The background is a vibrant yellow. It is decorated with several abstract geometric shapes in shades of blue, teal, and white. These include circles, semi-circles, and rounded rectangular shapes, some of which are layered or overlapping. The shapes are scattered across the page, creating a modern and dynamic visual effect.

Appendix A13.1
Water Framework
Directive (WFD)
Compliance Assessment

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A13 Water Framework Directive Compliance Assessment

A13.1 Introduction

A13.1.1 The Water Framework Directive

Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000, Establishing a Framework for Community Action in the Field of Water Policy (European Parliament 2000) is known as the Water Framework Directive (WFD).

The WFD requires all water bodies to achieve both good chemical status and good ecological status (GES). For each River Basin District (RBD), a River Basin Management Plan (RBMP) outlines the actions required to enable natural water bodies to achieve this (Table A13.1). Water bodies that are designated in the RBMP as Heavily Modified Water Bodies (HMWB) or Artificial Water Bodies (AWB) may be prevented from reaching GES by the physical modifications for which they are designated or purpose for which they were constructed (e.g. navigation, flood defence, urbanisation). Instead they are required to achieve good ecological potential (GEP), through implementation of a series of mitigation measures outlined in the applicable RBMP (and in some cases updated since the publication of the RBMP).

The Directive needs to be taken into account in the planning of all new activities in the water environment. The Environment Protection Agency (EPA), as competent authority in Ireland is responsible for delivering the Directive. The WFD was transposed into Irish law through the European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003).

Where there are sites protected under EU legislation, the Directive aims for compliance with any relevant standards or objectives for these sites.

Table A13.1: WFD Environmental Objectives

Objectives
Member States shall implement the necessary measures to prevent deterioration of the status of all bodies of surface water.
Member States shall protect, enhance and restore all bodies of surface water, subject to the application of subparagraph (iii) for artificial and heavily modified bodies of water, with the aim of achieving good surface water status by 2015.
Member States shall protect and enhance all artificial and heavily modified bodies of water, with the aim of achieving good ecological potential and good surface water chemical status by 2015. Where this is not possible and subject to the criteria set out in the Directive, aim to achieve good status by 2021 or 2027.
Progressively reduce pollution from priority substances and cease or phase out emissions, discharges and losses of priority hazardous substances.
Prevent Deterioration in Status and prevent or limit input of pollutants to groundwater.

The WFD was initially transposed into Irish law by S.I. No. 722/2003 – European Communities (Water Policy) Regulations 2003, as amended (hereafter referred to as the Water Policy Regulations). The Water Policy Regulations outline the water protection and water management measures required to maintain high status of waters where it exists, prevent any deterioration in existing water status and achieve at least ‘Good’ status for all waters.

Subsequently, S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended (hereafter referred to as the Surface Waters Regulations), and S.I. No. 9/2010 - European Communities Environmental Objectives (Groundwater) Regulations 2010, as amended (hereafter referred to as the Groundwater Regulations), were promulgated to regulate WFD characterisation, monitoring and status assessment programmes, in terms of assigning responsibilities for the monitoring of different water categories, determining the quality elements and undertaking the characterisation and classification assessments.

A13.1.2 Article 4.7 of the WFD

Member states must meet the conditions of the WFD unless they meet the criteria laid out in Article 4.7 of the Directive. Article 4.7 states:

'Member states will not be in breach of this Directive when:

- *failure to achieve good groundwater status, good ecological status or, where relevant, good ecological potential or to prevent deterioration in the status of a body of surface water or groundwater is the result of new modifications to the physical characteristics of a surface water body or alterations to the level of bodies of groundwater, or*
- *failure to prevent deterioration from high status to good status of a body of surface water is the result of new sustainable human development activities.*

and all the following conditions are met:

- (a) all practicable steps are taken to mitigate the adverse impact on the status of the body of water;*
- (b) the reasons for those modifications or alterations are specifically set out and explained in the river basin management plan required under Article 13 and the objectives are reviewed every six years;*
- (c) the reasons for those modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives set out in paragraph 1 are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development; and*
- (d) the beneficial objectives served by those modifications or alterations of the water body cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option.'*

A13.1.3 The WFD Assessment

The Water Policy Regulations require the assessment of permanent impacts of a scheme / project on WFD water bodies (rivers, lakes, estuaries, coastal waters and groundwater). Typically, the permanent impacts include all operational impacts, but can also include impacts from construction depending on the length and / or nature of the works, etc. of the Proposed Scheme, as some potential construction impacts could be considered permanent in the absence of mitigation. An assessment of the compliance of the Proposed Scheme with WFD requirements is provided in this Appendix to Chapter 13 (Water) in Volume 2 of this Environmental Impact Assessment Report (EIAR).

This WFD assessment report has been prepared for the Construction and Operational Phases of the Swords to City Centre Core Bus Corridor Scheme (hereafter referred to as Proposed Scheme) and is Appendix A13.1 of Chapter 13 (Water) in Volume 2 of this EIAR.

The generic environmental objectives set out below (based on Article 4.1 of the Directive) are used for the assessment of the Proposed Scheme:

- No changes affecting high status sites;
- No changes that will cause failure to meet surface water GES or Good Ecological Potential (GEP) or result in a deterioration of surface water ecological status or potential;
- No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies; and
- No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status.

