Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

DUBLIN CITY COUNCIL

SANTRY RIVER RESTORATION AND GREENWAY DRAFT MASTERPLAN

Strategic Environmental Assessment: Environmental Report

December 2025

NICHOLAS O'DWYER
an RSK company

DUBLIN CITY COUNCIL

SANTRY RIVER RESTORATION AND GREENWAY PROJECT

PROJECT NO. 20915

STRATEGIC ENVIRONMENTAL ASSESSMENT:

ENVIRONMENTAL REPORT

Nicholas O'Dwyer Ltd
Consulting Engineers
Nutgrove Office Park
Nutgrove Avenue
Dublin 14

December 2025

PROJECT NO. 20915					
Revision	**Reason for Revision**	**Prepared by**	**Reviewed by**	**Approved by**	**Issue Date**
-	First Issue	KF, DG, AH	LM	BD	16-12-2025
A					
B					
C					
D					

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LIST OF ACRONYMS

Acronym	Definition
AA	Appropriate Assessment
CAP	Climate Action Plan
CAFE	Cleaner Air for Europe (Directive)
CFRAM	Catchment Flood Risk Assessment and Management
CH_4	Methane
CO	Carbon Monoxide
COMAH	Control of Major Accident Hazards
CSO	Central Statistics Office
DAFM	Department of Agriculture, Food and the Marine
DCC	Dublin City Council
DECC	Department of Environment, Climate and Communications
DHLGH	Department of Housing, Local Government and Heritage
DTTAS	Department of Transport, Tourism and Sport
ED	Electoral Division
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
ER	Environmental Report
EU	European Union
FCC	Fingal County Council
GAA	Gaelic Athletic Association
GHG	Greenhouse Gas
GSI	Geological Survey Ireland
HP	Haase-Pratschke (as in Pobal HP Deprivation Index)
IFI	Inland Fisheries Ireland
LCA	Landscape Character Assessment
LT	Long Term
MAB	Man and the Biosphere (UNESCO Programme)
NBDC	National Biodiversity Data Centre
N/A	Not Applicable
NH_3	Ammonia
NIAH	National Inventory of Architectural Heritage
NIS	Natura Impact Statement
NMVOC	Non-Methane Volatile Organic Compounds
NTA	National Transport Authority
NWRP	National Water Resources Plan
OPR	Office of Public Works
OSI	Ordnance Survey Ireland
P	Probable (used in impact assessment legend)
PEA	Preliminary Ecological Appraisal
pNHA	Proposed Natural Heritage Area
$PM_{10}/PM_{2.5}$	Particulate Matter (10/2.5 microns)
Q Value	Biological Quality Value (EPA river water quality rating)

Acronym	Definition
RBD	River Basin District
RBMP	River Basin Management Plan
RAMSAR	Wetlands of International Importance (from the Ramsar Convention)
RPS	Record of Protected Structures
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEO	Strategic Environmental Objective
SIS	Soil Information System
SO_2	Sulphur Dioxide
SPA	Special Protection Area
SRRG	Santry River Restoration and Greenway
ST	Short Term
SUDS	Sustainable Urban Drainage Systems
TII	Transport Infrastructure Ireland
UNESCO	United Nations Educational, Scientific and Cultural Organization
VP	Very Probable (used in impact assessment legend)
WFD	Water Framework Directive
WHO	World Health Organization
WwTP	Wastewater Treatment Plant

NON-TECHNICAL SUMMARY

Purpose and Context

Dublin City Council (DCC), together with Fingal County Council (FCC) and the National Transport Authority (NTA), is spearheading the formulation of the Santry River Restoration and Greenway (SRRG) Masterplan. Nicholas O'Dwyer Ltd, in association with Redscape Urbanism and CBEC Ecoengineering Ltd, were commissioned by DCC to prepare the Masterplan and this Strategic Environmental Assessment (SEA) Environmental Report in line with the SEA Directive (2001/42/EC).

The Masterplan provides a framework for restoration of the Santry River, including naturalisation and flood management measures, and development of a Greenway infrastructure. The overall focus of the Masterplan is to assist the DCC in complying with objectives set under the Water Framework and Floods Directives; habitat, ecology and biodiversity objectives of the Birds and Habitats Directive; and to meet social, recreational and amenity needs of the communities living within the river catchment.

This SEA Environmental Report (ER) has been prepared in accordance with EU Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment. This ER evaluates the likely significant environmental effects of the Masterplan, ensuring compliance with EU and Irish legislation and integrating environmental considerations into decision-making.

Geographical Area of the Masterplan

Chapter 2 of this ER provides a detailed description of the Masterplan area. The Santry River flows through the northern suburbs of Dublin, starting near Dublin Airport and winding its way through parks, green spaces, and neighbourhoods before reaching the coast near Bull Island. Along its journey, the river passes under and over roads, through both natural and built-up areas, and by landmarks such as golf clubs, factories, sports fields, and shopping centres. The area around the river includes housing estates, business parks, schools, and hospitals. For ease of reference, the river has been divided into six 'reaches', as described and illustrated in **Chapter 2**.

Objectives of the Masterplan

The Masterplan makes reference to a 'Santry Riverpark' describing that the ambition for the Santry River lies in the future of the river and its surroundings as a central outdoor space or Riverpark in North Dublin.

The Masterplan is structured around eight core objectives as defined in **Chapter 2** of this Report. These are summarised below:

- **Objective 1**: To address river hydro-morphology, and specifically:
    - To identify and resolve hydro morphological pressures impacting the River Santry;
    - To re-naturalise the river channel where feasible in accordance with Water Framework Directive (WFD);

  - To identify solutions to address flood risk in accordance with the Floods Directive;
  - To prioritise the use of natural water retention measures; and
  - To assess the impacts of climate change to the year 2100 on the river.

- **Objective 2**: To re-establish, where it has been lost, connectivity between the river and its riparian zone and natural flood zone.
- **Objective 3**: To improve the riparian corridor of the river and make provision, where required, for achieving objectives for biodiversity, ecology and habitat in accordance with the Birds and Habitats Directives, as well as creating a dynamic riverbed suitable for fish and invertebrates.
- **Objective 4**: To achieve good status under the WFD.
- **Objective 5**: To improve connectivity and create the Santry River Greenway, consisting of walkways and cycling routes for improved access to the river corridor and to allow commuters to reach their destination using sustainable transport/active travel modes.
- **Objective 6**: To identify and engage with all stakeholders.
- **Objective 7**: To enhance the Santry's ecosystem services and reduce costs associated with damages associated with current conditions (including from flooding, anti-social behaviour, *etc*.).

  Objective 8: To preserve, protect and promote the archaeological and heritage sites throughout the catchment.

Key Masterplan Themes and Measures Proposed

To support the achievement of the Masterplan objectives outlined above, the Masterplan describes five spatial themes:

- A robust and healthy water system
- A continuous, multifunctional route, connected with the surroundings
- A green quality from source to sea
- A unique identify and information system
- Placemaking and activation

Guided by these themes, specific measures were developed to achieve the Masterplan objectives. The Masterplan groups these measures into four pillars:

1. River Restoration: Passive, assisted, and active interventions to restore natural river conditions, including buffer planting, daylighting culverts, and wetland creation.

2. Flood Mitigation: Targeted measures such as penstock regulation at Santry Lake and flood walls in Raheny Village.

3. Sustainable Mobility: Development of a continuous, accessible Greenway route from Northwood Metro to the coast, integrating with parks and residential areas.

4. Amenity Development: Guidelines for public realm improvements, landscape planting, and enhanced access to recreational and community facilities.

Environmental Baseline

Chapter 5 of this ER provides a comprehensive baseline description of the Masterplan area, compiled from desktop and survey information as relevant. The baseline description and covers the following environmental aspects:

- **Biodiversity**: This section highlights the presence of RAMSAR sites, the UNESCO Biosphere, European sites (SACs, SPAs), pNHAs, and important habitats and species (e.g., brent geese, otter, bats).

- **Population and Human Health**: Demographic trends and social deprivation indices are discussed in this section and sensitive receptors (e.g., schools, hospitals, parks) are identified.

- **Soils, Geology, and Land Use**: This section highlights the diverse land uses within the Masterplan area, highlights the presence of Urban and Elton soils. Elton soils are fine loamy drift with limestones and classified as well drained mineral soils. Urban soils are soils that have been disturbed, moved and manipulated by human activities. Urban soils are generally overlain by a non-agricultural, man-made layer formed from mixing, infilling or contamination by industrial uses. This section also discusses the geological heritage of North Bull Island.

- **Water Quality**: This section examines the existing hydrological environment of the Masterplan area. In terms of the objectives set under the WFD (Directive 2000/60/EC), the Santry River is currently in "poor" status, with key pressures from urbanisation and pollution. The risk of flooding in the Masterplan area is also discussed and identified this section.

- **Air Quality and Climate**: This section presents a brief overview of air quality monitoring as relevant to the Masterplan area. The Environmental Protection Agency (EPA) monitors air quality at 115 stations nationwide, dividing the country into four zones. The Masterplan area is in Dublin's Zone A. While pollution levels have generally improved since 2010, most stations, including those near the Masterplan area, still do not meet the World Health Organization's air quality standards for key pollutants.

- **Cultural Heritage and Archaeology**: This section highlights numerous national monuments, protected structures, National Inventory of Architectural Heritage (NIAH) listed buildings, historic gardens, and industrial heritage sites within the Masterplan area.

- **Landscape and Visual**: This section highlights the main landscape features of the Masterplan area which includes farmland, urban spaces, parkland, and coastal

sections, each with distinct qualities and recreational opportunities. Notable sites are North Bull Island, Phoenix Park, Santry Demesne, and St Anne's Park. Some places are valued for wildlife, heritage, or scenic views, while others are less sensitive to change. Overall, there is a mix of natural and developed areas, supporting both nature and community activities.

- **Material Assets**: This section describes the main infrastructure and services available in the Masterplan area, including water, wastewater, and transport. Uisce Éireann (formerly Irish Water) manages water and wastewater services for Ireland. Planned upgrades to the Ringsend Wastewater Treatment Plant will provide additional capacity for development in the Masterplan area. Drinking water for Fingal comes from the Leixlip plant, with ongoing efforts to maintain high water quality standards. In terms of transport, the area is served by several major roads and is set to benefit from new BusConnect and MetroLink projects aimed at improving public transport. Cycling and walking have grown in popularity, with new infrastructure being developed, although some junctions and crossings within the Masterplan area currently present safety and accessibility challenges.

SEA Objectives

The EPA SEA guidance document (EPA, 2018) highlights the importance of setting clear goals, targets, and indicators to measure how a proposed plan (the Masterplan) could affect the environment. Indicators help explain environmental impacts in a straightforward way. **Chapter 7** of this ER outlines the key environmental goals and the methods by which their progress will be tracked (i.e., indicators). These goals and indicators will be updated as the Masterplan develops to reflect new requirements and options.

Alternatives Assessment

Chapter 7 of this ER outlines the alternative scenarios considered during development of the Masterplan. The process of identifying alternatives was informed by technical assessments, environmental constraints and stakeholder consultation. Four scenarios were considered:

- Scenario 1 (Do Nothing): No intervention, resulting in continued environmental degradation.
- Scenario 2 (Do Minimum): Low-intervention measures, with limited ecological and amenity improvements.
- Scenario 3 (Do Something): Integrated, multi-benefit approach with a high-quality Greenway and robust restoration.
- Scenario 4 (Integrated Approach): Combines the best elements of previous scenarios, balancing flood protection, restoration, and sustainable mobility.

The preferred scenario (Scenario 4) delivers the most comprehensive benefits, fully aligning with both Masterplan and SEA objectives. Scenario 4 is assessed within this ER.

Environmental Effects and Mitigation

The assessment of environmental effects presented in **Chapter 8** indicates that the river restoration and flood mitigation Masterplan objectives are substantially aligned with the SEA objectives, presenting opportunities for significant positive outcomes.

Restoration and nature-based flood mitigation measures addressing Masterplan Objectives 1-4 offer multiple prospects for enhancing biodiversity by providing additional and improved habitats throughout the Masterplan area, including woodlands, riparian zones, aquatic environments, and associated micro-habitats. Notably, the assessment underscores the necessity of clearly identifying suitable locations for proposed interventions during the design phase, adopting a holistic approach to implementation. Other recommendations include developing a landscaping plan and the development of an invasive species management strategy. The assessment identifies beneficial (positive) impacts on water quality, air quality, landscape value, flood resilience, and the long-term capacity for carbon sequestration within the system. Hard flood defences have predominantly been avoided except at Raheny, where existing walls are required to minimise amenity and landscape impacts. Adverse (negative) effects related to land acquisition and construction activities were identified. Mitigation measures implemented at the project level are required to prevent significant negative effects during the construction phase.

Potential significant adverse effects were noted in relation to sustainable mobility, for the development of the Greenway envisaged under Masterplan Objective 5. Key concerns included potential habitat fragmentation, excessive artificial lighting, and increased visitor access to ecologically sensitive sites. To address these risks, the assessment advises meticulous route planning and design strategies, such as setting the pathway back from the riverbank, avoiding sensitive habitats, and implementing a code of conduct.

Positive impacts on the local community and visitors were identified through the promotion of active travel, supporting healthier lifestyles, and enhanced connectivity throughout the Masterplan area. The Greenway is anticipated to visually enhance the local landscape, strengthen connections between open spaces, and highlight important recreational and ecological features. When considered alongside restoration efforts, the combined impact on landscape is assessed as significantly positive.

Masterplan Objective 6 focuses on stakeholder engagement, representing a soft measure that aligns with the SEA objective of fostering community involvement; no further SEA objectives pertain to this aspect.

Masterplan Objective 7 aims to enhance ecosystem services, fully aligning with SEA objectives and yielding notable positive effects across all environmental parameters. The assessment highlights anticipated improvements to regulatory (e.g., water infiltration), cultural (e.g., recreational amenities, community engagement), and supporting ecosystem services (e.g., habitat creation) resulting from the Masterplan's implementation.

Masterplan Objective 8 addresses the preservation, protection, and promotion of archaeological and cultural heritage sites throughout the catchment. While the Masterplan generically supports eco-tourism based on the natural and cultural heritage of the Santry Riverpark, the assessment notes the absence of specific protective measures for cultural heritage. Regarding archaeology, in situ preservation of artefacts remains a priority.

Additional initiatives, such as establishing heritage trails and maintaining appropriate setbacks from monuments, could further support preservation efforts. Consequently, a neutral to positive impact has been identified.

Interactive Effects

Interactive effects occur when different environmental factors influence each other, leading to impacts that might not occur if these factors acted alone. For the Masterplan, these interactions are expected to bring about positive results on several fronts. By combining efforts for restoration, flood prevention, better transport, and protection of nature and heritage, the plan creates opportunities where the benefits are greater than the sum of individual actions. Careful planning and collaboration will help ensure these advantages are maximised and any possible drawbacks, especially for sensitive habitats and historic features, are avoided. **Chapter 8.6** demonstrates where any interactive effects are likely to occur.

Cumulative and Synergistic Effects

Cumulative effects are those effects that could result from incremental changes caused by other past, present or reasonably foreseeable actions together with the proposed Masterplan. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time. Synergistic effects interact to produce a total effect that is greater than the sum of the individual effects.

In accordance with the EPA's 2020 Good Practice Guidance on Cumulative Effects Assessment in SEA, cumulative impact assessment involves two stages: (i) identifying total effects of the plan; and (ii) identifying the cumulative effects of the plan (its total effects) plus the effects of other actions.

Chapter 8.7 provides a breakdown of the assessment undertaken. In summary, the Masterplan is expected to deliver cross-cutting benefits that reinforce the resilience and liveability of the area. By integrating sustainable design principles and engaging local communities, the plan aims to foster a sense of ownership and stewardship over the environment. These initiatives will not only improve ecological integrity but also support social cohesion and enhance the overall quality of life for residents and visitors alike.

Monitoring Framework

Monitoring potential significant environmental effects resulting from the implementation of the Masterplan is an important aspect of the SEA process as this will make it possible to identify corrective actions and establish how well the Masterplan conforms to SEA objectives.

The SEA objectives and indicators detailed in **Chapter 6** serve as effective tools for monitoring significant environmental impacts that may result from the implementation of the Masterplan. It is recommended that the Masterplan incorporate a comprehensive monitoring framework. SEA monitoring can be integrated within this overall framework, utilising data already collected for Masterplan monitoring activities. This approach minimises duplication of effort and enhances the efficiency of the monitoring process.

Chapter 9 presents the proposed monitoring framework that can form the basis of a monitoring plan as part of the Masterplan.

Conclusions and Next Steps

Overall, the Masterplan's approach demonstrates positive impacts, delivering environmental protection and public benefits. Adaptive management and ongoing monitoring will be essential to promptly identify and address any unforeseen impacts that may arise during implementation. Emphasising collaboration between stakeholders, regular review of mitigation effectiveness, and flexibility in delivery of measures will further support the achievement of sustainable and resilient outcomes across the range of environmental receptors considered.

This ER and the draft Masterplan will be available for inspection on the DCC website and a digital copy of same will be sent to each of the statutory and non-statutory consultees for public consultation. The list of consultees is provided in **Chapter 10**. Consultees and stakeholders will have the opportunity to comment on the draft Masterplan and ER. Feedback and submissions are welcomed from all interested parties, including members of the public. All comments received will be recorded, reviewed, and applied where relevant.

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1 INTRODUCTION

Dublin City Council (DCC), together with Fingal County Council (FCC) and the National Transport Authority (NTA), is spearheading the formulation of the Santry River Restoration and Greenway (SRRG) Masterplan. Nicholas O'Dwyer Ltd, in association with Redscape Urbanism and CBEC Ecoengineering Ltd, were commissioned by DCC to prepare the Masterplan and this Strategic Environmental Assessment (SEA) Environmental Report in line with the SEA Directive (2001/42/EC).

The Masterplan provides a framework for restoration of the Santry River, including naturalisation and flood management measures, and development of a Greenway. The overall focus of the Masterplan is to assist the DCC in complying with physicochemical, ecological and hydro morphological objectives under the Water Framework and Floods Directives; habitat, ecology and biodiversity objectives of the Birds and Habitats Directive; and meet social, recreational and amenity needs of the communities living within the river catchment.

1.1 The SEA Process

SEA aims to ensure a high level of environmental protection and to integrate environmental considerations into the development of plans and programmes. SEA systematically evaluates the potential environmental impacts of proposed plans or programmes that may significantly affect the environment. By doing so, it informs and improves the decision-making process, helping to shape more sustainable outcomes. Additionally, the SEA process encourages greater public participation in strategic-level decisions, fostering transparency and community engagement.

This SEA Environmental Report (ER) has been prepared in accordance with EU Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment, which is transposed into Irish legislation through the: (i) European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. 435/2004), as amended by S.I. 200 of 2011 (ii) Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. 436/2004), as amended by S.I. 200 and 201 of 2011 and through reference to relevant guidance documents as follows:

- Environmental Protection Agency. 2025. SEA of Local Authority Land-Use Plans – EPA Recommendations and Resources.
- Environment Protection Agency. 2023. Guidance on Strategic Environmental (SEA) Statements and Monitoring.
- Environmental Protection Agency. 2020. Good Practice Guidance on Cumulative Effects Assessment in Strategic Environmental Assessment.
- Environmental Protection Agency. 2003. Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland.

SEA involves several key stages, as described in **Table 1-1**.

Table 1-1: Stages in the Strategic Environmental Assessment (SEA) Process

Stage	Description
Screening	Determines whether SEA is required for a Plan or Programme in consultation with the designated statutory consultees.
Scoping	Determines the scope and level of detail for the SEA in consultation with the designated statutory consultees.
Environmental Assessment	This refers to a formal and transparent assessment of the likely significant effects on the environment due to implementation of a Plan / Programme including all reasonable alternatives. The output from this stage is an ER which is required to go on public display along with the draft Plan / Programme. This ER presents the Environmental Assessment.
SEA Statement	This summarises the process undertaken and identifies how environmental considerations and consultations have been integrated into the final Plan / Programme.

A Scoping Report was prepared and is included in **Appendix 1**. Consultation on the draft Scoping Report was carried out with the Environmental Authorities and other identified stakeholders, as listed in **Section 3.1.2**.

This ER is based on the Scoping Report including comments submitted during consultation. The ER details the findings of the SEA, outlines strategies for mitigating potential negative effects, and highlights opportunities to enhance or refine the Masterplan with respect to environmental considerations and sustainable development principles.

1.2 Structure of this ER

The ER is structured as outlined in **Table 1-2**.

Table 1-2: Report Structure

Report Chapter	Description
Chapter 1: Introduction	Introduces the Masterplan and SEA process
Chapter 2: Description of the Masterplan	Summarises the Masterplan objectives and identified measures for implementation to achieve the objectives
Chapter 3: SEA Methodology	Presents the SEA methodology
Chapter 4: Review of Relevant Policies, Plans and Programmes	Provides the strategic context of the Masterplan
Chapter 5: Environmental Baseline	Provides a summary of the available environmental baseline information
Chapter 6: SEA Framework	Presents the SEA objectives and indicators, that were developed at scoping stage in consultation with stakeholders.

Report Chapter	Description
Chapter 7: Assessment of Alternatives	Describes and assesses alternative Masterplan approaches
Chapter 8: Assessment of Environmental Effects and Proposed Mitigation	Environmental assessment of the Masterplan objectives and proposed mitigation
Chapter 9: Monitoring Framework	Presents an outline monitoring programme based on SEA indicators

2 DESCRIPTION OF THE MASTERPLAN

2.1 Geographical Area of the Masterplan

The Santry River and its associated riparian corridor is located north of Dublin City, running through various suburban areas. The river headwaters are close to the Horizon Business Park to the south of Dublin Airport, and it initially flows south-east through Silloge Park Golf Club and past the Northpoint National Car Test Facility. The watercourse is culverted underneath the M50 to the west of Junction 4 (Naul/Ballymun exit), it is then open for a section of approximately 80m before entering another culvert under the R108 Ballymun Road. From here, the river flows east through the northern end of Santry Park and a wooded area to the south of the Airways Industrial Estate before entering a culvert under the M50 near Junction 2 (Coolock/Santry exit).

After this section of culvert, the river flows south-east through a series of small public urban parks and green spaces in Kilmore, Clonshaugh, Bonnybrook and Coolock, including the Stardust Memorial Park. A section of river is in private lands in Coolock within the grounds of the Cadbury factory and the former Chivers factory. After passing underneath the R107 Malahide Road, the base and sides of the river are enclosed in a concrete channel, which passes through a series of public urban parks and green spaces between Coolock and Raheny, including a complex of sports pitches alongside Springdale Road, Lein Park and Harmonstown Road (hereafter, collectively referred to as 'St Malachy's playing fields'). After passing Raheny, the river returns to a natural substrate and passes through a wooded corridor. The River reaches the coast on the landward side of North Bull Island (referred to hereafter as 'Bull Island'), on the northern side of the central causeway.

The broader surroundings (i.e., outside the river corridor) are characterised by housing estates, industrial estates (Horizon Business Park, Gulliver's Retail Park, Airside Business Campus, Clonshaugh Business and Technology Park), commercial centres (Northside Shopping Centre, Raheny Shopping Centre), healthcare facilities (St. Joseph's Hospital Raheny), schools and parks.

The area covered by the Masterplan is shown in **Figure 2-1**. The area has been divided into the following reaches, to facilitate management.

- Reach 1: R108 to Silloge
- Reach 2: M50 to R108
- Reach 3: Clonshaugh Road to M50
- Reach 4: Malahide Road to Clonshaugh Road
- Reach 5: Raheny Village to Malahide Road
- Reach 6: The Coast to Raheny Village and the Train Line

Figure 2-2 illustrates the existing constraints and challenges throughout the Masterplan area in relation to meeting the Masterplan objectives as presented in the Masterplan. For example, it highlights areas prone to flooding, sections of poor connectivity, and poor

accessibility. Opportunities for improvement, for example, identifying suitable areas for inclusion of recreational facilities, are also earmarked.

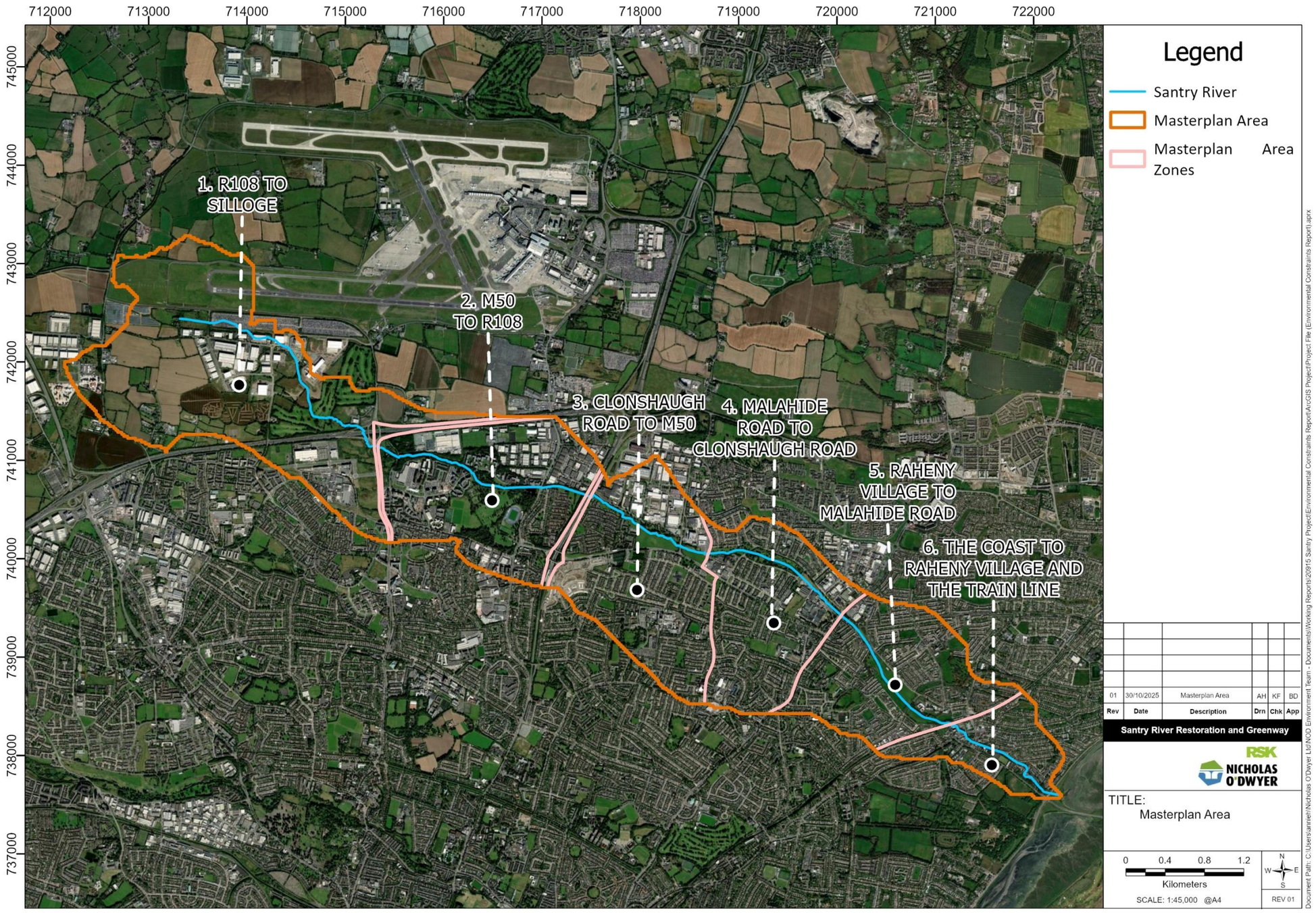

Figure 2-1: Masterplan area

Santry Riverpark: existing challenges

Plan drawing: Masterplan of project area showing some of the existing challenges for flood mitigation, restoration and greenway.

Figure 2-2: Existing Challenges within the Masterplan Area

2.2 Objectives of the Masterplan

The Masterplan makes reference to a 'Santry Riverpark' describing that the ambition for the Santry River lies in the future of the river and its surroundings as a central outdoor space or Riverpark in North Dublin.

As defined in the Masterplan document, the Masterplan will be delivered through achievement of the following eight objectives:

- **Objective 1**: To address river hydro-morphology, and specifically:
    - To identify and resolve hydro morphological pressures impacting the River Santry;
    - To re-naturalise the river channel where feasible in accordance with Water Framework Directive (WFD);
    - To identify solutions to address flood risk in accordance with the Floods Directive;
    - To prioritise the use of natural water retention measures; and
    - To assess the impacts of climate change to the year 2100 on the river.
- **Objective 2**: To re-establish, where it has been lost, connectivity between the river and its riparian zone and natural flood zone.
- **Objective 3**: To improve the riparian corridor of the river and make provision, where required, for achieving objectives for biodiversity, ecology and habitat in accordance with the Birds and Habitats Directives, as well as creating a dynamic riverbed suitable for fish and invertebrates.
- **Objective 4**: To achieve good status under the WFD.
- **Objective 5**: To improve connectivity and create the Santry River Greenway, consisting of walkways and cycling routes for improved access to the river corridor and to allow commuters to reach their destination using sustainable transport/active travel modes.
- **Objective 6**: To identify and engage with all stakeholders.
- **Objective 7**: To enhance the Santry's ecosystem services and reduce costs associated with damages associated with current conditions (including from flooding, anti-social behaviour, *etc*.).
- **Objective 8**: To preserve, protect and promote the archaeological and heritage sites throughout the catchment.

2.3 Themes, Measures and Projects

To support the achievement of the Masterplan objectives outlined above, the Masterplan describes five spatial themes:

- A robust and healthy water system
- A continuous, multifunctional route, connected with the surroundings
- A green quality from source to sea
- A unique identify and information system
- Placemaking and activation

Measures were developed in relation to the themes, to achieve the objectives. The Masterplan groups these measures into four pillars: River Restoration; Flood Mitigation; Sustainable Mobility; and Amenity Development. **Table 2-1** demonstrates how each of the groups of measures (pillars) relate to meeting the Masterplan objectives.

Table 2-1: Measures Proposed to Achieve Masterplan Objectives

Measures Proposed	Masterplan Objectives							
	Obj.1	Obj.2	Obj.3	Obj.4	Obj.5	Obj.6	Obj.7	Obj.8
River Restoration	✓	✓	✓	✓			✓	
Flood Relief	✓	✓		✓			✓	
Greenway					✓	✓	✓	✓
Amenity Development					✓	✓	✓	✓

2.3.1 River Restoration

River restoration measures vary in their level of intervention, as summarised hereunder:

- Passive restoration measures are generally used in river reaches with the potential for natural self-recovery or if the prospect of other measures is limited and are usually non-structural. In the Santry River, passive measures include revising maintenance practices and selective tree thinning.
- Assisted restoration measures are used where reaches have some ability to recover naturally and generally consists of combining multiple smaller-scale interventions and the removal of constraints. Examples proposed for the Santry River include removal of hard bank and bed protection, barrier removals, and use of large wood structures to promote heterogeneity of channel habitat.

- Active Restoration measures include a range of generally extensive physical works required to restore more natural conditions in river reaches. Examples proposed for the Santry River include 'daylighting' a currently culverted reach, meandering of straightened channel sections, the creation of an inset floodplain to improve channel-floodplain connectivity, and the construction of offline wetlands.

In selecting the appropriate combination of measures, focus was given to measures that minimise the amount of land-take required, and that work with natural river processes to produce sustainable benefits to the quality and quantity of river habitat whilst also providing ecological, social and amenity value.

Restoration measures identified in the Masterplan include:

- Planting riparian buffer strips. This is to be prioritised in the upper part of Reach 1. Where implemented, banks will be planted with a diverse range of native and broadleaf woodland species to increase bank stability, increase natural wood recruitment and debris to the system, provide shade for riverine ecology and slow run-off generation. Reaches of the Santry that exhibit excessive shading, particularly along the south bank of Reach 3 will be subject to selective vegetation thinning to increase sunlight access and primary production.

- Daylighting culverted channel and removal of barriers. Works will involve the complete or partial daylighting of sections of the culverted channel, particularly at the lower end of Reach 6 where extensive culverting has been identified as posing a significant barrier to migratory species. Where daylighting extensive sections of culverted channel is not feasible, channel diversion will be considered. For instance, given the presence of residential development alongside and on top of the culverted section of Reach 6 (off Watermill Road), diverting the channel to a new alignment into Saint Anne's Park is proposed. A number of weirs were also identified in the field survey (e.g., Stardust Memorial Park – Reach 4), which could be modified to incorporate rock ramps if removal is not feasible to ensure these structures provide viable passage for fish.

- Removal of bed/bank protection, channel realignment and use of large wood structures. The Masterplan seeks to remove hard protection in the channel where possible, and revert it to a more natural, sinuous channel. Strategically placed large wood structures will be introduced to promote natural geomorphic processes and promote recovery. The placement of the wood is achieved by assessing the natural spacing of physical features in the channel.

- Develop flood plains by re-profiling banks and creation of a two-stage channel. Two-stage channels are artificially created floodplains that are established alongside an existing channel where that channel has been significantly modified by prior engineering or river deepening. By altering the shape of the channel to accommodate a floodplain along either one or (ideally) both banks, the channel's ability to contain floodwaters is improved. The two-stage design also lowers the power of the water under high flows as it spreads it out across the created floodplain, reducing the water's capacity to erode banks. Two-stage channels can also involve the re-establishment of a narrower low-flow channel.

- Creation of offline wetlands. There is an opportunity to (re)connect the channel with newly created and existing offline wetland areas. Works would include the creation of a mosaic of wetlands and scrapes within Reach 1 and Reach 5. Both areas would include connected scrapes that will link with the open channel under flood events.

2.3.2 Flood Mitigation

The Santry Catchment is subject to multiple sources of flood risk, primarily fluvial, with contributions from pluvial and tidal flooding.

Key flood risk areas include:

- Sillogue Park Golf Club, Santry Park and Raheny Village: affected by fluvial flooding with floodwaters overtopping banks and impacting properties and infrastructures.
- Santry Close and Oak Green: affected by pluvial flooding due to surcharge of the drainage network.
- Harmonstown Road and Howth Road: exposed to combined fluvial-pluvial flooding, resulting in greater depth and extent.

Areas such as Sillogue Park Golf Club experience fluvial flooding but are not considered sensitive, as no properties are at risk. No hard flood protection is proposed in this location, though channel improvements may be included as part of river restoration. Similarly, Harmonstown Road will be considered further during detailed design, depending on integration with restoration elements.

Three flood relief measures are proposed for the Santry Catchment:

- For the Santry Lake area, flow regulation via the existing penstock at Santry Demesne is proposed.
- One option for flood protection in Raheny Village, focused on targeted flood wall construction and upgrade works.

2.3.2.1 Santry Lake – Storage upstream of Santry Lake

This measure involves water storage in the area upstream of Santry Lake (**Figure 2-3**) by reducing the opening of the existing penstock at Santry Demense. This option can be considered a "Do Minimum" option, meaning that the proper regulation of the penstock would not require any construction work, only additional maintenance.

2.3.2.2 Raheny Village – Flood walls

This measure consists of the construction of flood walls around properties in Raheny Village (**Figure 2-4**). Existing walls acting as informal flood defences are present in two locations, and these have been added to the hydraulic modelling to be considered as informal defences.

Figure 2-3: Proposed Regulation of Existing Penstock in Santry Lake

Figure 2-4: Proposed Flood Walls in Raheny Village

2.3.3 Sustainable Mobility

The proposed Greenway is a multifunctional route from the proposed Northwood Metro station at the R108, moving through the districts of Santry, Kilmore, Coolock and Raheny over a distance of 9km to the S to S cycle route at the coast. Much of the route is located in existing green areas and parks with a visual connection to the river.

The proposed Greenway route offers the opportunity to re-configure large areas of poorly accessible and underutilised land into actively used park and nature areas. It also offers a continuous and universally accessible route along the Santry River and will be developed in line with universal access and in consultation with disability users as per agreed protocols. It includes ensuring new lines of access, including pathways, bridges and crossings.

A schematisation of the proposed Greenway route is shown in **Figure 2-5**. While this route provides a continuous, accessible Greenway along the Santry River, in some localised areas multiple options may still be carried forward for further analysis.

Figure 2-6 provides an overall view of the proposed measures.

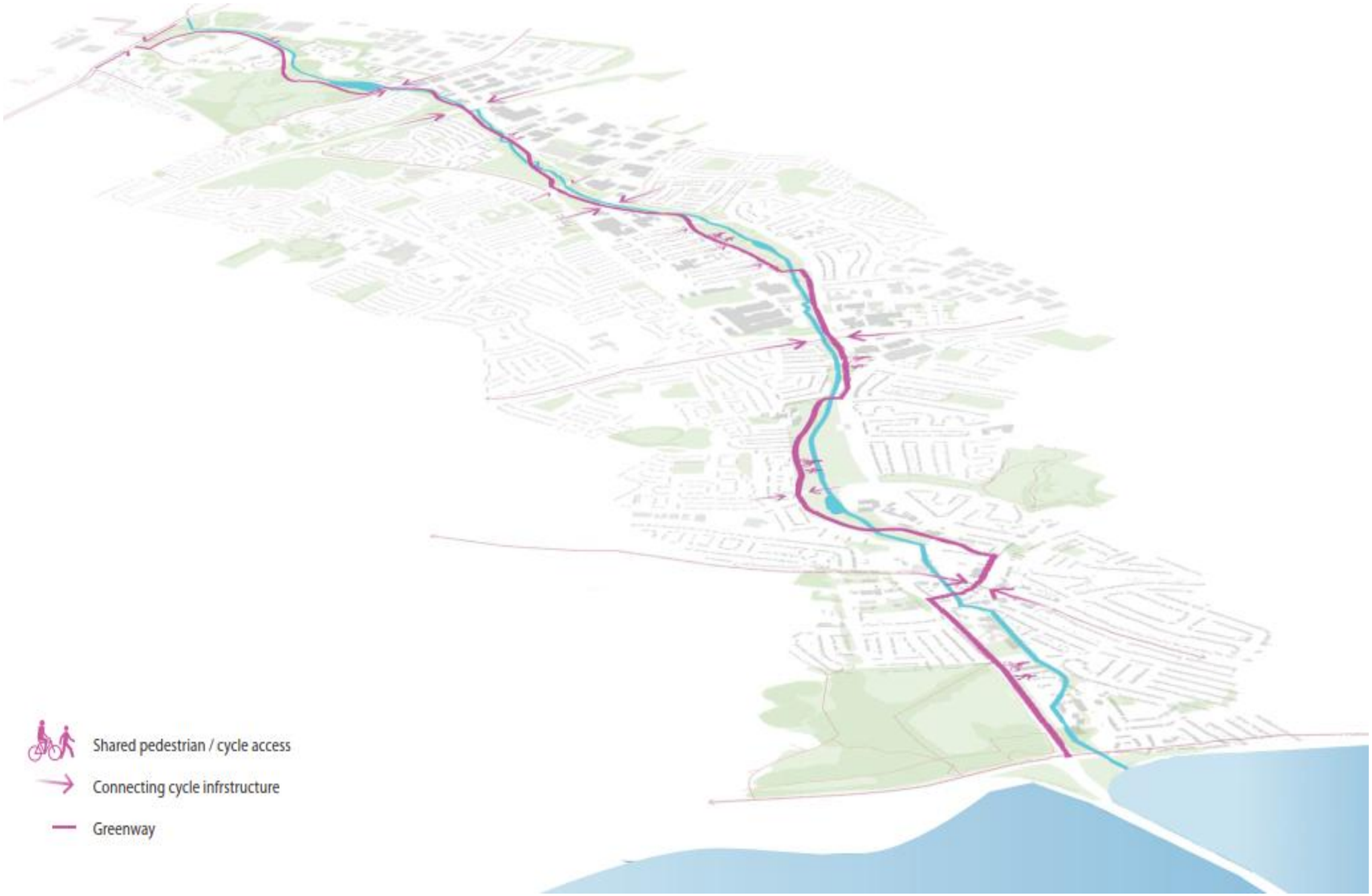

Figure 2-5: Schematisation of preferred Greenway Route

Santry Riverpark: proposed vision and measures

Plan drawing: Masterplan of area showing the proposed situation for flood mitigation, restoration and greenway.

Figure 2-6: Proposed Measures within the Masterplan Area

2.3.4 Amenity Development

In developing the Santry Riverpark, the Masterplan includes a measure for the development of guidelines for the construction of built components, or furniture, including signage, walkways, and water crossings in the public realm of the Santry Riverpark.

A landscape planting and maintenance program is to be developed for the Riverpark.

Improved accessibility and connectivity to allow better access to residential areas, schools, sport and amenity areas is also needed, and will supplement those created as part of the Greenway design.

The Masterplan includes reference to specific projects aimed at improving amenity including improved security and use of the M1/M50 underpass; and adventure/nature play areas at Coolock and Edenmore, adjacent to the river. Other actions and projects, outside the remit of the Masterplan include the Raheny Main Street Refurbishment and proposed residential redevelopment near the Riverpark.

2.4 Consultations Undertaken During Masterplan Development

DCC and FCC in collaboration with the Masterplan team, has led a series of consultations and outreach activities to inform, engage, and gather input from communities, residents, schools, and other stakeholders along the Santry River catchment as listed in the Scoping Report (refer to **Appendix 1**).

3 SEA METHODOLOGY

3.1 Introduction

This chapter describes the approach adopted in this SEA, and the consultation process.

In accordance with the EPA's SEA Land Use Recommendations Guidance (EPA, 2025), the Masterplan development team, worked closely with the environmental assessment team, in the development of the Masterplan, taking on recommendations to improve the environmental performance of the Masterplan and minimise or avoid negative effects. This ranged from discussions on wider policy context to spatial considerations in relation to sensitive receptors.

3.1.1 Determining the Scope of the SEA

The scope of the SEA is identified in the Scoping Report for the Masterplan. It provides an appraisal of relevant policies and plans that have a bearing on the context of the Masterplan.

The Scoping Report also contains an initial list of key environmental issues that were identified, and reasons for their inclusion within the scope for assessment. An objectives-led approach, as described in the DHLGH SEA guidance (Department of Housing, Local Government and Heritage (DHLGH), 2022), is the assessment methodology adopted. The Scoping Report identified SEA objectives for the assessment and indicators for monitoring the effectiveness of the Masterplan in achieving the SEA objectives.

3.1.2 Consultation

In accordance with Article 6 of the SEA Directive, the Scoping Report was issued to the following statutory consultees:

- Environmental Protection Agency (EPA)
- Department of Housing, Local Government and Heritage (DHLGH)
- Department of Agriculture, Food and the Marine (DAFM)
- Department of Department of Environment, Climate and Communications (DECC)

Non-statutory stakeholders relevant to and included in the SRRG Masterplan consultation process were:

- An Taisce
- Department of Transport, Tourism and Sport (DTTAS)
- Dublin City Council (DCC)
- Fingal City Council

- Inland Fisheries Ireland (IFI)
- National Transport Authority (NTA)
- Office of Public Works (OPW) including the Eastern CFRAM Project
- Bird Watch Ireland
- Local Residents Associations
- Local Amenity Groups
- Local Business Community
- The Heritage Council
- Transport Infrastructure Ireland (TII)
- Local Authorities Waters Programme Office

The Scoping Report was also made available online for the general public.

Table 3-1 provides a summary of the submissions received. The full submissions are included in **Appendix 2**.

Table 3-1: SEA Scoping Submissions Received

No.	Environmental Authority	Summary of Submission	Response
1	Environmental Protection Agency (EPA)	Scope of the SEA – clear scope should be set in the Plan. Where specific measures will be implemented directly, further detail should be implemented in the Environmental Report and on the relevant environmental assessments to be carried out at project stage and relevant mitigation measures to be applied, as appropriate. There may be merit in including a matrix in the SEA environmental report to show the interrelationships between the various topics. This should be accompanied by relevant explanatory text. Data & knowledge gaps – Plan should identify any significant data and knowledge gaps, including commitments to address these on a priority basis and where relevant, in association with other government departments/ organisations, during the implementation phase of the Plan Range of Effects - The SEA Environmental Report should refer to the full range of effects and of the area likely to be affected. This assessment should consider the duration and frequency of effects as well as short, medium and long-term, cumulative and synergistic effects of the Plan. Consultation - The SEA regulations require that the draft Masterplan is sent to the statutory environmental authorities inviting written submissions. Additionally, the Dublin City Council is required to publish a newspaper notice inviting submissions/observations from the public on both the Plan and the SEA environmental report. Submissions and	Scope of the SEA - The assessment identifies where project-level impacts are expected and highlights where project-level assessment and mitigation measures will need to be applied. A matrix showing interactive effects is included in Section 8.6. Data & knowledge gaps – Noted and communicated to the plan-maker. Range of effects - was considered in line with EPA Guidance, including the 2020 Good Practice Guidance on Cumulative Effects Assessment in Strategic Environmental Assessment. Refer to Chapter 8 for assessment of environmental effects including total and cumulative. Consultation – Consultation will be carried out in line with regulatory requirements.

No.	Environmental Authority	Summary of Submission	Response
		observations received should be taken into consideration in finalising the Plan. Monitoring, Implementation & Reporting - Article 10 of the SEA Directive (2001/42/EC) requires that the significant environmental effects of implementing a plan/programme (the Plan in this instance) are monitored in 4 order, inter alia, to identify at an early-stage unforeseen adverse effects and to be able to undertake appropriate remedial action. The SEA environmental report should include a description of the measures envisaged concerning monitoring. The Plan should include a commitment to implement SEA related environmental monitoring requirements and the associated reporting. There may be merits in aligning the periodic reviews of the Plan with existing cyclical reporting e.g. Ireland's Environment, National Planning Framework, Water Framework Directive, etc The SEA-related monitoring should address positive, negative and cumulative effects where they are likely to occur and should include provision for on-going review to facilitate an early response to any unforeseen environmental issues that may arise. The SEA Environmental Report should specify the monitoring frequency and responsibilities and include provisions for reporting on the monitoring. To avoid duplication in data collection, the same indicators should be used for the plan-related and SEA-related monitoring aspects where possible. SEA Statement - Following the completion of the public consultation on the SEA environmental report and the Plan, the final stages of the SEA process will be to integrate the environmental considerations of the SEA environmental	Monitoring, Implementation & Reporting – Section 9.1 provides a monitoring framework including a recommendation that the Masterplan should include a monitoring programme based on this framework. SEA Statement – Noted. This will be produced following consultation on the ER and any subsequent updates. Integration with other key Plans and Programmes – Project Ireland 2040 - Our Plan, the National Planning Framework (NPF), (draft revised NPD published in July 2024), and the National Development Plan (2018-2027) was referred to in the Appendix 1 table in the Scoping Report. CAP25 has been included. Available Guidance & Resources – Reference was made to the guidance documents and resources suggested, refer also to Section 1.1 for list of key guidance documents referred to.

No.	Environmental Authority	Summary of Submission	Response
		report into the Plan, as appropriate. In accordance with article 16 of the SEA Regulations Dublin City Council is required to publish a SEA Statement alongside the adopted Plan, summarising: how environmental considerations have been integrated into the Plan; how the environmental report and consultation comments on it have been taken into account; the reasons for choosing the Plan as adopted, in the light of the other reasonable alternatives dealt with (in the Environmental Report and the associated consultation); the measures decided concerning monitoring. <u>Integration with other key Plans and Programmes</u> - We recommend including schematics in the Plan and SEA Environmental Report, showing the links and key inter-relationships with other key relevant national, regional, sectoral and environmental plans. - The reference to the National Adaptation Framework 2018 should be updated to the updated National Planning Framework published in 2024. - Update the reference to the Climate Action to reflect the 2025 iteration <u>Available Guidance & Resources</u> - The EPA has published guidance notes that may be of assistance in preparing the SEA environmental report.	
2.	Department of Housing, Local Government and Heritage (DHLGH)	Ensuring the plan complies with the following legislation and plans: • The National Monuments Acts 1930 to 2014 • The Planning and Development Act 2000 and the Planning and Development Regulations 2001 • Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 • The Environmental Impact Assessment Directive	Relevant legislation and plans have been considered throughout the Masterplan and within the assessment. Archaeological heritage within the Santry area will be considered and the protection

No.	Environmental Authority	Summary of Submission	Response
		• International Conventions • National policy on protection of the archaeological heritage • Climate Change Sectoral Adaptation Plan for Built and Archaeological Heritage 2019 Concerning the Santry River Restoration and Greenway Masterplan SEA Scoping Report dated May 2025 which has now been forwarded to the Department, the Department is satisfied that if the approach set out in to assessing the potential environmental effects of the Masterplan, and in particular its possible effects on the biodiversity, is followed, the resultant SEA Report should contribute to an accurate evaluation of the potential effects of the proposed SRRG The Department previously submitted comments to the Council in November of last year in relation to a SEA Screening Report Background Document and Appropriate Assessment (AA) Screening Report. The topics commented on in these observations remain relevant to the SEA of the SRRG Masterplan. To summarise key points made at screening stage: - From a nature conservation perspective some of these elements, including measures to increase water quality and restore the course of the river to a more natural character would definitely be beneficial to local plant and animal communities and lead to an increase in biodiversity along the river corridor. But others, such as the provision of the Greenway and possibly certain recreational facilities are more problematic, in that they might result in the loss of some of the remnant flora and	of both terrestrial and underwater archaeological heritage will be incorporated into the Masterplan. All comments in relation to nature conservation and the subsequent need for derogation licences is noted. The Masterplan team regularly consult with the ecologist to ensure that measures proposed will not negatively impact ecological sensitive receptors, including brent geese. The SEA objectives in relation to cultural heritage were subsequently updated to reflect the recommendations presented by the DHLGH.

No.	Environmental Authority	Summary of Submission	Response
		fauna which has managed to survive along certain sections of the Santry River despite the massive development of its catchment and its course that has occurred in recent decades. Paradoxically also, some of the modified habitats now existing along the Santry River's course and especially the amenity grassland areas may now be more valuable from a conservation viewpoint in their altered state as ex situ foraging habitat for Special Conservation Interest (SCI) or Qualifying Interest (QI) bird species for nearby Special Protection Areas (SPAs) than if returned to a more natural condition supporting riparian herb, shrub or tree communities. - To maintain and enhance the biodiversity value of the Santry River corridor while at the same time providing a Greenway cycling route along it and other amenities, such as for instance sports pitches, will therefore need careful planning based on detailed and up to date surveys of the flora, fauna and habitats currently existing along the river corridor. To preserve the ecological value of the corridor it may in addition require some diversions of the presently preferred Greenway route away from the course of the Santry River and reduction in the width of the Greenway from what may be considered ideal or necessary from a strictly transport infrastructure design perspective. - Because of the potentially significant effects on flora, fauna and ecologically valuable habitats, both positive	

No.	Environmental Authority	Summary of Submission	Response
		and negative that may result from the implementation of the Santry River Restoration and Greenway Masterplan, as outlined above, the Department consequently agrees with the Screening Conclusion in the Strategic Environmental Assessment Screening Report Background Document that a Strategic Environmental Assessment (SEA) of this Masterplan is required. - The Department agrees with the conclusion of the AA Screening Report that the Masterplan will also need to be assessed at Stage 2 of the AA process. - In drawing up details of the Santry River Restoration and Greenway Masterplan consideration of what measures it will be necessary to incorporate in this plan to avoid any adverse effects on the brent geese will therefore have to take into account how such measures will conform with a wider strategy to be developed to cater for the utilisation by the brent geese of Dublin area parks and amenity areas for grazing. - Any works in the vicinity of otter breeding or resting places, will require a derogation licence from the National Parks and Wildlife Service (NPWS). The Department recommends that an otter conservation plan for the Santry River, based on surveys of the entire length of the river corridor undertaken by otter specialists, should be prepared in parallel with the	

No.	Environmental Authority	Summary of Submission	Response
		drawing up of the detailed plans for the Santry River Restoration and Greenway Project. - Any interference with bat roosts in the course of works will also require a derogation licence from the Habitat Directive to be obtained from National Parks and Wildlife Service. Surveys of the Santry River corridor by bat specialists carried out at the appropriate period of the year from May to August when bats are most active should therefore be undertaken as soon as possible to give a clear picture of the distribution of bats along the river and identify any bats roosts present which may have to be taken into account when drawing up the detailed plans for the various elements of the project and particularly the lighting of the proposed Greenway. In order to minimise its effects on bats it is recommended that all lighting on the Greenway (where necessary) should be movement activated for the period between 8 PM to 8 AM all the year round similar to the lighting regime in operation on the Dodder Greenway in the Firhouse area under the control of South Dublin County Council, and which the Department understands Fingal County Council intends to modify the lighting already installed on the Royal Canal Greenway from Ashtown to Blanchardstown to conform to. - A section of the Santry River runs through Santry Demesne, parts of which are within the Santry Demense proposed Natural Heritage Area (pNHA). A derogation	

No.	Environmental Authority	Summary of Submission	Response
		licence will be required for any works in the vicinity of Hairy St-John's Wort. The Department advised for the inclusion of specific objectives for the protection of archaeological heritage: It is advised, the following alternate wording be considered, to provide greater clarity and depth: i. To contribute towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context, both terrestrial and underwater ii. To promote opportunities to enhance or conserve places, features, buildings and landscapes of cultural, historical archaeological or architectural heritage where they arise Also ensuring underwater archaeology is taken into consideration.	
3	Inland Fisheries Ireland (IFI)	The IFI's response suggests the following to be implemented into the design of the Masterplan: • Existing barriers to fish migration (e.g., culverts, weirs) should be identified and evaluated, with the SEA considering options for removal or mitigation (e.g., fish-friendly culverts, bypass channels). • Riparian Buffers – including riparian vegetation/planting	A meeting was held with IFI to discuss how to implement the suggestions listed in the scoping response into the design of the Masterplan.

No.	Environmental Authority	Summary of Submission	Response
		which includes native trees, shrubs, and herbaceous vegetation to recreate natural shading patterns. • Soft engineering – bank protection using tree logs, natural water retention and restoring natural river processes. • Daylighting/deculverting of the river is also considered a natural method of flood management which IFI would fully support. • NBS such as road drainage and constructed wetlands and swales to be implemented where appropriate for surface water disposal solutions. • Wildlife corridor systems and assessing/implementing the riparian buffer zones suitable for the Santry River – Guidance (https://www.fisheriesireland.ie/extranet/fisheries-management-1/1762-ifi-urban-watercourses-planning-guide-1/file.html)	
4	Transport Infrastructure Ireland (TII)	Consultation with Local authority (LA) to ensure adequate traffic management of the existing national road network and travel planning/mobility management planning Adhere to TII publications during the design of the project and when various assessments are being carried out such as Road Safety Audit and Traffic and Transport Assessment, Construction and Environmental Management Plan (CEMP). TII have highlighted the importance of construction management including the identification of routes proposed and checking the capacities of the haul routes for abnormal loads associated with the project. Consultation with relevant local authorities and contractors as required.	TII publications will be considered during the design and all required reporting and assessments will be carried out during the implementation of the Masterplan.

3.1.3 Assessment Process

Stage 3 of the SEA process relates to the preparation of an ER (this Report). The ER identifies:

a) potential environmental effects that could result from the implementation of the specific objectives of the Masterplan;

b) various mitigation strategies that could be used to minimise or negate the effects of the implementation of the Masterplan objectives and actions to enhance positive impacts; and

c) a number of future areas or activities for which further environmental assessments may be required before and during the implementation of the Masterplan.

3.1.4 Alternatives

The SEA Directive requires the assessment to identify the likely significant effects on the environment of implementing the plan or programme, as well as considering reasonable alternatives, taking into account the objectives and the geographical scope of the plan or programme. **Chapter 7** provides an assessment of alternatives considered when developing the Masterplan.

3.1.4.1 ER Consultation

Further to the SEA Scoping consultation outlined in **Section 3.1.2**, this ER will be issued to the relevant statutory stakeholders for comment, alongside the Masterplan. It is a formal requirement of the SEA Directive that all consultation submissions received must be considered and the Masterplan amended, if deemed necessary.

Following consultation, any required amendments to the Masterplan will be screened in order to identify significant environmental effects that are not already addressed under **Chapter 8.3** of this ER, and this ER will be updated accordingly. Where such additional significant effects arise, additional mitigation measures will be developed, if needed.

3.1.5 SEA Statement

The SEA statement will be produced once consultation has been carried out. The SEA statement summarises how environmental considerations have been integrated into the Masterplan. It also summarises how the consultation submissions were considered and if these resulted in any amendments to the Masterplan.

3.1.6 Appropriate Assessment

An AA Screening Report and subsequently a stage 2 Natura Impact Statement (NIS) were prepared for the Masterplan and was used as a reference document in the preparation of this ER. **Appendix 3** presents the AA Screening Report and NIS.

4 REVIEW OF RELEVANT PLANS AND PROGRAMMES

This Section provides information on the strategic context of the Masterplan at international, national, regional and local levels, including consideration of planning strategy for the area and environmental policy. **Table 4-1** provides a list of relevant legislation and policies appliable to the Masterplan area. The Scoping Report included a detailed appraisal of the key policies, plans and programmes, relevant to the context of the Masterplan. The Scoping Report is included in **Appendix 1** to this ER.

Table 4-1: Key Plans, Programmes and Legislation Relevant to the Masterplan Area

Level	Plan / Programme / Legislation
International and European	The Ambient Air Quality and Cleaner Air for Europe Directive (2008/50/EC) Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979) Birds Directive [2009/147/EC] A Blueprint to Safeguard Europe's Water Resources Convention on Biological Diversity, 1992 Drinking Water Directive (98/83/EC) EIA Directive (2011/92/EU as amended by 2014/52/EU) Environmental Liability Directive [2004/35/EC] Environmental Noise Directive [2002/49/EC] Environmental Quality Standards Directive [2008/105/EC] EU Biodiversity Strategy for 2030 EU Climate and Energy Framework, 2030 EU Floods Directive [2007/60/EC] EU Pollinators Initiative EU Soil Strategy, 2030 European Landscape Convention (ELC) The European Green Deal (a Commission priority 2019-2024): Striving to be the first climate -neutral continent Groundwater Directive (2006/118/EC) Habitats Directive [92/43/EEC] Kumming-Montreal Global Biodiversity Framework, 2022 Marine Strategy Framework Directive [2008/56/EC] Nitrates Directive (91/676/EC)

Level	Plan / Programme / Legislation
	SEA Directive [2001/42/EC] Second European Climate Change Programme [ECCP II] 2005 Waste Framework Directive [2008/98/EC] Water Framework Directive [2000/60/EC] UN 2030 Sustainable Development Agenda UN Framework Convention on Climate Change (1992)
National	Adaption Planning, Developing Resilience to Climate Change in the Irish Transport Sector (DTTAS, 2017) Architectural Heritage Protection – Guidelines for Planning Authorities (DAHG, 2011) National Planning Framework (2024) 4th National Biodiversity Plan 2023 - 2030 (DAHRRGA, 2024) National Planning Framework 2040 River Basin Management Plan 2022 - 2027 European Communities (Birds and Natural Habitats) Regulations 2011 to 2015 Flora (Protection) Order, 2022, S.I. No. 235/2022 Marine Strategy Framework Directive, Programme of Measures (SEAS, 2015) Heritage Ireland 2030 (DHLGH, 2020) National Landscape Strategy for Ireland 2015 – 2025 (DAHG, 2015) National Mitigation Plan for Climate Change, 2017 National Monuments Acts (1930 to 2004) (S.I. No. 2 of 1930 & No. 22 of 2004) National Spatial Strategy for Ireland 2002-2020 (DEHLG, 2002) Clean Air Strategy for Ireland (DCCAE, 2023) Wildlife Acts 1976 as amended Environmental Noise Regulations 2006 National Development Plan 2021-2030 Project Ireland 2040 - Our Plan, the National Planning Framework (NPF), (draft revised NPD published in July 2024) Climate Action Plan 2025 The Sustainable Development Goals National Implementation Plan (2022 – 2024)

Level	Plan / Programme / Legislation
	Sustainable Development: A Strategy for Ireland (1997) National Sustainable Mobility Policy (2022) Strategy for the Future Development of National and Regional Greenways (2018) National Cycle Network Plan, 2023 Flood Risk Management Plans arising from National Catchment Flood Risk Assessment and Management Programme Healthy Ireland Strategic Action Plan 2021-2025
Regional	Dublin County Development Plan (2022 -2028) Fingal County Development Plan (2023 – 2029) Regional Spatial and Economic Strategy (RSES, 2019-2031) for Eastern and Midland Regional Assembly (EMRA) NTA Transport Strategy for the Greater Dublin Area 2022 – 2042 Greater Dublin Area Cycle Network Plan (2013) Dublin City Biodiversity Action Plan 2021-2025 Fingal Biodiversity Action Plan 2023-2030 Fingal Climate Action Plan 2024-2029 (CAP) Dublin City Council Climate Action Plan 2024 – 2029 (CAP) Fingal Heritage Plan 2024-2030 Dublin City Strategic Heritage Plan 2022-2028

5 ENVIRONMENTAL BASELINE

5.1 Introduction

An understanding of the environment of the areas covered by the SEA is essential for conducting a robust assessment. It is therefore necessary to establish the environmental baseline relevant to the Masterplan, providing a snapshot of the existing state of the environment and a description of the likely future trends (based on past trends) without the programme being in place.

The data replicated here were collated from several sources, including area-specific ecological surveys and existing data. The description provided below is essentially a broad-brush[1] "State of the Environment" review of Dublin, and where possible with a focus on the Masterplan area concentrating on the main environmental issues.

5.2 Biodiversity

This section provides information on key ecological sensitivities of the Masterplan area and surroundings. These include:

- International and European designated sites including coastal areas, marine and transitional waters
- Protected, Red-Listed Flora and Fauna species
- Invasive Species

RAMSAR sites are wetlands of international importance designated under the RAMSAR Convention, an international treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. A RAMSAR site is located within the vicinity of the Masterplan, where the River Santry discharges into the North Bull Island Transitional Waters, namely: North Bull Island (Site code 406). The location of the RAMSAR sites are shown in **Figure 5-2.**

5.2.1 UNESCO Dublin Bay Biosphere

The biosphere reserve designation is an international conservation designation given by United Nations Education, Scientific and Cultural Organisation (UNESCO) under its Programme on Man and the Biosphere (MAB). Reserves are designated to promote and demonstrate a balanced relationship between humans and the biosphere. North Bull Island is a designated biosphere.

Dublin Bay was initially recognised by UNESCO for its rare and Internationally Important habitats and species of wildlife. North Bull Island supports a variety of plants and wildlife including an internationally significant population of light bellied brent geese that

[1] This broad-brush review does not purport to be a complete treatise of environmental data available for the Dublin but aims solely to give an overview of the main environmental issues and trends applicable to the sector under review in this SEA. Hence, there may be documents, papers, or reports that are not referenced or referred to in this Environmental Report; this does not in any way devalue the content of this environmental baseline.

overwinters in the bay. UNESCO's concept of a Biosphere has evolved to include not just areas of ecological value but also the areas around them and the communities that live and work within these areas. The Dublin Bay Biosphere now extends to over 300km^2 of marine and terrestrial habitat encompassing North Bull Island and other ecologically significant habitats.

The Masterplan Area is within the transition and buffer zones of the Dublin Bay Biosphere. **Figure 5-1** shows the zones of the Biosphere. The Biosphere is divided into three zones: the core zone, buffer zone, and transition zone. The core zone consists of protected areas managed for conservation of biodiversity and landscapes. It includes the Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) at North Bull Island, the Tolka Estuary, North Dublin Bay and South Dublin Bay, among others. The buffer zone is managed to support the core zone. It includes public and private green spaces such as the Santry Park and St. Anne's Park. Scientific research, monitoring, training, education and other environmentally sustainable activities are encouraged here. The transition zone is the outer part of the Biosphere. Sustainable social and economic development is strongly promoted here. It includes residential neighbourhoods, harbours, ports and industrial and commercial areas.

While the Biosphere designation does not strictly add any specific new legal protection, it greatly enhances the many legal protections that already exist by improving the co-ordination and management of the three functions in a holistic and integrated way.

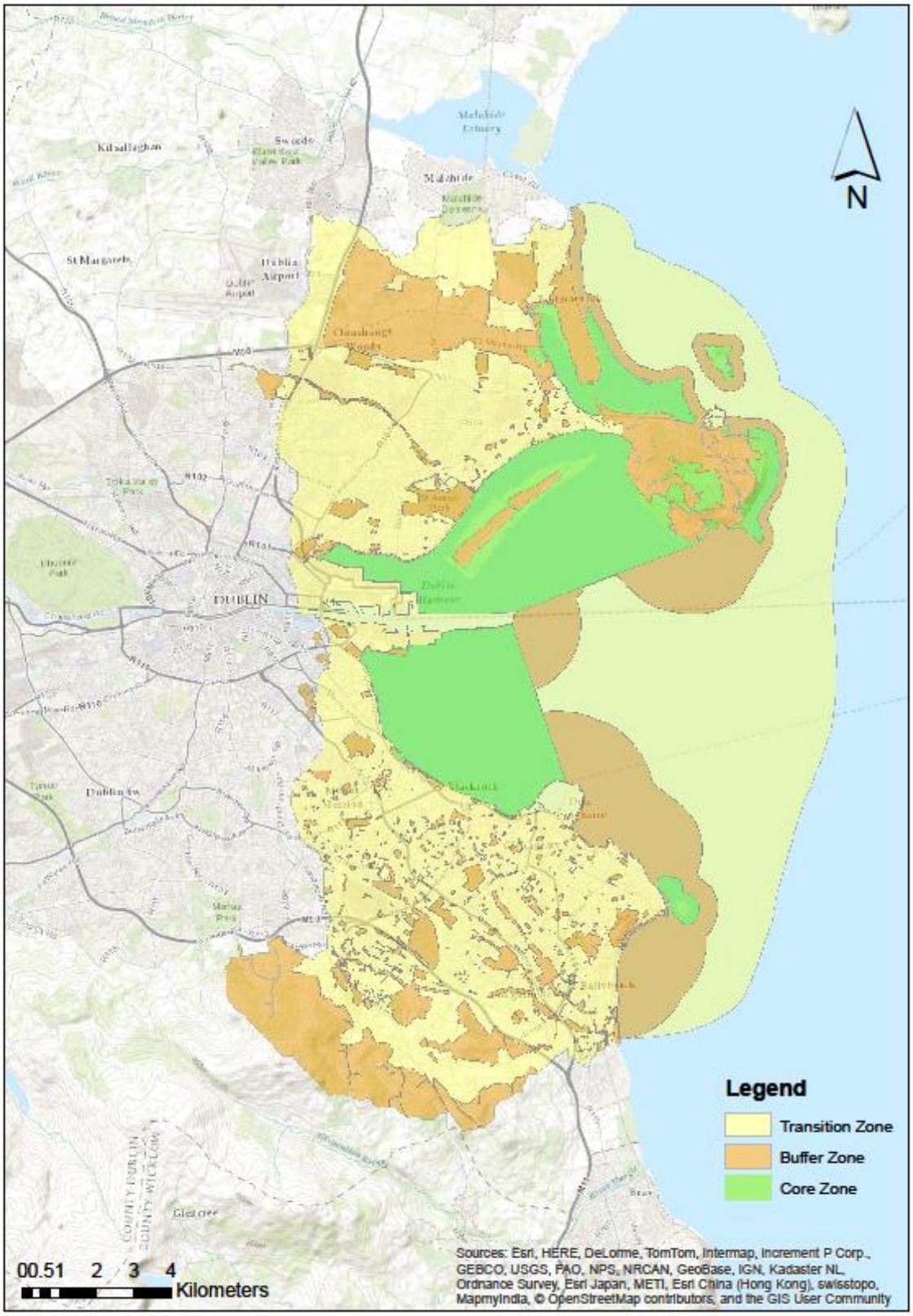

Figure 5-1: Dublin Bay Biosphere Zoning Map

5.2.2 RAMSAR Sites and Nature Reserve Sites

RAMSAR sites are wetlands of international importance designated under the RAMSAR Convention, an international treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. A RAMSAR site is located within the vicinity of the Masterplan, where the River Santry discharges into the North Bull Island Transitional Waters, namely: North Bull Island (Site code 406). The location of the RAMSAR sites are shown in **Figure 5-2**.

