An Bord Pleanála

Inspector's Report PL04.JA0038

Development:	Douglas Flood Relief Scheme (including Togher Culvert) consisting of flood relief works.
Location:	In the townlands of Ardarrig, Ballybrack, Castletreasure, Douglas and Grange, Co. Cork.
Local Authority:	Cork County Council
Prescribed Bodies:	Inland Fisheries Ireland Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs
Observer(s)	Donnchadh Ó Laoghaire TD & Others DFOD Project Management, Consulting Engineers, on behalf of Barry & Julie Duggan (as representatives of Mary & the late John Cremin)
Date of Site Inspection	29th August, 2017
Inspector	Robert Speer

1.0 **Introduction**

This is an application by Cork County Council for approval by the Board under Section 175 of the Planning and Development Act, 2000, as amended, to undertake identified flood relief works as described in the proposed Douglas Flood Relief Scheme (including Togher Culvert) in the townlands of Ardarrig, Ballybrack, Castletreasure, Douglas and Grange, Co. Cork. In this respect the Board is advised that Cork County Council has been identified as the lead authority for the scheme and that Cork City Council has passed a resolution to enter into an agreement with Cork County Council for the purposes of Section 85 of the Local Government Act, 2001, being of the opinion that Cork County Council should carry out the functions of Cork City Council in relation to the scheme.

The application has been accompanied by an Environmental Impact Statement prepared by ARUP on behalf of Cork County Council in respect of the proposed development whilst a *'Screening Report for Appropriate Assessment'* compiled by Dixon Brosnan Environmental Consultants (and included in Appendix 6.5 of the EIS) has concluded that the proposed development will not have a significant impact on the qualifying interests or conservation objectives of any Natura 2000 sites and that a 'Stage 2 Appropriate Assessment' (and the submission of a Natura Impact Statement) is not therefore required.

Whilst elements of the proposed development will require the carrying out of works on lands held in private ownership, it is the intention of the Local Authority to acquire the necessary easements over the said lands by way of agreement with each landowner. In this respect Cork County Council has already provided each of the affected landowners with a draft map detailing the areas over which easements will be required and it has been further stated that detailed discussions with the landowners are at an advanced stage. In the event that agreement is not possible with all the landowners, it has been submitted that Cork County Council may seek to use its powers of entry onto lands under the Local Authorities Works Act, 1949 and / or powers of compulsory acquisition pursuant to Section 213 of the Planning and Development Act, 2000, as amended (*N.B.* It has also been submitted that the consent of landowners and the acquisition of lands and / or easements over land is a separate process to, and therefore not required for, an application for approval of

proposed development under Section 175 of the Planning and Development Act, 2000, as amended).

2.0 Site Location and Description

The wider application site can be described as comprising 4 No. constituent parts in that the proposed development relates to the carrying out of works at 4 No. distinct locations / sub-areas as follows:

Area 1: The Ballybrack Stream (Douglas River):

This part of the site comprises that section of the Ballybrack Stream which extends between Ballybrack Woods to the south as far as the culvert beneath Church Street in Douglas village to the north. The Ballybrack Stream itself passes through Ballybrack Woods and flows northwards through a small cul-de-sac of housing known as Ravensdale where it passes beneath a number of small bridges (Upper, Middle and Lower Ravensdale bridges) which provide access to those residences sited along the western bank of the stream (within Ballybrack Woods, the stream is characterised by an open channel with relatively natural banks, however, some sections of the banks within the Ravensdale area have been replaced with walls or gabions). The stream then flows around the Irish Countrywomen's Association (ICA) hall and beneath the pedestrian link bridge to same (passing through a small parkland setting) and under the Ballybrack Woods / Church Road cycle track bridge. It is subsequently culverted beneath Church Road after which it emerges into an open channel that flows northwards through Douglas Community Park and onto Church Street where it is culverted again as far as St. Patrick's Mills (*N.B.* Within the Community Park, the stream is separated from the publically accessible parkland areas by wrought iron fencing. It was also observed during the course of a site inspection that warning signage had been erected along this fencing with regard to the presence / control of invasive species, namely, Japanese Knotweed).

In a wider context, the Ballybrack area, which is located approximately 4km southeast of Cork City Centre and c. 500m south of the Douglas Shopping Centre, can be differentiated from the more built-up area of Douglas village by reason of its more sylvan character and its prevailing pattern of lower-density conventional suburban development. The predominant land use is residential with an identifiable

retail / commercial core evident along Church Road although the wider area also includes a number of schools, clubs, churches, a cemetery, a nursing home and, more particularly, the mature parkland / recreational spaces of Ballybrack Woods and Douglas Community Park which are located opposite one another (to the north and south of Church Road) and are linked by a designated cyclepath / walkway. Notably, this cycleway / footpath extends through Ballybrack Woods before crossing over the Ballybrack Stream via a small bridge and travelling northwards to the west of Ravensdale whereupon its crosses over Church Road via a designated pedestrian / cycle zone (referred to as a table top ramp) and continues through the Community Park relatively parallel to the stream.

Area 2: The Tramore River at St. Patrick's Mills, Douglas:

This area encompasses an open channel of the Tramore River which extends between a bridge under the N40 and West Douglas Street to the east. It is bounded by a car parking area serving the former St. Patrick's Mills building to the immediate south and by a slip road to the N40 to the north. The banks on both sides of the river are highly modified with concrete retaining walls on both sides. The river subsequently passes under West Douglas Street (the R851 Regional Road) before flowing eastwards parallel to the N40 and the Douglas Village Shopping Centre. The former mill buildings are occupied by a wide variety of uses, including mixed retail, commercial and light industry.

Area 3: The Grange Stream in Donnybrook:

The Donnybrook Commercial Centre is located approximately 850m south of Douglas village within the predominantly residential area of Donnybrook which forms a southern suburb of Cork City. The surrounding area is characterised by a variety of conventionally designed semi-detached / detached housing schemes typical of the prevailing pattern of suburban development. The Commercial Centre itself is accessed via Donnybrook Hill and encompasses a mix of commercial units, a day care centre and religious facilities with the more contemporary commercial construction set behind the original red brick mill structure which occupies the eastern extent of the centre alongside the public road.

The Grange Steam flows from the southwest through an area of dense trees and vegetation just upstream of the commercial centre whereupon it passes through a

coarse trash screen before entering the Donnybrook Commercial Centre via an enclosed culvert. Within the commercial centre itself, the Grange stream is highly modified and initially flows along a linear open channel defined by a combination of vertical concrete walls and steep grassy banks before subsequently entering a culvert which continues eastwards before passing into an open channel situated on the opposite side of Donnybrook Hill.

Area 4: The Tramore River in Togher:

This sub-area is located within the suburb of Togher, approximately 3.3km southwest of Cork City Centre, and comprises the Tramore River between Lehenaghmore Industrial Estate (to the south of Togher Cross) and the Greenwood Estate (to the south of the N40 Southern Ring Road). Whilst the surrounding area is predominantly residential in character with a typical suburban form, it is interspersed with notable instances of industrial development, including the Lehenaghmore Industrial Estate, whilst there are a number of educational, commercial and religious facilities adjacent to or in the vicinity of Togher Road. The majority of the Tramore River is culverted in this area and extends from the Lehenaghmore Industrial Estate to the Greenwood Estate whereupon it exits the culvert before flowing eastwards along an open channel, parallel to the N40.

3.0 Proposed Development

The purpose of the Douglas Flood Relief Scheme is to minimise the risk of flooding in those areas of Douglas and Togher in the County and City of Cork which have previously experienced significant flood events and it includes for the construction of direct flood defences and conveyance improvement measures along the Ballybrack Stream, Grange Stream and Tramore River. The proposed works (as detailed in the public notices) will consist of flood defence walls and embankments, new culverts, the replacement, widening and extension of existing culverts, channel widening, deepening, realignment and regrading, channel maintenance, bank stabilisation, removal of existing trash screens and construction of new trash screens, bridge removal, bridge replacement, road regrading, underground pumping stations, service diversions, relocation of 2 No. ESB substations / kiosks, tree felling, tree planting and landscaping, and all associated and ancillary works. These works will be undertaken

by Cork County Council in collaboration with the Office of Public Works (as the funding authority for the scheme).

The proposed flood relief works will occur within, adjacent to, and / or in the vicinity of the following watercourses:

> *Area 1:* The Ballybrack Stream (Douglas River) over a combined length of approximately 620m from the Ballybrack Woods (Mangala) to immediately upstream of Church Road, Douglas.
>
> *Area 2:* The Tramore River at St. Patrick's Mills, Douglas over a length of approximately 80m.
>
> *Area 3:* The Grange Stream in Donnybrook over a length of approximately 480m.
>
> *Area 4:* The Tramore River in Togher over a length of approximately 810m.

