PROPOSED LARGE-SCALE RESIDENTIAL DEVELOPMENT AT BENNETSTOWN PHASE 3, DUNBOYNE, CO. MEATH

Natura Impact Statement

Marina Quarter Limited

Report no.: 002, Rev. 004
Date: 16/12/2025

Project name:	Proposed Large-Scale Residential Development at Bennetstown Phase 3, Dunboyne, Co. Meath	DNV Markets & Risk Block 71, The Plaza, Parkwest, Dublin
Report title:	Natura Impact Statement	
Customer:	Marina Quarter Limited,	
Customer contact:	Colm McEldowney	Tel: 01 565 4730
Date of issue:	16/12/2025	
Project no.:	10589133	
Organisation unit:	Energy Systems	
Report no.:	002, Rev. 004	

Applicable contract(s) governing the provision of this Report: N/A

Objective: Natura Impact Statement for planning submission

Prepared by:	Verified by:	Approved by:
Liam Gaffney Senior Ecologist	Shea O' Driscoll Principal Ecologist	Shea O' Driscoll Principal Ecologist

Internally in DNV, the information in this document is classified as:

	Can the document be distributed internally within DNV after a specific date? No	Yes
☐ Open ☒ DNV Restricted	--	--
☐ DNV Confidential ☐ DNV Secret	☐	☐

Rev. no.	Date	Reason for issue	Prepared by	Verified by	Approved by
1	26/09/2025	Client Draft	LG	MP	MP
2	29/09/2025	Final	LG	MP	MP
3	08/12/2025	Client Draft	LG	SOD	SOD
4	16/12/2025	Final	LG	SOD	SOD

TABLE OF CONTENTS

TABLE OF FIGURES

TABLE OF TABLES

1 INTRODUCTION

1.1 Background

DNV was commissioned by Marina Quarter Limited to carry out an Appropriate Assessment (AA) Screening Report in relation to a Large-scale Residential Development (LRD) (the "Proposed Development") located at Bennetstown Phase 3, Dunboyne, Co. Meath (hereafter referred to as the "Site"). The AA Screening Report concluded that a degree of uncertainty exists in whether the Proposed Development could give rise to likely significant effects on the following European sites, namely:

- North Dublin Bay SAC (000206).
- South Dublin Bay SAC (000210).
- South Dublin Bay and River Tolka Estuary SPA (004024).
- North Bull Island SPA (004006).
- North-west Irish Sea SPA (004236).

Therefore, a Natura Impact Statement (NIS) has been prepared for the Proposed Development. The purpose of this NIS report (the "Report") is to provide information for the relevant competent authority to carry out a Stage 2 Appropriate Assessment in respect of the Proposed Development.

1.2 Quality Assurance and Competence

DNV Biodiversity and Environmental Services is a multi-disciplinary consultancy specialising in the areas of the Environment, Waste Management and Planning. All our consultants carry scientific or engineering qualifications and have a wealth of experience having undergone extensive training and continued professional development while working within the Environmental Consultancy sectors.

DNV as a company remains fully briefed in European and Irish environmental policy and legislation. DNV staff members are highly qualified in their field. Professional memberships include the Chartered Institution of Wastes Management (CIWM), the Irish Environmental Law Association and Chartered Institute of Ecology and Environmental Management (CIEEM). This Report was authored by DNV Senior Ecologist Liam Gaffney (LG).). The ecological surveys (bats, terrestrial flora and fauna) at the Site were coordinated by LG. DNV bird surveys were carried out by NB, Ecologist with DNV, and BMcC, Ecologist and Ornithologist with DNV. YM, Ecologist/botanist (formerly with DNV) undertook the Hedgerow Appraisal of the lands containing the Site.

LG is a Senior Ecologist with over 6 years of experience in ecological consultancy. With a B.Sc. in Zoology (Hons) and a M.Sc. (Hons) in Wildlife Conservation and Management from University College Dublin LG is highly experienced in desktop research, literature scoping-review, and report writing, as well as practical field experience (e.g., Bat surveys, habitat surveys, invasive species surveys, wintering bird surveys, large mammals, fresh water macro-invertebrates etc.). LG's MSc thesis was a literature scoping review on the ecosystem services provided by Irish bats. He has also completed best practice guidance courses on bat survey and mitigation techniques such as: 'Bat Ecology & Survey' and 'Bat Impacts and Mitigation' both held by the Chartered Institute of Ecology and Environmental Management (CIEEM). LG is experienced in compiling Biodiversity Chapters of EIARs, EcIAs, AA screening and Natura Impact Statements (NIS) reports, and in the overall assessment of potential impacts to ecological receptors from a range of developments. LG is also a full member of CIEEM.

BMcC is an experienced Ornithologist with a BSc in Planning and Environmental management from the Technological University of Dublin (TUD) and 13 years of bird survey experience, including four years of professional Ornithology work. BMcC is a longstanding and active member of Bird Watch Ireland and is also the author of several articles in UK birding publication *Birdwatch Magazine*. BMcC is highly experienced in all survey methodologies and with surveying all species groups of Irish birds and migrants, having provided a range of ornithology survey work for ecological consultancies, e.g., vantage points surveys of gulls, terns, raptors, waders and wildfowl; hinterland surveys of the above as well as riverine species; and breeding waders and country birds.

NB is an Ecologist with a B. Sc. (Hons) in Microbiology, an M. Sc. (Hons) in Environmental Microbiology from NUI, Galway and an M. Sc. (Hons) in Biodiversity and Conservation from Trinity College, Dublin. Her experience includes coordinating phytoplankton and zooplankton surveys in the Aquaculture Industry and coordinating research in Teagasc Food Research Centre. She has experience in laboratory management and university teaching, having coordinated and delivered material to a master's Microbiology course in University College Dublin. NB has extensive experience completing mammal, habitat, and invasive species surveys, as well as in desktop research, including the production of peer reviewed publications, grant proposals, literature reviews and ecological/environmental reports.

YM has a B.Sc. in Botany from Tokyo University of Agriculture and a M.Sc. in Botany from Hokkaido University, and has experience in desktop research, reporting and GIS work, as well as practical field experience including flora surveys, rare and protected plant species surveys, phytosociological vegetation surveys, habitat mapping and invasive species surveys. YM has prepared several AA screening reports. YM is also a Qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

2 DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Site Location

The Site of the Proposed Development is 17.22Ha in size with a net developable area of 7.13Ha.

T The Site of the Proposed Development comprises a greenfield site containing agricultural buildings and prefabricated structures/ storage containers associated with a local GAA club, located on the northern outskirts of Dunboyne and in the townland of Bennetstown. The Site currently comprises several agricultural fields and associated vegetated boundaries. The M3 Parkway is located to the northeast of the main body of the Proposed Development. The R157 Dunboyne Bypass runs adjacent to the east of the main body of the Site, with services and link-road sections of the Site boundary located in agricultural fields on the east side of the R157. The River Tolka and its flood plain interact with these eastern extensions of the Site redline boundary. The main body of the Site is bound to the south by Kennedy Road, a farmyard within the Site lands and agricultural fields to the southeast (see Figure 1 for the Site's location).

2.2 Project Description

Permission for 356 no. residential units and all associated ancillary development works. The unit mix consists of 2, 3 and 4 bedroom houses plus 1 and 3 bedroom duplex apartments. The mix of units is presented in 2 and 3 storey terraced houses and semi-detached houses, 3/4 storey duplex apartments. Please see the Site notice for a full description of the Proposed Development. The Site layout is shown in Figure 2.

The Proposed Development (Phase 3) also includes infrastructure that overlaps with previously granted Phase 1 and Phase 2 LRDs at the Bennetstown lands (granted under planning ref: 23/60290 (An Coimisiún Pleanála ref. 320049-24) and 24/60805), primarily consisting of a link road and bridge over the River Tolka. As detailed within the DMURS Statement and Engineering Report prepared by AtkinsRéalis (2025) for an amendment application (granted under planning ref: 25/61001) to the previously permitted Phase 1 LRD, there will be a realignment of the permitted southern link road between the R157 and the Old Navan Road. It is approximately 760m long with access road junctions and a bridge. For completeness, this amended road design is also included within the Proposed Development (Phase 3) application.

The road layout changes granted under planning ref: 25/61001 are summarised as follows:

- The Southern Link Road will now be approximately 760m long.
- Minor changes to horizontal and vertical alignment between chainages 230 and 400.
- All side road junctions designed in accordance with Cycle Design Manual (CDM) (same as layouts submitted for Phase 2 application).
- Provision of additional priority junction to CDM details at chainage 415.
- Significant changes to horizontal and vertical alignment from chainage 400 onwards including realignment of Old Navan Road to tie-into proposed road directly rather than at a T-junction.
- Rationalisation of access to local road serving residential properties with new CDM compliant priority junction onto realigned road and new priority junction to tie-into existing Old Navan Road travelling northwards.
- Provision of two-way cycle track on eastern side of road from chainage 650 onwards to tie-into proposed MCC scheme to connect to Dunboyne village including new parallel zebra crossing at chainage 650.
- Redesign of proposed bridge to cater for new road alignment with new more equal spans and relocated abutments and piers while overall length remains similar to currently granted bridge.
- Redesigned bridge no longer impacts on existing berm due to increase in clearance height and relocation of easternmost abutment.

FIGURE 1. SITE LOCATION

FIGURE 2. PROPOSED SITE CONTEXT PLAN (EXTRACTED FROM JFA DRWG NO: DBN3-SP-00-DR-JFA-AR-P1000)

2.3 Relevant Aspects of the Proposed Development

2.3.1 Construction Phase Details

As per the Construction Environmental Management Plan (CEMP) prepared by Paul McGrail Consulting Engineers (PMG) (2025a), the assumed programme presented below is indicative of how the Proposed Development will be constructed. At each stage of the Development some or all of the following activities will be required.

- Archaeological watching brief.
- Geotechnical Investigation.
- Ecology Prep. and establishment of tree protection measures and ecological mitigation measures.
- Site clearance and enabling works.
- External Infrastructure works including new roads, junctions, bridges and flood alleviation works.
- Internal Service infrastructure works.
- Sub-Structure works.
- Super-Structure works.
- External works and finishes.

The Phasing included in the CEMP is indicative to allow for flexibility in terms of the development. In terms of the Delivery and Phasing of Development the following as detailed in the CEMP (PMG, 2025a) will be the key stages:

Phase 1a - Site Set Up

This task will take up to ca.3 months to complete with approximately up to 20 staff employed and will involve consultation with the Project Arborist, Archaeologist and Ecologist, Site clearance set up Site offices and contractor's compound and secure the construction Site and erection of signage for Site security purposes.

The enabling works will entail:

- Securing of site boundary and erecting of fencing or hoarding as required.
- Wheel wash facilities.
- Gate man for daytime activities and security man for nighttime.
- Service terminations and positive identification of any services on the site by the utility providers.
- Establishment of tree protection and archaeological protection measure.
- Provision of temporary power, lighting and water services.
- Set up of site accommodation and welfare facilities.
- Identification of the trees that are required to be removed and the removal of these along with scrub and vegetation, in consultation with the appointed Arborist.

Phase 1b - Setting out of sites and provision of services

Given the significant work involved in the provision of drainage services, this stage is estimated to take between 4-5 months and will involve up to 40 construction staff. This will involve the laying of sewers within the Site, the installation of attenuation tanks, the provision of footpaths, lighting and roadways. As part of any works (i.e. provision of services) along the public areas/roads in the vicinity of the site, it will be ensured that the surface of the roads/areas will be re-instated to a high standard. Due to the catchment areas the site services associated with the phasing will be constructed as and when required to ensure that all surface water is attenuated prior to discharging to the existing surface water network.

Phase 1c - Construction of Residential Units

The construction of the residential units will, to a certain degree respond to the demand/sale of the units involved, however, as noted in the CEMP (PMG, 2025a), the applicant has already had a significant number of enquiries from prospective purchasers, and it is anticipated that the construction progress will reflect this strong demand and will involve up to 150 no. construction staff (depending on the number of units being constructed at any one time). The Proposed Development is expected to take up to three (3) years to complete (subject to planning and market demand).

2.3.2 Bridge Construction

The Proposed Development entails the installation of a bridge across the River Tolka in the south-east of the Site. The proposed bridge has a clear span of 32.712m and traverses a section of the river (See Figure 3). As advised by AtkinsRéalis, consultant engineers for the Proposed Development, the bridge will be constructed using conventional construction methods as outlined below:

- Construct/cast precast beams at an established precast yard in Ireland.
- Establish piling equipment and install piles (including excavation as required). Assumed maximum piling depth of 20m (conservative assumption).
- Construct the foundation and abutments to beam seat level.
- Transport and place precast beams with appropriately sized crane equipment.
- Cast the top slab and deck diaphragms (with formwork supported off beams).
- Construct wing/return walls.
- Backfill behind abutments and wingwalls.
- Install bridge parapets, kerbs, and footpaths.
- Complete roadworks and implement any necessary scour protection measures.
- Landscaping and finish the road reserve.

According to the Site-Specific Flood Risk Assessment (SFRA) prepared by IE Consulting, the proposed bridge does not require the removal of the existing berm located along the eastern bank of the river; the proposed bridge soffit level is above the existing berm crest level and will not interfere with the performance of same. In addition, a section of existing drainage channel/ditch in the south of the Site will be maintained un-culverted once realigned slightly to avoid the western bridge embankments and direct it beneath bridge (See Figure 4).

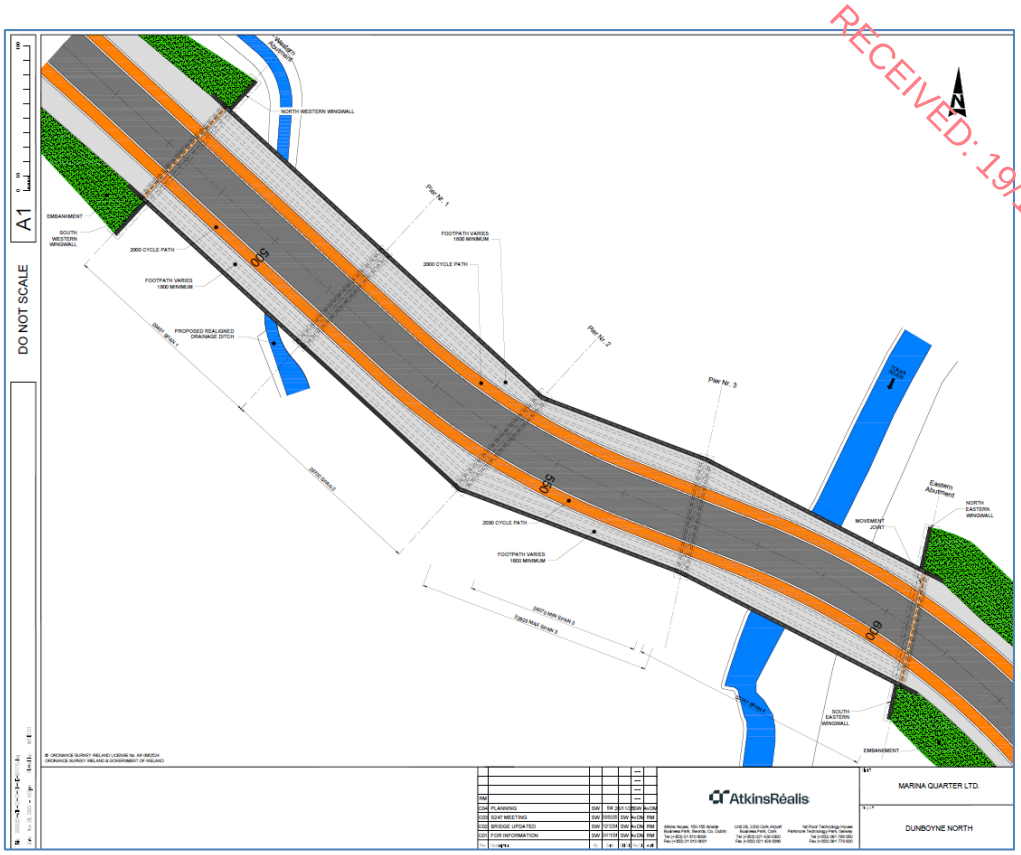

FIGURE 3. IMAGE ADAPTED FROM ATKINSRÉALIS DRNG NO: 5205505-ATK-XX-XX-SK-CE-001715 SHOWING OVERALL BRIDGE LAYOUT ACROSS FLOODPLAIN.