A13.2 Outline of the Proposed Scheme

The Proposed Scheme commences south of Swords at Pinnock Hill Junction and travels in a southerly direction along the R132 Swords Road past Airside Retail Park, Dublin Airport and Santry Park. The route continues on the R132 past Santry Demesne, where the Swords Road joins the R104 at Coolock Lane. The route continues on the R132 in a southerly direction through Santry village. It continues along the Swords Road past Whitehall to Griffith Avenue. The route follows Drumcondra Road Upper past the DCU St Patrick's Campus to the river Tolka. It continues through Drumcondra, on Drumcondra Road Lower to Binn Bridge on the Royal Canal. From there it continues on Dorset Street Lower as far as Eccles Street, from where it continues on Dorset Street Upper to Frederick Street North and Granby Row.

Inbound buses continue south-east on Frederick Street North and Parnell Square East until the route finishes at Parnell Street. Outbound, the route travels north-east from Parnell Street, past the Rotunda Hospital, along Parnell Square West and Granby Row until it joins with Dorset Street Upper.

The Proposed Scheme is split into five discrete sections to align with the previous Options and Feasibility Report and the Preferred Route Options Report.

- Section 1: Pinnock Hill to Airside Junction;
- Section 2: Airside Junction to Northwood Avenue;
- Section 3: Northwood Avenue to Shantalla Road;
- Section 4: Shantalla Road to Botanic Avenue; and
- Section 5: Botanic Avenue to Granby Row.

For full details, please refer to Chapter 4 (Proposed Scheme Description) in Volume 2 of this EIAR.

A13.2.1 Key Infrastructure and Scope of this Assessment

Key infrastructure elements for the Proposed Scheme are described in detail within Chapter 4 (Proposed Scheme Description) of this EIAR. Chapter 5 (Construction) describes the Construction Phase for the works related to these key infrastructure elements.

The following activities are considered as potential sources of impact and as such are scoped into this assessment:

- Construction Phase of the Proposed Scheme:
 - Road refreshments, resurfacing or reconstruction and kerb and footpath improvements;
 - Site clearance and limited earth works;
 - Road widening;
 - Conversion of roundabout to signalised junction; and
 - Property boundary reinstatement.
- Operational Phase of the Proposed Scheme:
 - Impermeable areas; and
 - Changes in pollutant loads.

A13.3 Methodology

A13.3.1 Study Area / WFD Screening

This WFD assessment covers only those components of the Proposed Scheme that could affect water body features. These were primarily identified as sections of the Proposed Scheme which are within 500m of surface and groundwater water bodies (see Chapter 13 (Water) in Volume 2 of this EIAR). The assessment looks at the impacts of new modifications to the water bodies and any changes to existing modifications.

A13.3.2 Relevant Guidelines, Policy and Legislation

A13.3.2.1 River Basin Management Plans

River Basin Management Plans (RBMPs) provide the mechanism for implementing and ensuring an integrated approach to the protection, improvement and sustainable management of the water environment and are published every six years.

The second cycle RBMP 2018 - 2021 was published by the Department of Housing, Planning and Local Government in April 2018 and covers Ireland as a whole. For the second cycle, the original (2009) Eastern, South-Eastern, South-Western, Western and Shannon River Basin Districts were merged to form one national River Basin District (RBD) which covers the whole of Ireland. For those water bodies 'At Risk' of failing to meet the objectives of WFD, the RBMP 2018 - 2021 identified the most significant pressures impacting them as follows: agriculture (53%), hydromorphology (24%), urban wastewater (20%), forestry (16%), domestic wastewater (11%), urban runoff (9%), peat (8%), extractive industry (7%) and mines and quarries (6%).

In September 2021, the Minister for Housing, Local Government and Heritage, published the draft River Basin Management Plan for Ireland 2022-2027 for public consultation. The consultation period closed March 2022. The draft RBMP sets out at the outset that it is published in the context of a rapidly changing policy landscape at European and International levels and against a backdrop of 'widespread, rapid and intensifying climate change'. In addition, Ireland is now experiencing a sustained decline in water quality following many years of improvements, and so stronger measures are now required to achieve sustainable water management in order to address and adapt to the impacts of climate change and achieve the desired outcomes for biodiversity.

Image A13.1 presents the ecological status of water bodies in Ireland over the past two cycles of the RBMP and illustrates the reduction in water quality, particularly in relation to the reduced percentage of water bodies achieving High status and increased percentage achieving Bad status. The reductions in water quality are especially notable for rivers; for other water bodies the changes are more mixed; some reductions, some improvements. The draft RBMP cites a 4.4% net decline in the status of water bodies, and notes that this is mostly driven by a decline in the status of river water bodies.

