The background is a vibrant yellow. It is decorated with several abstract geometric shapes in shades of blue and teal. These include circles, semi-circles, and rounded rectangles, some of which are white with a colored border. 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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## **Appendix A13.1 Water Framework Directive Compliance Assessment**

# 1. Introduction

## 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 established a framework for the protection of both surface and groundwaters. The WFD provides a vehicle for establishing a system to improve and / or maintain the quality of waterbodies across the European Union (EU). The Directive requires all waterbodies (river, lakes, groundwater, transitional, coastal) to attain 'Good Water Status' (qualitative and quantitative) by 2027.

There are a number of WFD objectives in respect of which the quality of water is protected. The key objectives at EU level are the general protection of aquatic ecology, specific protection of unique and valuable habitats, the protection of drinking water resources, and the protection of bathing water (See Table 1.1). The objective is to achieve this through a system of river basin management planning and extensive monitoring. 'Good Status' means both 'Good Ecological Status' (GES) and 'Good Chemical Status' (GCS).

**Table 1.1 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.

### 1.1.1 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.*

### **1.1.2 The WFD Assessment**

The Water Policy Regulations require the assessment of permanent impacts of a scheme / project on WFD waterbodies, (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 EIAR.

This WFD assessment report has been prepared for the Construction and Operational Phases of the Belfield / Blackrock to City Centre Core Bus Corridor Scheme (hereafter referred to as Proposed Scheme) and is Appendix A13.1 of the 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 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.

## **1.2 Outline of the Proposed Scheme**

The Proposed Scheme is approximately 8.31 km long and consists of two main alignments and runs primarily from Blackrock to the City Centre, with Nutley Lane forming a secondary alignment in a south-to-north direction. The Proposed Scheme Description has been broken into five sections as follows:

- Section 1 - Stradbrog Road to Booterstown Avenue
- Section 2 - Booterstown Avenue to Nutley Lane;
- Section 3 - Merrion Road (Nutley Lane to Ballsbridge)
- Section 4 - Ballsbridge to Merrion Square (Pembroke Road, Baggot Street and Fitzwilliam Street)
- Section 5 - Nutley Lane

See Chapter 4 (Proposed Scheme Description) in Volume 2 of this EIAR for a full description of the Proposed Scheme.

### **1.2.1 Overview of the Proposed Scheme 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. No new structures are proposed.

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

- Construction Phase of the Proposed Scheme;
  - Construction compound at Booterstown Car Park within Blackrock Park;
  - Road refreshments, resurfacing or reconstruction and kerb and footpath improvements;
  - Site clearance and limited earth works;

- Road widening; and
- Property boundary reinstatement.
- Operational Phase of the Proposed Scheme
  - Impermeable areas; and
  - Changes in pollutant loads.

## **1.3 Methodology**

### **1.3.1 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 waterbodies (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.