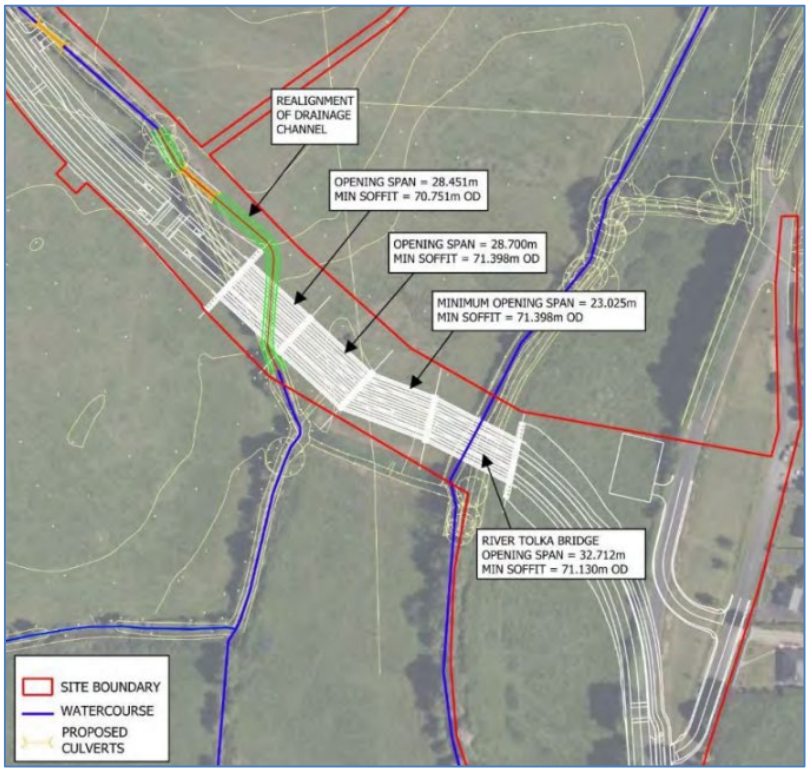

FIGURE 4. IMAGE SHOWING PROPOSED ROAD/BRIDGE AND DRAINAGE CHANNEL REALIGNMENT (SOURCE: IE CONSULTING SFRA)

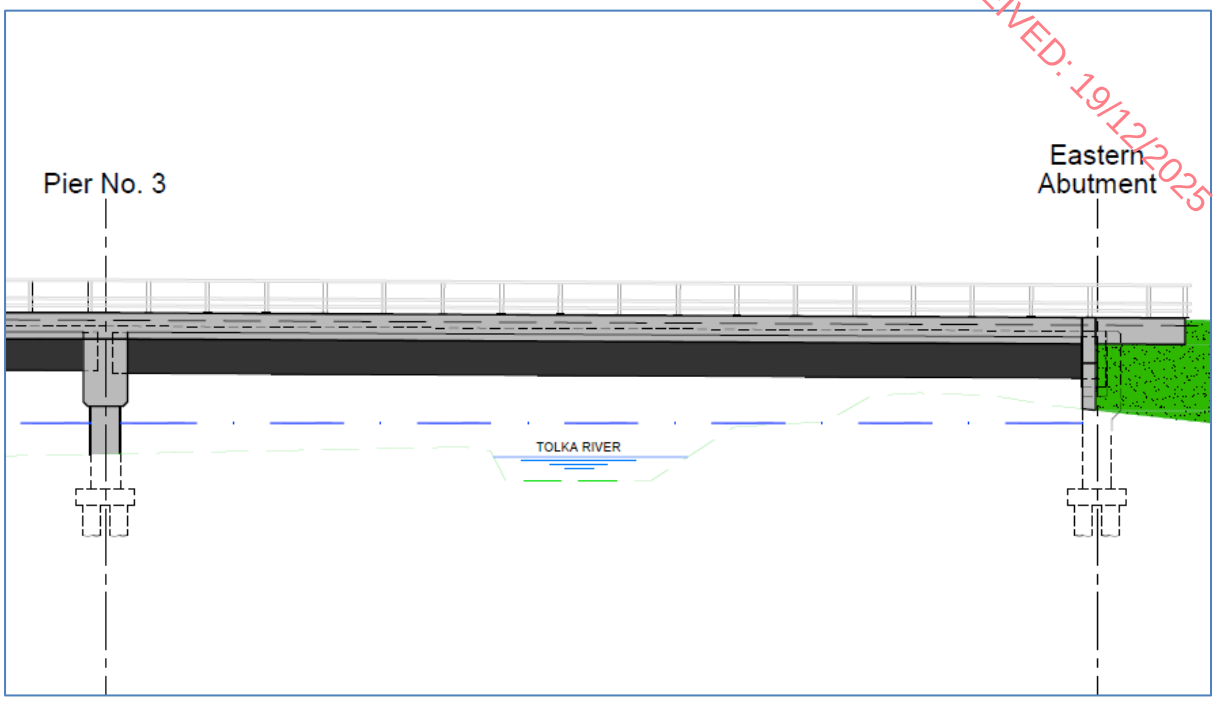

FIGURE 5. PROPOSED CLEAR SPAN BRIDGE DESIGN OVER THE RIVER TOLKA (IMAGE ADAPTED FROM ATKINSRÉALIS DRNG NO: 5205505-ATK-ZZ-ZZ-SK-CE-001718).

2.3.3 Surface Water Drainage

Storm and surface water arising from the Site will ultimately discharge to the River Tolka. The proposed surface water network consists of three catchment areas; Catchment 1 will be attenuated to the greenfield runoff rate at the hydrobrake located on outfall of the combined detention basin and underground stormtech system, and will connect to an existing 900mm diameter pipe which runs under the R157 road. Catchments 2 and 3 will be attenuated before connecting to Catchment 1.

Although not included within the Proposed Development design specifically for the protection of downstream European Sites, a Sustainable Drainage System (SuDS) system has been included as per best practice and the guidance of the Greater Dublin Strategic Drainage Study (GDSDS). As detailed in Section 3.1.1, SuDS measures can therefore be considered as 'embedded mitigation' or 'mitigation by design', as they are not included specifically to mitigate any harmful effects of the Proposed Development on any European site, however, they will contribute to the general reduction of pollutant input to the Tolka and downstream.

The proposed SuDS will manage and treat surface water generated at the Site for the duration of its operational lifetime. The SuDS system has been designed to collect and attenuate storm/surface water arising from the Site and discharge same at the allowable greenfield runoff rate to detention basins and the existing drainage ditch network. Maximum discharges are limited to pre-development greenfield runoff rates, further reduced and diffused through the various nature-based solution measures designed into the SuDS system. As detailed in the Engineering Report prepared by PMG (2025b), the suite of SUDS measures included in the design are as follows:

- **Modular Permeable Paving:** Porous surfacing (paving block or open graded material) has been designed on private parking spaces and driveways.
- **Swales:** shallow, flat bottomed, vegetated open channels have been included e.g., within the proposed road layout along the kerb line.
- **Detention Basins:** Detention basins are proposed in the west and south of the Site to cater for excess flows during periods of heavy rainfall. The proposed detention basins will provide the 1:100-year Return Period plus 20% Climate Change required storage volume for the Site's catchment areas.

- **Stormtech Underground:** An Arch structure with a maintenance/inspection tunnel for providing underground surface water attenuation storage that can infiltrate runoff to the ground where the subgrade is suitable. This will be the primary attenuation system for the Site and will be located under the detention basin in the southern open space area. The Isolator row of the Stormtech is a filter strip that provides enhanced suspended solids and pollutant removal while providing surface area for infiltration and run off reduction. The storage structure has been designed to achieve online treatment.
- **Petrol Interceptors:** A treatment feature offering a suitable means of treatment and oil separation which may be present duo to minor leaks from vehicles and accidental spillage. Petrol interceptors have been designed before the inlet chamber of each attenuation feature and have sufficient capacity to cater for each catchment area.
- **Hydrobrake Flow Control:** The Hydro-Brake® Flow Control is a self-activating vortex flow control device that reduce the stormwater runoff to greenfield flow rates. The hydrobrakes have been proposed on the outlet chamber of each attenuation system.
- **Tree pits:** Included along the various roads within the Proposed Development.
- **Bioretention Areas:** Areas of planting located along the various roads and areas of car parking within the Proposed Development.
- **Filter Drains:** Included along areas of permeable paving and grassy swales within the Proposed Development.

2.3.4 Foul drainage

As per the Engineering Report prepared by PMG (2025b), the proposed foul sewer network will connect to the proposed pumping station located to the east of the main body of the Site, which will discharge to the existing Uisce Éireann (UÉ) foul sewer network. A Pre-Connection Enquiry has been submitted to UÉ and the Confirmation of Feasibility and Statement of Design Acceptance has been granted.

The foul water drainage system for the Proposed Development has been designed in accordance with the Irish Water Code of Practice and will be separate to the surface water drainage system. The foul water from the development will discharge via soil vent pipes within the buildings by gravity flow before connecting into the proposed foul sewer pumping station. The foul sewerage for each house will have a separate connection to the proposed 225mm and 150mm diameter foul sewer along the road and will connect to a proposed 375mm pipe to the proposed pumping station.

3 LEGISLATIVE & POLICY CONTEXT

3.1 Legislative Background

The Habitats Directive (92/43/EEC) (as amended) seeks to conserve natural habitats and wild fauna and flora by the designation of Special Areas of Conservation (SACs) and the Birds Directive (2009/147/EC) (as amended) seeks to protect birds of special importance by the designation of Special Protection Areas (SPAs). The Habitats Directive has been transposed into Irish law through Part XAB of the Planning and Development Act 2000, as amended and the EC (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011) (as amended).

SACs and SPAs are collectively known as Natura 2000 or European sites. It is the responsibility of each member state to designate SACs and SPAs. SACs are selected for the conservation of Annex I habitats (including priority types which are in danger of disappearance) and Annex II species (other than birds). SPAs are selected for the conservation of Annex I birds and other regularly occurring migratory birds and their habitats. The annexed habitats and species for which each site is selected correspond to the Qualifying Interests (QIs) of the sites; from these the conservation objectives of the site are derived.

An AA is a required assessment to determine the likelihood of significant effects, based on best scientific knowledge, of any plans or projects on European sites. A screening for AA determines whether a plan or project, either alone or in combination with other plans and projects, is likely to have significant effects on a European site, in view of its conservation objectivesThe obligations in relation to AA have been implemented in Ireland under Part XAB of the Planning and Development Act 2000, as amended ("the 2000 Act"), and in particular Section 177T and Section 177V thereof in relation to Natura Impact Statements and AA.

3.1.1 Consideration of Embedded Mitigation

With regard to the consideration of embedded mitigation in the Appropriate Assessment process the following is noted. In Case C 721/21 Eco Advocacy, the Court of Justice of the European Union held that, regarding the interpretation of Article 6(3) of Directive 92/43 (as amended), the Article must be interpreted as meaning that:

"In order to determine whether it is necessary to carry out an appropriate assessment of the implications of a plan or project for a site, account may be taken of the features of that plan or project which involve the removal of contaminants and which therefore may have the effect of reducing the harmful effects of the plan or project on that site, where those features have been incorporated into that plan or project as standard features, inherent in such a plan or project, irrespective of any effect on the site".

As such, standardised embedded mitigation (such as the use of SuDS in large-scale residential developments), that are incorporated into the design of a proposal or project and which may result in the elimination of likely significant effects on European sites, but where the primary reason of the embedded mitigation is not to protect a European site, are permitted for consideration when screening for AA. This is consistent with the policies of Meath County Council (see Section 3.2.1.1).

3.2 Policy Context

3.2.1 Meath County Development Plan 2021 – 2027

Policies and objectives of the Meath County Development Plan (MCDP) 2021 – 2027 that are of relevance to this Screening Report are outlined below. This assessment is in compliance with the MCDP 2021 – 2027.

Relevant policies include:

- **HER POL 28:** "To integrate in the development management process the protection and enhancement of biodiversity and landscape features wherever possible, by minimising adverse impacts on existing habitats (whether designated or not) and by including mitigation and/or compensation measures, as appropriate."
- **HER POL 31: "**To ensure that the ecological impact of all development proposals on habitats and species are appropriately assessed by suitably qualified professional(s) in accordance with best practice guidelines – e.g. the preparation of an Ecological Impact Assessment (EcIA), Screening Statement for Appropriate Assessment, Environmental Impact Assessment, Natura Impact Statement (NIS), species surveys etc. (as appropriate)."

- **HER POL 32:** "To permit development on or adjacent to designated Special Areas of Conservation, Special Protection Areas, Natural Heritage Areas, Statutory Nature Reserves or those proposed to be designated over the period of the Plan, only where the development has been subject to the outcome of the Appropriate Assessment process and has been carried out to the satisfaction of the Planning Authority, in consultation with National Parks and Wildlife."
- **HER POL 33:** "To have regard to the views and guidance of the National Parks and Wildlife Service in respect of proposed development where there is a possibility that such development may have an impact on a designated European or National site or a site proposed for such designation."
- **HER POL 34:** "To undertake appropriate surveys and collect data to provide an evidence-base to assist the Council in meeting its obligations under Article 6 of the Habitats Directives (92/43/EEC) as transposed into Irish Law, subject to available resources."
- **HER OBJ 33:** "To ensure an Appropriate Assessment in accordance with Article 6(3) and Article 6(4) of the Habitats Directives (92/43/EEC) and in accordance with the Department of Environment, Heritage and Local Government Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities, 2009 and relevant EPA and European Commission guidance documents, is carried out in respect of any plan or project not directly connected with or necessary for the management of the site but likely to have a significant effect on a Natura 2000 site(s), either individually or in-combination with other plans or projects, in view of the site's conservation objectives.
- **HER OBJ 34:** "To protect and conserve the conservation value of candidate Special Areas of Conservation, Special Protection Areas, Natural Heritage Areas and proposed Natural Heritage Areas as identified by the Minister for the Department of Culture, Heritage and the Gaeltacht and any other sites that may be proposed for designation during the lifetime of this Plan in accordance with the provisions of the Habitats and Birds Directives and to permit development in or affecting same only in accordance with the provisions of those Directives as transposed into Irish Law."
- **INF OBJ 14:** "To require the use of SuDS within Local Authority Developments and other infrastructural projects in accordance with the Greater Dublin Regional Code of Practice for Drainage Works."
- **INF OBJ 15: "**To require the use of SuDS in accordance with the Greater Dublin Regional Code of Practice for Drainage Works for new developments (including extensions)."
- **INF OBJ 25:** "To require the use of Sustainable Urban Drainage Systems (SuDS) to minimise and limit the extent of hard surfacing and paving and require the use of sustainable drainage techniques where appropriate, for new development or for extensions to existing developments, in order to reduce the potential impact of existing and predicted flooding risks."

3.2.1.1 SuDS in Meath County Development Plan Policy

Following on from the Greater Dublin Strategic Drainage Study 2005 (GDSDS) the local authorities in the greater Dublin area (GDA) introduced new policies in relation to surface water drainage. The requirement for SuDS in new developments is included in policy objectives: INF OBJ 14, 15 and 25 of the Infrastructure Strategy (Chapter 6) of the Meath County Development Plan 2021-2027.

These provisions included a commitment to the use of SuDS in all new public and private developments, and as noted within Chapter 6 of the Meath County Development Plan 2021-2027, the effective implementation of this policy will ensure that any future development does not increase flooding or pollution of water bodies. SuDS aim to mimic the natural drainage of a site to minimise the effect of a development on flooding and pollution of waterways. The Council and Irish Water strongly endorse and advocate the comprehensive application of SuDS in the County in the interests of environmental sustainability.

3.2.2 County Meath Biodiversity Action Plan 2015-2020

In addition, the MCDP 2021-2027 provides a suite of objectives to support plans aimed at enhancing and protecting biodiversity at a local and national level, such as the National Biodiversity Action Plan (NBAP) 2023-2030 and the Meath Biodiversity Action Plan (BAP) 2015-2020. The BAP also provides a framework and series of actions to conserve, enhance and raise awareness of Meath's rich biodiversity and to maximise the contribution that it makes to the social, economic and environmental well-being of the county, taking into account local, national and international, including European priorities. The Meath BAP is set out to protect and improve biodiversity through

objectives aimed at protecting biodiversity, and the AA Screening of the plan concluded that "*there is no potential for significant effects by the implementation of the County Meath Biodiversity Action Plan 2015-2020, either alone or in combination with other plans or projects, on any Natura 2000 site*.".

3.2.3 National Biodiversity Action Plan 2023-2030

The NBAP 2023-2030, the fourth such plan for Ireland, captures the objectives, targets and actions for biodiversity that will be undertaken by a wide range of government, civil society and private sectors. Actions required to achieve the strategic objectives as well as the lead and key partners responsible for their implementation are set out for each of the objectives and their outcomes. This assessment has had regard to the objectives of the NBAP and how they relate to AA and the protection of designated sites, including Objective 2: *Meet Urgent Conservation and Restoration Needs*, and target outcome 2A: *The protection of existing designated areas and protected species is strengthened and conservation and restoration within the existing protected area network are enhanced.*

3.3 Stages of Appropriate Assessment

The AA process is a multi-stage process. Each stage requires different considerations, assessments and tests to ultimately arrive at the relevant conclusion for each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

The various stages of an AA can be summarised as follows:

- **Stage 1: *Screening***. The Screening for AA considers whether a plan or project is directly connected to or necessary for the management of a European site, or whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a European site in view of its conservation objectives.

- **Stage 2: *NIS.*** Where Stage 1 determines that significant effects are likely, uncertain or unknown, the preparation of a NIS is required. The NIS must include a scientific examination of evidence and data to classify potential impacts on any European site(s) in view of their conservation objectives in the absence of mitigation. The NIS will identify appropriate mitigation to remove the potential for likely significant adverse effects on any European site(s). If the competent authority determines that the plan or project would have an adverse effect on the integrity of any European site(s) despite mitigation, it can only grant consent after proceeding through stage 3.