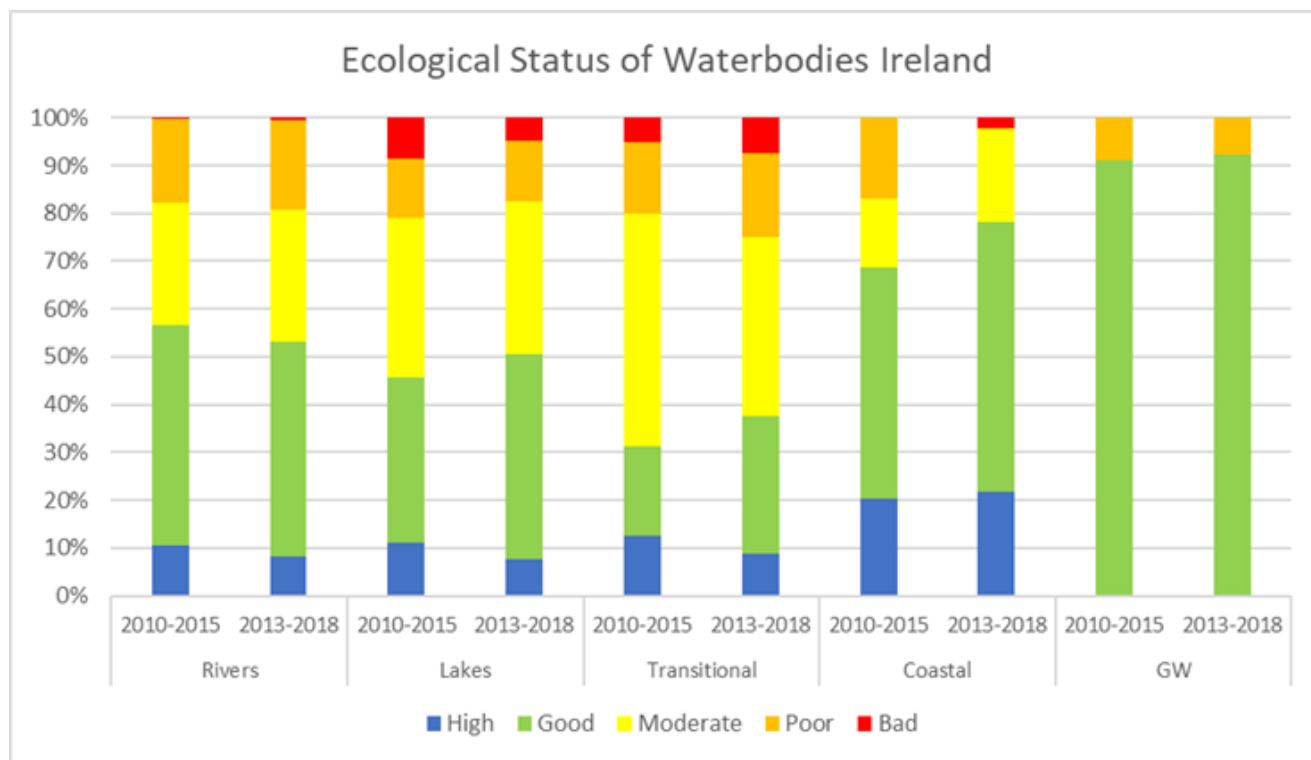


Image A13.1: Ecological Status of Water Bodies in Ireland

The characterisation and risk assessments carried out for the third cycle show that 33% of water bodies are At Risk of not meeting their environmental objective of Good or High status. Of these, 46% are impacted by a single significant pressure. Agriculture remains the most common pressure, followed by hydromorphology, forestry and urban wastewater. There has been an increase in water bodies impacted by agriculture since the second cycle RBMP.

The draft RBMP sets out a Programme of Measures (PoMs) necessary to deliver the objectives of the WFD in full and to contribute to other environmental priorities.

Until the draft RBMP has been finalised, the existing RBMP has been used as a reference point for this assessment with respect to proposed measures as these have yet to be agreed; however, where water bodies' 'At Risk' status has already been updated by the EPA online for the third cycle RBMP, this has been used in the assessment.

A13.3.3 Data Collection and Collation

The EPA's Data Explorer (<https://gis.epa.ie/EPAMaps/>) was used to assess water bodies present within the Proposed Scheme's Study Area, and includes their WFD ID numbers, designation and classification details. The WFD compliance mapping for groundwater risk and status assessment was also reviewed along with any other supporting data.

A13.3.4 Appraisal Method

In the absence of WFD assessment guidance in Ireland, the assessment has been carried out using the UK Environment Agency's (2016) Water Framework Directive assessment: Estuarine and Coastal waters (Clearing the Waters for All) (updated 2017). No specific guidance exists for freshwater water bodies; however this guidance was used as the basis of the UK Planning Inspectorate's Advice Note Eighteen: Water Framework Directive in which it sets out the stages of an assessment. On this basis it was considered appropriate to use for the assessment of the Proposed Scheme. In line with this guidance a 2km buffer zone applied for assessing protected

areas. For clarity and brevity purposes, the 2km buffer and the full list of identified protected sites (including those which are considered coastal water specific) are maintained for all assessments.

There follows a baseline assessment of the main water bodies, and a scoping assessment of the principal receptors potentially affected by the Proposed Scheme. This is followed by the impact assessment, which considers the potential impacts of an activity, identifies ways to avoid or minimise impacts, and indicates if an activity may cause deterioration or jeopardise the water body achieving GEP/GES.

There are several stages to this assessment:

- A scoping assessment of the main receptors including protected areas nature conservation, bathing water etc. (Section A13.4);
- An assessment against quality elements including hydromorphology, biology, water quality, protected areas and invasive species (Section A13.5);
- Assessment of the Proposed Scheme against mitigation measures and a cumulative assessment against other proposed schemes (Section A13.6); and
- Assessment against other EU Directives (Section A13.8).

A13.4 Baseline Scoping

A13.4.1 Water Body Scoping

Table A13.2 lists the WFD water bodies within the Study Area (see Section 13.3 in Chapter 13 (Water) in Volume 2 of this EIAR for more detail on these WFD surface water bodies). These are scoped into the assessment because the Proposed Scheme is within or adjacent to them.

Gaybrook_010 is in the Study Area, however there are no direct discharges to it identified from the drainage records. The water body rises to the west of the R132 and is picked up in the surface water system for the road and taken north to outfall to the Ward_040. Drainage records in this section of the R132 are unclear, however it is unlikely that the surface water system on the eastern side of the road would discharge to Gaybrook_010. To the east of the R132, Gaybrook_010 is likely receiving water from nearby fields and properties along Nevinstown Lane. As a result Gaybrook_010 is scoped out of this assessment.