### **1.3.2 Relevant Guidelines, Policy and Legislation**

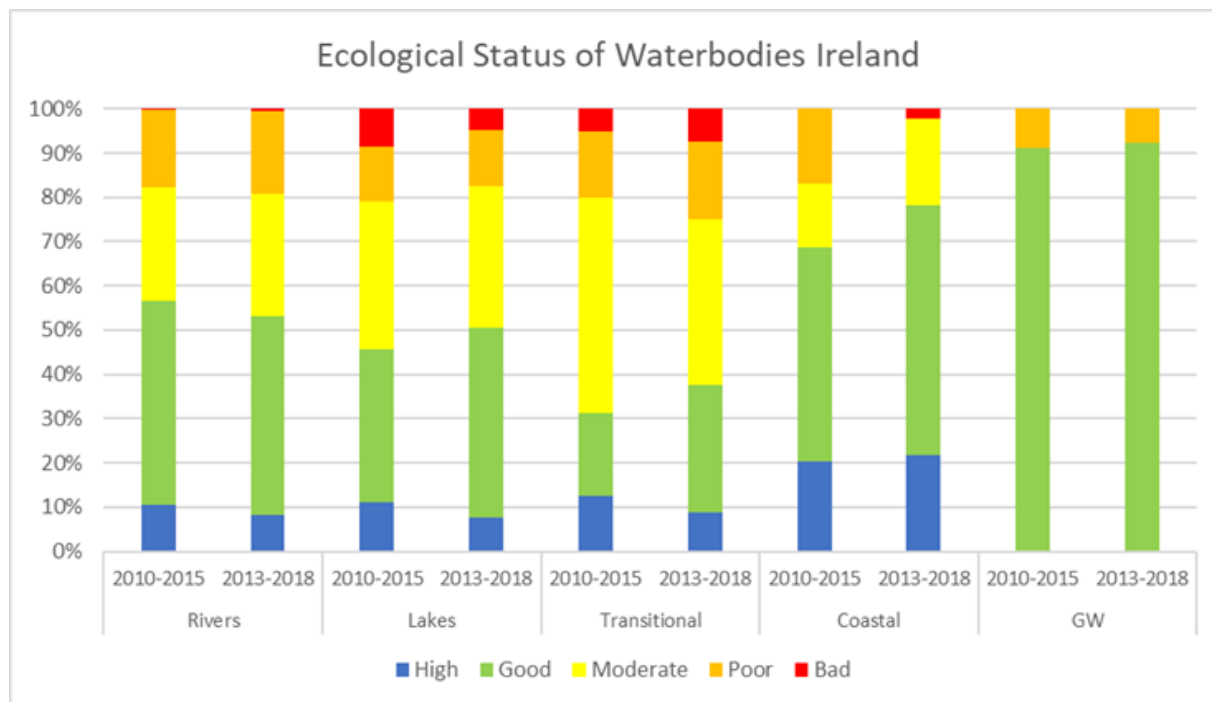
#### **1.3.2.1 River Basin Management Plans**

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 (DHPLG) in April 2018 and covers Ireland as a whole (DHPLG 2018). 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 waterbodies '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 31<sup>st</sup> 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 1.1 presents the ecological status of waterbodies 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 waterbodies achieving high status and increased percentage achieving bad status. The reductions in water quality are especially notable for rivers; for other waterbodies 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 1.1 Ecological Status of Waterbodies 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% of 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 waterbodies impacted by agriculture since the 2nd 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 consulted upon and 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 waterbodies' 'At Risk ' status has already been updated by the EPA online for the third cycle RBMP, this has been used in the assessment.

### 1.3.3 Data Collection and Collation

The EPA's Data Explorer EPA 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.

### 1.3.4 Appraisal Method

In the absence of WFD assessment guidance in Ireland, the assessment has been carried out using the UK Environment Agency's 'Water Framework Directive assessment: Estuarine and Coastal waters' (Clearing the Waters for All) 2016 (updated 2017) (Environment Agency 2016). No specific guidance exists for freshwater waterbodies; however this guidance was used as the basis of the UK's Planning Inspectorate (PINS) Advisory Note 18 'Water Framework Directive' June 2017 (PINS 2017) 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 1.4);
- An assessment against quality elements including hydromorphology, biology, water quality, protected areas and invasive species (Section 1.5);
- Assessment of the Proposed Scheme against mitigation measures and a cumulative assessment against other proposed schemes (Section 1.6); and
- Assessment against other EU Directives (Section 1.8).

## 1.4 Baseline Scoping

### 1.4.1 Water body scoping

Table 1.2 lists the WFD water bodies within the Study Area (refer to Chapter 13 (Water) in Volume 2 of this EIAR). These are scoped into the assessment due to the location of the Scheme's works within or adjacent to them.