5.2.3 European Sites

There are no European sites along the main channel of the Santry River. However, the end of the river meets coastal waters on the western side of North Bull Island, within two European sites: the North Dublin Bay SAC (Site Code: 000206) and North Bull Island SPA (Site Code: 004006). The locations of these sites are shown in **Figure 5-2** and their qualifying interests are listed in **Table 5-1**.

The standard conservation objective for all SACs and SPAs in Ireland is "*to maintain or restore the favourable conservation condition of the qualifying interests for which the SAC / SPA has been selected*".

Table 5-1: European sites relevant to the Masterplan area

European site name	Distance from Masterplan area	Qualifying Interests
North Dublin Bay SAC (site code 206)	Partial overlap	**Annex I habitats:** inter-tidal mudflats / sandflats (including patches of *Salicornia* and other annuals), Spartina swards, salt marshes, annual vegetation of drift lines, embryonic shifting dunes, white dunes, grey dunes, dune slacks **Annex II species:** Petalwort (*Petalophyllum ralfsii)*
North Bull Island SPA (4006)	Partial overlap	**Habitats:** coastal wetlands **Special conservation interests:** light-bellied brent goose, shelduck, teal, pintail, shoveler, oystercatcher, golden plover, knot, sanderling, dunlin, black-tailed godwit, bar-tailed godwit, curlew, redshank, turnstone, black-headed gull (all are over-wintering populations)
South Dublin Bay and River Tolka Estuary SPA (4024)	2 km south	**Key habitats**: coastal wetlands **Special conservation interests**: light-bellied brent goose, oystercatcher, ringed plover, grey plover, knot, sanderling, dunlin, bar-tailed godwit, redshank, black-headed gull (wintering populations), arctic tern, roseate tern (passage), and common tern (breeding and passage)
Baldoyle Bay SAC (199)	2.6 km north-east	**Annex I habitats**: mudflats / sandflats, Salicornia muds, salt marshes **Annex II species**: none
Baldoyle Bay SPA (4016)	2.6 km north-east	**Key habitats**: coastal wetlands

European site name	Distance from Masterplan area	Qualifying Interests
		Special conservation interests: wintering populations of light-bellied brent goose, shelduck, ringed plover, golden plover, grey plover, bar-tailed godwit
North-west Irish Sea SPA (4236)	3.3 km south-east and 4.2 km north-east	**Key habitats:** off-shore waters **Special conservation interests:** 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
South Dublin Bay SAC (210)	3.6 km south	**Annex I habitats**: inter-tidal mudflats / sandflats **Annex II species**: none
Howth Head SAC (site code 202)	4.3 km east	**Annex I habitats**: vegetated sea cliffs, dry heath **Annex II species**: none
Rockabill to Dalkey Island SAC (3000)	4.9 km east	**Annex I habitats**: reefs **Annex II species**: harbour porpoise
Malahide Estuary SPA (4025)	6.1 km north	**Key habitats**: intertidal / coastal wetlands **Special conservation interests**: Great Crested Grebe, Light-bellied brent goose, Shelduck, Pintail, Goldeneye, Red-breasted Merganser, Oystercatcher, Golden Plover, Grey Plover, Knot, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Redshank

European site name	Distance from Masterplan area	Qualifying Interests
Malahide Estuary SAC (205)	6.1 km north	**Annex I Habitats**: Mudflats and sandflats not covered by seawater at low tide, Salicornia and other annuals colonising mud and sand, Atlantic salt meadows, Mediterranean salt meadows, Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes), Fixed coastal dunes with herbaceous vegetation **Annex II Species**: none
Ireland's Eye SPA (4177)	6.9 km north-east	**Key habitats:** island with coastal cliffs **Special conservation interests:** cormorant, herring gull, kittiwake, guillemot, razorbill
Ireland's Eye SAC (2193)	7.1 km north-east	**Habitats:** island with coastal cliffs **Special conservation interests:** cormorant, herring gull, kittiwake, guillemot, razorbill
Howth Head Coast SPA (4113)	7.1 km east	**Key habitats:** coastal cliffs **Special conservation interests**: kittiwake

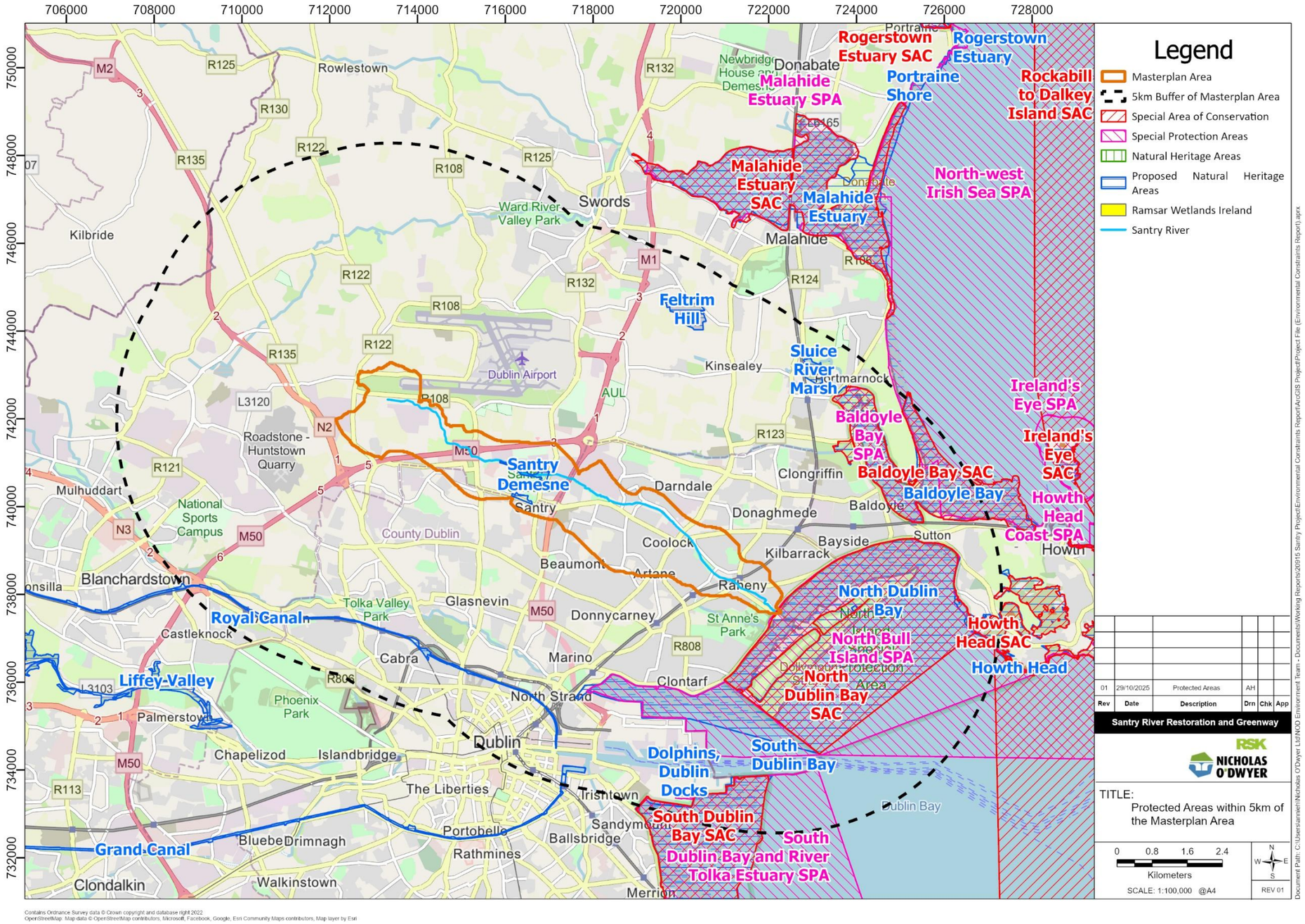

Figure 5-2: Protected Areas within 5km of the Masterplan Area

5.2.4 Natural Heritage Areas (NHAs) and Proposed Natural Heritage Areas (pNHAs)

Sites of regional or national importance are designated as Natural Heritage Areas (NHAs) and protected under the Wildlife (Amendment) Act 2000 (as amended). The Masterplan area overlaps with two proposed NHAs (pNHAs): the Santry Demesne pNHA and North Dublin Bay pNHA. Their locations are shown in **Figure 5-2.**

The National Parks and Wildlife Service has published a site synopsis for the Santry Demesne pNHA, as follows:

> "*The site comprises the remnants of a former demesne woodland. The remaining woods are of generally good quality and include Beech (Fagus sylvatica), Wych Elm (Ulmus glabra), Ash (Fraxinus excelsior), Sycamore (Acer pseudoplatanus), Hawthorn (Crataegus monogyna) and Scots Pine (Pinus sylvatica).*
>
> *A wide range of herbaceous species were recorded from this woodland, including Wood Speedwell (Veronica montana), Sanicle (Sanicula europaea), Ramsons (Allium ursinum), Early Dog-violet (Viola reichenbachiana), Goldilocks Buttercup (Ranunculus auricomus), Giant Fescue (Festuca gigantea) and False Brome (Brachypodium sylvaticum).*
>
> *A species legally protected under the Flora Protection Order 1987, Hairy St. John's wort (Hypericum hirsutum), was recorded here in 1991. This downy-leaved perennial of riverbanks and shady places has been recorded from only five counties in eastern Ireland, concentrated in the River Liffey valley.*
>
> *The primary importance of this site is that it contains a legally protected plant species. The woodland, however, is of general ecological interest as it occurs in an area where little has survived of the original vegetation."*

The North Dublin Bay pNHA covers an almost identical area to the North Dublin Bay SAC. The NPWS has not published a site synopsis for this pNHA.

5.2.5 Habitats and Flora

Habitats within the Masterplan area were classified using the Fossitt habitat classification system (Fossitt, 2000). Defined habitat types are underlined, and the corresponding alphanumerical codes are provided in parentheses.

5.2.5.1 Phase 1 habitat survey

The information provided in this section shows data gathered from Phase 1 habitat and ecological surveys within the Masterplan over a period of time from 2020 to 2023.

Lowland Watercourse (FW2)

The Santry River is a lowland river that flows through the northern suburbs of Dublin City. The river channel is approximately 1 - 2m wide in the upper section of its course in reach 1 (e.g., upstream of Santry Park), and 3 – 4m wide in lower sections near Coolock and

Raheny in reaches 4 and 5. It also widens at the on-line ponds at Santry Park and Stardust Park (refer to artificial lakes and ponds below), and around some of the culverts and weirs. Depth ranges from 0.2 – 0.3m during periods of low flow to 0.5 – 1m during periods of high flow. Unmodified sections of the river have a substrate of sand and gravel, with occasional cobbles, and some patches of fine silt in slow flowing sections. No benthic or floating vegetation was observed during the survey, although it was often difficult to observe benthic growth due to the turbidity of the water.

There are only a small number of urban watercourses in the north of Dublin City, and the river has secondary value as an ecological corridor and a habitat for fauna, so it is considered to be of County ecological importance. The watercourse is currently in poor condition, but it is intended that the Masterplan will significantly improve it.

Artificial Lakes (FL8)

There are two man-made lakes, one at Santry Park and another at Stardust Park. Both were created by widening and deepening the river channel, and thus are referred to as 'on-line' lakes. Both are fringed by tall-herb swamps (FS2) and wet willow-alder-ash woodland (WN6), which are described below as part of the artificial lakes.

The lake at Santry Park was surveyed as part of the Ecological Study of Santry Demesne (O'Neill *et al*, 2020). The lake is approximately 1.5ha in surface area, including a wooded island in its centre. Species in fringing tall-herb swamps included: yellow water-lily *Nuphar lutea*, yellow iris *Iris pseudacorus*, water-starwort *Callitriche sp*, water mint *Mentha aquatica*, greater pond-sedge *Carex riparia* and bittersweet *Solanum dulcamara*. There is wet willow-alder-ash woodland on the island and around the north-western end of the pond, dominated by grey willow *Salix cinerea*, crack-willow *Salix fragilis* and alder *Alnus glutinosa*.

NM Ecology Ltd conducted a survey of the lake at Stardust Park as part of a Preliminary Ecological Appraisal (PEA) of the Masterplan area (NM Ecology, 2023). It is approximately 0.2ha in surface area, including a wooded island in its centre. Species in fringing tall-herb swamps include: bulrush *Typha latifolia*, fool's water-cress *Apium nodiflorum*, hard rush *Juncus inflexus*, reed canary-grass *Phalaris arundinacea* and greater pond-sedge. The island supports a small patch of wet willow-alder-ash woodland, dominated by alder *Alnus glutinosa* and willows *Salix spp*. Invasive red-osier dogwood *Cornus sericea* forms a dense thicket on the island and in some patches around the margins of the lake.

There are relatively few ponds in Dublin City, particularly those with mature woodland and tall-herb swamps such as at Santry Park and Stardust Park. These on-line lakes also have secondary value as a habitat for fauna, particularly waterfowl. In this context, they are considered to be of County importance.

Woodland habitats

Many sections of the river are lined by woodland. This typically occurs in a linear corridor along the banks of the river, either as a single line of trees, a linear 10 – 20 m strip of woodland, or occasionally as a large expanse of woodland (e.g., at Santry Park). Under

the Fossitt classification (Fossitt, 2000), these habitats technically cover three categories: mixed-broadleaved woodland (WD1), treelines (WL2) and riparian woodland (WN5). However, as all are of similar character and form a habitat mosaic, they are considered here in combination. Detailed habitat surveys will be required to accurately map the distribution of each habitat.

Dry meadow (GS2)

This habitat refers to areas of grassland that are infrequently (or never) mowed. It is often found in a strip of 5 – 20 m width along one or both banks of the river, adjoining amenity grassland that is regularly mowed during summer months. Particularly extensive patches of dry meadow are found between Coolock and Raheny.

This habitat is relatively species poor, however, it provides food and shelter for a range of fauna, so it is considered to be of Local importance.

Amenity grassland (GA2) / Scattered trees and parkland (WD5)

Patches of amenity grassland are found at a number of locations along the river corridor, including Santry Park, Stardust Park, Silloge Park Golf Course and playing fields at Kilmore West, Harmonstown / Edenmore. The key difference from the dry meadows described above is that amenity grassland is mowed regularly, which limits the height of vegetation and prevents the establishment of coarse grasses and herbaceous species. The grassland is dominated by perennial rye-grass *Lolium perenne*, with frequent daisy *Bellis perennis*, dandelion *Taraxacum officinale ag*., creeping buttercup, common bent *Agrostis capillaris* and annual meadow-grass *Poa annua*. All vegetation is kept at a low height by regular mowing during summer months.

Some of these habitats have occasional planted trees, and thus would be classified as scattered trees and parkland (WD5). This is particularly notable in public areas such as Stardust Park.

5.2.5.2 Rare or protected flora

Hairy St John's-wort *Hypericum hirsutum* is listed as the primary reason for the designation of the Santry Demesne pNHA, based on a record from 1991. This species is listed on the Flora (Protection) Order 2022; under Section 21 of the Wildlife Act 1976 (as amended) it is an offence to cut, pick, uproot or otherwise take any specimen, or to wilfully alter, damage, destroy or interfere with its habitat or environment.

A search for this species was carried out in 2020 throughout Santry Park (O'Neill *et al*, 2020) but none were found. Therefore, it is no longer considered to exist within the Masterplan Area. No other rare or protected plants were encountered.

5.2.6 Invasive plant species

A survey of invasive species along the Santry River within the Dublin City Council administrative area (between the M50 and the coast) was carried out in 2021 (INVAS Biosecurity, 2021).

INVAS Biosecurity recorded three species listed in Schedule 3 of the regulations: Japanese knotweed *Fallopia japonica*, giant hogweed *Heracleum mantegazzianum* and giant rhubarb *Gunnera tinctoria*. They suggested the likely presence of a fourth species – three-cornered leek *Allium triquetrum* – in the vicinity of Raheny village but noted that it is a spring-flowering species that would not have been present at the time the survey was carried out.

An additional Schedule 3 species that was not considered in the INVAS Biosecurity Report is Spanish bluebell *Hyacinthoides hispanica*, which is also a spring-flowering species that would not have been present at the time the survey was carried out. It is known to occur in the vicinity of Raheny.

Giant hogweed is the most widespread Schedule 3 species, occurring sporadically between Coolock and the coast. Notable infestations were recorded near Watermill Apartments, Manor House School, Raheny Shopping Centre and Springdale National School. It spreads primarily by seed, so it may have spread since the INVAS survey was carried out in 2021.

Japanese knotweed was recorded at three locations between Raheny village and the coast: at Watermill Apartments, and on both banks of the river adjacent to Manor House School. This species spreads by fragmentation rather than seed, so it is only likely to have spread since 2021 if the previously recorded locations have been disturbed.

Giant rhubarb was recorded at two locations in Stardust Park, both of which were planted for ornamental reasons. This species is highly invasive near the west coast of Ireland but is not invasive at inland sites or near the east coast. Therefore, it is highly unlikely that this species will spread from the areas in which it was planted.

The INVAS survey in 2021 was undertaken outside the growing season for three-cornered leek and Spanish bluebell. During a walkover survey by NM Ecology (NM Ecology, 2023), three-cornered leek was observed to be widespread around Raheny, and occasional downstream to the coast. Some scattered Spanish bluebell plants were also observed in the centre of Raheny and in the section upstream of Harmonstown Road. Neither species was recorded upstream of St Malachy's playing fields.

5.2.6.1 Other invasive species not subject to legal restrictions

Other species recorded by INVAS Biosecurity in their 2021 survey effort are listed in **Table 5-2.**

Table 5-2: Other invasive species present in the Masterplan area. Adapted from the report by INVAS Biosecurity

Species	Location
Winter heliotrope *Petasites fragrans*	Clonshaugh Road to James Larkin Road
Buddleja *Buddleja davidii*	Widespread
Old man's beard *Clematis vitalba*	Watermill Apartments and James Larkin Road
Cherry laurel *Prunus laurocerasus*	Widespread, particularly around the M50, and between Coolock and the coast
Montbretia *Crocosmia x crocosmiiflora*	Raheny Village and Manor House School
Russian vine *Fallopia baldschuanica*	Manor House School and James Larkin Road
Pheasant berry *Lycesteria formosa*	Springdale Road, Howth Road and Watermill Road
Bamboo *Sasa palmata*	Watermill Apartments

5.2.7 Mammals

5.2.7.1 Bats

Previous bat surveys within the Masterplan Area were carried out within Santry Park in June and August 2020 as part of the Ecological study of Santry Demesne (O'Neill *et al*, 2020). The survey results were reported as follows:

"*Four bat species were recorded: common pipistrelles, soprano pipistrelles, Leisler's bats and brown long-eared bats. Common pipistrelles and soprano pipistrelles were the most abundant species, while* Leisler's *bats were present in relatively low numbers. Only a single brown long-eared bat was detected, but it is likely that the abundance of this species was underestimated, as it has weak echolocation calls. All four species are common and widespread throughout Ireland, and represent a typical species assemblage for a suburban park.*

No Daubenton's bats were recorded, probably due to the relatively small size of the watercourse. Other Myotis species (e.g. Natterer's bat) might be expected in similar habitat in rural areas, but these species *are highly sensitive to artificial light, so the urban setting of the Santry Demesne would be unsuitable.*

The key feeding areas for bats were the walled garden, the riparian woodland between the walled garden and the Crowne Plaza Hotel, and the pond / lake in the north-eastern corner of the site. These results are broadly consistent with previous surveys carried out by Brian

Keeley in 2006. Surprisingly, no bats were recorded in the south of the demesne, and only a single bat was recorded along the path leading to the Old Ballymun Road.

A day roost of a single common pipistrelle bat was recorded in a mature tree in the east of the site, and there are a number of other mature trees throughout the demesne that have high suitability for roosting bats. Some old bat boxes were observed, but unfortunately they could not be inspected as part of this assessment. The demesne appears to provide a range of roosting opportunities, and it is highly likely that other roosts are present, including maternity and hibernation roosts."

Also, Dublin Bat Group carried out walked transects along a section between Clonshaugh Road and Malahide Road in August and September 2018. The survey results were reported as follows:

"*Due to the surrounding street lights, limited green space, the proximity to housing estates and high level of human activity, the surveyors did not expect to encounter a high level of bat activity* within *the parl. This was the case along the section of the Santry River between Clonshaugh Road and Barryscourt Road where no bat activity was recorded. Treelines and hedgerows along the river provide some areas of moderate habitat quality for foraging bats, while treelines in the park also provide foraging and potential resting habitat for bats.*

During the first survey there was a high level of Pipistrelle activity in the Stardust Memorial Park. Only one species of bat was recorded during both nights of surveying, the common pipistrelle (Pipistrellus pipistrellus). No other species was recorded during the surveys. The common pipistrelle is more tolerant of street lighting than other Irish bat species. A high level of foraging activity was recorded within the park grounds for this species and it is likely that they were foraging along the treelines and over the pond.

The number of bats present at the time couldn't be confirmed as the surveyors were in complete darkness*. Hot spots of activity include the eastern section of the park, by the pond and adjacent treelines. Seven separate recordings of common pipistrelles were made within the park grounds. Common pipistrelles were also recorded foraging along the treeline at Greencastle Road, although they were located closer to the Santry River and could not been observed from the road.*

There was far *less activity recorded on the second survey with just two Common Pipistrelles being recorded in the Stardust Memorial Park.*

The river at this section is not considered to provide suitable foraging habitat for Daubenton's bat (Myotis daubentonii) due to its narrow nature, and although the man-made pond in the park centre has potential to support foraging Daubenton's bats the surrounding habitat *and lighting is likely to deter this species from using the site. This species is less tolerant of artificial lighting than other bat species such as the common pipistrelle*."

Potential roost sites

There are no buildings in the footprint of the Project. All culverts and bridges observed in May 2023 were pre-cast concrete structures that have no crevices or cavities suitable for

roosting bats. There are a large number of trees within the Study Area, but none were observed to have crevices or cavities suitable for roosting bats. Therefore, the Study Area is considered to have negligible suitability for roosting bats.

5.2.7.2 Badger

Badger, and their breeding and resting places, are legally protected under the Wildlife Acts. During a walkover survey in May 2023 a large badger sett was encountered in a patch of mature woodland opposite The Watermill apartments in Raheny. The sett had three entrances with very large spoil heaps and clear signs of activity at the entrances. It is almost certain to be a 'main sett', i.e. occupied throughout the year and used for breeding purposes.

In addition, badger surveys of Santry Park were carried out in 2020 as part of the Ecological study of Santry Demesne (O'Neill *et al*, 2020). The following was noted:

"*No active Badger setts were found within Santry Demesne, though an abandoned sett was recorded within the linear woodland that runs along the Santry River in the west of the site. The sett entrances were mostly along tracks through the woodland created by humans. Badgers have been recorded as road kill on the M50 north of Santry Demesne, and also along the M1 to the east, in the period 2012-2015 (NBDC, 2020a).*"

No badger setts or other field signs were recorded anywhere else within the Study Area. However, the survey was not carried out during the ideal survey period (typically winter and early spring), so a survey of the entire Study Area is required.

5.2.7.3 Otter

Otter, and their breeding and resting places, are legally protected under the Wildlife Acts. Otters are also listed on Annex II and Annex IV of the Habitats Directive. No evidence of otter activity (i.e. sprainting posts), holts or couch sites were recorded during the multidisciplinary surveys carried out along the Masterplan.

No signs of otters were recorded during the additional survey in May 2023. However, the survey was not carried out during the ideal survey period for otters (typically winter and early spring). It will be necessary to re-survey the river during the recommended period.

Previous studies in the Santry River corridor provide signs of otters, and these are discussed below.

Dublin City Council commissioned an otter survey of all major watercourses within the DCC administrative area in 2019, in a project titled Dublin City Otter Survey (Macklin *et al*. 2019). It was carried out by Triturus Environmental, and involved an appraisal of habitat suitability for otters, as well as a search for field signs, particularly their holts (underground breeding / resting places), spraints (characteristic faecal matter, often used for territorial marking), slides (sloping areas used to enter and exit a river) and other field signs.

The results of the otter survey showed that otter signs were recorded along approx. 6.1km of surveyed River Santry channel, corresponding to 0.98 signs per kilometre of river. It is important to note that the Dublin City Otter Survey only considered the Santry River within Dublin City Council's administrative area, which is between the M50 motorway and the coast. The section of Santry River within Fingal County Council's administrative area was not surveyed.

The surveys were carried out between April 2018 and April 2019, so they are now considered out of date. An updated survey will be required in order to update the baseline information. Otter surveys can be carried out at any time of year, but are most effective in winter and early spring when most ground vegetation has died back.

DCC commissioned Triturus Environmental Ltd. in 2021 to carry out further baseline otter (*Lutra lutra*) surveys for the Santry River Restoration Project. The survey area for Otter included the entire 11.3 km length of River Santry which took the Fingal County Councils administrative area into account. The survey was carried out between February and March 2021. Otter holts were located along the upper reaches of the River Santry namely in the Santry Demesne Park and further downstream along the section of the River just South of the Clonshaugh Business and Technology Park.

National surveys of otters have been carried out by different organisations in recent decades, including the Vincent Wildlife Trust (Chapman & Chapman, 1982), Trinity College Dublin (Bailey & Rochford 2006) and Queens University Belfast (Reid et al. 2013). The survey by Vincent Wildlife Trust in 1980 had a single record from the Santry River: a spraint recorded from the ponds in Santry Park. The other reports from 2006 and 2013 did not cover the Santry River.

Based on the desktop information provided above, it is considered likely that otters are resident on the Santry River. However, the previous surveys are out of date and only covered the DCC Area, so an updated survey of the entire Study Area is required.

5.2.7.4 Other Mammal Species

No field signs of any other mammals were observed during the site inspection. Desktop records of protected mammals were reviewed on the online database of the National Biodiversity Data Centre (NBDC). Records of these species are usually provided at a broad spatial scale, e.g. in squares of 2km or 10 km dimensions.

Other than otter, badger and bats (which are addressed above), the following species were identified: red squirrel, hedgehog, Irish hare and Irish stoat. The suitability of the Study Area for these species is considered below.

5.2.8 Birds

5.2.8.1 Brent Geese

Light-bellied brent geese are a migratory species that are present in Ireland from October to April (inclusive) and spend the remainder of the year in their breeding grounds in the

high Arctic. They are a qualifying interest of the North Bull Island SPA feeding primarily on algae at mudflats that are exposed at low tide.

A previous study by Lorraine Benson in 2008 / 2009 ranked the importance of 60 sites throughout Dublin based on the peak count of brent geese recorded, as follows: none (no geese recorded), moderate (1 – 50 geese), high (51 – 400 geese) and major (> 400 geese). Three sites were identified along the Santry River corridor:

- The pitch and putt golf course on the Oscar Traynor Road (adjacent to the Cadburys factory) was of major importance, with a peak count of 1,200 geese. It should be noted that the golf course is no longer in use, and was made available for sale in 2019. The grass has not been mowed for several years and is now dominated by coarse grasses. As a result, it is no longer suitable grazing habitat for brent geese
- McCauley Park, Edenmore was of high importance, with a peak count of 400 geese
- St Malachy's, Edenmore was of high importance, with a peak count of 200 geese.

A comprehensive study of inland brent geese foraging habitat in Dublin city was carried out by Scott Cawley in 2016 / 2017. A total of 132 sites were identified in the study, and their importance was ranked using the same categories as the Benson (2009) study. Sites relevant to the Santry River are as follows:

- Kilmore / Oscar Traynor football pitches (high importance, peak count 68)
- Coolock Park East (none)
- Coolock / Cadbury's Pitch and Putt (high importance, peak count 280)
- Coolock / McCauley Park (major importance, peak count 1,000)
- Edemore / Coláiste Dhulaigh (none)
- Santry River / Springdale Road / St Malachy's (major importance, peak count 1,017)
- Santry River / Lein Park Upper (major importance, peak count 700)
- Santry River / Lein Park Lower (high importance, peak count 303)
- St Anne's Park (major importance, peak count 700)

Based on the information above, it is clear that there are a number of sites of importance for brent geese along the Santry River corridor. The most important is the complex of sports pitches around St Malachy's, Springdale Road and Lein Park, which is hereafter referred to in combination as 'St Malachy's playing fields'. Peak counts of over a thousand geese have been recorded at this location.

The playing fields between Oscar Traynor Road and the Clonshaugh Business Park (referred to in places as 'Coolock Lane Park') is also an important area adjacent to the

river. A maximum count of 68 geese was recorded by Scott Cawley Ltd in 2016 / 2017, but NM Ecology Ltd has observed larger flocks at this location in the past.

Also, winter bird surveys were carried out by Birdwatch Ireland throughout the Santry River corridor in December 2019 and January 2020, January and February 2021 (Adcock, et al. 2020, 2021). Peak counts of 221 (2019 / 2020) and 336 geese (2021) were recorded at St Malachy's playing fields. Geese were not recorded in any other parks or green areas within the Study Area, but they were observed in flight on a number of occasions (e.g. above the Northside Shopping Centre), suggesting that they were flying to other sites outside the Study Area.

A recent study by NM Ecology carried out in the winter period of 2023 / 2024 documented flocks of between 75 – 800 brent geese. At St. Malachy's FC playing fields long Springdale Road with counts of 800 in November, this area is considered to be of Major importance for brent geese. At Kil-tailedmore Celtic FC a flock of 135 brent geese were recorded during this survey period also.

5.2.8.2 Other bird species associated with the North Bull Island SPA

Four other species associated with the North Bull Island SPA were recorded within the Study Area by Birdwatch Ireland in 2019 / 2020 and 2021 (Adcock *et al*. 2020, 2021), as follows:

- Black-tailed godwit: flocks of 178 birds recorded at the Oscar Traynor Road playing fields and 99 at St Malachy's playing fields in 2019 / 2020. Flocks of 7 and 163 birds were recorded at the same locations (respectively) in 2021. A recent survey by NM Ecology in 2023 / 2024 recorded flocks of 1,050 birds.

- Oystercatcher: a single bird recorded at the Oscar Traynor Road playing fields and 117 at St Malachy's playing fields in 2019 / 2020. A smaller flock of 8 birds was recorded at the St Malachy's playing fields in 2021. Furthermore, NM Ecology recorded flocks between 4 and 50 birds in the 2023/2024 winter birds survey

- Curlew: 8 were recorded at St Malachy's playing fields in 2019 / 2020 and 3 at the Oscar Traynor Road playing fields in 2021.

- Black-headed gull: widespread during the Study Area in winter months, notably in Santry Park, Stardust Park and St Malachy's playing fields. It should be noted that black-headed gulls are generalist species that can easily adapt to urban environments. They do not rely on coastal habitats (e.g. mudflats, saltmarshes) to the same extent as the other species above, and it is unlikely that the gulls recorded in the study area have a strong association with the North Bull Island SPA.

In summary, the two locations of importance for brent geese – St Malachy's playing fields and Oscar Traynor Road playing fields – are also important inland feeding sites for other birds associated with the North Bull Island SPA, specifically black-tailed godwit, oystercatcher and curlew.

5.2.8.3 Kingfishers

Kingfishers were recorded on a number of occasions by Birdwatch Ireland surveyors in 2020 and 2021 (Adcock *et al*. 2020, 2021). A nesting site was identified near the Cadburys factory in Coolock, in an area that is not currently accessible to the public. Kingfisher territories are typically within 1 – 2 km of their nesting site, so it is expected that the birds associated with the breeding site may forage anywhere between the Northside Shopping Centre and St Malachy's playing fields.

In the second year of surveys (2021) a possible second territory was identified between the Watermill Apartments and Bull Island. Kingfisher have previously been recorded at the outflow of the Santry River during waterbird monitoring surveys at Bull Island. Therefore, it is possible that there is a breeding site somewhere in the area.

A local resident reported in May 2023 that they regularly saw a kingfisher on the eastern side of the M50 crossing near Woodlawn Crescent. The Birdwatch Ireland surveyors also had several records of kingfisher from this location in winter months, but not during the breeding season. It is likely that these records were from the pair that use the breeding site at Cadburys, but it is also possible that there could be a third territory in the area.

No records of kingfisher were recorded upstream of the M50 (Junction 2) crossing. The culvert under the M50 may provide a barrier to the dispersal of kingfisher in that direction.

No Kingfisher were recorded during breeding bird surveys conducted by MKO in April and June 2023 and May and July 2024.

5.2.8.4 Birds associated with lakes

There are two in-line lakes along the Santry River: the north-east of Santry Park and at Stardust Park. Results from the Birdwatch Ireland surveys are provided below.

Santry Park

Birds recorded at the lake during winter months by Birdwatch Ireland surveyors included: mallard (peak count 19), tufted duck (10), moorhen (4), coot (3), mute swan (1) and little grebe (1). Gulls were abundant, including up to 60 black-headed gull, 23 herring gull and 1 common gull. During the breeding season the most abundant species was mallard (27), with little grebe (4), coot (4), moorhen (2) and tufted duck (2). Small numbers of gulls were observed in flight, but none landed at the lake.

Mallard and moorhen nest at most urban lakes, so their presence is expected. However, the presence of little grebe and tufted duck during the breeding season suggests that these species also nest at the site, which would be relatively unusual for an urban lake.

Stardust Park

Only two species of waterfowl were recorded at the lake during winter months by Birdwatch Ireland surveyors: mallard (peak count 45) and moorhen (9). Gulls were abundant, with up to 98 black-headed gull, 13 herring gull and 8 common gull. During the breeding season the most abundant species was mallard (38), with moorhen (6) and grey

heron (2). Small numbers of gulls were present, including 2 herring gull and 2 lesser black-backed gull.

5.2.8.5 Other bird species

A total of 62 species were recorded along the Santry River corridor by Birdwatch Ireland surveyors (Adcock et al. 2020, 2021), including the wetland species described above, as well as a range of other urban and garden birds. Notable species are described below.

Two species of raptor - buzzard and sparrowhawk - were observed in both years. Buzzards were mainly observed at the north-western end of the river, particularly around Silloge Park Golf Club and occasionally around the Clonshaugh Business Park. Sparrowhawk were recorded further into the urban area, with records to the south of the Airways Industrial Estate, Clonshaugh and St Malachy's playing fields. Separate to the surveys by Birdwatch Ireland, a long-eared owl was observed by a member of the public in Santry Park in June 2022 (photograph provided in irishbirding.com).

Two bird species - treecreeper and goldcrest - are considered to be woodland specialists. All records of treecreeper were recorded in Santry Park, whereas the goldcrest was more widespread, recorded throughout the Study Area.

Great-spotted woodpeckers have recently started to colonise Ireland. They were first recorded breeding in 2006 in County Down and in 2008 in County Wicklow, but they have since started to spread rapidly into other parts of the country. On the irishbirding.com website there is a record in 2013 of a great-spotted woodpecker "drumming opposite the Crown Plaza Hotel" in Santry Park. There does not appear to be any record of the species since that time, and they were not recorded by the Birdwatch Ireland surveyors. However, considering the rapid spread of this species it is considered likely that they will colonise the Study Area in the next 10 – 20 years.

Swifts were recorded at Silloge Park Golf Club, and on one occasion at St Malachy's playing fields. This species has undergone a substantial population decline in recent decades, and is included on the red list of bird species in Ireland.

The remaining species are relatively common in urban and garden environments: woodpigeon, feral pigeon, collared dove, pied wagtail, meadow pipit, wren, dunnock, robin, blackbird, song thrush, mistle thrush, starling, wheatear, long-tailed tit, coal tit, blue tit, great tit, house sparrow, chaffinch, greenfinch, siskin, bullfinch, linnet, chiffchaff, willow warbler, blackcap, reed bunting, magpie, jackdaw, rook, hooded crow and raven.

Many of the birds associated with the SPA use this area, so there is a risk that they may be disturbed. As all of the species associated with the SPA are over-wintering birds, impacts from disturbance can be avoided by scheduling construction works in sensitive areas during spring and summer months.

Grey wagtails are widespread along the river. Birdwatch Ireland surveyors recorded them in most survey sections, with 4 – 5 recorded in Santry Park and in the green area along Riverside Park, Clonshaugh. During surveys by NM Ecology Ltd in May 2023, chicks of an unknown species were heard calling from a nest inside a large culvert under Harmonstown

Road (south of St Malachy's playing fields). It was not possible to inspect the nest, but it was considered most likely to be from grey wagtails.

Dippers were not recorded during any surveys. In Adcock et al. 2020 it is suggested that their absence was because "the river is potentially too slow and exposed for this species". It is also possible that that their absence is due to poor water quality and impoverished aquatic invertebrate assemblages (the primary food source of dippers).

Grey herons were recorded by Birdwatch Ireland surveyors at seven locations along the river, during both the winter and breeding seasons. A single little egret was observed in the grounds of the Cadbury's factory in 2021. It is not clear whether herons and egrets nest along the river corridor. This species often forms nesting colonies (known as heronries), and NM Ecology Ltd is aware of one large heronry in the north-east of St Anne's Park, but it is possible that other heronries are located along the Santry River corridor.

5.2.9 Reptiles and Amphibians

No reptiles or amphibians were observed during the survey, nor any off-line ponds or other permanent wetland features suitable for breeding. Therefore, the Study Area is of Negligible importance for these taxa.

5.2.10 Terrestrial invertebrates

The habitats within the Study Area are common in suburban landscapes in Ireland, so the site is considered to be of Negligible importance for invertebrates.

5.2.11 Fish

A previous fisheries assessment by Inland Fisheries Ireland (IFI) on the Santry River in 2020 as part of this project (Kirrane, 2000). IFI carried out detailed assessments of habitats, fish populations and macro-invertebrates.

"The river rises a short distance upstream of Sillogue Golf Course (A) and has been modified as it flows through the golf course with two culverts and a weir at the southern side of the site. The channel has been widened. Instream characteristic are glide and pool with very limited bank side vegetation. The fisheries value/potential of the stretch is limited due to the modifications on the channel and the resulting negative impact on the instream habitat.

From the golf course downstream to the M50 junction (B) the river is in a semi-natural state. The instream characteristics are riffle, glide, pool sequences with a healthy riparian zone. Fisheries value/potential in this stretch is good.

From Junction 4 M50 (C) the river is culverted under the west side of the junction and is then open for a short distance before entering a culvert under the R103 Ballymun Road. The open channel was inaccessible with high steep banks. The fisheries value and potential here is limited due to the motorway infrastructure along this stretch.

The managed parkland in downstream if the R103 in Santry Demense (D) provides a semi-natural river corridor between Santry Lodge and Northwood Road. However, surface water discharges, flood flow management and the two lakes downstream of Northwood Road contribute to poor instream habitat with limited fisheries value. It should be noted that anecdotal evidence suggests the presence of coarse fish in the large lake in the park.

A detailed assessment of the river was carried out at the northern side of the park downstream of Santry Hall in Demense (S1). The river was in poor condition at this location with fine gravels overlaying a silty bed, which appeared anoxic along banks. There was an odour of sewage in the area. The macroinvertebrate assessment revealed only pollution tolerant species were present. The banks were overgrown with limited access to the river.

The potential to enhance the fisheries habitat in the Santry Demesne is limited by the presence of the online lake and associated flood control measures in the park. However, enhancement work could be carried out in the open stretch upstream of Northwood Road Bridge, but water pollution issues would also need to be investigated and addressed.

The stretch from the Swords Road culvert/bridge downstream to the bridge on Barryscourt Road is for the most part open and in a semi-natural condition with medium to heavy bank cover. Instream habitat consists of riffles and glides. These characteristics would suggest valuable fisheries habitat however the bed is in a poor condition for much of this stretch of the river with accumulations of silt at several surface water outfalls from the adjacent Industrial Estates.

The detailed assessment of the site in this stretch (S2), which was upstream of the M1 culvert, revealed pollution tolerant macro-invertebrates and large numbers of stickleback in the fish population assessment. The condition of the bed greatly inhibits the fisheries value of this stretch of the river.

A detailed assessment was carried out at Clonshaugh Bridge (S3). Pollution tolerant macroinvertebrates were recorded at this site and fish species recorded were stickleback and European eel.

Investigation of the surface water management in the Industrial Estates is recommended with a view to upgrading management systems incorporating nature-based solutions where possible to regulate discharges to the river and minimise the volumes of silt and fine material entering the river at these locations. Remediation of the surface water outfalls would undoubtedly have a positive impact on the value of the fisheries habitat in the river and on the amenity value of the riverside walk which runs along a large portion of this stretch of the river.

The river then flows through the Stardust Memorial Park where an on-line pond in the park slows the flow of water in this stretch with glide and pool characteristics throughout. Instream modifications, such as online ponds, can have a significant impact on the instream habitat as water velocities decreases and deposition of fine material increases. There are several culverts along this stretch of the river that are hindering the free flow of water through the site and are barriers to the passage of some fish species.

From the Malahide Road bridge downstream to the footbridge beside Springdale Road the riverbed and banks are concreted with sparce bankside cover apart from the occasional tree. This over-modified, artificial and uniform stretch has little/no value from a fisheries perspective.

A detailed assessment carried out at S4 downstream of Tonlegee Road Bridge revealed pollution tolerant macroinvertebrates and a small number of stickleback, which confirms the negative impact of the instream modifications on the fisheries habitat.

From the footbridge along the Springdale Road downstream to Raheny village the river is largely in a natural condition with instream characteristics comprised of riffle, glide and pools. The fisheries potential is confirmed here with the presence of a brown trout in the stretch fished downstream of the bridge on Harmonstown Road. However, pollution tolerant macroinvertebrates dominated at this site, which highlights that water quality is an issue here.

The Ordnance Survey Ireland (OSI) 25" maps for this area show that the river meandered through this area in the past. Given that the river is bordered by park land in this stretch reinstatement of meanders could be a viable option, which would be of great benefit to the fisheries value of this stretch and may also provide some attenuation of flood flows.

The river flows through Raheny village with culverts at Howth Road, Main Street and at the Watermill apartment complex. While the river is open between the culverts access is limited making an assessment of the fisheries value of this stretch very difficult.

The river then flows through a long culvert from James Larkin Road and discharges into the transitional water at North Bull Island. As discussed in the report Opportunities for fish migration and ecological connectivity in the Santry River, the last two culverts are of substantial length (>100m each) and are impassable to most fish species.

5.3 Population and Human Health

This section considers potential population and health constraints (includes accidents and risk) that could affect good health and wellbeing, in the context of environmental aspects and other determinants, most notably noise, vibration, air quality and climate, water quality, and material assets, insofar as might have a bearing on the Masterplan. Constraints that may affect the socio-economic landscape of the local community are also considered.

5.3.1 Community and Socio-economic

Population Change in terms of the county, region and the state, population structure and change in Ireland are more strongly influenced by inward migration and emigration rates than by birth and death rates. The mid to late 1980's in Ireland was a period of heavy population outflow, mainly due to the poor economic and employment situation in the country at that time. The most recent population estimates for the country published by the Central Statistics Office (CSO) in June 2022 indicate that the combination of a net inward migration and high birth rates has resulted in the population of Ireland exceeding

5 million for the first time since 1851. Projections for Ireland up to 2046 anticipate a population of approximately 5 million to over 6.7 million in the most optimistic scenario.

According to the 2022 Census, Ireland's population reached 5,149,139 in April 2022 – representing growth of 8.1% from the previous Census in 2016. Fingal's population stood at 330,506 at the time, an increase from 2016 of 11.6%, or just over 34,000 people. The county hence accounts for 6.4% of Ireland's population, with Dublin City and County accounting for higher proportions. The population of the administrative area of Dublin City Council grew by 6% between the years of 2016 and 2022, according to the data from the 2022 Census (Dublin City Council , 2022).

According to the Small Area Population Statistics from the 2022 Census of Population (the latest date for which such statistics are available), for the study area which extends from Dubber to Clontarf.

There are 27 Electoral Divisions (EDs) within the Masterplan area, as shown in **Figure 5-3**. In terms of land area, Dubber is the largest ED within the Masterplan area, while Priorswood E is the smallest. According to 2022 Census data, the EDs of Dubber and the Airport have the highest populations within the Masterplan area, whereas the EDs of Priorswood A and Kilmore C have the two lowest populations, as shown in **Table 5-3**. Between the 2016 and 2022 Census, Kilmore C recorded the greatest population decline in the Masterplan area, falling by 5.4%, (see **Table 5-3**), while the ED of Whitehall C recorded the greatest population growth in the Masterplan area within the same years.

The EDs of Ballymun B, Ballymun C, Beaumont B, Priorswood E, Ayrfield and Grange D were recorded as the most densely populated areas within the Masterplan area in the 2022 Census (see **Figure 5-3**). The EDs surrounding the Santry River in the early and late stages are less densely populated than the EDs in the middle stages of the river. Overall, there was a 5% population growth within the Masterplan area between the 2016 Census (92,871) and 2022 Census (97,763). The Masterplan area population growth is 1.4% lower than the average population growth recorded in Dublin City administrative area.

Table 5-3: Population figures and percentage changes for Electoral Divisions in the Masterplan area for 2016 and 2022

Electoral Division	Population 2016	Population 2022	Percentage change 2016-2022
Turnapin	1700	1730	1.73%
Ayrfield	5639	5863	3.82%
Ballymun A	4765	5735	16.91%
Ballymun B	4379	4273	-2.48%
Ballymun C	6112	5729	-6.69%
Beaumont A	2463	2668	7.68%
Beaumont B	4962	5103	2.76%

Electoral Division	Population 2016	Population 2022	Percentage change 2016-2022
Beaumont C	3242	3382	4.14%
Beaumont D	2135	2085	-2.40%
Dubber	7372	8931	17.46%
Clontarf East A	3438	3626	5.18%
Clontarf West A	3658	3758	2.66%
Edenmore	2836	2831	-0.18%
Grange D	4005	3952	-1.34%
Grange E	2680	2578	-3.96%
Harmonstown A	2808	2848	1.40%
Harmonstown B	2758	2921	5.58%
Kilmore C	1490	1413	-5.45%
Kilmore D	2032	2149	5.44%
Kilmore A	3660	3678	0.49%
Kilmore B	2681	2546	-5.30%
Priorswood D	2756	2653	-3.88%
Priorswood A	1618	1574	-2.80%
Priorswood E	2839	2771	-2.45%
Raheny-St. Assam	3672	3919	6.30%
Whitehall C	2153	2908	25.96%
Airport	5018	6139	18.26%
Total Population	92871	97763	5.00%

Data source: CSO

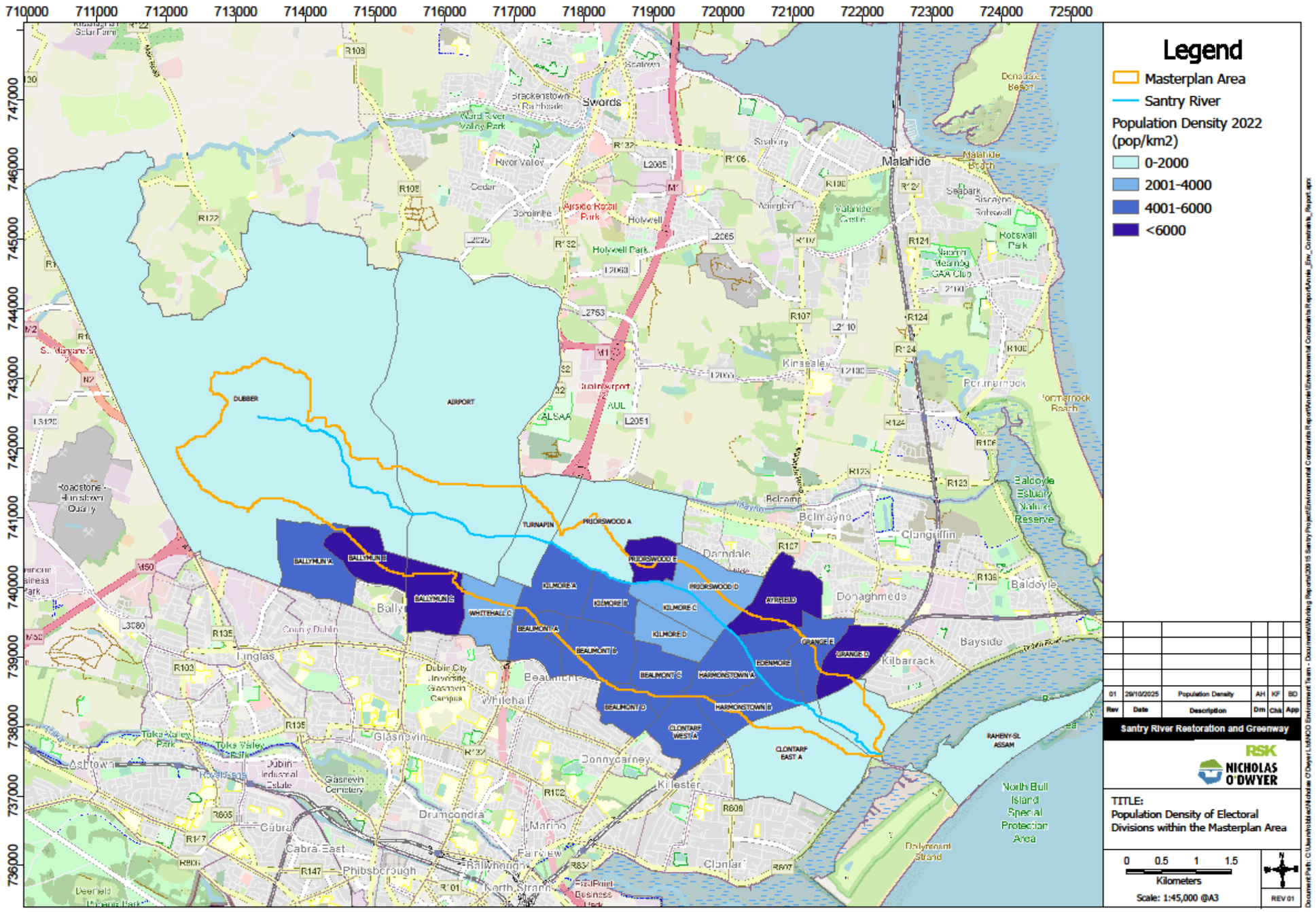

Figure 5-3: Electoral Divisions within the Masterplan area along with Population Density

Data source: CSO and OSI

5.3.2 Population Age

In Ireland, the average age of the population increased from 37.4 years in 2016 to 38.8 years in 2022. Fingal had the youngest average age in 2022 at 36.2 years, with some 63% of its population below the age of 44, compared to 58.3% nationally.

Table 5-4 shows the distribution of population among the different age cohorts from the 2022 Census for the Dublin City, Fingal County and the state. Overall, the population of the reflects the general population trends in both the wider area of County Dublin and the State. People aged 25 - 39 make up most of the population in Dublin City (28.9%), ages 35 – 49 in Fingal County (25.71%) and the State (21.06%).

Further breakdowns show that 26.7% of the Fingal population was under 18 years old in 2022, while 134,264 people (40.6%) were under 30. This compares to 28.3% of the population under 18 years old and 42.2% under 30 years old in 2016. The proportion of under 30s in Fingal was higher than at the national level, where 38% of the population was under 30. The number of people under the age of 30 increased by 7.5% from 124,960 people in 2016.

People aged 15 - 64 (i.e., working age) make up 72.2% of Dublin City, Fingal County (66.8%) which is similar when compared to the State (63.6%) of the State.

Table 5-4: Population age cohorts for the Fingal County, Dublin City and the State (2022 Census).

Age Cohort	Dublin City		Fingal County		State	
	Number of People	% of Total Population	Number of People	% of Total Population	Number of People	% of Total Population
0 - 4	28946	4.92	21017	6.38	295415	5.74
5 – 9	23781	4.04	25315	7.69	342670	6.65
10 - 14	30301	5.15	27716	8.42	374202	7.27
15 – 19	30269	5.15	22876	6.95	337628	6.56
20 – 24	45907	7.80	19097	5.80	307143	5.96
25 - 29	59058	10.04	18243	5.54	295808	5.74
30 - 34	59233	10.07	21928	6.66	332223	6.45
35 – 39	51695	8.79	27210	8.27	382869	7.44
40 – 44	46155	7.85	30393	9.23	328080	6.37
45 – 49	37908	6.44	27043	8.21	373504	7.25
50 - 54	35115	5.97	21617	6.57	340003	6.60
55 – 59	31577	5.37	17172	5.22	307165	5.97

Age Cohort	Dublin City		Fingal County		State	
	Number of People	% of Total Population	Number of People	% of Total Population	Number of People	% of Total Population
60 – 64	27825	4.73	14335	4.35	272670	5.30
65 - 69	22883	3.89	11868	3.60	238144	4.62
70 – 74	19283	3.28	9960	3.03	202884	3.94
75 – 79	15167	2.58	7417	2.25	154260	3.00
80 – 84	10953	1.86	4127	1.25	96586	1.88
85+	10982	1.87	3151	0.96	83703	1.63
Total	**588,233**		**329,218**		**5,149,139**	

Data source: CSO

5.3.3 Dependency ratio

The dependency ratio is a measure of the number of dependents aged 0 - 14 and over the age of 65, as a percentage of the total population aged 15 - 64 in an area. The dependency ratio is a demographic indicator which gives an insight into the number of people of non-working age (i.e., those aged 0 - 14 and 65+) compared with the number of those of working age (those aged 15 – 64). The higher the value, the less people of working age there are in the area (i.e., those depending on wage earners or the State for support).

From 2016 to 2022 the dependency ratio of the Dublin City and the State rose by 0.5% while that of Fingal County decreased by 0.4% (**Table 5-5**).

Table 5-5: Age Dependency Ratio for 2016 and 2022 of Dublin City, Fingal and State

Area	Dependency Ratio 2016	Dependency Ratio 2022	Dependency Ratio change 2016 to 2022
Dublin City	39.0%	39.5%	+0.5%
Fingal County	50.7%	50.3%	-0.4%
State	52.7%	53.2%	+0.5%

Data source: CSO

5.3.4 Labour Force

In 2022, Fingal had a working-age population (those aged 15 and over) of 256,458. Of these, 60.5% or 155,063 were in employment, which compares favourably to the national average of 56.1%. Fingal had the highest proportion of residents in employment in Ireland, with Dublin City ranking second at 59.6%. This is a reflection of the strengthening labour market across the Capital and nationally, where unemployment has fallen to historic lows.

The number of people in employment in Fingal has changed dramatically over the years from the 2011 Census, with the number at work having grown by 30%. This was marginally stronger than the national average (28.4%). Fingal had the strongest labour force participation rate in Ireland at 65.6% in 2022, considerably higher than the national average of 61.2%. When examining labour market participation across age groups, it is evident that those aged 25 to 34 years had the highest level of engagement, with 88.3% of this cohort being in the labour force

5.3.5 Unemployment

Overall, the unemployment rate in in the Masterplan area showed that female unemployment was slightly below the male rate, with 4.8% of females classed as unemployed, compared to 5.4% of males. **Table 5-6** shows the unemployment rate among in the electoral divisions within the Masterplan area. Overall, female unemployment was slightly below the male rate in the electoral divisions.

Table 5-6: Unemployment in electoral divisions within Masterplan area

Electoral Division	Unemployment Male	Unemployment Female
Turnapin	7.12	6.86
Ayrfield	9.40	8.87
Ballymun A	14.64	12.88
Ballymun B	25.56	19.35
Ballymun C	19.65	14.56
Beaumont A	6.29	5.91
Beaumont B	10.42	6.47
Beaumont C	6.89	7.33
Beaumont D	5.12	5.18
Dubber	8.84	9.93
Clontarf East A	5.27	5.04
Clontarf West A	7.18	6.84
Edenmore	14.29	10.34
Grange D	9.67	8.14

Electoral Division	Unemployment Male	Unemployment Female
Grange E	11.23	7.36
Harmonstown A	7.87	6.99
Harmonstown B	8.50	8.25
Kilmore C	17.23	17.20
Kilmore D	12.05	9.26
Kilmore A	7.96	7.88
Kilmore B	18.50	12.60
Priorswood D	17.19	12.68
Priorswood A	10.88	9.30
Priorswood E	10.01	7.82
Raheny-St. Assam	4.10	3.76
Whitehall C	6.91	6.78
Airport	9.07	8.86

Data source: CSO

5.3.6 Social Deprivation

The latest Pobal Relative HP Index Deprivation[2] scores from 2022 for each of the EDs of the Masterplan area are shown in **Table 5-7.** According to this data, there are considerable differences in the relative affluence and deprivation between various parts of the Masterplan area.

Table 5-7: Pobal Relative HP Index Deprivation score for Masterplan area (2022 census)

Electoral Division	Pobal HP Index	Pobal HP Description 2022
Turnapin	2.98	Marginally Above Average
Ayrfield	-6.17	Marginally Below Average
Ballymun A	-7.27	Marginally Below Average
Ballymun B	-21.58	Very Disadvantaged
Ballymun C	-15.85	Disadvantaged

[2] The Pobal HP Deprivation Index is a series of indicators measuring the relative affluence or disadvantage of a particular geographical area in Ireland, using data compiled from various censuses. Relative scores are based on an average of 0. Scores above 0 indicate levels of affluence and scores below 0 indicate levels of deprivation.

Electoral Division	Pobal HP Index	Pobal HP Description 2022
Beaumont A	0.89	Marginally Above Average
Beaumont B	-3.12	Marginally Below Average
Beaumont C	0.32	Marginally Above Average
Beaumont D	1.61	Marginally Above Average
Dubber	3.28	Marginally Above Average
Clontarf East A	5.41	Marginally Above Average
Clontarf West A	5.95	Marginally Above Average
Edenmore	-11.79	Disadvantaged
Grange D	-4.38	Marginally Below Average
Grange E	-7.60	Marginally Below Average
Harmonstown A	-3.86	Marginally Below Average
Harmonstown B	-0.46	Marginally Below Average
Kilmore C	-19.15	Disadvantaged
Kilmore D	-11.84	Disadvantaged
Kilmore A	-1.31	Marginally Below Average
Kilmore B	-17.55	Disadvantaged
Priorswood D	-17.65	Disadvantaged
Priorswood A	-12.54	Disadvantaged
Priorswood E	-11.71	Disadvantaged
Raheny-St. Assam	10.01	Affluent
Whitehall C	4.98	Marginally Above Average
Airport	6.69	Marginally Above Average

Data source: CSO

5.3.7 Sensitive Receptors

The Masterplan area is located in the vicinity of a number of community and recreational receptors. The main sensitive population receptors within the Masterplan area are shown in **Figure 5-4** and have corresponding reference numbers as shown in **Table 5-8**.

Figure 5-5 also shows the businesses that are within the Santry River corridor.

The Santry River traverses both Santry Park (reference no. 33) and Stardust Memorial Park (reference no. 34) before discharging into Dublin Bay. There are 8 Community Parks within the Masterplan area and 3 GAA Clubs. Along with this, there are 24 schools within

the Masterplan area, of which 4 are Secondary Schools, 1 is a Primary Special School and the remaining 19 are Primary Schools. Coláiste Dhúlaigh College of Further Education (reference no. 2) is located just west of Stardust Memorial Park and is within 100m of the Santry River. Springdale National School (reference no. 13), Scoil Áine Girls National School (reference no. 8) and Manor House School (reference no. 4) are all situated approximately 100 metres from the Santry River.

St. Joseph's Hospital Raheny (reference no. 37) is within approximately 100 metres of the Santry River. Beaumont Hospital (reference no. 36) is also within the Masterplan area, situated about 800 metres from the Santry River.

Table 5-8: Reference numbers for sensitive population receptors within the Masterplan area

Reference Number	Receptor Name	Receptor Type
1	Chanel College	Secondary School
2	Coláiste Dhúlaigh College of Further Education	Secondary School
3	Gaelscoil Cholmcille	Primary School
4	Manor House School	Secondary School
5	Mercy College	Secondary School
6	Naiscoile ide	Primary School
7	Saint Davids Boys National School	Primary School
8	Scoil Áine Girls National School	Primary School
9	Scoil Chaitriona	Primary School
10	Scoil Fhursa	Primary School
11	Scoil ide	Primary School
12	Scoil Neasain	Primary School
13	Springdale National School	Primary School
14	St Brendans Boys National School	Primary School
15	St. Eithnes Girls School	Primary School
16	St. Fiachras Junior National School	Primary School
17	St. Fiachras Senior National School	Primary School
18	St. Johns Girls Primary School	Primary School
19	St. Josephs National School, Coolock	Primary School

Reference Number	Receptor Name	Receptor Type
20	St. Josephs Senior and Junior Co-ed National School	Primary School
21	St. Josephs Senior National School	Primary School
22	St. Malachys Boys National School	Primary School
23	St. Monicas Girls Junior School	Primary School
24	St. Pauls Special School	Primary Special School
25	Parnells GAA	GAA club
26	Raheny GAA	GAA club
27	St. Monicas GAA	GAA club
28	Ardmore Park	Community Park
29	Balcurris Park	Community Park
30	Edenmore Park	Community Park
31	Mask Park	Community Park
32	McAuley Park	Community Park
33	Santry Park	Community Park
34	Stardust Memorial Park	Community Park
35	St Anne's Park and Rose Gardens	Community Park
36	Beaumont Hospital	Hospital
37	St. Joseph's Hospital Raheny	Hospital

Data source: Scoilnet, GAA Pitch finder and Google Imagery

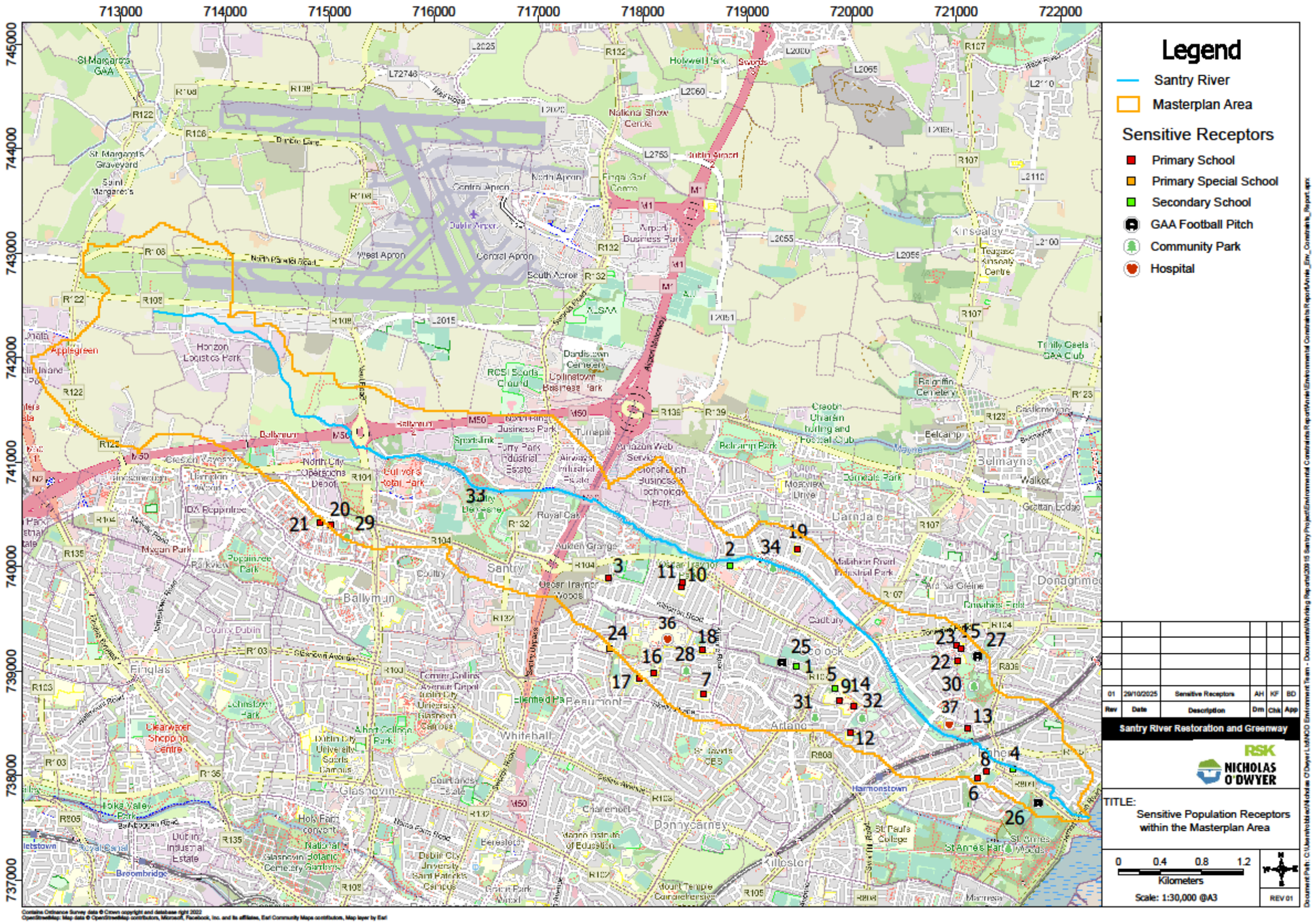

Figure 5-4: Sensitive population receptors within the Masterplan area

Data source: Scoilnet, GAA Pitch finder and Google Imagery

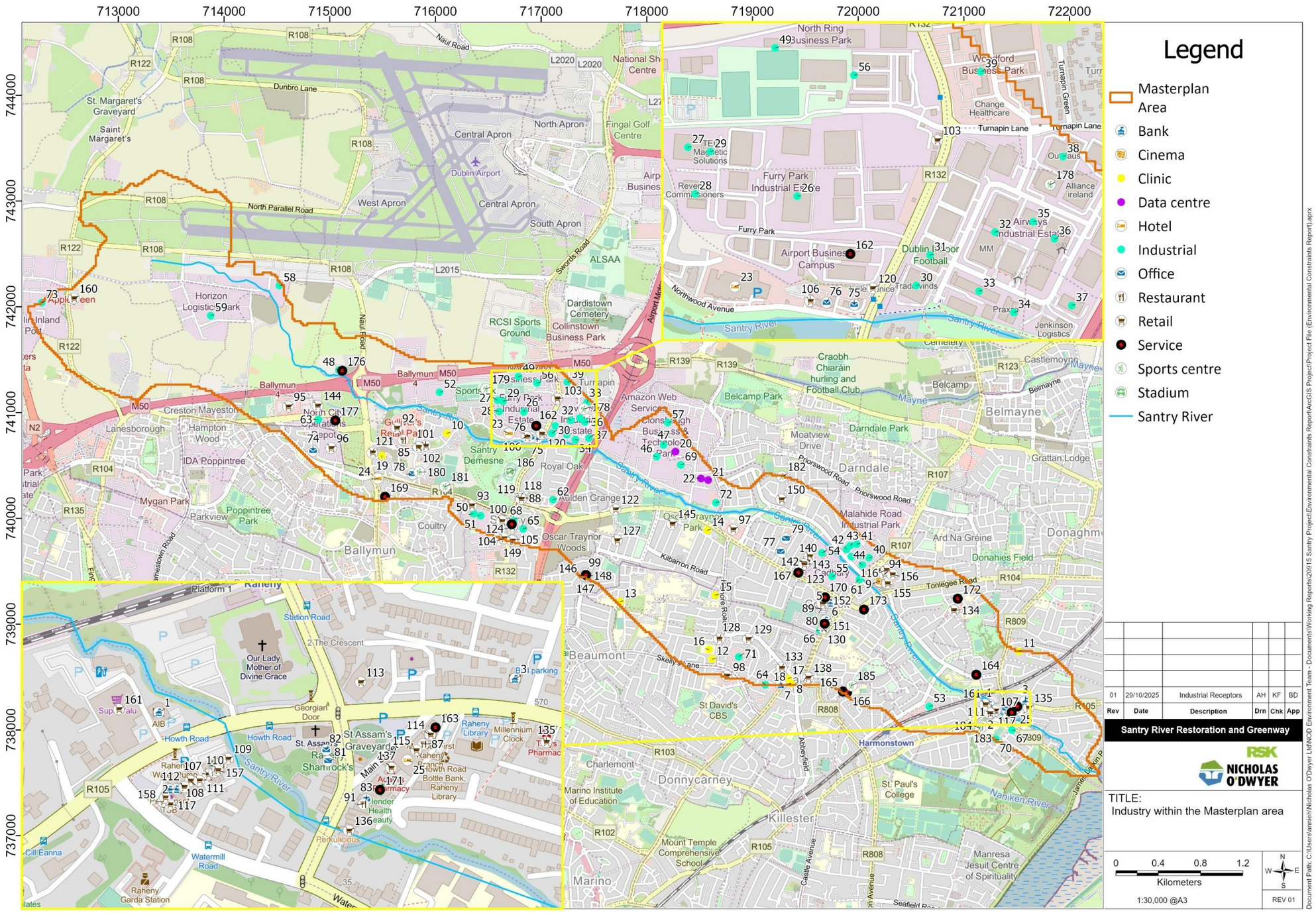

Figure 5-5: Sensitive Population Receptors (Businesses) within the Masterplan area

5.3.8 Tourism and Recreation Facilities

The main tourism and recreational facilities within the Masterplan area is shown in **Figure 5-6** and has corresponding reference numbers which are shown in **Table 5-9**.