Table A13.2: Water Body Status (Data Explorer EPA Data Explorer and <https://www.catchments.ie>)

Water Body ID	Name of Water Body in RBMP	Hydro-morphological designation	Current Status / Potential (2016-2021)	Objective Status / Potential
Transitional				
IE_EA_090_0200	Tolka Estuary	-	Poor	At Risk
Groundwater				
IE_EA_G_008	Dublin Groundwater	-	Good	Not At Risk
Surface water				
IE_EA_08W010610	Ward_040	Partially Culverted	Moderate	At Risk
IE_EA_09S071100	Sluice_010		Poor	Under Review
IE_EA_09M030500	Mayne_010	Partially Culverted	Poor	At Risk
IE_EA_09S010300	Santry_010	Partially Culverted	Poor	At Risk
IE_EA_09T011150	Tolka_060		Poor	At Risk
IE_09_AWB_RCMLLE	Royal Canal		Good	N/A

A13.4.2 Assessment Scoping

A13.4.2.1 Protected Areas

The WFD requires that activities are also in compliance with other relevant legislation, as considered below. The following are looked at as part of the assessment (as mentioned above, in line with guidance a 2km buffer zone was applied in this assessment):

- Nature conservation designations;
- Bathing waters;
- Nutrient Sensitive Areas; and
- Shellfish waters.

A13.4.2.2 Nature Conservation Designations

These are areas previously designated for the protection of habitats or species where maintaining or improving the status of water is important for their protection. They comprise the aquatic part of Natura2000 sites – Special Protection Areas (SPAs) designated under the Birds Directive (79/409/EEC) and Special Areas of Conservation (SACs) designated under the Habitats Directive (92/43/EEC).

Ramsar sites are wetlands of international importance designated under the Ramsar Convention (adopted in 1971 and came into force in 1975), providing a framework for the conservation and wise use of wetlands and their resources.

In accordance with WFD Assessment guidance, only those Protected areas which are within 2km of the Proposed Scheme are scoped into the assessment. The only designated site within 2km of the Proposed Scheme is North Dublin Bay SAC. Details are provided in Table A13.3.

Table A13.3: Protected Habitat Water Sensitivity and Potential Impact (Western River Basin District Guidance Document 2008)

Site Name (code)	Qualifying Interests	Surface Water Dependency (Sensitivity)	Marine Water Dependency (Sensitivity)	Ground Water Dependency (Sensitivity)	Sensitivity	Potential Impact and need for mitigation
North Dublin Bay SAC	Mudflats and sandflats not covered by seawater at low tide	No	Yes (High)	No	Changes in sediment deposition arising from current changes (coastal and marine constructions, temporary structures, e.g. coffer dams, dredging).	Following implementation of Surface water management Measures, no significant residual impact. No mitigation considered necessary.
	Salicornia and other annuals colonising mud and sand	No	Yes (High)	No	Changes in sediment deposition arising from current changes (coastal and marine constructions, dredging).	Following implementation of Surface water management Measures, No significant residual impact. No mitigation considered necessary.
	Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)	No	Yes (High)	Yes (High)	Changes in sediment deposition arising from current changes (coastal and marine constructions, dredging).	Following implementation of Surface water management Measures, No significant residual impact. No mitigation considered necessary.
	Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	No	Yes (High)	Yes (High)	Changes in sediment deposition arising from current changes (coastal and marine constructions, dredging).	Following implementation of Surface water management Measures, No significant residual impact. No mitigation considered necessary.

The Natura Impact Statement (NIS) which has been submitted as a stand-alone document within the planning application, confirms that there will be no deterioration of qualifying features for this habitat.

13.4.2.2.1 Bathing Waters

Bathing waters are those designated under the Bathing Water Directive (76/160/EEC) or the later revised Bathing Water Directive (2006/7/EC). Bathing Water Quality Regulations were adopted in March 2008 (following a public consultation) transposing the EU Bathing Water Directive of 2006 into Irish law.

There are no designated bathing water sites within 2km of the Proposed Scheme.

13.4.2.2.2 Nutrient Sensitive Areas

Nutrient sensitive areas comprise Nitrate Vulnerable Zones and polluted waters designated under the Nitrates Directive (91/676/EEC) and areas designated as sensitive areas under the Urban Wastewater Treatment Directive (UWWTD) (91/271/EEC). The UWWTD aims to protect the environment from the adverse effects of the collection, treatment and discharge of urban wastewater. Sensitive areas under the UWWTD are water bodies affected by eutrophication associated with elevated nitrate concentrations and act as an indication that action is required to prevent further pollution caused by nutrients.

The Tolka Estuary and the Liffey Estuary Lower are both designated Nutrient Sensitive areas. The Proposed Scheme is approximately 600m from the Tolka Estuary and 2.5km from the Liffey Estuary Lower (via the Royal Canal), however there are discharges of surface water from sections of the Proposed Scheme which outfall to the Tolka Estuary. There are no other nutrient sensitive sites within 2km of the Proposed Scheme. Chapter 13 (Water)

in Volume 2 of this EIAR concludes that there will be no significant impact on these water bodies from the construction or operation of the Proposed Scheme. Specifically in relation to nutrient loading, there is no activity during construction or operation of the Proposed Scheme which will result in the discharge of nutrients to any surface water system or water body. There will therefore be no impact on the nutrient status of the Nutrient Sensitive Areas.

13.4.2.2.3 Shellfish Waters

The Shellfish Waters Directive (2006/113/EC) aims to protect or improve shellfish waters in order to support shellfish life and growth. It is designed to protect the aquatic habitat of bivalve and gastropod molluscs, which include oysters, mussels, cockles, scallops and clams. The Directive requires Member States to designate waters that need protection in order to support shellfish life and growth. It is implemented in Ireland by the European Communities (Quality of Shellfish Waters) Regulations 2006 (SI No 268 of 2006). The Directive also provides for the establishment of pollution reduction programmes for the designated waters.