- **Stage 3: *Derogation from Article 6(3) under certain circumstances***. If the outcome of Stage 2 is negative i.e., adverse impacts to the sites cannot be scientifically ruled out, despite mitigation, the plan or project should proceed to Stage 3 or be abandoned. Stage 3 requires:
    - Examination of alternative solutions, and, where no alternative solution exists;
    - Examining whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project to adversely affect a European site, where no less damaging solution exists.
    - Implementation of compensatory measures to maintain the coherence of the Natura 2000 network.

3.4 Stage 1: Appropriate Assessment Screening Conclusion

An AA Screening Report was prepared for the Proposed Development by DNV in September 2025. The conclusion of the AA Screening Report is as follows:

"In conclusion, upon the examination, analysis and evaluation of the relevant information, and applying the precautionary principle, it is concluded by the authors of this Report that, on the basis of objective information, ***the possibility cannot be excluded*** *that the Proposed Development will have a likely significant effect on the European sites identified in this AA Screening as maintaining a notable S-P-R pathway with the Proposed Development. These Sites are listed below:*

- *North Dublin Bay SAC (000206).*
- *South Dublin Bay SAC (000210).*
- *South Dublin Bay and River Tolka Estuary SPA (004024).*

- *North Bull Island SPA (004006).*
- *North-west Irish Sea SPA (004236).*

In carrying out this AA screening, specific targeted mitigation measures included for the primary reason of protecting a European site have not been taken into account.

On the basis of the screening exercise carried out above, it can be concluded, on the basis of the best scientific knowledge available, that the likelihood of any significant effects on any European sites, whether arising from the project itself or in combination with other plans and projects, cannot be excluded. Thus, there is a requirement to proceed to Stage 2 of the AA process; and an NIS (DNV, 2025) has been prepared and accompanies this submission under separate cover."

As such, this NIS will assess the potential effects of the Proposed Development on the following European sites:

- North Dublin Bay SAC (000206).
- South Dublin Bay SAC (000210).
- South Dublin Bay and River Tolka Estuary SPA (004024).
- North Bull Island SPA (004006).
- North-west Irish Sea SPA (004236).

These sites are linked to the Proposed Development via a hydrological pathway in the form of the River Tolka. No other pathways were screened in for Stage 2 AA for their potential to cause likely significant effects to any European sites. Figure 6 illustrates the location of the above linked European sites in relation to the Site of the Proposed Development and the hydrological impact pathway via the River Tolka.

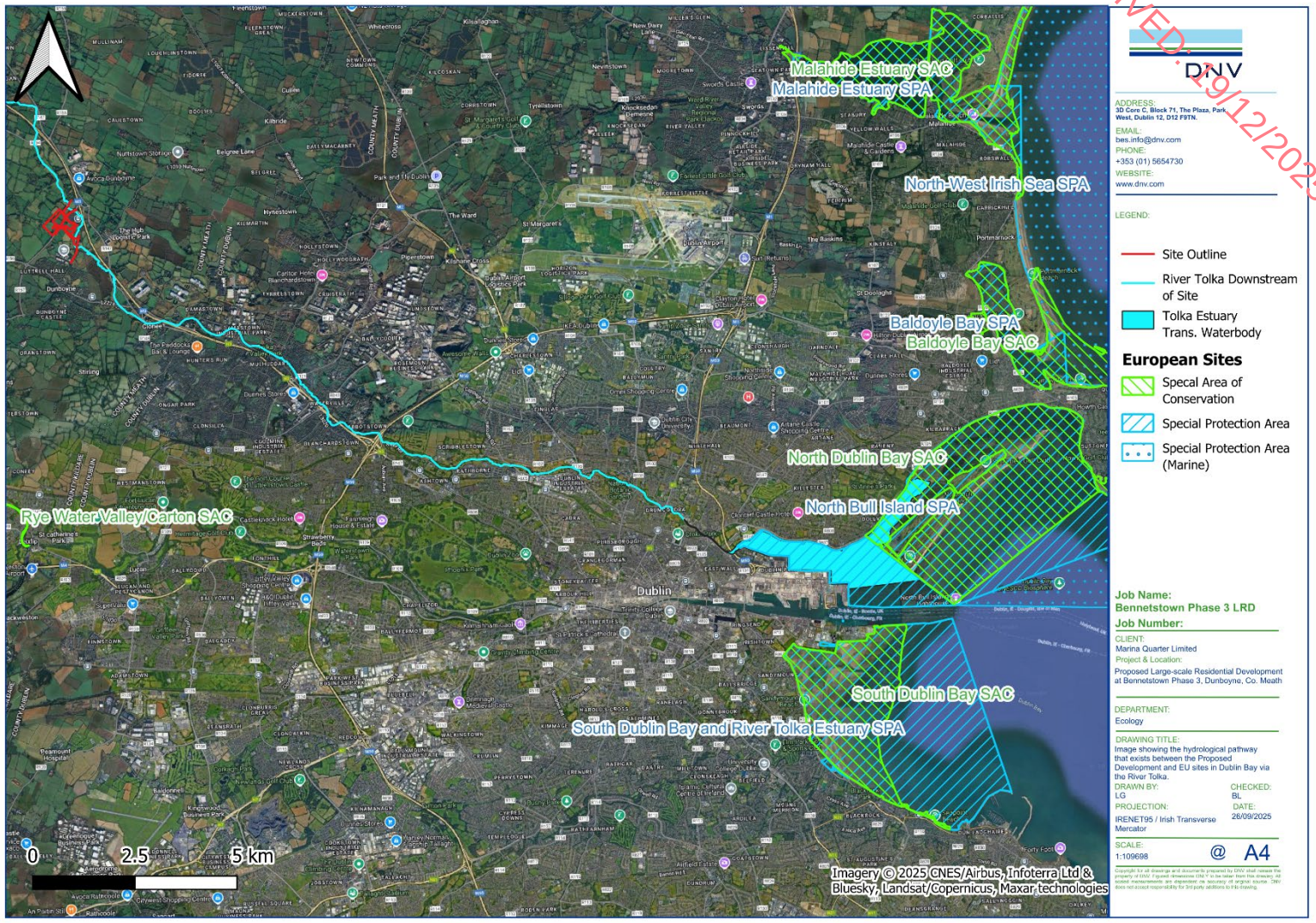

FIGURE 6. IMAGE SHOWING THE HYDROLOGICAL PATHWAY THAT EXISTS BETWEEN THE SITE AND EUROPEAN SITES WITHIN DUBLIN BAY VIA THE RIVER TOLKA.

4 NIS METHODOLOGY

4.1 Guidance

This NIS has been undertaken in accordance with the following guidance:

- *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities.* (Department of Environment, Heritage and Local Government, 2010 revision);
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities.* Circular NPW 1/10 & PSSP 2/10;
- *Communication from the Commission on the precautionary principle* (European Commission, 2000);
- *Managing European sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC* (European Commission, 2019);
- *Assessment of plans and projects in relation to European sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC Brussels, 28.9.2021 C (European Commission, 2021);*
- *Appropriate Assessment Screening for Development Management, OPR Practice Note PN01, Office of the Planning Regulator March 2021; and*

4.2 NIS Steps

This NIS has been prepared following the steps described below:

- Description of the baseline existing environment at the Site of the Proposed Development.
- Review and description of available data for the relevant European site(s) potentially affected as identified in the Screening Report (DNV, 2025).
- Identification and description of potential effects on the relevant European site(s) and their designated QIs/SCIs.
- Assessment of the likely significance of the effects and/or impacts identified on the relevant QIs/SCIs in view of their Site-Specific Conservation Objectives (SSCOs).
- Description and characterisation of other projects or plans that in combination with the Proposed Development have the potential for having significant effects on the relevant QIs/SCIS.
- Identification of appropriate mitigation measures to remove the likelihood of significant effects on any European site(s) and their QIs/SCI.
- Exclusion of sites where it can be objectively concluded that there will be no significant effects once mitigation measures are adhered to.

4.3 Desk Study

A desktop study was carried out in December 2025 to collate and review available information, datasets and documentation sources relevant for the completion of this Screening Report. The desktop study relied on the following sources:

- Information on the network of European sites, boundaries, qualifying interests and conservation objectives, obtained from the National Parks and Wildlife Service (NPWS) at *www.npws.ie* and the European Environment Agency (EEA) at *https://natura2000.eea.europa.eu/.;*
- Information on the status of EU protected habitats and species in Ireland, obtained from the NPWS Article 17 reports.
- Text summaries of the relevant European sites taken from the respective site synopses available at *www.npws.ie;*

- Information on species records and distributions, obtained from the National Biodiversity Data Centre (NBDC) at www.maps.biodiversityireland.ie;
- Information on waterbodies, catchment areas and hydrological connections obtained from the Environmental Protection Agency (EPA) at www.gis.epa.ie;
- Information on surface water, storm water and sewage infrastructure within and surround the site provided by the applicant and their design team.
- Information on bedrock, groundwater, aquifers and their statuses, obtained from Geological Survey Ireland (GSI) at www.gsi.ie;
- Satellite imagery and mapping obtained from various sources and dates including Google, Digital Globe, Bing and Ordnance Survey Ireland; and
- Information on the existence of permitted developments, or developments awaiting decision, in the vicinity of the Proposed Development from the National Planning Application Database (DHLGH, 2025a) and the Department of Housing, Local Government and Heritage's (DHLGH) EIAR Online Portal (DHLGH, 2025b).

For a complete list of the specific documents consulted as part of this assessment, see *Section 5 References*.

4.4 Ecological surveys

A range of surveys have been carried out across the application Site since 2021, including habitat and flora surveys, bat surveys, bird surveys and mammal surveys. However, this NIS focuses specifically on the impact pathway that connects the Proposed Development to European sites identified in the AA Screening i.e., the hydrological pathway that connects the Proposed Development to downstream Dublin Bay European sites namely South Dublin Bay SAC (000210), North Dublin Bay SAC (000206), South Dublin Bay and River Tolka Estuary SPA (004024), North Bull Island SPA (004006), and the North-west Irish Sea SPA (004236). This pathway was screened in for further assessment due to the potential for likely significant effects to occur.

The flora and fauna surveys are therefore not of relevance to this NIS. For full details of the surveys conducted as part of the ecological assessment of the Site of the Proposed Development, please refer to the AA Screening Report and EIAR Biodiversity Chapter submitted with the LRD application.

4.5 Impact Prediction

Potential impacts on the relevant European site(s) identified during the AA Screening are based on information regarding their QIs and/or SCI species, and the attributes and targets relating to their SSCOs. These have been informed by the desk study and any field surveys carried out prior to the preparation of this Report.

Impact prediction is based on the Source-Pathway-Receptor (S-P-R) model. The following describes the steps of the S-P-R approach taken in this NIS:

- Potential sources of effects were identified based on the Proposed Development description and details, including changes to potentially suitable *ex-situ* habitats at the Site (i.e., habitats utilised by Species of Conservational Importance (SCI) bird species outside of their designated SPAs).
- Up-to-date GIS spatial datasets for water catchments as well as any information from relevant site investigations and/or field surveys were used to identify the QIs/ SCIs within the relevant European site(s) that have a notable S-P-R connection to the Proposed Development:
    - The catchment data were used to establish or discount potential hydrological connectivity between the Proposed Development and any QIs/SCIs.
    - Groundwater and bedrock information used to establish or discount potential hydrogeological connectivity between the Proposed Development and any QIs/SCIs.
    - Air and land connectivity assessed based on Proposed Development details and proximity to QIs/SCIs.
    - Consideration of potential indirect pathways, e.g., impacts to flight paths, *ex-situ* habitats, etc.

- Identification of potential impacts for those QIs/SCIs linked to the Proposed Development via notable S-P-R connections.

Where the preceding steps identified any potential for adverse impacts on any QIs/SCIs for the relevant European site(s), appropriate mitigation measures to eliminate the potential for significant adverse effects are identified in this Report

4.6 Limitations

No limitations were encountered which would prevent robust conclusions being drawn as to the potential impact of the Proposed Development on the integrity of European sites, in view of each site's conservation objectives.

5 NATURA IMPACT STATEMENT

5.1 Existing Environment

5.1.1 Desk Study Results

5.1.1.1 Surface Water

The application Site is located in the Liffey and Dublin Bay Catchment (Catchment I.D 09) and in the Tolka_SC_010 Sub-catchment (Sub-catchment ID 09_10) (EPA, 2025).

The River Tolka flows through the eastern section of the Proposed Development. The Naulswood and another watercourse; the Bennetstown, flow in a south-easterly direction before joining with the Tolka approx. 1.4km to the south-east of the Site. These rivers flow as the main Tolka channel due south-east through Blanchardstown and central Dublin, before outflowing into Dublin Bay approx. 20km downstream of the Site (EPA 2025).

These waterbodies are identified with the same EU code (IE_EA_09T010600) and are assessed as a single entity under the Water Framework Directive (WFD) ID TOLKA_020. The WFD status of these waterbodies is Moderate and they have been projected to be At Risk of not achieving their WFD objectives (EPA 2025). The reported 2022 Q-value results from station 'Dunboyne Rd Br u/s Clonee' (Station Code: RS09T010600) (located approx. 1.6km south-east of the Site) of 3-4 indicate that water quality in the TOLKA_020 is Moderate downstream the Site.

Additionally, a prominent drainage ditch with a confirmed flow towards the Tolka was noted along the route of the permitted link road during the walkover ecological surveys. This ditch is steep with banks ca.2.5m high in some places. This ditch was dry during the bat survey of Phase 1 lands in September 2021 and then observed to carry a fast flow during a Site visit in February 2022 after heavy rainfall. The ditch was subsequently observed as dry in July 2022, with a flow recorded during the walkover survey in August 2023. The ditch was recorded to be holding pooling water in places in June 2025 as a result of silt-prevention measures (terram wrapped gravel) installed as part of the enabling works for the permitted Phase 1 LRD that overlaps with the Proposed Development. This ditch appears to hold transient flows during periods of high rainfall and directs them to the River Tolka to the south-east.

5.1.1.2 Geology and Hydrogeology

The Site of the Proposed Development is situated on the Dublin (IE_EA_G_008) groundwater body that has been assessed as having *Good* WFD status for the period 2019-2024. The bedrock aquifer identified beneath the Site is mapped as "Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones" (L) (EPA, 2025). The Groundwater Vulnerability Rating assigned to groundwater beneath the Site ranges from largely *Low (L)* for most of the Site to *Moderate (M)* along the Tolka (EPA, 2025).

5.2 Summary of Relevant European sites

The following descriptions of the relevant habitats and species occurring within the European sites considered in this NIS have been extracted from the Site Synopses (NPWS 2013b, 2014, 2015c, 2015d, 2023) and any supporting documents available for the relevant sites.

5.2.1 North Dublin Bay SAC (000206)

The following descriptions of the North Dublin Bay SAC (000206) are extracted from the Site Synopsis (NPWS, 2013b) for the site:

> *"This site covers the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head. The North Bull Island is the focal point of this site."*
>
> *"North Bull Island is a sandy spit which formed after the building of the South Wall and Bull Wall in the 18th and 19th centuries. It now extends for about 5 km in length and is up to 1 km wide in places. A well-developed and dynamic dune system stretches along the seaward side of the island. Various types of dunes occur, from fixed dune grassland to pioneer communities on foredunes. Marram Grass (Ammophila arenaria) is dominant on the outer dune ridges, with Lyme-grass (Leymus arenarius) and Sand Couch (Elymus farctus) on the foredunes. Behind the first dune ridge, plant diversity increases with the appearance of such species as Wild Pansy (Viola tricolor), Kidney Vetch (Anthyllis vulneraria),*

Common Bird's-foot-trefoil (Lotus corniculatus), Common Restharrow (Ononis repens), Yellow-rattle (Rhinanthus minor) and Pyramidal Orchid (Anacamptis pyramidalis). In these grassy areas and slacks, the scarce Bee Orchid (Ophrys apifera) occurs."

"Saltmarsh extends along the length of the landward side of the island. The edge of the marsh is marked by an eroding edge which varies from 20 cm to 60 cm high. The marsh can be zoned into different levels according to the vegetation types present."

"The island shelters two intertidal lagoons which are divided by a solid causeway. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. The north lagoon has an area known as the "Salicornia flat", which is dominated by Salicornia dolichostachya, a pioneer glasswort species, and covers about 25 ha. Beaked Tasselweed (Ruppia maritima) occurs in this area, along with some Narrow-leaved Eelgrass (Zostera angustifolia). Dwarf Eelgrass (Z. noltii) also occurs in Sutton Creek. Common Cordgrass (Spartina anglica) occurs in places but its growth is controlled by management. Green algal mats (Enteromorpha spp., Ulva lactuca) cover large areas of the flats during summer. These sediments have a rich macrofauna, with high densities of Lugworms (Arenicola marina) in parts of the north lagoon. Mussels (Mytilus edulis) occur in places, along with bivalves such as Cerastoderma edule, Macoma balthica and Scrobicularia plana. The small gastropod Hydrobia ulvae occurs in high densities in places, while the crustaceans Corophium volutator and Carcinus maenas are common. The sediments on the seaward side of North Bull Island are mostly sands. The site extends below the low spring tide mark to include an area of the sublittoral zone."

5.2.2 South Dublin Bay SAC (000210)

The following descriptions of the South Dublin Bay SAC (000210) are extracted from the Site Synopsis (NPWS, 2015d) for the site:

"*This site lies south of the River Liffey in Co. Dublin, and extends from the South Wall to the west pier at Dun Laoghaire. It is an intertidal site with extensive areas of sand and mudflats. The sediments are predominantly sands but grade to sandy muds near the shore at Merrion Gates. The main channel which drains the area is Cockle Lake*."