The Santry River rises near Harristown to the South of Dublin Airport (reference no. 9). The river then flows in a south-easterly direction through Sillogue Park Public Golf Course (reference no. 11) towards Santry Park. There are three hotels situated within the Masterplan area, of which two are within 100 metres of the Santry River. There also other sources of accommodation in the area such as B&B's. It continues in a south-easterly direction as predominantly open channel flowing through Clonshaugh and Coolock before eventually passing by St. Malachy's Football Club (reference no. 5) which is also within 100 metres of the Santry River.

Table 5-9: Non-exhaustive list of main Tourism and Recreation Facilities within Masterplan area

Reference Number	Name	Type
1	IKEA Dublin	Shopping Centre
2	Artane Castle Shopping Centre	Shopping Centre
3	Northside Shopping Centre	Shopping Centre
4	Edenmore Shopping Centre	Shopping Centre
5	St. Malachy's Football Club	Outdoor Sport Facilities
6	n/a	Hotel
7	n/a	Hotel
8	n/a	Hotel
9	Dublin Airport	Airport
10	Butlers. The Factory Tour	Factory Tour
11	Silloge Park Public Golf Course	Golf Course

Data source: Fáilte Ireland and Google Imagery

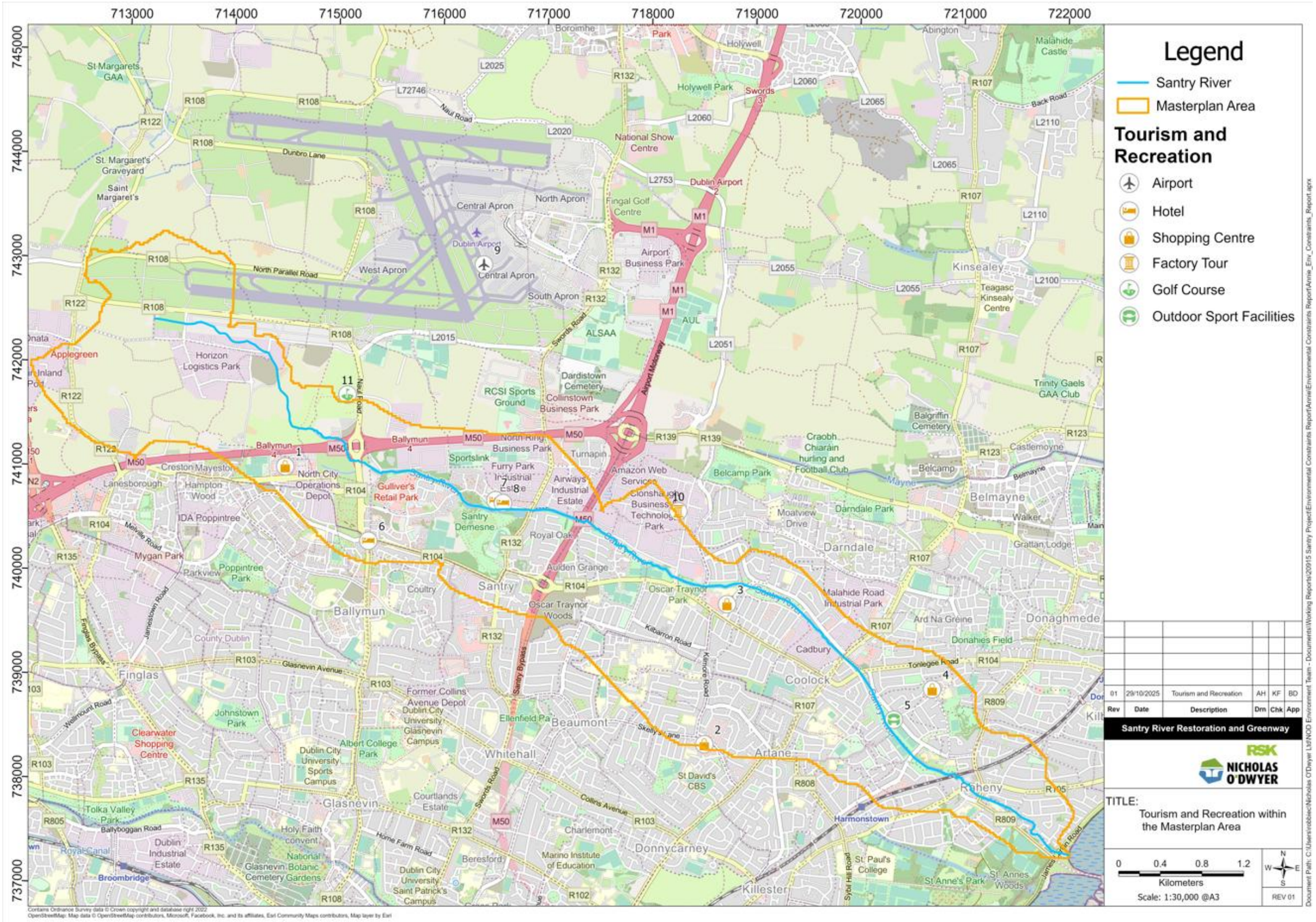

Figure 5-6: Recreational Facilities within Masterplan area

5.3.9 Human Health

Key health baseline statistics are presented below concerning the overall quality of life and self-assessed health of people living in the vicinity of the Masterplan area.

Over 278,000 people in Fingal stated they were in 'very good' or 'good' health in 2022, representing 84.2% of total persons. This compares to 82.9% nationally. Some 4,957 persons stated they were in 'bad' or 'very bad' health, representing 1.5% of total persons in Fingal. Also, in Dublin City council, 76.3% of total person reported that they were in 'very good' or 'good' health in 2022, while 2% stated they were in 'bad' or 'very bad' health (see **Table 5-10**).

Table 5-10: Self-perceived general health of the population in DCC, FCC and State

Area	Very Good	Good	Fair	Bad	Very Bad
Dublin City	48.4%	27.9%	8.6%	1.6%	0.4%
Fingal County	55.3%	28.8%	7.1%	1.2%	0.3%
State	53.2%	29.7%	8.6%	1.4%	0.3%

Data source: CSO

The life expectancies in Dublin and Ireland have been increasing in recent years creating an ageing population, a trend that is currently being experienced across most developed countries. In 2016, male residents in the Dublin Regional Authority were expected to live to 80.1 years whilst female residents were expected to live to 83.4 years, compared to 80.1 years and 83.4 years respectively in 2016.

The health conditions in Dubber Electoral Division (ED), Fingal County and across the country are positive, but they appear slightly worse within the Airport ED. In the 2022 Census returns, 89% of the population aged 15 years and over in Fingal County considered themselves to be in very good or good health, compared to Ireland's average of 88%. In comparison, around 84% of residents in Dubber ED and 77% of residents in the Airport ED consider themselves to be in very good or good health

5.3.10 Seveso Sites

The Seveso Directive (Directive 82/501/EEC, Directive 96/82/EC, Directive 2012/18/EU) was developed by the EU after a series of catastrophic accidents involving major industrial sites and dangerous substances. Such accidents can give rise to serious injury to people or serious damage to the environment, both on and off the site of the accident. The Chemicals Act (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2015 (S.I. No. 209 of 2015) (the "COMAH Regulations"), implement the latest Seveso III Directive (2012/18/EU).

The purpose of the COMAH Regulations is to transpose the Seveso Directive into Irish law and lay down rules for the prevention of major accidents involving dangerous substances, and to seek to limit as far as possible the consequences for human health and the environment of such accidents, with the overall objective of providing a high level of protection in a consistent and effective manner.

There are two tiers of establishment, which are related to the quantities of dangerous substances present. Depending on quantity, an establishment may be upper-tier or lower-tier. Upper-tier establishments have greater quantities of dangerous substances present and therefore are obliged to comply with additional requirements specified in the Regulations. Lower-tier establishments have lower quantities of dangerous substances present.

The are no SEVESO sites within 2km of the proposed development. The nearest Seveso sites are over 2 km of the Masterplan area. These are Exolum Aviation Ireland Ltd (formerly CLH Aviation) which is on Corballis Road, Dublin Airport, Co. Dublin. Also, there is Huntstown power station and Chemco Ireland Ltd.

5.4 Soils, Geology and Land Use

5.4.1 Geology

The bedrock geology within the Masterplan area is shown in **Figure 5-7.**

The source of the Santry River is located just south of Dublin Airport on Argillaceous Bioclastic Limestone, Shale (ML) bedrock. The river flows in a south easterly direction through Calcareous Shale, Limestone Conglomerate (TC) bedrock before reaching the M50. Following this, from the M50 as far as Clonshaugh Business and Technology Park the Santry River flows through Dark Limestone and Shale (LU) bedrock. Between Clonshaugh Business and Technology Park and Raheny the river flows through a mix of Calcareous Shale, Limestone Conglomerate (TC), Argillaceous Bioclastic Limestone, Shale (ML) and Massive Unbedded Lime-Mudstone (WA) bedrock. The final section of the Santry River between Raheny and Dublin Bay designated as Dark Limestone and Shale (LU) bedrock.

The bedrock of Dublin city consists of the Dark Limestone and Shale (Calp) (LU) bedrock. The Calp limestone is comprised of dark grey, fine-grained, graded limestone with interbedded black shales. Exposures of the calp limestone can be found throughout Dublin and have a special geological and historical significance (Hennessy, *et al*., 2014). No known reports of exposed Calp limestone are found within the Masterplan area.

The North Bull geological heritage site is located where the River Santry enters Dublin Bay (Site Code: DC007) and is an important geological heritage site due to the sand flats and the associated beach, dune, lagoon and slack features which have developed in the last 200 years due to coastal deposition directly caused by human intervention.

In terms of geology, Dark Limestone and Shale (LU) makes up c. 37% of the Masterplan area, while Argillaceous Bioclastic Limestone, Shale (ML) and Calcareous Shale, Limestone Conglomerate (TC) make up roughly 29% and 33%, respectively. Lastly, Massive Unbedded Lime-Mudstone (WA) makes up the final 1% of the Masterplan area.

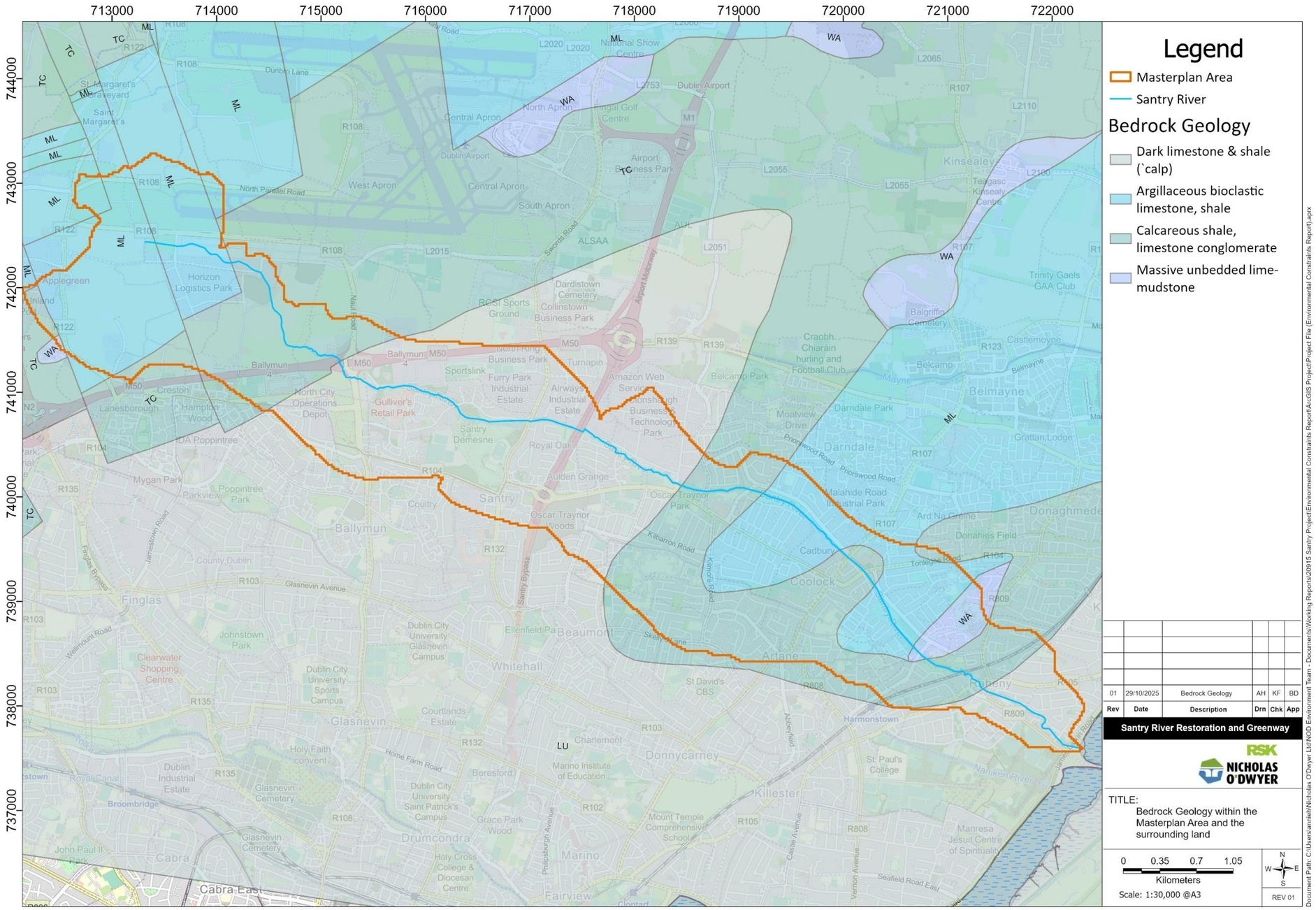

Figure 5-7: Bedrock Geology within Masterplan Area and surrounding lands

5.4.2 Soils

In terms of soil, the Masterplan area is made up of mainly Urban and Elton (1000x) soils, as shown in **Figure 5-8**. Urban soils make up approximately 68% of the Masterplan area, while Elton (1000x) soils make up roughly 30%. Less than 1% of the Masterplan area is designated as Crosstown (1030a) soils.

Elton (1000x) soils are fine loamy drift with limestones and classified as well drained mineral soils. Urban soils as classified by the Soils Information Systems (SIS) are soils that have been disturbed, moved and manipulated by human activities. Urban soils are generally overlain by a non-agricultural, man-made layer formed from mixing, infilling or contamination by industrial uses.

From the source of the Santry River to as far as Santry Park the soils are mainly Elton (1000x) with a few small patches of Urban soils. The rest of the Santry River from Santry Park onwards is Urban soils apart from a small section at the mouth of the river, which is classified as Crosstown soils (1030a) (refer to **Figure 5-8**).

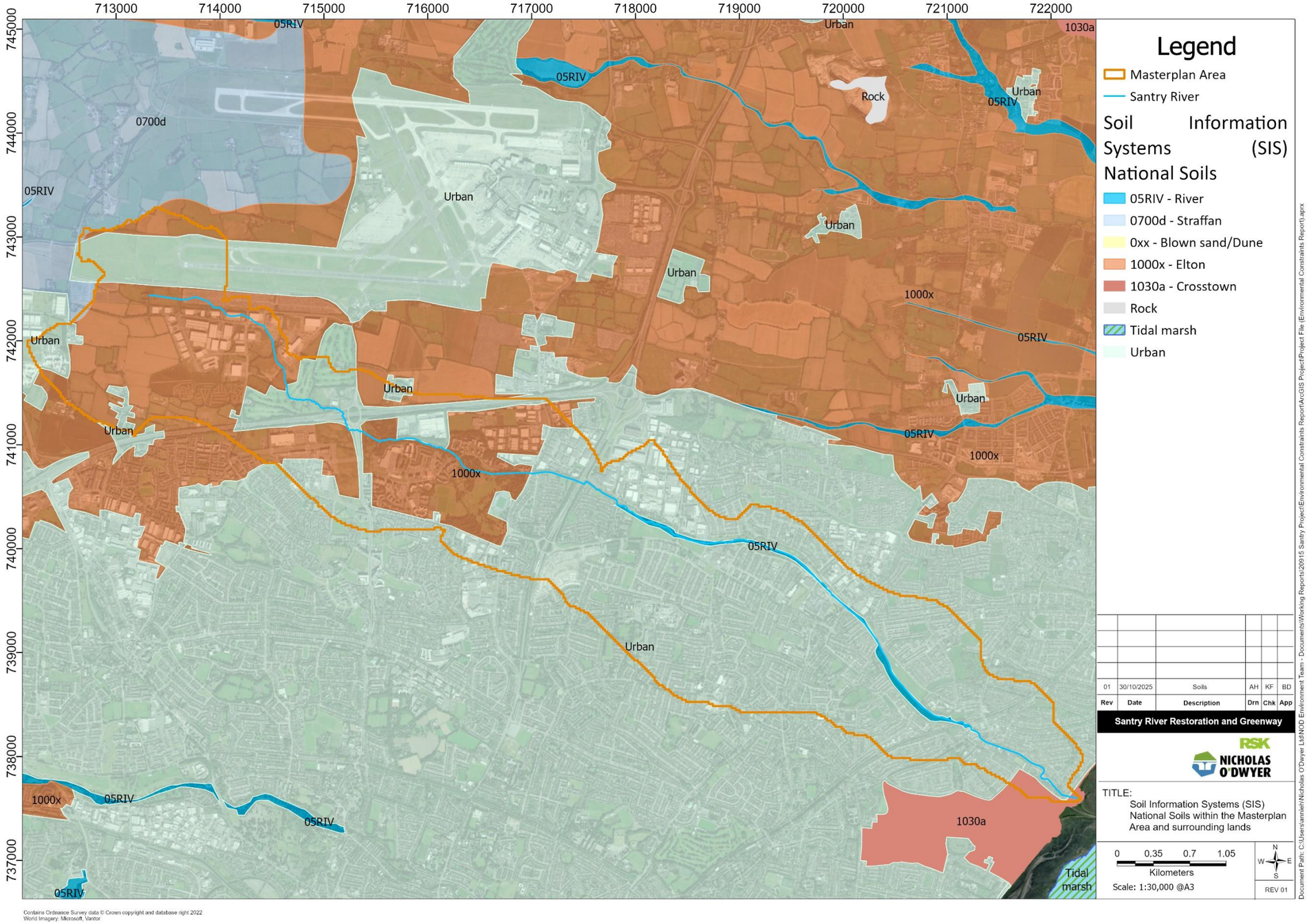

Figure 5-8: Soil Information System (SIS) National Soils within Masterplan area and surrounding lands

5.4.3 Land Use

The map shown in **Figure 5-9** displays the Corine Land Cover (2018) within the boundary. The source of the Santry River is located just south of Dublin Airport on pastures land (231). This map gives a general idea of land uses in the study area. The main land cover types are industrial or commercial units, non-irrigated arable land, sport and leisure facilities, green urban areas, a mix of discontinuous urban fabric and mixed forest. In terms of land use, discontinuous urban fabric is the dominant land use within the Masterplan area, followed by industrial or commercial unit areas, and non-irrigated arable land.

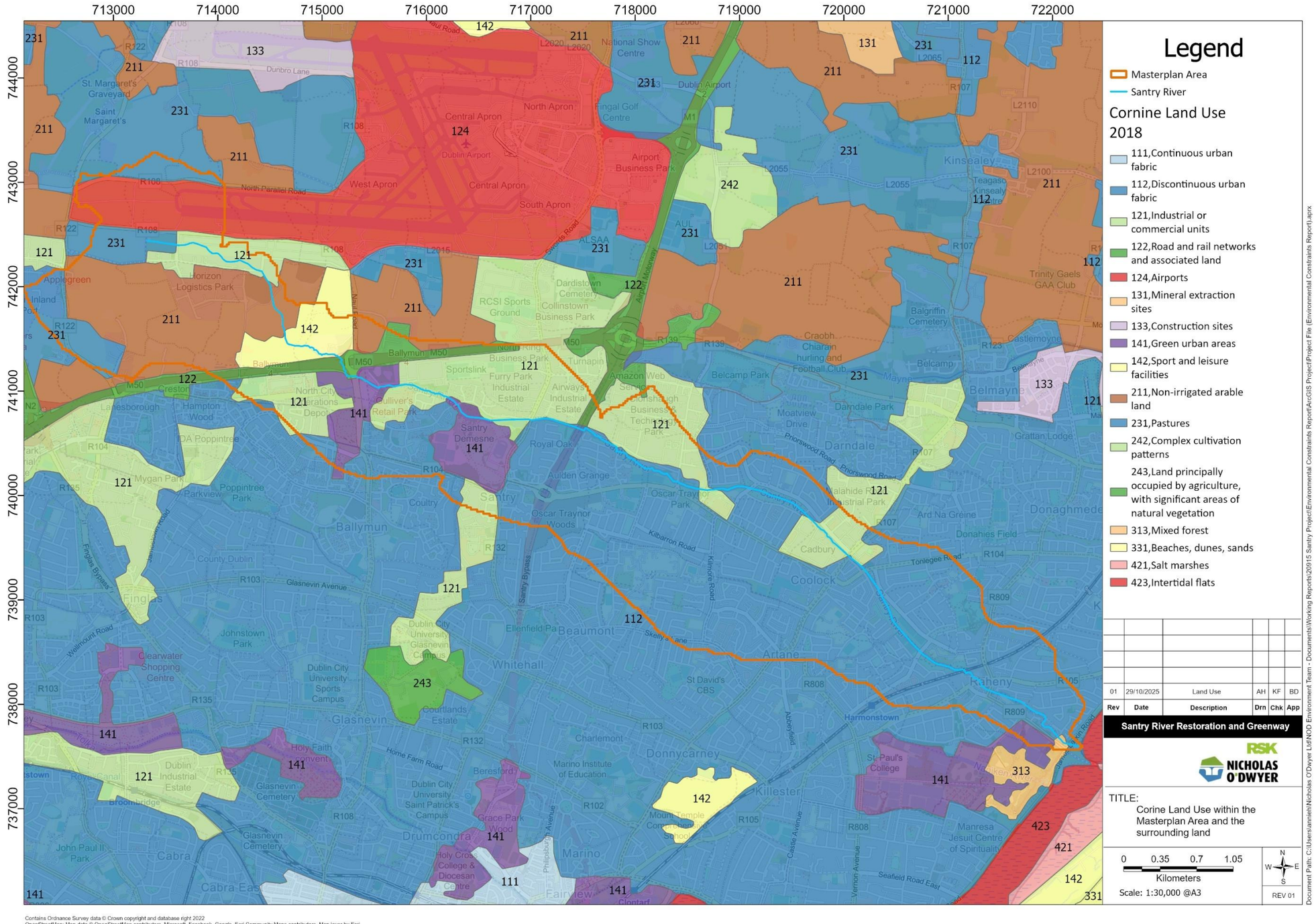

Figure 5-9: Corine Land Use within Masterplan Area and Surrounding Lands

5.5 Water Quality

This section examines the existing hydrological environment of the Masterplan area.

The Santry River rises near Harristown to the east of the R122. The river flows in a south-easterly direction through Sillogue Park Public Golf Course before being culverted to the immediate west of the M50 interchange with the Naul Road/Ballymun Road at Ballymun. It continues in a south-easterly direction as predominantly open channel flowing through Santry Demesne, Clonshaugh, Coolock and Raheny before discharging to Dublin Bay (via North Bull Island) near Watermill Road.

As presented hereunder, evidence from the EPA and other sources indicate that the Mayne River (Cuckoo Stream) and other catchments on or near the airport campus are below 'good status' and subject to multiple pressures.

5.5.1 Catchments and Study Area

The Santry River was transformed from its semi-natural state as the city suburbs expanded northwards in the 1950's. Large sections of the river were placed in concrete culverts, channels deepened, floodplains removed, urban rainwater discharged directly into its waters. These modifications significantly altered the river's natural hydrology, reduced habitat diversity, and severed ecological connectivity, leaving it highly constrained in both ecological and amenity terms.

The Santry River is monitored by the EPA for biological and chemical quality. The Water Quality of the Santry River has steadily declined over the past decade. The River Waterbody WFD Status from 2013-2018 which is displayed by the EPA indicates that during this time period the upper section of the Santry River (SANTRY_010) had a 'Poor' water quality status. However, in the same time period, the lower section of the Santry River (SANTRY_020) had a 'Moderate' water quality status. Yet, according to the River Waterbody WFD Status from 2016-2021 and also the 2019-2024 WFD Status, the lower section of the Santry River (SANTRY_020) is recorded as having a 'Poor' water quality status. Therefore, over the space of 5 years or less, the water quality of the lower section of the Santry River has evidently declined and remained in Poor condition, as shown in **Figure 5-10.**

The latest Q values for the Santry River are from 2022 and were recorded from two separate EPA monitoring stations. The first station is 'Clonshaugh Rd Br' (IE_EA_09S010300) and it is located at the end of the 'SANTRY_010' river segment. It recorded a Q value of '2-3' in June 2022. This Q value indicates that SANTRY_010 river segment has a 'poor' WFD status when compared to the Q value rating. According to the historical EPA records, "this segment of the river has poor ecological conditions, with sewage fungus and instream rubbish noted".

The second station is 'Bettyglen' (IE_EA_09S011100) and it is located at the end of the 'SANTRY_020' river segment; it recorded a Q value of '3' in August 2022. This Q value indicates that SANTRY_020 river segment also has a 'poor' WFD status and is moderately polluted when compared to the Q value rating system. According to the historical EPA records, "despite good habitat and dissolved oxygen at the lower station at Bettyglen, invertebrate diversity and abundance remained low with a complete lack of pollution

sensitive taxa" The condition of both SANTRY_010 and SANTRY_020 is considered unsatisfactory by the EPA (EPA, River Quality Surveys: Biological, Hydrometric Area 09, 2025).

The Santry_020 and the Tolka Estuary which the Santry River discharges into are designated Nutrient Sensitive Areas under the Urban Waste Water Treatment Directive (91/271/EEC).

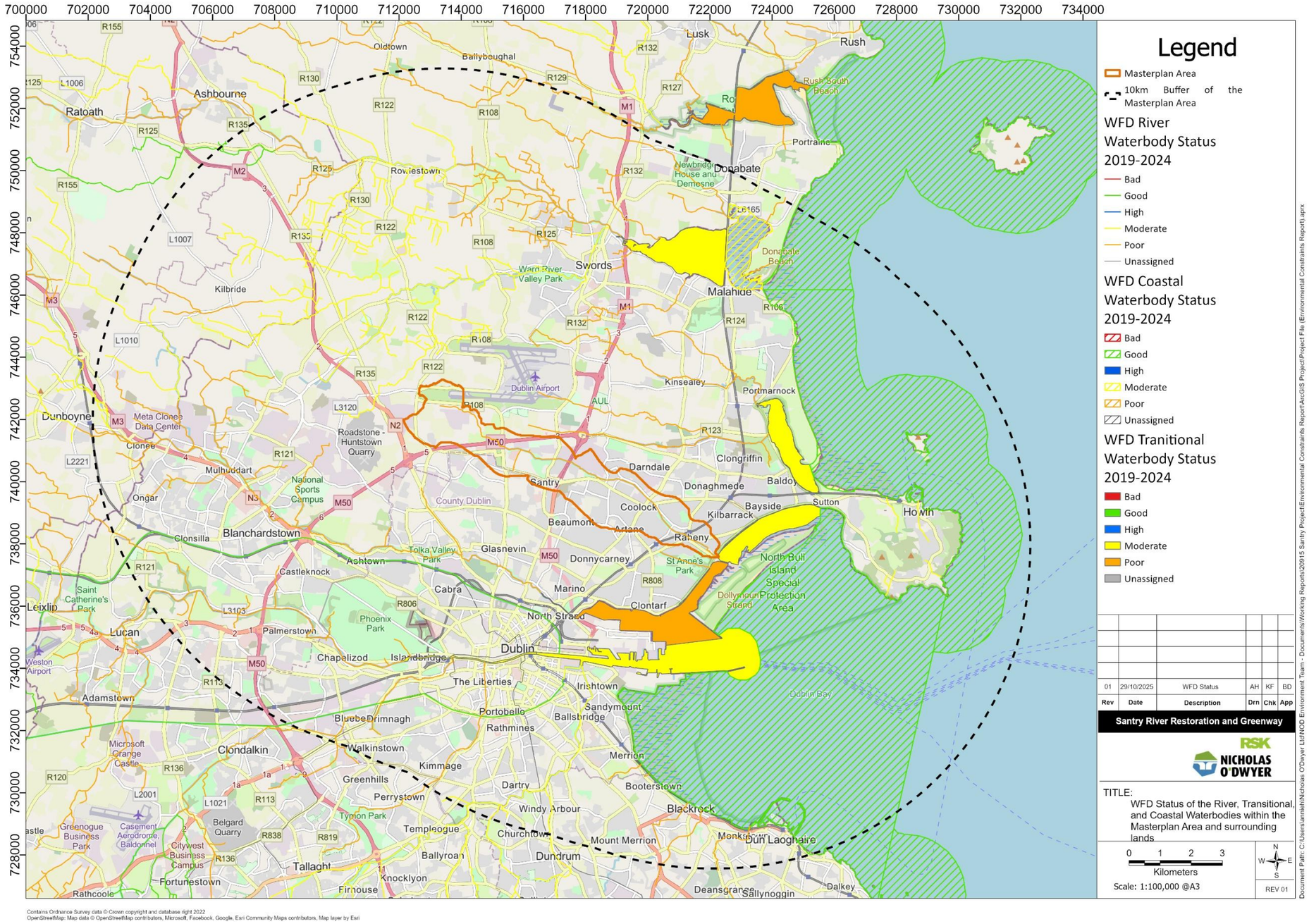

Figure 5-10: WFD Status of the River, Transitional, and Coastal Waterbodies surrounding the Masterplan area (source: EPA)

The study area lies within Hydrometric Area (HA) 09 (Liffey and Dublin Bay) and is within the River Liffey catchment. The Liffey and Dublin Bay Catchment Summary (Liffey Catchment Assessment 2010 – 2015 (HA 09)) (EPA 2018) describes this catchment as including the area drained by the River Liffey and by all streams entering tidal water between Sea Mount and Sorrento Point in County Dublin, draining a total area of 1,616km^2.

5.5.2 Groundwater Vulnerability

The groundwater quality within the Masterplan area and surrounding lands is displayed in **Figure 5-11**, while the Geological Survey Ireland (GSI) groundwater vulnerability of the Masterplan area is shown in **Figure 5-12**.

The groundwater status throughout the entire Masterplan area is designated as 'Good'. However, in terms of groundwater vulnerability there is an area on the west section of the Masterplan area where groundwater vulnerability is designated as extremely vulnerable and parts where the Rock is at/near surface or Karst. Aside from that, the Masterplan area has a mainly low groundwater vulnerability according to GSI data, apart from a few small areas of High/moderate vulnerability. There is small area near the source of the Santry River approximately 0.022 km^2 in area that is designated as having 'High' groundwater vulnerability. Furthermore, there is another small area near Coolock that is designated as having 'Moderate' groundwater vulnerability. Finally, there is a small area at the mouth of the river which is also designated as having 'High' groundwater vulnerability.

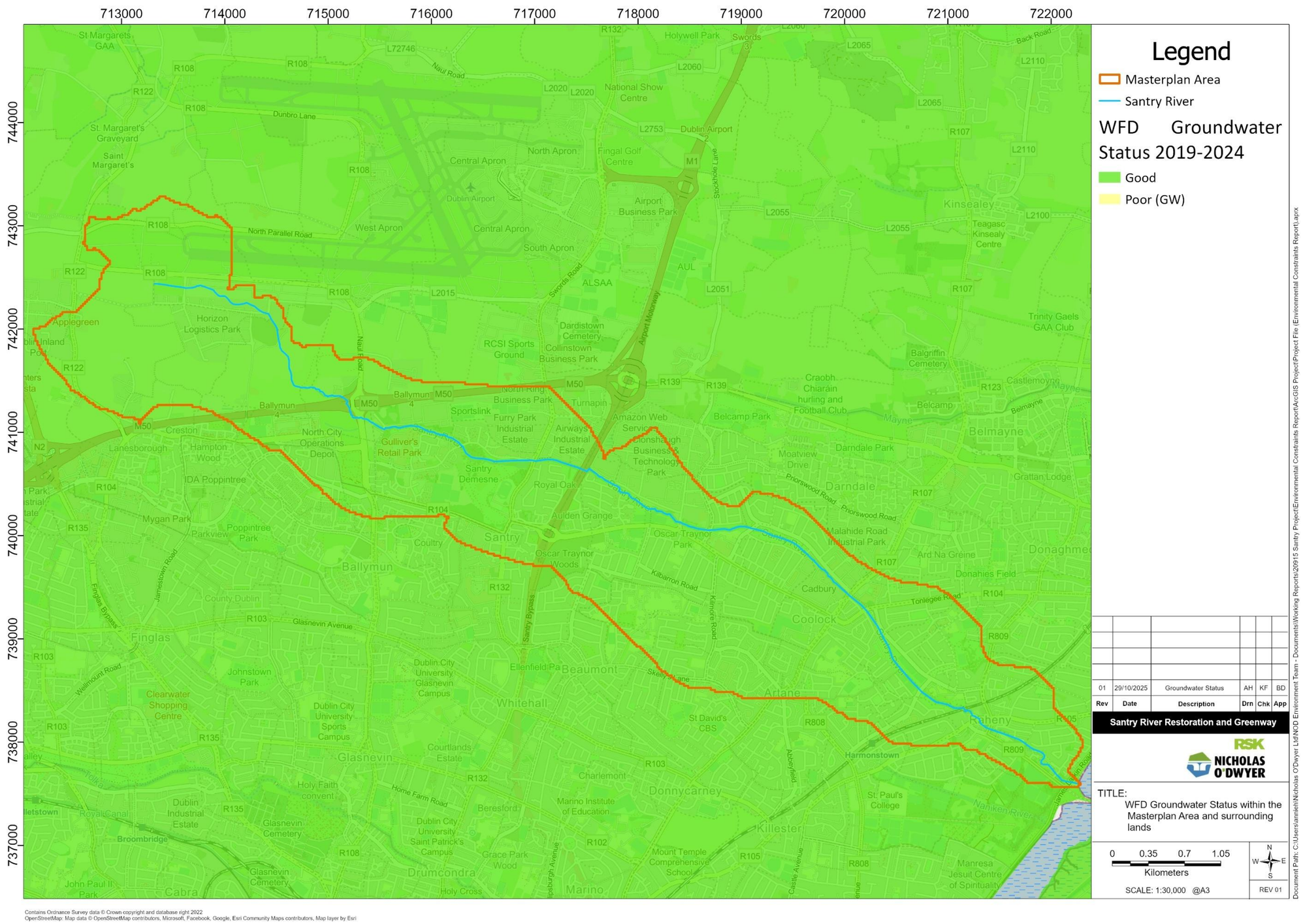

Figure 5-11: WFD Groundwater Status surrounding the Masterplan area (Data source: GSI)

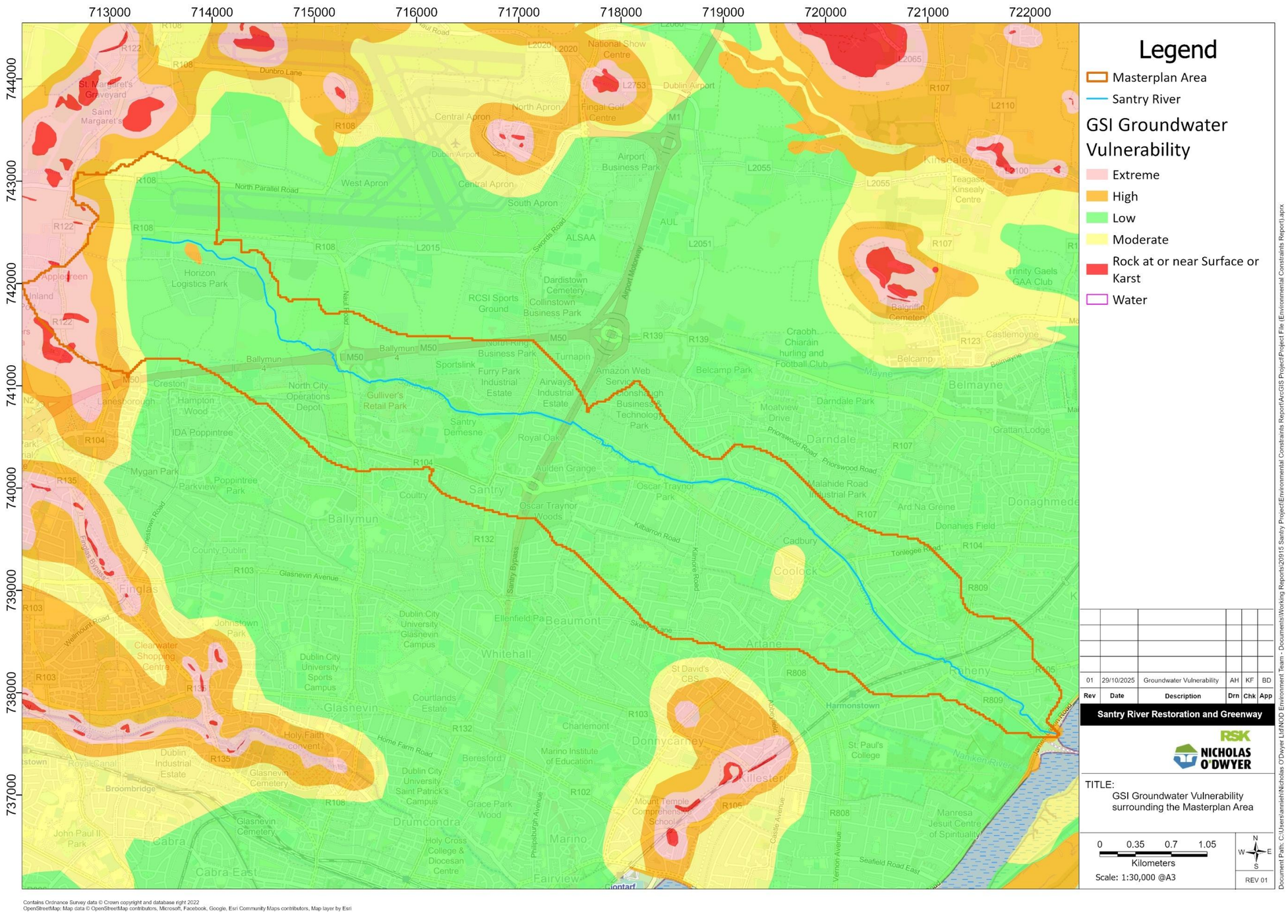

Figure 5-12: GSI Groundwater Vulnerability surrounding the Masterplan Area

5.5.3 WFD Surface Waters

Santry_010 The Santry_010 has its origins at Harristown and Dubber, south of St. Margaret's. It flows from immediately south of the western edge of Dublin Airport and is parallel to the main runway for a short distance. From here, it flows east through Silloge Golf Club, under the M50 Motorway at Ballymun and through Santry Demesne. It then passes under the M1 / M50 Motorway at Santry, through Kilmore, Edenmore, Raheny and under the Dublin / Belfast railway line before discharging to Dublin Bay at the North Bull Island SPA. It has a total length of approximately 6km and has a catchment area of approximately 27.5km^2. Land use within the catchment is predominantly urban with land surrounding the upstream portion of the River Santry used for agricultural purposes.

The most recent Biological Q Value assessment of the River Santry was in 2019, at one monitoring station (Clonshaugh Road Bridge) located downstream of the study area, approximately 3km from the Masterplan area. The Q Value along the River Santry was Q2 to Q3, which equates to poor water quality. The EPA River Quality Surveys: Biological (EPA 2020c) reported that: '*Ecological conditions at Clonshaugh Road Bridge remain Poor, declining very slightly on 2016 results*.' In terms of assigning sensitivity, the Santry_010 is of Poor Status. It does flow into North Bull Island SPA, but this is approximately 8km downstream from the closest point to the Masterplan area.

5.5.3.1 Industrial Wastewater Discharges

There are two licensed waste facilities within the Masterplan area, which are North City Operations Depot (RegCD W0302) and Ballymun Recycling Centre (RegCD W0302). Furthermore, there are facilities that have industrial emissions licenses (IEL) within the Masterplan area, namely:

- Barclay Chemicals Manufacturing Limited (RegCD P0317)
- Mouldpro International Limited (RegCD P0131)
- Mondelez Ireland Production Limited, Coolock (RegCD P0809)
- Crown Paints Ireland Ltd (RegCD P0248)
- Smurfit Ireland & UK Ltd (RegCD P0095)

In addition, there are EPA licensed Integrated Pollution Control (IPC) facilities within the Masterplan area and these are:

- Wood-Printcraft Limited (P0143)
- Forest Laboratories Ireland Limited (P0306)
- Computer Plating Specialists Limited (0278)

5.5.3.2 Storm Water Overflow Discharges

The Ringsend Wastewater Treatment Agglomeration (D0034) has been identified as a significant pressure in the Santry_010 and Santry_020 Rivers in the 3rd Cycle Liffey and Dublin Bay Catchment Report (EPA, 2024).

Along the Santry River there are 7 no. Licensed Storm Water Overflows under the Ringsend Wastewater Discharge (D0034), the location of these overflows can be seen in **Figure 5-13.**

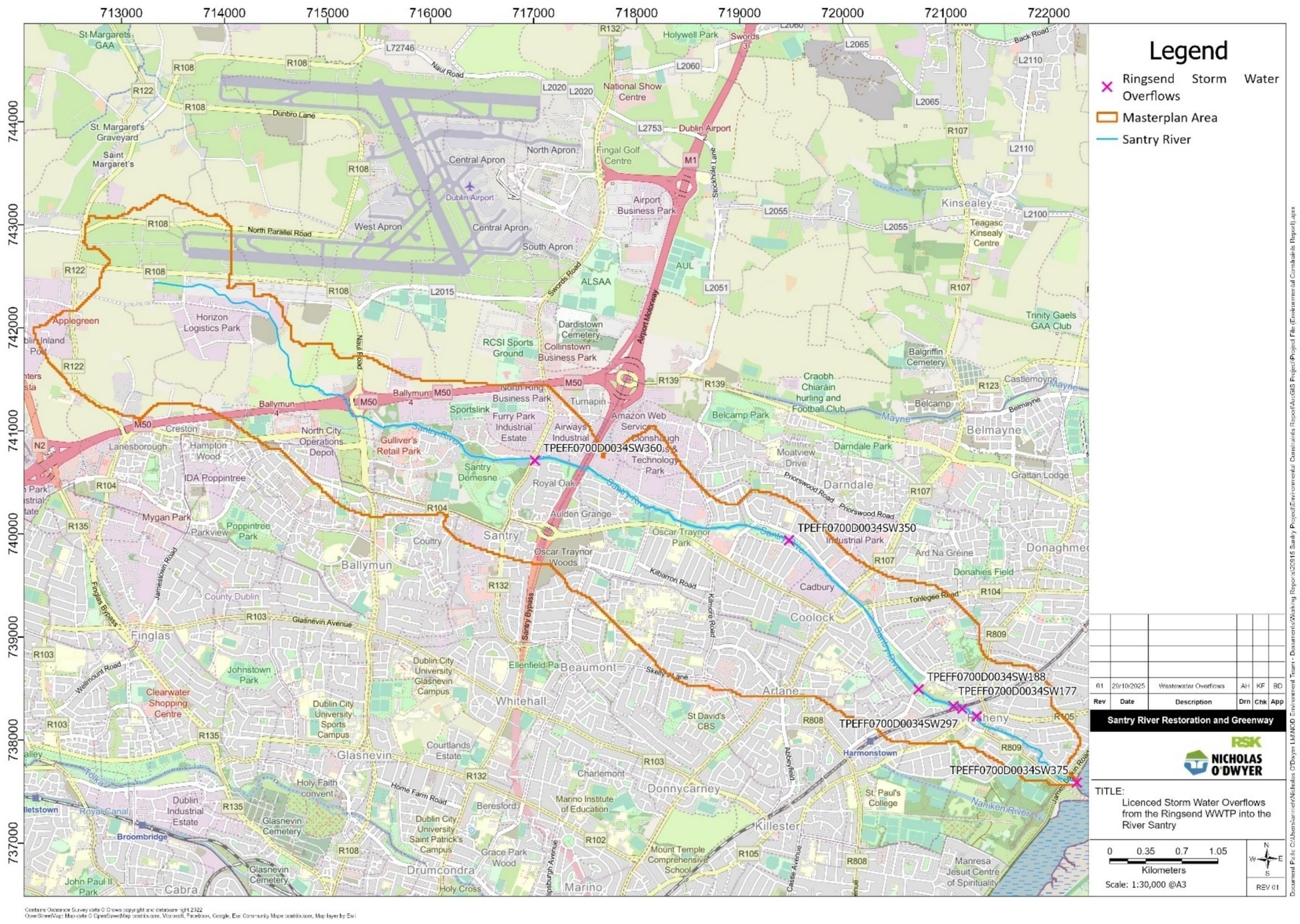

Figure 5-13: Licenced Storm Water Overflows from the Ringsend WWTP into the River Santry

5.5.4 Flooding

5.5.4.1 Surface Water Flooding

Surface water flooding occurs when the local drainage system cannot convey stormwater flows from extreme rainfall events. The rainwater does not drain away through the normal drainage pathways or infiltrate into the ground but instead ponds on or flows over the ground. Surface water flooding is unpredictable as it depends on a number of factors including ground levels, rainfall and the local drainage network. There is no indication of previous issues with the existing drainage network.

5.5.4.2 Groundwater Flooding

Groundwater flooding is a result of upwelling in occurrences where the water table or confined aquifers rise above the ground surface. This tends to occur after long periods of sustained rainfall and / or very high tides. High volumes of rainfall and subsequent infiltration to ground will result in a rising of the water table. Groundwater flooding tends to occur in low-lying areas, where, with additional groundwater flowing towards these areas, the water table can rise to the surface causing groundwater flooding. The sources consulted such as the OPW mapping and GSI records (Department of Communications, Climate Action and the Environment (DCCAE) 2021) show no indication that the Masterplan area will be subject to groundwater derived flooding in this section.

5.5.4.3 Pluvial Flooding

Pluvial flooding results from heavy rainfall that exceeds ground infiltration capacity, or more commonly in Ireland, where the ground is already saturated from previous rainfall events. This causes ponding and flooding at localised depressions. Pluvial flooding is commonly a result of changes to the natural flow regime such as the implementation of hard surfacing and improper drainage design. The OPW flood maps show distributed flooding from this source.

5.5.4.4 Flooding from Fluvial and Sea Level Rises / Coastal Flooding

The Masterplan area will be in close proximity to the Tolka_050 and Tolka_060. OPW flood maps show the Masterplan area is outside the boundaries of the flood zones, and therefore, no likelihood of flooding from this source is expected.

5.6 Air Quality

The EPA has 115 stations monitoring ambient air data for the assessment of Ireland's air quality and supports reporting required under EU legislation.

EU air quality legislation requires EU Member States to report on air quality zones designated under the Ambient Air Quality Directive (EU)2024/2881). Ireland is divided into four zones for ambient air quality monitoring and management under the EU directives: zone A, Dublin city; zone B, Cork city; zone C, large towns with a population over 15,000; and zone D, the remainder of the country. The Masterplan area is within Zone A.

According to the EPA's State of the Environment Report 2024 (EPA, State of the Environment Report , 2025) annual NO_2, $PM_{2.5}$ and PM_{10} concentrations have decreased in zone A since 2010. The report also concluded Ireland is not meeting the WHO guidelines (WHO, 2021) for multiple pollutants including $PM_{2.5}$ for 80 out of 101 stations monitored in 2023 for $PM_{2.5}$, and for NO_2 with 29 of the 36 stations monitored for this pollutant not meeting the WHO air quality guidelines.

Three EPA air quality monitoring sites within the surrounding land of the Masterplan area are Marino, St. Anne's Park and Finglas. Annual $PM_{2.5}$ and PM_{10} data from 2024 and 2023 can be found in **Table 5-11**. As can be seen the $PM_{2.5}$ concentrations are not meeting the standards set out in the WHO Guidelines (WHO, 2021). The location of the stations in relation to the Masterplan Area can be seen in **Figure 5-14**.

Table 5-11: Annual Air Quality Measurements from 2024 and 2023 from Stations surrounding the Masterplan Area

	Parameter	St Annes Park	Marino	Finglas
Unit	**ug/m³**			
2024	$PM_{2.5}$	6.4	7.6	7.0
	PM_{10}	10.5	12.2	12.4
2023	$PM_{2.5}$	6.5	7.2	6.6
	PM_{10}	10.9	11.6	12.3

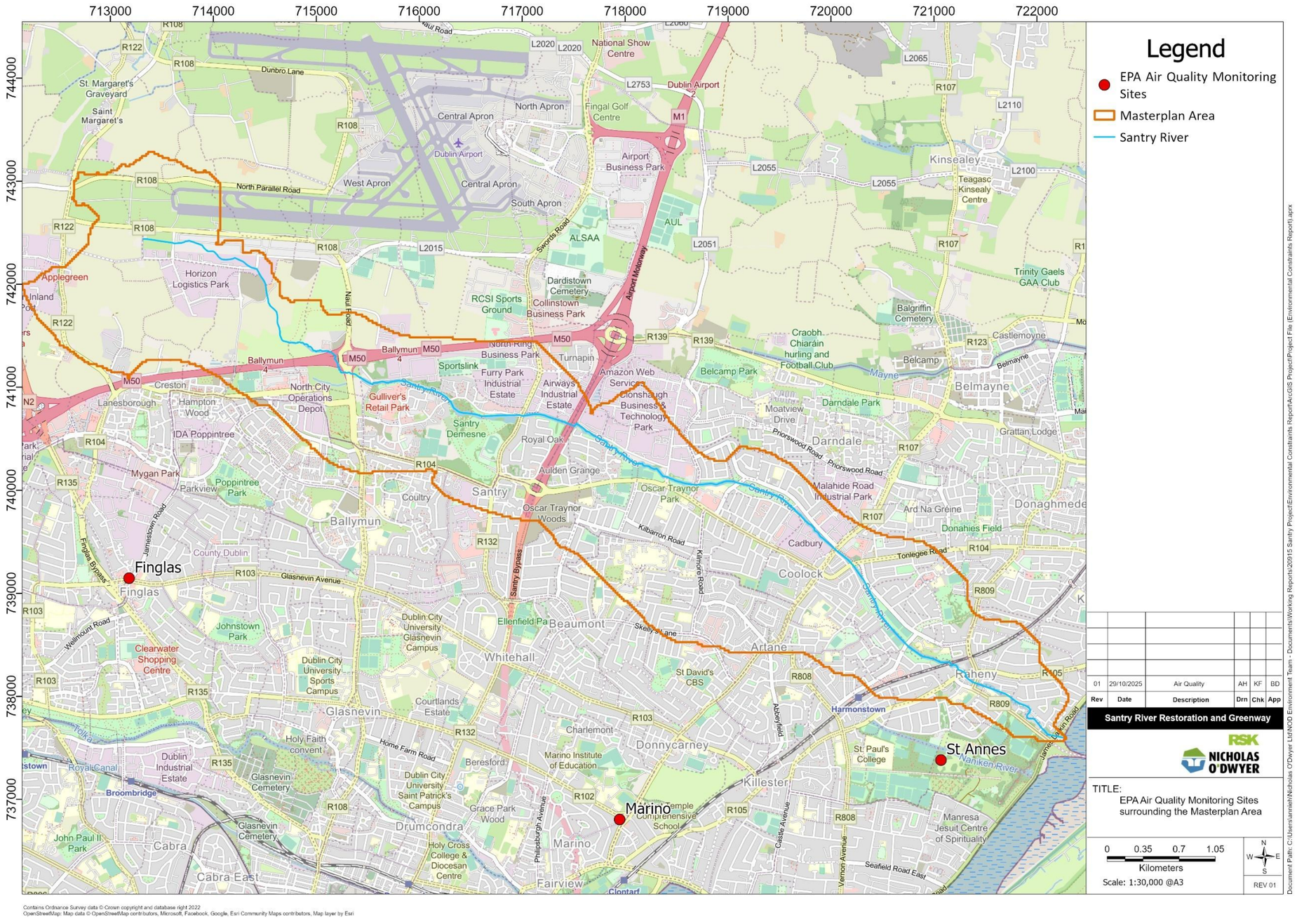

Figure 5-14: EPA Air Quality Monitoring Sites surrounding the Masterplan Area

5.7 Climate Change

The Climate Action and Low Carbon Development (Amendment) Act 2021 has a 51% reduction target in GHG emissions by 2030, compared with 2018 levels. According to the EPA, Ireland is not on track to meet this target (EPA, 2025).

Ireland's GHG emissions have decreased by 1.2% since 1990. **Figure 5-15** shows annual increases and decreases in the national total carbon dioxide emissions since 1990 can be seen in**.** As reported in the EPA's State of the Environment Report 2024 (EPA, 2025), although there is a decrease in GHG emissions, Ireland has yet to see the sustained and substantial annual decreases in emissions as a result of GHG emission mitigation measures that are required to meet Ireland's national targets and international obligations.

Ireland is one of the highest per capita emitters of GHGs in the EU. Emissions per capita decreased from 11.4 tonnes CO_2 equivalent per person in 2022 to 10.4 tonnes CO2 equivalent per person in 2023 (EPA, 2025).

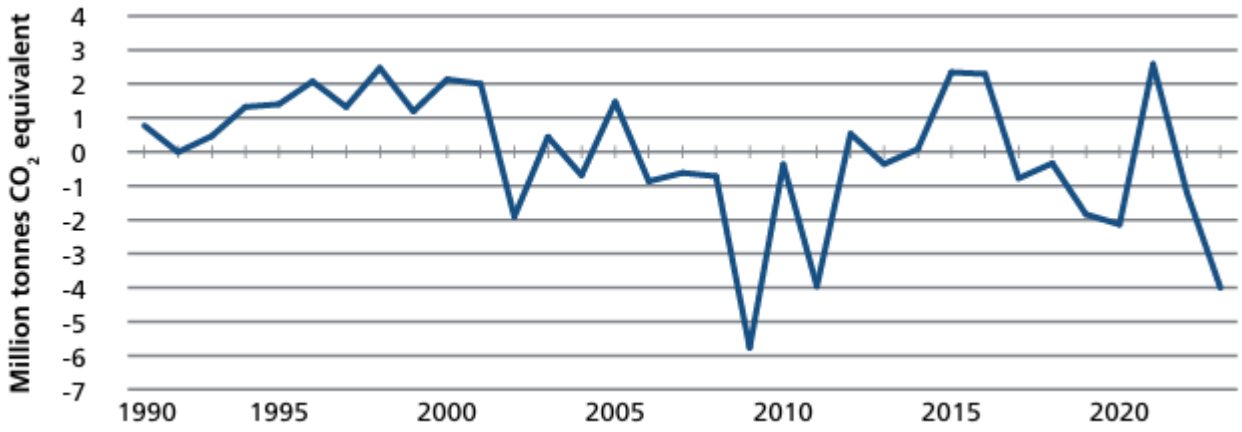

Figure 5-15: Interannual changes in national GHG emissions, 1990-2023

Key GHG emitting sectors in 2023 include agriculture, transport, and energy industries, as seen in **Figure 5-16**. Agriculture and transport emissions have increased by 1.3% and 129.2% over the period 1990-2023, respectively. The significant increase in transport emissions can be attributed to a 133.6% increase in road transport. Fuel combustion emissions from transport accounted for 9.2% and 24.4% of total national GHG emissions in 1990 and 2023, respectively (EPA, 2025).

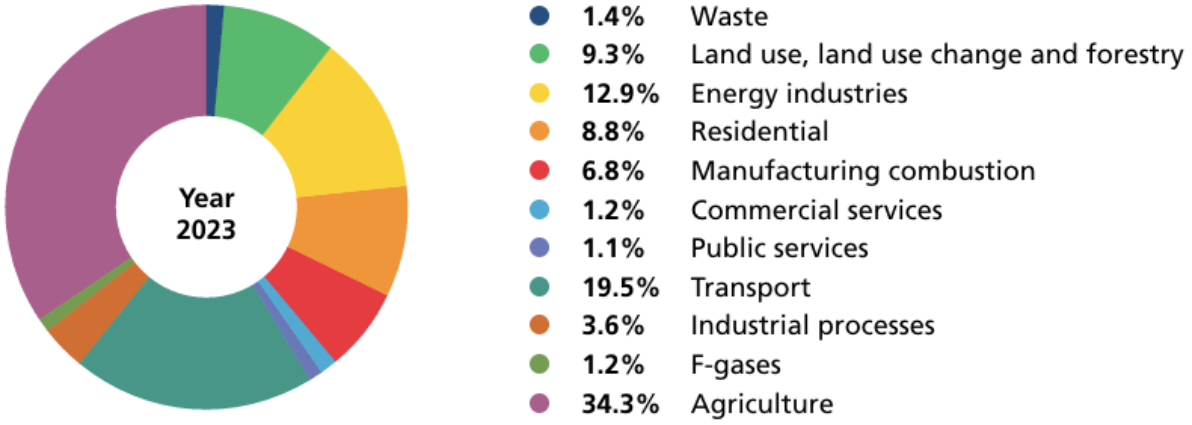

Figure 5-16: GHG emission by sector in 2023

5.8 Cultural Heritage and Archaeology

5.8.1 National Inventory of Architectural Heritage (NIAH) and National Monuments

The National Inventory of Architectural Heritage (NIAH) is a state initiative under the administration of the DAHG. Its purpose is to identify, record and evaluate the post 1700 architecture of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. In addition to the monument registers, there are a number of properties and areas managed by cultural heritage groups within the Masterplan area.

The National Monuments - Archaeological Survey of Ireland dataset is published from the database of the National Monuments Service Sites and Monuments Record (SMR). National monuments are managed under the auspices of the National Monuments Service, which is part of the Department of Housing, Local Government and Heritage.

The NIAH and National Monuments within the Masterplan area are shown in **Figure 5-17.**

There are 42 National Monuments within the Masterplan area while there are 49 NIAH; each with corresponding reference numbers shown in **Table 5-12** and **Table 5-13**. The tables display the respective codes for the National Monuments and the NIAH along with their name or classification.

There are no National Monuments or NIAH within 100 metres of the Santry River between the source of the river and Clonshaugh Business and Technology Park. However, approximately 500 metres downstream of Clonshaugh Business and Technology Park there is a burial mound (Reference no. 2). Further downstream near Coolock there is a cluster of mainly National Monuments that are within 100 metres of the river. There is a National Monument near Cadbury Chocolate Factory (a mound, reference no. 35). Then approximately 250 metres downstream there is a church (reference no. 5), a cross (reference no.8), an ecclesiastical enclosure (reference no. 11), a graveyard (reference no. 27), an unclassified a mill (reference no. 34) and a ritual site - holy well (reference

no. 39). Along with this, in the same area there is St John the Evangelist Church of Ireland Church (reference no. 54), which is designated as a NIAH also.

Moving further downstream, in the general Raheny area, St. Joseph's Nursing Home (reference no. 61) is roughly 100 metres from the Santry River. Along with this, in the same general area, there is a cluster of both National Monuments and NIAH that are within 100 metres of the Santry River. For the NIAH, there is Church of Our Lady Mother of Divine Grace (reference no. 66), St. Assam's Church (reference no. 60), Mint Cottage which was originally a school (reference no. 68) and another church (reference no. 67), which are all to the north of the river. As for the National Monuments, there is a church (reference no.6), an ecclesiastical enclosure (reference no.13) and a graveyard (reference no. 28) which are also all to the north of the Santry River. Additionally, to the south of the river there are three separate NIAH which were all originally used as worker houses (reference no. 69, 70 and 71), along with the Manor House Convent (reference no. 50) and Manor House School (reference no. 45), which are also NIAH.

Lastly, near to the mouth of the Santry River there is a small cluster of National Monuments along with a lone NIAH that are all within 100 metres of the Santry River. The lone NIAH is a post box (reference no. 52), while for the National Monuments there is an armorial plaque (reference no. 1), a 16th/17th century house (reference no. 29) and an unclassified water mill (reference no. 41).