There are no designated shellfish waters within 2km of the Proposed Scheme.

A13.5 Water Body Assessment Against Quality Elements

This section details a site-specific assessment of the Proposed Scheme against quality elements for biology, physico-chemical and hydromorphological elements for the water bodies.

A13.5.1 Hydromorphology

This section provides a summary of the known existing hydromorphology risk issues for the water bodies (Table A13.4).

Table A13.4: Hydromorphology Scoping Summary

Water Bodies	WFD Assessment Questions		
	Consider if your activity could impact on the hydromorphology (for example morphology or water flow) of a water body at High status?	Consider if your activity could significantly impact the hydromorphology of any water body?	Consider if your activity is in a water body that is heavily modified for the same use as your activity?
Tolka Estuary	No. None are High status	No. Surface water drainage flow and volume will not significantly change.	No. Not a HMWB
Dublin Groundwater IE_EA_G_008		N/A	
Ward_040		No. Surface water drainage flow and volume will not significantly change.	No. Not a HMWB
Sluice_010		No. Surface water drainage flow and volume will not significantly change.	No. Not a HMWB
Mayne_010		No. Surface water drainage flow and volume will not significantly change.	No. Not a HMWB
Santry_010		No. Surface water drainage flow and volume will not significantly change.	No. Not a HMWB
Tolka_060		Instream construction activities associated with the development of Frank Flood Bridge has the potential to result in impacts of Negative, Moderate to Slight Significance. Construction activities comprise of piling for bridge abutments, services re-routing and scour protection.	No. Not a HMWB
Royal Canal		No. Surface water drainage flow and volume will not significantly change.	No. Water body is an AWB for use in navigation; proposed modifications are not for this purpose.

There are no instream works proposed as part of the Proposed Scheme except at the Tolka_060 for the construction of the cycle and pedestrian bridge immediately to the west of the Frank Flood Bridge. The design of the proposed new bridge is such that there will be no impediment to hydrological flows; there are minor modifications to the river banks proposed to accommodate the bridge abutments but these are assessed as being Not Significant in Chapter 13 (Water) of the EIAR. Potential impacts from the release of sediment during construction is managed through the implementation of the Surface Water Management Plan (SWMP), which is within Appendix 5.1 Construction Environmental Management Plan (CEMP). In operation, surface water drainage flow and volume will not significantly change as part of the Proposed Scheme; it is managed through the implementation of SuDS along the length of the Proposed Scheme. This element is scoped out of the assessment.

A13.5.2 Biology

A13.5.2.1 Habitats

Table A13.5 presents a summary of biology (habitat) considerations and associated risk issues for the works for the water bodies.

Table A13.5: Biology Scoping Summary (Habitats)

WFD Assessment Questions	Tolka Estuary	Dublin Groundwater IE_EA_G_008	Ward_040	Sluice_010	Mayne_010	Santry_010	Tolka_060	Royal Canal
Is the footprint of the activity 0.5km ² or larger?	No. The footprint within the Proposed Scheme within the redline boundary is approximately 0.25km ² . Permanent land take will be 0.27km ²							
Is the footprint of the activity 1% or more of the water body's area?	No. The Proposed Scheme has short crossings across the water bodies; there is only one structure being placed in the footprint of a waterbody which is on the Tolka_060. This bridge is not more than 1% of the area of the water body.							
Is the footprint of the activity within 500 m of any higher sensitivity habitat?	No. The Proposed Scheme is primarily contained within the current road boundary, amenity grassland and hardstanding areas. (see Chapter 12 (Biodiversity) in Volume 2 of this EIAR for further details on Habitats).							
Is the footprint of the activity 1% or more of any lower sensitivity habitat?	No. The Proposed Scheme is primarily contained within the current road boundary, amenity grassland and hardstanding areas (see Chapter 12 (Biodiversity) in Volume 2 of this EIAR for further detail on habitats).							

Risks to the receptor under WFD water bodies under WFD include loss of habitat, loss of protected species and prey species. The potential for these impacts is not considered to be significant. WFD Assessment primarily considers the operation of a scheme. However, for biological elements potential construction impacts are often considered as they have the potential for long-term change if a potential impact is considered to be significant. Therefore, it is important to also note here that a CEMP (Appendix A5.1) which includes a SWMP in Volume 4 of the EIAR will be implemented for construction management and sediment control measures respectively. Therefore, this element has been scoped out of further assessment.

A13.5.2.2 Fish

Activities occurring within an estuary or inshore environment could impact on normal fish behaviour such as movement, migration or spawning. Table A13.6 presents a summary of biology (fish) considerations and associated risk issues for the works. As at least one biology (fish) consideration indicates that a risk could be associated with the works, this receptor has been scoped into the impact assessment for the transitional water body.

Table A13.6: Biology (Fish) Scoping Summary

WFD Assessment Questions	Tolka Estuary	Dublin Groundwater	Ward_040	Sluice_010	Mayne_010	Santry_010	Tolka_060	Royal Canal
Consider if your activity is in an estuary and could affect fish in the	No. No instream works.	N/A	No. No instream works.	No. No instream works.	No. No instream works.	No. No instream works.	Potential impact on migratory routes for	No. No instream works.