**Table 1.2 Water Body Status (Data Explorer EPA Data Explorer and <https://www.catchment.ie>)**

Water body ID	Name of water body in RBMP	Hydro-morphological designation	Current Status/Potential (2013-2018)	Objective status/potential
<b>Groundwater</b>				
IE_EA_G_008	Dublin	-	Good	Not At Risk
<b>Surface water</b>				
IE_EA_09D010900	Dodder_050 (River Dodder)	-	Moderate	At Risk
IE_EA_09B130400	Brewery Stream_010 (Brewery Stream, Priory Stream, Booterstown Stream, Elm Park Stream)	-	Moderate	Review
IE_09_AWB_GCMLE	Grand Canal Main Line (Liffey and Dublin Bay)	AWB	Good	Not At Risk

### 1.4.2 Assessment scoping

#### 1.4.2.1 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.

#### 1.4.2.1.1 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.

Nature conservation designations within 2km of the Proposed Scheme:

- South Dublin Bay SAC (site code: 000210)
- South Dublin Bay and River Tolka Estuary SPA (site code: 004024)

Table 1.3 lists the water dependant habitats for which the above Natura Sites have been designated, their sensitivity and potential for impact from this scheme, from a water quality perspective. For the purposes of the WFD, only the SAC is required to be assessed.

**Table 1.3: Protected Habitat Water Sensitivity and Potential Impact (Western River Basin District Guidance 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
South Dublin Bay SAC (000210)	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)	Chapter 13 (Water) in Volume 2 of this EIAR concludes no significant impact following implementation of measures in Chapter 13 (Water) and the SWMP within the CEMP (Appendix A5.1 in Volume 4 of this EIAR). No additional mitigation required.
	Annual vegetation of drift lines	No	Yes (High)	No	Changes in sediment deposition arising from current changes (coastal and marine constructions, dredging)	Chapter 13 (Water) in Volume 2 of this EIAR concludes no significant impact following implementation of measures in Chapter 13 (Water) and the SWMP within the CEMP (Appendix A5.1 in Volume 4 of this EIAR). No additional mitigation required

Site Name (code)	Qualifying Interests	Surface Water Dependency (Sensitivity)	Marine Water Dependency (Sensitivity)	Ground Water Dependency (Sensitivity)	Sensitivity	Potential Impact and need for mitigation
	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)	Chapter 13 (Water) in Volume 2 of this EIAR concludes no significant impact following implementation of measures in Chapter 13 (Water) and the SWMP within the CEMP (Appendix A5.1 in Volume 4 of this EIAR). No additional mitigation required
	Embryonic shifting dunes	No	Yes (High)	No	Changes in sediment deposition arising from current changes (coastal and marine constructions, dredging)	Chapter 13 (Water) in Volume 2 of this EIAR concludes no significant impact following implementation of measures in Chapter 13 (Water) and the SWMP within the CEMP (Appendix A5.1 in Volume 4 of this EIAR). No additional mitigation required

There is a pathway to South Dublin Bay SAC via all of the river waterbodies, surface water outfalls and the Nutley Stream inlet at Booterstown Marsh. Only construction phase impacts have been identified as being possible in Chapter 13 (Water) in Volume 2 of this EIAR; these are mitigated through specific measures set out in Chapter 13 (Water) in Volume 2 of this EIAR, and in the Surface Water Management Plan (SWMP), contained within the Construction Environmental Management Plan (CEMP) in Appendix A5.1 in Volume 4 of this EIAR.

#### 1.4.2.1.2 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.

Designated bathing waters within 2km of the Proposed Scheme, and the most up to date assessment (checked December 2021 and based on May to September 2021 sampling results) of their quality, are provided below:

- Merrion Strand (approximately 0.1km from the closest point of the Proposed Scheme) - Excellent Quality;
- Sandymount Strand (0.25km from the closest point of the Proposed Scheme – Excellent Quality; and
- Seapoint (approximately 1km from the closest point of the Proposed Scheme ) – Excellent Quality.

### 1.4.2.1.3 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.

There are no nutrient sensitive sites within 2km of the Proposed Scheme. The closest is the Liffey Estuary, >3.5km from the Proposed Scheme.

### 1.4.2.1.4 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 shellfish waters within 2km of the Proposed Scheme.

## 1.5 Waterbody 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.

### 1.5.1 Hydromorphology

This section provides a summary of the known existing hydromorphology risk issues for the fluvial water bodies (Table 1.4).