The key aspects of those works to be undertaken within each area can be summarised as follows (although I would refer the Board to Chapter 3 of the EIS for a detailed description of same):

Area 1:

- Construction of a new coarse screen in Ballybrack Woods in order to capture any large debris;
- Construction of new flood defence walls and / or replacement of existing walls with new flood defence walls in the Ravensdale area. Sections of the flood defence walls in Ravensdale, approximately 120m total channel length will be of concrete u-shape channel construction;
- Upper and Middle Ravensdale bridges to be retained. New bridge parapets (low wall along the bridge) to be constructed on these bridges;
- Local channel widening and channel realignment of the Ballybrack Stream in the Ravensdale area;
- Removal of Lower Ravensdale vehicular bridge and replacement with new vehicular bridge and new access road to residences on the western bank. Existing road to be regraded to tie into proposed bridge;

- Removal of ICA pedestrian bridge. Construction of new alternative pedestrian access to the ICA Hall;
- Removal of Church Road cycle track bridge. Construction of new combined cycle / pedestrian track in this area;
- Replacement of Church Road culvert;
- Channel widening and deepening of the Ballybrack Stream through the Community Park. Right river bank (eastern side) to be raised slightly in same area (small embankment);
- Local bank stabilisation works of left bank (western side) in Douglas Community Park;
- Relocation of existing c. 2m x 2m ESB substation located adjacent to the Ballybrack Stream in the northern part of Douglas Community Park to within 10m of its current position to facilitate the construction works;
- Relocation of existing c. 1.5m x 1.5m ESB substation located adjacent to the left bank channel of the Ballybrack Stream to within 5m of its current position to facilitate the construction works;
- Existing footpath in Douglas Community Park to be realigned and regraded;
- Removal of vegetation and trees to facilitate the construction works
- Protecting drainage outlets along the line of flood defence works with non-return valves;
- Once construction is completed, ongoing maintenance of the river channel, trash screens etc.
- Local diversion of services where necessary to facilitate construction
- Landscaping and tree planting
- It is proposed that there will be a local underground surface water pumping station, collector drain, manhole and rising main to be installed for operation during a flood event at Church Road in Area 1. All outlets will be fitted with non-return valves. The proposed pumping station will require regular maintenance.

Area 2:

- New flood defence wall on the right bank of the Tramore River in order to reduce the risk of flooding in the surrounding area. The proposed reinforced concrete wall will have a limestone masonry finish on the dry side (St. Patrick's Mills side).
- Construction of a new parapet wall over the R851 (West Douglas Street) bridge in order to reduce the risk of overtopping of flood waters at that location. The works to the R851 bridge parapet will include the removal of the existing metal railing and the construction of a new reinforced concrete parapet to a height of 1.2m above the level of the existing footpath. These works are required to ensure that flood waters remain in the channel at this location.
- It is proposed that there will be a local underground surface water pumping station, collector drain, manhole and rising main to be installed for operation during a flood event at St. Patrick's Mills in Area 2. All outlets will be fitted with non-return valves. The proposed pumping station will require regular maintenance.
- Local diversion of services where necessary to facilitate construction.

Area 3:

- Permanent removal of one existing trash screen upstream of commercial centre;
- Replacement of a second existing trash screen within commercial centre;
- Replacement of existing section of culvert with new culvert;
- Regrading and removal of sediment and reinforcement of channel banks.
- Local diversion of services where necessary to facilitate construction.

Area 4:

- Replacement of existing trash screen with new trash screen at Lehenaghmore Industrial Estate.

- Realignment of a section of river channel immediately upstream of the proposed new trash screen to facilitate tie-in with new culvert.
- Replacement and extension of existing culvert with new culvert between Lehenaghmore Industrial Estate and downstream of Greenwood Estate.
- Regrading of Lehenaghmore Road to divert overland flow towards the Tramore River.
- Localised regrading of the existing footpath and ramp in the vicinity of the entrance to the Greenwood Estate to divert overland flow towards the Tramore River.
- Local diversion of services where necessary to facilitate construction.

By way of further elaboration, the proposed scheme within Douglas (Areas 1 to 3) has been designed to protect properties in the study area from 1 in 100 year fluvial / 1 in 200 year tidal flood events. An allowance for freeboard has also been incorporated into the design in line with the OPW's national standard for constructing flood defence schemes in Ireland.

The proposed scheme for Togher (Area 4) consists of a replacement culvert which has been designed to meet with OPW Section 50 requirements i.e. it can accommodate a 1 in 100 year fluvial flood plus an allowance for climate change and freeboard.

The design flood defence levels have been developed as an output of the Lee Catchment CFRAMS. The defence level corresponds to the modelled 200-year combined event (tidal region), and 100-year flow (fluvial zone) taking account of climate change modelling and freeboard.

4.0 Environmental Impact Statement

An Environmental Impact Statement has accompanied the subject application and this generally provides a satisfactory description of the receiving environment, the proposed development, its impacts and proposed mitigation measures. It has been accompanied by a non-technical summary and includes the information required by Schedule 6 of the Planning and Development Regulations, 2001, as amended, and

complies with Section 172 of the Planning and Development Act, 2000 and Article 94 of the Regulations. In this respect I would advise the Board that Class 10(f)(ii) of Part 2 of Schedule 5 of the Planning and Development Regulations, 2001, as amended, prescribes *'Canalisation and flood relief works, where the immediate contributing sub-catchment of the proposed works (i.e. the difference between the contributing catchments at the upper and lower extent of the works) would exceed 100 hectares or where more than 2 hectares of wetland would be affected or where the length of river channel on which works are proposed would be greater than 2 kilometres'* for the purposes of Part X of the Act.

5.0 Legislative Requirements

The EU Directive 2014/52/EU of 16th April 2014 amending Directive 2011/92/EU on the Assessment of the Effects of Certain Public and Private Projects on the Environment:

The Environmental Impact Assessment (EIA) Directive (2014/52/EU) entered into force on 15th May 2014, with a requirement that it be transposed into national legislation by 16th May 2017, however, to date it has not been transposed into Irish law. Circular Letter 1/2017 issued by the Department of Housing, Planning, Community and Local Government (DHPCLG) sets out the transitional arrangements in advance of the commencement of the transposing legislation. In this regard it is stated that Article 3 of Directive 2014/52/EU provides that where an application for planning permission or other development consent with an Environmental Impact Statement has been submitted before 16th May 2017 the relevant provisions of Directive 2011/92/EU must be applied. Therefore, as the subject application was received by the Board on 15th May, 2017 it will be assessed pursuant to the applicable requirements of Directive 2011/92/EU.

N.B. The document entitled *'Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licensing Systems: Key Issues Consultation Paper'* was published by the Department of Housing, Planning, Community and Local Government in May, 2017.

The Planning and Development Act, 2000, as amended:

Section 175(1) of the Planning and Development Act, 2000, as amended, states that where development belonging to a class of development identified for the purpose of

Section 176 is proposed to be carried by a local authority within its functional area, the local authority shall prepare, or cause to be prepared, an environmental impact statement.

In accordance with subsection (3), where an environmental impact statement has been prepared pursuant to subsection (1), the local authority shall apply to the Board for approval.

Section 175(6) states that before making a decision in respect of the proposed development, the Board shall consider the environmental impact statement submitted by the local authority, any submission or observations made in accordance with subsections (4) or (5), and any other information furnished in accordance with subsection (5) relating to -

i) The likely effects on the environment of the proposed development, and

ii) The likely consequences for proper planning and sustainable development in the area in which it is proposed to situate the said development of such development.

6.0 Planning Policy Context

6.1. European, National and Regional Policy

The *EU Directive on the Assessment and Management of Flood Risk (2007/60/EC)* (also known as the 'Floods' Directive) came into force late in 2007 and was transposed into Irish law by the European Communities (Assessment and Management of Flood Risks) Regulations, 2010 (SI 122/2010). It aims to reduce and manage the risks that floods pose to human health, the environment, infrastructure, cultural heritage, economic activity and property. Implementation of the Directive requires Member States to undertake a Preliminary Flood Risk Assessment (PFRA) in order to identify areas of existing or foreseeable future potentially significant flood risk (referred to as 'Areas for Further Assessment, or 'AFA's) and to prepare flood hazard and risk maps for those AFAs with the subsequent preparation of flood risk management plans which set objectives for managing flood risk within the AFAs and set out a prioritised set of measures for achieving those objectives. The Office of

Public Works is the lead agency for flood risk management in Ireland and provides guidance on planning policy in relation to flooding.

The *EU Directive of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy* or the *'Water Framework Directive'* (2000/60/EC) was adopted in 2000 and establishes a framework for the protection of all waters including rivers, lakes, estuaries, coastal waters and groundwater, and their dependent wildlife/habitats under one piece of environmental legislation. Specifically, the WFD aims to:

- protect/enhance all waters (surface, ground and coastal waters)
- achieve "good status" for all waters by December 2015
- manage water bodies based on river basins or catchments
- involve the public.

The *'Planning System and Flood Risk Management, Guidelines for Planning Authorities'* published by the Department of the Environment, Heritage and Local Government in November, 2009 introduce comprehensive mechanisms for the incorporation of flood risk identification, assessment and management into the planning process. The core objectives of the Guidelines are to:

- Avoid inappropriate development in areas at risk of flooding;
- Avoid new developments increasing flood risk elsewhere, including that which may arise from surface water run-off;
- Ensure effective management of residual risks for development permitted in floodplains;
- Avoid unnecessary restriction of national, regional or local economic and social growth;
- Improve the understanding of flood risk among relevant stakeholders; and
- Ensure that the requirements of the EU and national law in relation to the natural environment and nature conservation are complied with at all stages of flood risk management.

In achieving the aims and objectives of the Guidelines the key principles to be adopted should be to:

- Avoid the risk, where possible,
- Substitute less vulnerable uses, where avoidance is not possible, and
- Mitigate and manage the risk, where avoidance and substitution are not possible.