WFD Assessment Questions	Tolka Estuary	Dublin Groundwater	Ward_040	Sluice_010	Mayne_010	Santry_010	Tolka_060	Royal Canal
estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary?							salmonid species in the Tolka_060 during construction of the bridge.	
Consider if your activity could impact on normal fish behaviour like movement, migration or spawning (for example creating a physical barrier, noise, chemical change or a change in depth or flow)?	No. Proposed Scheme is too far from the water body.	N/A	No. No instream works, current background noise levels, surface water drainage volume and flow will not be increased.	No. No instream works, current background noise levels, surface water drainage volume and flow will not be increased	No. No instream works, current background noise levels, surface water drainage volume and flow will not be increased	No. No instream works, current background noise levels, surface water drainage volume and flow will not be increased	Potential impacts on fish behaviour during construction of the new bridge across this water body.	No. No instream works, current background noise levels, surface water drainage volume and flow will not be increased
Consider if your activity could cause entrainment or impingement of fish?	No. No instream works.	N/A	No. No instream works.	No. No instream works.	No. No instream works.	No. No instream works.	Potentially yes. Sections of the water body will be isolated to allow a dry working area which could lead to entrapment of fish.	No. No instream works.

The risks to the receptor are due to noise from construction and operation; potential release of suspended sediment concentrations, and the creation of plumes as a result; and contaminated surface water runoff. Chapter 9 (Noise & Vibration) in Volume 2 of this EIAR has determined that, with the incorporation of the various mitigation measures outlined in that chapter, there are no significant residual noise or vibration impacts during construction or operation. As above, a CEMP and a SWMP (refer to Appendix A5.1 in Volume 4 of this EIAR) will be adhered to, to reduce any risk of suspended solid release. In the unlikely event of an accidental spillage, the emergency response plan will be activated, and on-site spill kits utilised.

There is potential for impacts on fish movement and behaviour during the construction of the new bridge across the Tolka_060. The SWMP includes measures to prevent water quality deterioration during the Construction Phase. It also includes measures requiring construction to take place outside of the fish migratory season. Further protections and measures are outlined in the CEMP relating to the monitoring and rescuing of any fish found to be entrapped as a result of pollution control measures. This element has been scoped out of the assessment.

A13.5.3 Water Quality

Consideration should be made regarding whether phytoplankton status and harmful algae could be affected by the works, as well as identifying the potential risks of using, releasing or disturbing chemicals. Table A13.7 presents a summary of water quality considerations and associated risk issues of the works for the transitional water body.

Table A13.7: Water Quality Scoping Summary

WFD Assessment Questions	Tolka Estuary	Dublin Groundwater IE_EA_G_008	Ward_040	Sluice_010	Mayne_010	Santry_010	Tolka_060	Royal Canal
Consider if your activity could affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)?	No. Chapter 13 (Water) in Volume 2 of this EIAR concludes that following the implementation of design and mitigation measures, there are no significant impacts during construction or operation		No. Chapter 13 (Water) in Volume 2 of this EIAR concludes that following the implementation of design and mitigation measures, there are no significant impacts during the Construction or Operational Phases.					
Consider if your activity is in a water body with a phytoplankton status of moderate, poor or bad?	Macroalgae, angiosperm and invertebrate status or potential are all moderate. However, no instream works proposed. No change to the volume or flow of surface water runoff.		N/A	None of these water bodies is identified as having a moderate, poor or bad phyto-plankton status.				
Consider if your activity is in a water body with a history of harmful algae?	N/A							
If your activity uses or releases chemicals (for example through sediment disturbance or building works) consider if the chemicals are on the Environmental Quality Standards Directive (EQSD) list?	Yes. During construction there is potential for accidental release of chemicals which are on the EQSD list (hydrocarbons e.g.); however with the implementation of control and mitigation measures outlined in the SWMP there will be no significant impacts. No substances on the EQSD list will be released during operation.		No. No discharge to Groundwater.	Yes. During the Construction Phase there is potential for accidental release of chemicals which are on the EQSD list (hydrocarbons e.g.); however with the implementation of control and mitigation measures outlined in the SWMP there will be no significant impacts. No substances on the EQSD list will be released during the Operational Phase.				

WFD Assessment Questions	Tolka Estuary	Dublin Groundwater IE_EA_G_008	Ward_040	Sluice_010	Mayne_010	Santry_010	Tolka_060	Royal Canal
If your activity has a mixing zone (like a discharge pipeline or outfall) consider if the chemicals released are on the Environmental Quality Standards Directive (EQSD) list?	No. The discharge of surface water during operation from the Proposed Scheme will not include any EQSD list substances.	No. No discharge to groundwater.	No. The discharge of surface water during the Operational Phase of the Proposed Scheme will not include any EQSD list substances.					
Consider if ancillary sources of discharge contribute to water quality status (e.g. UWWTP Storm Water Overflow (SWO), Combined Sewer Overflow (CSO) etc.)	Yes. The study area is known to contain sources of known pressures including UWWTP SWOs and CSOs and a number of Industrial Licensed Emissions. See EIAR Chapter 13 (Water) for further information. However, the Proposed Scheme does not include any new discharge points and will not impact the flow or volume of current surface water drainage.							

A CEMP and a SWMP (refer to Appendix A5.1 in Volume 4 of this EIAR) will be implemented to mitigate potential impacts in relation to surface water contamination. It is important to note that the Proposed Scheme does not propose any changes to the current flow or volume of surface water runoff. This element has been scoped out of the impact assessment.

A13.5.4 Protected Areas

Table A13.8 presents a summary of protected area considerations and associated risk issues of the works. As the protected areas considerations indicate that a risk could be associated with the works, this receptor has been scoped into the impact assessment.

