
| Water-primrose | <i>Ludwigia (all species)</i> | Throughout the State | Not observed |
| Waterweeds | <i>Elodea (all species)</i> | Throughout the State | Not observed |
| Wireweed | <i>Sargassum muticum</i> | Throughout the State | Not observed |

Table 2. Animal species listed in the Third Schedule of SI 477 of 2011

| Common Name | Species | Location | Present on site |
|---|---|-----------------------|------------------------|
| A colonial seasquirt | <i>Didemnum spp.</i> | Throughout the State | Not observed |
| A colonial seasquirt | <i>Perophora japonica</i> | Throughout the State | Not observed |
| All freshwater crayfish except <i>Austropotamobius pallipes</i> | All Freshwater crayfish except <i>Austropotamobius pallipes</i> | Throughout the State | Not observed |
| American bullfrog | <i>Rana catesbeiana</i> | Throughout the State | Not observed |
| American mink | <i>Neovison vison</i> | Throughout the State | Not observed |
| American oyster drill | <i>Urosalpinx cinerea</i> | Throughout the State | Not observed |
| Asian oyster drill | <i>Ceratostoma inornatum</i> | Throughout the State | Not observed |
| Asian rapa whelk | <i>Rapana venosa</i> | Throughout the State | Not observed |
| Asian river clam | <i>Corbicula fluminea</i> | Throughout the State | Not observed |
| Bay barnacle | <i>Balanus improvisus</i> | Throughout the State | Not observed |
| Black rat | <i>Rattus rattus</i> | Offshore islands only | N/A |
| Brown hare | <i>Lepus europaeus</i> | Throughout the State | Not observed |
| Brown rat | <i>Rattus norvegicus</i> | Offshore islands only | N/A |
| Canada goose | <i>Branta canadensis</i> | Throughout the State | Not observed |
| Carp | <i>Cyprinus carpio</i> | Throughout the State | Not observed |
| Chinese mitten crab | <i>Eriocheir sinensis</i> | Throughout the State | Not observed |
| Chinese water deer | <i>Hydropotes inermis</i> | Throughout the State | Not observed |
| Chub | <i>Leuciscus cephalus</i> | Throughout the State | Not observed |
| Common toad | <i>Bufo bufo</i> | Throughout the State | Not observed |
| Coypu | <i>Myocastor coypus</i> | Throughout the State | Not observed |
| Dace | <i>Leuciscus leuciscus</i> | Throughout the State | Not observed |
| Freshwater shrimp | <i>Dikerogammarus villosus</i> | Throughout the State | Not observed |
| Fox | <i>Vulpes vulpes</i> | Offshore islands only | N/A |
| Grey squirrel | <i>Sciurus carolinensis</i> | Throughout the State | Not observed |
| Greylag goose | <i>Anser anser</i> | Throughout the State | Not observed |
| Harlequin Ladybird | <i>Harmonia axyridis</i> | Throughout the State | Not observed |
| Hedgehog | <i>Erinaceus europaeus</i> | Offshore islands only | N/A |
| Irish stoat | <i>Mustela erminea hibernicus</i> | Offshore islands only | N/A |
| Japanese skeleton shrimp | <i>Caprella mutica</i> | Throughout the State | Not observed |
| Muntjac deer | <i>Muntiacus reevesi</i> | Throughout the State | Not observed |
| Muskrat | <i>Ondatra zibethicus</i> | Throughout the State | Not observed |
| Quagga Mussel | <i>Dreissena rostriformis</i> | Throughout the State | Not observed |
| Roach | <i>Rutilus rutilus</i> | Throughout the State | Not observed |
| Roe deer | <i>Capreolus capreolus</i> | Throughout the State | Not observed |
| Ruddy duck | <i>Oxyura jamaicensis</i> | Throughout the State | Not observed |
| Siberian chipmunk | <i>Tamias sibiricus</i> | Throughout the State | Not observed |
| Slipper limpet | <i>Crepidula fornicata</i> | Throughout the State | Not observed |
| Stalked sea squirt | <i>Styela clava</i> | Throughout the State | Not observed |
| Tawny owl | <i>Strix aluco</i> | Throughout the State | Not observed |
| Wild boar | <i>Sus scrofa</i> | Throughout the State | Not observed |
| Zebra mussel | <i>Dreissena polymorpha</i> | Throughout the State | Not observed |

25.3.1 Proposed Management

The key objective of the Invasive Species Management Plan is to develop a safe and biosecure approach to the long-term control of invasive species in and proximate to the site and to remove the risk of spread and future. The successful implementation of the Plan will prevent the further spread of sea buckthorn as a result of the proposed works and ensure that future structures on site are not impacted by invasive species. The Management Plan describes procedures that will ensure the effective control of the specific invasive species.