Table 5-12: National Monuments within the Masterplan area

Reference Number	National Monuments Code	Class
1	DU019-001002-	Armorial plaque
2	DU015-071----	Burial mound
3	DU014-018----	Castle - unclassified
4	DU015-084----	Chapel
5	DU015-076001-	Church
6	DU015-082001-	Church
7	DU014-057001-	Church
8	DU015-076005-	Cross
9	DU019-039----	Earthwork
10	DU014-139----	Earthwork
11	DU015-076003-	Ecclesiastical enclosure
12	DU014-057005-	Ecclesiastical enclosure
13	DU015-082003-	Ecclesiastical enclosure
14	DU014-057002-	Ecclesiastical residence
15	DU014-008----	Enclosure

Reference Number	National Monuments Code	Class
16	DU014-017----	Enclosure
17	DU014-022----	Enclosure
18	DU014-105----	Enclosure
19	DU014-106----	Enclosure
20	DU014-110----	Enclosure
21	DU014-104----	Enclosure
22	DU014-123----	Enclosure
23	DU014-021----	Field system
24	DU014-107----	Field system
25	DU014-057003-	Font
26	DU014-057006-	Graveyard
27	DU015-076002-	Graveyard
28	DU015-082002-	Graveyard
29	DU019-001001-	House - 16th/17th century
30	DU014-040----	House - 16th/17th century
31	DU014-030----	House - 18th/19th century
32	DU014-019----	House - indeterminate date
33	DU014-047----	Inn
34	DU015-076004-	Mill - unclassified
35	DU015-074----	Mound
36	DU015-017----	Redundant record
37	DU015-077----	Ring-ditch
38	DU014-131----	Ring-ditch
39	DU015-075----	Ritual site - holy well
40	DU014-057004-	Ritual site - holy well
41	DU019-001003-	Water mill - unclassified
42	DU015-089----	Windmill

Table 5-13: NIAH Structures within the Masterplan area

Reference Number	NIAH Reg Number	Name	Original Use
43	50030006	Walmer Villa	house
44	50030018	n/a	post box
45	50030016	Manor House School	gates/railings/walls
46	50030049	n/a	post box
47	50030059	Holy Rosary Convent	house
48	50030062	n/a	post box
49	50030061	n/a	post box
50	50030017	Manor House Convent	church/chapel
51	50030014	Bettyglen	house
52	50030015	n/a	post box
53	50030063	n/a	post box
54	50030058	St John the Evangelist Church of Ireland Church	church/chapel
55	50030078	All Saints' Church	church/chapel
56	50030100	Raheny House	house
57	50030081	n/a	milestone/milepost
58	50030068	n/a	railway station
59	50030070	Crescent Cottages	worker's house
60	50030072	St Assam's Church	church/chapel
61	50030066	St Joseph's Nursing Home	house
62	50030065	St Joseph's Nursing Home	demesne walls/gates/railings
63	50030064	n/a	post box
64	50030077	n/a	gate lodge
65	50030067	n/a	school
66	50030069	Church of Our Lady Mother of Divine Grace	church/chapel
67	50030071	n/a	church/chapel
68	50030073	Mint Cottage	school

Reference Number	NIAH Reg Number	Name	Original Use
69	50030076	n/a	worker's house
70	50030074	n/a	worker's house
71	50030075	n/a	worker's house
72	50130219	n/a	post box
73	50130238	n/a	post box
74	50130233	n/a	icehouse
75	50130221	n/a	factory
76	50130228	St. Brendan's Parish Centre	church/chapel
77	50130229	St. Brendan's Presbytery	school
78	50130245	n/a	post box
79	50130234	Convent of Mercy	church/chapel
80	50130115	St. Pappan's Church	church/chapel
81	50130113	St. Pappin's Silver Stream	church/chapel
82	50130218	Larch Hill House	house
83	50130217	n/a	post box
84	50130231	n/a	post box
85	50130225	Woodville House	country house
86	50130239	n/a	post box
87	50130235	Beaumont House	farm house
88	50130116	n/a	rectory/glebe/vicarage/curate's house
89	50130114	Domville House Clinic	presbytery/parochial/curate's house
90	50130322	Domville Monument, St Pappin's Church	Grave monument
91	50130320	LeFroy Tomb	Grave monument

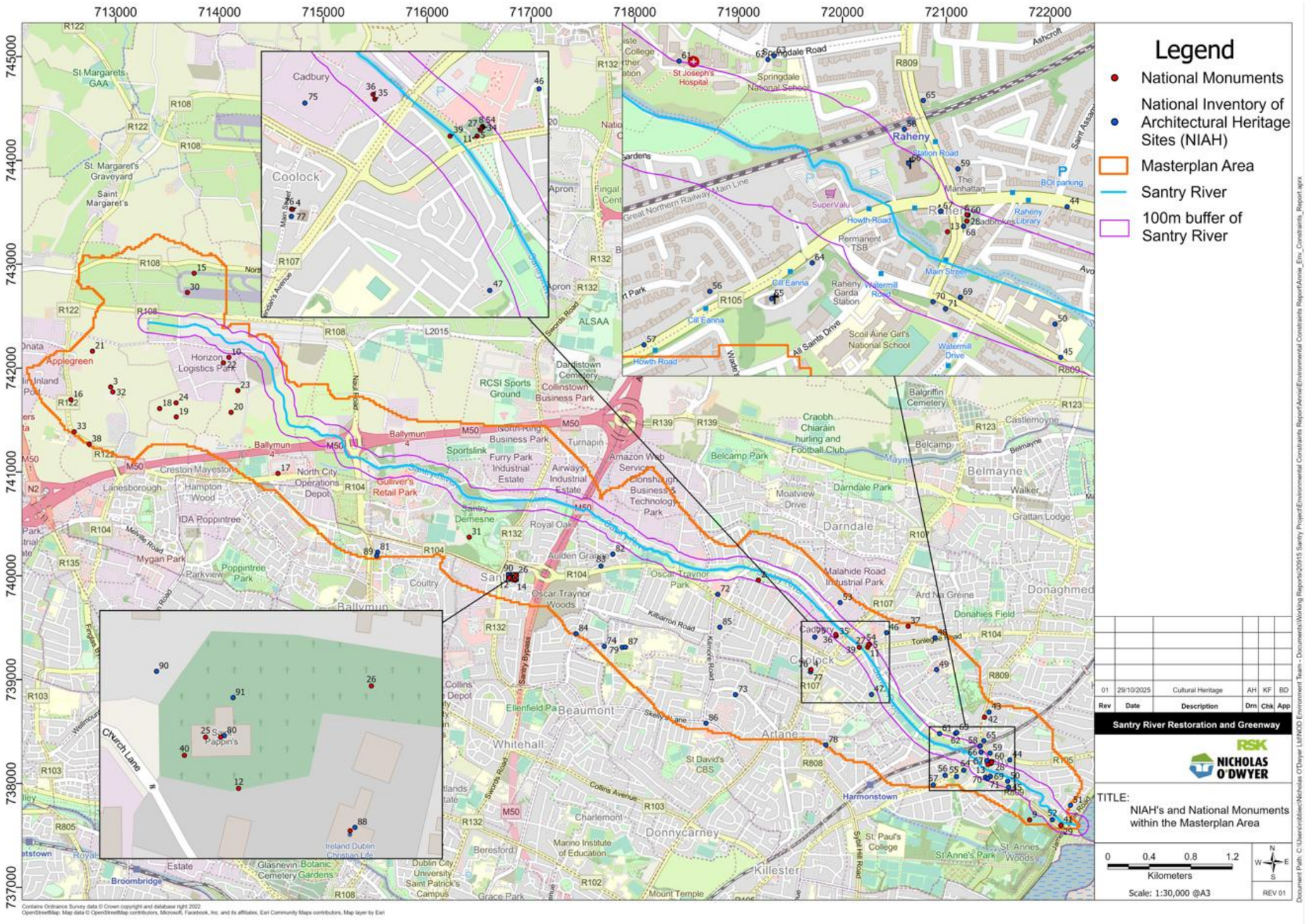

Figure 5-17: NIAH's and National Monuments within the Masterplan Area

Data source: Historic Environment Viewer

5.8.2 Record of Protected Structures

A Record of Protected Structures (RPS) lists all protected structures and buildings in a particular county. Volume 4 of the 2022-2028 Dublin City Plan contains the current RPS for DCC, while Appendix 5 of the Fingal Development Plan 2023-2029 includes the current RPS for FCC. There are several protected structures on the DCC and FCC RPS list respectively, which are located within the vicinity of the Masterplan area.

5.8.3 Industrial Heritage Sites

Fifteen Industrial Heritage Sites have been recorded in the Masterplan area and eight of these are within 100 metres of the Santry River, as shown in **Figure 5-18**. These are Dublin City Industrial Heritage Records (DCIHR) Site numbers 1412001, 1412003, 1513004, 1513006, 1513009, 1514006, 1902004 and 1902006.

Table 5-14: Industrial Heritage Sites within Masterplan area

Reference number	DCIHR ID	Site Name	Site Function
1	14 12 001	N/A	Santry Bridge
2	14 12 003	Shrubs Bridge	Bridge (road/Santry River)
3	14 12 004	Smithy; Forge	Smithy (Forge)
4	15 13 001	Great Northern Railway (Dublin & Drogheda Railway)	Railway
5	15 13 003	Bridge	Bridge (road/rail)
6	15 13 004	Bridge	Bridge (road/river)
7	15 13 005	Bridge	Bridge (road/rail)
8	15 13 006	Raheny Station	Railway Station
9	15 13 007	Smithy	Smithy
10	15 13 008	Shooting School (Quarry)	Shooting School (Quarry)
11	15 13 009	Coolock Bridge	Bridge (road/Santry River)
12	15 14 006	Smithy	Smithy
13	19 02 004	Sand Pit (Gravel Pits)	Sand Pit (Gravel Pits)
14	19 02 005	Watermill	Water Mill

Reference number	DCIHR ID	Site Name	Site Function
15	19 02 006	Watermill Bridge	Bridge (tramway/Santry River)

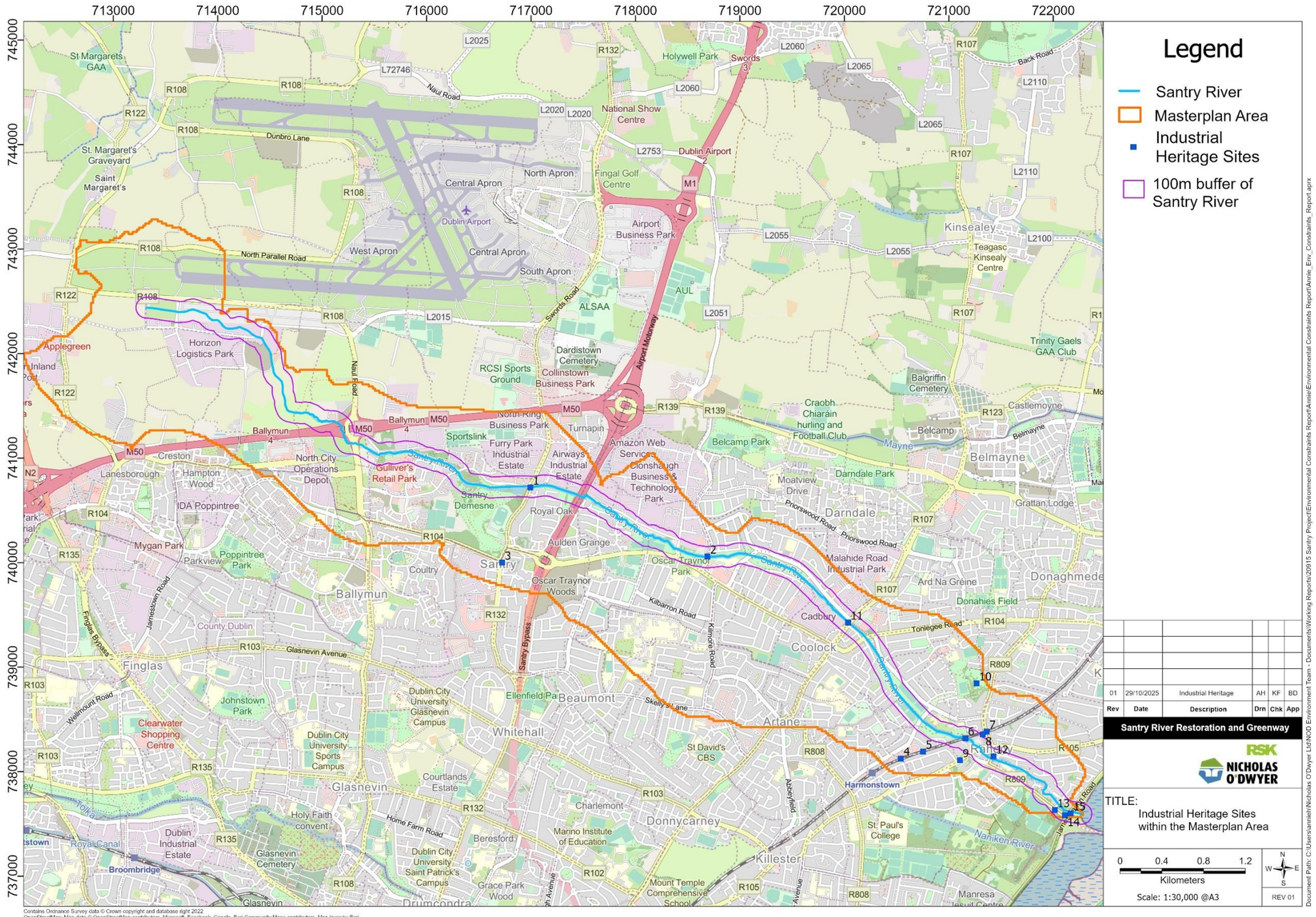

Figure 5-18: Industrial Heritage Sites within the Masterplan Area

Data source: Heritage Maps

5.8.4 Historic Gardens

Seven historic gardens are located within the Masterplan area, as shown in **Figure 5-19.** In the middle reaches of the river, it passes through Santry Demesne and Woodlawn. While the Santry River passes through Kilmore lodge, Bonnybrook House, Coolock Lodge, Brookville House and Edenmore in the lower reaches.

Table 5-15: Historic Gardens within the Masterplan area

Reference Number	Site Name
1	Santry House
2	Furry Park, Santry
3	Woodlawn
4	Beaumont House
5	Kilmore House
6	Kilmore Lodge
7	Bonnybrook House
8	Gracefield
9	Coolock House
10	Brookville House
11	Coolock Lodge
12	Edenmore
13	Raheny House
14	Belmont

Data source: NIAH

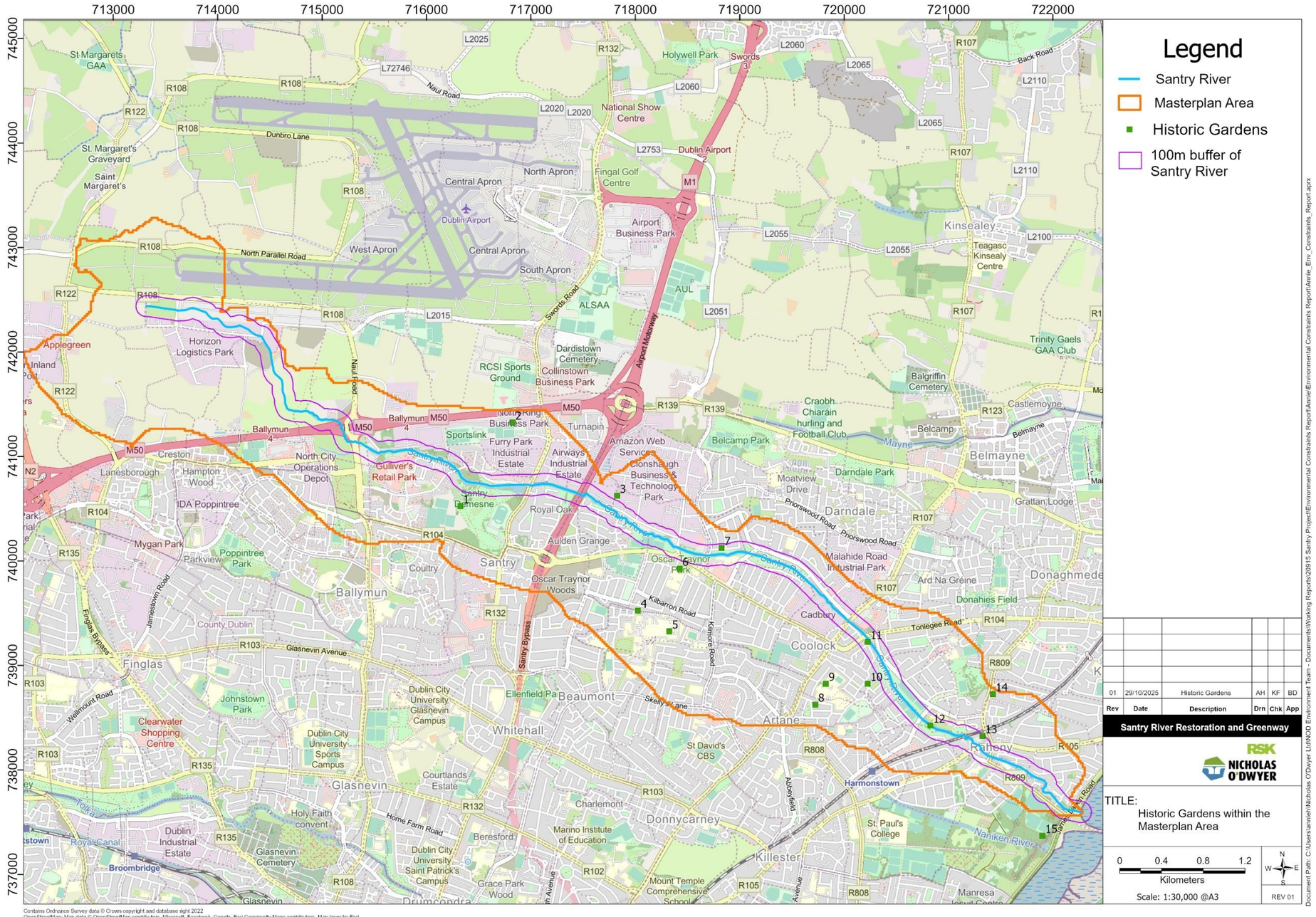

Figure 5-19: Historic Gardens within the Masterplan Area

5.9 Landscape and Visual

There is currently no published national level landscape mapping for Ireland. In accordance with the Planning and Development Act 2010, all local authorities need to undertake Landscape Character Assessments (LCAs) within their Development Plans to ensure that defining features are protected and managed.

5.9.1 Fingal County Development Plan 2023-2029

The Fingal County Development Plan characterises six LCAs and classifies their sensitivity (to change):

- Rolling Hills Character Type (medium sensitivity);
- High Lying Character Type (high sensitivity);
- Low Lying Character Type (low sensitivity);
- Estuary Character Type (high sensitivity);
- Coastal Character Type (high sensitivity); and
- River Valleys and Canal Character Type (High sensitivity).

The west portion of the Masterplan area is located within the FCC (Fingal County Council) administrative area. This whole west portion of the Masterplan area is a 'Low Lying Agricultural' landscape character type in the latest Fingal County Development Plan. Low Lying Character types are classified as having low landscape sensitivities in the latest Fingal County Development Plan. As shown in **Figure 5-20**, there are no FCC highly sensitive landscapes recorded within the Masterplan area.

5.9.2 Low Lying Character Type

Low Lying Character Type has an open character combined with large field patterns, few tree belts and low roadside hedges. The main settlements located within the area include Oldtown, Ballyboghil and Lusk and parts of Malahide and Donabate. Dublin Airport is located in this area. This low-lying area is dominated by agriculture and a number of settlements. The area is categorised as having a modest value. It contains pockets of important value areas requiring particular attention such as important archaeological monuments and demesnes and also the Feltrim Hill and Santry Demesne proposed Natural Heritage Areas (Fingal County Council, 2023).

5.9.3 Dublin City Development Plan 2022-2028

Within Dublin City, there are outstanding landscapes of national importance including a National Special Amenity Area (SAA) at North Bull Island and a National Historic Park – the Phoenix Park.

DCC does not have a completed LCA, but it is an objective in the latest Development Plan (2022-2028) to:

"Prepare a Landscape Character Assessment for Dublin City, during the lifetime of the plan in accordance with the National Landscape Strategy 2015 – 2025 and the forthcoming National Landscape Character Map and national guidance on local landscape character assessments" (Objective Code: GIO16).

5.9.4 Landscape Character Assessment of the Santry River

A draft report by MEC Ltd identified four landscape character areas within the Masterplan area, namely are Silloge, Santry Demense, Clonshough and St Anne's coastal (MEC Ltd, 2023). This study was prepared for DCC and FCC as a baseline report for the Santry River Restoration and Greenway Masterplan.

The four landscape character areas within the Masterplan area are summarised below.

5.9.4.1 Landscape Character Area 1: Silloge

The most western part of the Masterplan area. This Landscape Character Area extends from the Western boundary to the Regional Road R108. A largely flat, gently undulating Landscape Character Area and it comprises a mix of different land uses that create diverse character. These include farmland, primarily arable; the recreational uses of the golf course; and busy active transport uses namely the road and edge of Dublin Airport and associated uses.

The key characteristics of this Landscape Character Area are the following:

Open landscape character reflecting largely flat, expansive landform and topography;

It is influenced by modern transport infrastructure and activity, notably the noise and aviation of Dublin Airport to the north and the busy motorways and regional roads that traverse the Landscape Character Area to the south (M50), and north south (R108). The noise from traffic and aviation is a dominant feature and effects the experience of landscape in this Landscape Character Area; and

The Santry River is not particularly visible or accessible throughout this Landscape Character Area with the watercourse being restricted, and relatively shallow with some areas of semi natural vegetation.

The landscape character condition is variable with more parkland habitat associated with Sillogue golf course and some hedgerows and field boundaries intact.

5.9.4.2 Landscape Character Area 2: Santry Demense

This Landscape Character Area is a historical demesne that has been surrounded over time by modern land uses and interventions. It functions as an important wildlife refuge and is a proposed Natural Heritage Area. It is also a popular recreational park under FCC management. It is surrounded by busy transport links. The key characteristics of this Landscape Character Area are the following:

- The landscape has significant historical, ecological and recreational importance. Recreational uses including walking, cycling, playground and community garden;

- Santry demesne is a proposed Natural Heritage area; it is attractive, and used appropriately, providing a refuge from busier urban areas for people and wildlife;
- On the western side, the Landscape Character Area is narrower with a more enclosed character and influence of peri-urban fringe with retail and transport land use being more influential;

At the eastern side, the Landscape Character Area expands to include riparian features, parkland with remnant-built heritage features (walled garden, temple) and designed parkland of the former Santry House and demesne; and

It is bordered by residential, retail and hotel use in most areas.

5.9.4.3 Landscape Character Area 3: Clonshaugh

This Landscape Character Area stretches from Ballymun to Raheny. It is predominantly urban and suburban with older settlements and former large houses repurposed over time to provide housing, industrial or institutional use.

The key characteristics of this Landscape Character Area are the following:

- There are elevated areas affording open and more extensive views;
- This is a busy, populated, large urban area with associated land uses including residential, retail, commercial, transport and amenity;
- The existing open spaces and public realms associated with the River, including the Stardust Memorial Park, Coolock Lane and pockets of green space are important quieter areas;

In Coolock, the river forms a central feature in the valley that cuts through the district and features the pond known as Coolock Lake; it includes a small cascade as the river flows through the Stardust Memorial Park;

Pedestrian footpaths present along frequently busy roads;

Visibility and condition of the Santry River varies considerably within this Landscape Character Area ;

- The area and river has been subject to extensive modification and remnants of older built heritage are notable with 20th century residential development on grounds of former large houses; and
- The playing fields at St Malachy's offer one of the most attractive views in the Masterplan area and support a number of brent geese and other wintering birds.

5.9.4.4 Landscape Character Area 4: St Anne's Coastal

This small Landscape Character Area extends east of Raheny village along Watermill Road with St Annes Park forming the eastern boundary as well as the eastern lagoon behind

North Bull Island with river entering Sutton creek. The key characteristics of this Landscape Character Area are the following:

- Extends from Raheny village sloping towards the coast;
- Ecological and hydrological links to designated sites including North Dublin Bay SAC, North Bull Island SPA and the Dublin Bay UNESCO Biosphere;
- Attractive combination of residential development and the treelined avenue of Watermill Road;
- Popular recreational spaces at St Annes Park and coastal pathways; and
- View along Watermill Road with eye drawn to coastal habitats of North Bull Island.

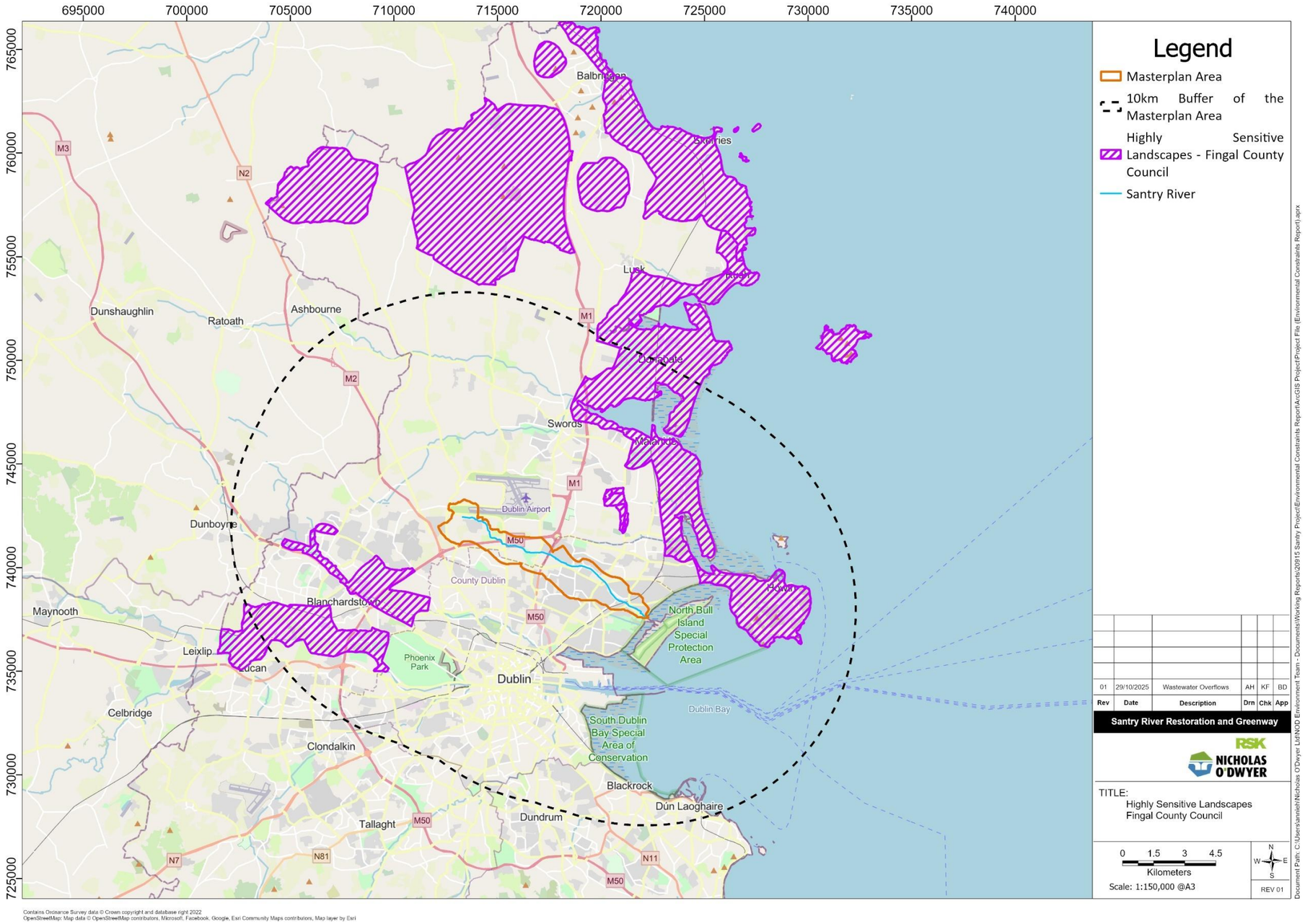

Figure 5-20: Highly Sensitive Landscapes within 10 km of the Masterplan Area

Data source: Fingal County Development Plan 2023-2029

5.10 Material Assets

5.10.1 Wastewater and Water Services Infrastructure

5.10.1.1 Wastewater

Wastewater from the Masterplan area discharges to the Ringsend Wastewater Treatment Plant (RegCD: D0034) which is operated by Uisce Éireann. The Ringsend WwTP currently has no spare capacity available but has received planning permission in 2012 and 2019 respectively for a major upgrade. The upgrade is being delivered on a phased basis and is due to be complete by 2025. Once completed, Ringsend WwTP will have the capacity to treat the wastewater for a population equivalent of 2.4 million which will allow for growth in both population and industry, while achieving the standards of the Urban Waste Water Treatment Directive.

5.10.1.2 Drinking Water

Uisce Éireann is currently suppling drinking water to the Fingal area from the Leixlip Water Treatment Plant (WTP) (abstracted from the River Liffey), supplying drinking water to the Dublin Region including north Dublin City and county, parts of South Dublin and Kildare.

Uisce Éireann is responsible for providing and developing public water services; and ensuring drinking water quality meets the standards in the Drinking Water Regulations. The EPA is the drinking water quality regulator, responsible for enforcing the Drinking Water Regulations. The latest Drinking Water Quality in Public Supplies 2021 was published by the EPA in 2022. The report outlines the drinking water priorities and challenges which should be addressed on a national level, to protect and improve public drinking water supplies, these are to:

- Ensure that water is free from bacteria;
- Ensure that water is free of protozoan organisms;
- Ensure that water is free of chemical substances;
- Ensure that water treatment plants are operated correctly;
- Reducing exposure to lead;
- Drinking water safety plans.

The reports notes that the quality of drinking water in public supplies remains high. Over the years of the EPA's Remedial Action Lists (RALs), the number of supplies on the List has decreased from year to year. Effective disinfection is the most fundamental part of the water treatment process and the part with the greatest potential to impact on public health. As of Q4 in 2022, 58 no. supplies remain on the RAL.

The Santry_010 and Santry_020 Rivers are not listed as Drinking Water Protection Rivers under Article 7 of the EU Water Framework Directive and do not serve as a source for drinking water abstractions.

5.10.2 Transport Infrastructure

5.10.2.1 Public Transport

Public transport is crucial for the Masterplan area and the region as it has the greatest potential to move the highest volume of people. There are a number of strategic projects in the Greater Dublin Area (GDA) Strategy 2022-2042 proposed that have the potential over the coming years to have a transformative impact on travel by shifting the dominance of car-based transport towards public transport in the Masterplan area along with the rest of Dublin.

Public transport projects include:

- BusConnects New Dublin Area Bus Network, where the H-Spine includes routes connecting Dublin's north-east to the city centre so it will connect Raheny to the city centre.
- BusConnects Core Bus Corridor, where there is a Ballymun/Finglas to City Centre orbital route being proposed.
- MetroLink Project, a high-frequency metro railway with 16 new stations running from Swords to Charlemont. Of particular relevance to the Masterplan area are the stations running through Ballymun and Northwood.

5.10.2.2 Roads

The Masterplan area is well served by the national road network. The M50 traverses the north and central sections of the Masterplan area, which allows for quick access between the suburban areas surrounding the three M50 Junctions. **Figure 5-21** shows the national and major roads network surrounding the Masterplan Area.

The three M50 Junctions within the Masterplan area are Junction 4 (Ballymun), Junction 3 (M1/M50) and Junction 2 (Santry). Junction 2 is located near Santry, Whitehall, Beaumont and Kilmore. Coolock Lane (R104) off the Junction 2 roundabout provides quick access to the Coolock and Artane areas. Junction 3 is located near Turnapin which is where industrial estates such as Furry Park, Airways and Clonshaugh Business & Technology Park are situated.

Lastly Junction 4 is located in the ED of Dubber, which is right beside IKEA and other industrial areas. The Naul Road (R108) off the Junction 4 roundabout provides quick access to the Ballymun and Santry areas. Along with this, there is strong network of regional and local roads throughout the rest of the Masterplan area. These regional and local roads serve an important economic role and also have valuable social and community functions, often being the sole means of access for local economic activity[6].

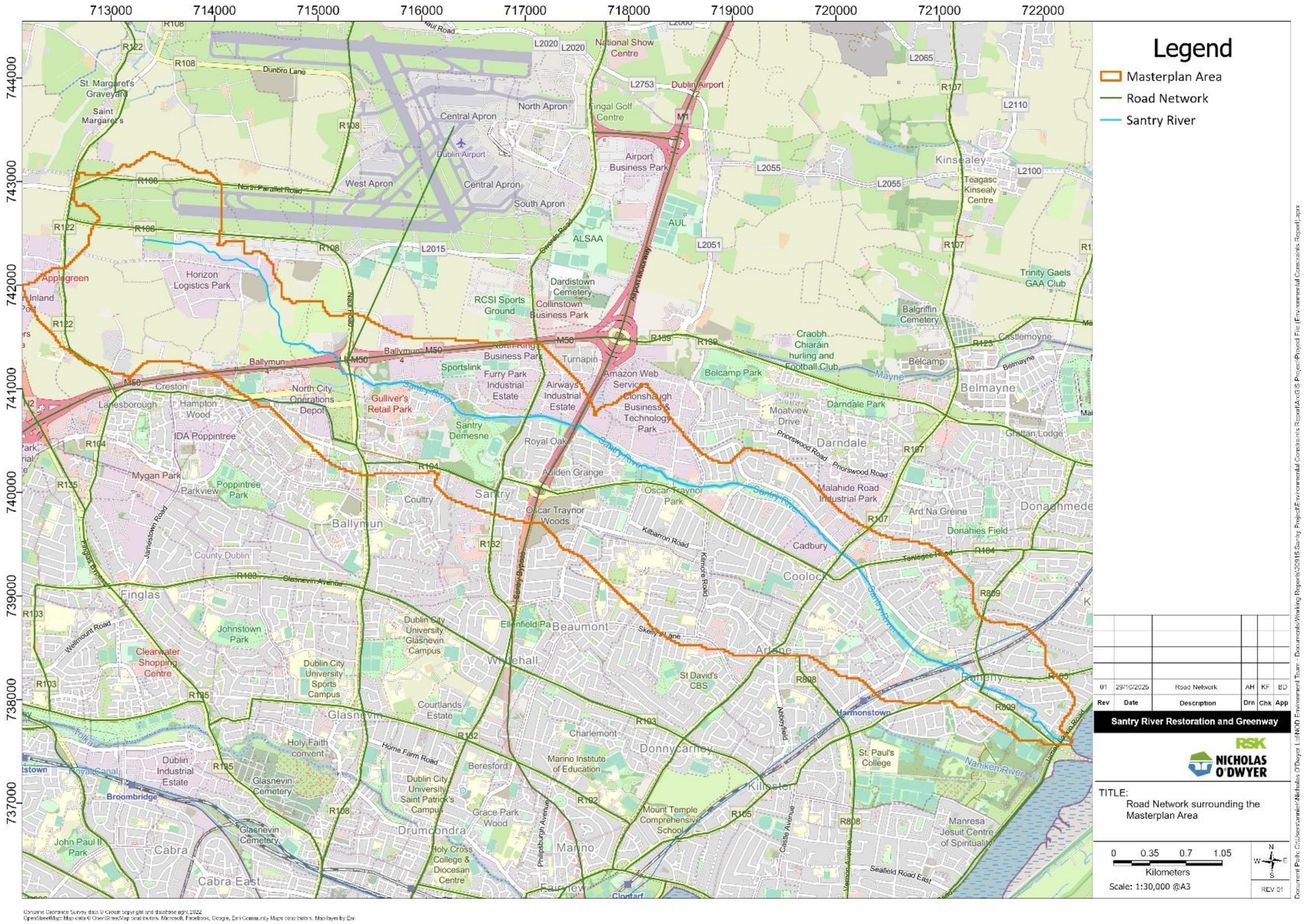

Figure 5-21: Road Network surrounding the Masterplan Area

Data Source: Transport Infrastructure Ireland

5.10.2.3 Cycling and Walking Infrastructure

Cycling and walking is environmentally friendly, fuel-efficient and a healthy mode of transport to work, school, shopping and for recreational purposes.

Within Dublin City, the cycle network continues to be expanded and work is progressing on the road and bridge infrastructure projects identified. The pedestrian network continues to be improved and expanded and construction is due to commence shortly on several city centre public realm projects.

Cycling and walking have also increased in the period 2006-2019. An examination of the cordon counts shows that there has been a significant increase in active travel demonstrated by a 171% increase in cycling within the area enclosed by the two canals in the 13-year period from 2006 to 2019. Walking has also continued to increase year on year with almost double the number of people walking across the canal than those cycling in November 2019, a 44.3% increase since 2006 (Dublin City Council , 2022).

5.10.2.4 Local Transport Network

Swords Road/Northwood Avenue junction

Currently, there are pedestrian crossings to north and west arms only. The continuity with Greenway is poor, requiring two crossing movements. The visibility on west arm is poor due to stone gateposts at crossing, obstructing view of motorists from Northwood Avenue.

Oscar Traynor Road/IDA entrance

In the existing situation, the set up involves light-controlled right-turn movements with free left-turn lanes. There is frequent HGV traffic from logistics facilities. The continuity with the Greenway is adequate, however, the crossing safety is poor. Traffic from Oscar Traynor Road west is not interrupted and may at times flow continuously without a break for cyclists to cross.

Clonshaugh Road

The river is covered over by car park to the west. There is car park access off Clonshaugh Road to east (Lidl/The Range) and west (Northside Shopping Centre) almost opposite each other. Access to the educational campus (Coláiste Dhúlaigh) lies immediately north of Northside access. Continuity with the Greenway is poor. Safety is also poor, as existing cycle lanes are not adequate and visibility is challenging due to multiple vehicle movements in the immediate vicinity.

Barryscourt Road/Adare Road

Currently, the junction is a mini-roundabout with small islands on the Barryscourt Road arms. Pedestrian crossing facilities are not provided, with dished kerbs misaligned. Barryscourt Road is a bus route. Continuity from the Greenway to cycle lanes on Adare Road is good. There is a crossing located behind the traffic island, which is close to the roundabout. Safety is moderate to poor, as the roundabout does not adequately deflect and slow through-traffic from the southwest arm and cyclists are at risk of being struck by speeding vehicles.

6 SEA OBJECTIVES

6.1 Strategic Environmental Objectives and Indicators

DHLGH guidance (Department of Housing, Local Government and Heritage (DHLGH), 2022) states that Strategic Environmental Objectives (SEOs), targets and indicators must be established in order to clearly assess environmental impacts of a proposed plan/programme. The Guidance further states:

"Regional assemblies and planning authorities should ensure that wherever possible, the SEOs are accompanied by a target (a standard to be achieved) and an indicator (a parameter that will be used to measure progress toward the target). This is an important linkage between the assessment and monitoring stages, as the indicators should inform the evaluation of monitoring data which is collected after the draft plan has been adopted."

Table 6-1 Table 6-1 presents the SEOs and indicators proposed for the Masterplan. These SEOs and indicators emerged from (i) recommendations for actions presented in the baseline survey reports and (ii) an integrated review of other policies and plans that can have a bearing on the objectives of the Masterplan. It also includes reference to the Masterplan objectives, showing which indicators can be used against which Masterplan objectives.

As mentioned, as the Masterplan progresses and project options are developed, objectives and indicators will change or be further adapted in light of the Masterplan and latest requirements.

Table 6-1: Masterplan Environmental Objectives and Indicators

Environmental Factor	Strategic Environmental Objectives	Indicators
Biodiversity, Flora and Fauna	To enhance biodiversity at the Santry River To control/eradicate invasive alien species To improve connectivity and avoid habitat fragmentation To restore and create habitats of conservation significance To include green/blue infrastructure provisions	• Extent of habitats of conservation significance • Species richness • Populations of species of conservation significance • Invasive alien species populations • Extent of riparian habitat • Extent of hedgerows / verges • Number of features introduced to create habitat (e.g. nesting boxes for birds, ledges and artificial holts for otters, etc.) • Extent of grassland managed as mosaic habitats • Number of barriers causing fragmentation, e.g. to otter mobility, removed • Number/extent of green/blue infrastructure included
Population and Human Health	To improve amenity of the Santry River and its environs To enhance public use of the Santry River for recreational activities	• Number of community events (e.g. educational visits, clean ups, environmental and cultural

Environmental Factor	Strategic Environmental Objectives	Indicators
	To improve connectivity and encourage cycling along designated Greenway To encourage community involvement in the protection and maintenance of the Santry River and its public environs To protect against flooding	festivals, cultural tours, etc) held annually within the Masterplan area • Number / extent of cycling and walking routes • Extent of areas opened up for public use • Extent of areas protected from flooding
Soil & Geology	To safeguard sensitive soil, resources and geological heritage sites against pollution and degradation, including erosion and soil sealing	• Number of actions, such as planting of specific habitat, that also target / will result in improvements to soil quality and contribute to soil conservation. • Soil extent • Soil quality
Water Quality & Flooding	To contribute towards the maintenance and improvement of the quality and status of surface waters in line with the Water Framework Directive requirements. To contribute towards maintaining and improving the chemical and quantitative status of groundwaters in line with the Water Framework Directive requirements. To contribute towards compliance with the provisions of the Flood Directive	• Biological status (Q-values) • Water chemistry • Extent of river restored to more natural conditions • Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC

Environmental Factor	Strategic Environmental Objectives	Indicators
		• Compliance of relevant lower tier assessments and decision making with the Flood Risk Management Guidelines
Material Assets	To contribute towards the protection of built/amenity assets and infrastructure To reduce waste production through the circular economy To promote alternative modes of transport To promote sustainable drainage systems	• Extent of built/amenity assets and infrastructure protected from flooding • Waste generated and managed by the Masterplan • Use of Greenway • Use of sustainable drainage systems
Air	To avoid, prevent or reduce harmful effects on human health and the environment resulting from emissions to air	• Air quality indicators: • NO2 concentrations • particulate matter concentrations
Climatic Factors and climate change	To contribute to the reduction in GHG emissions To integrate sustainable design solutions to contribute to climate change adaptation (and mitigation as possible). To promote development resilient to the effects of climate change	• Extent of structures/sites with enhanced flood protection • Extent of river restored to more natural conditions • GHG emissions trends over time

Environmental Factor	Strategic Environmental Objectives	Indicators
Landscape	To protect and maintain the special qualities of the landscape	• Landscape condition[3] in line with the Landscape Character Assessment of the Santry River, 2023 • Environmental Impact Assessment findings on landscape assessment, as relevant
Cultural Heritage	To contribute towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context, both terrestrial and underwater To promote opportunities to enhance or conserve places, features, buildings and landscapes of cultural, historical, archaeological or architectural heritage where they arise	• Number of measures targeting the improvement of the cultural landscape

[3] In line with the Landscape Character Assessment of the Santry River, 2023

7 ASSESSMENT OF ALTERNATIVES

7.1 Introduction

This section outlines the alternative scenarios considered during development of the Masterplan. The process of identifying alternatives was informed by technical assessments, environmental constraints and stakeholder consultation.

7.2 Alternative Masterplan Scenarios Considered

7.2.1 Scenario 1: No Intervention (Do Nothing)

Scenario 1 assumes that no interventions are undertaken within the Santry River corridor. This scenario is effectively the existing situation and serves as the baseline for other strategic options.

7.2.2 Scenario 2: Low Intervention (Do Minimum)

Scenario 2 focuses on prioritising flood mitigation while providing low-intervention river restoration and amenity measures. Interventions focus on the fluvial flood risk areas of Santry Lake and Raheny Village. At Santry Lake, the existing penstock at Santry Demesne will be regulated, which would control water levels upstream of Santry Lake through operational adjustments rather than physical construction (refer to **Figure 2-3**). In Raheny Village, the construction of flood walls are proposed to provide the required level of flood protection (refer to **Figure 2-4**).

River restoration under Scenario 2 involve passives and low-intervention measures, such as riparian planting, minor de-culverting of short, culverted sections and the removal of hard bank protection where feasible. These actions aim to provide ecological improvements without major alterations to the river channel.

In terms of the Greenway, Scenario 2 involves the delineation of an almost continuous route along existing paths that will be upgraded to a standard suitable for Greenway use.

7.2.3 Scenario 3: High Intervention (Do Something)

Scenario 3 maximises measure delivery across all pillars of the Masterplan (refer to Section 2.3), including for flood protection measures, a combination of passive, assisted and active river restoration, and Greenway designed to TII standards.

Flood mitigation measures at Raheny are the same as for Scenario 2. Scenario 3 then includes for the construction of flood walls at Santry Lake to maximise water storage at the lake as shown in **Figure 7-1**.

River restoration measures in this scenario would include active, passive, and assisted interventions, such as channel re-alignment, construction of wetland habitats, installation of large wood features to enhance flow and habitat diversity, riparian planting and thinning, creation of two-stage channels, and re-establishment of floodplain connections.

Under Scenario 3, the Greenway would be delivered as a high-quality, integrated route, prioritising alignment with the Santry River, thereby enhancing user experience and supporting increased access and amenity.

A comprehensive assessment of Greenway route options was carried out using the NTA Project Appraisal Guidelines, informed by detailed studies on connectivity, multimodal transport links, neighborhood permeability, heritage, ecology, flood management, traffic and land use planning. The assessment process combined professional judgment, technical surveys, and feedback from public engagement, and considered the potential for urban regeneration through improved access to green spaces.

Figure 7-1: Increased Storage – Santry Lake

7.2.4 Scenario 4: Integrated Approach (Combination of Do Minimum & Do Something)

Scenario 4 covers most of the same level of intervention as Scenario 3, with the exception of the flood mitigation measure at Santry Lake. For flood mitigation at Santry Lake and Raheny Village, Scenario 4 includes regulation of the penstock at Santry Demesne (presented in Scenario 2) and the construction of flood walls in Raheny Village (presented in Scenario 2 and 3).

The river restoration measures under Scenario 4 are as presented in Scenario 3, where active, passive, and assisted interventions are proposed. These measures include channel re-alignment, construction of wetland habitats, installation of large wood features to enhance flow and habitat diversity, riparian planting and thinning, creation of two-stage channels, and re-establishment of floodplain connections.

The Greenway design under Scenario 4 is as presented in Scenario 3, whereby the Greenway would be delivered as a high-quality, integrated route, prioritising alignment with the Santry River, thereby enhancing user experience and supporting increased access and amenity.

7.3 Assessment of Alternatives

The alternative scenarios were assessed in relation to the SEA objectives using the key presented in **Table 7-1**. **Table 7-2** summarises the potential impact of each of the scenarios against the SEA objectives.

Table 7-1: Alternatives Assessment Key

Impact character	Symbol	Description of Impact
Scale	++	Large positive impact
	+	Positive impact
	0	No impact
	-	Negative impact
	--	Large negative impact
Probability	VP	Impact very likely to occur
	P	Impact likely to occur
Direct / Indirect	I	Indirect impact
	D	Direct impact
Frequency / duration	LT	Long term
	ST	Short term

Table 7-2: Assessment of Alternatives

		SEA Objectives								
		- To enhance biodiversity at the Santry River - To control/eradicate invasive alien species - To improve connectivity and avoid habitat fragmentation - To restore and create habitats of conservation significance - To include green/blue infrastructure provisions	- To improve amenity of the Santry River and its environs - To enhance public use of the Santry River for recreational activities - To improve connectivity and encourage cycling along designated Greenway - To encourage community involvement in the protection and maintenance of the Santry River and its public environs - To protect against flooding	- To safeguard sensitive soil, resources and geological heritage sites against pollution and degradation, including erosion and soil sealing	- To contribute towards the maintenance and improvement of the quality and status of surface waters in line with the Water Framework Directive requirements - To contribute towards maintaining and improving the chemical and quantitative status of groundwaters in line with the Water Framework Directive requirements. - To contribute towards compliance with the provisions of the Flood Directive	- To contribute towards the protection of built/amenity assets and infrastructure - To reduce waste production through the circular economy - To promote alternative modes of transport - To promote sustainable drainage systems	- To avoid, prevent or reduce harmful effects on human health and the environment resulting from emissions to air	- To contribute to the reduction in GHG emissions - To integrate sustainable design solutions to contribute to climate change adaptation (and mitigation as possible). - To promote development resilient to the effects of climate change - To reduce GHG emissions	- To protect and maintain the special qualities of the landscape	- To contribute towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context, both terrestrial and underwater - To promote opportunities to enhance or conserve places, features, buildings and landscapes of cultural, historical, archaeological or architectural heritage where they arise
Alternatives	**Scenario 1: Do Nothing**	-- VP D LT	-- VP D LT	-- VP D LT	-- VP D LT	-- VP D LT	-- VP D LT	-- VP D LT	-- VP D LT	-- VP D LT
	Scenario 2: Do Minimum	+/0 P D LT	+/0 P D LT	+/0 P D LT	+ VP D LT	+ P D LT	+/0 P D LT	+/0 P D LT	+/0 P D LT	-/0 P D LT
	Scenario 3: Do Something	++ VP D LT	++ VP D LT	++ VP D LT	++ VP D LT	++ VP D LT	+ VP D LT	++ VP D LT	+/- VP D LT	+ VP D LT
	Scenario 4: Integrated Approach (Preferred Scenario)	++ VP D LT	++ VP D LT	++ VP D LT	++ VP D LT	++ VP D LT	++ VP D LT	++ VP D LT	++ VP D LT	+ VP D LT

7.4 Alternatives Assessment Conclusions

Scenario 1 provides no contribution to strategic environmental objectives. In the absence of the Masterplan, this scenario reflects a continuation of existing pressures and vulnerabilities on the River Santry, yielding no environmental, social, or heritage benefits.

Scenario 2 is in line with SEA objectives, resulting in neutral to positive effects, with expected improvements in river function, public access and flood mitigation. The use of passive river restoration techniques such as riparian planting and selective removal of hard infrastructure begins to address some hydro morphological pressures and should result in some improvement in water quality. The use of existing paths for a Greenway provides both access and connectivity which supports active travel and partially aligns with the SEA objectives for population and human health, particularly improving amenity and encouraging walking and cycling. The penstock regulation at Santry Lake, while non-structural, provides a low-cost flood mitigation solution in line with the Floods Directive, and adheres to natural water retention principles. In Raheny, the inclusion of flood walls would provide essential protection to properties, thereby contributing to SEA objectives around flood risk, human health, and the protection of material assets. This scenario aligns with several SEA objectives, particularly those related to air quality (through promotion of active travel), water quality, and climate adaptation (in a limited capacity). However, it does not fully address ecological connectivity, long-term resilience to climate change or significant habitat creation and makes only minimal contributions to landscape enhancement or cultural heritage goals.

Scenario 3 includes for the design of a bespoke Greenway that runs through the Masterplan area resulting in significant improvements in relation to connectivity, supporting sustainable transport, and enhancing public amenity. It would result in significant positive impacts in relation to SEA objectives around population and human health and air quality, through the promotion of active travel modes, i.e., walking and cycling. The river restoration measures proposed under this scenario comprise a combination of active, assisted, and passive interventions, such as channel re-alignment, wetland creation, large wood placement, and riparian planting. Significant positive effects are expected in line with several SEA objectives including for biodiversity, water and flooding, landscape, population and human health, soil and geology and material assets. For flood mitigation, the construction of flood walls upstream of Santry Lake and in Raheny would provide robust protection for people and property, fully aligning with the Floods Directive and SEA objectives for water, climate change resilience and the protection of material assets. However, as the option to regulate the penstock at Santry Demesne (as described for Scenario 2) will provide the level of flood mitigation required, the construction of new flood walls proposed under this scenario may bring additional pressures such as damage to existing habitats, erosion of riverbeds / banks, impediment of natural flows of water, fragmentation of habitats, impacts on water quality during construction and landscape impacts.

As described in **Chapter 7.2.4**, Scenario 4 entails all the proposed measures presented under Scenario 3 with the exception of the flood risk management measure for Santry Lake. The proposal for Santry Lake in Scenario 4 is the same as that proposed in Scenario 2, i.e., regulation of the existing penstock. This is because this flood mitigation measure

provides an adequate level of flood protection in this area, avoiding the need for flood walls and associated environmental effects, including construction and landscape effects.

Given the relative extent of positive environmental effects identified compared to other scenarios, Scenario 4 is deemed the preferred option and is examined further in **Chapter 8**.

8 ASSESSMENT OF ENVIRONMENTAL EFFECTS AND PROPOSED MITIGATION

8.1 Introduction

This Chapter presents the environmental assessment carried out on the Masterplan and discusses the findings and mitigation measures recommended to minimise or negate any environmental impacts identified as well as identifying enhancement measures /actions to further improve on positive impacts identified.

Objectives 1 to 4 of the Masterplan are focussed on river restoration, flood relief and compliance with environmental directives. These objectives have been grouped together for assessment against the SEA Objectives because the same measures (as described in Chapter 2) will be implemented to achieve these four objectives. The remaining Masterplan objectives (5 to 8) have been assessed separately.

8.2 Assessing Significance

Significance is assessed in accordance with the criteria listed in Schedule 1 of the SEA Regulations 2004 (S.I. 436/2004), as amended. As described in the 2022 DHLGH SEA Guidelines (Department of Housing, Local Government and Heritage (DHLGH), 2022), significance may be described in terms of the type and scale of development envisaged by the plan and the sensitivity of the receiving environment, i.e., the larger the scale of impacts and the more sensitive the receiving environment, the more significant the effects are likely to be. Various methods were used to determine significance including expert judgement, reference to legislation and guidance, and by consultation with stakeholders.

The assessment of significance is based on the probability of the impact occurring, the scale of the impact, its duration, reversibility, whether it has transboundary effects, and the certainty of impact prediction. **Table 8-1** presents the assessment framework.

The relevant SEA objectives identified in **Chapter 6** are used to assess the Masterplan Objectives in accordance with the significance criteria described below.

Table 8-1: Impact Assessment Legend

Impact character	Symbol	Description of Impact
Probability	VP	Impact very likely to occur
	P	Impact likely to occur
Scale	++	Large positive impact
	+	Positive impact
	0	No impact
	-	Negative impact
	--	Large negative impact
Direct / Indirect	I	Indirect impact
	D	Direct impact
Frequency / duration	LT	Long term
	ST	Short term
Uncertainty	?	Impact uncertain

8.3 Impact Assessment

Based on the methodology described above, each of the Masterplan objectives was assessed against each SEA objective as presented in **Table 8-2** to **Table 8-6**.

The SEA Directive requires that any likely transboundary impacts are identified and assessed accordingly. In that case, consultation on the SEA and Masterplan is required with the other State/s. In the case of the Santry River Restoration and Greenway Masterplan, no likely significant transboundary impacts were identified.

8.4 Mitigation

Table 8-2 to **Table 8-6** include reference to mitigation measures where potential significant impacts were identified, whether negative or positive. In the case of positive impacts, mitigation measures are enhancement measures, aimed at further enhancing positive impacts.

Table 8-2: Impact assessment: Masterplan Restoration Objectives 1 – 4

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
Masterplan Objective 1: To address river hydro morphology, and specifically: • To identify and resolve hydro morphological pressures impacting the River Santry • To re-naturalise the river channel where feasible in accordance with Water Framework Directive (WFD) • To identify solutions to address flood risk in accordance with the Floods Directive • To prioritise the use of natural water retention measures • To assess the impacts of climate change to the year 2100 on the river **Masterplan Objective 2:** To re-establish, where it has been lost, connectivity between the river and its riparian zone and natural flood zone. **Masterplan Objective 3:** To improve the riparian corridor of the river and make provision, where required, for achieving objectives for biodiversity, ecology and habitat in accordance with the Birds and Habitats Directives, as well as creating a dynamic riverbed suitable for fish and invertebrates. **Masterplan Objective 4:** To achieve good status under the WFD.						
Biodiversity, Flora and Fauna	• To enhance biodiversity at the Santry River • To control/eradicate invasive alien species • To improve connectivity and avoid habitat fragmentation • To restore and create habitats of conservation significance • To include green/blue infrastructure provisions	• affect biodiversity at Santry river? • affect protected species and habitats? • affect take up of land which supports a natural environment? • affect the introduction of non-indigenous species into the natural environment? • affect the creation / maintenance of natural corridors and stepping stones? • affect the inclusion of green/blue infrastructure provisions	River restoration and flood relief measures, as described in Chapter 2 are assessed under Masterplan Objectives 1 to 4.	VP ++/- D LT/ST	Restoring the Santry River's riparian corridor will provide habitat, offering food resources, nesting sites and breeding grounds; enhance the ecosystem, whereby leaf litter enters the aquatic environment and decomposes to feed macroinvertebrates that will then feed fish; and provision of pollinator corridors. Enhancing biodiversity increases ecosystem resilience against invasive species or environmental change. Riparian vegetation provides shade which regulations water temperature, a parameter that affects aquatic life. The shade provided by riparian trees reduces solar radiation and thus limits water heating, maintains cooler habitats and enhances oxygen solubility. In-channel habitat will be improved through provision of shelter for local fish populations.	Significant positive impacts have been identified, however, at preliminary design stage, the appropriate areas for the proposed measures must be clearly identified to avoid negative effects on other environmental objectives. This includes ensuring that mature vegetation is not used in buffer strips in areas where flood receptors such as culverts and bridges could become blocked if the material entered the water body. Moreover, consultation with the ecological expert is required to ensure that areas selected for planting are compatible with other ecological considerations, such as brent geese, that were recorded frequenting amenity grassland in the Masterplan area.

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
					Planting trees also within woodland will further enhance biodiversity. Daylighting of culverted reaches will reinstate channel processes where none currently exist and will increase the quality and availability of in-channel habitats, benefiting aquatic biodiversity. Long culverts are a significant impediment to fish passage, thus, daylighting reaches should promote fish passage. Increased light along daylighted sections will also facilitate increased biodiversity within the channel. Removal or modification of weirs and bridges will see significant improvement in longitudinal connectivity for both fish passage and sediment transfer. Improved naturalisation of the channel will result in increased heterogeneity of flow type and bedform units, creating greater diversity of micro-habitats for fish and other aquatic fauna. The removal of hard bed protection, coupled with introduction of suitable gravels will encourage exchanges between groundwater and surface flow which may contribute to lower water temperatures that safeguard fish against temperature increases associated with climate change. Re-establishment of a narrower low flow channel will increase flow velocities during low flow conditions. This encourages sediment sorting and the	Planting should be native species of Irish provenance. This is also in line with a recommendation from the IFI during consultation at scoping stage, which identified the importance of ensuring that the riparian planting includes a mix of native trees, shrubs, and herbaceous vegetation to recreate natural shading patterns and improve thermal conditions for aquatic life. Non-native species may be included in parks and other public amenity areas in accordance with an appropriate landscaping plan to be considered during project consenting. Reference should be made to the National Biodiversity Data Centre's guidance titled Top Ten Pollinator Plants for Different Situations (NBDC 2022). Careful design will be required to mitigate the complexity associated with downstream flooding where a culvert or bridge structure currently acts as an intentional constriction point (e.g., the bridge at Harmonstown Road). Given the presence of invasive species identified during preliminary ecological walkover surveys, an invasive species management plan will be prepared for future projects to prevent their spread during intervention works. This will include safe removal methods

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
					development of a greater range of morphological units and micro-habitats. Increased heterogeneity of flow types and bedform units will create greater diversity of habitats for fish and other aquatic fauna. There are also overall benefits to biodiversity of the ecosystem through improvements to the riparian zone and floodplain. The creation of wetlands will: - provide potential benefits for wildfowl habitat - enhance connectivity of existing wetland habitat - improve the riparian zone and floodplain, thus benefiting biodiversity of the wider area. During implementation of restoration and flood relief measures, protected species, including the main badger sett in Raheny, likely otters and nationally important birds could experience disturbance, particularly during sensitive feeding and movement periods. Other potential adverse impacts during construction include sediment / pollutant release, the spread of invasive species, the short- to medium-term loss of existing riparian buffer until reinstatement works are complete, and clearance of trees and undergrowth for site access. An NIS was carried out given the identified pathways to the North Dublin Bay SAC and North Bull Island SPA. The daylighting of	and long-term monitoring to avoid re-establishment. Pollution prevention strategies will be in place and scheduling of works will avoid peak periods for sensitive bird species. In addition, there will be avoidance of any changes to playing fields at St Malachy's FC (Springdale Road) and Kilmore FC (Oscar Traynor Road) that could make them unsuitable for brent geese or waders associated with nearby SPAs. In consultation with the ecologist and consultees during scoping, additional specific measures along the river include: a 15-metre riparian setback will be maintained at Sillogue and airport lands; lighting in Santry Park will be avoided; physical buffers will be created between paths and playing fields at St Malachy's FC and Kilmore FC to protect winter geese from disturbance from dogs and people approaching the geese too closely; tree removal as needed to retain open areas for geese; and exclusion of areas with recorded protected fauna activity such as badger or otter sites from interventions. In its consultation response, DHLGH, also recommended that an otter conservation plan should be drawn up at detailed design stage.

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
					the culvert at James Larkin Road will cause temporary disturbance to mudflat habitat in the SAC, however, recovery is expected with no significant long-term effects. Construction within the SPA is temporary, though noise, visual disturbance, and landscaping near St Malachy's and Kilmore playing fields could displace feeding birds and reduce access to key areas. NM Ecology (November 2024) note that at project level, mitigation and Stage 2 AA are required for works near the Santry River involving use of hydrocarbons, concrete, or pollutants within the North Bull Island SPA, and any works affecting St. Malachy's and Kilmore FC playing fields e.g., changes to grass, surfaces, drainage, lighting, landscaping, and any new paths that increase human or dog activity, due to their importance for brent geese and as inland feeding sites for other birds associated with the North Bull Island SPA, including black-tailed godwit, oystercatcher and curlew.	Implementation of most measures will require planning permission and accompanying environmental assessment. Site-specific, project-level mitigation measures will be identified at project level, which are then likely to be incorporated as planning conditions should planning permission be granted (at project stage).
Population and Human Health	• To improve amenity of the Santry River and its environs • To enhance public use of the Santry River for recreational activities	• Affect the amenity of the Santry River and its environs? • Affect public use of the Santry River for recreational activities? • Affect connectivity? • Affect community involvement in the protection and maintenance of the Santry River and its public environs?	River restoration and flood relief measures, as described in Chapter 2 are assessed under Masterplan Objectives 1 to 4.	VP ++/- D/I LT	A planting and maintenance programme to be implemented under this objective will improve the amenity of the Santry River and its environs. Restored riparian zones and wetlands will enhance amenity and recreational value and access, providing safe and attractive spaces for use in exercise and social interaction.	Careful selection of sites for implementation of measures e.g., replanting, will be important to minimise adverse impacts from land take and/or disruption to existing land uses so that sensitive receptors are not significantly (adversely) affected. Careful selection of location of wetlands and other measures affecting the flood

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
	• To improve connectivity and encourage cycling along designated Greenway • To encourage community involvement in the protection and maintenance of the Santry River and its public environs • To protect against flooding	• Affect flood protection?			Planting of riparian buffer strips will result in greater evapotranspiration, infiltration and interception, which will facilitate reduction of run-off rates to the channel from adjacent land (and this effect will increase as the vegetation matures over time), thus providing some benefit to flood management. The creation of wetlands will also result in improvements to the floodplain. There will be some reduction in downstream flood peaks by water storage at the wetlands where they also serve to reconnect floodplain areas. However, there could be an increased local flood risk due to retention of flood waters on floodplain. Implementation of several of the Masterplan measures under this Masterplan objective will result in a significant positive impact on landscape and amenity of the Masterplan area through the creation of more and improved natural habitat and river corridor environment. Such measures include replanting, removal of bed/bank protection, channel re-alignment, use of large wood structures, re-profiling banks, the creation of a two-stage channel, and the creation of wetlands. Implementation of measures involving works are expected to result in negative impacts. Some	plain is also important to ensure minimised local risk of flooding. Ongoing consultation with stakeholders will help to mitigate any potential impacts and minimise disruptions. Implementation of most measures will require planning permission and accompanying environmental assessment. Site-specific, project-level mitigation measures will be identified at project level, which are then likely to be incorporated as planning conditions should planning permission be granted (at project stage). Following construction, restored areas will be monitored to assess progress and identify any further action required.

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
					land take will be required, for example, to realign the channel with sufficient meander wavelengths and in creating wetlands. Works involved are likely to cause short- to medium-term disruption. Once constructed, flood walls are also likely to result in negative visual impacts.	
Soil & Geology	To safeguard sensitive soil resources and geological heritage sites against pollution and degradation, including erosion and soil sealing	• Affect soil and geological heritage sites?	River restoration and flood relief measures, as described in Chapter 2 are assessed under Masterplan Objectives 1 to 4.	P/P +/- D ST/LT	Planting and enhancing riparian buffer strips will increase bank stability, helping to reduce bank erosion and sediment supply from the channel margins. Channel realignment will result in significant improvement to geomorphic processes through the design of a more sinuous channel, including the reinstatement of more natural river processes (including sediment erosion and deposition) and return of a dynamically stable channel morphology. Redesigning green areas will require extensive earthworks such as excavation, earth-moving to balance differences in floodplain and bed levels, channel re-alignment, and construction of access paths, which could generate a large volume of material, potentially resulting in loss of soil during works and if soil is removed from site.	In general, once soil is exposed or disturbed, it will be stabilised and replanted as soon as practicable to prevent erosion and long-term damage. Bioengineering structures (e.g., live stakes or coir logs) will be used to help stabilise the soil until vegetation matures as necessary.

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
Water Quality & Flooding	• To contribute towards the maintenance and improvement of the quality and status of surface waters in line with the Water Framework Directive requirements. • To contribute towards maintaining and improving the chemical and quantitative status of groundwaters in line with the Water Framework Directive requirements. • To contribute towards compliance with the provisions of the Flood Directive	• Affect the quality and status of surface water in line with the Water Framework Directive? • Affect the chemical and quantitative status of groundwaters in line with the Water Framework Directive? • Affect compliance with the provisions of the Floods Directive?	River restoration and flood relief measures, as described in Chapter 2 are assessed under Masterplan Objectives 1 to 4.	VP/P ++ D/I ST/LT	Replanting riparian buffer strips will result in improvements in water quality as agricultural nutrients are filtered. Similarly, the creation of wetlands will improve water quality through increased fine sediment and nutrient capture. Channel realignment will result in significant improvement to hydro morphology in line with WFD requirements and status. The creation of wetlands will result in significant improvement in water quality by filtering contaminants and nutrients. They will also play a role in flood mitigation, absorbing and storing excess water during heavy rainfall and slowing the pace of water runoff. By slowing down runoff, water is allowed time to seep into the ground and replenish groundwater. The Good WFD status of the groundwater in the Masterplan area, and its low vulnerability, when combined with nature-based measures proposed in the Masterplan, will help contribute to the maintenance of its Good status. These measures align with the aim of the Water Framework Directive to protect and improve water quality in all waters. Similarly, these actions also align with the aim of the Flood Directive to reduce the negative consequences of flooding.	Implementation of most measures will require planning permission and accompanying environmental assessment. Site-specific, project-level mitigation measures will be identified at project level, which are then likely to be incorporated as planning conditions should planning permission be granted (at project stage). A Construction Environmental Management Plan will be developed and implemented to ensure impacts on the environment are minimised. After construction, wetlands, green areas and natural water filters will be maintained and monitored so they continue to perform their designated functions, providing ecosystem services including flood protection and water quality improvement.

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
					During measure implementation, there is potential for temporary increases in sediment, nutrients, and other pollutants entering the Santry River. Construction activities could release sediments and contaminants, potentially affecting water quality.	
Material Assets	• To contribute towards the protection of built/amenity assets and infrastructure • To reduce waste production through the circular economy • To promote alternative modes of transport • To promote sustainable drainage systems	• Affect protected built/amenity assets and infrastructure? • Affect the aim to reduce production of waste? • Affect the promotion of alternative modes of transport? • Affect sustainable drainage systems?	River restoration and flood relief measures, as described in Chapter 2 are assessed under Masterplan Objectives 1 to 4.	VP/P + D ST/LT	The proposed nature based solutions, including wetland creation, riparian planting and floodplain reconnection are expected to support the protection of built assets and infrastructure by reducing flood risk through allowing for infiltration, encouraging rainwater to soak into the ground; and temporarily store and slowly release stormwater in line with natural drainage patterns thus preventing downstream flooding. Sustainable drainage systems, including creation of wetlands, will slow water to the river and improve water quality.	Provision of further guidance at project development stage to enhance positive impacts. Implementing sustainable drainage systems and nature-based solutions will require appropriate construction methodologies and use of high-quality sustainable materials. to ensure optimal performance and durability of the systems.
Air	• To avoid, prevent or reduce harmful effects on human health and the environment resulting from emissions to air	• Generate air pollutants?	River restoration and flood relief measures, as described in Chapter 2 are assessed under Masterplan Objectives 1 to 4.	P + I LT	The creation/enhancement of wetlands will result in a local improvement in air quality as wetlands act as natural filters to particulate matter.	The Masterplan can act as a flagship strategy that will demonstrate improved sustainability and design integrated measures aimed at ensuring long-term resilience of the system. A robust monitoring programme supporting implementation and long-term performance of the enhanced system will help inform strategies and plans for other similar systems.