Table A13.8: Protected Areas

WFD Assessment Questions	Nature Conservation	Bathing Waters	Nutrient Sensitive Areas	Shellfish Waters
Consider if your activity is within 2km of any WFD protected area?	There is one designated sites within 2km of the Proposed Scheme: North Dublin Bay SAC. Chapter 13 (Water) in Volume 2 of this EIAR concludes that following the implementation of design and mitigation measures, there are no significant impacts during construction or operation. Therefore there are no significant impacts to these sites.	There are no designated bathing water sites within 2km of the Proposed Scheme.	There are three Nutrient Sensitive Areas in the study area. The Tolka Estuary (700m) and the Liffey Estuary Lower (2km) and Gaybrook_010 are designated Nutrient Sensitive areas. There is no activity during construction or operation of the Proposed Scheme which will result in the discharge of nutrients to any surface water system or water body. There will therefore be no impact on the nutrient status of the Nutrient Sensitive Areas.	There are no designated shellfish waters within 2km of the Proposed Scheme

It is not considered that the Proposed Scheme will pose a risk to protected areas. This element is scoped out of this assessment.

A13.5.5 Invasive Species (IS)

Consideration should be made regarding whether there is a risk the activity could introduce or spread IS. Risks of introducing or spreading IS include materials or equipment that have come from, had use in or travelled through other water bodies, as well as activities that help spread existing IS, either within the immediate water body or other water bodies. Table A13.9 presents a summary of INNS considerations and associated risk issues of the works.

Table A13.9: INNS Considerations

WFD Assessment Questions	Tolka Estuary	Dublin Groundwater IE_EA_G_008	Ward_040		Sluice_010	Mayne_010	Santry	Tolka_060	Royal Canal
Introduction or spread of INNS	No. An Invasive Species Management Plan (ISMP) has been prepared and included as part of the CEMP (Appendix A5.1 in Volume 4 of this EIAR). It will be implemented for the Proposed Scheme.								

The ISMP that forms part of the CEMP (refer to Appendix A5.1 in Volume 4 of this EIAR) will be implemented for the Proposed Scheme which will contain site-specific recommendations and identifications for IS. Therefore this element has been scoped out of the assessment.

A13.5.6 Assessment Summary

The site-specific impacts of the Proposed Scheme on the biological, physico-chemical and hydromorphological quality elements of the water bodies are shown in the assessment above and summarised in Table A13.10.

Table A13.10: Scoping Summary

Receptor	Potential Risk to Receptor?	Note the Risk Issue(s) for Impact Assessment
Hydromorphology	No	See Section A13.5.1. The design of the new bridge at the Tolka_060 ensures there will be no modification to the hydromorphology of that water body. There are no other in-stream structures. Surface water drainage flow and volume will not significantly change as a result of this Scheme. A CEMP and a SWMP (refer to Appendix A5.1 in Volume 4 of this EIAR) will be put in place to manage risks during construction.
Biology: habitats	No	See Section A13.5.2.1. Risks to the receptor under WFD include loss of habitat, loss of protected species and prey species, these are not considered to be significant. A CEMP and a SWMP (refer to Appendix A5.1 in Volume 4 of this EIAR) will be put in place to manage risks during construction. .
Biology: fish	No	See Section A13.5.2.2. Measures in the CEMP for biodiversity and the SWMP will ensure no significant impacts on fish migration or behaviour.
Water quality	No	See Section A13.5.3. Chapter 13 (Water) in Volume 2 of this EIAR concludes that following the implementation of design and mitigation measures, there are no significant impacts during construction or operation. The Proposed Scheme will not pose a risk to water quality.
Protected areas	No	See Section A13.5.4 . It is considered that the Proposed Scheme will not pose a risk to protected areas.
Invasive non-native species	No	See Section A13.5.5. An ISMP will be implemented for the Proposed Scheme which will contain site-specific recommendations and identifications for IS. Therefore this element has been scoped out of the assessment.

A13.6 Assessment of the Proposed Scheme against WFD Programme of Measures (PoMs)

There is a list of measures, or environmental improvements, which have been identified by the RBMP (known as the Programme of Measures (PoMs) in the RBMP for Ireland), which need to be implemented in order to improve the ecology of water bodies by a specified date in order for Ireland to meet the target date set by the WFD. Part of the WFD assessment is to consider these PoMs and assess whether the Proposed Scheme can contribute to them or might obstruct any of them from being delivered.

Table A13.11 provides a list of all PoMs applicable to the water bodies, and an explanation of why the Proposed Scheme might / might not be able to achieve or contribute to mitigation measures.

Table A13.11: Mitigation Measures and Assessment of Whether the Proposed Scheme will Help to Contribute to These (Management Plan) (RBMP and Sub Catchment Assessment)

Mitigation Measure / Action	Will the Proposed Scheme help to achieve or contribute to mitigation measure?
Santry_010 – IA2 Point Source Desk Based Assessment	N/A
Mayne_010 - IA6 Multiple Sources in Large Urban Areas	No The operation of the Proposed Scheme will have an imperceptible beneficial impact on surface water discharges as a result of the installation of Sustainable Drainage Systems (DUDs).

The nature of the works is unlikely to impede achievement of the PoMS proposed nor is it considered to impede any water body reaching GES or GEP.

A13.7 Cumulative Assessment

The Proposed Scheme has been assessed for the potential for cumulative impacts with other Proposed Developments within 500m of the Proposed Scheme (refer to Chapter 21 (Cumulative Impacts & Environmental Interactions) in Volume 2 of this EIAR). This concludes that in combination with other Proposed Developments the Proposed Scheme will not compromise the achievement of the objectives of the WFD for any water body.