It is recommended that all control methods follow the TII 4 phase approach to control of Invasive species as outlined in TII (2020)¹⁵:

Phase 1 – Site assessment – Mapping – Description of site – Habitat mapping – Presence of IAPS – Sensitive receptors – Proximity to designated sites – Topographical survey

Phase 2 – IAPS Management Plan – Costing – Site management objectives – Treatment required – Risk of re-infestation – Costings of appropriate control strategies – Acquisition of land/Compulsory Purchase Order (CPO) if necessary

Phase 3 – Implement control methods – Treatment reporting – IAPS control (chemical, physical or a combination of both) – Biosecurity measures – Documentation of method of treatment

Phase 4 – Re-growth monitoring – Re-growth reporting – Survey re-growth – Report on re-growth – Make provisions for site protection to prevent future IAPS infestations

One invasive species (SI 49 of 2011) were noted within the proposed development area (Figure 2).

25.3.1.1 Sea buckthorn

The sea buckthorn plants can be physically removed by grubbing up the above and below ground components of the plant by mechanically excavating them from the ground. All grubbed or excavated material should be bagged and removed from site for appropriate disposal. However, small root or rhizome parts in the ground may regrow and produce new plants. A more effective, long-term but labour-intensive method to control Sea-buckthorn is to cut the stems close to ground level, drilling and injecting the stump with a concentrated solution of glyphosate (Roundup Gold) or 2-4D amine. All grubbed or excavated material should be bagged and removed from site for safe disposal. No matter what method is used, the site should be monitored for regrowth at the end of the season.

Re-growth monitoring will be carried out on an annual basis for three years by an ecologist or invasive species specialist. Localised treatment will be carried as per above methodologies if required.

On site Management specific to the proposed works

Sea buckthorn is a highly invasive plant species and can unwittingly be transferred easily across a development site. The first stage of management of the species, prior to works commencing on site, will be to mark out the stands on site with a 7m buffer of tape or fencing to ensure that no machinery or personnel come within close proximity to the plants. Failure to do this could result in the transfer of sea buckthorn across the site particularly in the tracks of machinery. All works in this area must be approved and carried out in consultation with the project ecologist. Prior to the works commencing an updated survey will be carried out and 7m buffer adjusted. With basic precautions in relation to marking out the 7m buffer on site to prevent human or machinery access in the vicinity of sea buckthorn that this area can be avoided and removed as a localised control. If works are to be carried out within 7m of a plant of Japanese knotweed full biosecurity measures will be in place which will involve the works being supervised by a project ecologist/invasive species specialist.

¹⁵ TII (2020) The Management of Invasive Alien Plant Species on National Roads – Standard. GE-ENV-01104
<https://www.tiipublications.ie/library/GE-ENV-01104-01.pdf>

A Guide to Landscape Treatments for National Road Schemes in Ireland (TII)). As outlined in TII “The Management of Invasive Alien Plant Species on National Roads – Standard”¹⁶ “Areas infested with IAPS must be clearly identified and the specific sites of infestation isolated with fencing or warning tape. ‘Biosecure zone’ signs must be erected at each contaminated site to alert workers that IAPS are present and to avoid entering or interfering with these sites. Likewise, any stockpiles of soil that are or could be contaminated with IAPS must be clearly marked. Designated and clearly marked cleaning and/or disinfection stations should be strategically placed within the work site for use by staff, vehicles and machinery. Where it is necessary to work in contaminated areas, every effort should be made not to use vehicles with caterpillar tracks.

All vehicles and equipment that have been used in IAPS control operations must be thoroughly pressure-washed in a designated wash-down area each time they leave the works site and once work in that area has been completed. This also includes footwear, personal protective equipment (PPE), tools, and other light equipment. It is important to remove soil that may contain seeds or plant fragments, which otherwise could be transported along the road corridor as works are being undertaken. Vehicles leaving contaminated area(s) should either be confined to marked haulage routes protected by root barrier membranes, or be pressure-washed before leaving the area. Only vehicles that are deemed to be biosecure (i.e. sealed so that no soil can escape) shall be used to transport contaminated soil and all must be thoroughly pressure-washed in the designated wash-down area before exiting the infested area.”

25.3.2 Conclusion

Areas infested with Sea Buckthorn have been noted to the west of the site, both within and outside the proposed development boundary. The proposed works would involve the removal of soil off site. It is proposed to initially mark out the areas where sea buckthorn is present and prevent access within 7m of these areas. Where works are required within 7m of a stand full biosecurity measure will be in place under the supervision of a project ecologist/invasive species specialist. It is recommended that all above and below ground components removed with/without a combined herbicide treatment. and the areas marked with suitable signage, with subsequent treatments to keep the Sea buckthorn under control. As part of the management plan ongoing monitoring is required post control to ensure that invasive species have been fully controlled in site.

¹⁶ <https://www.tiipublications.ie/library/GE-ENV-01104-01.pdf>