"*South Dublin Bay is an important site for waterfowl. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. The principal species are Oystercatcher (1215), Ringed Plover (120), Sanderling (344), Dunlin (2628) and Redshank (356) (average winter peaks 1996/97 and 1997/98). Up to 100 Turnstones are usual in the south bay during winter. Brent Goose regularly occur in numbers of international importance (average peak 299). Bar-tailed Godwit (565), a species listed on Annex I of the E.U. Birds Directive, also occur.*

Large numbers of gulls roost in South Dublin Bay, e.g. 4,500 Black-headed Gulls in February 1990; 500 Common Gulls in February 1991. It is also an important tern roost in the autumn, regularly holding 2000-3000 terns including Roseate Terns, a species listed on Annex I of the E.U. Birds Directive. South Dublin Bay is largely protected as a Special Protection Area."

5.2.3 North Bull Island SPA (004006)

The following descriptions of the North Bull Island SPA (004006) are extracted from the Site Synopsis (NPWS, 2014) for the site:

"This site covers all of the inner part of north Dublin Bay, with the seaward boundary extending from the Bull Wall lighthouse across to Drumleck Point at Howth Head."

"The North Bull Island SPA is of international importance for waterfowl on the basis that it regularly supports in excess of 20,000 waterfowl. The site supports internationally important populations of three species, Light-bellied Brent Goose (1,548), Black-tailed Godwit (367) and Bar-tailed Godwit (1,529) - all figures are mean peaks for the five winters between 1995/96 and 1999/2000. The site is one of the most important in the country for Light-bellied Brent Goose. A further 14 species have populations of national importance – Shelduck (1,259), Teal (953), Pintail (233), Shoveler (141), Oystercatcher (1,784), Grey Plover (517), Golden Plover (2,033), Knot (2,837), Sanderling (141), Dunlin (4,146), Curlew (937), Redshank (1,431), Turnstone (157) and Black-headed Gull (2,196).

The populations of Pintail and Knot are of particular note as they comprise 14% and 10% respectively of the all-Ireland population totals."

The North Bull Island SPA is an excellent example of an estuarine complex and is one of the top sites in Ireland for wintering waterfowl. It is of international importance on account of both the total number of waterfowl and the individual populations of Light-bellied Brent Goose, Black-tailed Godwit and Bar-tailed Godwit that use it. Also of significance is the regular presence of several species that are listed on Annex I of the E.U. Birds Directive, notably Golden Plover and Bar-tailed Godwit, but also Ruff and Short-eared Owl. North Bull Island is a Ramsar Convention site, and part of the North Bull Island SPA is a Statutory Nature Reserve and a Wildfowl Sanctuary."

5.2.4 South Dublin Bay and River Tolka Estuary SPA (004024)

The following descriptions of the South Dublin Bay and River Tolka Estuary SPA (004024) are extracted from the Site Synopsis (NPWS, 2015c) for the site:

"The South Dublin Bay and River Tolka Estuary SPA comprises a substantial part of Dublin Bay. It includes the intertidal area between the River Liffey and Dun Laoghaire, and the estuary of the River Tolka to the north of the River Liffey, as well as Booterstown Marsh. A portion of the shallow marine waters of the bay is also included."

"In the south bay, the intertidal flats extend for almost 3 km at their widest. The sediments are predominantly well-aerated sands. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates, while some bedrock shore occurs near Dun Laoghaire. The landward boundary is now almost entirely artificially embanked. There is a bed of Dwarf Eelgrass (Zostera noltii) below Merrion Gates which is the largest stand on the east coast. Green algae (Ulva spp.) are distributed throughout the area at a low density. The macroinvertebrate fauna is well-developed, and is characterised by annelids such as Lugworm (Arenicola marina), Nephthys spp. and Sand Mason (Lanice conchilega), and bivalves, especially Cockle (Cerastoderma edule) and Baltic Tellin (Macoma balthica). The small gastropod Spire Shell (Hydrobia ulvae) occurs on the muddy sands off Merrion Gates, along with the crustacean Corophium volutator. Sediments in the Tolka Estuary vary from soft thixotrophic muds with a high organic content in the inner estuary to exposed, well-aerated sands off the Bull Wall. The site includes Booterstown Marsh, an enclosed area of saltmarsh and muds that is cut off from the sea by the Dublin/Wexford railway line, being linked only by a channel to the east, the Nutley stream. Sea water incursions into the marsh occur along this stream at high tide. An area of grassland at Poolbeg, north of Irishtown Nature Park, is also included in the site."

"The South Dublin Bay and River Tolka Estuary SPA is of ornithological importance as it supports an internationally important population of Light-bellied Brent Goose and nationally important populations of a further nine wintering species. Furthermore, the site supports a nationally important colony of breeding Common Tern and is an internationally important passage/staging site for three tern species. It is of note that four of the species that regularly occur at this site are listed on Annex I of the E.U. Birds Directive, i.e. Bar-tailed Godwit, Common Tern, Arctic Tern and Roseate Tern. Sandymount Strand/Tolka Estuary is also a Ramsar Convention site."

5.2.5 North-west Irish Sea SPA (004236).

The following descriptions of the North-west Irish Sea SPA (004236) are extracted from the Site Synopsis (NPWS, 2023) for the site:

"*The North-west Irish Sea cSPA constitutes an important resource for marine birds. The estuaries and bays that open into it along with connecting coastal stretches of intertidal and shallow subtidal habitats, provide safe feeding and roosting habitats for waterbirds throughout the winter and migration periods. These areas, along with more pelagic marine waters further offshore, provide additional supporting habitats (for foraging and other maintenance behaviours) for those seabirds that breed at colonies on the north-west Irish Sea's islands and coastal headlands. These marine areas are also important for seabirds outside the breeding period.*

This SPA extends offshore along the coasts of counties Louth, Meath and Dublin, and is approximately 2,333km2 in area. This SPA is ecologically connected to several existing SPAs in this area. The site is a

Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Common Scoter, Red-throated Diver, Great Northern Diver, Fulmar, Manx Shearwater, Shag, Cormorant, Little Gull, Kittiwake, Black-headed Gull, Common Gull, Lesser Black-backed Gull, Herring Gull, Great Black-backed Gull, Little Tern, Roseate Tern, Common Tern, Arctic Tern, Puffin, Razorbill and Guillemot. The breeding seabird species listed for those SPAs, which abut the North-West Irish Sea SPA are: Fulmar (Lambay Island SPA); Cormorant (Skerries Island SPA; Ireland's Eye SPA; Lambay Island SPA); Shag (Skerries Island SPA; Lambay Island SPA); Lesser Black-backed Gull (Lambay Island SPA); Herring Gull (Skerries Island SPA; Ireland's Eye SPA; Lambay Island SPA); Kittiwake (Lambay Island SPA; Ireland's Eye SPA; Howth Head SPA); Roseate Tern (Rockabill SPA); Common Tern (Rockabill SPA;); Arctic Tern (Rockabill SPA); Little Tern (Boyne Estuary SPA); Guillemot (Lambay Island SPA, Ireland's Eye SPA); Razorbill (Lambay Island SPA, Ireland's Eye SPA); and Puffin (Lambay Island SPA). The Common Tern population that is listed for the nearby South Dublin Bay and River Tolka Estuary SPA is also likely to use this SPA as a foraging resource.

Informed by two surveys of the western Irish Sea region in 2016 an estimated 120,232 and 34,626 individual marine birds occurred in this SPA during autumn and winter respectively. Those marine bird species whose estimated abundances equalled or exceeded 1% of the total estimated size of the winter assemblage are: Red-throated Diver (538), Fulmar (506), Little Gull (391), Kittiwake (944), Black-headed Gull (508), Common Gull (2,866), Herring Gull (6,893), Great Black-backed Gull (2,096), Razorbill (4,638) and Guillemot (13,914). The estimated 2016 summer abundance of Manx Shearwater in the North West Irish Sea SPA is 13,010 and is of international importance. The estimated 2016 autumn and winter abundances of Great Northern Diver in the North West Irish Sea SPA is 248 and 230 respectively and are of international importance. The estimated abundances of Common Scoter over parts of this SPA can reach significant numbers (e.g. 14,567 in December 2018) which is also of international importance."

5.3 Qualifying Interests and Conservation Objectives

The QIs/SCIs and their respective conservation objectives for each of the relevant European site(s) are detailed in Table 1 below.

TABLE 1. QUALIFYING INTERESTS (QIS) / SPECIAL CONSERVATION INTERESTS (SCIS) AND THEIR CONSERVATION OBJECTIVES FOR THE RELEVANT EUROPEAN SITES. THE CONSERVATION STATUS OF EACH QI / SCI WAS SOURCED FROM THE RELEVANT STANDARD DATA FORM(S) (SOURCE: EEA (2025)) AND THE LATEST NATIONAL STATUS IS TAKEN FROM THE LATEST ARTICLE 17 REPORT (NPWS, 2019A & 2019B) AND BOCCI[1] RESPECTIVELY.

QI / SCI (* = priority habitat)	Conservation Status	National Status	Conservation Objective
North Dublin Bay SAC (000206)			
1140 Mudflats and sandflats not covered by seawater at low tide	Good	Inadequate	To maintain the favourable conservation condition of these habitats in North Dublin Bay SAC.
1210 Annual vegetation of drift lines	Good	Inadequate	To restore the favourable conservation condition of these habitats in North Dublin Bay SAC.
1310 Salicornia and other annuals colonising mud and sand	Excellent	Favourable	
1320 *Spartina* swards	*Non-significant presence*	No status available	*No CO for this QI habitat has been published to date.*
1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)	Good	Inadequate	To maintain the favourable conservation condition of these habitats in North Dublin Bay SAC.

[1] Birds of Conservation Concern in Ireland (BOCCI) 2020-2026 (Gilbert, Stanbury & Lewis, 2021.

QI / SCI (* = priority habitat)	Conservation Status	National Status	Conservation Objective
1410 Mediterranean salt meadows (*Juncetalia maritimi*)	Good	Inadequate	
2110 Embryonic shifting dunes	Excellent	Inadequate	To restore the favourable conservation condition of these habitats in North Dublin Bay SAC.
2120 Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)	Good	Inadequate	
2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)	Excellent	Bad	
2190 Humid dune slacks	Excellent	Inadequate	
1395 *Petalophyllum ralfsii* (petalwort)	Good	Favourable	To maintain the favourable conservation condition of this species in North Dublin Bay SAC.
South Dublin Bay SAC (000210)			
1140 Mudflats and sandflats not covered by seawater at low tide	Good	Inadequate	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in South Dublin Bay SAC. No CO have been published to date for 1210 Annual vegetation of drift lines, 1310 *Salicornia* and other annuals colonising mud and sand, or 2110 Embryonic shifting dunes. It is noted as per the standard data form (SDF) for this SAC (EA, 2025), that these three habitat types cover a minimal amount of the SAC area (0.01 - 0.03ha each), and are all classed in the SDF as having 'Good' conservation status and 'Excellent' representativity at the SAC, with their assessment based on 'Good' data quality (e.g., based on surveys). These three habitat types are also all noted as being ephemeral or transient in nature (NPWS, 2019). The combination of their minimal distribution cover at this SAC along with their ephemeral nature, would make assigning conservation objectives challenging and possibly unwarranted, considering their good conservation status and data quality etc. Regardless, as is detailed in Table 2 no significant impact pathway connects these habitats to the Proposed Development, and they
1210 Annual vegetation of drift lines	Good	Inadequate	
1310 Salicornia and other annuals colonising mud and sand	Good	Favourable	
2110 Embryonic shifting dunes	Good	Inadequate	

QI / SCI (* = priority habitat)	Conservation Status	National Status	Conservation Objective
			are not likely to be affected by same.
North Bull Island SPA (004006)			
A054 Pintail (*Anas acuta*)	Excellent	Amber	To maintain the favourable conservation condition of these species in North Bull Island SPA.
A056 Shoveler (*Anas clypeata*)	Excellent	Red	
A052 Teal (*Anas crecca*)	Excellent	Amber	
A050 Wigeon (*Anas Penelope*)	Excellent	Amber	
A053 Mallard (*Anas platyrhynchos*)	Excellent	Amber	
A169 Turnstone (*Arenaria interpres*)	Excellent	Amber	
A222 Short-eared Owl (*Asio flammeus*)	Good	Amber	
A046 Light-bellied brent goose (*Branta bernicla hrota*)	Excellent	Amber	
A144 Sanderling (*Calidris alba*)	Excellent	Green	
A149 Dunlin (*Calidris alpina*)	Excellent	Red	
A143 Knot (*Calidris canutus*)	Excellent	Red	
A147 Curlew Sandpiper (*Calidris ferruginea*)	Good	Red	
A145 Little Stint (*Calidris minuta*)	Good	Green	
A137 Ringed Plover (*Charadrius hiaticula*)	Excellent	Amber	

QI / SCI (* = priority habitat)	Conservation Status	National Status	Conservation Objective
A130 Oystercatcher (*Haematopus ostralegus*)	Excellent	Red	
A182 Common Gull (*Larus canus*)	Excellent	Amber	
A179 Black-headed gull (*Chroicocephalus ridibundus*)	Excellent	Amber	
A157 Bar-tailed godwit (*Limosa lapponica*)	Excellent	Red	
A156 Black-tailed godwit (*Limosa limosa*)	Excellent	Red	
A069 Red-breasted Merganser (*Mergus serrator*)	Excellent	Amber	
A160 Curlew (*Numenius arquata*)	Excellent	Red	
A151 Ruff (*Philomachus pugnax*)	Good	Amber	
A140 Golden plover (*Pluvialis apricaria*)	Good	Red	
A141 Grey plover (*Pluvialis squatarola*)	Excellent	Red	
A048 Shelduck (*Tadorna tadorna*)	Excellent	Amber	
A161 Spotted Redshank (*Tringa erythropus*)	Good	Amber	
A164 Greenshank (*Tringa nebularia*)	Excellent	Green	
A162 Redshank (*Tringa totanus*)	Excellent	Red	
A999 Wetlands	No status available	N/A	To maintain the favourable conservation condition of the wetland habitat in North Bull Island SPA as a resource for the regularly occurring migratory waterbirds that utilise it.
North-West Irish Sea SPA (0040224)			

QI / SCI (* = priority habitat)	Conservation Status	National Status	Conservation Objective
A001 Red-throated Diver (*Gavia stellata*)	n/a[2]	Amber	To maintain the favourable conservation condition of these species in North-west Irish Sea SPA.
A003 Great Northern Diver (*Gavia immer*)	n/a	Amber	
A009 Fulmar *(Fulmarus glacialis*)	n/a	Amber	To restore the favourable conservation condition of this species in North-west Irish Sea SPA.
A013 Manx Shearwater (*Puffinus puffinus*)	n/a	Amber	To maintain the favourable conservation condition of these species in North-west Irish Sea SPA.
A017 Cormorant (*Phalacrocorax carbo*)	n/a	Amber	To restore the favourable conservation condition of this species in North-west Irish Sea SPA.
A018 Shag (*Phalacrocorax aristotelis*)	n/a	Amber	
A065 Common Scoter (*Melanitta nigra*)	n/a	Red	To maintain the favourable conservation condition of these species in North-west Irish Sea SPA.
A179 Black-headed Gull (*Chroicocephalus ridibundus*)	n/a	Amber	
A182 Common Gull (*Larus canus*)	n/a	Amber	
A183 Lesser Black-backed Gull (*Larus fuscus*)	n/a	Amber	
A184 Herring Gull (*Larus argentatus*)	n/a	Amber	To restore the favourable conservation condition of this species in North-west Irish Sea SPA.
A187 Great Black-backed Gull (*Larus marinus*)	n/a	Green	To maintain the favourable conservation condition of this species in North-west Irish Sea SPA.
A188 Kittiwake *(Rissa tridactyla*)	n/a	Red	To restore the favourable conservation condition of this species in North-west Irish Sea SPA.
A192 Roseate Tern (*Sterna dougallii*)	n/a	Amber	To maintain the favourable conservation condition of these

[2] A standard Data Form is not yet available for the North-West Irish Sea SPA, and therefore Conservation Statuses for each SCI could not be obtained. Each SCI species' BoCCI status is therefore included for this SPA to give an indication of their Irish conservation status.