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
Climatic Factors and climate change	• To contribute to the reduction in GHG emissions • To integrate sustainable design solutions to contribute to climate change adaptation (and mitigation as possible). • To promote development resilient to the effects of climate change	• Affect GHG emissions? • Affect climate change adaptation and mitigation? • Affect resilience to the effects of climate change?	River restoration and flood relief measures, as described in Chapter 2 are assessed under Masterplan Objectives 1 to 4.	VP/P + D LT/ST	Planting/enhancing riparian buffer zones will increase capacity for carbon sequestration and storage within the riparian zone. Similarly, the creation of wetlands, increases the system's capacity to store carbon. Zhang *et al*, 2025 report that constructed wetlands have a high carbon sequestration rate. These engineered systems are designed and constructed to utilise the natural processes involving wetland vegetation, soils and their associated microbial assemblages in improving water quality, reducing carbon accumulation time and lower soil carbon density. In terms of improving resilience, the removal of hard bed protection, if coupled with introduction of suitable gravels will encourage exchanges between groundwater and surface flow which may contribute to lower water temperatures that safeguard fish against temperature increases associated with climate change. The restoration of floodplains and creation of permeable surfaces support climate adaptation and resilience to climate events such as flooding.	The Masterplan can act as a flagship strategy that will demonstrate improved sustainability and design integrated measures aimed at ensuring long-term resilience of the system. A robust monitoring programme supporting implementation and long-term performance of the enhanced system will help inform strategies and plans for other similar systems.
Landscape	• To protect and maintain the special qualities of the landscape	• Affect the special qualities of the landscape?	Restoration and flood protection measures as described above.	P ++/- D LT	While much of the area is not considered highly sensitive in terms of landscape, some parts of the Masterplan area, such as Santry Demesne and the coastal edge near St Anne's Park have	In areas with higher local sensitivity, e.g., Santry Demesne and St Anne's Coastal, it is important that project level planning will consider impacts to existing

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
					important visual amenity and cultural value. These include historic features, mature trees and popular public spaces. The proposed river restoration and nature-based flood-relief measures, including planting the riparian zone, creation of wetlands, and daylighting, provide the opportunity to extend positive landscape effects throughout the Santry Riverpark. The proposed river restoration measures and nature-based flood relief will help to enhance the landscape, including through wetland creation, riparian planting, and reconnecting rivers to floodplains. Hard flood defences e.g., flood walls, could disrupt the visual character of open or historic landscapes. Interference with recreational amenity is also possible. Flood walls have been identified as being appropriate for implementation at Raheny. There are existing walls at this location, however, they are inadequate for the purposes of flood defence. Introducing flood walls in this location is unlikely to significantly adversely affect the landscape given the presence of existing walls.	landscape features, aiming to preserve and enhance existing views.
Cultural Heritage	• To contribute towards the protection of	• Affect archaeological heritage and its context, both terrestrial and underwater?	Restoration and flood protection measures as described above.	P +/-/0 D LT	As described in Chapter 5, Dublin City and Fingal areas have significant archaeological and cultural heritage resources,	All river works will be planned to avoid physical impacts on cultural heritage and to protect their setting. Priority will be

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
	archaeological heritage (including entries to the Record of Monuments and Places) and its context, both terrestrial and underwater • To promote opportunities to enhance or conserve places, features, buildings and landscapes of cultural, historical, archaeological or architectural heritage where they arise	• Affect the enhancement or conservation of cultural, historical, archaeological, or architectural heritage?			which also contribute to the cultural landscape. Flood relief measures or restoration works in these locations risk altering the landscape, damaging physical structures, or disturbing sub surface archaeology. Additionally, alterations to the river and surrounding landscape may change the historic character and setting of sites within Santry Demesne, Woodlawn, and other historic landscapes, potentially impacting the cultural landscape and historic setting. There is potential to protect and enhance archaeological and cultural heritage. Floodplain reconnection can reduce long term flood risk to sensitive sites, conserving both terrestrial and potentially underwater features. Restoration of the river corridor and surrounding landscapes can enhance the setting of historic buildings, monuments, and gardens.	given to nature-based measures in sensitive areas which will integrate both flood management and conservation objectives. Project level design will be informed by early consultation with heritage authorities and supported by archaeological screening and impact assessment where ground disturbance is proposed, including for any proposed site investigation works. Works near historic areas or structures will be designed to maintain key views and original layouts.

Table 8-3: Impact assessment: Masterplan Objective 5

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
Masterplan Objective 5: To improve connectivity and create the Santry River Greenway, consisting of walkways and cycling routes for improved access to the river corridor and to allow commuters to reach their destinations using sustainable transport/active travel modes.						
Biodiversity, Flora and Fauna	• To enhance biodiversity at the Santry River • To control/eradicate invasive alien species • To improve connectivity and avoid habitat fragmentation • To restore and create habitats of conservation significance • To include green/blue infrastructure provisions	• Affect biodiversity at Santry River? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the introduction of non-indigenous species into the natural environment? • Affect the creation / maintenance of natural corridors and stepping stones? • Affect the inclusion of green/blue infrastructure provisions	This objective focuses on the development of a Greenway as part of the Masterplan.	VP - D/I LT/ST	The Greenway could fragment existing habitats along the river corridor and potentially limit species' movement. It may also result in loss of habitat, and impact floral and faunal species of conservation value, e.g., rare species or species with limited distribution. In terms of impacts to European Sites, there are identified pathways to the North Dublin Bay SAC and North Bull Island SPA. According to the NIS by NM Ecology (Nov 2024), the proposed Greenway may increase human activity in areas outside the SPA used as ex-situ habitats by brent geese and other SPA birds (St. Malachy's and Kilmore FC playing fields). Dog walking is particularly relevant, as dogs off leads can disturb wintering birds, potentially causing them to abandon feeding sites if disturbance is persistent. Although birds are already habituated to occasional disturbance, the Greenway could significantly increase activity, risking loss of feeding sites of high importance and affecting the conservation status of SPA species.	In order to minimise impacts on species and habitats, detailed design shall include (i) maintaining a 15-metre riparian setback where possible to maintain connectivity, reduce fragmentation, and avoid potential impacts on the aquatic environment, which is also a pathway to downstream European sites, (ii) avoiding lighting in Santry Park, (iii) creating physical buffers between paths and playing fields at St Malachy's FC and Kilmore FC to protect winter geese, (iv) removal of trees as needed to retain open areas for geese, in consultation with the SEA team ecologist, and (v) exclude areas with recorded protected fauna activity such as badger or otter sites. Given the presence of invasive species identified during surveys, an invasive species management plan will be prepared to prevent their spread during implementation of infrastructure measures. This will include safe removal methods and long term monitoring to avoid re-establishment. For European sites, mitigation measures during implementation will include pollution prevention measures,

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
						careful scheduling of construction to avoid peak bird periods, and protecting the suitability of the St. Malachy's and Kilmore FC playing fields for brent geese and waders linked to nearby SPAs. Measures also include visual barriers, such as a 1.5 m wall or dense planting along the Greenway at Kilmore FC to separate dogs and geese, as well as restrictions on dogs running at both sites. Dogs should be kept on leads from September to April, when overwintering birds are present, with signage reminding owners not to allow dogs to chase birds. While NM Ecology (2024) concluded that the Masterplan is unlikely to have significant effects on European sites, all projects that will be implemented to deliver the Masterplan will undergo project-level AA and EIA screening, with detailed site specific mitigation applied as required.
Population and Human Health	• To improve amenity of the Santry River and its environs • To enhance public use of the Santry River for recreational activities	• Affect the amenity of the Santry River and its environs? • Affect public use of the Santry River for recreational activities? • Affect connectivity? • Affect community involvement in the protection and maintenance of the Santry River and its public environs? • Affect flood protection?	As above	VP ++/- D LT/ST	The inclusion of a Greenway at the Santry Riverpark is expected to deliver significant positive impacts on population and human health. The provision of safe walking and cycling routes will encourage active travel, improve connectivity between neighbourhoods and promote healthier lifestyles. Enhanced access to the river corridor will	Implementation of the Greenway will include requirements for construction practices that minimise disturbance to sensitive receptors through the adoption of robust site management practices which mitigate the impacts of noise, vibration, dust and traffic. Proactive engagement with local

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
	• To improve connectivity and encourage cycling along designated Greenway • To encourage community involvement in the protection and maintenance of the Santry River and its public environs • To protect against flooding				also increase opportunities for recreation, social interaction and engagement with natural spaces, contributing to mental health and wellbeing while also creating stewardship for the River and its environs. Improved public access will support walking, cycling and outdoor activity, promoting healthier lifestyles and stronger community engagement. Potential negative effects include increased visitor pressure leading to wildlife disturbance, trampling of vegetation and littering. During the construction phase, temporary nuisance effects may arise from noise, vibration, dust and traffic disruption in areas close to schools, community parks, sports clubs and residential neighbourhoods. Sensitive receptors, such as schools and recreational amenities located along the river corridor could temporarily experience short term disturbance and reduced amenity value.	communities and authorities will ensure any issues are dealt with timeously. Ensuring that design principles prioritise access, safety and clear separation of active travel modes e.g., pedestrian and cycling paths will optimise the beneficial effects identified. A code of conduct prepared for the Santry Riverpark will help to generate awareness of the importance of the area for biodiversity and how to protect and enhance it through appropriate use.
Soil & Geology	To safeguard sensitive soil resources and geological heritage sites against pollution and degradation, including erosion and soil sealing	• Affect soil and geological heritage sites?	As above	P - D ST/LT	Construction of a Greenway could result in soil sealing that would negatively impact soil organic carbon, soil water management and biomass productivity.	Mitigation measures will be applied to mitigate impacts on soil during construction, avoiding unnecessary soil disturbance, design of paths to prevent informal tracks and monitoring to limit compaction or erosion.

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
						Permeable materials should be used where possible in the construction of the Greenway to minimise interruptions to localised carbon and water cycles and impacts on biodiversity.
Water Quality & Flooding	• To contribute towards the maintenance and improvement of the quality and status of surface waters in line with the Water Framework Directive requirements. • To contribute towards maintaining and improving the chemical and quantitative status of groundwaters in line with the Water Framework Directive requirements. • To contribute towards compliance with the provisions of the Flood Directive	• Affect the quality and status of surface water in line with the Water Framework Directive? • Affect the chemical and quantitative status of groundwaters in line with the Water Framework Directive? • Affect compliance with the provisions of the Floods Directive?	As above.	VP/P 0/- I/D LT /ST	Potential infrastructure development impacts in relation to the Greenway will be managed through primary and tertiary mitigation measures at project level. Increased public presence within the Santry Riverpark as a result of the Greenway, may introduce localised pressures such as littering or surface runoff from paths and the potential to increase surface runoff and localised compaction, depending on materials used. The impact on water quality and flooding is assessed as neutral to slight negative in case of small scale impacts to the watercourse, however, with effective mitigation in place, significant effects are not expected.	At the Masterplan level, the Greenway should be designed in tandem with river restoration works to ensure construction risks are addressed appropriately and consistently. Where paths cross or run parallel to the river, erosion and sediment control measures will be prioritised to prevent undermining the WFD objectives supported by Objective 1. Localised pressures such as littering or surface runoff from paths the Greenway paths will be mitigated through the provision of appropriate waste facilities, signage and careful design of recreational infrastructure to capture or slow runoff effectively. In line with Objectives 1 and 3, the Greenway will be designed in a way that incorporates SUDS to reduce runoff and filter pollutants before they reach the river.
Material Assets	• To contribute towards the protection of built/amenity	• Affect protected built/amenity assets and infrastructure? • Affect the aim to reduce production of waste?	As above.	P/VP + D LT /ST	The construction of the Greenway will require temporary use of land, in the environs of the Greenway route including e.g., a temporary compound as needed. localised excavation and storage	On a strategic level, applying circular economy principles throughout the development of the Masterplan, such as reuse of excavated materials, sustainable sourcing, and

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
	assets and infrastructure • To reduce waste production through the circular economy • To promote alternative modes of transport • To promote sustainable drainage systems	• Affect the promotion of alternative modes of transport? • Affect sustainable drainage systems?			of materials for paths, bridges and associated infrastructure. This will generate waste and resource demands. Construction works may also temporarily disrupt access to local roads, utilities and amenity assets, although such effects will be short term. Once developed, the Greenway will contribute positively to the enhancement and protection of built and amenity assets by improving access to parks and community resources. By enhancing links to public transport such as BusConnects, and the Luas station/s, the Greenway will help to promote sustainable transport, providing alternatives to the use of the car including walking and cycling. Integrated SUDS will be included in the development of the Greenway.	provision of adequate waste bins, impacts associated with additional pressures on resource and waste facilities will be reduced. In terms of disruption to local roads, utilities and amenity assets during construction, engagement with the public will play a crucial role in managing access arrangements, minimising inconvenience and ensuring that alternative routes or facilities are provided where necessary. These measures will be implemented at project level, in consultation with local authorities and other service providers as necessary. The Greenway will be designed in accordance with the complementary SUDSs outlined in Masterplan Objective 1.
Air	• To avoid, prevent or reduce harmful effects on human health and the environment resulting from emissions to air	• Affect human health as a result of emissions to air?	As above.	P 0/+ D/I LT	With appropriate mitigation measures in place during Greenway construction the remaining potential impacts are in relation to the positive effects that could be expected where reliance on cars is reduced. Through providing alternative options to road travel, use of the Greenway could reduce traffic-related emissions in the wider area over the long term, contributing positively to air quality.	Monitoring changes in air quality trends over time could help demonstrate the extent of air quality improvement in the Masterplan area, following inclusion of a Greenway at Santry Park.

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
Climatic Factors and climate change	• To contribute to the reduction in GHG emissions • To integrate sustainable design solutions to contribute to climate change adaptation (and mitigation as possible). • To promote development resilient to the effects of climate change	• Affect GHG emissions? • Affect climate change adaptation and mitigation? • Affect resilience to the effects of climate change?	As above	P 0/+ D/I ST/LT	With appropriate mitigation measures in place during Greenway construction the remaining potential impacts are in relation to the positive effects that could be expected where reliance on cars is reduced. Promoting alternative travel modes to road travel could result in a reduction in traffic-related emissions (including GHG emissions) as the Greenway is used, in particular when used as part of a commute. Flooding and resilience to climate change is expected to be improved through the implementation of SUDS together with other flood reduction measures proposed as part of other Masterplan Objectives.	Further enhancement and ensuring connectivity to a wide network of travel options will help to promote alternative travel modes across a wider area, further enhancing potential beneficial impacts identified.
Landscape	• To protect and maintain the special qualities of the landscape	• Affect the special qualities of the landscape?	As above.	P/VP + D ST/LT	The Greenway is expected to result in beneficial impacts on the landscape by creating a coherent, linear, accessible corridor for recreational use. It is expected that the continuous multifunctional route will strengthen connections between open spaces and highlight key recreational and ecological landscapes. An appropriately designed route, planting and natural flood management features (proposed as part of Masterplan Objective 1) can enhance the aesthetic and ecological quality of the river corridor, particularly in areas of lower landscape sensitivity such	At detailed design stage, ensuring sensitive design and the use of appropriate materials for pathways and structures in line with similar materials used elsewhere as part of the Masterplan (part of the 'brand', if one is developed), retention and enhancement of existing vegetation where appropriate and planting schemes to screen and integrate the Greenway route as part of the existing landscape.

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
					as the FCC "Low Lying Agricultural" zones. However, careful design and maintenance of the route are required to ensure that new infrastructure integrates with the surrounding landscape and does not lead to the creation of informal tracks or overuse of sensitive areas.	
Cultural Heritage	• To contribute towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context, both terrestrial and underwater • To promote opportunities to enhance or conserve places, features, buildings and landscapes of cultural, historical, archaeological or architectural heritage where they arise	• Affect archaeological heritage and its context, both terrestrial and underwater? • Affect the enhancement or conservation of cultural, historical, archaeological, or architectural heritage?	As above	P/VP 0/-/+ D ST/LT	During the construction of the proposed Greenway, there is potential for direct physical disturbance to archaeological features or inadvertent alteration to their historic character, particularly in areas where the route passes close to sensitive monuments or historic landscapes. It is expected that thoughtful design of the Greenway route will highlight heritage assets, providing educational and recreational opportunities for the public while encouraging stewardship and long term protection of sensitive sites. The Greenway will be set back from known features, including an appropriate buffer to avoid/prevent direct impacts. Increased foot traffic and recreational use may create pressures on vulnerable sites if access is not carefully managed, potentially causing erosion or damage to features over time.	Potential impacts during construction will be managed at project level. Strategic mitigation measures will include designing the Greenway route to avoid known archaeological sites, implementing protective buffers around sensitive features, providing interpretation and signage to guide responsible use and engaging with heritage authorities during planning and construction at project level. Any unavoidable interventions in sensitive areas will incorporate careful material selection and construction methods that reduce cultural landscape impacts and physical harm, thus ensuring that cultural heritage is preserved and where possible, enhanced. Long term management of features of interest at the Santry Riverpark will include monitoring of visitor impacts and maintenance of protective measures (if required) to ensure that cultural heritage

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
						features are preserved while allowing public access. Appropriate signage and development of a code of conduct will help increase awareness and allow the public to minimise potential adverse effects whilst visiting the Santry Riverpark.

Table 8-4: Impact assessment: Masterplan Objective 6

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
Masterplan Objective 6: To identify and engage with all stakeholders.						
Biodiversity, Flora and Fauna	• To enhance biodiversity at the Santry River • To control/eradicate invasive alien species • To improve connectivity and avoid habitat fragmentation • To restore and create habitats of conservation significance • To include green/blue infrastructure provisions	• Affect biodiversity at Santry River? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the introduction of non-indigenous species into the natural environment? • Affect the creation / maintenance of natural corridors and stepping stones? • Affect the inclusion of green/blue infrastructure provisions	This Masterplan objective and associated measure is a soft measure that will not result in direct interventions in relation to the SEA objectives on Biodiversity, Fauna & Flora.	0	A neutral impact is identified, implementation of this Masterplan Objective will not directly impact these SEA objectives.	N/A
Population and Human Health	• To improve amenity of the Santry River and its environs • To enhance public use of the Santry River for recreational activities • To improve connectivity and encourage cycling along designated Greenway • To encourage community involvement in the protection	• Affect the amenity of the Santry River and its environs? • Affect public use of the Santry River for recreational activities? • Affect connectivity? • Affect community involvement in the protection and maintenance of the Santry River and its public environs? • Affect flood protection?	This Masterplan objective seeks to continue to engage with stakeholders in the development and implementation of the Masterplan.	VP ++ I ST/LT	This Masterplan Objective is directly in line with the SEA Objective that seeks to encourage community involvement in the protection and maintenance of the Santry River and its public environs.	Developing a programme of engagement will help to maximise engagement.

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
	and maintenance of the Santry River and its public environs • To protect against flooding					
Soil & Geology	To safeguard sensitive soil resources and geological heritage sites against pollution and degradation, including erosion and soil sealing	• Affect soil and geological heritage sites?	This Masterplan objective and associated measure is a soft measure that will not result in direct interventions in relation to the SEA objectives on Biodiversity, Fauna & Flora.	0	A neutral impact is identified, implementation of this Masterplan Objective will not directly impact these SEA objectives.	N/A
Water Quality & Flooding	• To contribute towards the maintenance and improvement of the quality and status of surface waters in line with the Water Framework Directive requirements. • To contribute towards maintaining and improving the chemical and quantitative status of groundwaters in line with the Water Framework Directive requirements. • To contribute towards	• Affect the quality and status of surface water in line with the Water Framework Directive? • Affect the chemical and quantitative status of groundwaters in line with the Water Framework Directive? • Affect compliance with the provisions of the Floods Directive?	This factor is not considered applicable under the measures proposed for Masterplan Objective 6, as the nature and scope of the measures proposed will not result in significant direct or indirect impacts on water quality & flooding.	0	A neutral impact is identified, implementation of this Masterplan Objective will not directly impact these SEA objectives.	N/A

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
	compliance with the provisions of the Flood Directive					
Material Assets	• To contribute towards the protection of built/amenity assets and infrastructure • To reduce waste production through the circular economy • To promote alternative modes of transport • To promote sustainable drainage systems	• Affect protected built/amenity assets and infrastructure? • Affect the aim to reduce production of waste? • Affect the promotion of alternative modes of transport? • Affect sustainable drainage systems?	This factor is not considered applicable under the measures proposed for Masterplan Objective 6, as the nature and scope of the measures proposed will not result in significant direct or indirect impacts on material assets.	0	A neutral impact is identified, implementation of this Masterplan Objective will not directly impact these SEA objectives.	N/A
Air	• To avoid, prevent or reduce harmful effects on human health and the environment resulting from emissions to air	• Affect human health as a result of emissions to air?	This factor is not considered applicable under the measures proposed for Masterplan Objective 6, as the nature and scope of the measures proposed will not result in significant direct or indirect impacts on air.	0	A neutral impact is identified, implementation of this Masterplan Objective will not directly impact these SEA objectives.	N/A
Climatic Factors and climate change	• To contribute to the reduction in GHG emissions • To integrate sustainable design solutions to contribute to climate change adaptation (and mitigation as possible).	• Affect GHG emissions? • Affect climate change adaptation and mitigation? • Affect resilience to the effects of climate change?	This factor is not considered applicable under the measures proposed for Masterplan Objective 6, as the nature and scope of the measures proposed will not result in significant direct or indirect impacts on climatic factors and climate change.	0	A neutral impact is identified, implementation of this Masterplan Objective will not directly impact these SEA objectives.	N/A

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
	• To promote development resilient to the effects of climate change					
Landscape	• To protect and maintain the special qualities of the landscape	• Affect the special qualities of the landscape?	This factor is not considered applicable under the measures proposed for Masterplan Objective 6, as the nature and scope of the measures proposed will not result in significant direct or indirect impacts on landscape.	0	A neutral impact is identified, implementation of this Masterplan Objective will not directly impact these SEA objectives.	N/A
Cultural Heritage	• To contribute towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context, both terrestrial and underwater • To promote opportunities to enhance or conserve places, features, buildings and landscapes of cultural, historical, archaeological or architectural heritage where they arise	• Affect archaeological heritage and its context, both terrestrial and underwater? • Affect the enhancement or conservation of cultural, historical, archaeological, or architectural heritage?	This factor is not considered applicable under the measures proposed for Masterplan Objective 6, as the nature and scope of the measures proposed will not result in significant direct or indirect impacts on cultural heritage.	0	A neutral impact is identified, implementation of this Masterplan Objective will not directly impact these SEA objectives.	N/A

Table 8-5: Impact assessment: Masterplan Objective 7

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
Masterplan Objective 7: To enhance the Santry's ecosystem services and reduce costs associated with damages associated with current conditions (including from flooding, antisocial behaviour, etc.).						
Biodiversity, Flora and Fauna	• To enhance biodiversity at the Santry River • To control/eradicate invasive alien species • To improve connectivity and avoid habitat fragmentation • To restore and create habitats of conservation significance • To include green/blue infrastructure provisions	• Affect biodiversity at Santry River? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the introduction of non-indigenous species into the natural environment? • Affect the creation / maintenance of natural corridors and stepping stones? • Affect the inclusion of green/blue infrastructure provisions	All types of proposed measures, including river restoration, flood relief, sustainable mobility, and amenity development are relevant in relation to this Masterplan Objective and have been considered in the assessment.	VP ++ D LT	Measures related to improving/extending the riparian habitat, planting of trees in the woodland habitat, improvement of the aquatic environment will result in enhanced biodiversity at the Santry, with improved structure and function of habitats. Provision of habitat is a supporting ecosystem service that is essential for maintaining biodiversity.	As presented in the assessment of Masterplan Objectives 1 – 5 and 8.
Population and Human Health	• To improve amenity of the Santry River and its environs • To enhance public use of the Santry River for recreational activities • To improve connectivity and encourage cycling along designated Greenway • To encourage community involvement in	• Affect the amenity of the Santry River and its environs? • Affect public use of the Santry River for recreational activities? • Affect connectivity? • Affect community involvement in the protection and maintenance of the Santry River and its public environs? • Affect flood protection?	As above.	VP ++ D LT	Measures proposed for re-designing certain areas will discourage antisocial behaviour including ensuring adequate lighting (only in appropriate areas, keeping biodiversity impact at the forefront of lighting plans), maximising passive surveillance through careful alignment of routes and connections to adjacent residential or community areas, avoiding isolated areas and incorporating community focused engagement opportunities. Actions to provide new boundary treatments will also encourage	Whilst the Councils and other Competent Authorities will be responsible for ensuring the upkeep and maintenance of planted areas, members and organisations of the community will be invited to contribute. This will help foster a sense of ownership, teamwork and community pride in the area and fully align with the SEA's Environmental Objectives. A brand can be developed for the Santry Riverpark that will enhance its distinctiveness and can influence the appearance

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
	the protection and maintenance of the Santry River and its public environs • To protect against flooding				more extensive use of the area and will improve amenity. This will involve removal of unsightly railings and defensive boundary treatments which will be replaced with park railings and/or other, more appealing solutions. Restoration of the Santry River and creation of the 'Santry Riverpark', including the Greenway and developing all amenities (such as furniture, signage, etc.) according to a design standard that is unique to Santry Riverpark, enhances cultural services through offering opportunity for recreational activities, including cycling and walking, which will enhance physical and mental well-being. It also offers the chance for local communities to reconnect with the area, enhancing its cultural value. The enhancement measures that will contribute to renaturalising the river system including increasing floodplains and sustainable drainage will contribute to protecting against flooding.	of all furniture, structures, signage developed for the area as envisaged in the Masterplan. Community can be encouraged to continue to be involved and influence the development and appearance of its Riverpark. Actions to improve accessibility for residential areas, schools, sport and amenity areas are required, including pedestrian pathways and connections, in addition to what will be provided for under Objective 5. Engagement with stakeholders will include partnerships with local authorities, Gardaí and community groups to encourage stewardship and regular monitoring of the Greenway. These measures will help foster a sense of ownership and safety, ensuring the space delivers its intended health and wellbeing benefits without contributing to social risks. To support responsible use of the facilities provided, community engagement programmes can ensure ongoing stewardship of the river and its environs, helping to balance public access with ecological protection. In addition, educational signage about environmental protection and development of a code of conduct will build awareness and help protect

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
						both the natural environment and public amenities within the Masterplan area.
Soil & Geology	To safeguard sensitive soil resources and geological heritage sites against pollution and degradation, including erosion and soil sealing	• Affect soil and geological heritage sites?	As above.	P/P +/- D ST/LT	Soil provides various ecosystem services including supporting services (e.g., by providing primary production and biodiversity), and regulatory (e.g., erosion control, water infiltration, nutrient retention, and atmospheric gas regulation). Developing the riparian zone and planting trees will help to safeguard soil resources. Extensive earthworks planned in re-designing certain areas could result in a significant loss of soil, which would adversely affect ecosystem services it provides.	As presented in the assessment of Masterplan Objectives 1 – 5 and 8. Access routes and recreational infrastructure will be designed to avoid sensitive areas e.g., areas already at risk of erosion and will use permeable materials where possible to reduce soil sealing and compaction and allow for recharge.
Water Quality & Flooding	• To contribute towards the maintenance and improvement of the quality and status of surface waters in line with the Water Framework Directive requirements. • To contribute towards maintaining and improving the chemical and quantitative status of groundwaters in line with the Water	• Affect the quality and status of surface water in line with the Water Framework Directive? • Affect the chemical and quantitative status of groundwaters in line with the Water Framework Directive? • Affect compliance with the provisions of the Floods Directive?	As above.	VP/P + D ST/LT	Restoration of the river will enhance its regulating services, including its ability to purify the water, acting as a filter, removing pollutants and sediments; and flood regulation (absorbing excess rainwater and providing space for floodwaters thus reducing the risk of flooding and protecting infrastructure.	As presented in the assessment of Masterplan Objectives 1 – 5 and 8.

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
	Framework Directive requirements. • To contribute towards compliance with the provisions of the Flood Directive					
Material Assets	• To contribute towards the protection of built/amenity assets and infrastructure • To reduce waste production through the circular economy • To promote alternative modes of transport • To promote sustainable drainage systems	• Affect protected built/amenity assets and infrastructure? • Affect the aim to reduce production of waste? • Affect the promotion of alternative modes of transport? • Affect sustainable drainage systems?	As above.	VP/P + D ST/LT	Creation of a Greenway and sustainable drainage systems enhances the ecosystem services that the Santry Riverpark will provide.	As presented in the assessment of Masterplan Objectives 1 – 5 and 8.
Air	• To avoid, prevent or reduce harmful effects on human health and the environment resulting from emissions to air	• Affect human health as a result of emissions to air?	As above.	P + D LT	Creation of wetlands and enhancing the riparian zone will enhance regulation of air quality.	As presented in the assessment of Masterplan Objectives 1 – 5 and 8.
Climatic Factors and climate change	• To contribute to the reduction in GHG emissions • To integrate sustainable design solutions to contribute to	• Affect GHG emissions? • Affect climate change adaptation and mitigation? • Affect resilience to the effects of climate change?	As above.	P + D/I LT	The Masterplan includes measures to restore Santry River's natural capacity to buffer climate-change impacts including provision of sustainable drainage systems, increasing the floodplains, and replanting of the riparian zone.	As presented in the assessment of Masterplan Objectives 1 – 5 and 8.

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
	climate change adaptation (and mitigation as possible). • To promote development resilient to the effects of climate change				Rivers and wetlands serve as carbon sinks, capturing and preventing organic carbon from converting into carbon dioxide, a potent GHG. Clark et al (2024) demonstrated that rivers emptying directly into the marine environment sequester over 65% of particulate organic carbon, which is buried in offshore sedimentary deposits, providing an important role in the global carbon cycle. Therefore, the Masterplan measures aimed at restoring the Santry River, including through the creation of wetlands helps to enhance this ecosystem service.	
Landscape	• To protect and maintain the special qualities of the landscape	• Affect the special qualities of the landscape?	As above.	P + D LT	Enhancing the amenity and landscape of the Santry Riverpark through implementation of the Masterplan restoration measures and the Greenway will provide valuable cultural services. Situated in largely urban surroundings the Santry Riverpark has the potential to significantly benefit the community and visitors to the area alike, enhancing wellbeing and fostering a sense of community pride of place.	As presented in the assessment of Masterplan Objectives 1 – 5 and 8.
Cultural Heritage	• To contribute towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context, both	• Affect archaeological heritage and its context, both terrestrial and underwater? • Affect the enhancement or conservation of cultural, historical, archaeological, or architectural heritage?	As above	P 0/+ D LT	Presuming all mitigation measures are in place when implementing the flood relief, restoration measures, and the Greenway, no adverse significant impacts on cultural heritage are identified. Masterplan Objective 8 aims to protect and promote the	Inclusion of more targeted measures within the Masterplan in relation to the protection and promotion of archaeological and cultural heritage sites will enhance positive significant effects.

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
	terrestrial and underwater • To promote opportunities to enhance or conserve places, features, buildings and landscapes of cultural, historical, archaeological or architectural heritage where they arise				archaeological and heritage sites throughout the catchment. This will enhance the cultural services provided by the Santry Riverpark. However, specific measures outlining how archaeological and cultural heritage sites within the Masterplan area will be protected, preserved and promoted, are not well developed within the Masterplan so the impact has been assessed as neutral to positive.	

Table 8-6: Impact assessment: Masterplan Objective 8

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
Masterplan Objective 8: To preserve, protect and promote the archaeological and heritage sites throughout the catchment.						
Biodiversity, Flora and Fauna	• To enhance biodiversity at the Santry River • To control/eradicate invasive alien species • To improve connectivity and avoid habitat fragmentation • To restore and create habitats of conservation significance • To include green/blue infrastructure provisions	• Affect biodiversity at Santry River? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the introduction of non-indigenous species into the natural environment? • Affect the creation / maintenance of natural corridors and stepping stones? • Affect the inclusion of green/blue infrastructure provisions	This Masterplan Objective targets protection and preservation of cultural heritage assets.	P 0/+ I LT	Generically, the Masterplan seeks to promote eco-tourism based on natural and cultural heritage of the Santry Riverpark, which will also help to promote and protect biodiversity. However, specific measures outlining how archaeological and cultural heritage sites within the Masterplan area will be protected, preserved and promoted, are not well developed within the Masterplan so the impact has been assessed as neutral to positive.	Inclusion of more targeted measures within the Masterplan in relation to the protection and promotion of archaeological and cultural heritage sites will enhance positive significant effects.
Population and Human Health	• To improve amenity of the Santry River and its environs • To enhance public use of the Santry River for recreational activities • To improve connectivity and encourage cycling along designated Greenway • To encourage community involvement in	• Affect the amenity of the Santry River and its environs? • Affect public use of the Santry River for recreational activities? • Affect connectivity? • Affect community involvement in the protection and maintenance of the Santry River and its public environs? • Affect flood protection?	As above.	VP 0/+ D/I LT	This objective seeks to preserve and promote cultural and natural heritage which will provide added recreational and educational opportunities for people visiting the Santry area. This will improve wellbeing and foster community engagement. However, specific measures outlining how archaeological and cultural heritage sites within the Masterplan area will be protected, preserved and promoted, are not well developed within the Masterplan so the impact has been assessed as neutral to positive.	Inclusion of more targeted measures within the Masterplan in relation to the protection and promotion of archaeological and cultural heritage sites will enhance positive significant effects.

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
	the protection and maintenance of the Santry River and its public environs • To protect against flooding					
Soil and Geology	To safeguard sensitive soil resources and geological heritage sites against pollution and degradation, including erosion and soil sealing	• Affect soil and geological heritage sites?	As above.	VP 0/+ I ST/LT	Preservation of areas within the Santry Riverpark for their natural and cultural value will also indirectly likely ensure that soils and geology are not disturbed in those areas. However, specific measures outlining how archaeological and cultural heritage sites within the Masterplan area will be protected, preserved and promoted, are not well developed within the Masterplan so the impact has been assessed as neutral to positive.	Inclusion of more targeted measures within the Masterplan in relation to the protection and promotion of archaeological and cultural heritage sites will enhance positive significant effects.
Water Quality and Flooding	• To contribute towards the maintenance and improvement of the quality and status of surface waters in line with the Water Framework Directive requirements. • To contribute towards maintaining and improving the chemical and quantitative status of	• Affect the quality and status of surface water in line with the Water Framework Directive? • Affect the chemical and quantitative status of groundwaters in line with the Water Framework Directive? • Affect compliance with the provisions of the Floods Directive?	As above.	0	This Masterplan Objective is unlikely to affect the water objectives.	N/A

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
	groundwaters in line with the Water Framework Directive requirements. • To contribute towards compliance with the provisions of the Flood Directive					
Material Assets	• To contribute towards the protection of built/amenity assets and infrastructure • To reduce waste production through the circular economy • To promote alternative modes of transport • To promote sustainable drainage systems	• Affect protected built/amenity assets and infrastructure? • Affect the aim to reduce production of waste? • Affect the promotion of alternative modes of transport? • Affect sustainable drainage systems?	As above	VP 0/+ I ST/LT	Protecting built/amenity assets with cultural value aligns with the SEA objectives. However, specific measures outlining how archaeological and cultural heritage sites within the Masterplan area will be protected, preserved and promoted, are not well developed within the Masterplan so the impact has been assessed as neutral to positive.	Inclusion of more targeted measures within the Masterplan in relation to the protection and promotion of archaeological and cultural heritage sites will enhance positive significant effects.
Air	• To avoid, prevent or reduce harmful effects on human health and the environment resulting from emissions to air	• Affect human health as a result of emissions to air?	As above.	0	This Masterplan objective will likely have a neutral effect on air quality objectives.	N/A
Climatic Factors and climate change	• To contribute to the reduction in GHG emissions	• Affect GHG emissions? • Affect climate change adaptation and mitigation?	As above.	0	This Masterplan objective will likely have a neutral effect on climate objectives.	N/A

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
	• To integrate sustainable design solutions to contribute to climate change adaptation (and mitigation as possible). • To promote development resilient to the effects of climate change	• Affect resilience to the effects of climate change?				
Landscape	• To protect and maintain the special qualities of the landscape	• Affect the special qualities of the landscape?	As above	VP 0/+ D LT	There is an opportunity through this Masterplan objective to have a significant positive impact on the Santry Riverpark's cultural landscape. However, specific measures outlining how archaeological and cultural heritage sites within the Masterplan area will be protected, preserved and promoted, are not well developed within the Masterplan so the impact has been assessed as neutral to positive.	Inclusion of more targeted measures within the Masterplan in relation to the protection and promotion of archaeological and cultural heritage sites will enhance positive significant effects.

Environmental Factor	SEA Objective	Assessment Criteria: How will this Strategic Objective...	Comment	Significance		Mitigation
				Symbols	Summary Description	
Cultural Heritage	• To contribute towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context, both terrestrial and underwater • To promote opportunities to enhance or conserve places, features, buildings and landscapes of cultural, historical, archaeological or architectural heritage where they arise	• Affect archaeological heritage and its context, both terrestrial and underwater? • Affect the enhancement or conservation of cultural, historical, archaeological, or architectural heritage?	The Masterplan area contains a variety of cultural heritage features including 42 National Monuments, 49 NIAH entries, historic gardens, industrial heritage sites and protected areas such as pNHAs. Clusters of these features lie close to the Santry River, particularly near Coolock, Raheny and the river mouth. In these areas, churches, mills, burial mounds, ritual sites, and worker housing occur within 100 m of the river. Their proximity to potential works makes them sensitive to both direct disturbance and changes to their historic character. The river also passes through historic landscapes such as Santry Demesne and Woodlawn.	VP ++ D LT/ST	The proposed measures to ensure areas of archaeological potential remain undisturbed and to develop eco-tourism and natural and cultural heritage conservation areas are directly related to the cultural heritage objectives in this SEA. These measures are expected to have largely positive effects on cultural heritage. Protecting National Monuments, NIAH-listed buildings, historic gardens, industrial heritage sites and other protected areas along the Santry River helps maintain the integrity and context of these features, particularly in sensitive clusters near Coolock, Raheny and the river mouth. The measures also support the conservation of historic landscapes such as Santry Demesne and Woodlawn, enhancing their visibility for educational and recreational purposes. Construction impacts may include minor excavation but these effects are expected to be limited and can be controlled with appropriate mitigation.	Mitigation measures will be implemented to ensure that any eco-tourism and natural and cultural heritage conservation areas developed as part of the Masterplan will preserve and protect archaeological heritage during both construction and operations. Design of any eco-tourism areas will utilise buffer zones around sensitive features, control access where necessary and design pathways and recreational facilities to avoid impacts resulting from operations. Project level design will be informed by early consultation with heritage authorities and supported by archaeological screening and impact assessment where ground disturbance is proposed. Monitoring and supervision by heritage specialists will ensure compliance with legal protections, while signage and interpretive materials will promote awareness and respectful use.

8.5 Summary of the Assessment

The assessment indicates that the river restoration and flood relief Masterplan objectives are substantially aligned with the SEA objectives, presenting opportunities for significant positive outcomes.

Restoration and nature-based flood relief measures addressing Masterplan Objectives 1-4 offer multiple prospects for enhancing biodiversity by providing additional and improved habitats throughout the Masterplan area, including woodlands, riparian zones, aquatic environments, and associated micro-habitats. Notably, the assessment underscores the necessity of clearly identifying suitable locations for proposed interventions during the design phase, adopting a holistic implementation approach. Other recommendations include developing a landscaping plan, an invasive species management strategy, and continued consultation with the team ecologist. The assessment identifies beneficial (positive) impacts on water quality, air quality, landscape value, flood resilience, and the long-term capacity for carbon sequestration within the system. Hard flood defences have predominantly been avoided, except at Raheny, where existing wall infrastructure was deemed to minimise amenity and landscape impacts. Adverse (negative) effects related to land acquisition and construction activities were identified. Mitigation measures implemented at the project level are required to prevent significant negative outcomes during the construction phase.

Potential significant adverse effects were noted in relation to sustainable mobility, in relation to the development of the Greenway envisaged under Masterplan Objective 5. Key concerns included potential habitat fragmentation, excessive artificial lighting, and increased visitor access to ecologically sensitive sites. To address these risks, the assessment advises meticulous route planning and design strategies, such as setting the pathway back from the riverbank, avoiding sensitive habitats, and implementing a code of conduct. Positive impacts were identified on the local community and visitors, through the promotion of active travel, supporting healthier lifestyles, and enhanced connectivity throughout the Masterplan area. The Greenway is anticipated to visually enhance the local landscape, strengthen connections between open spaces, and highlight important recreational and ecological features. When considered alongside restoration efforts, the combined impact on landscape is assessed as significantly positive.

Masterplan Objective 6 focuses on stakeholder engagement, representing a soft measure that aligns with the SEA objective of fostering community involvement; no further SEA objectives pertain to this aspect.

Masterplan Objective 7 aims to enhance ecosystem services, fully aligning with SEA objectives and yielding notable positive effects across all environmental parameters. The assessment highlights anticipated improvements to regulatory (e.g., water infiltration), cultural (e.g., recreational amenities, community engagement), and supporting (e.g., habitat creation) ecosystem services resulting from the Masterplan's implementation.

Masterplan Objective 8 addresses the preservation, protection, and promotion of archaeological and heritage sites throughout the catchment. While the Masterplan generically supports eco-tourism based on the natural and cultural heritage of the Santry Riverpark, the assessment notes the absence of specific protective measures for cultural

heritage. Regarding archaeology, in situ preservation of artefacts remains a priority. Additional initiatives, such as establishing heritage trails and maintaining appropriate setbacks from monuments, could further support preservation efforts. Consequently, a neutral to positive impact has been identified.

8.6 Interactive Effects

Interactive effects (or interactions) refer to any direct or indirect effects caused by the interaction of environmental factors.

Interactive effects arising from the Masterplan are anticipated to result in positive impacts across multiple factors. The integrated approach to restoration, flood relief, sustainable mobility, and natural and cultural heritage preservation targeted by the Masterplan fosters synergies that amplify positive outcomes for biodiversity, water quality, landscape character, and public well-being. Where overlapping interventions occur, careful coordination and ongoing stakeholder engagement will be essential to maximise the collective advantages while minimising unintended consequences, particularly in relation to sensitive habitats and heritage assets. Ultimately, this interconnected strategy is expected to reinforce the resilience and environmental quality of the Santry Riverpark, supporting a balanced enhancement of ecosystem services and community amenities.

Table 8-7 demonstrates where synergies and interactions are likely to occur. **Chapter 8.7** describes the total and cumulative impact assessment.

Table 8-7: Interactive Effects Summary Matrix

Interaction With	Pop & Human Health	Biodiversity	Water Quality	Soils & Geology	Material Assets	Landscape	Cultural Heritage	Air Quality	Climate
Population & Human Health			✓	✓	✓	✓		✓	✓
Biodiversity			✓	✓	✓				
Water Quality	✓	✓		✓	✓				
Soils & Geology	✓	✓	✓		✓		✓		
Material Assets	✓	✓	✓	✓			✓	✓	✓
Landscape	✓						✓		
Cultural Heritage				✓		✓			
Air Quality	✓				✓				
Climate	✓				✓				

8.7 Cumulative & Synergistic Effects

Cumulative effects are those effects that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the proposal. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time. Synergistic effects interact to produce a total effect that is greater than the sum of the individual effects.

In accordance with the EPA's 2020 Good Practice Guidance on Cumulative Effects Assessment in SEA, cumulative impact assessment involves two stages: (i) identifying total effects of the plan; and (ii) identifying the cumulative effects of the plan (its total effects) plus the effects of other actions.

The total (also called intra-plan or combined) effects of the plan are all the plan objectives considered together. **Table 8-8** summarises the total effects of the Masterplan on sensitive receptors.

Table 8-8: Summary of total environmental effects

Environmental Factor	Total effects
Biodiversity, Flora and Fauna	Potential positive effects will likely arise from implementation of all river restoration nature-based solution flood mitigation measures as a result of measures including habitat restoration, habitat creation, and improved naturalisation of the channel.
Population and Human Health	Flood mitigation, river restoration, amenity improvements, improved connectivity and the Greenway collectively provide a total significant positive impact. There are opportunities to further enhance mitigation through inclusion of the community at implementation.
Soil & Geology	Improvements to soil can be expected through various measures including implementation of nature-based solutions and river restoration resulting in increased bank stability, improvement in geomorphic processes, and reinstatement of more natural river processes. The earthworks required throughout the Masterplan area could result in negative impacts related to erosion and will need to be managed during Masterplan implementation.
Water Quality & Flooding	Impacts include improvement in water quality (as a result of filtration by enhanced riparian zone and wetland), improvement in hydro mophology, flood mitigation through nature-based solutions and hard defenses as defined in Masterplan. Collectively, improvements to the WFD status may be expected in the medium term and compliance with the Floods Directive.
Material Assets	Enhanced protection of built assets and infrastructure through reduced flood risk.
Air	A localised improvement to air quality expected, cumulatively throughout plan area.

Environmental Factor	Total effects
Climatic Factors and Climate Change	A reduction in flood risk, through an integrated approach using nature-based solutions together with hard structures will improve the system's resilience to the increased frequency of flash floods resulting from climate change. Proposed nature-based solutions will enhance the system's capacity to sequester carbon from the atmosphere, contributing to climate change mitigation.
Landscape	Improvement of landscape through implementation of various types of measures including restoration measures, improved connectivity and amenity development measures to be implemented throughout the Masterplan area.
Cultural Heritage	Neutral to positive effects throughout the Masterplan area protecting, preserving and promoting archaeology and cultural heritage.

The Masterplan is expected to deliver cross-cutting benefits that reinforce the resilience and liveability of the area. By integrating sustainable design principles and engaging local communities, the plan aims to foster a sense of ownership and stewardship over the environment. These initiatives will not only improve ecological integrity but also support social cohesion and enhance the overall quality of life for residents and visitors alike.

As per the EPA 2020 guidance, the cumulative (also called inter-plan) effects of the plan are its total effects plus the effects of other actions. The Masterplan identifies other key projects, these are: closest to the Santry River, the Rainscapes project in the River Santry Catchment a pilot study into the use of SUDS for managing urban runoff; Raheny Main Street refurbishment; and proposed residential development adjacent to the Santry River. The cumulative assessment also considers the MetroLink and BusConnect projects which will run within the vicinity of the Masterplan area.

Table 8-9 summarises the cumulative environmental effects, bringing together likely evolution without the Masterplan and total impacts of the plan.

Table 8-9: Summary of cumulative environmental effects, bringing together likely evolution without the Masterplan and total impacts of the plan

	Likely evolution without the plan (to 2040)	Total impacts of the plan (to 2040)	Cumulative impacts of the Masterplan and other actions
Biodiversity, flora and fauna	0/-/+	++	In the absence of the Masterplan, the riparian and aquatic environments are expected to continue to deteriorate, though the inclusion of certain projects such as Redscapes and SUDS at Raheny

	Likely evolution without the plan (to 2040)	Total impacts of the plan (to 2040)	Cumulative impacts of the Masterplan and other actions
			should ensure that water quality reaching the river is improved relative to the current situation. The Masterplan proposes measures that will result in active enhancement of various habitats and microhabitats in the Santry River catchment, thus enhancing biodiversity. Together with the Riverscapes project, the amenity of the wider catchment area will be improved.
Population and human health	0/-	++/-	The refurbishment of Main Street Raheny, as described in the Masterplan, offers potential to develop a pedestrian led public realm, which combines traffic calming and SUDS. Together with the improved connectivity to public transport such as the BusConnects project, including a transport link to the planned MetroLink (which has stations in Ballymun and Northside), and the greenway, residents and visitors will have an extended area promoting cycling and walking, and with improved amenity, reduced air emissions and noise. Together with the development of the Santry Riverpark measures, a significant positive cumulative effect is expected on population and human health including wellbeing. Proposed residential developments near the Riverpark, in appropriately zoned locations could result in an increase in pressure on Santry River ecosystems services. The mitigation measures proposed in the assessment in terms of targeting the appropriate conduct within the Riverpark should help to mitigate. Monitoring will be required to identify whether additional measures to manage visitor numbers would be required.
Soil and geology	0	+/-	Positive and negative total impacts described in **Table 8-8**. No other

	Likely evolution without the plan (to 2040)	Total impacts of the plan (to 2040)	Cumulative impacts of the Masterplan and other actions
			significant cumulative effects are expected.
Water quality and flooding	-	++	In the absence of interventions at the Santry River to mitigate against flooding, the situation is expected to worsen over time as flooding events become more frequent and severe due to climate change. The Rainscapes project near Santry will clean rainwater run-off before it reaches the river. Cumulatively, significant positive effects are expected on water quality, further increasing the likelihood that WFD status of the waterbodies will be improved.
Material assets	0/-	+	In the absence of interventions at the Santry River to mitigate against flooding, the situation is expected to worsen over time as flooding events become more frequent and severe due to climate change. This can continue to threaten buildings and infrastructure. The Rainscapes project near Santry and additional SUDS at Raheny is expected to result in enhanced protection of built assets against flooding.
Air	0/+/-	+	Implementation of the Redscapes project and traffic calming measures at Raheny can result in some improvements to air quality in the catchment, even in the absence of the Masterplan. However, increasing residential development is likely to have a negative impact through increases to traffic in the area, elsewhere in the network. Cumulative impacts of implementation of the Santry Riverpark, Redscapes and refurbishment at Main Street Raheny can result in localised positive impacts on air quality.

	Likely evolution without the plan (to 2040)	Total impacts of the plan (to 2040)	Cumulative impacts of the Masterplan and other actions
Climatic factors and climate change	-	+	In the absence of the Masterplan, negative impacts from flooding will continue and worsen at identified vulnerable areas. Additionally, without the Masterplan, there will be no opportunity to reduce GHG emissions from traffic-related emissions. SUDS projects including at Raheny and in the Santry catchment will result in cumulative positive effects in flood protection. The proposed Greenway, in conjunction with connections to the MetroLink and BusConnects projects, will promote alternative travel modes to road travel. This could result in a reduction in traffic-related emissions (including GHG emissions).
Landscape	+	++	Implementation of other actions such as Redscapes and refurbishment of Main Street Raheny will improve urban amenity. Implementation of these actions together with the Masterplan will result in a significantly positive cumulative effect on landscape.
Cultural heritage	0	+/-/0	Assuming appropriate mitigation and implementation stage, cumulative significant impacts on cultural heritage are not likely.

9 MONITORING FRAMEWORK

Monitoring potential significant environmental effects resulting from the implementation of the Masterplan is an important aspect of the SEA process as this will make it possible to identify corrective actions and establish how well the Masterplan conforms to SEA objectives.

The European Commission Guidance suggests that SEA monitoring activities and reporting can be integrated into the regular planning cycle or may coincide with the regular revision of a plan. Other SEA guidance indicates that the existing monitoring arrangements of the plan and that undertaken for other plans can be used to obtain the required information.

The SEA objectives and indicators detailed in **Chapter 6** serve as effective tools for monitoring significant environmental impacts that may result from the implementation of the Masterplan. It is recommended that the Masterplan incorporate a comprehensive monitoring framework. SEA monitoring can be integrated within this overall framework, utilising data already collected for Masterplan monitoring activities. This approach minimises duplication of effort and enhances the efficiency of the monitoring process.

Table 9-1 summarises the proposed monitoring framework that can form the basis of a monitoring plan as part of the Masterplan. The selected indicators are designed to help understand whether positive impacts have been realised and whether negative impacts have been successfully mitigated. It is recommended that an annual report will be drawn up to present the data gathered. Trends will be analysed and any need for additional actions based on data gathered will be highlighted in order to meet the SEA objectives and ensure mitigation is implemented successfully. It is also recommended that an action plan will be developed in relation to Masterplan implementation. This will be a live document that will be updated as necessary following issuance of the monitoring data report. The action plan will define actions needed based on monitoring results and includes timeframes and responsibilities for implementation.

Table 9-1: Monitoring Framework

Environmental Factor	Potential significant effects	Monitoring indicators	Monitoring frequency and Responsibilities
Biodiversity, Flora and Fauna	Measure the success of implementation of river restoration and nature-based solutions measures to enhance biodiversity in the Masterplan area. Implementation of the various restoration and flood management, nature-based solutions can be monitored against the indicators as listed in the next column.	• Extent of habitats of conservation significance • Species richness • Populations of species of conservation significance • Invasive alien species populations • Extent of riparian habitat • Extent of hedgerows / verges • Number of features introduced to create habitat (e.g. nesting boxes for birds, ledges and artificial holts for otters, etc.) • Extent of grassland managed as mosaic habitats • Number of barriers causing fragmentation, e.g., to otter mobility, removed	Indicators related to habitats and species will be collected bi-seasonally annually during implementation and every three years following implementation by DCC. Indicators relating directly to implementation of measures will be collected annually by DCC.

Environmental Factor	Potential significant effects	Monitoring indicators	Monitoring frequency and Responsibilities
		• Number/extent of green/blue infrastructure included	
Population and Human Health	Use of the site following implementation of measures shall be monitored and adjustment to certain activities as relevant will be made if monitoring results indicate a need.	• Number of community events (e.g. educational visits, clean ups, environmental and cultural festivals, cultural tours, etc) held annually within the Masterplan area • Number / extent of cycling and walking routes • Extent of areas opened up for public use • Extent of areas protected from flooding	Annually during implementation by DCC.
Soil & Geology	Soil stabilisation is expected through some of the measures, monitoring to determine the extent of this will be required.	• Number of actions, such as planting of specific habitat, that also target / will result in improvements to soil quality and contribute to soil conservation.	DCC to collect every 6 months during implementation.

Environmental Factor	Potential significant effects	Monitoring indicators	Monitoring frequency and Responsibilities
		• Soil extent • Soil quality	
Water Quality & Flooding	As improvement to water quality is expected as well as flooding. Data has already been collected by the relevant Competent Authority in line with WFD requirements.	• Biological status (Q-values) • Water chemistry • Extent of river restored to more natural conditions • Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC • Compliance of relevant lower tier assessments and decision making with the Flood Risk Management Guidelines	Uisce Eireann/DCC/FCC Bi-annually.
Material Assets	Protection of material assets is expected and an emphasis on nature-based solutions should be presented.	• Extent of built/amenity assets and infrastructure protected from flooding • Use of Greenway	DCC/FCC every 6 months

Environmental Factor	Potential significant effects	Monitoring indicators	Monitoring frequency and Responsibilities
		• Use of sustainable drainage systems	
Air	Positive changes to air quality identified.	• Air quality indicators: • NO_2 concentrations • particulate matter concentrations	EPA data from nearest ambient air quality monitoring stations. Annually.
Climatic Factors and Climate Change	Improved flood risk resilience.	• Extent of structures/sites with enhanced flood protection • Extent of river restored to more natural conditions • GHG emissions trends over time	DCC/FCC to measure indicators directly related to implementation. GHG emissions data to be obtained from EPA. Annually.
Landscape	Landscape and visual amenity are expected to be enhanced.	• Landscape condition in line with the Landscape Character Assessment of the Santry River, 2023	DCC/FCC when LCA is carried out as part of Development Plan requirements.

Environmental Factor	Potential significant effects	Monitoring indicators	Monitoring frequency and Responsibilities
Cultural Heritage	Insofar as possible, impacts on cultural heritage will be avoided and existing mitigation will be explored as necessary.	• Number of measures targeting the improvement of the cultural landscape	DCC/FCC to collect annually.

10 CONCLUSIONS & NEXT STEPS

Overall, the Masterplan's approach demonstrates positive impacts, delivering environmental protection and public benefits. Adaptive management and ongoing monitoring will be essential to promptly identify and address any unforeseen impacts that may arise during implementation. Emphasising collaboration between stakeholders, regular review of mitigation effectiveness, and flexibility in delivery of measures will further support the achievement of sustainable and resilient outcomes across the range of environmental receptors considered.

The ER will be issued to the following relevant statutory and non-statutory consultees.

Table 10-1: Statutory and Non-Statutory Consultees for ER

Statutory Consultees	Non-Statutory Consultees
• EPA • DHLGH • Department of Agriculture, Food and the Marine (DAFM) • Department of Department of Environment, Climate and Communications (DECC)	• An Taisce • Department of Transport, Tourism and Sport (DTTAS) • DCC • FCC • Inland Fisheries Ireland (IFI) • NTA • Office of Public Works (OPW) including the Eastern CFRAM Project • Bird Watch Ireland • Local Residents Associations • Local Amenity Groups • Local Business Community • The Heritage Council • Transport Infrastructure Ireland (TII) • Local Authorities Waters Programme Office

This ER and the draft Masterplan will be available for inspection on the DCC website and a digital copy of same will be sent to each of the consultees for public consultation. Stakeholders will have the opportunity to comment on the draft Masterplan and ER. Feedback and submissions are welcomed from all interested parties, including members of the public. All comments received will be recorded, reviewed, and applied where relevant.

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APPENDIX 1 – SEA SCOPING REPORT

Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

DUBLIN CITY COUNCIL

SANTRY RIVER RESTORATION AND GREENWAY (SRRG) MASTERPLAN

Strategic Environmental Assessment Scoping Report

May 2025

NICHOLAS O'DWYER
an RSK company

DUBLIN CITY COUNCIL

SANTRY RIVER RESTORATION AND GREENWAY MASTERPLAN

STRATEGIC ENVIRONMENTAL ASSESSMENT SCOPING REPORT

Nicholas O'Dwyer Ltd
Consulting Engineers
Nutgrove Office Park
Nutgrove Avenue
Dublin 14

May 2025

Project No. 20915					
Revision	**Reason for Revision**	**Prepared by**	**Reviewed by**	**Approved by**	**Issue Date**
-	First Issue	KF	AH	BD	28/02/2025
A	Client review	KF	BD	BD	09/04/2025
B					
C					
D					

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1 INTRODUCTION

1.1 Background

The River Santry runs for approximately 13km, rising in Harristown, west of Dublin Airport and discharging into the North Bull Island Nature Reserve and Ramsar site. It traverses both Dublin City Council (DCC) and Fingal County Council (FCC). The river's catchment area is approximately 15.6km^2 in size. Land uses in the catchment include agriculture, residential, industrial / light industrial, warehousing and parks.

Dublin City Council (DCC), together with FCC and the National Transport Authority (NTA), is spearheading the formulation of the Santry River Restoration and Greenway (SRRG) Masterplan. A collaborative Masterplan is under development that sets out the framework, strategic objectives and optioneering of project proposals for the area.

This SEA Scoping Report has been prepared in accordance with EU Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment, which is transposed into Irish legislation through the: (i) European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. 435/2004), as amended by S.I. 200 of 2011 (ii) Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. 436/2004), as amended by S.I. 200 and 201 of 2011 and through reference to relevant guidance documents as follows:

- Environmental Protection Agency (EPA). 2021. *Good Practice Guidance on SEA Screening*.
- Department of Housing, Local Government and Heritage. 2022. *Strategic Environmental Assessment: Guidelines for Regional Assemblies and Planning Authorities*.
- European Commission.2022. *Guidance on the Implementation of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment*.

1.2 Strategic Environmental Assessment

Strategic Environmental Assessment (SEA) is a process for evaluating, at the earliest appropriate stage, the environmental consequences of implementing plan/programme initiatives prepared by authorities at a national, regional or local level or which are prepared by an authority for adoption through legislative means. The purpose is to ensure that the environmental consequences of plans and programmes are assessed both during their preparation, and, prior to adoption. The SEA process also gives interested parties an opportunity to comment on the environmental effects of the proposed plan or programme and to be kept informed during the decision-making process.

As identified in the EPA SEA Screening Guidance (2021)[1], the SEA Directive (and transposed legislation) applies to plans and programmes that are (i) prepared or adopted at a national, regional or local level, and (ii) required by legislative, regulatory or administrative provisions. Mandatory SEA is required for those plans or programmes that are prepared for listed sectors[2] and set the framework for future development consent of projects listed in Annexes I and II to the EIA Directive or which require assessment under the EU Habitats Directive (92/43/EEC). SEA may also be required for other plans or programmes that are likely to have significant effects on the environment.

[1] RPS & A&L Goodbody. 2021. Good Practice Guidance on SEA Screening. Environmental Protection Agency.

[2] Agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use.

The Santry River Restoration and Greenway (SRRG) Masterplan was screened in for SEA[3].

Broadly speaking, the SEA process is comprised of four stages as outlined in **Table 1.1** below.

Table 1.1: Stages in the Strategic Environmental Assessment (SEA) Process

Stage	Description
Screening	Determines whether SEA is required for a Plan or Programme in consultation with the designated statutory consultees.
Scoping	Determines the scope and level of detail for the SEA in consultation with the designated statutory consultees. As recommended in the DHGLH guidelines (2022), this report has been prepared as part of this stage.
Environmental Assessment	This refers to a formal and transparent assessment of the likely significant effects on the environment due to implementation of a Plan / Programme including all reasonable alternatives. The output from this stage is an Environmental Report which is required to go on public display along with the draft Plan / Programme.
SEA Statement	This summarises the process undertaken and identifies how environmental considerations and consultations have been integrated into the final Plan / Programme.

1.3 Appropriate Assessment

The EU Habitats Directive places strict legal obligations on Member States to ensure the protection, conservation and management of the habitats and species of conservation interest in all European Sites. The Habitats Directive has been transposed into Irish law by the Planning and Development Act 2000 (as amended) and the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).

Article 6 of the Directive obliges Member States to undertake an 'appropriate assessment' (AA) for any plan or project which may have a likely significant effect on any European Site. The outcomes of such AAs fundamentally affect the decisions that may lawfully be made by competent national authorities in relation to the approval of plans or projects.

Articles 3 to 9 provide the legislative means to protect habitats and species of community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC as amended 2009/149/EC) (also known as "The Birds Directive").

Article 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect Natura 2000 sites. Article 6(3) establishes the requirement for Appropriate Assessment.

Article 6(3) states: "Any plan or project not directly connected with or necessary to the management of the Natura 2000 site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. Taking into consideration the conclusions of the assessment, the implication for the site and subject to the provisions of paragraph 4, the competent national authorities

[3] Screening determination published on 8th October 2024.

shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

Article 6(4) states: "If, in spite of a negative assessment of the implications for the [Natura 2000] site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest [IROPI], including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted."

The Habitats Directive was transposed into Irish Law via several pieces of legislation which have now been consolidated into European Communities (Birds and Natural Habitats) Regulations 2011.

An Appropriate Assessment (AA) Screening Process for the SRRG Masterplan was carried out in parallel with the SEA screening. The AA Screening Report screened the Masterplan in for Appropriate Assessment.

2 SANTRY RIVER RESTORATION AND GREENWAY MASTERPLAN

2.1 Introduction

This chapter summarises the draft Santry River Restoration and Greenway (SRRG) Masterplan (hereafter referred to as the SRRG Masterplan, or the Masterplan) including the area covered by the Masterplan. The area and is divided into six sub-zones along and the Masterplan presents eight strategic objectives. This section also provides a summary overview of where the Masterplan sits in the overall policy hierarchy at an International and European, National and Regional level.

2.2 The Santry River Restoration and Greenway Masterplan

As mentioned, the SRRG Masterplan is currently being formulated by DCC, in close collaboration with FCC and the NTA. This is a non-statutory land use plan that will attempt to (i) reduce flood risk at the Santry and improve its resilience; (ii) improve connectivity throughout the plan area, providing sustainable transportation through incorporation of a greenway (walking/cycling); (iii) enhance recreational and public use by improving social and recreational amenities in the catchment as identified through community/stakeholder engagement; and (iv) ecologically restore the river, and deliver good status under the Water Framework Directive (WFD).

An indicative area covered by the Masterplan is shown in

Figure 2.1. The area has been divided into the following six sub-zones:

1. The Coast to Raheny Village and the Train Line;
2. Raheny Village to Malahide Road;
3. Malahide Road to Clonshaugh Road;
4. Clonshaugh Road to M50;
5. M50 to R108; and
6. R108 to Silloge.

The SRRG Masterplan will provide a physical framework for the sustainable development of the Santry River restoration and the greenway infrastructure, describing the strategic intentions necessary to improve overall water quality and infrastructure. It will focus on assisting the DCC in complying with physicochemical, ecological and hydromorphological objectives of the Water Framework and Floods Directives; habitat, ecology and biodiversity objectives of the Birds and Habitats Directive; and social, recreational and amenity needs of the communities living within the river catchment, including a recreational greenway (cycle and pedestrian routes).

The Masterplan will be delivered through the achievement of the following eight objectives:

- **Objective 1**: To address river hydro-morphology, and specifically [through the following sub-objectives]:
    - To identify and resolve hydromorphological pressures impacting the River Santry;
    - To re-naturalise the river channel where feasible in accordance with the WFD;
    - To identify solutions to address flood risk in accordance with the Floods Directive;
    - To prioritise the use of natural water retention measures; and
    - To assess the impacts of climate change to the year 2100 on the river.
- **Objective 2**: To re-establish, where it has been lost, connectivity between the river and its riparian zone and natural flood zone.
- **Objective 3**: To improve the riparian corridor of the river and make provision, where required, for achieving objectives for biodiversity, ecology and habitat in accordance with the Birds and Habitats Directives, as well as creating a dynamic riverbed suitable for fish and invertebrates.
- **Objective 4**: To achieve good status under the WFD.
- **Objective 5**: To improve connectivity and create the Santry River Greenway, consisting of walkways and cycling routes for improved access to the river corridor and to allow commuters to reach their destination using sustainable transport/active travel modes.
- **Objective 6**: To identify and engage with all stakeholders.
- **Objective 7**: To enhance the Santry's ecosystem services and reduce costs associated with damages associated with current conditions (including from flooding, anti-social behaviour, etc.).
- **Objective 8**: To preserve, protect and promote the archaeological and heritage sites throughout the catchment.

The formulation of the SRRG Masterplan will identify strategic measures to achieve the eight Masterplan objectives as well as targets to reach within specified timeframes. Masterplan indicators will be directly related to the Masterplan's strategic measures.