A13.8 Assessment of the Proposed Scheme Against WFD Objectives

Taking into consideration the anticipated impacts of the Proposed Scheme on the biological, physico-chemical and hydromorphological quality elements, following the implementation of design and mitigation measures, it is concluded that it will not compromise progress towards achieving Good Ecological Status (GES) or cause a deterioration of the overall Good Ecological Potential (GEP) (in the case of Artificial or Heavily Modified Water Bodies) of any of the water bodies that are in scope (Table A13.12).

Table A13.12: Compliance of the Proposed Scheme with the Environmental Objectives of the WFD

Environmental Objective	Proposed Scheme	Compliance with the WFD Directive
No changes affecting high status sites	No water bodies identified as high status	Yes
No changes that will cause failure to meet surface water GES or GEP or result in a deterioration of surface water GES or GEP	After consideration as part of the detailed compliance assessment, the Proposed Scheme will not cause deterioration in the status of the water bodies during construction following the implementation of mitigation measures; during operation, no significant impacts are predicted.	Yes
No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies	The Proposed Scheme will not cause a permanent exclusion or compromise achieving the WFD objectives in any other bodies of water within the River Basin District.	Yes
No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status.	The Proposed Scheme will not cause deterioration in the status of the of the groundwater bodies.	Yes

The WFD also requires consideration of how a new scheme might impact on other water bodies and other EU legislation. This is covered in Articles 4.8 and 4.9 of the WFD.

Article 4.8 states:

'a Member State shall ensure that the application does not permanently exclude or compromise the achievement of the objectives of this Directive in other bodies of water within the same river basin district and is consistent with the implementation of other Community environmental legislation'.

All water bodies within the Study Area have been assessed for direct and indirect impacts. The Proposed Scheme will not compromise the achievement of the objectives of the WFD for any water body. In addition, the Proposed Scheme has been assessed for the potential for cumulative impacts with other Proposed Developments within 1km of the Study Area. This concludes that in combination with other Proposed Developments the Proposed Scheme will not compromise the achievement of the objectives of the WFD for any water body. Therefore, the Proposed Scheme complies with Article 4.8.

Article 4.9 of the WFD requires that *'Member States shall ensure that the application of the new provisions guarantees at least the same level of protection as the existing Community legislation'.*

The Habitats Directive (1992) promotes the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those habitats and species of European importance. There are European designated sites in the vicinity of the Proposed Scheme which have been assessed and are presented in the Natura Impact Statement (NIS). The NIS is a standalone document included in the planning application for the Proposed Scheme. It concludes that the Proposed Scheme will not lead to a deterioration in the features of any designated site. The Proposed Scheme is not considered to be a risk to designated habitats and therefore is compliant with the Habitats Directive.

The Nitrates Directive (1991) 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 Proposed Scheme will not influence or moderate agricultural land use or land management.

The revised Bathing Water Directive (rBWD) (2006/7/EC) was adopted in 2006, updating the microbiological and physico-chemical standards set by the original Bathing Water Directive (BWD) (76/160/EEC) and the process used to measure/monitor water quality at identified bathing waters. The rBWD focuses on fewer microbiological indicators, whilst setting higher standards, compared to those of the BWD. Bathing waters under the rBWD are classified as excellent, good, sufficient or poor according to the levels of certain types of bacteria (intestinal enterococci and *Escherichia coli*) in samples obtained during the bathing season (May to September). The Proposed Scheme will not impact any designated bathing waters as there are none <2km from the Proposed Scheme. It is therefore compliant with the Bathing Water Directive.

A13.9 Conclusion

Considering all requirements for compliance with the WFD, the Proposed Scheme will not cause a deterioration in status in any water body, nor prevent it from achieving GES or GEP; there are no cumulative impacts with other Schemes; and it complies with other environmental legislation.

It can be concluded that the Proposed Scheme complies with all requirements of the WFD.

Taking into consideration the impacts of the Proposed Scheme on the biological, physico-chemical and hydromorphological quality elements, it is concluded that following the implementation of design and mitigation measures, it is concluded that it will not compromise progress towards achieving GES or GEP or cause a deterioration of the overall status of the water bodies that are in scope; it will not compromise the qualifying features of protected areas and is compliant with other relevant Directives. It can therefore be concluded that the Proposed Scheme is fully compliant with WFD and therefore does not require assessment under Article 4.7 of the WFD (see Section A13.1.2).

A13.10 References

- Department of Housing, Planning and Local Government (2018). River Basin Management Plan 2018 – 2021
- Environment Agency (2016). Water Framework Directive assessment: estuarine and coastal waters (updated 2017).
- Environmental Protection Agency (2008). Water Dependent Habitats and Species and High Status Sites. Available at: <https://www.catchments.ie/download/water-dependent-species-habitats-guidance/>
- Planning Inspectorate (2017). Advice Note Eighteen: Water Framework Directive
- Directives and Legislation
- Council Directive 76/160/EEC Bathing Water and revised (2006/7/EC)
- Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources (Nitrates Directive)
- Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora
- Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption
- Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy
- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds
- Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014, amending Directive 2011/92/EU of the European Parliament and the Council of 13 December 2011 on the assessment of the impacts of certain public and private projects on the environment
- S.I. No. 722/2003 - European Communities (Water Policy) Regulations 2003
- S.I. No. 268/2006 - European Communities (Quality of Shellfish Waters) Regulations 2006
- S.I. No. 9/2010 - European Communities Environmental Objectives (Groundwater) Regulations 2010
- S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009
- S.I. No. 350/2014 - European Union (Water Policy) Regulations 2014
- S.I. No. 351/2011 - Bathing Water Quality (Amendment) Regulations 2011
- S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011