QI / SCI (* = priority habitat)	Conservation Status	National Status	Conservation Objective
A193 Common Tern (*Sterna hirundo*)	n/a	Amber	species in North-west Irish Sea SPA.
A194 Arctic Tern (*Sterna paradisaea*)	n/a	Amber	
A195 Little Tern (*Sterna albifrons*)	n/a	Amber	
A199 Guillemot (*Uria aalge*)	n/a	Amber	
A200 Razorbill (*Alca torda*)	n/a	Red	
A204 Puffin (*Fratercula arctica*)	n/a	Red	To restore the favourable conservation condition of this species in North-west Irish Sea SPA.
A862 Little Gull *(Hydrocoloeus minutus)*	n/a	Amber	To maintain the favourable conservation condition of these species in North-west Irish Sea SPA.
South Dublin Bay and River Tolka Estuary SPA (0040224)			
A169 Turnstone (*Arenaria interpres*)	Good	Amber	To maintain the favourable conservation condition of these species in South Dublin Bay and River Tolka Estuary SPA.
A046 Light-bellied Brent Goose *(Branta bernicla hrota)*	Excellent	Amber	
A144 Sanderling *(Calidris alba)*	Excellent	Green	
A149 Dunlin *(Calidris alpina)*	Good	Red	
A143 Knot *(Calidris canutus)*	Good	Red	
A137 Ringed Plover *(Charadrius hiaticula)*	Good	Amber	
A130 Oystercatcher *(Haematopus ostralegus)*	Good	Red	
A182 Common Gull (*Larus canus*)	Good	Amber	

QI / SCI (* = priority habitat)	Conservation Status	National Status	Conservation Objective
A176 Mediterranean Gull (*Larus melanocephalus*)	Excellent	Amber	
A179 Black-headed Gull *(Chroicocephalus ridibundus)*	Good	Amber	
A157 Bar-tailed Godwit *(Limosa lapponica)*	Good	Red	
A069 Red-breasted Merganser (*Mergus serrator*)	Good	Red	
A160 Curlew (*Numenius arquata*)	Good	Red	
A017 Great Cormorant (*Phalacrocorax carbo*)	Good	Amber	
A141 Grey Plover *(Pluvialis squatarola)*	Good	Red	
A005 Great Crested Grebe (*Podiceps cristatus*)	Good	Amber	
A192 Roseate Tern *(Sterna dougallii)*	Excellent	Amber	
A193 Common Tern *(Sterna hirundo)*	Excellent	Amber	
A194 Arctic Tern *(Sterna paradisaea)*	Excellent	Amber	
A162 Redshank *(Tringa totanus)*	Good	Red	
A999 Wetlands	No status available	N/A	To maintain the favourable conservation condition of the wetland habitat in South Dublin Bay and River Tolka Estuary SPA as a resource for the regularly occurring migratory waterbirds that utilise it.

5.4 Impact Prediction

This section follows the S-P-R method as outlined in Section 4.5 to identify if and how any of the QIs/SCIs of the relevant European site are linked to the Proposed Development. Once the connections have been identified the potential impacts of the Proposed Development on the North Dublin Bay SAC (000206), South Dublin Bay SAC

(000210), North Bull Island SPA (004006), South Dublin Bay and River Tolka Estuary SPA (004024) and North-West Irish Sea SPA (004236) in light of their QIs/SCIs are assessed.

5.4.1 Potential impacts of the Proposed Development on key Species and Habitats

The following impact pathway identified during the Stage 1 AA Screening of the Proposed Development was screened into this Stage 2 Appropriate Assessment based on the potential to cause likely significant effects on European sites:

- Construction Phase surface water run-off containing silt, sediments and/or other pollutants into the River Tolka via the local surface water drainage network and construction of the bridge over the Tolka.

The QIs/SCIs for the relevant European sites are described in Table 2 below. Descriptions are sourced from the relevant Site Synopses (NPWS 2013b, 2014, 2015c, 2015d & 2023a), Conservation Objectives and supporting documents (NPWS 2013a, 2013c 2015a, 2015b & 2023b), Standard Data Forms (EEA, 2025).

Table 2 below outlines the identified pathways between the Proposed Development and the relevant QIs/SCIs and assesses the potential impact of the Proposed Development on these.

The assessment outlined below does not consider specific targeted mitigation measures (other than those included as embedded mitigation i.e., SuDS) that will be implemented as part of the Proposed Development to mitigate impacts on European sites, but the nature of any such mitigation that will be required is identified in the table where applicable.

TABLE 2. ASSESSMENT OF THE POTENTIAL IMPACT OF THE PROPOSED DEVELOPMENT ON THE QIS AND SCIS OF THE RELEVANT EUROPEAN SITES. THOSE QIS/SCIS FOR WHICH NOTABLE IMPACT PATHWAYS WERE IDENTIFIED HAVE BEEN HIGHLIGHTED IN GREEN.

Description	Impact Pathway(s)	Assessment of likely significant effects	Mitigation Requirement
North Dublin Bay SAC (000206)			
1140 Mudflats and sandflats not covered by seawater at low tide			
Habitat area was estimated using OSi data as 578ha. This habitat is present within the lagoons west and north of North Bull Island, and along its eastern shoreline.	Hydrological connection. The River Tolka outflows into Dublin Bay approx. 3.5km to the west of the SAC and this habitat type.	Significant effects within this habitat type are considered unlikely. However, in a worst-case scenario, construction related pollution events at the Site could contribute to a reduction in water quality in the SAC, which in turn could result in negative effects on this habitat type. This precautionary approach is also adopted considering the largely unquantifiable number of developments underway along the River Tolka between the Site of the Proposed Development and Dublin Bay; which could act synergistically to contribute to an overall reduction in water quality through pollution events, in the absence of mitigation measures.	**Construction Phase:** Surface and ground water protection measures as detailed in Section 5.5.2. **Operational Phase:** No surface water or groundwater mitigation measures are required due to embedded SuDS measures included in the project design (See Section 2.3.3).
1210 Annual vegetation of drift lines			
This habitat was recorded from both North Bull and South Bull sub-sites by the Coastal Monitoring Project (CMP) (Ryle et al., 2009) but was only recorded in South Bull by the Sand Dune Monitoring Project (SDM) (Delaney et al., 2013). This habitat is very difficult to measure in view of its dynamic nature, which means that it can appear and disappear within a site from year to year.	No impact pathway exists between the Proposed Development and recorded locations of this habitat.	No likelihood of significant effects. Pressures on this habitat type are associated with activities such as recreation and coastal defences, which can interfere with sediment dynamics and result in physical losses of habitat.	No mitigation required.
1310 Salicornia and other annuals colonising mud and sand			
Habitat surveyed and mapped at a single sub-site, giving a total estimated area of 29.10ha including mosaics. Salicornia is an annual species, so its distribution	Hydrological connection. The River Tolka outflows into Dublin	Significant effects within this habitat type are considered unlikely. However, in a worst-case scenario, construction related pollution events at the Site could contribute to a reduction in water quality in the SAC, which in turn could result in negative effects on this habitat type. This precautionary approach is also adopted considering the largely	**Construction Phase:** Surface and ground water protection measures as detailed in Section 5.5.2.

Description	Impact Pathway(s)	Assessment of likely significant effects	Mitigation Requirement
can vary significantly from year to year. The largest area of Salicornia flats occurs north of the central causeway. Sediment supply is particularly important for this pioneer saltmarsh community, as its distribution depends on accretion rates. Wildfowl and water birds graze and forage on the Salicornia flats at Bull Island.	Bay approx. 3.5km to the west of the SAC.	unquantifiable number of developments underway along the River Tolka between the Site of the Proposed Development and Dublin Bay; which could act synergistically to contribute to an overall reduction in water quality through pollution events, in the absence of mitigation measures.	**Operational Phase:** No surface water or groundwater mitigation measures are required due to embedded SuDS measures included in the project design (See Section 2.3.3).
1320 *Spartina* swards			
This habitat was added to the QI list of this SAC in the latest SDF update in 2020. No site-specific conservation objectives have been released for this habitat in this SAC. This habitat is noted as having a *"non-significant presence*" in the SDF document, and as such no detailed information on the distribution of this habitat within the SAC is currently available. However, *Spartina* typically grows in coastal salt muds and is therefore assumed to be located along the intertidal areas of this SAC.	Hydrological connection. The River Tolka outflows into Dublin Bay approx. 3.5km to the west of the SAC.	Significant effects within this habitat type are considered unlikely. However, in a worst-case scenario, construction related pollution events at the Site could contribute to a reduction in water quality in the SAC, which in turn could result in negative effects on this habitat type. This precautionary approach is also adopted considering the largely unquantifiable number of developments underway along the River Tolka between the Site of the Proposed Development and Dublin Bay; which could act synergistically to contribute to an overall reduction in water quality through pollution events, in the absence of mitigation measures.	**Construction Phase:** Surface and ground water protection measures as detailed in Section 5.5.2. **Operational Phase:** No surface water or groundwater mitigation measures are required due to embedded SuDS measures included in the project design (See Section 2.3.3).
1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)			
Atlantic salt meadow (ASM) surveyed and mapped at a single site, giving an estimated area of 81.84ha Saltmarsh Monitoring Project (SMP) (McCorry, 2007). This habitat is found on the northern shores of Bull Island.	Hydrological connection. The River Tolka outflows into Dublin Bay approx. 3.5km to the west of the SAC.	Significant effects within this habitat type are considered unlikely. However, in a worst-case scenario, construction related pollution events at the Site could contribute to a reduction in water quality in the SAC, which in turn could result in negative effects on this habitat type. This precautionary approach is also adopted considering the largely unquantifiable number of developments underway along the River Tolka between the Site of the Proposed Development and Dublin Bay; which could act synergistically to contribute to an overall reduction in water quality through pollution events, in the absence of mitigation measures.	**Construction Phase:** Surface and ground water protection measures as detailed in Section 5.5.2. **Operational Phase:** No surface water or groundwater mitigation measures are required due to embedded SuDS measures

Description	Impact Pathway(s)	Assessment of likely significant effects	Mitigation Requirement
			included in the project design (See Section 2.3.3).
1410 Mediterranean salt meadows (*Juncetalia maritimi*)			
The MSM is restricted to the area north of the causeway along the boundary with dune habitats and of St Annes Golf Course; the extent of the habitat here is likely to have been greater in the past but is currently 7.98ha. MSM is found high up in the saltmarsh but requires occasional tidal inundation.	Hydrological connection. The River Tolka outflows into Dublin Bay approx. 3.5km to the west of the SAC.	Significant effects within this habitat type are considered unlikely. However, in a worst-case scenario, construction related pollution events at the Site could contribute to a reduction in water quality in the SAC, which in turn could result in negative effects on this habitat type. This precautionary approach is also adopted considering the largely unquantifiable number of developments underway along the River Tolka between the Site of the Proposed Development and Dublin Bay; which could act synergistically to contribute to an overall reduction in water quality through pollution events, in the absence of mitigation measures.	**Construction Phase:** Surface and ground water protection measures as detailed in Section 5.5.2. **Operational Phase:** No surface water or groundwater mitigation measures are required due to embedded SuDS measures included in the project design (See Section 2.3.3).
2110 Embryonic shifting dunes			
Embryo dunes were surveyed and mapped at two sub-sites, giving a total estimated area of 6.07ha. Habitat is very difficult to measure in view of its dynamic nature and is more extensive on North Bull than South Bull. Mechanical beach cleaning may be contributing to limited distribution of this habitat, particularly at South Bull. Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat.	No impact pathway exists between the Proposed Development and recorded locations of this terrestrial habitat.	No likelihood of significant effects to this terrestrial habitat. The only impact pathway between the Proposed Development and this European Site is through a hydrological connection via the Tolka.	No mitigation required.
2120 Shifting dunes along the shoreline with *Ammophilia arenaria* (white dunes)			

Description	Impact Pathway(s)	Assessment of likely significant effects	Mitigation Requirement
These dunes were surveyed and mapped at two sub-sites, giving a total estimated area of 3.18ha. Habitat is very difficult to measure in view of its dynamic nature. At South Bull and North Bull this habitat forms a continuous strip at or near the seaward edge of the dunes.	No impact pathway exists between the Proposed Development and recorded locations of this terrestrial habitat.	No likelihood of significant effects to this terrestrial habitat. The only impact pathway between the Proposed Development and this European Site is through a hydrological connection via the Tolka.	No mitigation required.
2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)			
Habitat was surveyed and mapped at two sub-sites to give a total estimated area of 104.85ha with the main area occurring along the southern shore of Bull Island. One of the main pressures on this habitat is increased pedestrian trampling and grazing by rabbits (*Oryctolagus cuniculus)*. Pedestrian tracks that are devoid of vegetation occur throughout the island.	No impact pathway exists between the Proposed Development and recorded locations of this terrestrial habitat.	No likelihood of significant effects to this terrestrial habitat. The only impact pathway between the Proposed Development and this European Site is through a hydrological connection via the Tolka.	No mitigation required.
2190 Humid dune slacks			
The dune slack on North Bull consists of a long stretch of habitat that lies between successive dune ridges over a distance of approx. 700m. The dune slack topography is similar on South Bull with a number of individual long slacks between dune ridges. Habitat was surveyed and mapped at two sub-sites to give a total estimated area of 12.11ha. On Bull Island there is some concern that the alder marsh at the North Bull is becoming increasingly brackish in	No impact pathway exists between the Proposed Development and recorded locations of this terrestrial habitat.	No likelihood of significant effects to this terrestrial habitat. The only impact pathway between the Proposed Development and this European Site is through a hydrological connection via the Tolka.	No mitigation required.

Description	Impact Pathway(s)	Assessment of likely significant effects	Mitigation Requirement
nature. There is also the potential problem of fertiliser run-off, leading to an increase in nutrient levels. Water abstraction could result in a lowering of the water table, negatively affecting the dune slacks.			
1395 Petalwort *Petalophyllum ralfsii*			
The known population of *Petalophyllum ralfsii* at Bull Island occurs along the track that cuts through the Alder marsh, south and east of St. Anne's Golf Club. The width of the track is estimated to be about 1m. The length, measured by GPS co-ordinates, is 741m. The maximum area is thus 741m². *Petalophyllum ralfsii* grows in compacted, sandy ground, maintained at this site by rabbit grazing and trampling (by walkers).	No impact pathway exists between the Proposed Development and recorded locations of this terrestrial species.	No likelihood of significant effects to this terrestrial species. The only impact pathway between the Proposed Development and this European Site is through a hydrological connection via the Tolka.	No mitigation required.
South Dublin Bay SAC (000210)			
1140 Mudflats and sandflats not covered by seawater at low tide			
Habitat area was estimated using OSi data as 720ha. This habitat is present throughout the SAC.	Hydrological connection. The River Tolka outflows into Dublin Bay approx. 2.8km to the north-west of the SAC and this habitat type.	Significant effects within this habitat type are considered unlikely. The South Wall pier separates the Dublin Bay estuary from this SAC and its habitats. However, in a worst-case scenario, construction related pollution events at the Site could contribute to a reduction in water quality in the SAC, which in turn could result in negative effects on this habitat type. This precautionary approach is also adopted considering the largely unquantifiable number of developments underway along the River Tolka between the Site of the Proposed Development and Dublin Bay; which	**Construction Phase:** Surface and ground water protection measures as detailed in Section 5.5.2. **Operational Phase:** No surface water or groundwater mitigation measures are required due to embedded SuDS measures included in the project design (See Section 2.3.3).

Description	Impact Pathway(s)	Assessment of likely significant effects	Mitigation Requirement
		could act synergistically to contribute to an overall reduction in water quality through pollution events, in the absence of mitigation measures.	
1210 Annual vegetation of drift lines			
No information as to its extent as not included within the Conservation Objectives document for this SAC. The SDF for the SAC gives an area of 0.01ha for this habitat. This habitat is very difficult to measure in view of its dynamic nature, which means that it can appear and disappear within a site from year to year.	No impact pathway exists between the Proposed Development and this habitat.	No likelihood of significant effects to this habitat. The only impact pathway between the Proposed Development and this European Site is through a hydrological connection via the Tolka.	No mitigation required.
1310 Salicornia and other annuals colonising mud and sand			
No information as to the extent of this habitat is included within the Conservation Objectives document for this SAC. The SDF for the SAC gives an area of 0.01ha for this habitat. This habitat type typically occurs in areas protected from strong wave action, and as such is not likely to be located near the eastern extent of the SAC.	No impact pathway exists between the Proposed Development and this habitat.	No likelihood of significant effects to this habitat. The only impact pathway between the Proposed Development and this European Site is through a hydrological connection via the Tolka, and the South Wall pier separates the Dublin Bay estuary from this SAC and its habitats. As this habitat is more likely to occur closer to shore in this SAC where wave action is weaker, it is further removed from any potential influx of pollutants transferred via the Tolka into Dublin Bay.	No mitigation required.
2110 Embryonic shifting dunes			
No information as to its extent as not included within the Conservation Objectives document for this SAC. The SDF for the SAC gives an area of 0.03ha for this habitat.	No impact pathway exists between the Proposed Development and recorded locations of this terrestrial habitat.	No likelihood of significant effects to this terrestrial habitat. The only impact pathway between the Proposed Development and this European Site is through a hydrological connection via the Tolka.	No mitigation required.