The Guidelines outline the need to identify flood zones and to categorise these according to their probability of flood events. Notably, these should be determined ignoring the presence of flood protection structures as such areas still carry a residual risk of flooding from the overtopping or breach of defences and as there is no guarantee that the defences will be maintained in perpetuity. The Guidelines further advocate a risk-based sequential approach to managing flood risk and the use of a staged approach to Flood Risk Assessment with only such appraisal and / or assessment as is needed to be carried out for the purposes of decision-making at the regional, development and local area plan levels, and also at the site specific level.

The *'Guidelines on the Information to be contained in Environmental Impact Statements' (2002)* as published by the Environmental Protection Agency provide developers, competent authorities and the public at large with a basis for determining the adequacy of Environmental Impact Statements within the context of established development consent procedures and also serve to address a wide range of project types and potential environmental issues. The accompanying *'Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)' (2003)* subsequently provide further detail on many of the topics covered by the Guidelines and offer guidance on current practice for the structure and content of Environmental Impact Statements.

The *'Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment'* as published by the Department of the Environment, Community and Local Government in 2013 provide practical guidance to planning authorities and the Board on legal and procedural issues arising from the requirement to carry out an EIA in relevant cases. The core objectives of the Guidelines are:

- to facilitate better understanding by competent authorities of the requirements of the EIA process;

- to ensure that the requirements of the EIA Directive and planning legislation are complied with prior to the issue of development consent for relevant projects; and
- to ensure consistency of EIA processes adopted by competent authorities

The *'Revised Guidelines on the Information to be contained in Environmental Impact Statements' (Draft)* and the accompanying *'Advice Notes for Preparing Environmental Impact Statements' (Draft)* published by the Environmental Protection Agency in September, 2015 seek to update earlier guidance and have been drafted with the primary objective of improving the quality of Environmental Impact Statements with a view to facilitating compliance (with the Directive) and thereby contributing to a high level of protection for the environment through better informed decision-making processes. They have been written with a focus on the obligations of developers who are preparing Environmental Impact Statements, but are also intended to provide all parties in the Environmental Impact Assessment process, including competent authorities and the public at large, with a standard to measure whether EISs are fit for their purpose, – i.e. to provide adequate and relevant information to inform decisions about whether to grant or refuse permission.

The document entitled *'Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities'* issued by the Department of the Environment, Heritage and Local Government in November, 2009 (updated 2010) provides guidance for the carrying out of 'Appropriate Assessment' with regard to possible impacts on Natura 2000 sites and / or Annex I habitats and Annex II species, in accordance with Articles 6(3) and 6(4) of the Habitats Directive. Section 5.11 relates to works carried out by a local authority.

The *'South West Regional Planning Guidelines, 2010-2022'* form a strategic policy document designed to steer the future growth of the region over the medium to long term and aim to implement the strategic planning frameworks set out in the National Spatial Strategy (NSS) published in 2002 and National Development Plan, 2007-2013. They set out high level strategies, in line with the NSS and promote the overall sustainability and growth of the region. The policies contained in the Guidelines serve to inform and advise Local Authorities in the preparation and review of their

respective Development Plans, thus providing clear integrated linkages from national to local levels, in terms of planning and development policy.

Chapter 6 of the Guidelines acknowledges that flooding is a natural process which can impact on human activities as it poses a threat to people, property and the environment. It further emphasises the relevance of considering the consequences of climate change which is impacting on important matters such as sea levels, the nature and pattern of rainfall events and weather patterns generally. The Guidelines also highlight the need for developing policy and actions, and encourage co-operation across Councils and regions as the impact of flood and water movement in many places crosses Local Authority and Regional boundaries.

- *Environment and Amenities Strategy: REAS-05 Flood Risk Management:*

  Consideration must be given to future appropriate land use policies in accordance with the requirements of the DEHLG Planning Guidelines The Planning System and Flood Risk Management. Strategic and local flood risk assessments and plans should be prepared where appropriate.

  It is an objective of the Regional Planning Guidelines to promote the completion by the local authorities in the region of CFRAM Studies covering the South West by 2016, including a review of long term flood risk management options.

  It is an objective of the Regional Planning Guidelines to ensure that significant developments in upland areas, such as wind farm developments, roadway construction, peatland drainage and forestry proposals, provide sufficient storm water attenuation so as to avoid the occurrence of river erosion or flooding downstream.

6.2. **Development Plan**

Cork County Development Plan, 2014:-

Chapter 11: Water Services, Surface Water and Waste:

Section 11.6: *Flood Risks:*

WS 6-1: Flood Risks – Overall Approach:

Take the following approach in order to reduce the risk of new development being affected by possible future flooding:

- Avoid development in areas at risk of flooding; and
- Where development in floodplains cannot be avoided, to take a sequential approach to flood risk management based on avoidance, reduction and mitigation of risk.

In areas where there is a high probability of flooding 'Zone A' - it is an objective of this plan to avoid development other than 'water compatible development' as described in Section 3 of 'The Planning System and Flood Risk Management – Guidelines for Planning Authorities' issued in November 2009 by DoEHLG.

In areas where there is a moderate probability of flooding - 'Zone B' it is an objective of this plan to avoid 'highly vulnerable development' described in section 3 of 'The Planning System and Flood Risk Management – Guidelines for Planning Authorities' issued in November 2009 by DoEHLG.

Implement the recommendations of the South Western CFRAM study.

Ballincollig Carrigaline Municipal District Local Area Plan, 2017:-

Section 1: Introduction:

Section 1.7: *Overall Approach: Key Policies*

Section 1.8: *Flood Risk Assessment and Management*

Section 1.9: *Environmental Considerations*

Section 1.9.2: *Strategic Flood Risk Assessment (SFRA)*

Section 2: Local Area Plan Strategy:

Section 2.6: *Environment and Heritage*

Section 3: Main Towns and Key Assets:

Section 3.5: *Cork City South Environs*

Sections 3.5.29 - 3.5.30: *Environment and Heritage: Flooding:*

Parts of South City Environs have been identified as being at risk of flooding. The areas at risk follow the path of the Tramore River and its tributaries through the built up areas as illustrated on the settlement map. In particular, the area south-east of the Bandon Road roundabout is shown at risk of flooding and parts of Rochestown near the Bloomfield intersection. Government Guidelines require, and it is an objective of this plan, that future development is avoided in areas indicated at being at risk of flooding. More detailed information on the approach to flooding and how development proposals on areas at risk of flooding will be assessed is given in Section One of this Plan and within the Guidelines for Planning Authorities 'The Planning System and Flood Risk Management,' issued by the Minister of the Environment, Heritage and Local Government in 2009.

Douglas was badly affected by flooding in 2012. As a result, Cork County Council, in partnership with the OPW, have developed a proposed Flood Relief Scheme for Douglas. The Flood Relief Scheme also includes for flood defence works in Donnybrook and Togher Village. It is intended to progress the scheme through the statutory approval processes during 2017.

Sections 3.5.120-3.5.124: *General Development Objectives:*

SE-GO-05: Flooding:

> All proposals for development within the areas identified as being at risk of flooding will need to comply, as appropriate, and with the provisions of the Ministerial Guidelines - 'The Planning System and Flood Risk Management'. In particular, a site-specific flood risk assessment will be required as described in objectives FD1-4, 1-5 and 1-6.

Douglas Land Use & Transportation Strategy, 2013:-

Section 3: Existing Land Use Conditions in Douglas:

Section 3.4: Precinct 1 – St. Patrick's Woollen Mills:

Section 3.4.14: The north eastern boundaries of the site are at risk of flooding. Any development proposals on this site will normally be accompanied by a flood risk assessment that complies with Chapter 5 of the Ministerial Guidelines 'The Planning

System and Flood Risk Management' as described in objectives FD 1-4, 1-5 and 1-6 in Section 1 of the Carrigaline Electoral Area Local Area Plan 2011

Section 3.5: Precinct 2: Douglas Village Shopping Centre:

Section 3.5.8: Part of the site falls into the area that is at risk of flooding as shown on the Carrigaline Electoral Area Local Area Plan. Significant infrastructure works have been incorporated into the construction of the shopping centre and mitigation against flooding of the Ballybrack Stream has been put in place.

Section 3.6: Precinct 3: Barry's Field

Section 3.7: Precinct 4 – Cinema Site:

Section 3.7.7: There is a public storm sewer running through the site and way leaves in favour of Cork County Council that need to be established and maintained. Proposals for attenuation and disposal of stormwater are required. In relation to flooding issues, the site has been recently flooded in July 2012.

Section 3.8: Precinct 5: Douglas Court Shopping Area:

Section 3.8.11: The flood risk extents Map shown on the Carrigaline Electoral Area Local Area Plan 2011 for this location indicate that the north western boundary of the site (near the Ballet School) are at risk of flooding. A part of this site is at risk of flooding. Any development proposals on this site will normally be accompanied by a flood risk assessment that complies with Chapter 5 of the Ministerial Guidelines 'The Planning System and Flood Risk Management' as described in objectives FD 1-4, 1-5 and 1-6 in Section 1 of the Carrigaline Electoral Area Local Area Plan 2011.

Section 3.11: Environmental Considerations:

Section 3.11.3: The Flood Risk Assessment Report for the Douglas area of the Carrigaline Electoral Area Local Area Plan 2011 shows an area along the Ballybrack Stream south of Tramore River that is considered subject to flood risk. Any development proposals to be carried out in this area would have to be subject to detailed flood risk assessment in terms of the Guidelines. The Land Use and Transportation Strategy will therefore take this into consideration in preparing any future land use development strategy.