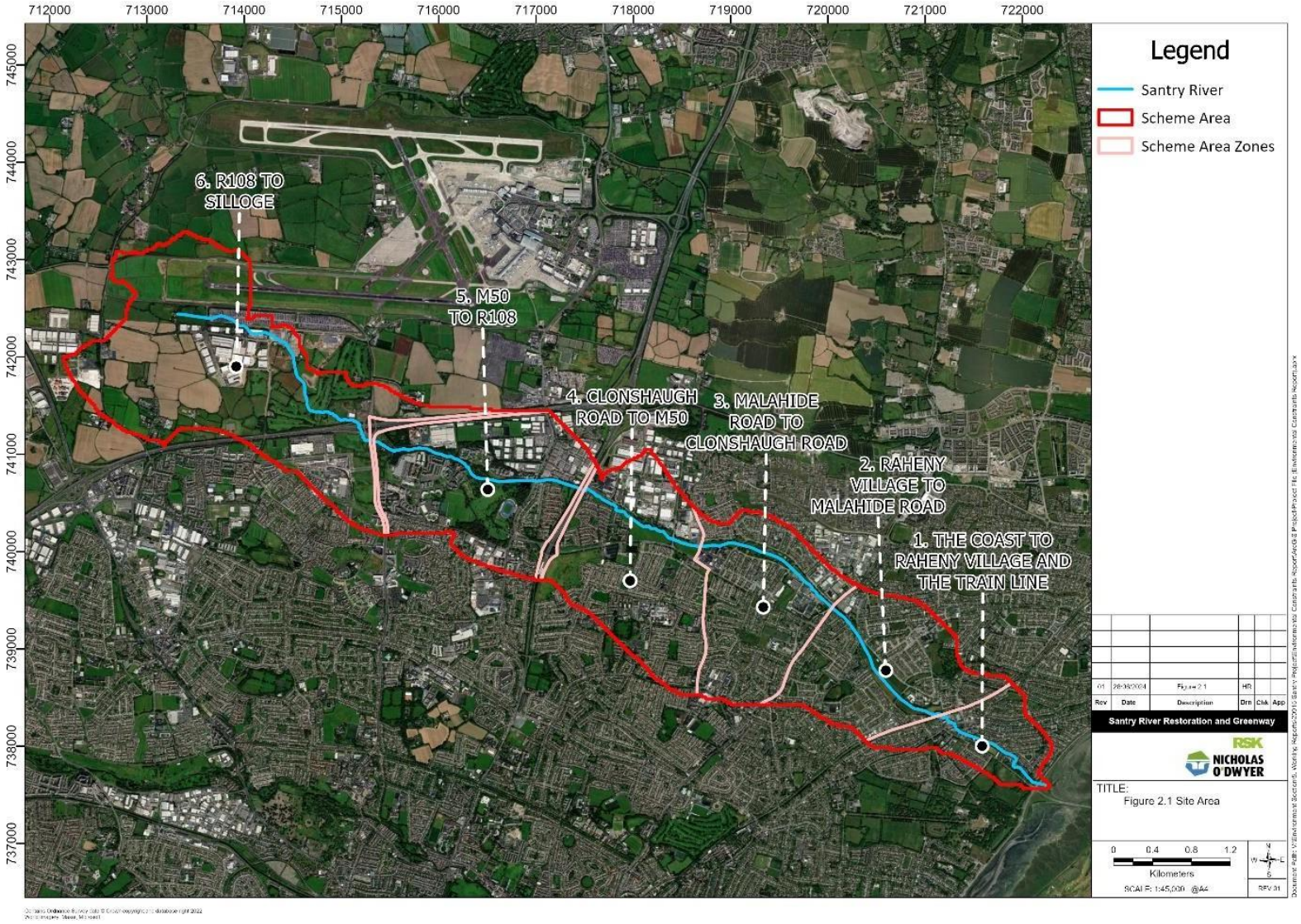

Figure 2.1: Site area

3 POLICY CONTEXT - RELATION OF THE SANTRY RIVER RESTORATION AND GREENWAY MASTERPLAN TO OTHER STRATEGIES & PLANS

As described in the DHLGH (2022) guidelines, during scoping, the Plan's relationship with other plans/programmes should be identified (both vertically i.e., within the hierarchy of land-use plans, and horizontally, i.e., other sectoral plans/programmes operating in the same area).

Appendix 1 provides a list of the policies, plans, and programmes relevant to the SRRG Masterplan, which have been analysed. The analysis has been subdivided into the following main categories:

(i) **International Commitments**: this category covers the international environment and sustainability policy framework within which Ireland must operate. It includes a selection of global commitments, such as those arising from the UN Sustainable Development Goals (SDGs) under the 2030 Sustainable Development Agenda, UN Framework Convention on Climate Change (UNFCCC) and Kummin-Montreal Global Biodiversity Framework under the Convention on Biodiversity.

(ii) **EU requirements**: Relevant EU Directives and communications have been included and summarised.

(iii) **National Environmental & Planning Documents** including Project Ireland 2040 – Our Plan, the National Planning Framework (NPF), the National Development Plan, and the Sustainable Development Goals National Implementation Plan. The review provided herein summarises the key issues in relation to the scope of the Masterplan; further information can be obtained from the original documents.

(iv) **National Sectoral Policies and Strategies**: this section covers highest-level policy and strategy documents published by the Government, such as the National Strategic Plan. Rather than summarise entire documents this review seeks to emphasise the key sustainability objectives and priorities.

(v) **Regional & Sub-regional Plans**: this covers relevant regional and sub-regional plans pertaining to Dublin and the Santry area, specifically including the Eastern and Middle Regional Assembly Regional Spatial and Economic Strategy (RSES 2019-2031), the Dublin City Development Plan (2022-2028), and the Fingal County Council Development Plan (2023-2029).

4 ENVIRONMENTAL BASELINE

A good understanding of the environment of the areas covered by the SEA is needed for a sound assessment. It is therefore necessary to establish the environmental baseline relevant to the plan or programme being proposed. This provides a snapshot of the existing state of the environment and a description of the likely future trends (based on past trends) in the absence of the plan or programme.

The Environmental Report will contain a detailed description of the environmental baseline data for the Masterplan area. The baseline data will be presented through maps, graphs and diagrams with supporting text, as relevant. The current state of the environment will be described using the most up to date and relevant information available. Existing environmental and sustainability data will be collected from a wide range of sources (see **Table 4.1** for a list of key baseline information and sources proposed to be used in the preparation of the Environmental Report). The list is not exhaustive and may be modified in the Environmental Report and will also depend on the availability of data. Should updated environmental information of significance become available, this information will be incorporated into the description of the current state of the environment. If data gaps exist these will be clearly stated along with details on whether it will be feasible to address these data gaps during the environmental assessment process.

Environmental parameters considered are in line with Annex I of the SEA Directive.

Table 4.1: Summary of Proposed Environmental Baseline Data and Sources

SEA Topic	Proposed Scope of Baseline Data	Data Sources
Biodiversity, Flora and Fauna	Information pertaining to designated sites and their qualifying features of interests. Data regarding protected habitats and species in the general area. Current threats to biodiversity including invasive species	Aerial photography National Parks and Wildlife Service (NPWS) Environmental Protection Agency (EPA) portal National Biodiversity Data Centre (NBDC) Inland Fisheries Ireland (IFI) Bat Conservation Ireland BirdWatch Ireland Tailte Éireann GeoHive Map Viewer Local authority data – FCC and DCC
Population & Human Health	Population density and distribution, perceived health	Central Statistics Office (CSO) database Local authority data – FCC & DCC Health Service Executive Pobal Tailte Éireann GeoHive Map Viewer
Geology, Soils & Land-use	Geological and soil features including bedrock, aquifers, soil and subsoil type /	Geological Survey of Ireland (GSI) Office of Public Works (OPW)

SEA Topic	Proposed Scope of Baseline Data	Data Sources
	vulnerability, geological heritage sites and soil contamination. Land-use designations within the Scheme area	EPA Portal County Development Plans Corine landcover and land-use database Teagasc Soil information
Water	Location & status of waterbodies. Flood risk and management. Water quality and usage.	Water Framework Directive (WFD) data EPA database / reports Integrated Water Quality Reports National Catchment Flood Risk Assessment and Management Programme (CFRAM) Catchments.ie OPW (floodinfo.ie) IFI Local authority data – FCC & DCC
Air, Noise and Vibration	Air quality data. Noise and vibration data and information.	EPA Portal/database Strategic Noise Maps & Action Plans Local authority database– FCC & DCC
Climatic factors	General climatic information and trends. Carbon emissions from construction activities	National and International reports on climate change EPA Greenhouse Gas Emission RSES
Material Assets, Infrastructure	Number and type of infrastructure (Transport, telecommunications, energy) Resources and waste	Transport Infrastructure Ireland (TII) EPA & WFD data EPA Local authority data – FCC & DCC
Cultural, Archaeological & Architectural Heritage	Location and status of protected sites, monuments	Local authority data – FCC & DCC National Inventory of Architectural Heritage National Monuments Service Historic Environment Viewer for Archaeological and Architectural Heritage The Heritage Council

SEA Topic	Proposed Scope of Baseline Data	Data Sources
Landscape & Visual Amenity	Landscape character areas and sensitive landscape areas.	Local authority data – FCC & DCC Landscape Conservation Areas Landscape Character Areas Sensitive Landscapes

5 ENVIRONMENTAL ASSESSMENT

5.1 SEA Objectives

In line with the Department of Housing Local Government and Heritage's (DHLGH) 2022 SEA Guidelines for Regional Assemblies and Planning Authorities[4], relevant international, EU, national and regional strategic environmental protection objectives that were identified also as part of the analysis of other plans and programmes (see **Appendix 1**) were taken into consideration in the context of the environmental assessment. To this end, strategic environmental objectives, specific to the context of the SRRG Masterplan were identified upon which to base the assessment. Indicators were also identified to monitor the performance of the Masterplan against the SEA objectives. The SEA objectives are distinct from Masterplan objectives and should influence the Masterplan objectives; the two may even overlap.

Table 5.1 presents draft environmental objectives and indicators proposed for the SRRG Masterplan. These environmental objectives and indicators emerged from (i) baseline information to be collated; and (ii) an integrated review of other policies and plans that can have a bearing on the Masterplan objectives.

As mentioned, as the development of the (draft) Masterplan progresses and project options are developed, objectives and indicators may change or be further adapted in light of the overall Masterplan and latest requirements at Environmental Report stage.

[4] Department of Housing, Local government and Heritage. 2022. *Strategic Environmental Assessment: Guidelines for Regional Assemblies and Planning Authorities*. Government of Ireland.

Table 5.1: Environmental Objectives and Indicators

Environmental Factor	Draft Strategic Environmental Objectives	Draft Indicators
Biodiversity, Flora and Fauna	To enhance biodiversity at the Santry River To control/eradicate invasive alien species To improve connectivity and avoid habitat fragmentation To restore and create habitats of conservation significance To include green / blue infrastructure provisions	Extent of habitats of conservation significance Species richness Populations of species of conservation significance Invasive alien species populations Extent of riparian habitat Extent of hedgerows / verges Number of features introduced to create habitat (e.g., nesting boxes for birds, ledges and artificial holts for otters, etc.) Extent of grassland managed as mosaic habitats Number of barriers causing fragmentation, *e.g.*, to otter mobility, removed Number/extent of green/blue infrastructure included
Population and Human Health	To improve amenity of the Santry River and its environs To enhance public use of the Santry River for recreational activities To improve connectivity and encourage cycling along designated greenway To encourage community involvement in the protection and maintenance of the Santry River and its public environs To protect against flooding	Number of community events (e.g., educational visits, clean ups, environmental and cultural festivals, cultural tours, etc) held annually within the Santry Scheme area Number / extent of cycling and walking routes Extent of areas opened up for public use Extent of areas protected from flooding
Soil & Geology	To safeguard sensitive soil, resources and geological heritage sites against pollution and degradation, including erosion and soil sealing	Number of actions, such as planting of specific habitat, that also target / will result in improvements to soil quality and contribute to soil conservation. Soil extent Soil quality

Environmental Factor	Draft Strategic Environmental Objectives	Draft Indicators
Water Quality & Flooding	To contribute towards the maintenance and improvement of the quality and status of surface waters in line with the Water Framework Directive requirements. To contribute towards maintaining and improving the chemical and quantitative status of groundwaters in line with the Water Framework Directive requirements. To contribute towards compliance with the provisions of the Flood Directive	Biological status (Q-values) Water chemistry Extent of river restored to more natural conditions Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC Compliance of relevant lower tier assessments and decision making with the Flood Risk Management Guidelines
Material Assets	To contribute towards the protection of built/amenity assets and infrastructure To reduce waste production through the circular economy To promote alternative modes of transport To promote sustainable drainage systems	Extent of built/amenity assets and infrastructure protected from flooding Waste generated and managed by the Scheme Use of greenway Use of sustainable drainage systems
Air Quality	To avoid, prevent or reduce emissions to air	Air quality indicators: NO_2 concentrations Particulate matter concentrations
Climatic Factors and climate change	To integrate sustainable design solutions that contribute to climate change adaptation (and mitigation as possible). To promote development resilient to the effects of climate change To reduce GHG emissions	Extent of structures/sites with enhanced flood protection Extent of river restored to more natural conditions GHG emissions trends over time
Landscape	To protect and maintain the special qualities of the landscape	Landscape condition[5] in line with the Landscape Character Assessment of the Santry River, 2023 Environmental Impact Assessment findings on landscape assessment, as relevant

[5] In line with the Landscape Character Assessment of the Santry River, 2023

Environmental Factor	Draft Strategic Environmental Objectives	Draft Indicators
Cultural Heritage	To contribute towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context To contribute towards the protection of architectural heritage (including entries to the Record of Protected Structures, entries to the National Inventory of Architectural Heritage and Architectural Conservation Areas) and its context	Number of measures targeting the improvement of the cultural landscape

5.2 Likely Significant Effects

As described in the 2022 DHLGH SEA Guidelines, significance may be described in terms of the type and scale of development envisaged by the plan and the sensitivity of the receiving environment, *i.e.*, the larger the scale of impacts and the more sensitive the receiving environment, the more significant the effects are likely to be. Various methods can be used to determine significance including expert judgements, the use of thresholds, reference to legislation, and consultation with stakeholders. It is expected that, during the SEA process, all these techniques will be used, as relevant, during the assessment. Consultation will help to ensure that all factors are considered.

Annex II of the 2022 DHLGH SEA Guidelines (and Schedule 1 of the Regulations) identifies criteria for determining likely significance of effects. The assessment of significance is based on the probability of the impact occurring, on the scale of the impact, its duration, reversibility, whether it has transboundary impacts, and whether the impact is uncertain.

The SEA objectives identified in **Table 5.1** will be used to assess the SRRG Masterplan initiatives in accordance with the significance criteria as set out in the Environmental Report. **Table 5.2** describes the assessment framework. The results of the assessment will be presented in the format indicated in **Table 5.3**.

Potential secondary, cumulative or synergistic impacts will also be identified as relevant.

Table 5.2: Assessment legend

Impact character	Symbol	Description of Impact
Probability	VP	Impact very likely to occur
	P	Impact likely to occur
Scale	++	Large positive impact
	+	Positive impact
	0	No impact
	-	Negative impact
	--	Large negative impact
Direct / Indirect	I	Indirect impact
	D	Direct impact
Frequency / duration	LT	Long term
	ST	Short term
Transboundary dimension	TR	Possible transboundary effect
Uncertainty	?	Impact uncertain

Table 5.3: Example CAP Strategic Plan Assessment framework and format for Environmental Report

Relevant SEA Aspect	SEA Objectives	Criteria How will this measure…..	Comment	Significance		Mitigation
				Symbols	Summary description	
Measure/Initiative:						
Biodiversity, Flora & Fauna	• To enhance biodiversity at the Santry River • To control/eradicate invasive alien species • To improve connectivity and avoid habitat fragmentation • To restore and create habitats of conservation significance • To include green / blue infrastructure provisions	• Affect biodiversity at Santry River? • Affect protected species and habitats? • Affect the introduction of non-indigenous / alien invasive species into the natural environment? • Affect the creation / maintenance of natural corridors and stepping stones? • Affect the inclusion of green/blue infrastructure provisions?	What is the potential impact?	Impact assessment in accordance with the criteria listed in **Table 5.2**	Justification of the impact assessment	Description of mitigation measures, if these are necessary

5.2.2 Cumulative & Synergistic Effects

This stage of the process involves an assessment of the cumulative and synergistic effects of all proposed objectives in the SRRG Masterplan on the relevant environmental issues, objectives, and indicators. Cumulative effects are effects that result from incremental changes caused by other past, present, or reasonably foreseeable actions together with the proposal. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

Synergistic effects interact to produce a total effect that is greater than the sum of the individual effects. Synergistic effects often happen as habitats or human communities begin to reach carrying capacity and/or non-renewable resources are depleted unsustainably.

The cumulative and synergistic impact assessment will be based on the information generated by the preceding assessments (described above) of the individual priorities. Any identified cumulative and synergistic effects will be summarised and used as recommendations for final adjustments to the programming document.

5.3 Alternatives

The SEA Directive requires that an assessment must identify the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives considering the objectives and the geographical scope of the plan or programme.

During the development of the SRRG Masterplan, feasible alternatives considered by the DCC, FCC and TA will also be assessed from an environmental viewpoint against the SEA objectives identified in **Table 5.1**.

5.4 Mitigation

Mitigation measures will be recommended where an option arising from the Masterplan has the potential to result in negative environmental impacts. The mitigation measures will aim to prevent, reduce and as comprehensively as possible offset any significant adverse effects on the environment due to implementation of the SRRG Masterplan.

5.5 Monitoring

The SRRG Masterplan's implementation will be measured with respect to the SEA objectives, by measuring (monitoring) the significant effects of the Masterplan on the environment.

The SEA will assess the monitoring arrangements proposed for the SRRG Masterplan and may recommend incorporation of new indicators based on the relevant environmental issues, objectives, and indicators for the programming document.

It is noted that the correlation between indicators for monitoring and the SRRG Masterplan objectives may be constrained because indicators may be affected by other initiatives, including private sector initiatives, other plans and programmes, and legislative measures that are outside the scope of the SRRG Masterplan.

6 THE ENVIRONMENTAL REPORT

The Environmental Report considers all the following in accordance with the requirements of the SEA Directive:

- Population and Human Health
- Biodiversity
- Soil & Land Use
- Water
- Air Quality and Climate Change
- Material Assets
- Cultural Heritage
- Landscape

Table 6.1 below summarises the content of the Environmental Report. In the first instance the Environmental Report details the current state of the environment within each of the subheadings set out above, and interrelationships between each of the environmental topics. The Environmental Report examines significant environmental pressures that may affect each of the environmental topics and the current (Baseline) state of the environment.

Table 6.1: Environmental Report Framework

Section	Description
Non-Technical Summary	A summary of the Environmental Report, its main points and conclusions.
Introduction	Provides a description of the type of Plan involved and a summary of its key aims and objectives. The purpose of the SEA process, SEA requirements, and its benefits and how the Masterplan and Environmental Report have progressed are outlined.
SEA Methodology	Highlights the steps taken in preparation of the SEA, the methods used, limitations and stakeholder consultation.
Baseline	A description of the current environment of the plan area is given, highlighting any existing environmental problems in the plan area. This exercise results in a comprehensive baseline against which the likely effects of implementing the Masterplan can be examined.
SEA Framework -	Strategic Environmental Objectives and indicators Assessment of significance.
Alternatives	An assessment of proposed development alternatives in the Plan area are considered at this stage. Identification of preferred alternative with accompanying justification.
Assessment	The proposed Masterplan policies and objectives are examined in terms of their potential effects on the various Environmental parameters in the context of the Strategic Environmental Objectives.

Section	Description
Mitigation Measures	Should potentially significant effects be discovered, measures to prevent, reduce or offset these effects are proposed and integrated into the Masterplan.
Monitoring	Proposals for monitoring the significant effects of the Masterplan on the environment are put forward. A number of indicators of change and targets are identified, and existing monitoring arrangements are utilised.
Appendices	As necessary.

7 CONSULTATION

7.1 Pre-Assessment Consultations

From commencement of the study the Steering Group initiated a series of Public Information days and evenings to inform the public in the Santry Catchment of the project and gather their experiences and views on the scheme through the process. **Table 7.1** lists the events held, the date and location. Generally, the aim was to target three main areas of the catchment:

- Upper catchment in Santry (Northwood)
- Middle catchment in Coolock
- Lower catchment in Raheny

Initially, in Autumn 2022, as the Scheme commenced the public were asked for their ideas, concerns and feedback on the intentions of the Scheme using a Site workbook to record ideas.

In Autumn 2023, as emerging options were formed, further sessions were held to gain feedback. In Autumn 2024, three evenings were allocated to sharing the ideas of the emerging preferred option.

Details on these consultations including presentations and feedback received are contained in Consultation Reports and material shared is contained on the Scheme website.

Table 7.1: Community consultation events

Date	Time	Location
Thursday 8th September 2022	10am	Raheny, The Coast to Malahide Road
Thursday 8th September 2022	2:30pm	Malahide Road to Clonshaugh Road
Friday 9th September 2022	10am	Clonshaugh Road to M50
Friday 9th September 2022	2:30pm	M5 to Sillogue
Tuesday 18th October 2022	7:30pm to 9:00pm	Crowne Plaza Hotel, Northwood Park, Santry Demesne, Dublin, D09 KN66
Wednesday 19th October 2022	7:30pm to 9:00pm	Northside Civic Centre, Conference Room 1, Ground Floor, D17 K462
Thursday 20th October 2022	7:30pm to 9:00pm	Grange Woodbine Club House ,Raheny Road, Dublin, D05 E061
Tuesday 19th September 2023	7:30pm to 9:00pm	Crowne Plaza Hotel, Northwood Park, Santry Demesne, Dublin, D09 KN66
Wednesday 20th September 2023	7:30pm to 9:00pm	St John the Evangelist Church, Tonlegee Rd, Donaghmede, Dublin 5

Date	Time	Location
Thursday 21st September 2023	7:30pm to 9:00pm	Grange Woodbine Club House, Raheny Road, Dublin, D05 E061
Wednesday 11th September 2024	7:30pm to 9:00pm	St John the Evangelist Church, Tonlegee Rd, Donaghmede, Dublin 5, D05 P0A8
Thursday 12th September 2024	7:30pm to 9:00pm	Crowne Plaza Dublin Airport, Northwood Avenue, Northwood, Dublin 9
Friday 13th September 2024	7:30pm to 9:00pm	Manor House Girls Secondary School, Watermill Road, Dublin 5, D05R827

In addition to the consultation events, DCC held several school events to gain the opinion of the younger cohort and issued workbooks and feedback sheets to understand their needs and wants. **Table 7.2** lists the events held at schools.

Table 7.2: School consultation events

Date	Time	Location
Wednesday 19th October 2022	Morning	Coláiste Dhúlaigh, Coolock - Secondary
Wednesday 19th October 2022	Morning	St. Paul's College , Raheny - Secondary
Wednesday 19th October 2022	Afternoon	Springdale N.S - National School
Wednesday 19th October 2022	Afternoon	Coláiste Dhúlaigh CDCFE - College of Further Education
Thursday 20th October 2022	Morning	St. Eithne's Girls NS - National School
Thursday 20th October 2022	Morning	Manor House School, Raheny - Secondary
Thursday 20th October 2022	Afternoon	Gaelscoil Cholmcille - National School
Thursday 20th October 2022	Morning	Scoil Ide - National School

7.2 SEA Statutory Consultations

Under Article 6 of the SEA Directive and Article 11 of SI 435 of 2004, the competent authority, preparing the Plan or programme is required to consult with specific "environmental authorities" (statutory consultees) throughout the SEA process. In line with S.I. 200 of 2011, these statutory consultees are established as being the:

- Environmental Protection Agency (EPA)
- Department of Housing, Local Government and Heritage (DHLGH)
- Department of Agriculture, Food and the Marine (DAFM)

- Department of Department of Environment, Climate and Communications (DECC)

Non-statutory stakeholders relevant to and included in the SRRG Masterplan consultation process include:

- An Taisce
- Department of Transport, Tourism and Sport (DTTAS)
- Dublin City Council (DCC)
- Fingal City Council
- Inland Fisheries Ireland (IFI)
- National Transport Authority (NTA)
- Office of Public Works (OPW) including the Eastern CFRAM Project
- Bird Watch Ireland
- Local Residents Associations
- Local Amenity Groups
- Local Business Community
- The Heritage Council
- Transport Infrastructure Ireland (TII)
- Local Authorities Waters Programme Office

This SEA Scoping Report will be available for inspection on the DCC website and feedback will be welcomed from all interested parties including members of the public. Furthermore, this SEA Scoping Report will be sent to each of the consultees and will be invited to make submissions. All comments and submissions received will be recorded, reviewed and applied to the SEA process where relevant. This will continue up until publication of the Environmental Report.

The draft Environmental Report will also be sent to the consultees. The draft Environmental Report, and draft Masterplan will be issued for public consultation thereby giving stakeholders the opportunity to comment on the Plan and Environmental Report. All comments received will be recorded, reviewed, and applied where relevant.

8 NEXT STEPS

The proposed timeline for the SEA process is outlined in **Table 8.1** below.

Table 8.1: Timeline for SEA Process

Action	Timeline
SEA Screening Report	Completed – July 2024
SEA Scoping Report	Completed – November 2024
SEA Scoping Consultation Phase	November/December 2024
SEA Scoping Report, revised as required	December 2024
SEA Environmental Report and NIS	December 2024
SEA Environmental Report Public Consultation	December 2024 – January 2025
SEA Environmental Report, revised as required	January 2025

APPENDIX 1
Analysis of Related Plans, Programmes & Legislation

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
1. International Commitments		
UN 2030 Sustainable Development Agenda	The Agenda identifies 17 Sustainable Development Goals and 169 targets which build on the Millenium Development Goals (MDGs) and aim to achieve what was not by the MDGs. The Goals seek to realise the human rights of all and to achieve gender equality and the empowerment of all women and girls. They are integrated and balance the three pillars, economic, social and environmental, of sustainable development.	Ireland, as one of the 191 UN Member States, must display a commitment to implement the global sustainable development goals. Specific SDGs and Targets that are relevant to the SRRG include: SG3 Good Health and Well Being, SDG 9 Industry, Innovation and Infrastructure, 11 Sustainable Cities and Communities, SDG 12 Responsible Consumption and Production, SDG 13 Climate Action and SDG 14 Life on Land.
UN Framework Convention on Climate Change (1992)	The ultimate objective of this Convention, and any related legal instruments that the Conference of the Parties may adopt, is to achieve stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a timeframe sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner. Ireland is an Annex 1 country, which means that it has to meet quantified targets for a reduction in greenhouse emissions. The Kyoto Protocol of 1997 and the Paris Agreement of 2016 shape the responsibilities of the UNFCCC Secretariat in its current state. A key responsibility of the UNFCCC is the organisation of the Conference of Parties (COP) which are hosted annually.	The SRRG Masterplan should be in line with Ireland's efforts to combat and adapt to climate change and encourage efforts to reduce emissions. The SEA proposes objectives and indicators related to climate change.
Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)	Ireland is a party to the Bern Convention. The Convention aims to ensure conservation of wild flora and fauna species and their habitats. Special attention is given to endangered and vulnerable species, including endangered and vulnerable migratory species specified in appendices. The Parties to the Convention must undertake to take all appropriate measures	Objective 3 of the SRRG Masterplan is directly in line with the spirit of this Convention. Relevant Strategic Environmental Objectives have also been developed to further enhance horizontal integration across the Masterplan objectives.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	to ensure the conservation of the habitats of the wild flora and fauna species. Such measures should be included in the Parties' planning and development policies and pollution control, with particular attention to the conservation of wild flora and fauna. They should also undertake to promote education and disseminate general information concerning the need to conserve species of wild flora and fauna and their habitats.	
Convention on Biological Diversity, 1992	The Convention on Biological Diversity, also known as the Rio Convention, was enacted in 1992. Its objective is to "*conserve the maximum possible biological diversity for the benefit of present and future generations and for its intrinsic value*". This pact among the vast majority of the world's governments sets out commitments for maintaining the world's ecological underpinnings while maintaining economic development. The Convention establishes three main goals: the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits from the use of genetic resources. Relevant aspects of the Convention are the emphasis on the sustainable use of components of biological diversity, the requirement for EIA, and the inclusion of biodiversity issues. A direct result of the Rio Convention was the concept of Agenda 21 – a global partnership for sustainable development. Agenda 21 addresses today's pressing problems aiming to prepare the world to meet its challenges. It reflects a global consensus and political commitment at the highest level on development and environment cooperation. Its successful implementation is first and foremost the responsibility of Governments, but the broadest public participation and the active involvement of the non-governmental organisations and other groups	Tying in also with the SDGs, the sustainable conservation of resources is particularly relevant to the SRRG Masterplan and will be assessed in the Environmental Report.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	should also be encouraged. National strategies, plans, policies, and processes are crucial in achieving this (UNEP, 2005[6]). Agenda 21 has four sections: • Social and economic dimensions; • Conservation and management of resources for development; • Strengthening the role of major groups; and • Means of implementation.	
Kumming-Montreal Global Biodiversity Framework, 2022	Following four years of development negotiations, Parties to the Convention on Biological Diversity (CBD) adopted the Kummin-Montreal Global Biodiversity Framework on 19th December 2022, replacing the CBD's Strategic Plan for Biodiversity 2011-2020 and its Aichi Targets. The framework cites 4 global 2050 goals and 23 global 2030 targets. These are divided into four broad topics: biodiversity conservation and restoration; nature's contribution to people; access and benefit sharing and tools; and solutions for mainstreaming and implementation. The global biodiversity action agenda for the next decade includes the following: • halt extinction of known threatened species and significantly reduce extinction risk (Goal A) • ensure at least 30 per cent of areas of degraded terrestrial, inland water, and coastal and marine ecosystems are under effective restoration (Target 2) • ensure at least 30 per cent of terrestrial, inland water, and of coastal and marine areas are effectively	As reported in Social Justice for Ireland (2023), the EPA estimates that the economic value of Ireland's ecosystem services is around €2.6 billion. However, the rate of habitat degradation and loss of biodiversity is accelerating[7]. The SRRG Masterplan objectives can actively contribute to the achievement of targets and further assessment and integration through the SEA will help enhance benefits.

[6] UNEP Earthwatch website, 2005. Accessed at http://earthwatch.grid.unep.ch/agenda21/ in March 2005.

[7] Social Justice Ireland. 2023. Time for Action on Biodiversity Loss.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	conserved and managed (Target 3) • reduce the rates of introduction and establishment of other known or potential invasive alien species by at least 50 per cent, by 2030 (Target 6) • reduce pollution risks and impacts of pollution from all sources to prevent harmful impacts on biodiversity (Target 7) • minimise the impact of climate change and ocean acidification on biodiversity (Target 8) • mainstream biodiversity into decision-making across government and business (Targets 14 and 15)	
2. EU requirements		
The European Green Deal (a Commission priority 2019-2024): Striving to be the first climate -neutral continent	In order to combat climate change and environmental degradation, the EU aims to transform the EU into a modern, resource-efficient and competitive economy, aiming for: • No net emissions by 2050. • Economic growth decoupled from resource use. • No person and no place left behind. The European Commission adopted a set of proposals to make the EU's climate, energy, transport and taxation policies fit for reducing net greenhouse gas emissions by at last 55% by 2030, compared to 1990 levels.	The SRRG Masterplan objectives and SEA Strategic Environmental Objectives seek to contribute to European Green Deal targets – assessment will be presented in the Environmental report.
EU Soil Strategy, 2030	The vision and objectives of the EU Soil Strategy seek to achieve good soil health by 2050: - Combat desertification restore degraded land and soil, including land affected by desertification, drought and	The SEA and the SRRG Masterplan will identify any conflicts between Plan measures and the Soil Strategy objectives as well as opportunities for enhancement.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	floods, and strive to achieve a land degradation-neutral world (Sustainable Development Goal 15.3) - Significant areas of degraded and carbon-rich ecosystems, including soils, are restored - Achieve an EU net greenhouse has removal of 310 million tonnes CO_2 equivalent per year for the land use, land use change and forestry (LULUCF) sector - Reach good ecological and chemical status in surface waters and good chemical and quantitative status in groundwater by 2027 - Reduce nutrient losses by at least 50%, the overall use and risk of chemical pesticides by 50% and the use of more hazardous pesticides by 50% by 2030 - Significant progress has been made in the remediation of contaminated sites - Reach no net land take - Soil pollution should be reduced to levels no longer considered harmful to human health and natural ecosystems and respect the boundaries out planed can cope with, thus creating a toxic-free environment - Achieve a climate-neutral Europe and, as the first step, aim to achieve land-based climate neutrality in the EU by 2035 - Achieve for EU a climate-resilient society, fully adapted to the unavoidable impacts of climate change by 2050	

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	- provide food and biomass production, including in agriculture and forestry - absorb, store and filter water and transform nutrients and substances, thus protecting groundwater bodies - provide the basis for life and biodiversity, including habitats, species and genes - act as a carbon reservoir - provide a physical platform and cultural services for humans and their activities - act as a source of raw materials - constitute an archive of geological, geomorphological and archaeological heritage. The strategy addresses the importance of soil in addressing challenges such as climate change mitigation and adaptation. Mid-term objectives are assigned associated with these topics such as those related to increasing soil organic carbon and restoring sustainable carbon cycles in a climate-neutral EU economy. Other relevant aspects addressed include limiting land take and soil sealing, enhancing soil biodiversity for human, animal and plant health, preventing soil and land degradation and restoring healthy soils. Regarding land take, the strategy defines the need for a hierarchy approach whereby, priority is given to reusing and recycling land with a view to avoiding land take. Financial incentives that would contradict this hierarchy, such as fiscal benefits for converting agricultural or natural land into built environment must be phased out.	

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
Zero Pollution Action Plan	A key deliverable of the Green Deal, the EU Action Plan: Towards a Zero Pollution for Air, Water and Soil (and annexes), was adopted on 12th May 2021. The zero-pollution vision for 2050 is *for air, water and soil pollution to be reduced to levels no longer considered harmful to health and natural ecosystems, that respect the boundaries with which our planet can cope, thereby creating a toxic-free environment.* The following key 2030 targets are aimed at accelerating reduction of pollution at source: -improving air quality to reduce the number of premature deaths caused by air pollution by 55% - improving water quality by reducing waste, plastic litter at sea (by 50%) and microplastics released into the environment (by 30%) - improving soil quality by reducing nutrient losses and chemical pesticides' use by 50% - reducing by 25% the EU ecosystems where air pollution threatens biodiversity - reducing the share of people chronically disturbed by transport noise by 30% - significantly reducing waste generation and by 50% residual municipal waste.	The Environmental Report will include an assessment against the Strategic Environmental Objectives in terms of identification of potential conflict or enhancement in line with the Zero Pollution Action Plan. SEA objectives are included for air, water and soil.
EU Pollinators Initiative	This initiative sets strategic objectives and a set of actions to be implemented by the EU and its Member States to reverse the decline of pollinators in the EU and contribute to its global conservation efforts. There are three long-term	The SEA can take an active role in assisting in fulfilling Initiative objectives and actions. Development and assessment of the Masterplan will also consider the Chartered Institute of

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	objectives (towards 2030) and short-term actions under three priorities: - improving knowledge on pollinator decline, its causes and consequences -tackling the causes of pollinator decline -raising awareness, engaging society-at-large and promoting collaboration.	Ecology and Environmental Management (CIEEM) Ireland Policy Group's Briefing Paper (2024) on Biodiversity Net Gain in Ireland.
European Landscape Convention (ELC)	This is the first international treaty that exclusively addresses all aspects of European landscape and covers natural, rural, urban and peri-urban areas. The Convention aims to protect, manage and plan landscape and raises awareness of the value of a living landscape. Signatory States are *…concerned to achieve sustainable development based on a balanced and harmonious relationship between social needs, economic activity and the environment…'* considering the cultural dimension of the landscape. The ELC covers 'all' landscapes not just iconic landscapes.	The measures proposed in the SEA need to consider the implications of the strategic direction and aims of this Convention, which will also be addressed through the environmental assessment process.
EU Climate and Energy Framework, 2030	The 2030 climate and energy framework includes EU-wide targets and policy objectives for the period from 2021to 2030. As part of the European Green Deal, in 2020, the Commission proposed to raise the 2030 greenhouse gas emission reduction target including emissions and removals, to at least 55% compared to 1990. Actions required across all sectors were analysed to understand what was needed to achieve this. The EU will thus be able to move towards a climate-neutral economy and implement its commitments under the Paris Agreement by updating its Nationally Determined Contribution.	The SEA will consider the key targets in the assessment of the SRRG Masterplan.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	Key targets for 2030 are: • At least 40% cuts in greenhouse gas emissions (from 1990 levels) • At least 32% share for renewable energy • At least 32.5% improvement in energy efficiency.	
EU Biodiversity Strategy for 2030	This Strategy aims to halt or reverse biodiversity loss and speed up the EU's transition towards a resource efficient and green economy. This is in addition to halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible. In June 2024, the European Council adopted the Nature Restoration Law. This law is a key element of the EU Biodiversity Strategy and aims to restore ecosystems, habitats and species across the EU's terrestrial and marine territories in order to: enable the long-term and sustained recovery of biodiverse and resilient nature; contribute to achieving the EU's climate mitigation and climate adaptation objectives; and meet international commitments.	The SRRG Masterplan will be assessed to ensure that it will contribute to Biodiversity Strategy objectives with a view to identify effective integration.
Habitats Directive (92/43/EEC)	The Habitats Directive is one of two main nature conservation Directives (the other being the Birds Directive). It centres around two pillars, one being the Natura 2000 network (designating Special Conservation Areas), the largest network of protected areas in the world, and the other the protection of species of conservation interest. In the event that a proposed plan/programme or project could negatively affect the integrity of a Natura 2000 site or listed species therein, the Habitats Directive requires an Appropriate Assessment. Rather than being a decision-	The SRRG Masterplan will seek to ensure that it does not affect the integrity of a Natura 2000 site or relevant species. Screening for an Appropriate Assessment was carried out in line with the Habitats Directive. The Masterplan was screened in for Appropriate Assessment and a Stage 2 Natura Impact Statement (NIS) is underway. The findings will be integrated into the SEA as relevant.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	informing instrument, such as EIA and SEA, Appropriate Assessment is a decision-maker in that should significant negative impacts be identified, the associated plan/programme or project will not be allowed to move forward in accordance with the requirements of this Directive.	
Birds Directive (2009/147/EC)	The oldest piece of nature protection legislation in the EU, this Directive seeks to provide protection to all of Europe's natural species. The Directive was set up in response to a growing decline in many of Europe's bird species resulting from pollution, loss and degradation of habitat and unsustainable use. Recognising these threats, the Directive provides emphasis on conservation of habitats for both resident and migratory birds and allows for the designation of Special Protection Areas (SPAs), that, together with the Special Conservation Areas assigned under the Habitats Directive forms the Natura 2000 network. This Directive also bans activities that have a negative impact on birds.	The SRRG Masterplan was screened in for a Stage 2 Natura Impact Statement. The NIS is being developed concurrently to the SEA process and the development of the Master Plan.
Water Framework Directive (2000/60/EC)	The Water Framework Directive seeks to establish a structured framework for action in the field of water policy. The framework provides for the protection of inland surface waters, transitional waters, coastal waters and groundwater, because it: - Prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems - Promotes sustainable water use based on a long-term protection of available water resources - Aims at enhanced protection and improvement of the aquatic environment, inter alia, through specific	In accordance with this Directive, designated surface waters must achieve good ecological and chemical status by 2027 and this status must be maintained. In terms of surface water quality and the WFD, the Masterplan objectives seek to contribute to improvement in status of the River Santry. This will be assessed in the Environmental Report.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances - Ensures the progressive reduction of pollution of groundwater and prevents its further pollution - Contributes to mitigating the effects of floods and droughts and has a significant role to play in protecting and managing water resources.	
Groundwater Directive (2006/118/EC)	The Groundwater Directive aims to prevent and control groundwater pollution, including criteria for assessing good groundwater chemical status	The SRRG Masterplan shall comply with all environmental legislation and align with the achievement of the objectives of the regulatory framework for environmental protection and management.
Drinking Water Directive (98/83/EC)	This Directive provides a framework for improving and maintaining the quality of water intended for human consumption'	The SRRG Masterplan is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations.
Flood Directive (2007/60/EC)	Reduce adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods in the Community	Ireland has published Flood Risk Management Plans that set out the strategy, including a set of measures, for the sustainable long-term management of flood risk in respective River Basins. The SRRG Masterplan will be developed with regard to the Flood Risk Management Plan for Liffey & Dublin Bay.
Marine Strategy Framework Directive (MSFD) (2008/56/EC)	This EU Directive is the first all-encompassing piece of European legislation aimed at protection of the marine environment. The main aim is to achieve Good Environmental Status (GES) in European waters by 2020 through the adoption of an ecosystem-based approach to the management of all human activities that impact the marine environment. Implementation of a number of key steps is included to achieve the overriding aim including an initial assessment of the current environmental status of	The SRRG Masterplan will need to operate within the spirit of this Directive, although it does not directly apply to the implementation of the Santry River Restoration and Greenway Masterplan.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	marine waters as well as the environmental pressures and impacts on the marine environment. The initial assessment must include an economic and social analysis of the use and degradation of the marine environment. The determination of GES must then be carried out based on a number of qualitative descriptors. Environmental targets and associated indicators must then be set in order to guide progress towards the achievement of GES.	
Nitrates Directive (91/676/EC)	The Nitrates Directive aims to protect water quality by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices. The Nitrates Directive forms an integral part of the Water Framework Directive and is one of the key instruments in the protection of waters against agricultural pressures. Implementation of the Directive involves identification of polluted waters or water bodies at risk of pollution, designation of Nitrate Vulnerable Zones, establishment of Good Agricultural practices on a voluntary basis, establishment of action programmes to be implemented by farmers on a compulsory basis, and national monitoring and reporting requirements.	The SRRG Masterplan will operate within the requirements of this Directive.
Environmental Quality Standards Directive (Directive 2008/105/EC), as amended by Directive 2013/39/EU	The Environmental Quality Standards Directive aims to achieve good surface water chemical status and also establishes environmental quality standards (EQS) for priority substances and certain other pollutants as provided for in Article 16 of the Water Framework Directive.	The SRRG Masterplan will comply with, as relevant and appropriate, the requirements of the Directive.
A Blueprint to Safeguard Europe's Water Resources	This aims to ensure sufficient availability of good quality water for sustainable and equitable water use	The SRRG Masterplan will have regard for this Blueprint and will contribute towards the achievement of the objectives of the regulatory framework for environmental protection and management

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
SEA Directive (2001/42/EC)	The SEA Directive requires that certain plans and programmes are subject to an environmental assessment prior to their implementation.	The SRRG Masterplan is undergoing an SEA in accordance with the Directive.
EIA Directive (2011/92/EU as amended by 2014/52/EU)	The EIA Directives aim to assess and implement avoidance or mitigation measures to eliminate environmental effects, before consent is given of 'projects' likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects. Those projects are defined in Article 4.	Implementation of the Plan needs to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory frame. In addition, in the context of the hierarchy and tiered approach, reference is made to the EPA's (2021) Guidance on Strategic Environmental Assessment – Environmental Impact Assessment Tiering[8].
Environmental Noise Directive (2002/49/EC)	The Environmental Noise Directive (the END) aims to *define a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to the exposure of environmental noise.* In addition, it aims to provide a framework for the development of EU measures to reduce noise from major noise emitters including road and rail vehicles and infrastructure, aircraft, outdoor and industrial equipment and mobile machinery.	The SRRG Masterplan will consider this Directive during implementation and refer to strategic noise maps and noise management action plans as relevant.
3. Most Relevant National Environmental, Planning & Sectoral Documents		
National Development Plan 2021-2030	The National Development Plan (NDP) 2021-2030 sets out the Irish government's investment strategy, focusing on sustainable development and economic growth for the period 2021-2030. The Plan is designed to foster sustainable economic growth while addressing critical challenges such as climate change and infrastructure deficits across Ireland.	The Masterplan will take into account the objectives of the National Development Plan.

[8] Therivel, R., Gonzalez del Campo, A. 2021. Guidance on Strategic Environmental Assessment – Environmental Impact Assessment Tiering. Report 392. EPA Research

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
Regional Spatial and Economic Strategy (RSES, 2019-2031) for Eastern and Midland Regional Assembly (EMRA)	EMRA's RSES describes policy for integrated land use and transportation in the Dublin Metropolitan Area. The Strategy proposes strategic greenways and links between them, including for Santry, which aim is to ensure connectivity and enhance recreational opportunities. Regional Policy Objective (RPO) 5.7 and RPO 5.8 aim to enhance existing green infrastructure (GI) and support the promotion and development of cycle ways and greenways, as set out in the Greater Dublin Area Cycle Network Plan. The RSES recognises the Santry waterway as an asset in particular given that it contributes to the provision of green infrastructure and connectivity. RSES Section 7.7 Greenways, Blueways and Peatways RPO 7.24 aims to *'Promote the development of a sustainable Strategic Greenway Network of national and regional routes, with a number of high-capacity flagship routes that can be extended and /or linked with local greenways and other cycling and walking infrastructure, notwithstanding that capacity of a greenway is limited to what is ecologically sustainable'*. RPO 7.25: *'Support local authorities and state agencies in the delivery of sustainable strategic greenways, blueways, and peatways projects in the Region under the Strategy for the Future Development of National and Regional Greenways'*. RPO 7.20 seeks to promote the development of improved visitor experiences, nature conservation and sustainable development activities within the UNESCO designated Dublin Bay Biosphere.	The SRRG Masterplan objectives align with the RSES, specifically in relation to enhanced connectivity and permeability, recreational opportunities and the promotion of improved and sustainable visitor experiences within the UNESCO designated Dublin Bay Biosphere.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
Project Ireland 2040 - Our Plan, the National Planning Framework (NPF), (draft revised NPD published in July 2024), and the National Development Plan (2018-2027)	The National Planning Framework is the Irish Government's high- level strategic plan for shaping the future growth and development of to the year 2040. It is a framework to guide public and private investment, to create and promote opportunities for people, and to protect and enhance the environment - from villages to cities, and everything around and in between. With respect to Dublin, the NPF makes specific reference to the delivery of the metropolitan cycle network set out in the Greater Dublin Area Cycle Network Plan inclusive of urban greenways on the river as well as the canal and coastal corridors. Sustainable water management and green infrastructure planning are specific environmental and sustainability goals. A draft revised NPF was published in July 2024 for public consultation, which ended on the 12th September 2024. An updated NPF is expected in early 2025. The National Development Plan (NDP) sets out the investment priorities that will underpin the successful implementation of the new National Planning Framework. This will guide national, regional and local planning and investment decisions in Ireland over the next two decades, to cater for an expected population increase of over 1 million people. According to the NPF draft Revision (July 2024), the major policy emphasis on renewing and developing existing settlements established under the NPF 2018 will be continued, rather than allowing the continual expansion and sprawl of cities and towns out into the countryside, at the expense of town centres and smaller villages. The target is for at least 40% of all new housing to be delivered within the existing	Within the planning hierarchy, the SRRG Masterplan is aligned with the NPF (2018 & draft revision 2024) in relation to enabling and facilitating the future restoration and sustainable development of Dublin City, particularly the city's peri-urban area.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	built-up areas of cities, towns and villages on infill and/or brownfield sites. The remainder of Ireland's homes will continue to be delivered at the edge of settlements and in rural areas.	
Climate Action Plan 2024	The Plan provides a detailed plan for taking decisive action to halve Ireland's emissions by 2030 and reach net zero by no later than 2050, as committed to in the Climate Action and Low Carbon Development (Amendment) Act 2021. The Plan lists actions needed to deliver on Ireland's climate targets and sets indicative ranges of emissions reductions for each sector of the economy. It will be updated annually, to ensure alignment with Ireland's legally binding economy-wide carbon budgets and sectoral ceilings.	The Masterplan will present relevant targets aimed at net-zero emissions and reduced reliance of fossil fuels as relevant. The Masterplan will align with and contribute towards the achievement of the objectives of CAP24.
Climate Action Plan 2025 *	Climate Action Plan 2025 builds upon CAP24 by refining and updating the measures and actions required to deliver the carbon budgets and sectoral emissions ceilings and should be read in conjunction with Climate Action Plan 2024. The Plan provides a roadmap of actions to halve Ireland's emissions by 2030 and achieve climate neutrality by 2050, as committed to in the Climate Action and Low Carbon Development (Amendment) Act 2021.	The Masterplan will contribute towards the achievements of the objectives of CAP25.

* This is an addition to the Scoping Report, following public consultation.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
The Sustainable Development Goals National Implementation Plan (2022 – 2024)	The National Implementation Plan 2022 - 2024 is in direct response to the 2030 Agenda for Sustainable Development and provides a whole-of-government approach to implement the 17 Sustainable Development Goals (SDGs). The Plan is aligned with the SDGs and sets out five strategic objectives and 51 actions, with 119 measures to achieve the SDGs. It also incorporates 23 external actions from four other National Plans or Strategies which contribute to this objectives of this Plan.	The Masterplan will contribute to the objectives of this Plan.
Sustainable Development: A Strategy for Ireland (1997)	The overall aim of this Strategy is to ensure that economy and society in Ireland can develop to their full potential within a well-protected environment, without compromising the quality of that environment, and with responsibility towards present and future generations and the wider international community.	This strategy contributes to the national strategic context within which the SRRG Masterplan will be aligned.
National Sustainable Mobility Policy (2022)	The National Sustainable Mobility Policy sets out a strategic framework to 2030 for active travel (walking and cycling) and public transport journeys to help Ireland meet its climate obligations. It is accompanied by an Action Plan to 2025 which contains actions to improve and expand sustainable mobility options across the country by providing safe, green, accessible and efficient alternatives to reduce the journeys taken by private vehicles.	The Masterplan is aligned with the spirit of this policy.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
Strategy for the Future Development of National and Regional Greenways (2018)	The objective of this Strategy is to assist in the strategic development of nationally and regionally significant Greenways in appropriate locations constructed to an appropriate standard in order to deliver a quality experience for all Greenways users. It also aims to increase the number and geographical spread of Greenways of scale and quality around the country over the next 10 years with a consequent significant increase in the number of people using Greenways as a visitor experience and as a recreational amenity	The Masterplan will need to develop within the context of this strategy.
National Cycle Network Plan, 2023	A plan for an inter-urban cycle network (incorporating the regional and national greenways network) with the aim of facilitating increased cycling and walking nationally for education, leisure, tourism and commuting trips. The development of this network is important also in the context of the Climate Action Plan (2023), which calls for a significant reduction in transport emissions by 2030.	Alignment with the proposals in the National Cycle Network Plan and the Santry River Restoration and Greenway Masterplan will be assessed.
Clean Air Strategy For Ireland, 2023	The Clean Air Strategy provides the policy framework to identify and promote integrated measures to reduce air pollution and promote cleaner ambient air and delivering on wider national objectives. The Strategy complements the National Air Pollution Control Programme (NAPCP) and builds upon the Climate Action Plan.	The SRRG Masterplan will be cognisant of the spirit of this Strategy and may contribute to the overall objectives on a local scale.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
National Landscape Strategy for Ireland 2015-2025	The National Landscape Strategy will be used to ensure compliance with the European Landscape Convention and to establish principles for protecting and enhancing the landscape while positively managing its change. It will provide a high-level policy framework to achieve balance between the protection, management and planning of the landscape by way of supporting actions.	The Masterplan will need to be cognisant of this Strategy. This will be assessed in the Environmental Report.
National Adaptation Framework (NAF) 2018	NAF specifies the national strategy for the application of adaptation measures in different sectors and by local authorities in their administrative areas in order to reduce the vulnerability of the State to the negative effects of climate change and to avail of any positive effects that may occur	Part of the scope of the SRRG Masterplan is aligned with that of the NAF, on a local scale.
Ireland's 4th National Biodiversity Action Plan 2023-2030	Ireland's 4th National Biodiversity Action Plan 2023-2030[9] sets the national biodiversity agenda for the period 2023-2027. BAP 2023-2027 has six objectives as follows: • Objective 1: Adopt a whole of government, whole of society approach to biodiversity; • Objective 2: Meet urgent conservation and restoration needs; • Objective 3: Secure nature's contribution to people; • Objective 4: Embed biodiversity at the heart of climate action; • Objective 5: Enhance the evidence base for action on biodiversity; and	One of the main aspects of the SRRG Masterplan is habitat restoration and management. The Masterplan will actively seek to protect and enhance biodiversity in the study area and is therefore expected to contribute to the achievement of strategic biodiversity targets both in terms of the 4th National Biodiversity Action Plan 2023-2030 as well as in line with the Nature Directives, in particular targeting the protection and enhancing populations of species of conservation significance in the long term. The significance of these likely effects will be assessed in the Environmental Report.

[9] https://www.npws.ie/sites/default/files/files/nbap-overview-for-conference.pdf

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	• Objective 6: Strengthen Ireland's contribution to international biodiversity initiatives. The National Biodiversity Action Plan 2023-2030[10] (NBAP) for Ireland provides a framework for government, civil society and private sector to track and assess progress towards Ireland's Vision for Biodiversity over a five-year timeframe from 2023 to 2030 in the context of the Convention on Biological Diversity. The NBAP notes that a significant proportion of Ireland's biodiversity is in a vulnerable state. The main threats and pressures to biodiversity in Ireland are from agriculture, forestry and fisheries, natural system modifications (including drainage), mining and quarrying (including peat extraction), climate change, pollution, and invasive species. In preparing the NBAP 2023-2030, a wide range of targets and measures have been considered to enhance ecological biodiversity that were also set out in the previous NBAP. NBAP actions that are relevant to the SRRG Masterplan include the following, to: • enhance appreciation of the value of biodiversity and ecosystem services; • optimise opportunities to benefit biodiversity; • aim to reduce principal pollutant pressures on terrestrial and freshwater biodiversity; • optimise benefits for biodiversity in Flood Risk Management Planning and drainage schemes; • promote the control of invasive alien species (IAS); and	

[10] gov.ie - Ireland's 4th National Biodiversity Action Plan 2023–2030 (www.gov.ie)

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	• promote sustainability in the aquaculture industry.	
River Basin Management Plans	River Basin Management Plans set out the status of waters in the River Basin District. The third cycle of the RBMP 2022 – 2027 was recently adopted as the Water Action Plan 2024[11]. In the third cycle it is proposed that Santry River, designated as a Heavily Modified Water body, will continue to be identified as a priority area: Santry-Mayne Area for Action led by DCC with support from Fingal County Council and the Local Authority Waters Programme (LAWPRO). The new proposed PAA will be expanded to include Santry_010, Santry_020 and Mayne_010 waterbodies. As reported in LAWPRO's Santry River Desktop Assessment (2022)[12], the Santry River is '*at risk'* of achieving WFD environmental objectives of *Good Ecological Status* by 2027. Ecological status of Santry_010 has been '*Poor*', while Santry_020 was recently assigned '*Moderate Ecological Status'*. In addition, the Water Action Plan 2024 will create 46 new Catchment Community Fora. According to the WAP 2024, '*Fora establishment, structure and role will be developed by the Local Authorities Waters Programme (LAWPRO) in five pilot catchments in order to develop a framework for a model on a national scale[13]'*.	The Masterplan will take cognisance of the Water Action Plan 2024[14] published in September 2024.

[11] gov.ie - River Basin Management Plan 2022 - 2027 (www.gov.ie)

[12] Anna Rymszewicz (2022) 'Santry River, Priority Area for Action, Desk Study Report'

[13] Water Action Plan 2024, page 9.

[14] gov.ie - Minister Noonan launches overarching national plan to improve water quality and restore freshwater habitats (www.gov.ie)

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
Flood Risk Management Plans arising from National Catchment Flood Risk Assessment and Management Programme	The national Catchment Flood Risk Assessment and Management (CFRAM) programme commenced in Ireland in 2011 and is being overseen by the Office of Public Works. The CFRAM Programme is intended to deliver on core components of the National Flood Policy, adopted in 2004, and on the requirements of the EU Floods Directive.	The Flood Risk Management Plan for the Liffey & Dublin Bay River Basin is relevant in the context of the Santry River Restoration and Greenway Masterplan.
Healthy Ireland Strategic Action Plan 2021-2025	The Healthy Ireland Framework sets out themes to be implemented over two phases. Priority focus areas in the first phase of the Plan include keeping active. Priority focus areas are also identified in terms of people's settings. Healthy cities and counties are a focus area, and the Strategy promotes measures and other policy instruments that support and encourage active travel (walking and cycling) in urban areas, as well as actions such as promoting the planting of vegetation along rivers to protect water quality and assist in managing flood risks.	The Masterplan contributes to meeting the objectives of the Healthy Ireland Framework through promoting activity and recreation, enhancing community amenity, and providing flood alleviation.
4. Sub-regional plans		
Eastern and Middle Regional Assembly Regional Spatial and Economic Strategy (RSES 2019-2031)	The Eastern and Midland Regional Assembly (EMRA) RSES 2019-2031 is a strategic plan that aims to support the implementation of Project Ireland 2040 and the economic policies and objectives of the Irish Government. It provides a framework for investment to better manage spatial planning and economic development throughout the Eastern and Midland Region of Ireland. The RSES will be implemented through collaboration among local authorities,	The Santry River Restoration and Greenway Masterplan will need to comply with all regional objectives of the RSES.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	state agencies, and stakeholders to ensure that the objectives are met effectively over the strategy's lifespan.	
County Development Plans	The County development plan outlines planning objectives for County development over a six-year lifespan. It identifies future infrastructure, development and zoning required, protects and enhances amenities and environment, and guides planning authority in assessing proposals.	The Fingal County Development Plan (2023-2029) and the Dublin City Development Plan (2022-2028) are relevant in the context of the Masterplan. The Dublin City Development Plan (2022-2028) highlights the challenges with water quality and Dublin's watercourses in the context of the Water Framework Directive (WFD). In attempting to improve the quality of its watercourses, reference is made to the Santry River Restoration and Greenway, which will investigate the use of green infrastructure to manage and treat surface water run-off to protect water quality and improve river status. The Fingal Development Plan 2023-2029 also makes reference to the Santry River Restoration and Greenway in the context of flood risk management. The SRRG Masterplan is being developed within the planning hierarchy of the Development Plans with an aim to achieve relevant Development Plan objectives.
NTA Transport Strategy for the Greater Dublin Area 2022 - 2042	The NTA's Transport Strategy for the Greater Dublin Area (2022-2042) is a long-term plan aimed at improving transportation in Dublin and its surrounding counties. It sets out the framework for investment in transport infrastructure	The SRRG Masterplan will align with the objectives of the Strategy.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	and services in the Greater Dublin Area (GDA) over the strategy period.	
Greater Dublin Area Cycle Network Plan (2013)	The Greater Dublin Area Cycle Network Plan (2013), developed by the National Transport Authority (NTA), aimed to establish a comprehensive cycling infrastructure across Dublin and its surrounding counties. The plan sought to significantly increase the proportion of trips made by bicycle in urban areas to enhance sustainable transport options. It proposed a structured network of primary and secondary cycling routes, greenways, and inter-urban connections to improve accessibility and safety for cyclists.	The SRRG Masterplan will align with the objectives of the Plan thereby aiming to foster a culture of cycling through improved safety and accessibility.
Dublin City Biodiversity Action Plan 2021-2025	Dublin City Biodiversity Action Plan 2021-2025 includes a strong focus on the city's rivers, canals and parks including the River Santry and St. Anne's Park. North Bull Island, which was the first National Bird Sanctuary in Ireland in 1931, and is included as a Case Study. The Plan, which included significant public participation, identifies key priorities for action including restoring nature in the city and building for biodiversity, e.g., supporting greenways.	The SRRG Masterplan will ensure its objectives are in line with those of the latest Dublin City Biodiversity Action Plan.
Fingal Biodiversity Action Plan 2023-2030	Fingal Biodiversity Action Plan (2023-2030) includes a strong focus on ecosystem restoration and green infrastructure, which reflects the local authority's lead role in promoting the concept of GI in Ireland. The Plan identifies key priorities for action including restoration of terrestrial, freshwater and marine ecosystems in Fingal and working with local communities to enhance the urban environment for biodiversity.	The SRRG Masterplan will ensure its objectives are in line with those of the latest Dublin City Biodiversity Action Plan.
Fingal Climate Action Plan 2024-2029 (CAP)	Fingal's CAP sets out mitigation and adaptation measures and actions across the six theme areas of Energy & Buildings, Transport, Flood Resilience, Nature Based	The Masterplan will help implement actions in line with CAP measures.

Plan, Programme, Legislation	Description	Implications for the Santry River Restoration and Greenway Masterplan
	Solutions, Circular Economy & Resource Management and Community Engagement. The CAP identifies a specific flood defence action in relation to Santry flagging the need for further studies, engaging with the OPW, and the development of suitable flood defence schemes. This action is in line with SDG 11 (Sustainable Cities and Communities), SGD 13 (Climate Action), SDG 15 (Life on Land), SDG 17 Partnership for Goals.	
Dublin City Council Climate Action Plan 2024 – 2029 (CAP)	The DCC CAP also outlines a number of goals and plans to prepare for and adapt to climate change. Actions relevant to Santry within this CAP include RF2: Restoring the City's Rivers. Specific reference is made to the SRRG; Restoration of the Santry River is RF2.1.	The Masterplan will directly implement actions within this CAP.
Heritage Plans	A heritage plan aims to highlight the importance of heritage at a strategic level. It manages and promotes heritage as well as increase awareness, and also aims to conserve and protect heritage. The Fingal Heritage Plan 2024-2030 and the Dublin City Strategic Heritage Plan 2022-2028sets out a vision for protecting the countys' heritage.	Development and implementation of the Masterplan will need to be cognisant of specific aims and objectives within the Heritage Plans as relevant.

APPENDIX 2 – RESPONSES RECEIVED FROM CONSULTEES ON SEA SCOPING REPORT

An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage

Your Ref: Santry River Restoration & Greenway Masterplan
Our Ref: LAP00022/2025

(Please quote in all related correspondence)

06 June 2025

Nicholas O'Dwyer
Environmental Consultant
Environment & Planning
Unit E4
Nutgrove Office Park
Nutgrove Avenue
Dublin 14

Via email: ahughes@nodwyer.com

Pre Planning Development: Dublin City Council, Santry River Restoration and Greenway Masterplan - SEA Scoping Consultation

A chara

I refer to correspondence received in connection with the above. Outlined below are heritage-related observations/recommendations co-ordinated by the Development Applications Unit under the stated headings.

Archaeology – Underwater Unit

The Department welcomes the opportunity to comment on the *Santry River Restoration and Greenway Masterplan Strategic Environmental Assessment Scoping Report*. The Department advises the following in preparing the SEA for this project.

Legislation and Policy Framework

The National Monuments Acts 1930 to 2014

The specific national legislative code for protection of monuments, historic wrecks and archaeological objects is the *National Monuments Acts* 1930 to 2014. In summary, this provides legal protection for all archaeological objects, wrecks 100 or more years old and for a range of categories of monuments and places. Archaeological objects (which in broad terms includes all moveable objects of archaeological importance) are comprehensively protected under the *National Monuments Acts*.

In terms of protection of monuments and related sites, the most widely applicable protective mechanism is the Record of Monuments and Places (RMP), established under section 12 of the *National Monuments (Amendment) Act* 1994. There are over 130,000 entries in the RMP,

which takes the form of lists and maps for each county in the State. Copies of these lists and maps, as prepared in the 1990s, were circulated to all planning authorities and are now available in PDF format at www.archaeology.ie. The RMP includes the archaeological monuments which had been identified at the time it was issued. Of course, many more archaeological monuments have been identified since and, while these have not as yet been included in the RMP, an online database of known archaeological monuments, the Sites and Monuments Record (SMR)—including current RMP entries and ones which will be included in a revised RMP—is available as the *Historic Environment Viewer*.

The RMP requires notice to be given to the Minister for Housing, Local Government and Heritage of proposed work at or in relation to monuments and places included in it (generally referred to as "recorded monuments"). Similar protection is provided by the Register of Historic Monuments (established under section 5 of the *National Monuments (Amendment) Act* (1987) to historic monuments and archaeological areas included in it.

The strongest legal protection under the National Monuments Acts in respect of monuments is afforded to national monuments of which the Minister for Housing, Local Government and Heritage or a local authority is owner or guardian or in respect of which a Preservation Order under the *National Monuments Acts* is in force. The consent of the Minister is required for interference with such national monuments or ground disturbance around or in proximity to them. A national monument is any monument the preservation of which is a matter of national importance by reason of the archaeological, architectural, historical, traditional or artistic interest attaching to it.

Under the *National Monuments Acts* the Minister and local authorities must maintain national monuments of which they are owners or guardians (the OPW has day to day responsibility in relation to national monuments owned by or in guardianship of the Minister for Housing, Local Government and Heritage) and, subject to such restrictions as are reasonably necessary, seek to provide public access to such national monuments.

All wrecks over 100 years old (whether previously known or just discovered) and all archaeological objects situated underwater, are protected under section 3 of the *National Monuments (Amendment) Act* 1987. Wrecks of any date and the potential location of wrecks or archaeological objects may also be protected under Section 3 of the 1987 (Amendment) Act by the making of an underwater heritage order, if considered to be of sufficient historical, archaeological or artistic importance to merit such protection.

The Planning and Development Act 2000 and the Planning and Development Regulations 2001

The Planning and Development Acts and Regulations contain further provisions relating to the protection of archaeological heritage. These include provisions for the conservation and protection of archaeological heritage within Development Plans, provisions making clear that imposition of archaeological conditions on grants of planning permission does not ground claims for compensation and detailed provisions to ensure that planning applications for proposed development which would affect sites protected under the *National Monuments Acts* 1930 to 2014 or archaeological sites in general are referred to the Department.

Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023

The recently signed *Historic and Archaeological Heritage and Miscellaneous Provisions Act* (2023) will replace the *National Monuments Acts* (1930–2014). The Act will provide for the protection of historic and archaeological heritage. A new 'Register of Monuments' will be established, replacing several overlapping designation and registration systems currently in operation. Newly discovered archaeological sites will be afforded immediate legal protection, mirroring the existing system for archaeological objects and historic wrecks that are automatically protected without a need for formal designation or registration. This will be reinforced by a statutory reporting scheme for finds of monuments. Subject to certain exceptions, archaeological objects with no known owner will automatically become the property of the State. A new civil enforcement procedure can be used as an alternative to, or to supplement, criminal proceedings.

The Act makes explicit provision for the protection of World Heritage sites, including, for the first time, a definition in Irish law for "World Heritage Property". The new legislation enables the State to ratify or accede to certain international conventions, notably the 2001 *UNESCO Convention on the Protection of the Underwater Cultural Heritage*, the 1970 *UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property* and the 1995 *UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects*. The Act gives further effect to the 1992 *Council of Europe European Convention on the Protection of the Archaeological Heritage* (the "Valletta Convention").

The Act introduces a new integrated licensing system whereby one licence can authorise a range of activities and, for the first time, a statutory appeals process will be established to review licensing decisions.

Note while this new legislation has been signed into law, most of the provisions of the Act have not yet been commenced. However, it is expected that substantive implementation will occur within the lifetime of this plan. For more detailed information on what sections of the

new Act have been implemented and for future updates, please see our website: https://www.archaeology.ie/advice-and-support/legislation/

The Environmental Impact Assessment Directive

The EU Directive on EIA (which is given effect to in Irish law through a range of national legislation) clearly requires that EIA include consideration of impact on archaeological heritage.

International Conventions

Ireland is a party to the 1992 *Council of Europe European Convention on the Protection of the Archaeological Heritage* (the "Valletta Convention"). It is important that all public bodies, play their part in ensuring Ireland is at all times in compliance with this binding international treaty, including through using domestic legislation such as the Planning and Development Act to give effect to the requirements of the Convention. A particular focus of the Valletta Convention is the requirement to ensure that archaeological considerations are integrated into the planning and development process. Ireland is also a party to the 1972 *UNESCO World Heritage Convention*.

Although not as yet a party to the 2001 *UNESCO Convention on the Protection of the Underwater Cultural Heritage*, Ireland supported its adoption and has through the recent *Historic and Archaeological Heritage and Miscellaneous Provisions Act* (2023) directly facilitated its ratification. It is essential that full account is taken of the need to provide appropriate protection for the underwater cultural heritage.

National policy on protection of the archaeological heritage

The *Framework and Principles for the Protection of the Archaeological Heritage* (Government of Ireland 1999) was published so as to promote a high level of compliance with the aims and requirements of the Valletta Convention. It sets out national policy on the protection of the archaeological heritage in the course of development. While not specifically directed at the planning system, as operating under the Planning and Development Acts, it speaks to all development control codes.