Description	Impact Pathway(s)	Assessment of likely significant effects	Mitigation Requirement
North Bull Island SPA (004006)			
SCI bird species (see Table 1 for detailed list)			
This Site support nationally and internationally important numbers of migratory and resident shorebird species.	Hydrological connection. The River Tolka outflows into Dublin Bay approx. 3.5km to the west of the SPA.	Significant effects within the SPA are considered unlikely. However, in a worst-case scenario, construction related pollution events at the Site could contribute to a reduction in water quality in the SPA; which could adversely affect the feeding resources of the bird species for which it is designated. This precautionary approach is also adopted considering the largely unquantifiable number of developments underway along the River Tolka between the Site of the Proposed Development and Dublin Bay; which could act synergistically to contribute to an overall reduction in water quality through pollution events, in the absence of mitigation measures.	**Construction Phase:** Surface and ground water protection measures as detailed in Section 5.5.2. **Operational Phase:** No surface water or groundwater mitigation measures are required due to embedded SuDS measures included in the project design (See Section 2.3.3).
North-West Irish Sea SPA (004236)			
SCI bird species (see Table 1 for detailed list)			
This Site support nationally and internationally important numbers of migratory and resident shorebird species.	Hydrological connection. The River Tolka outflows into Dublin Bay approx. 5.4km to the west of the SPA.	Significant effects within the SPA are considered unlikely. However, in a worst-case scenario, construction related pollution events at the Site could contribute to a reduction in water quality in the SPA; which could adversely affect the feeding resources of the bird species for which it is designated. This precautionary approach is also adopted considering the largely unquantifiable number of developments underway along the River Tolka between the Site of the Proposed Development and Dublin Bay; which could act synergistically to contribute to an overall reduction in water quality through pollution events, in the absence of mitigation measures.	**Construction Phase:** Surface and ground water protection measures as detailed in Section 5.5.2. **Operational Phase:** No surface water or groundwater mitigation measures are required due to embedded SuDS measures included in the project design (See Section 2.3.3).
South Dublin Bay and River Tolka Estuary SPA (004024)			
SCI bird species (see Table 1 for detailed list)			

Description	Impact Pathway(s)	Assessment of likely significant effects	Mitigation Requirement
This Site support nationally and internationally important numbers of migratory and resident shorebird species.	Hydrological connection. The River Tolka outflows directly into Dublin Bay and the SPA.	Significant effects within the SPA are considered unlikely. However, in a worst-case scenario, construction related pollution events at the Site could contribute to a reduction in water quality in the SPA; which could adversely affect the feeding resources of the bird species for which it is designated. This precautionary approach is also adopted considering the largely unquantifiable number of developments underway along the River Tolka between the Site of the Proposed Development and Dublin Bay; which could act synergistically to contribute to an overall reduction in water quality through pollution events, in the absence of mitigation measures.	**Construction Phase:** Surface and ground water protection measures as detailed in Section 5.5.2. **Operational Phase:** No surface water or groundwater mitigation measures are required due to embedded SuDS measures included in the project design (See Section 2.3.3).

5.4.2 Potential for In-combination Effects

5.4.2.1 Existing Planning Permissions

As noted within the AA Screening Report (DNV, 2025a), a search of planning applications located within a 500m radius of the Site of the Proposed Development was conducted using online planning resources such as the National Planning Application Database (NPAD) (MyPlan.ie), the DHLGH EIA Portal, and Meath County Council Planning Applications database. Any planning applications listed as granted or decision pending from within the last five years were assessed for their potential to act in-combination with the Proposed Development and cause likely significant effects on the relevant European sites. Long-term developments granted outside of this time period were also considered where applicable.

Based on the location of the Site in agricultural land on the outskirts of Dunboyne town and the nature and scale of the Proposed Development as a residential development, a 500m radius is deemed sufficient to capture any projects that could act in-combination with the Proposed Development to cause likely significant effects on European sites. The larger developments in the vicinity of the Proposed Development are outlined in Table 3.

It is noted that the below listed planning applications were all accompanied by the relevant environmental assessments or conditions that detail the potential impacts and the mitigation measures required to ensure the developments do not have a significant effect on European sites, alone or in-combination with other developments. In addition, Meath CoCo granted permission for said planning applications following evaluations of the potential ecological and environmental impacts of each application.

On examination of the below, it is considered that there is no potential for the Proposed Development to act in-combination with the listed developments in the vicinity of the Site that could impact on the integrity of the relevant European sites in light of their conservation objectives. Based on the tenuous nature of the impact pathway linking the Proposed Development to European sites in Dublin Bay (i.e., approx. 20km of the River Tolka), it is deemed that no potential for significant in-combination effects on any European sites is likely to occur as a result of the Proposed Development together with any of the below granted and pending developments.

Nevertheless, a potential impact pathway has been considered during the Construction Phase, as discussed further in Section 5.5.2. Although deemed unlikely to occur, a precautionary approach is adopted considering the largely unquantifiable number of other developments underway along the River Tolka between the Site of the Proposed Development and Dublin Bay; which could potentially act synergistically with a worst-case scenario pollution event at the Site to contribute to an overall reduction in water quality, in the absence of mitigation measures. This has been considered in the impact prediction detailed in Table 2 and potential for in-combination effects in this regard is therefore addressed through the mitigation described in Section 5.5.2 of this NIS Report.

TABLE 3. ASSESSMENT OF POTENTIAL IN-COMBINATION EFFECTS OF THE PROPOSED DEVELOPMENT AND OTHER DEVELOPMENTS PENDING OR GRANTED PERMISSION IN THE LAST 5 YEARS (2020-2025) WITHIN 500M OF THE SITE.

Planning Reference	Planning Authority	Status	Location
P822022	**Meath CoCo**	**Part 8**	**Approx. 260m SW of Proposed Development (along R157)**
Dunboyne Link Road – Dunboyne Business Park and the R157. Development Description: The proposed development will consist of: • The provision of a new Link Road (approximately 340m long), from the existing Dunboyne Business Park Road to a new priority junction on the R157. • The provision of a new Access Road (approximately 50m long), to provide access to the Recycling and Civic Amenity Centre, and other adjacent landholdings. • Provision of footpaths and raised cycle tracks on both sides of the proposed Link Road. • Provision of a footpath on the eastern side of the proposed Recycling Centre Access Road. • Priority junction implementation between the proposed Link Road and the R157. • Priority junction implementation between the proposed Link Road and proposed Recycling Centre Access Road. • Provision of off-line bus stops on both sides of the proposed Link Road. Public lighting, accommodation and fencing/boundary works, landscaping works, drainage/attenuation works, and ancillary infrastructure and utility works.			

Planning Reference	Planning Authority	Status	Location
Potential for In-combination Effects: An AA Screening and NIS were prepared for the Proposed Development and addressed the potential for any likely significant effects through suitable surface water mitigation. No likelihood of significant in-combination effects due to the lack of a shared impact pathway of note to any European site.			
23424; ABP 320091	**Meath CoCo**	**Application Finalised**	**Adjacent to the N**
Bennetstown, Pace, Dunboyne, Co. Meath The development will consist of: i. Construction of 3 no. office buildings with a cumulative gross floor area (GFA) of 13,729 sq.m ranging in height from 3 to 4- storeys and shall comprise the following: a. Building 1 (3,597 sq.m GFA) 3-storeys in height (12.35 metres to top of parapet), with a set back louvred screen 2m above parapet level. b. Building 2 (5,336 sq.m GFA) 4-storeys in height (16.125 metres to top of parapet), with a set back louvred screen 2m above parapet level. c. Building 3 (4,796 sq.m GFA) 4-storeys in height (16.125 metres to top of parapet), with a set back louvred screen 2m above parapet level. ii. Roof mounted solar PV panels (c. 180 sq.m combined area); iii. Provision of a 4-arm signalised junction replacing the existing Pace roundabout to include a new northern arm with segregated cycleway and footpath; iv. Access to the development is proposed from the new northern arm, with 6m wide internal access roads to serve the development; v. Upgrade works to the R157 and M3 Parkway access road to facilitate junction improvements; vi. A total of 275 surface car parking spaces including 14 disabled access bays and 55 electric car charging points; vii. 280 bicycle parking spaces in 3 secure cycle storage areas adjacent to the buildings; viii. Site signage is to be erected, all spot-lit and back-lit illuminated, including 2 no. type 1 entrance signs (6.15m x 2.4m) and 3 no. type 2 building signs (1.35m x 2.4m); ix. 3 standalone electricity substations; x. Foul sewer connection to existing public system including pumping station on site with rising mains along Kennedy Road and Navan Road; xi. Watermain connection to the north east of site at Pace for connection to Irish Water Infrastructure; xii. Permission is also sought for associated landscaping, boundary treatments, public lighting, plant, waste storage and all ancillary site and development works. A Natura Impact Statement (NIS) has been prepared in respect of the proposed development. **Potential for In-combination Effects:** The main body of the development (ref: 23424) is located to the north of the Site. A NIS was prepared for this development following a precautionary approach, with targeted mitigation included to protect the Tolka River during the works and any downstream European sites. No likely significant effects are therefore expected. No likelihood of significant in-combination effects due to the targeted river protection measures included in the NIS prepared for the LRD application (ref: 23424) and that of the Proposed Development, and the insignificant nature of the hydrological pathway connecting both Sites to downstream European sites (ca. 20km of the River Tolka).			
2360065	**Meath CoCo**	**Conditional permission granted**	**Adjacent**
A 10-year permission for development in the Townlands of Bennetstown, Pace, and Dunboyne. The subject site (2.79ha) encompasses an area of 0.87ha situated to the south-west of the M3 Parkway and south-east of the Dunboyne Bypass (R157) located in the Townland of Bennetstown, and the balance (1.92ha) located in the Townlands of Pace, Bennetstown and Dunboyne including the Dunboyne Bypass (R157) and M3 Parkway access, Kennedy Road and Navan Road for infrastructure works. The development will consist of: i. Construction of a single-storey commercial building with a cumulative gross floor space (GFS) of 2,160 sq.m comprising: a. A supermarket with delivery, store and service area (1,880 sq.m), including net retail floorspace of 1,510 sq.m, and b. 2 commercial units (combined 280 sq.m) to facilitate Class 1 (Shop), Class 2 (Financial, Professional and Other Services) or Café (food and beverage) uses. ii. Provision of a 4-arm signalised junction replacing the existing Pace roundabout to include a new northern arm with segregated cycleway and footpath; iii. Upgrade works to the existing R157 and M3 Parkway access road to facilitate junction improvements; iv. Access to the development is proposed via a new 3-arm priority-controlled junction from the upgraded southern arm of the proposed 4-arm signalised junction, with 6m wide internal access roads to serve the development; v. A total of 118 surface level car parking spaces including 6 disabled access bays and 4 electric car charging points; vi. 20 short-stay bicycle parking spaces; vii. 1 Electricity substation / switch room; viii. Foul sewer connection to existing public system including pumping station on site with rising mains along Kennedy Road and Navan Road; ix. Permission is also sought for hard and soft landscaping, lighting, attenuation and drainage and all ancillary site development works.			

Planning Reference	Planning Authority	Status	Location
Potential for In-combination Effects: The main body of the development (ref: 2360065) is located adjacent to the main Site Area. A NIS was prepared for this development following a precautionary approach, with targeted mitigation included to protect the Tolka River during the works and any downstream European sites. No likely significant effects are therefore expected. No likelihood of significant in-combination effects due to the targeted river protection measures included in the NIS prepared for the LRD application (ref: 2360065) and that of the Proposed Development, and the insignificant nature of the hydrological pathway connecting both Sites to downstream European sites (ca. 20km of the River Tolka).			
2460805	**Meath County Council**	**Granted with conditions**	**Overlaps with the Proposed Development**
Development Description: "Permission for the following Large-Scale Residential Development consisting of: i) 309 no. residential units comprising 169 no. dwelling houses and 140 no. apartments/duplexes providing a mix of 1, 2, 3 and 4-bed units. The dwelling houses range in height from 2-3 storeys. The apartments/duplexes are in 8 no. blocks (i.e. Blocks A-H) ranging in height from 3 to 4 storeys; ii) a 2 storey creche; iii) modifications to the R157 regional road including changes to the existing carriageway/traffic lanes, the replacement of an existing roundabout with a new signalised junction and the provision of a northern arm off the new signalised junction ; iii) a new signalised junction and link road (including new bridge over the River Tolka) connecting the R157 and the Old Navan Road; iv) the provision of footpaths, cycle lanes and 2 no. pedestrian crossings on the existing M3 Parkway access road, v) a foul pumping station and connection to the existing public sewerage system via the Old Navan Road; vi) a watermain connection to the north of the site at Pace (townland); vii) 3 no. ESB substation/kiosks; viii) temporary raised levels and soil storage to the south west of the site; ix) reprofiling of lands, construction of conveyance swales and a surface water runoff retention area as part of pluvial flood mitigation measures and x) all associated ancillary development works including footpaths, cycle lanes, car and bicycle parking, drainage, public lighting, bin storage, boundary treatments and landscaping/amenity areas at this site principally located in Bennetstown (townland) to the west of the R157, and also extending into Pace & Dunboyne (townlands), Dunboyne North, Co. Meath. Access will be via 2 no. new signalised junctions on to the R157 comprising 1 no. new vehicular access point to the southeast along the R157 and via 1 no. new vehicular access point to the north along a new northern arm off a new signalised junction which will replace the existing roundabout on the R157. The planning application red line boundary overlaps with planning ref. 23/60290, 23/60065 and 23/424. An Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS) has been submitted to the planning authority with the application." **Potential for In-combination Effects:** The LRD application (ref: 2460805) will include a bridge over the Tolka (which is also included under ref: 2360290). As such a NIS was prepared for this development following a precautionary approach, with targeted mitigation included to protect the Tolka River during the works and any downstream European sites. No likely significant effects are therefore expected. The Proposed Development footprint overlaps with that of ref: 2460805 and includes a modification to the same bridge over the Tolka as part of the Proposed works. No likelihood of significant in-combination effects due to the targeted river protection measures included in the NIS prepared for the LRD application (ref: 2460805) which are analogous to those proposed in this NIS prepared for the Proposed Development, and the insignificant nature of the hydrological pathway connecting both Sites to downstream European sites (ca. 20km of the River Tolka).			
2360290; ABP 320049	**Meath County Council**	**Granted**	**Overlaps with the Proposed Development**
Development Description: "Permission for the following Large-Scale Residential Development consisting of: i) 267 no. residential units comprising 145 no. dwelling houses and 122 no. apartments/duplexes providing a mix of 1, 2, 3 and 4-bed units. The dwelling houses range in height from 2-3 storeys. The apartments/duplexes are in 8 no. blocks (i.e. Blocks A-H, with Blocks B and C joined) ranging in height from 3 to 5 storeys; ii) a single storey creche; iii) modifications to the R157 regional road including changes to the existing carriageway/traffic lanes and the replacement of an existing roundabout with a new signalised junction; iv) a new signalised junction and link road (including new bridge over the River Tolka) connecting the R157 and the Old Navan Road; v) the provision of footpaths, cycle			

Planning Reference	Planning Authority	Status	Location
lanes and 2 no. pedestrian crossings on the existing M3 Parkway access road, vi) a foul pumping station and connection to the existing public sewerage system via the Old Navan Road; vii) a watermain connection to the north of the site at Pace (townland); viii) 3 no. ESB substation/kiosks and the undergrounding/re-routing of existing electricity lines; ix) reprofiling of land and relocation of existing berm adjoining the River Tolka as part of flood mitigation measures; and x) all associated ancillary development works including footpaths, cycle lanes, car and bicycle parking, drainage, public lighting, bin storage, boundary treatments and landscaping/amenity areas at this site measuring 14.17 hectares principally located in Bennetstown (townland) to the south of the M3 Parkway park and ride and rail station, and also extending into Pace & Dunboyne (townlands), Dunboyne North, Co. Meath. Access will be via 2 no. new vehicular access points along the new link road between the R157 and the Old Navan Road. Pedestrian access will also be provided on to the existing M3 Parkway access road. An Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS) has been submitted to the planning authority with the application. Significant further information/revised plans submitted with this application." **Potential for In-combination Effects:** The LRD application (ref: 2360290) will include a bridge over the Tolka. As such a NIS was prepared for this development following a precautionary approach, with targeted mitigation included to protect the Tolka River during the works and any downstream European sites. No likely significant effects are therefore expected. The Proposed Development footprint overlaps with that of ref: 2360290 and includes modifications to the same bridge over the Tolka as part of the Proposed works. No likelihood of significant in-combination effects due to the targeted river protection measures included in the NIS prepared for the LRD application (ref: 2360290) which are analogous to those proposed in this NIS prepared for the Proposed Development, and the insignificant nature of the hydrological pathway connecting both Sites to downstream European sites (ca. 20km of the River Tolka).			
25/61001	**Meath County Council**	**Granted**	**Overlaps with the Proposed Development**
Development Description: "Permission for a Large-Scale Residential Development - Permission for the following Large Scale Residential Development (LRD) comprising modifications to part of the LRD permitted under Meath County Council Ref. 23/60290 (An Coimisiún Pleanála ref. 320049-24). The proposed modifications consist a re-alignment of a portion of the link road (including new bridge over the River Tolka) connecting the R157 and the Old Navan Road, the provision of 1 no. pumping station and associated access road off the Old Navan Road and all associated ancillary development works including footpaths, cycle lanes, drainage, public lighting, boundary treatments and landscaping at Bennetstown and Dunboyne (townlands), Dunboyne North, Co. Meath. An Environmental Impact Assessment Addendum Report and Natura Impact Statement has been submitted to the planning authority with the application. The application may be inspected online at the following website set up by the applicant: www.dunboyneroad.ie" **Potential for In-combination Effects:** The LRD modification application (ref: 25/61001) will include modifications to a permitted road and bridge over the Tolka. As such a NIS was prepared for this development following a precautionary approach, with targeted mitigation included to protect the Tolka River during the works and any downstream European sites. No likely significant effects are therefore expected. The Proposed Development footprint overlaps with this development. No likelihood of significant in-combination effects due to the targeted river protection measures included in the NIS prepared for the application in question (ref: 25/61001) which are analogous to those proposed in the NIS prepared for the Proposed Development, and the insignificant nature of the hydrological pathway connecting both Sites to downstream European sites (ca. 20km of the River Tolka).			
ABP-319422	**An Bord Pleanála**	**Approved with conditions 05/02/2025**	**Adjacent to the Proposed Development along the R157**
Development Description: According to the AA Screening Report prepared by Jacobs (Jacobs, 2024), the East Meath – North Dublin Grid Upgrade includes approximately 37.5 kilometres (km) of new 400 kilovolt (kV) underground cable circuit (also			