Section 8: DLUTS Land Use Strategy:

Section 8.2: *Summary of Key Land Use Issues:*

- The Flood Risk Assessment Report for the Douglas area as part of the Carrigaline Electoral Area Local Area Plan 2011 shows an area along the Ballybrack Stream south of the Tramore River that is considered subject to flood risk. Any development proposals to be carried out in this area would have to be subject to detailed flood risk assessment in terms of the Guidelines that is being commissioned by Cork County Council. The DLUTS Land Use Strategy will therefore take this into consideration in preparing any future land use development policies.

7.0 Prescribed Bodies

In preparing the subject application, a number of Public Information Days (PID) were held for the proposed scheme where members of the public were invited to attend and make their views and comments known to the project's design team. Information leaflets and consultation letters were also sent out to stakeholders whilst the following organisations were consulted:

- Inland Fisheries Ireland;
- Cork County Council;
- An Comhairle Ealaíon (The Arts Council);
- An Taisce;
- Fáilte Ireland;
- HSE Southern Regional Health Forum;
- Transport Infrastructure Ireland (TII);
- Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs including National Monuments Service (NMS) and National Parks and Wildlife Service (NPWS); and
- The Heritage Council.

Furthermore, in accordance with the provisions of Section 175(4)(b) of the Act, the following prescribed bodies were notified of the proposal and electronic copies of the

application and the accompanying Environmental Impact Statement were circulated to same:

- Minister for Housing, Planning, Community and Local Government
- Minister for Arts, Heritage, Regional, Rural and Gaeltacht Affairs
- Minster for Communications, Climate Change and Environment
- An Comhairle Ealaíonn
- An Taisce
- Cork City Council
- Fáilte Ireland
- The Heritage Council
- Inland Fisheries Ireland
- Irish Water

8.0 Submissions Received

Prescribed Bodies:

Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs (Development Applications Unit): States that the Department is in full agreement with the archaeological mitigation proposed in the Environmental Impact Statement and, therefore, that it has no issue with the proposed works on the recommended archaeological monitoring which is to be included as a condition of any grant of permission.

In this regard the following shall be included as the condition for all proposed archaeological works:

- The services of a suitably qualified, licence-eligible archaeologist be engaged to carry out the recommended archaeological monitoring.
- The archaeologist shall apply for an Excavation Licence to monitor the works and it shall be accompanied by a detailed method statement that addresses all archaeological requirements as identified in the EIS.

- The method statement shall also contain a definitive finds retrieval strategy.
- When works are completed, the archaeologist shall submit a comprehensive archaeological monitoring report to the Department.
- It shall be noted that if cultural heritage is identified during the course of the archaeological monitoring, the archaeologist shall be empowered to have works suspended in that area pending the full resolution of the identified archaeology.
- If significant archaeology is identified the Department shall be contacted and preservation by record / archaeological excavation or preservation *in situ* / avoidance may be recommended.

Inland Fisheries Ireland: Acknowledges the hardship arising as a result of flood events and welcomes efforts to prevent future reoccurrences, however, as a State agency with responsibility for the protection and development of fisheries, it is stated to be within the remit of the IFI to ensure that flood alleviation works are carried out in a sustainable manner where any impacts on fisheries habitat have been minimised in so far as possible.

The proposed Douglas Flood Relief Scheme (including Togher Culvert) presents a number of challenges from a fisheries perspective and the IFI have been in consultation with the proponents of the scheme to minimise the impacts. In relation to outstanding matters the IFI would comment as follows:

- In-stream works in freshwater should be confined to the period May to September inclusive to limit the impact on spawning and juvenile fish.
- Detailed design and river bed levels in relation to replacement and new culvert crossings should be forwarded to IFI for comment when available to ensure that the proposed works do not result in an impediment to fish passage.
- The appointed contractor for the scheme should consult with IFI in advance of the commencement of works.
- Sufficient flexibility should be provided for in contract documents to allow minor design or in-stream alterations to occur as the works advance against negative impacts from a fisheries perspective.

Third Parties:

A total of 2 No. submissions were received from interested third parties and the principle contents of same can be summarised as follows:

DFOD Project Management, Consulting Engineers, on behalf of Barry & Julie Duggan (as representatives of Mary & the late John Cremin):

- References previous discussions with the Local Authority and the ARUP study team during which the observers raised concerns whilst the extent of the wayleaves required and the nature of the works proposed were also discussed.
- The observers' concerns generally relate to the proximity of a proposed defence embankment within their lands to a dwelling house and the effect it may have on the structure of same. It has also been stated that the access arrangement to the existing dwelling house will be affected.
- It is considered desirable that the existing hedgerow be maintained and that the defence embankment (bund) be constructed on the eastern side of the observers' boundary.
- There is sufficient room for the stream to be widened alongside the Douglas Community Park (on the opposite bank of the watercourse) which would eliminate any need for the proposed works to interfere with the observers' house and boundary.
- There is scope for realignment of the stream eastwards by re-aligning the orientation of the new culvert (as detailed in the accompanying drawing which shows that a slight re-orientation of the culvert will avoid any interference with the observers' property).
- Whilst it may be necessary to access the observers' lands at the south-eastern corner in order to facilitate the construction of the proposed culvert, there is no objection to this facility through the normal CPO process provided it is curtailed to a minimum.
- The wing wall for the culvert should continue along the eastern side of the observers' existing boundary in the light of the availability of the realignment

of the culvert and stream thereby eliminating the need for the gabions and embankment.

- The minor adjustment detailed above would ensure the safety, continued privacy and value of the observers' property.

Donnchadh Ó Laoghaire TD & Others:

- It is imperative that the Douglas aspect of the proposed flood relief scheme is carried out to the highest standard in order to protect the village and to ease the concerns of local residents. In this regard the Board is referred to the significant damage etc. to residential and business properties both within Douglas and the surrounding area which occurred during previous flood events.
- It should be noted that surrounding suburbs such as Grange, Frankfield, Donnybrook, Rochestown and Maryborough experience difficulties in obtaining home insurance and are often subject to higher premium costs. Accordingly, all options must be considered to ensure that no further flooding occurs in the area.
- Due to the nature of the proposed flood relief project, it is of particular importance that the works in question are completed satisfactorily in the first instance as all confidence will be lost by the local community in the event that flooding were to re-occur. Furthermore, in the event of a reoccurrence of flooding, the development of any new flood defences would take a considerable period of time and would also be extremely costly.
- There is a high incidence of Japanese Knotweed in the Douglas area which has already proved to be very disruptive and there are concerns that the further spread of this invasive species could have a negative impact on both existing and future developments. Therefore, all efforts should be taken within those areas where it is proposed to carry out works to remove and control the plant. If suitable control / management measures are not in place prior to the commencement of the works, the overall project could be delayed whilst the invasive species itself could also cause difficulties for any newly developed structures provided as part of the flood relief scheme.

- All aspects of the proposed flood relief works, including walls, should not have a negative visual impact. Any such development at Church Street should be of the highest standard and should be consistent with the character of the area.
- The removal of a number of bridges is considered to be regrettable, with particular reference to the ICA Hall access bridge and the bridge between Ballybrack Woods and Church Road. The bridge at Ballybrack Woods is a historical connection point between the Mangala walkway and the community park and also forms part of the natural character of the area.
- The proposed relocation of an existing ESB substation in Douglas Community Park should not have a detrimental visual impact, obstruct views, or pose a safety hazard.
- The proposed works should not negatively impact on the recreational use of Douglas Community Park or its existing planting. Furthermore, any replacement of existing trees and bushes should be carried out to the highest standard.
- The regular maintenance and inspection of the culverts and trash screens is of the utmost importance. Accordingly, provision should be made for a system where the community may report any issues thereby allowing for a quick response. It is also submitted that a system should be put in place whereby inspection reports can be conveyed to public representatives and members of the community.
- The Togher area has also suffered from significant flooding, particularly the properties near Greenwood, Togher schools and the community centre, however, there are concerns that the channel to the rear of the houses at Greenwood may be too narrow given that the submitted drawings indicate that the watercourse will only be widened over a short stretch (from Griffin Pianos to House No. 2 Greenwood Estate). In this regard it is the observers' understanding that water will flow at a higher velocity (and with greater force) as a result of the proposed culvert and thus water may gather where the channel narrows before potentially being forced into adjacent properties via their back garden areas. Therefore, the Board is requested to study the

technical details in order to ensure that the foregoing concerns have been taken into account.

- During previous interim works, which included the erection of fencing to replace a section of wall at the entrance to the Greenwood estate, the water level could not rise above the footpath to flow into the culvert which posed a threat of flooding. In order to address the foregoing, it will be necessary to lower the footpath to allow the water to flow into the culvert.
- Historically, works in 'Southern Fruits' seem to have caused a surge in the number of rats within the Greenwood estate area and, therefore, it is queried whether any control measures can be put in place in order to address these concerns during the construction stage of the proposed works.
- Water outages should be kept to a minimum and contingency plans should be put in place, with particular reference to the potential impact on older and infirm residents in the locality.
- With regard to the covering of the culvert at Greenwood, local residents have expressed concerns that this 'roofed' area may be extended. Given that young people can on occasion congregate at this location, it is submitted that measures need to be put in place to ensure that hazards are minimised.
- The subject proposal represents an opportunity to renew and refresh the Togher public realm. Whilst it is accepted that this is not the responsibility of the Office of Public Works, Cork County Council is urged to engage in discussions on the matter with a view to improving the appearance of the Togher area for the benefit of the community.