**Table 1.4: Hydromorphology scoping summary**

WFD Assessment Questions	Dublin Groundwater	Dublin Bay	Dodder_050	Brewery Stream_010	Grand Canal Main Line
Consider if your activity could impact on the hydromorphology (morphology or water flow of a water body at high status?)	N/A	No. Not High status.			
Consider if your activity could significantly impact the hydromorphology of any water body?	No, it is not considered that any element of the scheme will result in a possible exposure route to groundwater.	No. Surface water drainage flow and volume will not significantly change.			
Consider if your activity is in a water body that is heavily modified for the same use as your activity?	N/A	No. Not a heavily modified water body.			No. Yes an Artificial Water Body (AWB), but current modifications not changed and no new modifications proposed.

None of the waterbodies are high status, and there are no proposed changes to current modifications of the AWB Grand Canal Main Line or new modifications. Surface water drainage flow and volume will not significantly change. It is not considered that any element of the Proposed Scheme will result in a possible exposure route to groundwater. This element is scoped out of this assessment.

## 1.5.2 Biology

### 1.5.2.1 Habitats

Table 1.5 presents a summary of biology (habitat) considerations and associated risk issues for the works for the waterbodies.

**Table 1.5: Biology Scoping Summary**

WFD Assessment Questions	Dublin Groundwater IE_EA_G_008	Dublin Bay	Dodder_050	Brewery Stream_010	Grand Canal Main Line
Is the footprint of the activity 0.5 km <sup>2</sup> or larger?	No. The footprint of the scheme within the redline boundary is 0.25 km <sup>2</sup> .				
Is the footprint of the activity 1% or more of the water body's area?	No.	No	No. The Proposed Scheme only crosses this waterbody and so the footprint at this location is <1% of the waterbody area	No. The Proposed Scheme only crosses this waterbody and so the footprint at these locations is <1% of the waterbody area	No. The Proposed Scheme crosses this waterbody and there is a short section of ramp alongside it, so the footprint at this location is <1% of the waterbody area
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 the EIAR for further detail on habitats).	Yes. It is 150m from Dublin Bay SAC. In Construction there is potential for impacts on this habitat. In operation the Proposed Scheme does not propose any changes to the current flow or volume of surface water run-off.	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 the EIAR for further detail on habitats).	Yes. Booterstown Marsh (Mudflats and sandflats). In Construction there is potential for impacts on this habitat. In operation, the Proposed Scheme does not propose any changes to the current flow or volume of surface water run-off.	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 the EIAR for further detail 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 the EIAR for further detail on habitats).				

There are no instream works proposed as part of the Proposed Scheme. Risks to the receptor under WFD include damage to habitat, loss of, or disturbance to invertebrates. The Operational Phase of the Proposed Scheme does not propose any increases to surface water drainage flow or volume. However, for biological elements potential construction impacts are 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 Construction Environmental Management Plan (CEMP) (refer to Appendix A5.1 in Volume 4 of this EIAR) and a Surface Water Management Plan (SWMP) (contained within the CEMP) will be implemented for construction management and sediment control measures respectively. Following implementation of these measures, Chapter 13 (Water) predicts that there will be no significant impacts. Therefore this element has been scoped out of further assessment.

### 1.5.2.2 Fish

Activities occurring within an estuary or inshore environment could impact on normal fish behaviour such as movement, migration or spawning. Table 1.6 presents a summary of biology (fish) considerations and associated risk issues for the works.

**Table 1.6: Biology (fish) Scoping Summary**

WFD Assessment Questions	Dublin Bay	Dodder_050	Brewery Stream_010	Grand Canal Main Line
Consider if your activity is in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary?	Not an estuary; coastal waterbody	No, not in an estuary and no instream works proposed.		
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. No instream works, current background noise levels, surface water drainage volume and flow will not be increased. A SWMP (contained within the CEMP in Appendix A5.1 in Volume 4 of this EIAR) will be implemented.			
Consider if your activity could cause entrainment or impingement 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 SWMP (refer to Appendix A5.1 in Volume 4 of this EIAR) will be adhered to, to reduce any risk of suspended solid, hydrocarbon or other contaminants release. In the unlikely event of an accidental spillage, the emergency response plan will be activated, and onsite spill kits utilised. Furthermore, no instream works are proposed as part of this Proposed Scheme. The Proposed Scheme does not propose to increase the current flow or volume of surface water runoff. This element has been scoped out of this assessment.