Planning Reference	Planning Authority	Status	Location
referred to as the proposed cable route) between the existing Woodland Substation in the townland of Woodland in County Meath, and the existing Belcamp Substation in the townlands of Clonshagh and Belcamp in Fingal, County Dublin. The Proposed Development will also involve works in the substations to facilitate the connection of the underground cable circuit to the electrical grid. **Potential for In-combination Effects:** The development application in question was accompanied by a NIS, with targeted mitigation included to protect waterbodies including the Tolka River during the works and any downstream European sites. No likely significant effects are therefore expected. No likelihood of significant in-combination effects due to the absence of any likely significant effects as a result of the Proposed Development, the targeted river protection measures included in the NIS prepared for both the Proposed Development and the East Meath – North Dublin Grid Upgrade, and the nature of the hydrological pathway connecting both Sites to downstream European sites (ca. 20km of the River Tolka).			
221509	**Meath County Council**	**Conditional permission granted**	**Approx. 400m S of the Proposed Development**
Development Description: "The development will consist of: construction of a single storey discount foodstore of 2200 gross floor area (GFA) with a net sales area of 1,409sqms with an ancillary off license sales area; car parking for 119 cars including accessible spaces, cycle parking and electric vehicle parking spaces (circa 20% of spaces will be wired for future EV parking). The store will include photovoltaic panels at roof level; trolley bay with cycle parking; bin store and new ESB Substation building as well as a pedestrian and cycle link connecting to the northern boundary in line with the current termination of the existing pedestrian path extending along the eastern elevation of the Supervalu store to the northern boundary of the subject site. There is also provision for future pedestrian and vehicle link from the proposed access road to lands to the east of the application site. The construction of a single storey café unit (165sqms) positioned adjacent to a proposed plaza area which together are located in the existing car park area to the west of St. Peter and St. Paul's Church ('The Church'). The vehicular entrance to the development will be approximately in the same location as the entrance to the existing car park, west of The Church. The existing ESB substation in this area will remain in place. The café will also have an enclosed bin store. The construction of a new car park (53 spaces) located to the north east of the Church and for its exclusive use. It will be connected to the internal grounds of The Church via a two-way connection. The main entrance and exit will be onto the access road serving the proposed foodstore. This access road in turn will have a footpath along its east side, running parallel with The Church boundary. There will also be a crossing point from the existing pedestrian connection on the north west boundary of The Church. For clarity the majority of the existing north east, walled, boundary of The Church is proposed for removal along most of its length to facilitate the operation of the new Church car park. The application also includes works and road markings to improve traffic management related to Vehicular access to and from the site on Main Street. A right turn lane is proposed on Main Street with works to the public space located to the south west of Main Street including alterations to kerbs lines; minor relocation of one disabled parking space and relocation of bollards and other works to footpaths as required." **Potential for In-combination Effects:** An AA Screening was prepared for the development (ref: 221509) and no notable impact pathways were identified linking the development to any European sites, with likely significant effects therefore screened out. No likelihood of significant in-combination effects due to the absence of any likely significant effects as a result of this development and lack of a shared impact pathway of note to any European site.			
ABP- 308130	**ABP/ Meath County Council**	**Conditional permission granted**	**Approx. 330m NE of the Proposed Development**
Development Description: "220kV substation with 2 underground transmission cables." **Potential for In-combination Effects:**			

Planning Reference	Planning Authority	Status	Location
According to the ABP Inspector's report, an AA Screening was prepared for the development and no notable impact pathways were identified linking the development to any European sites, with likely significant effects therefore screened out. No likelihood of significant in-combination effects due to the absence of any likely significant effects as a result of this development and lack of a shared impact pathway of note to any European site.			

5.4.2.2 Relevant Policies and Plans

The local policies and plans detailed in Section 3.2 were reviewed and considered for possible in-combination effects with the Proposed Development. It is not expected that these plans and policies would result in any likely significant in-combination effects with the Proposed Development. Each of these plans has also undergone AA, and where potential for likely significant effects has been identified (e.g., in the case of the Meath County Development Plan (2021-2027), an NIS has been prepared which identifies appropriate mitigation. The Meath County Development Plan (2021-2027) has directly addressed the protection of European sites and biodiversity through specific objectives. The above listed plans are not being relied upon to rule out potential significant effects on European sites.

On examination of the above it is considered that there are **no means** for the Proposed Development to act in-combination with any policies or plans that would impact the integrity of any European sites.

5.5 Avoidance and Mitigation Measures

The following sections outline the avoidance and mitigation measures identified to eliminate the potential for significant adverse impacts on the relevant European sites. Once the recommended measures outlined in the following sections are implemented in full, no adverse impacts on the relevant European sites or their QIs/SCIs are anticipated as a result of the Proposed Development. These mitigation measures will be included in a CEMP that will be prepared prior to commencing works by the appointed construction contractor.

5.5.1 Summary of Potential Effects

Potential significant effects arising from the **Construction Phase** include water quality impacts in designated sites arising from contaminated surface water run-off during the Construction Phase.

There are no likely significant effects with the potential to arise during the **Operational Phase.** However, embedded design features that will help further reduce any potential for water quality reductions downstream during the Operational Phase are detailed in Section 2.3.3 for reference.

The following mitigation measures will ensure that no likely significant effects arise in designated sites as a result of the Proposed Development, either alone or in-combination with other projects.

5.5.2 Construction Phase

5.5.2.1 Mitigation 1: Construction Environmental Management Plan (CEMP)

A CEMP based on the mitigation commitments presented in the various EIAR Chapters and this NIS, will be prepared for the Construction Phase.

A planning stage CEMP has been prepared for submission with the planning application (PMG, 2025a). This outline document provides a framework for the contractor to develop further as the project moves into the Construction Phase.

The Construction Phase CEMP will collate and set out the environmental control measures required to minimise, and control adverse environmental impacts associated with the Proposed Development. It is intended that the CEMP will be a live document, which will capture all Construction Phase environmental mitigation measures included within the EIAR, NIS and any other measures which become apparent through the EIA consultation process and/or are prescribed through planning conditions etc. The CEMP will include enabling and decommissioning works.

- All construction and operations are to be carefully planned and implemented with a series of environmental management and control procedures. The CEMP will detail the general pollution prevention principles and measures which are to be implemented, water and sediment management measures to prevent pollution during the Construction Phase and measures to ensure the potential for pollution fuel, oil, chemicals and other construction materials is minimised.
- **The Contractor shall engage a suitably experienced ecologist, the Project Ecologist,** who will be a full member of a relevant professional institute such as CIEEM, have relevant experience in the management of ecological constraints during construction. The Project Ecologist shall be appointed sufficiently in advance of construction to arrange for any mitigation requirements to be incorporated into the CEMP and any site-specific method statements.
- The construction management of the Site will take account of the recommendations of the Construction Industry Research and Information Association (CIRIA) guides '*Control of Water Pollution from Construction Sites'* and *'Groundwater control - design and practice'* to minimise as far as possible the risk of pollution.
- The Contractor shall take all necessary precautions **to prevent pollution or siltation of surface or groundwaters** from construction activities; with a particular focus on the protection of existing drainage ditches and the River Tolka. The following management, control and mitigation measures will be implemented:
    - Any groundwater temporarily dewatered during the construction of the attenuation basins and any deep building foundations will be treated via the installation of a temporary *in-situ* water treatment system.
    - This system should be designed and sized to ensure that all pumped groundwater water is treated prior to discharge to a selected onsite location (via a temporary soakaway).
    - The Contractor will be required to provide a site-specific dewatering plan, clearly setting out proposed excavation methodology, estimated dewatering rates, details of the proposed treatment system, and discharge location.
    - Surface water attenuation measures are to be designed which will not be overwhelmed by one-off adverse precipitation events.
    - Where practical, cut-off V drains will be utilised to divert water entering Site and reduce the amount of water to be managed on-Site. Attention will be given to the maintenance and protection of all drains and temporary channels to minimise scour and the mobilisation of suspended solids (e.g. lining with hessian or clean stone, check dams, silt fencing etc.).
    - Mud will be controlled at entry and exits to the site using wheel washes and/or road sweepers, and tools and plant will be washed out and cleaned in designated areas. Wheel washings will be contained and treated prior to discharge.
    - Runoff will be directed to and intercepted by temporary settlement lagoons. The size of the settlement lagoon will be determined from predicted flow rates and retention times based on sediment particle size and density.
    - Neither groundwater nor surface water runoff from the working areas will be permitted to discharge directly to the environment (e.g., existing ditches or River Tolka). Runoff generated within the site during construction will be filtered and treated to remove hydrocarbons and sediment. Total Suspended Solids (TSS), pH/EC and colour will be monitored daily and outlets from sedimentation ponds will incorporate a turbidity monitor with alarm at a high level.
    - Subject to consent, water that is unpolluted, aside from its silt content, may be pumped out over adjacent vegetated ground, where appropriate, with consideration given to groundwater level and saturation, wildlife importance and proximity to drainage channels.
    - In the event of surface water failing to meet the required standards water will be recirculated to the inlet of the sediment pond to provide further time for settlement. A penstock will be provided on the outlet from the sediment pond to control discharge from the site.

- The performance of the surface water drainage network will be maintained and monitored throughout the construction of the Proposed Development, noting that the proposed storm system will include permanent hydrocarbon separators.
- Where the Contractor utilises pumping to drain works areas, a back-up pump and generator must be provided on Site for use in the event of the primary pump failing.
- Procedures are to be put in place to ensure the identification, remediation and correct reporting of any silt or other pollution incidents that may occur.

- **During localised construction works along existing drainage ditches** (e.g., to facilitate the realignment and culverting of parts of the ditch running along the road's route and construction of headwalls/outfalls), a construction methodology will be drawn up. This will detail the approach to the construction and installation of culverts along the southern drainage ditch that runs along the proposed link-road (both the western and eastern sections) and the slight realignment of the western section of said ditch.
- Any such works e.g., realignment/re-profiling of ditch and channel, are to take part in dry weather conditions, when the ditch bed is dry, to minimise sedimentation of watercourses downstream.
- Any minor volumes of stripped soils from these works will be stockpiled a minimum distance of 10m from the channel and will be appropriately covered. A temporary stormwater management system will be implemented by the Contractor.
- Areas will be designated where stockpiles will be established in order to facilitate the efficient transfers of material within the Site. Stockpiles will be stabilised as soon as possible (e.g. sealed, closed over, seeded or covered using geotextile mats), and bunded by earth or silt fences at the toe to intercept silt-laden runoff during rainfall events.
- Appropriate working practices to avoid the repetitive handling of excavated substrates, minimise vehicle movements, limit the size, number and frequency of stockpiles, reduce the compaction and erosion of soils etc. and control the generation of dust. The implementation of a construction traffic management plan and controls on the locations of plant and materials will minimise the compaction and erosion of soil. Excavation is to be restricted during high winds and heavy rainfall to minimise dust generation and contaminated surface runoff.
- Excavated materials are to be inspected for signs of possible contamination, such as staining or strong odours. Should any be noticed, substrates are to be segregated and samples analysed for contaminants to determine an appropriate means of disposal to licensed/permitted facilities appropriate for the waste classification.
- In order **to prevent any potential surface water/groundwater impacts via. release of hydrocarbon/chemical contaminants** the following standard measures will be implemented:
  - The Contractor will ensure all Site personnel are trained in the handling of materials, the sensitive nature of the receiving environment, the drainage system and the consequences of accidental spillages.
  - Fuels, lubricants and hydraulic fluids for equipment used on the construction Site, as well as any solvents, oils, and paints, will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment according to best codes of practice;
  - Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the Proposed Development for disposal or recycling;
  - Any spillage of fuels, lubricants or hydraulic oils will be immediately contained and the contaminated soil removed from the Proposed Development and properly disposed of;
  - All Site vehicles used will be refuelled in bunded and adequately sealed and covered areas in the construction compound area.
  - Strict supervision of contractors will be adhered to in order to ensure that all plant and equipment utilised on Site is in good working condition. Any equipment not meeting the required standard will

not be permitted for use within the Site. This will minimise the risk of groundwater becoming contaminated through Site activity.

- All oil stored on Site for construction vehicles will be kept in a locked and bunded area;
- Generators, pumps and similar plant will be placed on drip-trays to prevent contamination;
- All temporary construction fuel tanks will also be located in a suitably bunded area and all tanks will be double skinned. Relevant Material Safety Data Sheets along with oil absorbent materials will be kept on Site in close proximity to any fuel storage tanks or bowsers during proposed Site development works; and,
- All fuel/oil deliveries to on Site oil storage tanks will be supervised, and records will be kept of delivery dates and volumes.
- Fixed plant shall be self-bunded; mobile plant shall be in good working order, kept clean, fitted with drip trays where appropriate and subject to regular inspection. Drip trays will be covered, emptied regularly as required and disposed of off Site having regard for local waste management legislation.
- Spill kits and oil absorbent material shall be carried with mobile plant and located at vulnerable locations around the Site to reduce the risk of spillages entering the sub-surface or groundwater environment; booms shall be held on-site for works near drains or dewatering points.
- Procedures are to be put in place to ensure the identification, remediation and correct reporting of any fuel, oil, chemical or other pollution incidents that may occur.

- In order **to prevent any potential surface water/groundwater impacts via release of cementitious materials** the following measures will be implemented:
  - No mixing of concrete will be carried in close proximity to existing watercourses or drainage ditches as will be detailed in the CEMP. The measures detailed below will be employed where poured concrete is being used in the construction process;
  - The production, transport and placement of all cementitious materials will be strictly planned and supervised;
  - Shutters will be designed to prevent failure. Grout loss will be prevented from shuttered pours by ensuring that all joints between panels achieve a close fit or that they are sealed;
  - Any spillages will be cleaned up and disposed of correctly;
  - Where concrete is to be placed by means of a skip, the opening gate of the delivery chute will be securely fastened to prevent accidental opening;
  - Where possible, concrete skips, pumps and machine buckets will be prevented from slewing over water when placing concrete;
  - Surplus concrete will be returned to batch plant after completion of a pour; and
  - The Contractor will dispose of all alkaline wastewaters and contaminated stormwater offsite having regard for local waste management legislation.
- The Contractor will implement procurement procedures to ensure that aggregate, fill material and topsoil are acquired from reputable sources with suitable environmental management systems as well as regulatory and legal compliance.
- The Contractor will vet the source of aggregate, fill material and topsoil imported to the Site in order to ensure that it is of a reputable origin and that it is “clean” (i.e. it will not contaminate the environment).
- All material to be disposed of off Site to a facility licensed having regard for local waste management legislation. Where material is to be stockpiled on site prior to disposal, the Contractor will control all run-off to prevent contamination of surrounding watercourses (via silt-fencing etc.).
- **The CEMP will include an Emergency Response Plan (ERP)** based on the Contractor’s Risk Assessment, to be reviewed and approved by the Project Ecologist/ECoW. The ERP will include (but not limited to):

- Training of relevant staff, including cover staff, in the implementation of the ERP and the use of spill kits;
- Procedures to be undertaken in the event of the release of any sediment into a watercourse, or any spillage of chemicals, fuel, oil or other hazardous materials or wastes;
- Procedures to be undertaken in the event of any non-compliance incidents with any permit or licence, or other such risks that could lead to a pollution incident, including flood risks;
- The number, specification and location of all spill kits which shall be carried/kept on the site; and
- Information on clean-up and reporting procedures; etc.

While it is expected that the Site drainage system will be installed and commissioned early in the Site construction programme and will therefore be operational for much of the Construction Phase, there will be a period of the construction phase during which the Site drainage system will not be operational. The CEMP is required to cover this period and to deal with other issues during the Construction Phase.

5.5.2.2 Mitigation 2: Silt Management and Silt fencing

Managing silt and sediment at the source is the most effective method to prevent siltation of watercourses. Silt fencing will be used to isolate the Site from receiving surface water bodies, and to isolate designated surface water percolation areas. The following criteria as per CIRIA C648 must be adhered to for the installation/operation of silt fencing:

- Existing vegetation buffers will be retained, measured, and marked out wherever possible in advance of works commencing.
- All silt fence installation will be completed under the advisement of the on-site ECoW.
- Silt fencing will then be installed along all watercourses including drains, in advance of works commencing. Silt fencing is also required around the following areas prior to works commencing: stockpiles, percolation areas associated with settlement tanks, and the water management system on Site.
- Where a vegetation buffer of 10m or more is maintained in place, no silt fencing is required.
- Where a vegetation buffer of between 5m and 10m is in place, a single layer silt fence is required.
- Where a vegetation buffer of less than 5m is in place, a double layer, parallel silt fence is required.
- Where no vegetation buffer is in place, or where works are close to a sensitive watercourse, three parallel layers of silt fencing are required.
- Silt fencing should be positioned at a minimum of 5 meters and where possible, up to 50 meters from surface water bodies. The 2-3 layers of silt fencing shall be spaced in 1-meter intervals.
- Silt fencing must be installed along a level contour, so water does not pond more than 400mm at any point.
- The fence will be supported by a wire mesh if the fabric selected does not have sufficient strength.
- The fabric will be fixed to strong supporting posts at regular intervals.
- In areas where more than one layer of silt fence is required, the following applies:
  - The inner silt fence fabric will be buried at least 100 mm into the ground.
  - The outer silt fence fabric will be folded at ground level and not buried.
- An undisturbed area behind the fence must be retained for runoff to pond and sediment to settle.
- No more than 0.5 ha of concentrated flow shall drain to any point along the silt fence.
- The silt fences will be positioned at central and right angles to flow, with the ends curving up slope to ensure water ponds behind the fence and does not flow around it.
- Accumulated silt will be cleared regularly; commercially produced silt fences have a printed indicator line over which silt should not accumulate.