9.0 **Assessment**

Under the provisions of Section 175(6) of the Act the Board is required to consider the following in respect of this type of application:

i) The likely effects on the environment of the proposed development, and

ii) The likely consequences for proper planning and sustainable development in the area in which it is proposed to situate the said development of such development.

Accordingly, I propose to assess the subject proposal under the following 3 No. broad headings:

- Planning assessment
- Environmental impact assessment
- Appropriate assessment

These are assessed as follows:

9.1. ***Planning Assessment:***

The Principle of the Proposed Development:

The proposed development involves the construction of the Douglas Flood Relief Scheme (including Togher Culvert) which consists of the construction of a variety of direct flood defences and conveyance improvement measures along the Ballybrack Stream, Grange Stream and Tramore River for the purpose of minimising the risk of flooding in those areas of Douglas and Togher in the County and City of Cork which have previously experienced significant flood events. In this respect support is lent to the subject proposal by reference to Section 11.6 of the Cork County Development Plan, 2014 which states that the Office of Public Works (OPW), in partnership with Cork County Council, is in the process of advancing a number of major flood relief schemes within the County and that an *'Assessment and Management Study'* is being advanced for Douglas *'which may lead to works to mitigate flood risk'* whilst a number of other smaller schemes / studies are also being carried out under the OPW Minor Works Programme. Indeed, Objective WS 6-1*: 'Flood Risks – Overall Approach'* of the Development Plan specifically aims to *'implement the recommendations of the South Western CFRAM study'*. In addition to the foregoing, Section 3.5.30 of the Ballincollig Carrigaline Municipal District Local Area Plan, 2017 states that Cork County Council, in partnership with the OPW, has developed a proposed Flood Relief Scheme for Douglas, which includes for flood defence works in Donnybrook and Togher Village, and that it is intended to progress this scheme through the statutory approval processes during 2017.

From a review of the available information, it is apparent that the Douglas Flood Relief Scheme (including Togher Culvert) has been developed in direct response to the findings of the Lee Catchment Flood Risk Assessment and Management Study

(and the South-West CFRAM Study), which recommended the implementation of a scheme of flood relief measures for the Togher Area, in addition to the damage and disruption caused by previous flood events experienced within both Douglas and Togher, with particular reference to the extensive flooding throughout the Douglas and Togher areas in June 2012 which resulted in significant damage to property (details of which are set out in Chapter 2 of the EIS).

Accordingly, on the basis of the foregoing, it is my opinion that the proposed development will give effect to the wider strategic policies and objectives for the area as expressed in national, regional and local planning policy in relation to flood risk management and control. Therefore, the subject proposal is considered to be in accordance with the proper planning and sustainable development of the area.

Technical Design Matters:

With regard to the specifics of the technical design of the proposed flood relief scheme, I would suggest that the adequacy of the scheme should not be to the forefront of the Board's consideration given that this is largely a matter for the scheme designers. In this respect I would further submit that the design of the proposed scheme represents an engineered solution to flood risk management within the affected area which has been developed following a comprehensive analysis of the available data and extensive public consultation. In my opinion, the positive benefits of the scheme in terms of reducing the frequency and risk of flooding events in the area are clear.

Impact on Private Property:

With regard to those works proposed to be undertaken on private property, I would advise the Board that the applicant has submitted that the consent of landowners and the acquisition of lands and / or easements over land is a separate process to, and is therefore not required for, an application for approval of proposed development under Section 175 of the Planning and Development Act, 2000, as amended).

In a wider context, the overall impact of the proposed flood relief scheme on properties and businesses etc. in the surrounding area will likely be positive through a reduction in the frequency and risk of flood events.

In reference to the specific concerns raised on behalf of Barry & Julie Duggan (as representatives of Mary and the late John Cremin) with regard to the potential impact of the proposed flood relief scheme on their property at Church Road (as detailed on Drg. No. C-000-011 Rev. PL1), whilst I would acknowledge that the proposed works will involve a notable incursion into the curtilage / garden area of the existing dwelling house which will result in the removal of an existing mature hedgerow and the loss of some garden area etc., it should be emphasised that the proposed works, which will include the reconstruction of an existing informal flood defence embankment and the provision of gabions in order to stabilise the river bank, are intended to protect the property in question from flood damage.

With regard to the revisions to the proposed scheme as suggested by the observers, it should be noted that these would appear to be reliant on the realignment of the culvert beneath Church Road and the carrying out of additional re-channelisation works along the western side of Douglas Community Park. Whilst I would not discount the feasibility of amending the scheme to avoid infringing on the observers' property to the extent proposed, I would advise the Board that any such revisions would likely necessitate significant (though localised) alterations to the submitted design which could require alternative engineering solutions. In this respect it should be noted that significant widening and deepening of the Ballybrack Stream is already proposed along that section of Douglas Community Park opposite the observers' property and that any further widening works at this location would have a consequential impact on the reinstatement of the public footpath and the existing pedestrian / cycleway entrance to the park from Church Road.

On balance, I am inclined to suggest that the extent of the works proposed to the property in question, which will include an upgrading of existing informal flood defences already in place, is acceptable and will not unduly impinge on the residential amenity of the existing dwelling house. However, in the event that the Board does not concur with the foregoing conclusion, it may decide to impose a condition on any grant of approval which would require the revision of this aspect of the scheme.

In relation to the potential for damage to the observers' property consequent on the proposed development, I am inclined to suggest that any such issues would amount to civil matters for resolution between the parties concerned.

9.2. ***Environmental Impact Assessment:***

Outline of Process:

In accordance with the requirements of Article 3 of the European Directive 85/337/EEC, as amended by Council Directives 97/11/EC and 2003/35/EC etc. and Section 171A of the Planning & Development Act, 2000, as amended, this process requires the Board, as the competent authority, to identify, describe and assess in an appropriate manner, in light of each individual case and in accordance with Articles 4 to 11 of the Environmental Impact Assessment Directive, the direct and indirect effects of the proposed development on the four indents listed in Article 3 of that Directive as set out below:

a) human beings, flora and fauna,

b) soil, water, air, climate and the landscape,

c) material assets and the cultural heritage, and

d) the interaction between the factors mentioned in paragraphs (a), (b) and (c).

This assessment also requires consideration to be given to, where relevant, the indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the proposal, including those which arise during the construction phase, which are essentially short-term and temporary, as distinct from the likely long-term effects arising from the operational phase.

The Environmental Impact Statement which has accompanied the subject application follows a grouped format structure with each environmental topic presented in a separate chapter. It includes a generally satisfactory description of the receiving environment, the proposed development, its impacts and proposed mitigation measures, and has been accompanied by a non-technical summary. In my opinion, this document can be described as ‘adequate’ in that it accords with the minimum requirements of Schedule 6 of the Planning and Development Regulations, 2001, as amended, and is sufficient to comply with Section 172 of the Planning and Development Act, 2000, as amended, and Article 94 of the Regulations.

In general, this part of my assessment is informed by the contents and conclusions of the EIS and also by the information provided during the application process in relation to the likely effects of the development on the environment and its likely

consequences for the proper planning and sustainable development of the area in which it is proposed to be situated. My assessment also has regard to potential mitigation measures, including those indicated in the EIS, and any others which might reasonably be incorporated into any decision to approve the development through the attachment of conditions.

Consideration of Alternatives:

Schedule 6 of the Planning and Development Regulations, 2001, as amended, requires an EIS to include *'An outline of the main alternatives studied by the developer and an indication of the main reasons for his or her choice, taking into account the effects on the environment'*. In this respect I would refer the Board to Chapter 2 of the EIS which confirms that the applicant has examined a number of alternative options with a view to complying with the foregoing requirement. More specifically, it has been stated that the development of the preferred design of the proposed scheme arose from a process which required an extensive assessment of the different options available for flood relief (including an examination of the validity of all potential flood alleviation measures for each of the segments of the study area) pursuant to the Multi-Criteria Analysis methodology guidelines published by the OPW in relation to scheme design and options reporting for flood relief schemes.

In reviewing the adequacy of the applicant's consideration of potential alternatives to the subject proposal, in the first instance I would refer the Board to Section 2.5 of the EIS which outlines the process for the selection of the preferred flood relief options. This states that a long list of possible flood risk management measures was initially screened against a predetermined set of criteria in order to determine the potential viability of same and that a technical assessment of those potentially viable flood risk management measures identified was subsequently undertaken. A number of potential flood relief options were thus developed using combinations of flood risk management measures which were determined to be technically viable and it is these options which were then subjected to multi-criteria assessment allowing a preferred flood relief option to emerge.