Core elements of the policies set out in the Framework and Principles document include emphasis on the non-renewable nature of the archaeological heritage and the need to always consider its preservation in-situ as the first option, and also the need to carry out appropriate levels and forms of archaeological assessment in advance of development.

Climate Change Sectoral Adaptation Plan for Built and Archaeological Heritage 2019
This plan was prepared as part of the National Adaptation Framework (NAF) and followed the methodology set out in the Sectoral Planning Guidelines for Climate Change Adaptation published by the Department of Communications, Climate Action and Environment in 2018. The guidelines proposed a staged and proportionate approach to adaptation planning structured around a six-step planning cycle including: 1) preparing the ground; 2) climate impact screening; 3) prioritisation; 4) priority impact assessment; 5) develop the plan; and 6) implement, evaluate and review. A public consultation process was held in the preparation of the CCSAP B&AH, details of which are published in a separate volume. The final plan underwent screening for SEA and AA. The plan consists of 48 actions arranged under five goals and includes illustrative case studies of the impacts of climate change on built and archaeological heritage. The goals include to improve understanding of each heritage resource and its vulnerability to climate-change impacts; develop and mainstream sustainable policies and plans for climate-change adaptation of built and archaeological heritage; conserve Ireland's heritage for future generations; communicate and transfer knowledge; and exploit opportunities for built and archaeological heritage to demonstrate value and secure resources. Implementation of the CCSAP B&AH is underway. An expert Advisory Group meets twice yearly and a series of six Working Groups of stakeholder's focus on different work packages of actions. It is an action of CAP 2024 to develop and new NAF. It is anticipated that a number of sectors, including Built and Archaeological Heritage, will be instructed to draw up a new or revised CCSAP on foot of the publication of the new NAF.

Data/information sources
The Department would draw attention to the following data sources about the archaeological and cultural heritage environment relevant to the Strategy and its associated environmental assessments.

The Departments website (www.archaeology.ie) is a key source of data, information and publications, including GIS datasets, including amongst other things:

- Historic Environment Viewer (HEV) – SMR dataset and NIAH dataset (both datasets can be downloaded or accessed by third party GIS software)
- Wreck Viewer - records of over 18,000 known and potential wreck sites in Irish waters
- RMP – digitised maps and gazetteers for each County
- List of National Monuments in Ownership or Guardianship of the Minister
- List of Preservation Orders currently in force

World Heritage in Ireland
The World Heritage in Ireland website (www.worldheritageireland.ie) provides general information about UNESCO and World Heritage as well as specific information on the World

Heritage in Ireland. It provides a current list and supporting documentation and reports for all currently inscribed World Heritage sites within Ireland as well as the most recent list of Tentative sites (i.e. sites proposed for future inscription).

Excavations Bulletin

The database of Irish excavation reports (https://excavations.ie/) contains summaries of archaeological excavations carried out on the island of Ireland since 1969.

Development of Strategic Environmental Objectives

The Department notes the inclusion of a specific objective for the protection of archaeological heritage broadly. It is advised, the following alternate wording be considered, to provide greater clarity and depth:

i. *To contribute towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context, both terrestrial and underwater*
ii. *To promote opportunities to enhance or conserve places, features, buildings and landscapes of cultural, historical archaeological or architectural heritage where they arise*

It is important that the requirement to protect the setting and amenity of archaeological and cultural heritage sites is clearly articulated, in addition to protecting the physical integrity of the sites themselves and that (given the context of the plan) there is explicit consideration given to both terrestrial and underwater archaeological heritage. The Department takes the view that appropriately deployed measures may (in some instances) serve to enhance the setting of cultural heritage sites or assist in their conservation, so it is important to include this positive objective.

Nature Conservation

With regards to Nicholas O'Dwyer Ltd notification that Dublin City Council is undertaking a SEA on its proposed SRRG Masterplan and is at this stage determining the scope and level of detail for the SEA, you should be aware that the Department previously submitted comments to the Council in November of last year in relation to a SEA Screening Report Background Document and Appropriate Assessment (AA) Screening Report on the SRRG Project which had been forwarded to the Department by the Council. A copy is attached below of the Department's then observations on the SRRG project from a nature conservation perspective. The topics in relation to the SRRG project commented on in these observations remain relevant to the SEA of the SRRG Masterplan.

Concerning the Santry River Restoration and Greenway Masterplan SEA Scoping Report dated May 2025 which has now been forwarded to the Department, the Department is

satisfied that if the approach set out in to assessing the potential environmental effects of the Masterplan, and in particular its possible effects on the biodiversity, is followed, the resultant SEA Report should contribute to an accurate evaluation of the potential effects of the proposed SRRG project.

The above observations/recommendations are based on the papers submitted to this Department on a pre-planning basis and are made without prejudice to any observations that the Minister may make in the context of any consultation arising on foot of any development application referred to the Minister, by the planning authority/ies, in the role as statutory consultee under the Planning and Development Act, 2000, as amended

You are requested to send further communications to the Development Applications Unit (DAU) at **manager.dau@npws.gov.ie**.

Is mise le meas**,**

Diarmuid Buttimer
Development Applications Unit
Administration

An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage

Your Ref: Santry River
Our Ref: G Pre00301/2024

(Please quote in all related correspondence)

COPY

20 November 2024

Dublin City Council
Environment Protection Division
Floor 1
14 Lower Bridge Street
Dublin 8

Via email: santryriverrestoration@dublincity.ie

Pre Planning Development: Dublin City Council, Fingal County Council & the National Transport Authority: Santry River Restoration and Greenway Project

A chara

I refer to correspondence received in connection with the above. Outlined below are heritage-related observations/recommendations co-ordinated by the Development Applications Unit under the stated headings.

Having studied the documentation concerning the proposed Santry River Restoration and Greenway Project and in particular the Strategic Environmental Assessment Screening Report Background Document and the Appropriate Assessment Screening report prepared in relation to this project, the Department notes that the works proposed include various elements, amongst them, the achievement of a good status for the Santry River under the Water frameworks Directive and the restoration of the river's course to a more natural state with meanders and revegetation of its banks, as well as the mitigation of flood risks, the provision of recreational amenities and the construction of a greenway along the length of the river. From a nature conservation perspective some of these elements, including measures to increase water quality and restore the course of the river to a more natural character would definitely be beneficial to local plant and animal communities and lead to an increase in biodiversity along the river corridor. But others, such as the provision of the greenway and possibly certain recreational facilities are more problematic, in that they might result in the loss of some of the remnant flora and fauna which has managed to survive along certain sections of the Santry River despite the massive development of its catchment and its course that has occurred in recent decades. Paradoxically also, some of the modified habitats now existing along the Santry River's course and especially the amenity grassland

areas may now be more valuable from a conservation viewpoint in their altered state as *ex-situ* foraging habitat for Special Conservation Interest (SCI) or Qualifying Interest (QI) bird species for nearby Special Protection Areas (SPAs) than if returned to a more natural condition supporting riparian herb, shrub or tree communities.

To maintain and enhance the biodiversity value of the Santry River corridor while at the same time providing a greenway cycling route along it and other amenities, such as for instance sports pitches, will therefore need careful planning based on detailed and up to date surveys of the flora, fauna and habitats currently existing along the river corridor. To preserve the ecological value of the corridor it may in addition require some diversions of the presently preferred greenway route away from the course of the Santry River and reduction in the width of the greenway from what may be considered ideal or necessary from a strictly transport infrastructure design perspective. Unfortunately, some stretches of greenway installed along rivers in the Dublin area in recent years appear to have had adverse effects on flora and fauna, such as the illuminated section of greenway in Donnybrook laid out over a badger sett and cantilevered out over the Dodder despite the river's use by light sensitive bat species. It is important that in designing the proposed greenway along the Santry River similar design mistakes that could negatively affect biodiversity are avoided.

Because of the potentially significant effects on flora, fauna and ecologically valuable habitats, both positive and negative that may result from the implementation of the Santry River Restoration and Greenway Masterplan, as outlined above, the Department consequently agrees with the Screening Conclusion in the Strategic Environmental Assessment Screening Report Background Document that a Strategic Environmental Assessment (SEA) of this Masterplan is required.

The Screening for Appropriate Assessment report in relation to the Santry Restoration and Greenway Masterplan correctly identifies too, that as the Santry River discharges into the North Dublin Bay Special Area of Conservation SAC and the North Bull Island SPA, works proposed along its course as part of the plan could potentially result in the mobilisation of sedimentary and other materials into surface water runoff possibly leading to adverse effects on QIs for these European sites. The Appropriate Assessment (AA) Screening report in addition identifies the possibility of the proposed project both in its construction and operational phases having adverse effects through habitat destruction and/or disturbance on foraging areas for the light-bellied brent goose, a SCI/QI bird species for the North Bull Island SPA and the neighbouring Baldoyle Bay SPA and South Dublin Bay and River Tolka Estuary SPA, and also the black-tailed godwit, a SCI/QI bird species for the North Bull Island SPA. The bird surveys undertaken over the winter of 2023/2024 to provide data on which to base the AA Screening Report recorded significant numbers of light-bellied brent geese grazing on the playing fields and amenity grasslands at St. Malachy's GAA Club/Springdale Road astride the Santry River upstream of Raheny and at the Kilmore Celtic FC grounds off Oscar

Traynor Road to the south of the river between Coolock and Santry village; both areas have been used for feeding by the brent geese for many years, in the case of the former area since the mid-1980s, and the latter since at least the winter of 2008/2009. On one occasion during these surveys in October 2023 a nationally significant flock of 1050 black-tailed godwits was also recorded at the Oscar Traynor Road site.

On the basis of these identified potential downstream and *ex-situ* effects on European sites which might result from the proposed project and in addition the direct effect of the proposed daylighting of the culverted section of the Santry River within the North Dublin Bay SAC and North Bull Island SPA below James Larkin Road, the AA Screening report concludes that the preferred option for the Masterplan "will need to be assessed at Stage 2 of the AA process, so that the impacts can be assessed in detail and avoidance/mitigation measures can be proposed". Again, the Department agrees with this conclusion.

With regards to the light-bellied brent goose, the Department understands from recent discussions with Dublin City Council that a strategy is to be drawn up in relation to catering for this species' *ex-situ* usage of lands owned by Dublin City Council and other Dublin Local Authorities based on survey work by consultants which it is intended will begin early in 2025. In drawing up details of the Santry River Restoration and Greenway Masterplan consideration of what measures it will be necessary to incorporate in this plan to avoid any adverse effects on the brent geese will therefore have to take into account how such measures will conform with this wider strategy to be developed to cater for the utilisation by the brent geese of Dublin area parks and amenity areas for grazing.

Otter survey work on the Santry River from the M50 to the sea carried out for Dublin City Council in 2018 and 2019 as part of an otter survey of the entire Dublin City Council area identified three sprainting sites on the section of the river extending 1.5 km downstream of the M50 and an otter holt circa 450 m downstream of this road. Otter spraint was also identified along the river in the Raheny area and otter foot prints were noted in mud at the outfall of the Santry River into the Bull Island north lagoon (Macklin, R., Brazier, B. & Sleeman, P. (2019). Dublin City otter survey. Report prepared by Triturus Environmental Ltd. for Dublin City Council as an action of the Dublin City Biodiversity Action Plan 2015- 2020.). Also in the course of survey work undertaken between 2018 and2021 in connection with the preparation of the Environmental Impact Assessment Report (EIAR) for the Metrolink project otter spraint was identified on the north bank of Santry River 145 m downstream of the planned crossing for the Metrolink rail lines across the river which is proposed to be located immediately downstream of where the R108 Ballymun Road traverses the river's course.

The otter is a species subject to a regime of strict protection under the Habitats Directive (92/43/EEC). This species' presence on the Santry River will consequently have to be taken into account in the detailed planning for the proposed project and any works in the vicinity of

otter breeding or resting places, i.e. holts or couches, will require a licence to derogate from the Habitats Directive to be obtained from the National Parks and Wildlife Service (NPWS) of this Department in order for the works to proceed irrespective of any planning permission which may be granted for them. The Department recommends that an otter conservation plan for the Santry River, based on surveys of the entire length of the river corridor undertaken by otter specialists, should be prepared in parallel with the drawing up of the detailed plans for the Santry River Restoration and Greenway Project.

Bat species are afforded the same level of protection as otter under the Habitats Directive and have been recorded along various sections of the Santry River. They are likely to use the whole length of the river for foraging and to have some roosts in the river's vicinity in trees or structures such as bridges and buildings. Any interference with such roosts in the course of works for the proposed project will require a licence to derogate from the Habitat Directive to be obtained from National Parks and Wildlife Service. Surveys of the Santry River corridor by bat specialists carried out at the appropriate period of the year from May to August when bats are most active should therefore be undertaken as soon as possible to give a clear picture of the distribution of bats along the river and identify any bats roosts present which may have to be taken into account when drawing up the detailed plans for the various elements of the project and particularly the lighting of the proposed greenway. In order to minimise its effects on bats it is recommended that all lighting on the greenway (where necessary) should be movement activated for the period between 8 PM to 8 AM all the year round similar to the lighting regime in operation on the Dodder Greenway in the Firhouse area under the control of South Dublin County Council, and which the Department understands Fingal County Council intends to modify the lighting already installed on the Royal Canal Greenway from Ashtown to Blanchardstown to conform to.

A section of the Santry River runs through Santry Demesne, parts of which are within the Santry Demense proposed Natural Heritage Area (pNHA) and which is a site for the plant species *Hypericum hirsutum* hairy St. John's-wort protected under Flora (Protection) Order, 2022, Statutory Instrument S.I No. 235 of 2022. Any works in the vicinity of where this species has been recorded within Santry Demesne will therefore only be able to proceed under licence from National Parks and Wildlife Service. But the planning of any works close to or within the pNHA as part of the Santry River Restoration and Greenway Project must in any case take into consideration the high ecological value of this site which encompasses woodland fragments, believed on both floristic (including the presence of *Hypericum hirsutum*) and historical evidence to have survived here since the Middle Ages.

The above observations/recommendations are based on the papers submitted to this Department on a pre-planning basis and are made without prejudice to any observations that

the Minister may make in the context of any consultation arising on foot of any development application referred to the Minister, by the planning authority/ies, in the role as statutory consultee under the Planning and Development Act, 2000, as amended

You are requested to send further communications to the Development Applications Unit (DAU) at **manager.dau@npws.gov.ie**.

Is mise le meas**,**

Diarmuid Buttimer
Development Applications Unit
Administration

Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Regional Inspectorate,
Inniscarra,
County Cork, Ireland
Cigireacht Réigiúnach, Inis Cara
Chontae Chorcaí, Éire

T: +353 21 487 5540
F: +353 21 487 5545
E: info@epa.ie
W: www.epa.ie
LoCall: 1890 33 55 99

By email to: ahughes@nodwyer.com

Ms Annie Hughes
Nicholas O'Dwyer
Unit E4,
Nutgrove Office Park
Nutgrove Avenue
Dublin 14

23rd May 2025 Our Ref: SCP250501.1

Re. SEA Scoping for Santry River Restoration and Greenway Masterplan

Dear Ms Hughes,

We acknowledge your notice, dated 7th May 2025, in relation to the SEA Scoping for the Santry River Restoration and Greenway Masterplan (the 'Plan').

The EPA is one of the statutory environmental authorities under the SEA Regulations. In our role as an SEA environmental authority, we focus on promoting the full and transparent integration of the findings of the Environmental Assessment into the Plan and advocating that the key environmental challenges for Ireland are addressed as relevant and appropriate to the plan. Our functions as an SEA environmental authority do not include approving or enforcing SEAs or plans.

As a priority, we focus our efforts on reviewing and commenting on key sector plans. For land use plans at county and local level, we provide a 'self-service approach' via the attached guidance document 'SEA of Local Authority Land Use Plans – EPA Recommendations and Resources'. This document is updated regularly and sets out our key recommendations for integrating environmental considerations into Local Authority related plans. We recommend that you take this guidance document into account in preparing the Plan and SEA.

In preparing the Plan, Dublin City Council should also ensure that the Plan aligns with key relevant higher-level plans and programmes and is consistent with the relevant objectives and policy commitments of the National Planning Framework and the Eastern and Midlands Regional Spatial and Economic Strategy.

Available Guidance & Resources

Our website contains various SEA resources and guidance, including:

- SEA process guidance and checklists;
- Inventory of spatial datasets relevant to SEA;
- Topic and sector specific SEA guidance (including *SEA and Integration Guidance* (EPA, 2025), *Good practice note on Cumulative Effects Assessment* (EPA, 2020), *Developing and Assessing Alternatives in SEA* (EPA, 2015), and *Integrated Biodiversity Impact Assessment* (EPA, 2012)).

You can access these guidance notes and other resources at: https://www.epa.ie/our-services/monitoring--assessment/assessment/strategic-environmental-assessment/sea-topic-and-sector-specific-guidance-/

EPA SEA GIS Search and Reporting Webtool

Our SEA WebGIS Tool has been updated recently and is now available at https://gis.epa.ie/EPAMaps/SEA. It allows an indicative report on key aspects of the environment in a specific geographic area to be produced. It is intended to assist public authorities in SEA screening and scoping exercises.

Catchments.ie

Our https://gis.epa.ie/EPAMaps/Water website provides a single point of access to water quality and catchment data from the National WFD monitoring programme.

EPA AA GeoTool

Our AA GeoTool application has been developed in partnership with the NPWS. It allows users to a select a location, specify a search area and gather available information for each European Site within the area. It is also available through EPA https://gis.epa.ie/EPAMaps/AAGeoTool.

Ireland's State of the Environment Report 2024

In October 2024, the EPA published the latest iteration of our 4-yearly State of the Environment Report. This report should be considered, and relevant aspects integrated as appropriate, in implementing the Plan. It is available at: https://www.epa.ie/our-services/monitoring--assessment/assessment/state-of-environment-report-/.

Appendix I –Comments on the SEA Scoping Report

Scope of the SEA

The Plan should clearly set out the scope, remit and implementation related elements of the Plan. These will have implications for the SEA, in terms of guiding the level of assessment applicable at the appropriate level for the Plan. Where it is envisaged that measures proposed in the Plan will be implemented via other plans, which themselves have been or will be subject to SEA, this should be explained in the Environmental Report and taken into account in the assessment.

Where specific measures will be implemented directly, further detail should be provided in the Environmental Report and Plan on the relevant environmental assessments to be carried out at the project stage and relevant mitigation measures to be applied, as appropriate.

There may be merit in including a matrix in the SEA environmental report to show the interrelationships between the various topics. This should be accompanied by relevant explanatory text.

Data & Knowledge Gaps

The Plan should identify any significant data and knowledge gaps, including commitments to address these on a priority basis and where relevant, in association with other government departments/ organisations, during the implementation phase of the Plan. This is with a view to strengthening the evidence base for future reviews and iterations of the Plan.

Range of Effects

The SEA Environmental Report should refer to the full range of effects and of the area likely to be affected. This assessment should consider the duration and frequency of effects as well as short, medium and long-term, cumulative and synergistic effects of the Plan. The EPA's *Good Practice Guidance on Cumulative Effects Assessment in Strategic Environmental Assessment* (EPA, 2020).

Consultation

There is merit also in pointing to Article 13 of the SEA regulations (S.I. 435 of 2004, as amended) which relates to the consultations. The SEA regulations require that the draft Plan is sent to the statutory environmental authorities inviting written submissions.

Additionally, the Dublin City Council is required to publish a newspaper notice inviting submissions/observations from the public on both the Plan and the SEA environmental report. Submissions and observations received should be taken into consideration in finalising the Plan.

Monitoring, Implementation & Reporting

Article 10 of the SEA Directive (2001/42/EC) requires that the significant environmental effects of implementing a plan/programme (the Plan in this instance) are monitored in

order, *inter alia*, to identify at an early-stage unforeseen adverse effects and to be able to undertake appropriate remedial action. The SEA environmental report should include a description of the measures envisaged concerning monitoring. The Plan should include a commitment to implement SEA related environmental monitoring requirements and the associated reporting.

The Plan should include a commitment to implement the SEA environmental monitoring programme and associated reporting. We suggest including a separate section on '*Monitoring, Implementation and Reporting*' in the Plan, setting out the provisions for monitoring and reporting on the implementation of the Plan. There may be merits in aligning the periodic reviews of the Plan with existing cyclical reporting e.g. *Ireland's Environment*, *National Planning Framework*, *Water Framework Directive,* etc.

The *EPA guidance on SEA Statements and Monitoring (EPA, 2023)*, and would draw your attention to the high-level monitoring indicators proposed (Table 1 on page 23), that may be useful to you to consider.

The SEA-related monitoring should address positive, negative and cumulative effects where they are likely to occur and should include provision for on-going review to facilitate an early response to any unforeseen environmental issues that may arise. The SEA Environmental Report should specify the monitoring frequency and responsibilities and include provisions for reporting on the monitoring. To avoid duplication in data collection, the same indicators should be used for the plan-related and SEA-related monitoring aspects where possible.

SEA Statement

Following the completion of the public consultation on the SEA environmental report and the Plan, the final stages of the SEA process will be to integrate the environmental considerations of the SEA environmental report into the Plan, as appropriate. In accordance with article 16 of the SEA Regulations Dublin City Council is required to publish a SEA Statement alongside the adopted Plan, summarising:

- how environmental considerations have been integrated into the Plan;
- how the environmental report and consultation comments on it have been taken into account;
- the reasons for choosing the Plan as adopted, in the light of the other reasonable alternatives dealt with (in the Environmental Report and the associated consultation);
- the measures decided concerning monitoring.

The EPA has published *Guidance on SEA Statements and Monitoring* (EPA, 2023), which should be considered in the preparation of the SEA statement.

Integration with other key Plans and Programmes

We recommend including schematics in the Plan and SEA Environmental Report, showing the links and key inter-relationships with other key relevant national, regional, sectoral and environmental plans.

- The reference to the National Adaptation Framework 2018 should be updated to the updated National Planning Framework published in 2024.
- Update the reference to the Climate Action to reflect the 2025 iteration;

Available Guidance & Resources

The EPA has published guidance notes that may be of assistance in preparing the SEA environmental report.

Guidance on the SEA Scoping Process is included in the Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland (EPA, 2003). You can access these SEA process guidance and topic and sector specific guidance documents along with other resources listed below at:

Our website contains various SEA resources and guidance, including:

- SEA process guidance and checklists;
- Inventory of spatial datasets relevant to SEA;
- Topic and sector specific SEA guidance (including *SEA and Integration Guidance* (EPA, 2025), *Good practice note on Cumulative Effects Assessment* (EPA, 2020), *Developing and Assessing Alternatives in SEA* (EPA, 2015), and *Integrated Biodiversity Impact Assessment* (EPA, 2012)).

EPA SEA GIS Search and Reporting Webtool

Our SEA WebGIS Tool is available at https://gis.epa.ie/EPAMaps/SEA. It allows an indicative report on key aspects of the environment in a specific geographic area to be produced. It is intended to assist public authorities in SEA screening and scoping exercises.

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Our https://gis.epa.ie/EPAMaps/Water website provides a single point of access to water quality and catchment data from the National WFD monitoring programme.

EPA Appropriate Assessment GeoTool

Our AA GeoTool application has been developed in partnership with the NPWS. It allows users to a select a location, specify a search area and gather available information for each European Site within the area.

Iascach Intíre Éireann
Inland Fisheries Ireland

12/05/2025

Re: SEA Scoping for River Santry

Inland Fisheries Ireland is responsible for the protection, management and conservation of the inland fisheries resource. "*Fisheries*" includes all inland fisheries recreational and commercial, sea angling and mollusc fisheries stipulated under the Fisheries Acts, the physical habitat upon which the fishery relies, the facilities and access, the quantity and quality of the water and the plant and animal life on which fish depend for shelter and food and the spawning areas where in fish deposit their eggs. The protective role of IFI relates to all aspects of the aquatic environment and all factors that influence the biotic communities within waters, which in any way relate to the propagation of fish stocks.

IFI supports the objective of enhancing the Santry River, which represents a significant watercourse within the Dublin urban catchment. The river and its tributaries have potential to support and enhance aquatic biodiversity, contribute to urban green infrastructure, and provide ecosystem services to local communities.

In determining the likely significant effects of the project under SEA, regard should be had to the need for the sustainable development of the inland and marine fisheries resource (including the conservation of fish and other species of fauna and flora, aquatic habitats and the biodiversity of inland and marine water ecosystems

Existing barriers to fish migration (e.g., culverts, weirs) should be identified and evaluated, with the SEA considering options for removal or mitigation (e.g., fish-friendly culverts, bypass channels). Inland Fisheries Ireland (IFI) is actively engaged in mitigating barriers to fish migration through its National Barriers Programme (NBP).

IFI's policy is to maintain watercourses in their open natural state in order to prevent habitat loss, preserve and enhance biological diversity and aid in pollution detection. With the decline of many aquatic ecosystems due to development (both urbanisation and agricultural production), riparian buffers have become a common conservation measure aimed at improving water quality, lessening pollution impacts and regulating temperatures. Water temperature plays a key role in fish behaviour, growth, reproduction, survival, and disease resistance. It is therefore essential that riparian planting includes a mix of native trees, shrubs, and herbaceous vegetation to recreate natural shading patterns and improve thermal conditions for aquatic life.

IFI feel that soft engineering solutions are the way to sensitively increase flood reliance to the Santry system. Possible nature based solutions can involve approaches such as bank protection using tree logs, natural water retention and restoring natural river processes.

IIE Baile Átha Cliath, 3044 Céide an Locha, Campas Gnó Larthar Na Cathrach, Baile Átha Cliath 24, D24 Y265
IFI Dublin, 3044 Lake Drive, Citywest Business Campus, Dublin 24, D24 Y265
+353(0)1 8842 600 - dublin@fisheriesireland.ie - www.fisheriesireland.ie

Daylighting/deculverting of the river is also considered a natural method of flood management which IFI would fully support.

The implementation of nature based solutions for surface water disposal would be very welcomed by IFI. Nature-based solutions allows polluted runoff to be treated close to where the rain falls. They not only improve the quality of surface water runoff and decrease runoff volumes but also improve certain aspects of developments such as biodiversity.

Road Drainage should ensure adequate attenuation measures are in place and silt and petrol interceptors, constructed wetlands and swales should be employed where appropriate to reduce pollutants from the road entering the Santry.

There is a zone of influence associated with Greenways and these must be considered and planned for in the SEA when promoting active travel. A wildlife corridor system that protects regional diversity should be at the forefront of the Greenway/Blueway planning processes. Fragmentation can occur along riparian corridors if proper planning is not in place. In considering wildlife, focus should not be solely on the narrow width of the path of the greenway, consider the wider area it may influence such as allowing invasive plant and animal species to spread more easily along the corridor and outcompeting native species. Riparian areas play a disproportionately large role in filtering out pollutants and sediment from overland surface runoff, flood defence, maintaining biodiversity and for these reasons greenways must not impinge on or degrade the riparian zones.

IFI have published a revised "Planning for watercourses in the urban environment" which can provide guidance on site specific measures to enhance, protect, rehabilitate or establish riparian and aquatic habitats in urban areas, please refer to:
https://www.fisheriesireland.ie/extranet/fisheries-management-1/1762-ifi-urban-watercourses-planning-guide-1/file.html

Iascach Intíre Éireann
Inland Fisheries Ireland

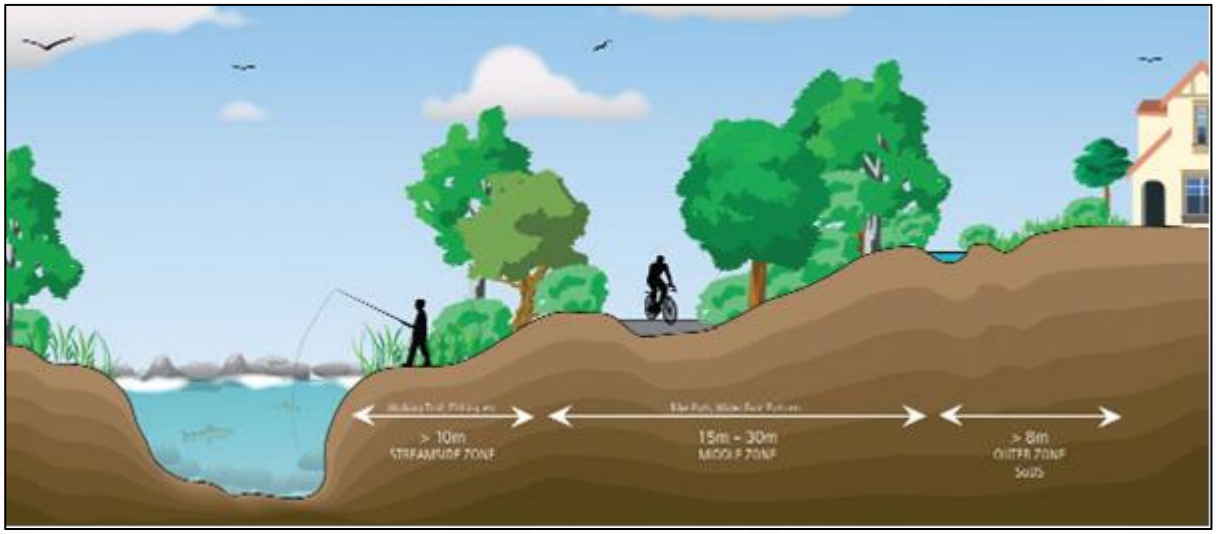


Diagram illustrating riparian buffer sub zones (from IFI guidance document - Planning for watercourses in the urban environment

IFI have also published the following guidelines which should also be referred to in the SEA. They can be accessed on our website www.fisheriesireland.ie :

"River Restoration Works - Science based Guidance centred on Hydromorphological Principles in an Era of Climate Change – 2020" describes a framework to plan, design, implement and monitor river restoration projects. A list
of best practice riparian and instream measures are presented alongside measures to address channel connectivity and invasive species that are compliant with the EU Water Framework Directive (WFD), other EU Directives and State regulations.

IFI strongly advocates for a post-implementation monitoring framework to assess the effectiveness of enhancement works on fish populations and river health, with provision for adaptive management where outcomes do not meet expectations.

I trust you will take our observations on board.

Kind regards,

Roisin O' Callaghan

Fisheries Environmental Officer
Inland Fisheries Ireland - Dublin
Iascach Intíre Eireann
Inland Fisheries Ireland

Telephone: +353 (01) 8842651
Email: roisin.ocallaghan@fisheriesireland.ie

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

Annie Hughes
Environmental Consultant – Environment & Planning
Nicholas O'Dwyer,
Unit E4, Nutgrove Office Park,
Nutgrove Avenue,
Dublin 14
E: ahughes@nodwyer.com

Dáta|Date	Ár dTag|Our Ref.
5/6/2025	TII25-131443

Re: Santry River Restoration and Greenway Masterplan - SEA Scoping Consultation

Dear Ms. Hughes,

Transport Infrastructure Ireland (TII) will endeavour to consider and respond to planning applications referred to it given its status and duties as a statutory consultee under the Planning Acts. The approach to adopted by TII in making such submissions or comments will seek to uphold official national road and light rail policy and guidelines including *Spatial Planning and National Roads Guidelines for Planning Authorities* (DoECLG, 2012) and TII Publications. Regard should be had to other relevant guidance available at www.TII.ie. Future Luas and Metrolink area matter for the NTA.

The issuing of this correspondence is provided as best practice guidance only and does not prejudice TII's statutory right to make any observations, requests for further information, objections or appeals following the examination of any valid planning application referred.

TII notes that the Santry River Restoration and Greenway Masterplan (SRRG) is currently being formulated by Dublin City Council , in close collaboration with Fingal County Council and the National Transport Authority. That this is a non-statutory land use plan that will attempt to

(i) reduce flood risk at the Santry and improve its resilience;
(ii) improve connectivity throughout the plan area, providing sustainable transportation through incorporation of a greenway (walking/cycling);
(iii) enhance recreational and public use by improving social and recreational amenities in the catchment as identified through community/stakeholder engagement; and
(iv) ecologically restore the river and deliver good status under the Water Framework Directive (WFD).

From the documents prepared the proposed scheme TII also observes that proposals will interact directly with the M1 and M50 and associated TII assets.

TII strongly advises that the Promoters ensures that the most up to date information is provided on future documents associated with the scheme taking account of TII Schemes (existing and future), assets, operations and structures etc.

With respect to the Masterplan and SEA scoping issues, the recommendations indicated below provide only general guidance for the preparation which may affect the national roads networks.

TII expects appropriate and organised dialogue between planning and roads authorities, Fingal County Council , Dublin City Ciuncil and the NTA with TII on the matters related to national roads and the delivery of the Santry River Restoration and Greenway Masterplan (SRRG). Pending these stakeholder engagements TII advises that the project promoter should have regard, *inter alia*, to the following:

Having regard to the EPA *Guidelines on the information to be contained in Environmental Impact Assessment Reports,* 2022 it is recommended as appropriate that the national road and light rail networks are recognised as strategic transport assets under "material assets". assessment and mitigation should have regard to the following :

- **National Roads:** Official policy for development at or near national roads is set out in in the DoECLG *Spatial Planning and National Roads Guidelines for Planning Authorities* (2012) available at https://www.gov.ie/en/collection/85b83-planning-guidelines-standards/. It is noted that that that EIAR does not refer to this statutory Section 28 document despite interactions directly with the national road network.

- **TII Publications**:- As part of TII's responsibilities for managing and improving the country's national road, the Authority sets development guidance and standards for traffic and road assessments and construction that may be necessary by reason of proposed development location, scale, or typology to be prepared to accompany applications for developments or works. Technical guidance and standards are contained in TII Publications, available at https://www.tiipublications.ie/.

  TII also advises that Section 1.3 of Design Manual for Urban Roads and Streets (DMURS) indicates that the principles, approaches, and standards set out in the Manual applies to the design of all urban roads and streets, except; Motorways and in exceptional circumstances, certain urban roads, and streets with the written consent of Sanctioning Authorities. As indicated in the Manual, sanctioning authorities include Transport Infrastructure Ireland (TII) in respect of urban national roads. The standards applicable for these routes are defined in TII Publications.

- **Operation and Management of National Roads** : Elements of the national road network are operated and managed by a combination of (Public Private Partnerships) PPP Concessions, Motorway Maintenance and Renewal Contracts (MMaRC) and local road authorities in association with TII. In relation to any proposed scheme, the applicant/developer should fully assess the network to be traversed to ascertain any management operational requirements, to ensure that the strategic function of the national road network is safeguarded.

  Under certain circumstances , TII advises that specific legal, procedural, and technical requirements may apply.TII recommends that that arrangements for works occurring over, under or adjacent to national road network and within the MMaRC area would be identified and appropriately designed and mitigated in scheme documentation.

  The Promoters are advised that sseparate structure approvals/permits and other licences and works specific deeds of indemnity may be required in connection with the proposed routes, including where temporary modification to the road network may be required.

- **<u>TII Structures:</u>** The Promoters are reminded of the requirements of TII Publications DN-STR-03001 (formerly NRA BD 2) - Technical Approval of Road Structures on Motorways and Other National Roads for structures.
  This Standard specifies the procedures to be followed in order to obtain Technical Acceptance for structures on motorway and other national road schemes and for the submission of as built records.
  <u>The procedures cover the design of all road structures, including bridges, tunnels, subways, culverts, buried corrugated steel structures, retaining walls, reinforced earth structures, gantries, environmental noise barriers and temporary structures under or over motorways or other roads carrying public traffic.</u>

  The Technical Acceptance requirements for the assessment, alteration, modification, strengthening and repair of all road structures shall be agreed with the Structures Engineering & Asset Management Section of TII.

In addition, the Masterplan and SEA should have regard to, *inter alia*, the following :

❖ **National Road Network:**

- TII would be specifically concerned as to potential significant impacts the development would have on the national road network (and junctions with national roads) in the proximity of the proposed development and in this instance wider traffic management catchment.
- Consultations should be had with the relevant Local Authority/TII with regard to locations of existing and future national and other relevant road scheme including emergency diversion routes, demand management, active travel, Intelligent Transportation Systems and traffic management.
- Assessment shall ensure that TII Publications DN-STR-03001 (formerly NRA BD 2) - Technical Approval of Road Structures on Motorways and Other National Roads for structures is addressed.
- Where any proposal crosses with the M1 and M50 a Motorway Works Specific Deeds of Indemnities, arrangements for third party access or consent from TII in accordance with Section 53 of the Roads Act, 1993, is required.
- Assessment shall include provision for travel planning / mobility management planning in the interests of protecting national roads capacity in the interests of sustainable travel policy. Transport analysis especially during the construction period should also :

  i. A mobility management plan should accompany the transport assessment,
  ii. Detailed phasing proposals of development with associated transport infrastructure provision is required,
  iii. Consider and address cumulative impacts of other development and impacts on limited national road capacity,
  iv. The traffic and transport assessment should consider all road users,
  v. Mitigation measures should be aligned with phasing of road infrastructure improvements and required public transport interventions; all clearly outlined.

- Any prior Environmental Impact Statement or Assessment Report and all conditions and/or modifications imposed by An Bord Pleanála regarding road schemes in the area. The developer should in particular have regard to any potential cumulative impacts.
- Regard to the provisions of Chapter 3 of the DoECLG *Spatial Planning and National Roads Guidelines for Planning Authorities* (2012) in the assessment.

❖ **TII Publications:**

- In accordance with the requirements of TII Publications DN-GEO-03030 (Design Phase Procedure for Road Safety Improvement Schemes, Urban Renewal Schemes and Local Improvement Schemes) Design Report is required to be submitted to and approved by TII for modifications to a national road. It is noted that this TII Publication is not included in the documents made available.

- The designers and assessors are asked to consult TII Publications with respect to the requirements for Road Safety Audit is required.

- It would be important that, where appropriate, subject to meeting the appropriate thresholds and criteria and having regard to best practice, a Traffic and Transport Assessment be carried out in accordance with relevant guidelines, noting traffic volumes attending the site and traffic routes to/from the site with reference to impacts on the national road network and junctions of lower category roads with national roads.

  The Authority's *Traffic and Transport Assessment Guidelines* (TII Publication No. PE-PDV-02045) should be referred to in relation to proposed development with potential impacts on the national road network.

❖ **Construction Management and the National Road Network:**

- Elements of the national road network are operated and managed by a combination of (Public Private Partnerships) PPP Concessions, Motorway Maintenance and Renewal Contracts (MMaRC) and local road authorities in association with TII. In relation to construction management , the applicant/developer should clearly identify routes proposed and fully assess the network to be traversed to ascertain any operational requirements, including delivery timetabling, etc. to ensure that the strategic function of the national road network is safeguarded.

- Any Construction Environmental Management Plan (CEMP) prepared to accompany the EIAR shall demonstrate and ensure any proposed works in the vicinity of the national road comply with TII Publications requirements and mitigation of potential impact on the national road network.

- Any Construction Traffic Management Plan (CTMP) shall demonstrate compliance with TII Publications requirements and include mitigation of potential impact on the national road network.

- Separate structure approvals/permits and other licences and works specific deeds of indemnity may be required in connection with the proposed routes, including where temporary modification to the road network may be required. Consultation with relevant local authorities, PPP Companies and MMaRC Contractors may also be required.

- All structures on the haul route should be checked by the applicant/developer to confirm their capacity to accommodate any abnormal load proposed, including abnormal weight load. Additionally, any damage caused to the pavement on the existing national road arising from

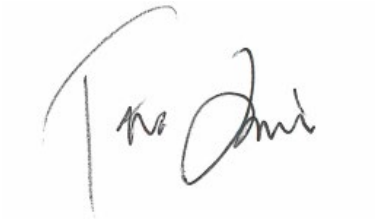
any temporary works due to the turning movement of abnormal loads (e.g. tearing of the surface course, etc.) shall be rectified in accordance with TII Pavement Standards and details in this regard shall be agreed with the Road Authority prior to the commencement of any development on site.

- **Other Issues**
  For clarity , TII advises that matters related to future Luas and Metrolink need to be addressed by the NTA's Strategic Planning Section**.**

Notwithstanding, any of the above, the developer should be aware that this list is non-exhaustive, thus site and development specific issues should be addressed in accordance with best practise.

I trust that the above comments are of use in your Masterplan and SEA preparation.

Yours faithfully,



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Head of Land Use Planning.

APPENDIX 3 – APPROPRIATE ASSESSMENT REPORTS

Appropriate Assessment Screening and Natura Impact Statement

Santry River Restoration and Greenway Masterplan

7 November 2024

NM Ecology Ltd - Consultant Ecologists
38 Maywood Avenue, Raheny, Dublin 5
Website: www.nmecology.com
Email: info@nmecology.com
Tel: 087-6839771

Executive Summary

This Natura Impact Statement has been prepared by NM Ecology Ltd on behalf of Dublin City Council (DCC), Fingal County Council (FCC) and the National Transport Authority (NTA) to consider potential negative effects of the Santry River Restoration and Greenway Masterplan on European sites. The Plan sets the framework for various projects, including the restoration / re-naturalisation of the river, flood-alleviation works, the construction of a linear greenway, and associated works.

In accordance with their obligations under the *European Communities (Birds and Natural Habitats) Regulations* 2011 (SI 477/2011), the proponents of the Plan must assess whether it could have 'likely significant effects' on any European sites. This document provides information to support Stages 1 and 2 of the Appropriate Assessment process, including an overview of the Plan, a review of European sites relevant to the Masterplan Area, an impact assessment and proposed mitigation measures.

The Plan covers a linear corridor centred on the Santry River from Harristown (near Dublin Airport) to the coast at North Bull Island. Part of the Masterplan Area is within the boundary of two European sites: the *North Dublin Bay* Special Area of Conservation (SAC) and the *North Bull Island* Special Protection Area (SPA). Parts of the Masterplan Area are also used by brent geese and waders associated with the *North Bull Island* SPA. A series of winter bird surveys have been carried out to assess the importance of the Masterplan Area for these birds.

No potential direct effects on the qualifying interests of any European sites were identified. Potential effects were identified from the following sources:

- Pollutants generated during construction works (accidental spills of hydrocarbons and other chemicals) could potentially have negative effects on habitats and birds within the SAC and SPA;
- Construction works and / or landscaping at some locations could cause displacement / disturbance of birds associated with SPAs; and
- Increased activity by people and dogs could cause displacement / disturbance of birds associated with SPAs.

A high-level impact assessment and mitigation strategy is provided in this document. Projects undertaken as part of the Plan will require screening for Appropriate Assessment and some components will require Natura Impact Statements. Mitigation measures may be necessary to prevent pollution events or to avoid displacement / disturbance of birds.

Subject to the above approach, it can be concluded at Stage 2 of the Appropriate Assessment process that the Plan would not be likely to have significant effects on any European sites.

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1 Introduction

1.1 Background to this assessment

The Masterplan proponents - Dublin City Council (DCC), Fingal County Council (FCC) and the National Transport Authority (NTA) - have engaged a multi-disciplinary team to develop the Santry River Restoration and Greenway Masterplan (hereafter referred to as 'the Plan'). The Plan provides measures/actions and a framework for several overlapping projects, including the restoration / re-naturalisation of the river, flood-alleviation works, and creation of a linear greenway. It also includes a range of improvements to parks, public realm facilities, buildings and bridges.

The Plan sets out eight objectives, through which it sets out an overall arrangement and set of defining guidelines to which various projects within its boundary will adhere. Projects undertaken as part of the Plan will require screening for Appropriate Assessment as part of their own individual statutory application processes, e.g., planning consents. In this document potential direct, indirect and in-combination effects of the Masterplan (as a whole) are considered on European sites and provide a framework for subsequent assessments of projects undertaken as part of the Plan.

1.2 Background to Appropriate Assessment

Approximately 14% of the land area of Ireland is included in the European Network of Natura 2000 sites (hereafter referred to as 'European sites'), which includes Special Protection Areas (SPAs) to protect important areas for birds, and Special Areas of Conservation (SACs) to protect habitats and non-avian fauna. Legislative protection for these sites is provided by the *European Council Birds Directive* (79/409/EEC) and *E.C. Habitats Directive* (92/43/EEC, as amended), which are transposed into Irish law by the *European Communities (Birds and Natural Habitats) Regulations 2011* (SI 477/2011).

Articles 6(3) and (4) of the EC Habitats Directive (transposed by Part 5 of the national regulations) require competent authorities to assess the implications of any plan or project on European sites before consent can be given. A step-by-step process is proposed (hereafter referred to as 'the Appropriate Assessment process'), which involves three main stages:

- **Stage 1: Screening**. This stage is governed by the first part of the first sentence of Article 6(3). It consists of a pre-assessment stage ('screening') to ascertain whether the plan or project is directly connected with, or necessary to, the management of a Natura 2000 site, and, if this is not the case, then whether it is likely to have a significant effect on the site (either alone or in combination with other plans or projects) in view of the site's conservation objectives.

- **Stage 2: Appropriate Assessment**. Stage two is governed by the second part of the first sentence and the second sentence of Article 6(3). If likely significant effects cannot be excluded at Stage 1, the next stage of the procedure involves assessing the negative effects of the plan or project (either alone or in combination with other plans or projects) against the site's conservation objectives, and ascertaining whether it will affect the integrity of the Natura 2000 site, taking into account any mitigation measures. If any significant residual effects are identified at this stage the component authority must either refuse planning consent or proceed to Stage 3.
- **Stage 3: Derogation** from Article 6(3) under certain conditions. This stage is governed by Article 6(4) and only comes into play if, despite a negative assessment, the plan or project is required for imperative reasons of overriding public interest. This is only possible if there are no alternative solutions, the imperative reasons of overriding public interest are duly justified, and if suitable compensatory measures are adopted to ensure that the overall coherence of the Natura 2000 network is protected.

Each stage of the procedure is influenced by the previous stage, so the order in which the stages are followed is essential for applying Article 6(3) and (4) correctly. The majority of assessments conclude at Stage 1, a smaller proportion at Stage 2, and very few at Stage 3.

Dublin City Council (DCC), Fingal County Council (FCC) and the National Transport Authority (NTA) are the competent authorities that have proposed the Plan, and thus are required to carry out sequential stages of the Appropriate Assessment process. In this document we provide information to support the competent authority's assessment, including an overview of the Plan, a review of European sites relevant to the Masterplan Area, an impact assessment and proposed mitigation measures.

1.3 Statement of authority

This report was written by Nick Marchant, the principal ecologist of NM Ecology Ltd. He has seventeen years of professional experience, including fourteen years as an ecological consultant, one year as a local authority biodiversity officer, and two years managing an NGO in Indonesia. He provides ecological assessments for developments throughout Ireland and Northern Ireland, including residential, infrastructural and renewable energy projects.

He has an MSc in Ecosystem Conservation and Landscape Management from NUI Galway and a BSc in Environmental Science from Queens University Belfast. He is a member of the Chartered Institute of Ecology and Environmental Management, and operates in accordance with their code of professional conduct.

1.4 Methods

This report has been prepared with reference to the following guidelines:

- OPR Practice Note PN01: *Appropriate Assessment Screening for Development Management* (Office of the Planning Regulator 2021);
- *Appropriate Assessment of Plans and Projects in Ireland* (Department of the Environment, Heritage and Local Government, 2009);
- *Assessment of plans and projects in relation to Natura 2000 sites: Methodological guidance Article 6(3) and (4) of the Habitats Directive*, E.C., 2021; and
- *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater Coastal and Marine* (CIEEM 2018).

Supporting data was collected from the following sources:

- The Plan and associated assessments, notably the *Preliminary Ecological Appraisal* and *Winter Bird Report 2023 / 2024*, both of which were written by NM Ecology Ltd;
- Qualifying interests / conservation objectives of European sites from www.npws.ie;
- Bedrock, soil, subsoil, surface water and ground water maps from the Geological Survey of Ireland webmapping service, the National Biodiversity Data Centre, and the Environmental Protection Agency web viewer; and
- The *Dublin City Development Plan* 2022 – 2028, *Fingal County Development Plan* 2023 – 2029 and details of permitted or proposed developments from the local authorities' online planning records.

Desktop data from internet resources was accessed between July and October 2024, and walkover surveys of the route was carried out in May 2023. Winter bird surveys have been undertaken for several years, most recently in the winter of 2023 / 2024.

2 Environmental setting

2.1 Masterplan Area and surroundings

The Santry River and its associated riparian corridor (hereafter referred to as 'the Masterplan Area') is located in a suburban area in the north of Dublin City. Its headwaters are in the vicinity of the Horizon Business Park to the south of Dublin Airport, and it initially flows south-east through Silloge Park Golf Club and past the Northpoint National Car Test Facility. It is culverted underneath the M50 just to the west of Junction 4 (Naul / Ballymun exit), and is then open for a section of approx. 80 m before entering another culvert under the R108 Ballymun Road. It then flows east though the northern end of Santry Park and a wooded area to the south of the Airways Industrial Estate, before entering a culvert under the M50 near Junction 2 (Coolock / Santry exit).

After this section of culvert, the river flows south-east through a series of small urban parks and greenspaces in Kilmore, Clonshaugh, Bonnybrook and Coolock, including the Stardust Memorial Park. A section of river is closed to the public in Coolock within the grounds of the

Cadburys factory and the former Chivers factory. After passing underneath the R107 Malahide Road, the base and sides of the river are enclosed in a concrete channel, which passes through a series of urban parks and green areas between Coolock and Raheny. This area includes a complex of sports pitches alongside Springdale Road, Lein Park and Harmonstown Road, which are referred to jointly in this report as the 'St Malachy's playing fields'. After passing Raheny, the river returns to a natural substrate and passes through a wooded corridor that is closed to the public. It reaches the coast on the landward side of North Bull Island (referred to hereafter as 'Bull Island'), on the northern side of the central causeway.

The broader surroundings (i.e., outside the river corridor) are characterised by housing estates, industrial estates (Horizon Business Park, Gulliver's Retail Park, Airside Business Campus, Clonshaugh Business and Technology Park), commercial centres (Northside Shopping Centre, Raheny Shopping Centre), healthcare facilities (St. Joseph's Hospital Raheny), schools and parks.

2.2 Geology and soils

The underlying bedrock is limestone. The GSI webmapping service shows three subcategories of limestone within the Masterplan Area: 'dark limestone & shale', 'calcareous shale, limestone conglomerate' and 'argillaceous bioclastic limestone, shale'. The first and last of these subcategories are locally-important aquifers, whereas the 'calcareous shale, limestone conglomerate' is a poor aquifer.

Subsoils consist of a narrow band of alluvium along the river corridor, with limestone till on either side. Soils also consist of alluvium along the river corridor, surrounded by made ground and some patches of loam. Some sections of the river are fully enclosed in a concrete channel, and thus have no association with surrounding soils.

2.3 Hydrology of the Santry River

2.3.1 *River course and modifications*

The Santry River covers approximately 11 km between Dublin Airport and the coastal waters at North Bull Island. Large sections of the watercourse have been modified over the course of the last century to facilitate developments and as part of small-scale flood prevention projects. The key modifications are described below.

On the EPA database the headwaters of the river are shown around some one-off residences off Harristown Lane, just to the south of Dublin Airport. The open channel of the river is still visible on historical aerial photography from as recently as 2002. However, in 2003, the Horizon Business Park was extended eastward, and approx. 500 m of the river was culverted. In 2008, an additional 350 m of the river upstream of this point was realigned during the

construction of a long-term car park for Dublin Airport. Therefore, the headwaters of the river have been considerably modified.

Several sections of the river have been enclosed in culverts where it passes under roads. Culverts are often of rectangular or square profile and up to 5 m across, but some sections consist of round concrete culverts of 1 m diameter. Some of the longer sections of culvert are outlined below:

- 500 m at the Horizon Business Park (as described above);
- 150 m at the M50 Junction 4 crossing;
- 100 m at the R108 Ballymun Road crossing;
- Two 60 – 70 m sections at the entrance to the Clonshaugh Business Park and the Lidl Priorswood Car Park;
- 200 m under the Watermill Apartments, Raheny; and
- 130 m under the James Larkin Road to the coastline by the Bull Island causeway.

The figures above sum up to 1.2 km, which is approx. 11% of the total length of the river (11 km). This figure does not include the shorter sections of culverts (e.g., up to 50 m length) at road crossings along the route, so the total length of culverted watercourse may be 15 – 20 % of the river's course.

The EPA database shows a tributary of the Santry River - the Ballymun Stream - located west of Santry Park. This watercourse appears to have been culverted in its entirety under Gulliver's Retail Park and the Northwood Business Campus. It is no longer considered to be a functional watercourse, and is effectively now an artificial storm drain.

2.3.2 *Water quality*

Under the Water Framework Directive status assessments 2016-2021, the river was of Poor status throughout its course. The transitional waters around Bull Island (at the outflow of the Santry River) were of Moderate status, and the coastal waters of Dublin Bay (i.e., east of Bull Island) were of Good status.

On the EPA database of rivers and streams, the river is divided into two sections: 'SANTRY_010' which covers the western section between its headwaters and the Northside Shopping Centre at Coolock, and 'SANTRY_020' which covers the eastern section between Coolock and the coast.

The results of watercourse monitoring are available on the catchments.ie website. For the 'SANTRY_010' waterbody (west of Coolock), the status was based on monitoring, including limited sampling at the Clonshaugh Road bridge. The waterbody was considered to have 'poor' biological status, based on invertebrate sampling (Q-sampling) in 2019. Chemical monitoring on the catchments.ie database has 'good' or 'high' scores for all chemical

parameters; this result seems anomalous, and is not considered reliable. For the 'SANTRY_020' waterbody (east of Coolock) the status in 2016 – 2021 was based on modelling rather than monitoring, but a status rating of 'poor' was also recorded.

The 'poor' status of the waterbody was apparent during field surveys in May 2023. The water is turbid, often of a milky appearance. Odours of sewage, fuel and laundry detergent (i.e., from domestic discharges to storm drains) were apparent in certain areas. An accumulation of fine silt was observed on the bed of the river in many areas, notably the lake at Stardust Park. Rubbish was visible in all areas, including plastic, shopping trolleys and garden waste.

3 Details of the Proposed Plan

The Santry River arises in Harristown near Dublin Airport, and flows through Santry, Coolock and Raheny to meet the coast of Dublin Bay near St Anne's Park. The Plan unites three measures/actions along the river corridor:

- Ecological restoration measures to restore a natural course to the river, resolve water quality issues and improve riparian habitats;
- Alleviation of flood risk in urban areas; and
- Provision of a pedestrian and cycle greenway.

The Plan will address all measures and actions in combination in order to ensure a balanced approach in overlapping areas. A Stage 2 Appropriate Assessment and a Strategic Environmental Assessment are being undertaken in parallel during the development of the Plan.

4 Stage 1: Screening for Appropriate Assessment

In this section we identify European sites that could potentially be affected by the proposed Plan. The primary consideration is whether the proposed Plan is within the boundaries of any European sites, because this could lead to direct effects. This is discussed in Section 4.1.

It is also possible that the proposed Plan could cause indirect effects on European sites located outside the boundary. This is considered using the *source-pathway-receptor* model, which identifies potential *pathways* (e.g., surface water) between the *source* (the Masterplan Area) and the *receptor* (a European site). This is discussed in Section 4.2.

Finally, some bird species associated with SPAs can use secondary habitats outside the SPA boundaries, e.g., brent geese feeding on urban grasslands. The suitability of habitats within the Masterplan Area for SPA bird species is discussed in Section 4.3.

To support the above assessments, the locations of European sites in the surrounding area are shown in Figure 1, and details are provided in Table 1. For the avoidance of doubt, a defined zone of influence (e.g., 15 km) is not used in this assessment, as it is no longer considered best practice (OPR 2021).

Table 1: European sites shown in Figure 3

European site name	Distance from Masterplan Area	Reasons for designation
North Dublin Bay SAC (site code 206)	Partial overlap	**Annex I habitats**: inter-tidal mudflats / sandflats (including patches of Salicornia and other annuals), Spartina swards, salt marshes, annual vegetation of drift lines, embryonic shifting dunes, white dunes, grey dunes, dune slacks **Annex II species**: petalwort *Petalophyllum ralfsii*
North Bull Island SPA (4006)	Partial overlap	**Key habitats**: coastal wetlands **Special conservation interests**: light-bellied brent goose, shelduck, teal, pintail, shoveler, oystercatcher, golden plover, knot, sanderling, dunlin, black-tailed godwit, bar-tailed godwit, curlew, redshank, turnstone, black-headed gull (all are over-wintering populations)
South Dublin Bay and River Tolka Estuary SPA (4024)	2 km south	**Key habitats**: coastal wetlands **Special conservation interests**: light-bellied brent goose, oystercatcher, ringed plover, grey plover, knot, sanderling, dunlin, bar-tailed godwit, redshank, black-headed gull (wintering populations), arctic tern, roseate tern (passage), and common tern (breeding and passage)
Baldoyle Bay SAC (199)	2.6 km north-east	**Annex I habitats**: mudflats / sandflats, Salicornia muds, salt marshes **Annex II species**: none
Baldoyle Bay SPA (4016)	2.6 km north-east	**Key habitats**: coastal wetlands **Special conservation interests**: wintering populations of light-bellied brent goose, shelduck, ringed plover, golden plover, grey plover, bar-tailed godwit
North-west Irish Sea SPA (4236)	3.3 km south-east and 4.2 km north-east	**Key habitats:** off-shore waters **Special conservation interests:** common scoter, red-throated diver, great northern diver, fulmar, Manx shearwater, shag, cormorant, little gull,

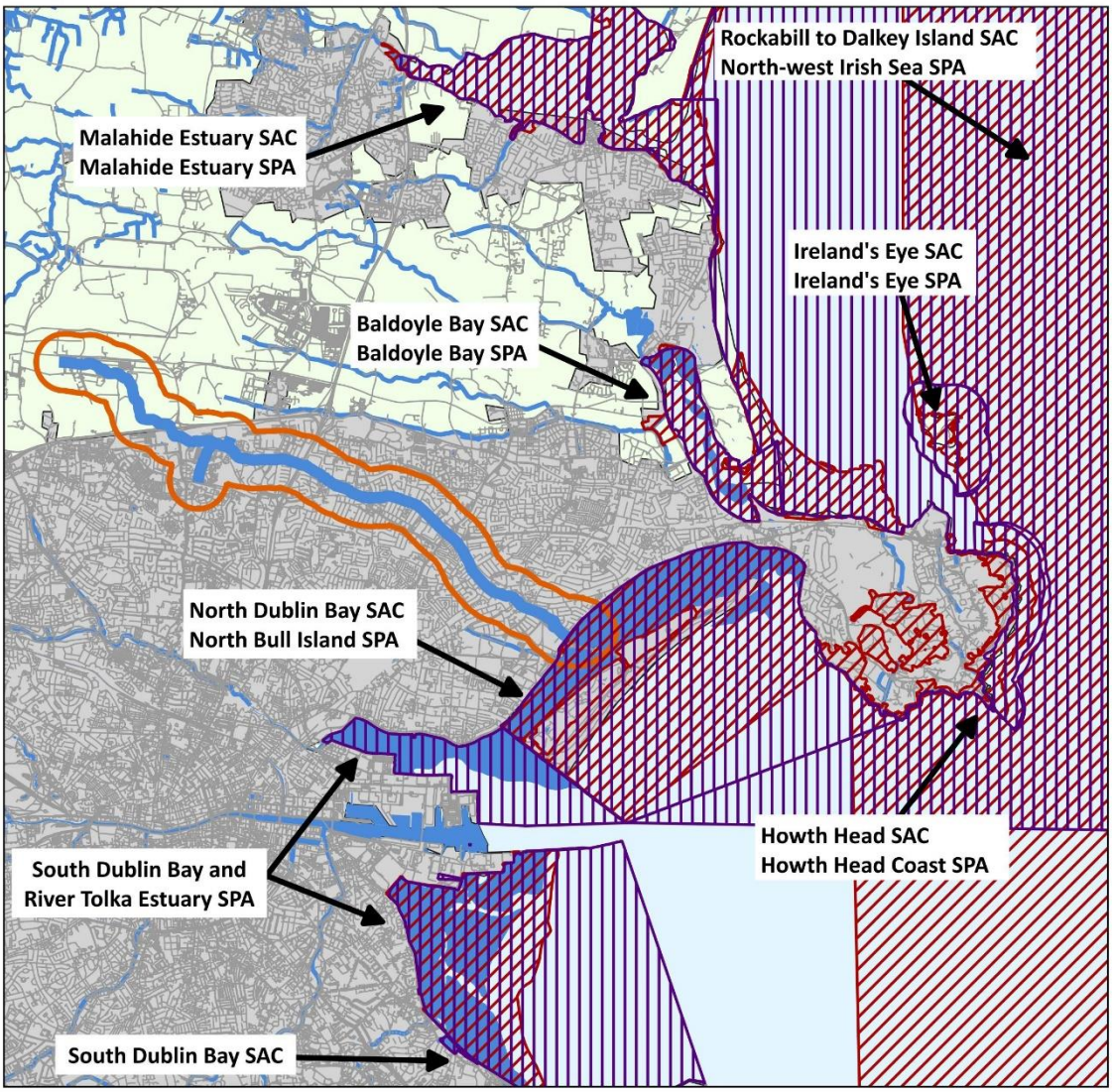
European site name	Distance from Masterplan Area	Reasons for designation
		kittiwake, black-headed gull, common gull, lesser black-backed gull, herring gull, great black-backed gull, little tern, roseate tern, common tern, Arctic tern, puffin, razorbill and guillemot
South Dublin Bay SAC (210)	3.6 km south	**Annex I habitats**: inter-tidal mudflats / sandflats **Annex II species**: none
Howth Head SAC (site code 202)	4.3 km east	**Annex I habitats**: vegetated sea cliffs, dry heath **Annex II species**: none
Rockabill to Dalkey Island SAC (3000)	4.9 km east	**Annex I habitats**: reefs **Annex II species**: harbour porpoise
Malahide Estuary SPA (4025)	6.1 km north	**Key habitats**: intertidal / coastal wetlands **Special conservation interests**: Great Crested Grebe, Light-bellied Brent Goose, Shelduck, Pintail, Goldeneye, Red-breasted Merganser, Oystercatcher, Golden Plover, Grey Plover, Knot, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Redshank
Malahide Estuary SAC (205)	6.1 km north	**Annex I Habitats**: Mudflats and sandflats not covered by seawater at low tide, Salicornia and other annuals colonising mud and sand, Atlantic salt meadows, Mediterranean salt meadows, Shifting dunes along the shoreline with Ammophila arenaria (white dunes), Fixed coastal dunes with herbaceous vegetation **Annex II Species**: none
Ireland's Eye SPA (4177)	6.9 km north-east	**Key habitats:** island with coastal cliffs **Special conservation interests:** cormorant, herring gull, kittiwake, guillemot, razorbill
Ireland's Eye SAC (2193)	7.1 km north-east	**Habitats:** island with coastal cliffs **Special conservation interests:** cormorant, herring gull, kittiwake, guillemot, razorbill
Howth Head Coast SPA (4113)	7.1 km east	**Key habitats:** coastal cliffs **Special conservation interests**: kittiwake

Figure 1	European sites
Location	Santry River Masterplan
Applicant	Dublin City Council
Date	18 July 2024

NM Ecology Ltd - Ecological Consultants
Website: www.nmecology.com
Email: info@nmecology.com
Tel: 087-6839771

Site location
- Roads
- Santry River
- River corridor (500 m buffer)
- Other watercourses

Designated sites
- Special Areas of Conservation
- Special Protection Areas



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The Conservation Objectives of all European sites discussed in this report are available at https://www.npws.ie/protected-sites. They are lengthy and repetitive documents, so in the interests of brevity they are not reproduced here in full. The Conservation Objectives that are relevant to this assessment are presented in Section 5.

4.1 European sites within the Masterplan Area boundary (potential direct effects)

The mouth of the Santry River is within the boundary of the SAC and SPA (Figure 2). The section of the river between the James Larkin Road (R807) and the coast is enclosed in a culvert. The Plan includes an intention to 'daylight' this section of the river, i.e., to remove the culvert and reinstate an open channel. This would be located within the boundary of the SAC and SPA, so it could pose a risk of direct effects on the qualifying interests of either European site. This will require detailed assessment at Stage 2 of the Appropriate Assessment process.

Figure 2. South-eastern end of the Santry River at Bull Island. The freshwater section of the river is shown in light blue, and the tidal creek in dark blue. The dashed line indicates the approximate location of culverted sections of watercourse. The boundary of the *North Dublin Bay* SAC is marked in orange shading, and the boundary of the *North Bull Island* SPA is marked with black vertical lines

4.2 European sites outside the Masterplan Area boundary (potential indirect effects)

In this section potential *pathways* (e.g., surface water) between the *source* (the Masterplan Area) and the *receptor* (a European site) are identified. The most common pathway is surface water, which typically occurs when a pollutant is washed into a river and carried downstream into a European site. Other potential pathways are groundwater, air (e.g., airborne dust or sound waves), or land (e.g., flow of liquids, vibration). The zone of influence for hydrological effects can be several kilometres, but for air and land it is rarely more than one hundred metres.

4.2.1 Surface water

The Santry River provides a clear surface water pathway to the *North Dublin Bay* SAC and *North Bull Island* SPA. The realignment or naturalisation of sections of the river will involve large-scale earthworks and the exposure of bare earth; these activities would be likely to release suspended sediments into the watercourse. Construction works would also involve the use of pollutants, including concrete / cement products (which are toxic to fish and other aquatic fauna) and the use of fuels for heavy machinery. In a worst-case scenario, it is possible that a large-scale pollution event during construction work could be carried downstream and have a negative effect on the SAC and / or SPA. This will require detailed assessment at Stage 2 of the Appropriate Assessment process.

Surface water pathways to other European sites can be ruled out due to the dilution capacity of coastal waters in Dublin Bay. For example, any pollutants would need to pass through approx. 6 km of coastal waters between the mouth of the Santry River and the *Rockabill to Dalkey Island* SAC; this would dilute any pollutants to negligible concentrations. Therefore, it is considered that there are no feasible surface water pathways to any other European sites.

4.2.2 Groundwater

Pathways via groundwater can occur in areas that have highly permeable bedrock and / or subsoil (e.g., karst landscapes), and where topographical features would cause seepage in the direction of a European site. The bedrock and subsoil underlying the Masterplan Area ranges from poor aquifer to locally-important aquifer (refer to Section 2.1), and most rainfall on the Masterplan Area is expected to flow into the Santry River rather than soaking to groundwater. Therefore, it is possible that there is a weak groundwater pathway between the Masterplan Area and the *North Dublin Bay* SAC and *North Bull Island* SPA, but no risk of groundwater pathways to any other European sites.

4.2.3 Land

Some of the projects implemented as part of the Plan may generate pollutants that flow over land into European sites. In particular, projects at the south-eastern end of the river (e.g., the daylighting of the coastal culvert) could flow over land into the SAC / SPA.

4.2.4 Air

Some of the projects implemented as part of the Plan may generate dust. However, any dust reaching nearby coastal waters (e.g., the *North Dublin Bay* SAC) would be rapidly diluted to negligible concentrations, so it would not have a significant negative effect on any European sites.