- The silt fence must be capable of preventing 180 μ (micron) and above sediment from passing through.
- Silt fences must not be decommissioned until all land is vegetated.
- When decommissioning, the buried inner silt fence is removed first.
- The outer folded silt fence is removed last when the inner silt fence ground has revegetated.

Every precaution will be taken to ensure that the installation of the silt fencing itself does not result in emissions of silt to watercourses. To this end, sequential excavation, and reinstatement of soil turves/sods as the silt fence is trenched will be implemented. Silt fencing will be placed as close as possible to the construction works while allowing for sufficient space for maintenance and clearance of silt and debris.

Any drains within the Site (that are identified by the ECoW) will be blocked or treated to prevent silt entering downstream watercourses. This will be accomplished with either dams, silt curtains in series downstream of the works, straw bales firmly posted to exit points to catch silt before leaving the Site, or via dewatering bags on outflow pipes. These measures will be in place prior to works beginning.

The ECoW shall regularly inspect the silt fences to ensure they are functioning as intended, and no damage has occurred (e.g., holes, blown over in wind). The fencing shall be amended as required.

Silt fencing shall remain in place for the duration of works and until exposed soils have revegetated.

Under no circumstances will terrestrial works be undertaken outside/ beyond the silt fences.

5.5.2.3 Mitigation 3: Bridge Construction

The installation of a bridge over the River Tolka will bring works close to the river channel. The proposed bridge has a clear span of 32.712m and traverses a section of the river (See Figure 5). Consequently, bridge abutment construction will be several metres away from the channel which will reduce the risk of silt or construction debris entering the watercourse in the event of spillages during the excavation or construction process.

During the construction of the bridge, the Contractor will ensure that the river is protected from any inputs of contaminants/pollutants for the duration of the works. To minimise risks, best practise Construction measures for works within, or in the vicinity of watercourses will also be followed as per '*Guidelines for the crossing of watercourses during the construction of national road schemes*' (TII, 2008) and '*Control of water pollution from linear construction projects - CIRIA C648'* (CIRIA, 2006). The below measures will be included in the Contractor's CEMP to prevent the release of hydrocarbons, polluting chemicals, sediment/silt and contaminated waters into the receiving surface water network:

- A **Construction Method Statement** for the bridge construction will be prepared by the Contractor and signed off by the Project Ecologist/ECoW. This Method Statement will detail the mitigation/protection measures that will be put in place to protect the river during these works.
- All works adjacent to the River Tolka will be carried out in accordance with Inland Fisheries Ireland (IFI), "*Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters*".
- Prior to commencement on Site, **contact will be made with IFI** to ensure the works comply with the provisions of the Fisheries Act and Habitats Regulations, and that said works will be in accordance with any detailed operational and construction requirements issued by IFI.
- Works will be carried out from the bank side, **and in-stream works will be restricted to the period 1st July through 30th September,** to comply with the seasonal restrictions in salmonid rivers.
- A **suitably qualified ECoW** will be present on-site during the installation of the bridge and associated bank works.
- Wet concrete works in proximity to the watercourse will be avoided as much as practicable and the use of precast elements to form retaining structures and bridge foundations (e.g., segmental retaining walls, driven piles) will form part of the construction specification where feasible in lieu of *in-situ* concrete alternatives.
- It will be ensured that **all river protection measures will be maintained in good and effective condition** for the duration of the proposed works and checked regularly to ensure that the silt fencing and other mitigation measures are operating effectively.

- To prevent elevated levels of erosion and sedimentation at the Site during the Construction Phase, surface water at the Site will be managed and controlled for the duration of the construction works, until the permanent surface water drainage system (including attenuation and storage) for the Proposed Development is complete.
- Entry to the river channel by vehicles will be avoided, while vehicle usage along the banks will be restricted as much as practicable. Any machines working in the watercourse must be protected against leakage or spillage of fuels, oils, greases and hydraulic fuels.
- Works involving the breaking of riverbanks e.g., any reprofiling of the riverbank, will be carried out with suitable and effective mitigation in place to minimise/ prevent sediment release to the river i.e., cofferdams, Silt-traps and other suitable in-stream measures for the collection/filtration of sediment.
- Suitable temporary erosion control measures will be employed where required, to prevent sedimentation/erosion arising from any newly profiled banks until new vegetation establishes e.g., **jute/coir mesh blankets** (plastic will be avoided where possible).
- Features such as silt fencing and berms, will be installed prior to the commencement of construction to ensure the protection of the river during construction works. A silt fence set back **at least 10m** from the watercourse will be required, to be constructed of a suitable geotextile membrane to ensure water can pass through, but that silt will be retained.
- An interceptor trench will be required in front of the silt fencing where space allows. It should also be resistant to damage during deformation resulting from loading by entrapped sediment.
- The silt fences will be monitored to ensure that they remain functional throughout construction of the Proposed Development. Where necessary, maintenance will be carried out on the fences to ensure that they continue to be effective. This will be particularly important after heavy rainfall events. The checks will be undertaken by a suitably qualified person. The frequency of monitoring will depend on the stage of works, and local environmental conditions. Daily checks may be appropriate during the initial site clearance, during works in the vicinity of the watercourse, and during and after storm events. Weekly or bi-weekly checks may be appropriate at other times.
- When cofferdams are being kept dry by pumping, the discharge must be routed to an approved settlement facility before return to the river.
- Every care must be taken to insure against spillage of concrete or leakage of cement grout within cofferdams if being used.
- In a worst-case scenario where a spillage of pollutants or cement grout etc into the river occurs during the construction of the bridge, the source of the pollution will be addressed immediately, and works will cease until the situation has been rectified.
- Should such a spillage occur, the project ECoW, Meath CoCo and Inland Fisheries Ireland (IFI) will be contacted and informed immediately.

5.5.3 Operational Phase

No potential for likely significant effects as a result of the Operational Phase of the Proposed Development was identified, and therefore no mitigation of same is required.

5.6 Monitoring

5.6.1 Construction Phase

During the Construction Phase, the following monitoring will be detailed in the Contractor's CEMP and will be carried out by the Contractor to ensure the implemented mitigation measures are maintained effectively:

- The Contractor shall employ a suitably qualified Site Environmental Manager to oversee the control of surface waters on Site and advise on maintenance/replacement of mitigation measures e.g., settlement pond, silt buster, silt trap, where required.

- Surface water and groundwater protection measures (detailed in Sections 5.5.2.1 and 5.5.2.2) will be checked weekly to ensure they remain effective, and more often during moderate to heavy rainfall events as appropriate.
- The Contractor shall ensure that the discharge of treated surface water from dewatering activities will be monitored to ensure that the discharged treated water will be in accordance with the Discharge Licence agreed with Uisce Éireann.
- Should any deviations from the proposed mitigation or any corrective measures be required, these will be agreed with the Project Ecologist and Contractor prior to being implemented. Records will be kept of all checks and any deviations/corrective measures to inform Meath CoCo if required.

5.6.2 Operational Phase

During the Operational Phase, no additional monitoring is recommended bar the standard maintenance checks that will be carried out to ensure all SuDS measures are operating correctly.

6 NIS CONCLUSION

This NIS details the findings of the Stage 2 AA conducted to further examine the potential direct and indirect impacts of the Proposed Development at lands at Bennetstown Phase 3, Dunboyne, Co. Meath, on the following European Sites:

- North Dublin Bay SAC (000206).
- South Dublin Bay SAC (000210).
- South Dublin Bay and River Tolka Estuary SPA (004024).
- North Bull Island SPA (004006).
- North-west Irish Sea SPA (004236).

The above sites were identified by a screening exercise that assessed likely significant effects of a range of impacts that have the potential to arise from the Proposed Development. The NIS investigated the likely direct and indirect effects of the proposed works, both during construction and operation, on the integrity and qualifying interests of the five above European Sites, alone and in combination with other plans and projects, taking into account the site's structure, function and conservation objectives, and having regard to best scientific knowledge.

Where potentially significant effects were identified, a range of mitigation and avoidance measures have been suggested to avoid them. This NIS has concluded that, once the avoidance and mitigation measures are implemented as proposed, the Proposed Development will not have an adverse effect on the integrity of the above European sites, individually or in combination with other plans and projects. Where applicable, a suite of monitoring measures have been proposed to confirm the efficacy of said mitigation in relation to ensuring no adverse effects on the habitats or species of the relevant European sites have occurred.

As a result of the complete, precise and definitive findings in of this NIS, it has been concluded, beyond reasonable scientific doubt, that the Proposed Development will have no adverse effects on the integrity and extent of North Dublin Bay SAC (000206), South Dublin Bay SAC (000210), South Dublin Bay and River Tolka Estuary SPA (004024), North Bull Island SPA (004006) and North-west Irish Sea SPA (004236). Accordingly, the Proposed Development will not adversely affect the integrity of any relevant European site.

7 REFERENCES

AtkinsRéalis. (2025). Design Manual for Urban Roads and Streets (DMURS) Statement and Engineering Report. Dunboyne North - Southern Link Road Realignment. Document reference: 520550DG0070.

Bird Survey & Assessment Steering Group. (2022). Bird Survey Guidelines for assessing ecological impacts, v.1.0.0. *https://birdsurveyguidelines.org*

CIEEM (2024). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester.

Cutts, N. Phelps, A. & Burdon, D. (2009) Construction and Waterfowl: Defining Sensitivity, Response, Impacts and Guidance, and Wright, M., Goodman, P & Cameron, T. (2010) Exploring Behavioural Responses of Shorebirds to Impulsive Noise. Wildfowl (2010) 60: 150–167.

Department of the Environment, Heritage and Local Government. (2010). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. DEHLG, Dublin. (Rev. Feb 2010).

Department of the Environment, Heritage and Local Government. (2021). Circular Letter: EUIPR 01/2021. Amendments to section 42 of the Planning and Development Act 2000, as amended and associated Planning and Development Regulations 2001.

DHLGH. (2025a). Department of Housing, Local Government and Heritage. National Planning Application Database. Available at: https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de [Accessed December 2025.]

DHLGH. (2025b). Department of Housing, Local Government and Heritage EIAR Planning Portal. Available at: https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=d7d5a3d48f104ecbb206e7e5f84b71f1. [Accessed December 2025.]

DNV. (2025a). Appropriate Assessment Screening Report for a Proposed Development at lands at Bennetstown, Dunboyne, Co. Meath. Prepared for Marina Quarter Ltd., in December 2025.

DNV. (2025b). EIAR Biodiversity Chapter for a Proposed Development at lands at Bennetstown, Dunboyne, Co. Meath. Prepared for Marina Quarter Ltd., in December 2025

EEA (2025). European Environmental Agency. Natura 2000 [Online Map] Viewer. Available at: https://natura2000.eea.europa.eu/

EirGrid (2012a). Environmental Report for the Grid25 Implementation Programme 2011-2016. Grid25 SEA Report. Available [Online] at Environmental-Report-for-the-Grid25-Implementation-Programme-2011-2016-Strategic-Environmental-Assessment.pdf.

EirGrid (2012b). Transmission Development Plan Environmental Appraisal Report 2012-2022. https://cms.eirgrid.ie/sites/default/files/publications/TDP2012-2022FINAL.pdf.

EirGrid (2016). EirGrid Evidence Based Environmental Studies, Study 5: Birds. Literature review and evidence based field study on the effects of high voltage transmission lines on birds. Available [PDF] online at EirGrid-Evidence-Based-Environmental-Study-5-Birds.pdf. Produced May 2016.

Enviroguide. (2024a). Appropriate Assessment Screening for a Proposed Development at lands at Bennetstown Phase 1, Dunboyne, Co. Meath. Prepared for Marina Quarter Ltd., Version 6.0: RFI Submission, in March 2024.

Enviroguide. (2024b). Appropriate Assessment Screening for a Proposed Development at lands at Bennetstown Phase 2, Dunboyne, Co. Meath. Prepared for Marina Quarter Ltd., Version 3.0, in August 2024.

Environmental Protection Agency. (2025). Environmental Protection Agency Online Mapping [ONLINE] Available at: http://www.epa.ie/ [Accessed December 2025].

European Commission. (2000). Managing European Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. European Communities, Luxembourg.

European Commission. (2019). Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1555085968125&uri=CELEX:52019XC0125(07).

European Commission. (2021). 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 Brussels, 28.9.2021

European Commission. (2021). 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 Brussels, 28.9.2021

Fossitt, J. (2000). A *Guide to Habitats in Ireland*. The Heritage Council, Kilkenny.

Franklin, A. N. (2002). What is Habitat Fragmentation? Studies in Avian Biology, 20-29.

Furness, R.W. (2019). Avoidance rates of herring gull, great black-backed gull and common gull for use in the assessment of terrestrial wind farms in Scotland. Scottish Natural Heritage Research Report No. 1019.

Gilbert, G., Stanbury, A., and Lewis, L. (2021). Birds of Conservation Conservation Concern 2020-2026.

Geological Survey Ireland. (2025). Geological Survey of Ireland website [ONLINE] Available at: http://www.gsi.ie/ accessed [Accessed September 2025].

GSI. (2025b). Dublin GWB: Summary of Initial Characterisation. [ONLINE] Available at: https://gsi.geodata.gov.ie/downloads/Groundwater/Reports/GWB/DublinGWB.pdf

Holman, C., Plant, G., & Ashmore, M. (2014). Guidance on the assessment of dust from demolition and construction. Institute of Air Quality Management (IAQM).

IAQM (2016). Guidance on the Assessment of Mineral Dust Impacts for Planning. Institute of Air Quality Management, London.

Irish Water (2018) Ringsend Wastewater Treatment Plant Upgrade Project Environmental Impact Assessment Report. Volume 3 - Ringsend Wastewater Treatment Plant Part A: Report

Irish Water Website. (2025) Ringsend Wastewater Treatment Plant Upgrade Project. Available at: https://www.water.ie/projects/local-projects/ringsend/ [Accessed December 2025].

Jacobs (2024a). Appropriate Assessment Screening. East Meath – North Dublin Grid Upgrade. March 2024. EirGrid.

Jacobs (2024b). Natura Impact Statement. East Meath – North Dublin Grid Upgrade. March 2024. EirGrid.

Jenkins, A.R., Smallie, J.J. and Diamond, M., (2010). Avian collisions with power lines: a global review of causes and mitigation with a South African perspective. *Bird Conservation International*, *20*(3), pp.263-278.

NPWS. (2010). Circular NPW 1/10 & PSSP 2/10. Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Department of Environment, Heritage and Local Government.

NPWS (2013a) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2013b) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2013c) Site Synopsis: North Dublin Bay SAC 000206. Version 13. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht

NPWS (2013d) Conservation Objectives: Rockabill to Dalkey Island SAC 003000. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2014) Site Synopsis: North Bull Island SPA 004006. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht

NPWS (2015a) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht

NPWS (2015b) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2015c) Site Synopsis: South Dublin Bay and River Tolka Estuary SPA (004024). National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht

NPWS (2015d) Site Synopsis: South Dublin Bay SAC 000210. Version date: 10.12.2015. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments. Unpublished NPWS report. Edited by: Deirdre Lynn and Fionnuala O'Neill.

NPWS (2023a), Site Synopsis: North-west Irish Sea SPA 004236. Dated: 17.7.2023. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

NPWS (2023b) Conservation Objectives: North-west Irish Sea SPA 004236. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

Office of the Planning Regulator (2021). Appropriate Assessment Screening for Development Management, OPR Practice Note PN01.

Paul McGrail Consulting Engineers (PMG). (2025a). Construction Environmental Management Plan (CEMP) - Proposed Residential Development at Bennetstown LRD Phase 3, Co. Meath. Document Ref: 2024-114.

Paul McGrail Consulting Engineers (PMG). (2025b). Planning Submission Report to Engineering Services. Proposed Residential Development at Bennetstown LRD Phase 3, Co. Meath. Document Ref: 2024-114.

Scottish Natural Heritage (2018). Avoidance Rates for the onshore SNH Wind Farm Collision Risk Model. September 2018 v2.

About DNV

DNV is the independent expert in risk management and assurance, operating in more than 100 countries. Through its broad experience and deep expertise DNV advances safety and sustainable performance, sets industry benchmarks, and inspires and invents solutions.

Whether assessing a new ship design, optimizing the performance of a wind farm, analyzing sensor data from a gas pipeline or certifying a food company's supply chain, DNV enables its customers and their stakeholders to make critical decisions with confidence.

Driven by its purpose, to safeguard life, property, and the environment, DNV helps tackle the challenges and global transformations facing its customers and the world today and is a trusted voice for many of the world's most successful and forward-thinking companies.