Section 2.5.2 of the EIS subsequently summarises the findings of the 'options assessment report' and includes reference to both 'non-viable flood risk management measures' and those potentially viable options which were shortlisted

before being subjected to multi-criteria assessment. For example, with regard to the 'non-viable' options it is stated that the 'do-nothing' scenario was not considered to be a sustainable option as it would fail to meet the needs of local residents and business owners in Douglas and Togher whilst the 'do minimum' scenario was deemed unsuitable for a scheme where flooding occurs frequently after rainfall events. It is further stated that non-structural measures such as flood forecasting and flood warning systems would be more suited to larger catchments which are less prone to flash-flood type events and that whilst Sustainable Urban Drainage Systems play a role in the management of flood risk, due to the heavily urbanised nature of the Douglas area there is little space for the construction of SUDS features or other attenuation measures in the landscape. In relation to the development of those options which were held to be potentially viable, Sections 2.5.2.3 – 2.5.2.7 of the EIS outline the shortlisted options within the 4 No. sub-areas that were ultimately subjected to multi-criteria assessment and whilst it is regrettable that the final analysis of these specific options is not set out in greater detail in the EIS, this information is publicly available from www.douglasfrs.ie and is contained in the *'Douglas Flood Relief Scheme (Including Togher Culvert) Options Report, Issue 1, 19th May 2017'*.

Having regard to the foregoing, it is of relevance to note that the current *'Guidelines on the information to be contained in Environmental Impact Statements'* published by the Environmental Protection Agency in March, 2002 acknowledge the existence of difficulties and limitations when considering alternatives in the context of Environmental Impact Assessment. In this respect it should be noted that whilst EIA is confined to the assessment of the environmental effects which influence the consideration of alternatives, it is important to acknowledge that other non-environmental factors may have equal or overriding importance to the developer such as project economics, land availability, engineering feasibility and planning considerations. Similarly, the consideration of alternatives also needs to be set within the parameters of the availability of land or the need for the project to accommodate demands or opportunities which are site specific.

Therefore, following a review of the available information, including the consideration of alternatives set out in the submitted EIS and the contents of the *'Douglas Flood Relief Scheme (Including Togher Culvert) Options Report, Issue 1, 19th May 2017'*, in

my opinion, the applicant has complied with the requirements of the Regulations insofar as it has provided a satisfactory examination of the main alternatives studied with regard to the project and a reasoned explanation for the selection of the subject proposal.

Human Beings:

In terms of assessing the potential impact of the proposed development on human beings, in the first instance, I would refer the Board to Chapter 8 of the submitted EIS which focuses attention on the wider issues of population (including employment, amenities and other socio-economic considerations) and human health. In this regard it is apparent that the principle potential negative impacts on human beings and local amenities will primarily arise during the construction phase of the proposed works as a result of general nuisance / disturbance (i.e. noise, dust & traffic etc.) generated by the construction activities and the necessity for the imposition of certain temporary diversions / movement restrictions in order to facilitate the construction works.

In a wider context, there may be a reduction in the space available within some local amenities (e.g. Douglas Community Park and Ballybrack Woods) as the construction works will necessitate some areas to be cordoned off from the general public in order to provide for construction access or to comply with health and safety requirements. Similarly, temporary traffic disruption will likely be experienced as a result of the restrictions imposed during the course of works within the public road (such as the replacement of culverts at Church Road and Togher Road) whilst the diversion of services (such as within the Donnybrook Commercial Centre) and the repositioning of ESB substations may give rise to some service interruption in the locality.

More localised impacts will include the temporary restriction of car parking and limitations on traffic movements / vehicular access within both St. Patrick's Mills and the Donnybrook Commercial Centre during the course of the construction works, however, perhaps the most significant local impact is that arising from the proposal to replace the Lower Ravensdale Bridge given that the existing bridge is the only access route serving several properties located on the western side of the Ballybrack Stream. In this respect I would suggest that in order to minimise the level of disruption to the residents of Lower Ravensdale it would be desirable to maintain

vehicular access to their properties during the course of the construction works, however, although Section 4.3.4 of the EIS states that the siting of the new replacement bridge to the north of the existing bridge will allow for the new construction to be undertaken whilst maintaining access over the latter, this is contradicted by the contents of Section 8.5.1.1 which clearly state:

> *'Vehicular access via Lower Ravensdale Bridge to the residential properties on the left bank of the Ballybrack stream will not be available for a number of weeks whilst the bridge is being replaced. As there are no feasible temporary diversion routes available, alternative secure parking for cars will be arranged in agreement with the residents affected. It is expected that vehicular access will be restricted for approximately three weeks. This will result in a temporary negative impact on those affected residents. Pedestrian access will be facilitated at all times during the construction phase via a temporary pedestrian bridge or similar'.*

Whilst this discrepancy does not fundamentally undermine either the acceptability of the wider project or this particular component of the overall scheme, I am inclined to suggest that it is a matter which would require to be clarified in advance of any construction works as part of an approved Construction Management Plan.

In addition to the foregoing, there is also the potential for some localised and temporary disturbance of amenities used by tourists visiting the area such as commercial outlets, accommodation, public houses and restaurants during the construction phase of the proposed development. Similarly, there is the potential for some short-term negative impacts on economic activity in the area attributable to the disruption arising during the works, although this may be counteracted somewhat by the short-term increase in employment locally consequent on the proposal and spending by construction workers in the area.

During the operational phase of the proposed scheme, I would accept the conclusions of the EIS that the impacts on population and human health will be positive given that the areas directly affected by the proposed works during the construction phase will benefit directly from a reduced risk of flooding. Indeed, it is apparent that the proposed flood relief scheme will significantly reduce the risk of flooding in the area and as a result, the scheme will have a long-term significant

positive impact both for residents, local amenity, tourism and economic activities. I would also note there will be no significant air or noise emissions arising from the scheme once it is operational whilst any impacts on traffic etc. as a result of maintenance works will be minimal.

On balance, whilst I would acknowledge that the construction of the proposed scheme will give rise to some disturbance / inconvenience of local residents and businesses etc., given that any such constructional impacts will be of an interim nature, and in light of the longer-term benefits attributable to the implementation of the scheme in terms of reduced flood risk in addition to the proposed construction management methodology as set out in Chapter 4 of the EIS, I am inclined to conclude that the potential negative impacts likely to arise during the construction stage are tolerable and can be satisfactorily mitigated by way of condition

Furthermore, whilst I would generally concur with the findings of the EIS as regards the likely impact of the proposed development on human beings, it is of relevance to note that there are various inter-relationships between the effects on the human environment and effects on other aspects of the environment such as air and water quality. Accordingly, in order to avoid unnecessary repetition, I would refer the Board to my assessment of the specific implications of the proposal as regards soil, water and air quality etc. as set out elsewhere in this report. In addition, although referenced in separate chapters of the EIS, I propose to focus the remainder of my assessment of the impact of the proposed development on human beings on the key issues of traffic, noise and vibration.

Roads & Traffic:

During construction of the proposed scheme it will be necessary to implement a variety of temporary traffic controls both along the public roadway etc. and within third party properties in order to facilitate the proposed works. These impacts will primarily be associated with the restriction of access to certain portions of the existing road network (and third party properties) due to ongoing works and the additional traffic flows on sections of the road network due to the haulage of excavated material which is not reused on site, the delivery of materials to site and the movement of workforce traffic. Particular traffic disruption is likely to be experienced at Church Road and Togher Road during the laying of the new culverts

whilst the necessity for construction traffic to be routed through parts of the Donnybrook Commercial Centre and the Lehenaghmore Industrial Estate is also likely to temporarily infringe on the operation of businesses in those areas (*N.B.* It will be necessary to open a temporary access arrangement to Donnybrook Commercial Centre from Donnybrook Hill for the duration of the works at this location). Similarly, the routing of construction traffic along the combined footpath / cycleway which extends between Ballybrack Woods and Church Road will likely result in the temporary loss of the use of same by the general public (*N.B.* Although the existing cycleway bridge over the Ballybrack Stream will be removed as part of the proposed scheme, provision has been made for the permanent re-routing of that section of the existing cycle track / footpath which links Ballybrack Woods with Douglas Community Park. In this regard the new route will pass through the existing amenity area alongside the stream and will continue to link up with the existing pedestrian crossing over Church Road with a minimal increase in overall route length).

Following completion of the works, traffic volumes associated with ongoing maintenance works are likely to be minor and will have a negligible impact on the wider road network etc.

Having reviewed the available information, in my opinion, whilst there will inevitably be an increase in traffic volumes and some localised traffic disruption along the road network as a result of the proposed construction works, in my opinion, any such impacts will be intermittent and temporary in nature and, therefore, I do not envisage this aspect of the proposal as having any unacceptably significant negative impact on the amenities of the wider area. The likely impacts of the scheme would appear to be well understood and potential adverse effects can be minimised through appropriate traffic management measures etc.

Noise and Vibration:

Given the nature of the scheme, I would concur with Chapter 9 of the EIS that significant noise and vibration impacts would not be expected to arise during the operational phase of the works and thus it is appropriate to focus on the potential impacts arising during the construction phase of the proposed scheme. In this regard I am satisfied that the EIS has adequately identified the receiving environment and

the likely sensitive receptors in addition to the potential sources of impact which are related to the construction activities. Whilst I would acknowledge that construction works will be undertaken in close proximity to a number of residential properties and that some individuals may be more sensitive to noise and vibration impacts than others, it would appear from the information provided that noise emissions during the construction phase will be within accepted guideline limits. Furthermore, I note that an undertaking has been given that the contractor will be required to manage noise and vibration aspects of the project in accordance with *BS 5228 Part 1 (2009*) and the *European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001 Code of Practice for Noise and Vibration Control on Construction and Open Sites*. Therefore, in view of the foregoing, and in light of the various mitigation measures set out in Section 9.6 of the EIS, including the provision whereby noise and vibration monitoring will be undertaken in areas where residential properties are directly adjacent to the works, on balance, I am inclined to conclude that residential receptors in the vicinity of the works will not be unduly impacted provided adequate mitigation measures are undertaken (including the finalisation of a Construction Management Plan).