4.2.5 Summary

In summary, potential pathways via surface water, groundwater and land were identified between the Masterplan Area and two European sites: the *North Dublin Bay* SAC and *North Bull Island* SPA. There are no pathways to any other European sites.

4.3 Habitat suitability for SPA birds

A series of winter bird surveys have been undertaken within the Masterplan Area, including in the winter of 2023 / 2024 by NM Ecology Ltd. The detailed results are presented in the *Winter Bird Report* in Appendix 1, but a summary is provided below.

A number of species associated with nearby SPAs have been recorded within the Masterplan Area: i.e., brent goose, black-tailed godwit, oystercatcher and curlew. All four species are qualifying interests of the North Bull Island SPA, as well as a number of other nearby SPAs (Table 1). None of the species associated with the *North-west Irish Sea* SPA were recorded.

These species were recorded in two main areas, as follows:

- Playing fields at St. Malachy's / Springdale Road, located 1.7 km inland from the *North Bull Island* SPA boundary. This area is of 'major importance' for brent geese, and used on a regular basis. Black-tailed godwit, oystercatchers and curlew also use the Masterplan Area in low to moderate numbers on an occasional to regular basis; and
- Playing fields at Kilmore Celtic FC / Oscar Traynor Road, located 4.5 km inland from the *North Bull Island* SPA boundary. This area is of 'high importance' for brent geese, and used on an occasional basis. A flock of over 1,000 black-tailed godwit was recorded on one occasion, and small numbers of oystercatchers during other surveys.

The use of inland 'ex-situ' habitats in Dublin City by brent geese and other SPA birds is well established; over 160 sites were identified by a study by Scott Cawley Ltd in 2017 (see references in Appendix 1). Therefore, the two areas described above are part of a much larger network of inland habitats across the city.

The playing fields at St Malachy's and Kilmore Celtic FC will be retained as part of the Plan, but it is possible that they may be modified or re-orientated. It is expected that SPA species could adapt to minor changes in the layout of these areas, but they may be sensitive to changes in anthropogenic activity (notably an increase in dog walkers) or to the addition of trees / shrubs in areas that are currently open grassland. This will require detailed assessment at Stage 2 of the Appropriate Assessment process.

4.4 Conclusion of Stage 1: Screening Statement

In Section 3 of *Appropriate Assessment Screening for Development Management* (OPR 2021), it is stated that the first stage of the AA process can have two possible conclusions:

- **No likelihood of significant effects:** Appropriate assessment is not required and the plan can proceed as normal. Documentation of the screening process including conclusions reached and the basis on which decisions were made must be kept on file.
- **Significant effects cannot be excluded:** Appropriate assessment is required before permission can be granted. A Natura Impact Statement (NIS) will be required in order for the Plan to proceed.

Having considered the particulars of the Plan, it was concluded that this application meets the second conclusion. Significant effects on the *North Dublin Bay* SAC and *North Bull Island* SPA cannot yet be ruled out from the following sources:

- Direct effects within the SAC / SPA boundary if the culvert downstream of James Larkin Road is re-opened;
- Indirect effects on water quality during construction works, notably from suspended sediment, concrete / cement products and fuels; and
- Displacement / disturbance of birds both within the SPA and at inland feeding sites at St Malachy's playing fields and the Kilmore Celtic FC playing fields.

Therefore, the Plan will need to be assessed at Stage 2 of the Appropriate Assessment process, so that the negative effects can be assessed in detail and avoidance / mitigation measures can be proposed. This process is undertaken on an iterative basis in parallel with the Strategic Environmental Assessment.

5 Additional information to support an Appropriate Assessment

This section presents a range of additional information to support Stage 2 of the Appropriate Assessment process, including desktop information obtained from public sources and survey information collected within the Masterplan Area during the development of the Plan.

5.1 Distribution of the North Dublin Bay SAC's qualifying interests

The *North Dublin Bay* SAC covers North Bull Island (hereafter referred to as 'Bull Island') and most of the surrounding areas between the North Bull wall and the Howth peninsula. It was designated to protect coastal, intertidal and dune habitats, and one rare species of liverwort. This section considers whether any of the qualifying interests are present, or likely to be present, in the Masterplan Area or its immediate surroundings.

Maps showing the locations of the SAC's qualifying interests are provided in the Conservation Objectives document (NPWS 2013). The results are summarised below, ranked by distance from the Masterplan Area:

- *Mudflats and sandflats not covered by seawater at low tide* refers to the intertidal areas surrounding Bull Island, including habitats at the outflow of the Santry River;
- Saltmarsh habitats (*Salicornia and other annuals colonising mud and sand, Atlantic salt meadows* and *Mediterranean salt meadows*) are located in the sheltered tidal areas between Bull Island and the coast. The closest is approx. 500 m from the outflow of the Santry River;
- Dune habitats (*annual vegetation of driftlines, embryonic shifting dunes, shifting dunes along the shoreline with Ammophila arenaria ('white dunes'), fixed coastal dunes with herbaceous vegetation ('grey dunes')* and *humid dune slacks*) are located on the eastern side of Bull Island between the golf clubs and Dollymount Strand. The distance between these habitats and the outflow of the Santry River is approx. 3.5 km when measured via intervening coastal waters. There is no apparent connection between these habitats and the Santry River; and
- *Petalwort* is a species of liverwort that is found only in the humid dune slacks on the eastern side of Bull Island. It is a terrestrial species that has no association with coastal waters, so it has no connection to the Santry River.

In summary, one of the SAC's qualifying interest habitats – *mudflats / sandflats* – is located at the outflow of the Santry River, and thus has a clear surface water pathway to the project. Three saltmarsh habitats – *Salicornia and other annuals colonising mud and sand*, *Atlantic salt meadows* and *Mediterranean salt meadows* – are present within approx. 500 m of the river's outflow, so there is a weak surface water pathway to them.

The dune habitats and petalwort are located on the far side of Bull Island in terrestrial areas or sandy shores, so there is not considered to be a clear surface water pathway to them. They do not need to be considered further in this Appropriate Assessment.

5.2 Conservation Objectives of the *North Dublin Bay* SAC

The Conservation Objectives for mudflat / sandflat and saltmarsh habitats are presented in Table 2. It is not necessary to reproduce the conservation objectives for dune habitats or petalwort, as it has been established that they have no connection to the Santry River.

5.3 Distribution of the SPA's qualifying interests

The following is noted in the site synopsis for the SPA:

> "*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.*
>
> *Saltmarsh extends along the length of the landward side of the island and provides the main roost site for wintering birds in Dublin Bay. The island shelters two intertidal lagoons which are divided by a solid causeway. These lagoons provide the main feeding grounds for the wintering waterfowl. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. Green algal mats are a feature of the flats during summer. These sediments have a rich macro-invertebrate fauna, with high densities of Lugworm and Ragworm.*"

The Conservation Objectives Supporting Document for the SPA (NPWS 2015) provides tables and maps reporting the counts of birds throughout the estuary. It is clear that the mudflats and saltmarsh habitats on the landward side of Bull Island are the focal point for the SPA's qualifying interests. This includes the area surrounding the outflow of the Santry River.

The majority of birds feed at low tide, when the mudflats and sandflats are exposed. At these times, all seawater drains from the bay (between Bull Island and the mainland). However, the outflow of the Santry River maintains a constant flow through the area, forming a shallow, meandering creek through the bay to reach the coastal waters. The river is freshwater and its waters are enriched, and this appears to create particularly rich feeding habitats along the sides of the creek. Therefore, the creek formed by the Santry River forms one of the key feeding sites within the SPA.

At high tide the mudflats are inundated and unavailable for feeding. At these times many of the SPA's qualifying interests roost in large flocks around the water's edge, particularly in the saltmarsh opposite the outflow of the Santry River, but also along the rocky shoreline at the base of James Larkin Road. Species roosting within the SPA include black-tailed godwit, curlew, dunlin, little egret, greenshank, knot, redshank, teal, turnstone, black-headed gull, herring gull, common gull, and great black-backed gull.

Table 2. Conservation Objectives for the *North Dublin Bay* SAC

Attribute	Measure	Target
	Mudflats and sandflats not covered by seawater at low tide	
Habitat area	Hectares	The permanent habitat is stable or increasing, subject to natural processes.
Community extent	Hectares	Maintain the extent of the *Mytilus edulis*-dominated community, subject to natural processes.
Community structure: *Mytilus edulis* density	Individuals/m²	Conserve the high quality of the *Mytilus edulis* dominated community, subject to natural processes
Community distribution	Hectares	Conserve the following community types in a natural condition: Fine sand to sandy mud with *Pygospio elegans* and *Crangon crangon* community complex; Fine sand with *Spio martinensis* community complex.
	Salicornia and other annuals colonising mud and sand	
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island - 29.10ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward

Attribute	Measure	Target
Vegetation structure: vegetation cover	Percentage cover at a representative number of monitoring stops	Maintain more than 90% of area outside creeks vegetated
Vegetation composition: typical species and subcommunities	Percentage cover	Maintain the presence of species-poor communities listed
Vegetation structure: negative indicator species - *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%
		Atlantic salt meadows (Glauco-Puccinellietalia maritimae)
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: North Bull Island - 29.10ha
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward

Attribute	Measure	Target
Vegetation structure: vegetation cover	Percentage cover at a representative number of monitoring stops	Maintain more than 90% of area outside creeks vegetated
Vegetation composition: typical species and subcommunities	Percentage cover	Maintain the presence of species-poor communities listed
Vegetation structure: negative indicator species - *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%
		Mediterranean salt meadows (Juncetalia maritimi)
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped:North Bull Island - 7.98ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward

Attribute	Measure	Target
Vegetation structure: vegetation cover	Percentage cover at a representative number of monitoring stops	Maintain more than 90% of area outside creeks vegetated
Vegetation composition: typical species and subcommunities	Percentage cover	Maintain range of sub-communities with characteristic species listed
Vegetation structure: negative indicator species - *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%

5.4 Conservation Objectives of the *North Bull Island* SPA

The conservation objectives for all of the special conservation interests of the SPA are identical, so it is not necessary to list them individually. An example is provided in Table 3.

Table 3. Conservation Objectives for each of the special conservation interests of the *North Bull Island* SPA

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by [the relevant species], other than that occurring from natural patterns of variation	Waterbird distribution from the 2011/2012 waterbird survey programme is discussed in part five of the conservation objectives supporting document

5.5 Inland sites for SPA birds within the Masterplan Area

The *North Bull Island* SPA and other SPAs along the Dublin coastline (Table 1) were designated to protect a range of over-wintering migratory birds. The primary habitats for these birds are the coastal and intertidal habitats within the SPA boundaries, notably mudflats, sandflats and saltmarshes. However, some species also fly inland to feed in amenity grasslands throughout Dublin City (hereafter referred to as 'inland sites'), particularly playing fields, parks and other areas of regularly-mown grassland. This behaviour is most-commonly seen in brent geese, but also occurs in oystercatchers, godwit, curlew, gulls and other species. Brent geese feed on grass, while waders feed on soil invertebrates.

In this section we review a range of desktop and survey information on inland sites for SPA birds, including broad-scale studies of brent geese undertaken across the city, and surveys undertaken during the preparation of the Plan.

5.5.1 Large-scale studies of brent geese in Dublin City

The use of inland sites in Dublin City appears to be a relatively modern phenomenon, and to be increasing in extent. Over the last 15 years there have been two major studies of brent geese using inland sites in Dublin: Benson (2009) and Scott Cawley (2017). Relevant findings are presented below. We are not aware of any studies of waders (e.g., oystercatchers, curlew, godwit) or other waterbirds using inland sites.

The first broad-scale study of brent geese in Dublin city was carried out by Lorraine Benson in 2009. She identified 60 inland feeding sites for brent geese in Dublin, which represented a six-fold increase when compared with ten years previously.

The study by Lorraine Benson in 2008 / 2009 ranked the importance of 60 sites throughout Dublin based on the peak count of brent geese recorded, as follows: none (no geese recorded), moderate (1 – 50 geese), high (51 – 400 geese) and major (> 400 geese). Three sites were identified in the vicinity of the Masterplan Area:

- The pitch and putt golf course on the Oscar Traynor Road (adjacent to the Cadburys factory) was of major importance, with a peak count of 1,200 geese. It should be noted that the golf course is no longer in use, and has been taken over by coarse grasses (this is discussed further in Section 5.5.3);
- McCauley Park, Edenmore was of high importance, with a peak count of 400 geese; and
- St Malachy's Playing Fields, Edenmore was of high importance, with a peak count of 200 geese.

A separate study by Scott Cawley Environmental Consultants in 2017 identified 161 potential inland sites throughout Dublin, a substantial increase on the number of sites identified by Benson (2009). However, this number is almost certainly an underestimate, as the study did not cover all suitable habitat and was based only on brief snapshot surveys. Sites in the vicinity of the Masterplan Area had the following peak counts:

- Kilmore / Oscar Traynor football pitches (high importance, peak count 68);
- Coolock Park East (none);
- Coolock / Cadbury's Pitch and Putt (high importance, peak count 280);
- Coolock / McCauley Park (major importance, peak count 1,000);
- Edenmore / Coláiste Dhulaigh (none);
- Santry River / Springdale Road / St Malachy's (major importance, peak count 1,017);
- Santry River / Lein Park Upper (major importance, peak count 700);
- Santry River / Lein Park Lower (high importance, peak count 303); and
- St Anne's Park (major importance, peak count 700).

Based on the information above, there are a number of sites of importance for brent geese in the vicinity of the Study Area. The most important *within the Masterplan Area* is the complex of sports pitches around St Malachy's, Springdale Road and Lein Park, which is hereafter referred to in combination as 'St Malachy's playing fields'. Peak counts of over a thousand geese have been recorded at this location.

The playing fields of Kilmore FC located between Oscar Traynor Road and the Clonshaugh Business Park (referred to in places as 'Coolock Lane Park') is also an area of importance

within the Masterplan Area. A maximum count of 68 geese was recorded by Scott Cawley Ltd in 2016 / 2017, but NM Ecology Ltd has observed larger flocks at this location (see below).

No other parks or green areas within the Masterplan Area were covered in the Benson (2008 / 2009) or Scott Cawley (2016 / 2017) studies.

5.5.2 Short-term winter bird surveys of the Masterplan Area (2019 - 2022)

Dublin City Council has commissioned a series of winter bird surveys of the Masterplan Area in recent years, as follows:

- Birdwatch Ireland was engaged to carry out winter bird surveys throughout the Masterplan Area in December 2019 and January 2020 (Adcock et al. 2020);
- Birdwatch Ireland repeated the survey the following year in January and February 2021 (Adcock, et al. 2021)
- Blackstaff Ecology was engaged to carry out three winter bird surveys at the St Malachy's playing fields in January 2022
- MKO Planning and Environmental Consultants was engaged to carry out transect surveys and vantage point surveys of the full Masterplan Area in January and February 2023

Brent geese

Peak counts of 221 (2019 / 2020) and 336 geese (2021) were recorded at St Malachy's playing fields during the two surveys by Birdwatch Ireland. Geese were not recorded in any other parks or green areas within the Masterplan Area, but they were observed in flight on a number of occasions (e.g., above the Northside Shopping Centre), suggesting that they were flying to other sites outside the Masterplan Area.

Flocks of 50 – 60 brent geese were recorded at St Malachy's playing fields by Blackstaff Ecology in January 2022.

A flock of 3 brent geese was recorded at Lein Park Lower by MKO in 2023. No brent geese were recorded at either St Malachy's or Kilmore FC playing fields. A flock of approx. 320 geese was observed flying south from the St Malachy's playing fields, and a separate flock of 120 geese was recorded at the mouth of the river (mudflats within the SPA at North Bull Island).

Other SPA species

Four other species associated with the *North Bull Island* SPA were recorded within the Masterplan Area by Birdwatch Ireland in 2019 / 2020 and 2021 (Adcock et al. 2020, 2021), as follows:

- Black-tailed godwit: flocks of 178 birds recorded at the Oscar Traynor Road playing fields and 99 at St Malachy's playing fields in 2019 / 2020. Flocks of 7 and 163 birds were recorded at the same locations (respectively) in 2021;
- Oystercatcher: a single bird was recorded at the Oscar Traynor Road playing fields and 117 at St Malachy's playing fields in 2019 / 2020. A smaller flock of 8 birds was recorded at the St Malachy's playing fields in 2021;
- Curlew: 8 were recorded at St Malachy's playing fields in 2019 / 2020 and 3 at the Oscar Traynor Road playing fields in 2021; and
- Black-headed gull: widespread during the Masterplan Area in winter months, notably in Santry Park, Stardust Park and St Malachy's playing fields.

Flocks of black-tailed godwit (86), oystercatcher (3) and black-headed gulls (36) were also recorded at St Malachy's playing fields by Blackstaff Ecology in January 2022.

Flocks of curlew (3 – 8 individuals) and a single oystercatcher were recorded at Lein Park Lower by MKO in 2023. No SPA species were recorded at the St Malachy's or Kilmore FC playing fields.

In summary, the two locations of importance for brent geese – St Malachy's playing fields and Oscar Traynor Road playing fields – are also important inland feeding sites for other birds associated with the *North Bull Island* SPA, specifically black-tailed godwit, oystercatcher and curlew.

5.5.3 Full-season winter bird surveys of the Masterplan Area (2023 – 2024)

NM Ecology Ltd was engaged to carry out winter bird surveys of the Masterplan Area on a monthly basis between September 2023 and March 2024 (inclusive). All green areas in the Masterplan Area were surveyed, but special emphasis was placed on the four areas of importance previously identified by Benson (2009) and Scott Cawley (2017):

- Kilmore / Oscar Traynor football pitches, Oscar Traynor Road;
- Coolock / Cadbury's Pitch and Putt, Oscar Traynor Road;
- St Malachy's playing fields, Springdale Road; and
- Lein Park Upper and Lower.

Results are presented in full in the Winter Bird Survey Report in Appendix 1, but a summary of the key findings at the four areas referenced above is provided below. No winter birds were recorded anywhere else in the Masterplan Area.

<u>Kilmore / Oscar Traynor Road football pitches</u>

A flock of 135 brent geese was recorded during the December survey, but no geese were recorded during the other six surveys. On this basis, the section is of high importance for geese, but used only on an occasional basis.

A flock of 1,050 black-tailed godwit was recorded in October, and 2 birds in December, but not during any other surveys. Oystercatchers were recorded in small numbers (ranging from 4 to 16 birds) during 3 of the 7 surveys.

Pitch and putt golf course, Oscar Traynor Road

No brent geese or waders were recorded at this location during the surveys. This differs from the previous large-scale surveys in the area: a peak count of approx. 1,200 geese was recorded at this location by Benson (2009), and a peak count of 280 geese by Scott Cawley (2017).

The reason for the lack of activity is due to changes in the management of the site: it was in active use as a golf course at the time of the Benson and Scott Cawley surveys, but it was sold in 2019 and golfing activity ceased. The cessation of mowing allowed coarse grasses to spread across the site, which in turn made it unsuitable for grazing geese.

Therefore, it can be concluded that this site is no longer of any importance for brent geese or other species associated with nearby SPAs.

St Malachy's FC playing fields

This section refers to the playing fields adjoining Springdale Road on the north-eastern side of the Santry River. The part of Section 12 to the south-west of the river is described under the 'Lein Park' heading below.

Brent geese were recorded during 3 of the 7 surveys, with counts of 800 in November, 440 in December and 75 in January. A number of *ad hoc* sightings of geese were also recorded by the author between December and April, with peak counts of 700. On this basis, the site is considered to be of Major importance for brent geese, and to be regularly used.

Flocks of black-tailed godwit were recorded during 3 of the 7 surveys, with counts of 120 in November, 3 in December and 5 in January. There was also an ad hoc sighting of 500 godwit in October. Oystercatchers were recorded in small numbers (typically 4 – 12 birds, peak count 50) during 5 of the 7 surveys, and 4 curlew were observed during the survey in November. On this basis, we conclude that the site is also regularly used by waders associated with the SPA.

Lein Park Upper and Lower

Lein Park is a residential road on the south-western side of the Santry River on either side of Harmonstown Road. A grassy area to the north-west of Harmonstown Road is referred to here as 'Lein Park Upper' and a playing field to the south-east of Harmonstown Road is referred to here as 'Lein Park Lower'. The brent geese study by Scott Cawley (2017) recorded peak counts of 700 geese at Lein Park Upper and 303 geese at Lein Park Lower.

No geese were recorded in Lein Park during any of the 2023 / 2024 surveys. The only SCI species were 10 oystercatcher and 3 curlew during the November survey.

On this basis, it is concluded that the Lein Park area was of Negligible importance for SPA birds during the 2023 / 2024 surveys, but has been of major importance for geese in the past.

Gulls

The black-headed gull is a Special Conservation Interest of the *North Bull Island* SPA and some other SPAs along the Dublin coast (Table 1). This species was widespread throughout the survey area from September 2023 to February 2024, typically in sprawling flocks of mixed gulls (black-headed gull, herring gulls and common gull). The peak count was of 85 black-headed gulls at St Malachy's Playing Fields in November 2023.

Gulls are generalist species that can readily adapt to anthropogenic environments, including urban habitats. They use a broad range of habitats across Dublin City, and are not specifically associated with rivers, grasslands or any other habitats. Therefore, the Masterplan Area is not considered to be of importance for the gulls associated with any SPAs.

6 Stage 2: Appropriate Assessment

6.1 Impact Assessment

6.1.1 Construction phase

Direct effects on the qualifying interests of the *North Dublin Bay* SAC

It is proposed that a section of culverted watercourse between James Larkin Road and the coast will be 'daylighted', i.e., returned to an open channel. This area is within the boundary of the *North Dublin Bay* SAC (Figure 2). The majority of the culverted section is dry meadow habitat, which is not a qualifying interest of the SAC. However, the eastern end of the culvert discharges to a large area of mudflat habitat within the SAC; the river forms the main creek on the northern side of the North Bull causeway.

These works will inevitably cause some localised disturbance of the mudflat habitat at the end of the culvert, e.g., an excavator will have to dig out sections of existing culvert. However, mudflats are highly-dynamic habitats, consisting of fine sediments that settle from slow-moving water. Any disturbed mud at the mouth of the culvert will return to a natural state within a few days of disturbance. Therefore, the proposed 'daylighting' of the culvert within the SAC boundary will not have a significant effect on the mudflat habitat or any other qualifying interest of the SAC.

All other components of the Plan will be located outside the SAC boundary, so there is no other risk of direct effects.

Direct effects on the special conservation interests of the *North Bull Island* SPA

As noted above, the daylighting of the culvert between James Larkin Road and the coast will involve work within the SPA boundary, including some work on the mudflat at the outflow of the culvert. Construction work will be temporary and highly localised. Birds are highly mobile species, and they do not nest in the mudflat area, so there is no risk of direct effects (i.e., death or injury) of any birds within the SPA. Potential displacement / disturbance of these birds is considered separately below.

Indirect effects: pollution of surface waters during construction works

The realignment or naturalisation of sections of the river will involve large-scale earthworks and the exposure of bare earth, which may release suspended sediments into the watercourse. Construction works would also involve the use of pollutants, including concrete / cement products (which are toxic to fish and other aquatic fauna) and the use of fuels for heavy machinery. Pollutants in the watercourse could be carried downstream and released into coastal waters on the northern side of the North Bull causeway, which is within the *North Dublin Bay* SAC and *North Bull Island* SPA.

In general terms, the release of suspended sediments into the SAC / SPA is not considered likely to have a negative effect. Mudflats are formed by fine sediments that settle in sheltered areas around the coast. Additional suspended sediments flowing out of the river would settle over the mudflats and become part of the habitat. This would not affect the feeding resources for the special conservation interests of the SPA.

However, the release of hydrocarbons or other pollutants into the SAC / SPA could potentially have significant negative effects. Hydrocarbons could spread over the surface of the mudflats, restricting oxygenation of the sediment and smothering invertebrate fauna (e.g., *Mytilus edulis* communities). Hydrocarbons could also affect birds associated with the SPA, either by coating their plumage or by poisoning their food sources.

A hypothetical assessment of potential pollution incidents is difficult, because any negative effects would vary depending on a number of variables that cannot be predicted (e.g., the type of pollutant, the quantity released, the duration, etc). However, in a worst-case scenario it is possible that a large-scale pollution event could have a significant effect on the SAC and SPA. This applies primarily to hydrocarbons and other chemical pollutants, but not to suspended sediments.

Displacement / disturbance of birds within the SPA boundary

The daylighting of the culvert between James Larkin Road and the coast will require the operation of heavy machinery on the edge of the mudflat habitat. During normal conditions birds accumulate around the mouth of the culvert, as the transition between freshwater and saltwater provides rich feeding resources. Noise and visual disturbance during construction works is likely to displace birds from the area, either to other parts of the SPA, or potentially

to other areas along the Dublin coastline. In a worst-case scenario this could conflict with the Conservation Objectives of the SPA (Section 5.4).

Displacement / disturbance of birds using ex-situ habitats outside the SPA boundary

As has been established in Section 5, some parts of the Masterplan Area are used by SPA birds as inland feeding sites, notably the playing fields at St Malachy's FC(Springdale Road) and Kilmore FC (Oscar Traynor Road). These playing fields will be retained as part of the Plan, so it is expected that the birds will continue to use them in the long-term. However, some landscaping is proposed around the edges of the fields, which could obstruct flight paths of birds in and out of these areas. If these works permanently displaced brent geese from the fields, it would result in the loss of feeding sites of major and high importance, and could potentially have a significant effect on their conservation status in the *North Bull Island* SPA or other SPAs in the Dublin area.

6.1.2 Operational phase

Direct effects on qualifying interests of the SAC / SPA

When the Plan is fully implemented, there is no further risk of direct effects on mudflat habitats, birds or any other qualifying interests of the SAC / SPA.

Indirect effects: pollution of surface waters during the operational phase

The Santry River receives storm water from surrounding roads and hard surfaced areas, and this will continue to be the case when the Plan is implemented. However, a range of sustainable drainage features will be added, including planting of woodlands and wetlands to filter pollutants and trap sediments, and the naturalisation of the course to reduce flow rates. In combination, these measures are expected to improve water quality in the catchment in comparison to the baseline scenario, which could have a positive effect on the qualifying interests of the SAC / SPA.

Displacement / disturbance of birds within the SPA boundary

When the Plan has been implemented it will not be necessary to use any more heavy vehicles within the SPA boundary. The greenway is not expected to increase human activity within the SPA, as the mouth of the river is already part of a well-used pedestrian footpath.

Displacement / disturbance of birds using ex-situ habitats outside the SPA boundary

The greenway component of the Plan will increase human activity within the Masterplan Area, including in the areas used as ex-situ habitats by brent geese and other birds associated with SPAs (St Malachys and Kilmore FC playing fields). Dog walking is of particular relevance to winter birds, because dogs often chase winter birds, and regular disturbance may cause the birds to abandon a site.

Both areas are already used by pedestrians and dogs in the baseline scenario, so birds will be habituated to occasional disturbance. However, it is expected that the greenway will substantially increase human activity in the areas, so the level of disturbance is expected to increase.

If increased activity by pedestrians and dogs caused regular disturbance of brent geese and other SPA birds from the fields, it could result in the loss of feeding sites of major and high importance, and could potentially have a significant effect on their conservation status in the *North Bull Island* SPA or other SPAs in the Dublin area.

6.1.3 Potential in-combination effects

Live and recently-approved developments in the Masterplan Area were reviewed on the planning databases of Dublin City Council and Fingal County Council. No other developments were identified within the boundaries of the *North Dublin Bay* SAC or *North Bull Island* SPA that could potentially lead to direct in-combination effects.

A number of developments were identified in the remainder of the Masterplan Area. Most are for small-scale works such as extensions to existing residences, which would pose no risk of in-combination effects on European sites. However, some relatively large-scale developments were also noted, including:

- Fingal County Council planning reference FW22A/0021. Permission granted for a solar energy development in Harristown, between the Horizon Logistics Park and the Dublin Airport Logistics Park. The application was accompanied by an Appropriate Assessment Screening Report prepared by RSK Environmental. At the time of writing construction work was in progress;
- Fingal County Council planning reference FW24A/0253E. Application refused (currently under appeal) for an extension of an existing car park to the west of the 'Blue Long-term' car park adjoining the Horizon Logistics Park. The application was accompanied by a Natura Impact Statement prepared by Enviroguide Consulting;
- Fingal County Council planning reference FW22A/0079. Permission granted for three light industrial buildings at two separate sites and associated works, located within the Horizon Logistics Park to the north and north-west of planning reference FW23A/0067. One of the applications involved the re-alignment of a culverted section of the Santry River. The application was accompanied by a Natura Impact Statement prepared by Enviroguide Consulting. At the time of writing construction work was in progress;
- Fingal County Council planning reference FW23A/0067. Permission granted for a light industrial building and vehicular loading / storage facilities, located within the Horizon Logistics Park near the Silloge Golf Course. The application was accompanied by a Natura Impact Statement prepared by Enviroguide Consulting. At the time of writing construction work was in progress;

- Dublin City Council planning reference 2229/19. Permission granted for the demolition of buildings and construction of a two-storey data centre in the Clonshaugh Business and Technology Park. The application was accompanied by an Appropriate Assessment screening report prepared by Whitehill Environmental. This development is understood to be complete and operational;
- An Bórd Pleanála (ABP) planning reference 304346. Permission granted for a strategic housing development of 495 apartments at the former Chivers factory in Coolock. The Santry River passes through the landholding, and the proposed development includes a parkland area on the north-eastern side of the river. The application was accompanied by a Natura Impact Statement prepared by Altemar Ltd. At the time of writing in October 2024 the construction of the development does not yet appear to have commenced; and
- ABP planning reference 314775. Permission granted (on appeal) for the demolition of an existing structure and replacement with surface car parking within the Cadbury's Factory at Coolock. Construction work does not yet appear to have commenced.

In summary, a number of developments are either approved or under construction within the Masterplan Area, particularly around the Horizon Logistics Park. All applications were accompanied by Appropriate Assessment Screening reports or Natura Impact Statements prepared by consultancy ecologists, and the competent authorities (local authorities or An Bórd Pleanála) confirmed in all cases that there was no risk of likely significant effects on European sites. For these reasons, we have not identified any potential in-combination effects on European sites.

6.1.4 Summary

In this section we have identified a number of potential effects on the qualifying interests of the *North Dublin Bay* SAC, *North Bull Island* SPA and potentially other SPAs in the broader surroundings. The negative effects can be summarised as follows:

- Pollutants generated during construction works (accidental spills of hydrocarbons and other chemicals) could potentially have negative effects on mudflats / sandflats within the *North Dublin Bay* SAC, and could poison or injure birds associated within the *North Bull Island* SPA;
- Daylighting of a culvert between James Larkin Road and the coast could cause disturbance of birds within the *North Bull Island* SPA;
- Construction works and / or landscaping at St Malachy's FC (Springdale Road) and Kilmore FC (Oscar Traynor Road) could displace brent geese and waders, which could have negative effects on special conservation interests of the *North Bull Island* SPA and other SPAs; and

- The greenway component of the Plan is expected to increase activity by people and dogs at St Malachy's FC (Springdale Road) and Kilmore FC (Oscar Traynor Road) which could displace / disturb birds from inland feeding sites, as discussed above.

Some of these activities could undermine the Conservation Objectives of the SAC or SPA. For example, one of the Conservation Objectives for mudflat / sandflat habitat within the *North Dublin Bay* SAC (refer to Section 5.2) is to: "*Conserve the high quality of the Mytilus edulis dominated community, subject to natural processes*". A significant pollution event within the mudflat habitat could potentially reduce the extent or quality of this community.

Similarly, one of the Conservation Objectives for birds within the *North Bull Island* SPA (refer to Section 5.4) is to ensure that there is: "*No significant decrease in the range, timing or intensity of use of areas by [the relevant species], other than that occurring from natural patterns of variation*". The displacement of birds during the daylighting of a culvert within the SPA boundary, or the loss of one or more inland feeding sites, could decrease the range of certain species or increase their intensity of use in other parts of the SPA.

It is difficult to accurately predict the negative effects of the Plan on these European sites, because the magnitude and extent of the negative effects will be influenced by a number of unpredictable factors, e.g., the magnitude of a potential pollution incident, or the number of people and dogs that will be present at the inland feeding sites for winter birds. Under the precautionary principle it is necessary to acknowledge these potential effects and implement mitigation measures to avoid or minimise negative effects.

6.2 Mitigation measures

As noted in Sections 1.1 and 3, the Masterplan sets out an overall arrangement and set of defining guidelines to which various projects within its boundary will adhere . In this context, we provide a high-level mitigation strategy below which will apply to future projects implemented as part of the framework. Detailed mitigation proposals will be proposed on a site-specific basis for each project when detailed drawings and work proposals have been developed.

6.2.1 Implementation routes for physical works

Projects arising from the Plan may either require planning consent or confirmation, or would be an exempted development.

Works that would require planning consent or confirmation, would be carried out by the Local Authority. Works may progress to construction stage as one of the following:

- Project led by the Local Authority under the Planning and Development Regulations; and
- Project led by the Local Authority under the Strategic Infrastructure Act.

Project level assessments that may be required for all types of projects include:

- Environmental Impact Assessment: For a project above the thresholds specified under Article 23 of the *European Communities (Environmental Impact Assessment) Regulations*, 1989 as amended or a project likely to have significant effects on the environment, having regard to the criteria specified for under Article 27 of the same EIA Regulations 1989, as amended.
- Appropriate Assessment: All projects will be screened for Appropriate Assessment and, where there is a potential for a significant effect on a European (Natura 2000) site, an Appropriate Assessment will be undertaken in accordance the *European Communities (Birds and Natural Habitats) Regulations* 2011.

Exempted developments are typically of small scale or scope, which may fall under the category of flood mitigation works or housing protection schemes. Exempted developments would be carried out by Local Authorities under funding by the OPW, would be exempted in accordance with the Planning and Development Act 2000 (as amended), and would comply with all relevant environmental legislation. This could require the undertaking of an EIA or AA screening for physical works. Local Authorities must supply written confirmation of legislative compliance under condition of funding.

6.2.2 Project Mitigation: Consenting Process

The consenting process for the progression of Plan components would require the applicable environmental assessments. The consenting authorities may also set out specific environmental conditions as part of the project approval.

Regarding Appropriate Assessment, the information included in this document will inform the screening exercise for all projects. In general terms, we suggest that the following works are likely to require mitigation measures for the protection of habitats and species in *North Dublin Bay* SAC and *North Bull Island* SPA, and thus are likely to require a Stage 2 Appropriate Assessment:

- Any works within or adjacent to the Santry River involving substantial quantities of hydrocarbons, poured concrete or other chemical pollutants;
- Any construction works within the *North Bull Island* SPA, notably the daylighting of the culvert between James Larkin Road and the coast;
- Changes to playing fields at St Malachy's FC (Springdale Road) and Kilmore FC (Oscar Traynor Road), including:
    - Any changes of use that would alter or cease regular mowing of the grass, both within playing fields and the adjoining grassed area;
    - Any change of the playing surface from natural grass, notably the provision of astroturf (or another all-weather surface), or the improvement of drainage;
    - Provision of floodlighting;

- Provision of trees, shrubs of other landscaping around the edges of playing fields that may reduce the total extent of grass; and
- Any measures that may increase activity by people and / or dogs, including the construction of the greenway, any other footpaths, or public realm improvements (e.g., benches, playgrounds, enclosed dog parks).

Other works within the Masterplan Area are unlikely to require mitigation measures, and thus are likely to screen out at Stage 1 of the Appropriate Assessment process. However, site-specific screening assessments will be required for all projects to assess the specifics of these developments.

6.2.3 Project Mitigation: Construction and Operational Phases

For the detailed design of projects that may arise as a result of the Plan, where options are available, the design should follow the mitigation hierarchy, as follows:

- Avoidance: avoid creating the potential effect where feasible.
- Mitigation: minimise the potential effect through mitigating measures
- Enhancement: Enhance the environment to better than pre-project conditions, were reasonably possible

This mitigation hierarchy is standard practice, and is implemented in the planning process via use of guidelines such as *Guidelines on the information to be contained in Environmental Impact Assessment Reports* (EPA 2022) and other standard planning process procedures at project level.

The following mitigation measures may be implemented as required:

- Pollution-prevention measures during construction works, notably for the management of hydrocarbons and other chemicals. This is likely to include the use of bunded storage areas, drip trays, spill kits, etc;
- Work within the SPA boundary (e.g., daylighting of the culvert) will be avoided during the peak season for over-wintering birds (typically September to April, inclusive);
- Avoidance of any changes to playing fields at St Malachy's FC (Springdale Road) and Kilmore FC (Oscar Traynor Road) that could make them unsuitable for brent geese or waders associated with nearby SPAs;
- The use of visual barriers to mitigate negative effects on birds at St Malachy's FC (Springdale Road) and Kilmore FC (Oscar Traynor Road). For example, the provision of a 1.5 m wall or line of dense planting along the greenway adjoining Kilmore FC would prevent dogs and geese from seeing each other; and
- Restrictions on dog running at St Malachy's FC (Springdale Road) and Kilmore FC (Oscar Traynor Road). Dogs should be kept on leads when over-wintering birds are most likely to be present (September to April, inclusive). Signs should be provided requesting that dog owners prevent their dogs from chasing birds.

6.3 Conclusion of Stage 2: Appropriate Assessment

Having considered all potential effects in detail, it is concluded that the Plan, individually or in combination with other plans or projects, would not have a significant effect on any European sites. This is based on the following measures presented in Section 6.2:

- All projects undertaken as part of the Plan would require stand-alone screening for Appropriate Assessment, and a Natura Impact Statement will be prepared if required;
- Best-practice pollution-prevention measures will be implemented for any construction work within or adjacent to the river, thus avoiding pollution from hydrocarbons and other chemicals;
- There will be no construction within the SPA boundary when over-wintering birds are most likely to be present;
- There will be no significant changes to the playing fields at St Malachy's FC (Springdale Road) and Kilmore FC (Oscar Traynor Road), so brent geese and waders associated with nearby SPAs will be able to continue using them as inland feeding sites; and
- Disturbance of brent geese and waders at St Malachy's FC (Springdale Road) and Kilmore FC (Oscar Traynor Road) will be minimised, using visual barriers, a requirement for dogs to be kept on leads, and other methods.

7 Overall Conclusion

Regulation 42 (16) of the *European Communities (Birds and Natural Habitats) Regulations* 2011 (as amended) states that "*a public authority shall give consent for a plan or project, or undertake or adopt a plan or project, only after having determined that the plan or project shall not adversely affect the integrity of a European site*"

The findings of the NIS identify potential negative effects of the Santry River Restoration and Greenway Masterplan on European sites, and mitigation measures are thus proposed to ensure that the Plan would not be likely to have significant effects on them. Projects undertaken during the implementation of the Plan would require screening for Appropriate Assessment, and some may require mitigation measures identified in this Plan.

Therefore, it can be concluded that the proposed Plan "*shall not adversely affect the integrity of a European site*", and thus that it is in compliance with Regulation 42 of the *European Communities (Birds and Natural Habitats) Regulations* 2011 (as amended).

8 References

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Appendix 1

Winter Bird Survey Report 2023 / 20214 for the Santry River Restoration and Greenway Masterplan (NM Ecology Ltd, 2024)

Winter Bird Survey Report

Santry River Restoration and Greenway Project

28 June 2024

NM Ecology Ltd - Consultant Ecologists
38 Maywood Avenue, Raheny, Dublin 5
Website: www.nmecology.com
Email: info@nmecology.com
Tel: 087-6839771

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1 Introduction

1.1 Assessment brief

NM Ecology Ltd was engaged to carry out winter bird surveys along the proposed route of the Santry River Restoration and Greenway Project. The scheme is aimed at improving the ecological quality of the river, managing flood risk, and creating a greenway.

The survey area included 14 discrete patches of land, including playing fields, parks and other grassy areas. Survey methods were designed to match those of previous surveys carried out by Birdwatch Ireland in 2019 / 2020 and 2020 / 2021.

Seven winter bird surveys of the area were carried out between September 2023 and March 2024. In this document we present the methods, results and conclusions of these surveys.

1.2 Statement of authority

All surveying and reporting was carried out by Nick Marchant, the principal ecologist of NM Ecology Ltd. He has sixteen years of professional experience, including thirteen years as an ecological consultant, one year as a local authority biodiversity officer, and two years managing an NGO in Indonesia. He provides ecological assessments for developments throughout Ireland and Northern Ireland, including wind farms, infrastructural projects (roads, water pipelines, greenways, etc.), and a range of residential and commercial developments.

He has an MSc in Ecosystem Conservation and Landscape Management from NUI Galway and a BSc in Environmental Science from Queens University Belfast. He is a member of the Chartered Institute of Ecology and Environmental Management, and operates in accordance with their code of professional conduct.

1.3 Background on winter birds and inland sites

There are two large SPAs in Dublin Bay – the *North Bull Island* SPA and the *South Dublin Bay* and *River Tolka Estuary* SPA – both of which were designated to protect a range of over-wintering migratory birds (Table 1). The primary habitats for these birds are the coastal and intertidal habitats within the SPA boundaries (mudflats, sandflats, saltmarsh), but some species also fly inland to feed in amenity grasslands throughout Dublin City (hereafter referred to as 'inland sites'), particularly playing fields, parks and other areas of regularly-mown grassland. This behaviour is most-commonly seen in brent geese, but also occurs in oystercatchers, godwit, curlew, gulls and other species.

Table 1: Special Conservation Interests of the SPAs in Dublin Bay

Site Name	Distance	Reasons for designation
North Bull Island SPA (4006)	Partially inside	**Key habitats:** coastal wetlands **Special conservation interests:** light-bellied brent goose, shelduck, teal, pintail, shoveler, oystercatcher, golden plover, knot, sanderling, dunlin, black-tailed godwit, bar-tailed godwit, curlew, redshank, turnstone, black-headed gull (all are wintering populations)
South Dublin Bay and River Tolka Estuary SPA (site code 4024)	1.9 km south	**Key habitats:** coastal wetlands **Special conservation interests:** light-bellied brent goose, oystercatcher, ringed plover, grey plover, knot, sanderling, dunlin, bar-tailed godwit, redshank, black-headed gull (wintering populations), arctic tern, roseate tern (passage), and common tern (breeding and passage)

The use of inland sites appears to be a relatively modern phenomenon in Dublin, and to be increasing in extent. Over the last 15 years there have been two major studies of brent geese using inland sites in Dublin: Benson[1] (2009) and Scott Cawley[2] (2017). Relevant findings from these studies have been used to inform the methodology and conclusions of this assessment. However, we are not aware of any studies of waders (e.g. oystercatchers, curlew, godwit) or other waterbirds using inland sites.

The first broad-scale study of brent geese in Dublin city was carried out by Lorraine Benson in 2009. She identified 60 inland feeding sites for brent geese in Dublin, which represented a six-fold increase when compared with ten years previously.

A separate study by Scott Cawley Environmental Consultants in 2017 identified 161 potential inland sites throughout Dublin, a substantial increase on the number of sites identified by Benson (2009). This number is almost certainly an underestimate, as the study did not cover all suitable grasslands and was based only on brief snapshot surveys.

Brent geese favour large open areas of regularly-mowed amenity grassland: Benson (2009) reported that "*the primary sites used by significant numbers of brent geese were at least the size of a football pitch*" (approx. 0.7 ha). They are herbivorous, and feed on shoots of perennial rye-grass (*Lolium perenne*) and similar species. They do not feed on coarse grasses

[1] Benson, L. (2009) Use of inland feeding sites by Light-bellied Brent Geese in Dublin 2008-2009: a new conservation concern? *Irish Birds* 8: 563-570

[2] Scott Cawley Environmental Consultants (2017). *Natura Impact Statement: Information for Stage 2 Appropriate Assessment for a proposed residential development at St. Paul's College, Sybil Hill, Raheny, Dublin 5*. Submitted to Dublin City Council as part of planning application 4185/15

(e.g. false oat-grass *Arrhenatherum elatius*, cock's-foot *Dactylis glomerata*), which are the dominant species in dry meadows / overgrown grasslands.

Other waders such as oystercatcher, godwit and curlew feed on worms and other soil invertebrates. They favour wet soils and ephemeral pools, such as those found on disturbed muddy patches on sports pitches. They are rarely found in dry meadows or other areas with overgrown grasses.

All of these species are sensitive to anthropogenic disturbance, and avoid areas with high levels of human disturbance. They are particularly sensitive to dogs, which they view as predators. Therefore, they favour large open areas of grassland with good fields of view, and avoid small patches of grassland surrounded by dense ground cover.

1.4 Previous records from the survey area

Large-scale studies

The study by Lorraine Benson in 2008 / 2009 ranked the importance of 60 sites throughout Dublin based on the peak count of brent geese recorded, as follows: none (no geese recorded), moderate (1 – 50 geese), high (51 – 400 geese) and major (> 400 geese). Three sites were identified along the Santry River corridor:

- The pitch and putt golf course on the Oscar Traynor Road (adjacent to the Cadburys factory) was of major importance, with a peak count of 1,200 geese. It should be noted that the golf course was sold 2019 and that it has now reverted to dry meadow habitat, which means that it is no longer suitable grazing habitat for brent geese;
- McCauley Park, Edenmore was of high importance, with a peak of 400 geese; and
- St Malachy's, Edenmore was of high importance, with a peak of 200 geese.

A comprehensive study of inland brent geese foraging habitat in Dublin City was carried out by Scott Cawley in 2016 / 2017. A total of 132 sites were identified in the study, and their importance was ranked using the same categories as the Benson (2009) study. Sites relevant to the Santry River are as follows:

- Kilmore / Oscar Traynor football pitches (high importance, peak count 68);
- Coolock Park East (none);
- Coolock / Cadbury's Pitch and Putt (high importance, peak count 280);
- Coolock / McCauley Park (major importance, peak count 1,000);
- Edenmore / Coláiste Dhulaigh (none);
- Santry River / Springdale Road / St Malachy's (major importance, peak count 1,017);
- Santry River / Lein Park Upper (major importance, peak count 700);
- Santry River / Lein Park Lower (high importance, peak count 303); and
- St Anne's Park (major importance, peak count 700).

Based on the information above, there are a number of sites of importance for brent geese along the Santry River corridor. The most important is the complex of sports pitches around St Malachy's FC, Springdale Road and Lein Park, which is hereafter referred to in combination as 'St Malachy's FC playing fields'. Peak counts of over a thousand geese have been recorded at this location.

The playing fields between Oscar Traynor Road and the Clonshaugh Business Park (referred to in places as 'Coolock Lane Park') is also an important area adjacent to the river. A maximum count of 68 geese was recorded by Scott Cawley Ltd in 2016 / 2017, but NM Ecology Ltd has observed larger flocks at this location in the past.

No other parks or green areas within the Study Area were covered in the Benson (2008 / 2009) or Scott Cawley (2016 / 2017) studies.

Small-scale studies along the Santry River corridor

Winter bird surveys were carried out by Birdwatch Ireland throughout the Study Area in December 2019 and January 2020, and the following year in January and February 2021 (Adcock, et al. 2020, 2021). Peak counts of 221 (2019 / 2020) and 336 geese (2021) were recorded at St Malachy's playing fields. Geese were not recorded in any other parks or green areas within the Study Area, but they were observed in flight on a number of occasions (e.g., above the Northside Shopping Centre), suggesting that they were flying to other sites outside the Study Area.

Three winter bird surveys were carried out at the St Malachy's playing fields by Blackstaff Ecology in January 2022. Flocks of 50 – 60 brent geese were recorded.

2 Methods

2.1 Best-practice guidance

There is no formal guidance on winter bird surveys at inland sites. Birdwatch Ireland has published methods for the Irish Wetland Bird Survey (IWeBS[3]), which involves monthly surveys of winter birds between September and March within three hours either side of high tide. However, the IWeBS survey focusses almost entirely on coastal sites (typically within SPAs), and does not cover inland feeding sites.

Some general guidance on surveys of geese and swans at inland sites was published by the National Roads Authority (now Transport Infrastructure Ireland) in a document titled *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of*

[3] Counter Manual: Guidance for Irish Wetland Bird Surveys counters https://birdwatchireland.ie/app/uploads/2019/03/IWeBS-Counter-Manual.pdf

National Road Schemes[4]. It should be noted that this guidance relates to national road projects, which are substantially larger in scale than the proposed development. However, the following guidance is considered relevant for this project:

"*In instances where swan and goose surveys are required in either terrestrial or non-tidal wetland habitats, counts should be undertaken using a 'look-see' methodology. This relies on the field surveyors walking around the periphery of such habitats using binoculars (and a telescope where necessary) to locate, identify and count flocks of water birds. Depending upon the nature of the site in question, it may be possible to undertake such counts from a concealed vantage point.*

If it is anticipated that the presence of swans and/or geese within terrestrial or non-tidal wetland habitats coincides with high tide events at a nearby estuary, or the onset of nightfall, the timing of the surveys should be modified accordingly to target the appropriate times of day. Further details of 'look-see' methodologies can be obtained from Bibby et al. (2000)."

Large-scale studies of inland feeding sites for brent geese in Dublin have been carried out by Lorraine Benson and Scott Cawley Ltd. Both involved regular surveys of amenity grasslands throughout Dublin City using the 'look-see' approach, involving either repeated surveys of key locations, or rapid / one-off surveys of a number of sites.

2.2 Methods used in this assessment

For this assessment NM Ecology Ltd carried out surveys every month from September 2023 to March 2024, comprising a total of 7 surveys. Bibby's 'Look-See' approach was followed, which involved a walking survey of all 13 survey areas used in the previous surveys by Birdwatch Ireland (Figure 1). The Pitch & Putt course off Oscar Traynor Road was included as an additional (14th) survey site; its location is shown in Figure 1.

All surveys were undertaken within three hours of high tide, as this is the time when coastal birds are most likely to use inland sites. The primary focus of the bird surveys was the Special Conservation Interests (SCIs) of the *North Bull Island* SPA and the *South Dublin Bay* and *River Tolka Estuary* SPA, which are listed in Table 1.

[4] Available online at https://www.tii.ie/technical-services/environment/planning/Ecological-Surveying-Techniques-for-Protected-Flora-and-Fauna-during-the-Planning-of-National-Road-Schemes.pdf

Figure 2. Sections One-Six.

Figure 3. Sections Seven-Thirteen.

Figure 1. Map of survey areas used in previous Birdwatch Ireland surveys (Adcock et al. 2022). An additional survey area (Section 14) at the Pitch and Putt course off Oscar Traynor Road is outlined in orange.

2.3 Assessment of impacts

The primary resource used by members of the Chartered Institute of Ecology and Environmental Management (CIEEM) is *Guidelines for Ecological Impact Assessment in the UK and Ireland* (2018)[5]. One of the key steps in an Ecological Impact Assessment (EcIA) is to determine the *importance* of an ecological feature:

> "*one of the key challenges in an EcIA is to decide which ecological features (habitats, species, ecosystems and their functions/processes) are important and should be subject to detailed assessment. Such ecological features will be those that are considered to be important and potentially affected by the project. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to impacts from the development, and that will remain viable and sustainable.*"

The results of winter bird surveys will be used to determine whether the survey area is of importance for the SCIs of nearby SPAs. This will be used in the *Screening for Appropriate Assessment* report for the proposed development.

2.3.1 Assessing importance: number of birds

Benson (2009) used the following approach to assess the importance of inland feeding sites for brent geese:

> "*The criterion used to grade sites by importance was the internationally accepted 1% of total flyway population which was developed under the Ramsar Convention. While the 1% criterion refers to wetlands which support 1% of a species or subspecies, the 1% threshold is applicable throughout the range of that population and at any time of year.*
>
> *The sites used by the brent geese were graded in terms of their importance according to the peak numbers of brent geese using any one site. The threshold used here of 400 birds represents over 1% of the current total population of 37,650 for 2009 and is greater than the mean population for the years 2005 – 2009. These sites can, therefore, be considered of international importance.*"

Using the above rationale, Lorraine Benson ranked sites used four categories based on the numbers of brent geese recorded:

- No importance: no geese recorded
- Moderate importance: 0 – 50 geese
- High importance: 51 – 400 geese
- Major importance: > 400 brent geese

[5] Available online at https://cieem.net/resource/guidelines-for-ecological-impact-assessment-ecia/

The same categories were used by Scott Cawley Ltd in their 2017 study.

For ease of comparison we will also use these abundance categories to assess the importance of sites for brent geese. The total population of brent geese is now closer to 40,000 individuals[6], which is an increase from the population of 37,650 at the time that Lorraine Benson's study was carried out. However, 1% of 40,000 is 400, so the threshold for sites of international / major importance remains appropriate.

2.3.2 Assessing importance: frequency of use

As noted in Section 1.3, there are over 160 inland sites in Dublin suitable for brent geese. Some of the sites are used frequently (e.g. daily), others occasionally (e.g. once per week) and others on a very infrequent basis (e.g. once per year). One of the main factors determining frequency of use is anthropogenic disturbance: a flock of geese may have one or two preferred feeding sites, but if dogs and / or people are present at these locations the geese may move to less-preferred sites. Over the course of a day geese may have to use multiple sites to avoid disturbance. The use of sites may also vary within a season: Benson (2009) found that brent geese used sites throughout Dublin in the mid-winter period, but by March / April they rarely fed at inland sites more than 3 km from the coast.

Therefore, the frequency of use of an inland site is a key factor determining its 'importance' in the context of an ecological assessment. Based on professional judgement, we would consider the site to be regularly-used if an SCI species was present for at least 4 of the 7 surveys, and to be occasionally-used site if present for 2 of the 7 surveys.

3 Results

A full table of counts in each survey area in each month is presented in Appendix 1, and key findings are summarised below.

3.1 Seasonality

The maximum counts of each species in any survey location in each month is presented in Table 2. Four species associated with coastal / intertidal habitats were recorded in the survey area: brent goose, oystercatcher, black-tailed godwit and curlew. The peak of activity was between October and January, with fewer records at the start and end of the season.

Gulls were widespread, particularly black-headed gull, herring gull and common gull. Counts were relatively stable throughout the survey period, but declined in March.

[6] https://www.irishbrentgoose.com/about-brent-geese/

A range of freshwater birds were recorded at the ponds in Santry Park (Section 3) and Stardust Park (Section 8). Mallard was widespread, with smaller numbers of moorhen and tufted duck, and several other species.

Corvids and other passerine species were also present, as would be expected.

Table 2: Special Conservation Interests of the SPAs in Dublin Bay

Species	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Brent geese			800	440	75		
Oystercatcher	4	16	50	11	4	9	
Black-tailed godwit		1050	120	3	5		
Curlew			3				
Black-headed gull	59	53	85	61	34	67	
Herring Gull	25	6	19	14	17	6	7
Common Gull	34	15	11	19	22	35	4
Lesser black-backed gull			1	1	1	1	
Mallard	31	38	35	22	22	19	19
Tufted duck	4	13	4	9			
Teal			1				
Little grebe	1			1	1	1	1
Mute swan	3	3	3	1	2	2	1
Moorhen	5	6	6	9	5	4	7
Coot	0				1	1	
Grey wagtail	1					1	
Grey Heron	1	1	3	1	1	1	1
Little egret	1						
Magpie	17	11	1	4	11	11	12
Hooded crow	48	4		1	4	2	27
Jackdaw	0			13	4	3	5
Rook	0			7	1	1	
Starling	9			35		11	
Buzzard				1			
Woodpigeon	6		22	21	11	8	

3.2 Additional ad-hoc records of brent geese and other SPA species

The author lives in the vicinity of St Malachy's playing fields, and observed SCI species at the location on a number of occasions outside the 7 monthly surveys. These ad hoc records were not collected using the standardised methods of the monthly surveys, so they cannot be used for comparative purposes. However, they can give an indication of the maximum counts of relevant species using these areas, the months in which they are present, and the regularity of occurrence.

- 27 October: approx. 500 black-tailed godwit
- 30 November: 70 brent geese, 30 black-tailed godwit, 35 oystercatchers
- 23 February: approx. 700 brent geese
- 28 February: approx. 300 brent geese
- 19 March: approx. 250 brent geese
- 3 April: 30 brent geese, 2 oystercatchers

3.3 Anthropogenic disturbance

The majority of survey sites are in suburban parks or playing fields, and there was human disturbance on a number of occasions. In particular, flocks of brent geese and black-tailed godwit using the playing fields at Kilmore / Oscar Traynor Road and St Malachy's / Springdale Road were flushed by dog walkers during a number of the surveys.

4 Conclusions

4.1 Birds associated with SPAs

Previous surveys by Benson (2009) and Scott Cawley (2017) identified four areas of importance for brent geese along the Santry River corridor:

- Kilmore Celtic FC playing fields, Oscar Traynor Road (Section 5 in Figure 1)
- Pitch and putt golf course, Oscar Traynor Road (Section 14)
- St Malachy's FC playing fields, Springdale Road (Section 12)
- Lein Park Upper and Lower (Section 12 and 13)

A summary of findings in each location is provided below, using the terms for numbers and frequency outlined in Section 2.3.

<u>Section 5: Kilmore Celtic FC</u>

A flock of 135 brent geese was recorded during the December survey, but no geese were recorded during the other six surveys. On this basis, the section is of high importance for geese, but used only on an occasional basis.

A flock of 1,050 black-tailed godwit was recorded in October, and 2 birds in December, but not during any other surveys. Oystercatchers were recorded in small numbers (4 – 16 birds) during 3 of the 7 surveys.

Section 14: Pitch and putt golf course, Oscar Traynor Road

No brent geese or any other species were recorded at this location during the surveys. This differs from the previous large-scale surveys in the area: a peak count of approx. 1,200 geese was recorded at this location by Benson (2009), and a peak count of 280 geese by Scott Cawley (2017).

The reason for the lack of activity is due to changes in the management of the Site: it was sold in 2019 and the mowing of grassland ceased, which allowed coarse grasses to spread across the Site. Brent geese and other SPA species typically favour grasslands that are regularly mowed or grazed, and avoid areas dominated by coarse grasses.

Therefore, it can be concluded that this site is no longer of any importance for brent geese or other species associated with nearby SPAs.

Section 12: St Malachy's FC playing fields

This section refers to the playing fields adjoining Springdale Road on the north-eastern side of the Santry River. The part of Section 12 to the south-west of the river is described under the 'Lein Park' heading below.

Brent geese were recorded during 3 of the 7 surveys, with counts of 800 in November, 440 in December and 75 in January. There were several ad hoc records of geese from this site between December and April, with peak counts of 700. On this basis, the site is considered to be of Major importance for brent geese, and to be regularly used.

Black-tailed godwit was recorded during 3 of the 7 surveys, with counts of 120 in November, 3 in December and 5 in January. There was also an ad hoc sighting of 500 godwit in October. Oystercatchers were recorded in small numbers (typically 4 – 12 birds, peak count 50) during 5 of the 7 surveys, and 4 curlew were observed during the survey in November.

Section 12 / 13: Lein Park Upper and Lower

Lein Park is a residential road on the south-western side of the Santry River on either side of Harmonstown Road. A grassy area to the north-west of Harmonstown Road is referred to here as 'Lein Park Upper' (the south-western part of Section 12) and a playing field to the south-east of Harmonstown Road is referred to here as 'Lein Park Lower' (Section 13 in Figure 1). The brent geese study by Scott Cawley (2017) recorded peak counts of 700 geese at Lein Park Upper and 303 geese at Lein Park Lower.

No geese were recorded in Lein Park during any of the 2023 / 2024 surveys. The only SCI species were 10 oystercatcher and 3 curlew during the November survey.

On this basis, we conclude that the Lein Park area was of Negligible importance for SPA birds during our surveys.

4.2 Gulls

Black-headed gull is a qualifying interest of both the *North Bull Island* SPA and *South Dublin Bay and River Tolka Estuary* SPA. This species was widespread throughout the survey area from September to February, typically in sprawling flocks of mixed gulls (black-headed gull, herring gulls and common gull). The peak count was of 85 black-headed gulls at Section 12 in November.

Gulls are generalist species that can readily adapt to anthropogenic environments, including urban habitats. They use a broad range of habitats, and are not specifically associated with rivers, grasslands or any other habitats. Therefore, their occurrence in the survey area is expected, and they are not considered to be a constraint to the project.

4.3 Birds associated with freshwater lakes / ponds

There are three freshwater lakes / ponds within the survey area: ponds at NCT Northpoint / Siloge Park (Section 1), Santry Park (Section 3) and Stardust Memorial Park (Section 8).

Section 1 contains a series of shallow ponds surrounded by reeds and other semi-natural vegetation, which would be ideal habitat for waters and waterbirds. A grey heron (peak count 1 individual) was observed during 4 of the surveys, but no other species were recorded. This is surprising considering the quality of the habitat.

A number of common species were present at Santry Park during all 7 surveys: mute swan (peak count 3), mallard (23) and moorhen (9). Little grebe (1) was present during 5 surveys, tufted duck (13) during 4 surveys, coot (1) during 2 surveys, grey heron (3) during 2 surveys and little egret (1) during 1 survey. This is considered a relatively diverse bird assemblage for an urban lake.

There was a lower diversity of species at Stardust Memorial Park, likely because the lake is smaller and more recently established. Mallard (peak count 38) and moorhen (4) were present during all 7 surveys, grey heron (3) during 5 surveys, and grey wagtail during 2 surveys. This is a relatively low diversity species for an urban lake.

4.4 Other species

A range of common urban birds was recorded, including magpies, rooks, jackdaws, hooded crows and woodpigeons. A buzzard was observed in Section 4 in December.

All of these species are common in suburban areas, and they are not considered to be a constraint to the proposed development.

Appendix 1: Summary of results from all sectors in each month

		Sector													
Month	**Species**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1 - Sep	Black-headed gull					7			2		4	5	59	3	
1 - Sep	Herring Gull					3		1	3			6	25		
1 - Sep	Common Gull					1						5	34		
1 - Sep	Mallard			23					31						
1 - Sep	Moorhen			5					2						
1 - Sep	Coot														
1 - Sep	Brent geese														
1 - Sep	Grey Heron	1							1						
1 - Sep	Magpie					7			2				17	2	1
1 - Sep	Rook														
1 - Sep	Jackdaw														3
1 - Sep	Hooded crow					2							48		
1 - Sep	Starling												9		
1 - Sep	Grey wagtail								1						
1 - Sep	Woodpigeon					6		1							
1 - Sep	Oystercatcher					4									
1 - Sep	Mute swan			3											
1 - Sep	Little grebe			1											
1 - Sep	Little egret			1											
1 - Sep	Tufted duck			4											
2 - Oct	Black-headed gull			14		53	11		25				45	9	
2 - Oct	Herring Gull					1		1					6	3	

Month	Species	Sector 1	2	3	4	5	6	7	8	9	10	11	12	13	14
2 - Oct	Common Gull												15	4	
2 - Oct	Mallard			18					38						
2 - Oct	Moorhen			6					3						
2 - Oct	Grey Heron								1						
2 - Oct	Magpie					3		1	11		1		2	9	
2 - Oct	Hooded crow												4		
2 - Oct	Oystercatcher					16	1						12		
2 - Oct	Mute swan			3											
2 - Oct	Tufted duck			13											
2 - Oct	Black-tailed godwit					1050									
3 - Nov	Black-headed gull			7		36	14		3			1	85	13	
3 - Nov	Herring Gull					19	8				9	1	19	8	2
3 - Nov	Common Gull					11							6		
3 - Nov	Mallard			18	2				35						
3 - Nov	Moorhen			6					4						
3 - Nov	Brent geese						15						800		
3 - Nov	Grey Heron			1					3						
3 - Nov	Magpie												1		3
3 - Nov	Woodpigeon					22									
3 - Nov	Oystercatcher												50	10	
3 - Nov	Mute swan			3											
3 - Nov	Tufted duck			4											
3 - Nov	Curlew												1	3	
3 - Nov	Black-tailed godwit												120		

Month	Species	Sector 1	2	3	4	5	6	7	8	9	10	11	12	13	14
3 - Nov	Teal								1						
3 - Nov	Lesser black-backed gull			1											
4 - Dec	Black-headed gull			16		4			61				25		
4 - Dec	Herring Gull			9				3	7				14		1
4 - Dec	Common Gull					4		1	13				19		
4 - Dec	Mallard			15					22						
4 - Dec	Moorhen			9					1						
4 - Dec	Brent geese					135							440		
4 - Dec	Grey Heron			1					1						
4 - Dec	Magpie						2	4	2				2	4	1
4 - Dec	Rook					5		7	4			5			
4 - Dec	Jackdaw				3	7			4			13			
4 - Dec	Hooded crow								1						
4 - Dec	Starling											35			21
4 - Dec	Woodpigeon					21	3	4							
4 - Dec	Oystercatcher					4							11		
4 - Dec	Mute swan			1											
4 - Dec	Little grebe			1											
4 - Dec	Tufted duck			9											
4 - Dec	Black-tailed godwit					2							3		
4 - Dec	Lesser black-backed gull												1		
4 - Dec	Buzzard				1										
5 - Jan	Black-headed gull			29		21			34				34	6	
5 - Jan	Herring Gull					13	3		13			2	17	12	

		Sector													
Month	**Species**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
5 - Jan	Common Gull						3		2				22	1	
5 - Jan	Mallard			12					22						
5 - Jan	Moorhen			5					3						
5 - Jan	Coot			1											
5 - Jan	Brent geese												75		
5 - Jan	Grey Heron	1													
5 - Jan	Magpie					11			9				5	7	
5 - Jan	Rook										1				
5 - Jan	Jackdaw								4						
5 - Jan	Hooded crow					4									
5 - Jan	Woodpigeon					11									
5 - Jan	Oystercatcher												4		
5 - Jan	Mute swan			2											
5 - Jan	Little grebe			1											
5 - Jan	Black-tailed godwit												5		
5 - Jan	Lesser black-backed gull												1		
6 - Feb	Black-headed gull			8					67				55	3	
6 - Feb	Herring Gull					1	3						6	2	
6 - Feb	Common Gull										2		35		
6 - Feb	Mallard			19					17						
6 - Feb	Moorhen			3					4						
6 - Feb	Coot			1											
6 - Feb	Grey Heron	1													
6 - Feb	Magpie					11	1		8				2	3	1

		Sector													
Month	**Species**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
6 - Feb	Rook					1									
6 - Feb	Jackdaw								3						
6 - Feb	Hooded crow					2									
6 - Feb	Starling					1							11		
6 - Feb	Grey wagtail								1						
6 - Feb	Woodpigeon					8									
6 - Feb	Oystercatcher												9		
6 - Feb	Mute swan			2											
6 - Feb	Little grebe			1											
6 - Feb	Lesser black-backed gull												1		
7 - Mar	Herring Gull												7		
7 - Mar	Common Gull												4		
7 - Mar	Mallard			15				2	19						
7 - Mar	Moorhen			7					2						
7 - Mar	Grey Heron	1							1						
7 - Mar	Magpie					1		2	3					12	
7 - Mar	Jackdaw												5		2
7 - Mar	Hooded crow								2				27		
7 - Mar	Mute swan			1											
7 - Mar	Little grebe			1											