### 1.5.3 Water quality

Consideration is given as to whether phytoplankton status and harmful algae could be affected by the Proposed Scheme, as well as identifying the potential risks of using, releasing or disturbing chemicals. Table 1.7 presents a summary of water quality considerations and associated risk issues of the works for the transitional water body.

**Table 1.7: Water Quality Scoping Summary**

WFD Assessment Questions	Dublin Groundwater IE_EA_G_008	Dublin Bay	Dodder_050	Brewery Stream_010	Grand Canal Main Line
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)?	N/A	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		N/A Not tidal	
Consider if your activity is in a water body with a phytoplankton status of moderate, poor or bad?		N/A			
Consider if your activity is in a water body with a history of harmful algae?		ND (Not determined)			
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?	No. No discharge to Groundwater.	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 (contained within the CEMP in Appendix A5.1 in Volume 4 of this EIAR) there will be no significant impacts. No substances on the EQSD list will be released during operation.			

WFD Assessment Questions	Dublin Groundwater IE_EA_G_008	Dublin Bay	Dodder_050	Brewery Stream_010	Grand Canal Main Line
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. No discharge to Groundwater.	No. The discharge of surface water during operation from 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. See EIAR Chapter 13 (Water) in Volume 2 of this EIAR 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.			

This element has been scoped out of the impact assessment. No instream works are proposed as part of the Proposed Scheme. A CEMP and SWMP (refer to Appendix A5.1 in Volume 4 of this EIAR) will also 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.

### 1.5.4 Protected areas

Table 1.8 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 1.8: Protected Areas**

WFD Assessment Questions	Nature Conservation Designations	Bathing Waters	Nutrient Sensitive Areas	Shellfish Waters
Consider if your activity is within 2km of any WFD protected area?	There are two designated sites within 2km of the Proposed Scheme: South Dublin Bay SAC, and South Dublin Bay and River Tolka Estuary SPA.	Merrion Strand, Sandymount Strand, and Seapoint bathing waters are approximately 0km, 0.25km and 1km from the Proposed Scheme, respectively. There are no other bathing water sites within 2km of the Proposed Scheme.	There are no nutrient sensitive sites within 2km of the Proposed Scheme.	There are no shellfish waters within 2km of the Proposed Scheme.

Following implementation of the mitigation measures in set out in Chapter 13 (Water) in Volume 2 of this EIAR and the CEMP and SWMP (refer to Appendix A5.1 in Volume 4 of this EIAR), it is considered that the Proposed Scheme will not pose a risk to protected areas. There are no instream works proposed as part of this Proposed Scheme. The current runoff will remain the same and there are no proposals to increase the flow or volume of surface water runoff.

### 1.5.5 Invasive Species (IS)

Consideration is given as to whether there is a risk the activity could introduce or spread Invasive Species (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 1.9 presents a summary of IS considerations and associated risk issues of the works.

**Table 1.9: IS Considerations**

WFD Assessment Questions	Dublin Groundwater IE_EA_G_008	Dublin Bay	Dodder_050	Brewery Stream_010	Grand Canal Main Line
Introduction or spread of INNS	No. An Invasive Species Management Plan (ISMP) has been prepared and is included in the CEMP (Appendix A5.1 to 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.

### 1.5.6 Assessment Summary

The site-specific impacts of the scheme on the biological, physico-chemical and hydromorphological quality elements of the water bodies are shown in the assessment above and summarised in Table 1.10.