Flora and Fauna / Biodiversity:

In the first instance, and in order to avoid unnecessary repetition, I would advise the Board that the proposed works area is not subject to any National or European designation and that my assessment of the impact of the proposed development on the qualifying interests of Natura 2000 sites in the surrounding area pursuant to Article 6 of the Habitats Directive is set out elsewhere in this report under the section entitled 'Appropriate Assessment'. Accordingly, I propose to focus the following aspect of my assessment on the broader environmental impact of the proposed development on the remaining ecological considerations (i.e. those aspects of flora and fauna which are not subject to a requirement for 'appropriate assessment').

Chapter 6: *'Biodiversity'* of the EIS states that a variety of flora and fauna surveys (i.e. bird, badger & bat etc.) were undertaken both on site and along the various watercourses (including a fish stock survey using electrofishing equipment) whilst habitat mapping was also undertaken. It further references the various environmentally sensitive areas within the study area, including the Cork Harbour Special Protection Area (Site Code: 004030) and the Great Island Channel Special

Area of Conservation (Site Code: 001058), and the direct hydrological connection between the proposed works and designated sites within the Cork Harbour area (including the Douglas River Estuary Proposed Natural Heritage Area (Site Code: 001046), the Dunkettle Shore Proposed Natural Heritage Area (Site Code: 001082), and the Cork Harbour Ramsar Site).

With regard to the mapping of the terrestrial habitats, it has been established that the proposed works area encompasses a variety of habitat types which are considered to be of 'low importance' although it is notable that several of these areas (identified as 'Treelines', 'Mixed Broadleaved Woodland' and 'Immature Woodland') have been allocated a 'higher' ecological value pursuant to the classification scheme outlined in the *'Guidelines for the Assessment of Ecological Impacts of National Road Schemes'*. It has also been submitted that the National Parks and Wildlife Service has not recorded any rare or threatened plant species within the relevant 10km grid square (W66) and that whilst the 'Round-leaved cranes-bill' is listed as 'endangered' it is the only flowering plant with a threat assessment (*N.B.* No rare species were recorded during the completion of on-site surveys). However, it is of particular importance to note the identification of a number of invasive plant species within the study area as set out in Section 6.3.6 of the EIS and, more specifically, the presence of Japanese Knotweed within the works area. In this respect it is apparent that Japanese Knotweed is present at a number of locations throughout the proposed works area and that whilst a herbicide treatment programme in respect of same has been undertaken in proximity to the Ballybrack River (both within and upstream of the Douglas Community Park), regrowth of the species has occurred.

Section 6.3.7 of the EIS refers to the aquatic habitats present within the Tramore River, Ballybrack Stream and the Grange Stream and details that these watercourses are considered to be of local importance with a low to high ecological value. Notably, whilst fish species such as Brown Trout and European Eel have been recorded, it is considered to be improbable that the rivers in question would support migratory species such as Salmon, River Lamprey or Sea Lamprey. Similarly, it has been submitted that the water conditions are unsuitable for other Annex II species such as Freshwater Pearl Mussel.

In relation to other species, it has been noted in the EIS that otter have previously been recorded along the Ballybrack Stream and although no signs of same were

recorded during a survey within 150m of the proposed works area, it is acknowledged that otters do occur within the catchment area and are likely to move through or feed within the proposed works area. It is also stated that whilst red squirrel is known to occur within the Ballybrack woodland, no protected species were recorded during the site surveys although more common mammal species such as rabbit, fox and brown rat will likely occur within the works area.

With regard to bats, survey work has found that activity in the area is low to moderate with only small numbers of individuals recorded. No specific bat roosts or emergence points were identified although it is accepted that some trees within the works area may offer significant potential value as bat roosts. Accordingly, it has been submitted that the survey work demonstrates that the habitats within the works area are of local value for feeding bats.

The EIS has also concluded that the study area is of local value for a range of terrestrial bird species that are relatively common and that the presence of specialised or uncommon invertebrate species is unlikely.

In terms of the likely impact of the proposed works on terrestrial habitats, the direct loss of same within the works area is inevitable, however, it is my opinion that these habitats are of a relatively localised and low conservation value and thus the impact arising from the loss of same is not considered to be of significance. Furthermore, it should be noted that the landscaping works which will be undertaken post-construction will serve to alleviate the residual impacts on terrestrial habitats over time.

In relation to flora and fauna, the proposed development will inevitably result in the loss of some plant and animal species from within the footprint of the proposed works, whilst it also likely that the disturbance arising during the construction period may also indirectly impact on fauna using the site. However, given that there are no rare plant species within the site and as the fauna present (which includes some legally protected species such as bats) is somewhat common and typical of surrounding habitats at a local level, I would suggest that any such impacts will be of limited significance and can be satisfactorily mitigated.

With regard to the aquatic habitat, Section 6.6.2 of the EIS has identified the following potential detrimental impacts that could possibly affect surface waters and aquatic ecology:

- The direct loss of habitat due to culverting and in-stream works.
- The loss of riparian habitat which provides food, cover and shade in addition to stabilising the river banks (significant impacts on Brown Trout and European Eel and on macroinvertebrate populations could also arise due to the loss of such habitat).
- The mobilisation of high levels of silt and suspended solids with a consequential loss of water quality and the associated impacts on aquatic flora and fauna, including fish and macroinvertebrates.
- The potential release of hydrocarbons / chemicals
- Possible impacts on otter attributable to increased noise and disturbance in addition to reduced prey availability.
- The additional culverting of watercourses may further restrict the movement of fish and may lead to a net loss of habitat. Modifications of the river channel structure may also result in the loss of habitat for particular age classes of fish i.e. riffle for juvenile fish or pools for adult fish. Such changes may impact on population dynamics whilst impacts on fish populations can reduce prey availability for certain bird species with a 'knock-on' effect on breeding success.

However, in addition to the foregoing, it has also been suggested that the replacement of sections of the existing concrete stream bed with natural gravel has the potential to improve habitat quality along certain sections of the works area. Furthermore, reference has been made to the potential introduction of deleterious substances into watercourses (such as hydrocarbons) as a result of flooding in urban areas and that the prevention of flooding in the first instance through the implementation of flood relief schemes such as that proposed will serve to minimise the risk of such pollution incidents / occurrences.

Table 6.12 of the EIS provides further elaboration on the likely impacts of the proposed development works on the aquatic habitat and includes reference to the

loss of riparian habitat, the net loss of habitat for invertebrates and fish during in-stream works (such as channel widening and deepening) and the potential for the generation of elevated levels of silt, and the consequent changes to the dynamics of the river channel with the associated impacts on fish populations etc.

With regard to the predicted impact from invasive species, Section 6.6.3 of the EIS states that in the absence of the subject works, the infestation of Japanese Knotweed will likely continue to spread due to lateral rhizome growth and from the dispersal of plant fragments downstream, although it should be noted that the Local Authority has already implemented a management / control programme in an attempt to halt / eradicate this species. The proposed works could potentially result in the further spread of Japanese Knotweed due to the dispersal of plant fragments from the movement of vehicles and machinery and also through dislodged root fragments being washed downstream during the works. Therefore, in the absence of suitable controls / mitigation, the proposed works will likely contribute to the continued spread and proliferation of this invasive species to new locations.

In relation to otters, it should be reiterated that survey work undertaken in 2016 did not record the presence of any otters within a 150m radius of the works area, although it is acknowledged that periodic use of the area for feeding, movement etc. is likely to occur. During construction works it is accepted that there will be a temporary short-term increase in noise and disturbance, although it has been submitted that otters can habituate to high background levels of noise and disturbance as evidenced by their presence in Cork City Centre whilst the ability of otters to move away from disturbance will ensure that any long-term impact on their feeding behaviour will be negligible. It is also stated that there may be some short-term impacts of water quality attributable to elevated levels of silt which may cause temporary changes in the availability of prey and the movement of otter through the catchment area. Similarly, it will be necessary to ensure that there are no obstacles in place during the works which would prohibit the movement of otters between the Ballybrack Stream and the estuary given the evidence of such commuting patterns.

Section 6.6.5 states that there will be a net loss of feeding habitats (trees, grassland & woodland) for bat species although there is no evidence that the affected treelines provide any significant connective routes within the landscape. Indeed, the watercourses will remain as linear routes following completion of the works. No

evidence of breeding bats was recorded and it has been submitted that the overall impact will be localised and is unlikely to significantly impact on bat populations as there will be no loss of critical resources.

In reference to other species, it has been indicated that the terrestrial bird species recorded in the area are of the common variety and that whilst there will be some loss of semi-natural habitats within the works area, the impact of same on nesting and feeding success will be minor whilst any disturbance / displacement impacts consequent on the construction works will be short-term and of a minor nature. With regard to aquatic birds, it is acknowledged that high turbidity levels during construction or accidental hydrocarbon spills may impact on feeding resources, however, it is suggested that this will only affect relatively small sections of the overall catchment in the short-term and that alternative feeding resources will be available elsewhere. In relation to longer-term potential changes in the channel structure and the effect of same on the population of fish and macroinvertebrates, it has been submitted that it will take some time for stable ecological conditions to occur in areas where in-stream works have occurred and thus there may be some medium term impacts on prey availability for predatory species, however, any such impacts are unlikely to be of such severity as to significantly impact on bird populations and thus said impacts can be held to be minor in the short-term and minor-negligible in the longer-term. It is also acknowledged that several protected mammal species such as red squirrel and hedgehog are potentially present within the works area, however, given that only relatively small areas of habitat will be affected it has been submitted that any impact on these species will be both short-term and minor to negligible.