**Table 1.10: Assessment Summary**

Receptor	Potential risk to receptor?	Note the risk issue(s) for impact assessment
Hydromorphology	No	There are no instream works proposed as part of this Proposed Scheme. There is no predicted exposure route to groundwater. Surface water drainage flow and volume will not significantly change as part of the proposed scheme. This element is scoped out of the assessment.
Biology: habitats	No	Risks to the receptor under WFD include loss of habitat, loss of protected species and prey species. The potential for these impacts is not considered to be significant. Surface water drainage flow and volume will not significantly change as part of the Proposed Scheme. In addition, a CEMP and SWMP (refer to Appendix A5.1 in Volume 4 of this EIAR) will be implemented for sediment control and other water quality control measures.
Biology: fish	No	Any construction or operation noise generated as part of this scheme is not considered to be significant as a result of the current background noise levels along this route, a heavily trafficked main route into Dublin City. The CEMP and SWMP (refer to Appendix A5.1 in Volume 4 of this EIAR) will be implemented to reduce any risk of suspended solid release. In the unlikely event of an accidental spillage the emergency response plan will be activated, and onsite spill kits utilised. Furthermore, no instream works are proposed as part of this Proposed Scheme.
Water quality	No	Current surface water discharge levels will remain the same and some attenuation and/or treatment will be installed as part of the Proposed Scheme. The CEMP and SWMP (refer to Appendix A5.1 in Volume 4 of this EIAR) will be implemented to reduce any risk of suspended solid release. In the unlikely event of an accidental spillage the emergency response plan will be activated, and onsite spill kits utilised. The installation of SUDS will lead to some improvement in the water quality of surface water runoff during the operational phase, although this is not considered to be significant.
Protected areas	No	It is considered that the Proposed Scheme will not pose a risk to protected areas. Dublin Bay SAC will be protected through the implementation of measures in the CEMP and SWMP (refer to Appendix A5.1 in Volume 4 of this EIAR). There are bathing waters within 2km of the proposed scheme; however, there are no instream works proposed as part of the Proposed Scheme. The current run off will remain the same, there are no proposals to increase the flow or volume of surface water runoff.
Invasive non-native species	No	An IS survey and Invasive Species Management Plan will be implemented for the scheme which will contain site specific recommendations and identifications for INNS (the ISMP forms part of the CEMP (refer to Appendix A5.1 in Volume 4 of this EIAR)). Therefore, this element has been scoped out of the assessment.

## 1.6 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 1.11 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 1.11: Mitigation Measures and Assessment of Whether the Proposed Scheme will Help to Contribute to These (Management Plan) (RBMP and Sub Catchment Assessment)**

Mitigation Measure	Will the Scheme help to achieve or contribute to mitigation measure?
Dodder_050 - IA2 Point Source Desk Based Assessment	N/A
Dodder_050 - IA6 Multiple Sources in Large Urban Area	No. The Proposed Scheme aims to promote a modal shift but will not significantly reduce the multiple source pressures in the large urban area. The Proposed Scheme does not increase the current flow or sediment load to surface water bodies.

The nature of the works is unlikely to impede achievement of the mitigation measures proposed nor is it considered to impede any waterbody reaching GES or GEP.

## 1.7 Cumulative assessment

The Proposed Scheme has been assessed for the potential for cumulative impacts with other Proposed Developments within 500m of the Study Area (refer to Chapter 21 (Cumulative Impact Assessment) 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.

## 1.8 Assessment of the Proposed Scheme Against WFD Objectives and Other EU Directives

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 GES or cause a deterioration of the overall GEP of any of the water bodies that are in scope (Table 1.12).

**Table 1.12 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 waterbodies 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 impacts; indirect impacts on Dublin Bay have also been assessed. 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 500m 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 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). Following implementation of measures set out in the SWMP, the Proposed Scheme will not have a significant impact on any designated bathing water. It is therefore compliant with the Bathing Water Directive.

## **1.9 Conclusion**

Considering all requirements for compliance with the WFD, the Proposed Scheme will not cause a deterioration in status in any water body, not 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 1.1.1).

## 1.10 References

Environment Agency's 'Water Framework Directive assessment: Estuarine and Coastal waters' 2016 'Clearing Waters for All' (updated 2017) (Environment Agency 2016).

Planning Inspectorate (PINS) Advisory Note 18 'Water Framework Directive' June 2017 (PINS 2017)

Water Dependent Habitats and Species and High Status Sites <https://www.catchments.ie/download/water-dependent-species-habitats-guidance/>

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 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