In terms of potential impacts on designated sites, the Board is advised that there is a hydrological connection between the proposed works area and the Douglas River Estuary Proposed Natural Heritage Area (0.5km away) and the Dunkettle Shore Proposed Natural Heritage Area (4km away) (in addition to the Cork Harbour Ramsar Site). In this respect it has been suggested that the due to the separation distances involved, the robust nature of the estuarine habits and the dilution provided by the estuarine environment, any impact on these sites, such as may be attributable to elevated silt levels, will be minor and short-term.

In reference to cumulative impacts, Section 6.6.10 of the EIS notes the potential for the proposed construction works to contribute to increased levels of noise and disturbance etc., however, it has been emphasised that the works will take place in with an urban / suburban context which already experiences relatively high levels of background noise to which the local fauna has become accustomed. It is further reiterated that the proposed construction works will only have a short-term impact and will not result in any long-term impacts on water quality. With respect to post-construction works, it has been suggested that the works will not result in any additional barriers to fish movement / migration along the affected watercourses whilst the removal of trash screens in the Grange Stream may have a net beneficial impact.

Having identified the likely significant impacts on ecological considerations / biodiversity consequent on the proposed works, Section 6.7 of EIS recommends the implementation of a series of mitigation measures which include the following:

- Adherence to the construction methodology detailed in Chapter 4: *'Construction Activities'* of the EIS, including the implementation of an agreed Construction and Environmental Management Plan.
- Measures designed to ensure the protection of those trees (and their root structures) earmarked for retention during the site clearance and construction works.
- Securing of the works areas and the clear identification of access routes so as to avoid inadvertent damage to river banks etc.
- The implementation of a specific invasive species management plan (please refer to Appendix 4.1: *'Outline Invasive Species Management Strategy'* of the EIS) both during and after construction with a monitoring programme to be put in place for three years after the completion of the works.
- The employment of good construction management practices in order to minimise the risk of pollution to soils, surface water, sea water or groundwater, including:
    - The training of site managers, foremen and the workforce in pollution risks and preventative measures.

- The careful siting and bunding of any fuel storage facilities.
- The regular inspection of all vehicles and plant for leaks.
- The provision of adequately sized spill kits.
- The use of collection systems to prevent any contaminated drainage entering surface or ground waters.
- The installation of silt curtains within the works area during in-stream works with the subsequent maintenance and monitoring of same to ensure their effective operation.
- Construction works, especially works that involve the pouring of concrete, must be conducted under dry conditions.
- The checking of weather forecasts daily to allow appropriate measures to be taken to mitigate against any negative impact resulting from heavy rainfall.
- The supervision of works by a suitably qualified ecologist in order to ensure that adequate mitigation is being implemented.

– The preparation and implementation of a dust minimisation plan during the construction phase of the project.

– The implementation of a construction and demolition waste management plan.

Further mitigation measures with regard to minimising any impacts on birds, otters and bat species are subsequently set out in Sections 6.7.1.6 – 7.7.1.8 of the EIS.

With regard to the protection of fish, it is of relevance to note that the proposed works will be carried out in accordance with the provisions of the *'Requirements for the protection of fisheries habitat during construction and development works at river sites'* (Eastern Regional Fisheries Board, 2004), the *'Guidelines on protection of fisheries during construction works in and adjacent to water'* (Inland Fisheries Ireland, 2016) and the *Inland Fisheries Ireland Biosecurity Protocol for Field Survey* (2011). Section 6.7.1.9 of the EIS subsequently sets out a detailed series of mitigation measures which will be implemented during the proposed construction works and in this respect it is notable that the proposal to carry out in-stream works

during the period between May and September (inclusive) would seem to accord with an express requirement detailed in the submission received from Inland Fisheries Ireland. With regard to the remaining aspects of the IFI's submission, I would suggest that adherence to the mitigation measures set out in the EIS will be sufficient to satisfactorily address the potential impact on fish populations within the proposed works area and beyond.

In conclusion, it should be acknowledged that most forms of development will invariably impact on ecological considerations to some degree, however, in this instance, I am satisfied that, on balance, the residual impacts of the proposed development are both localised and of such limited significance and influence as not to warrant a refusal of permission. Accordingly, having considered the available information, in my opinion, the impact of the proposed development on the aforementioned flora and fauna on site is within tolerable limits.

Soils, Geology & Hydrogeology:

Section 11.3 of the EIS describes the soil and bedrock conditions underlying the works area and I would advise the Board that these details are based on a desk-top study of the information available from the Geological Survey of Ireland in addition to on-site investigations.

The bedrock geology underlying the proposed works area is described as including the following (please refer to Figure 11.1 of the EIS):

- Ballytrasna Formation (BS) – purple mudstone and sandstones
- Gyleen Formation (GY) – sandstones with mudstones and siltstones
- Old Head Sandstone Formation (OH) – flasser-bedded sandstone and minor mudstone
- Cuskinny Member (KNcu) – flasser-bedded sandstone and mudstone

In relation to the soil classifications overlying the site, it has been stated that in south Cork the Quaternary deposits are dominated by glacial tills derived from sandstones of the Devonian period whilst those areas where the topsoil is present have generally been found to have acid brown earth soils, although it has been emphasised that most of the subsoils and topsoils around Cork City and its suburbs have been removed or disturbed for development and thus are dominated by made ground.

Notably, the on-site investigations would appear to largely reflect the desktop information derived from the GSI database.

From a hydrogeological perspective, Section 11.3.12 of the EIS details that the GSI aquifer classification has categorised the aquifer underlying the proposed works area (in both Togher and Douglas) as a *'Locally Important Aquifer (LI) - bedrock which is Moderately Productive only in Local Zones'*. In terms of groundwater vulnerability, it has been stated that the rating in Togher ranges from 'Moderate' to 'Extreme' whilst the groundwater vulnerability in Douglas also ranges from 'Moderate' to 'Extreme'. However, whilst the classification in Douglas includes *'Rock at or near the surface or Karst'*, neither the GSI bedrock maps or the on site investigations have indicated karst geology (e.g. limestone) within the proposed works area.

From a review of the available information, it is clear that potential negative impacts on the underlying soil / geology / hydrogeology arising as a result of the proposed development will include the direct physical impact of excavations carried out during the construction works, the possible contamination of soils and groundwater underlying the site due to accidental spillages and leakages etc., and the potential for soil contamination attributable to the spread of invasive species (i.e. Japanese Knotweed) during the construction works. It is not anticipated that the proposed works will have any impact on local water supplies / wells given that the area is served by a public mains water supply as opposed to groundwater wells whilst the shallow depth of the proposed excavations is unlikely to impact on groundwater flows or vulnerability. Indeed, any impact on groundwater levels will be limited to those instances where construction of the scheme will possibly require dewatering of the excavations.

With regard to operational impacts, it has been submitted that the routine maintenance of the scheme will not give rise to any significant impact on soils, geology or hydrogeology. However, it has been acknowledged that the construction of the new flood defence walls and embankments will result in higher water levels within the channel during flood events which could result in a short-term localised reversal in groundwater hydraulic gradients. In this respect it has been submitted that the high water levels in the watercourse will occur over a limited time period and that the impact on groundwater will be low. It is also accepted that there may be localised impacts on groundwater levels in the immediate vicinity of the proposed

flood defence walls and embankment. Nevertheless, it has been asserted that the changes in flood events consequent on the proposed works will not significantly impact on the local hydrogeology.

With regard to the potential constructional impacts of the proposed development, it is of relevance in the first instance to note that it is proposed to reuse as much of the excavated material as possible on site in the flood defence works, for example, through the reinstatement and construction of new embankments and the regrading of footpaths whilst any residual material will be removed off-site to a suitable facility (*N.B.* The *'Outline Japanese Knotweed Management Strategy'* contained in Appendix 4.1 of the EIS outlines the management approach that will be taken to avoiding the spread of this species during the construction phase of the project). With regard to the possibility of contamination / pollution arising as a result of accidental spillages etc., I would refer the Board to the construction mitigation measures set out in Section 11.6.11 of the EIS, and having reviewed same, it is my opinion that the adoption of best practice measures with regard to the removal of soil and bedrock on site and the use of appropriate mitigation mechanisms in order to minimise the accidental release or discharge of hydrocarbons or other contaminated site runoff to ground should be sufficient to address these concerns.

Hydrology (Water):

Chapter 12 of the EIS provides a detailed analysis of the receiving environment and the likely hydrological impacts arising as a result of the proposed development. In this respect it has been reiterated that impacts associated with the construction phase of the proposed development will include the pollution of surface waters through the generation of increased levels of suspended solids arising from ground disturbance / excavation works and the accidental release or discharge of hydrocarbons or other contaminated site runoff, however, the risk of same can be satisfactorily mitigated through the implementation of an appropriate programme of pollution control measures, details of which are set out in Section 12.6 (and Chapter 4) of the EIS, which are effectively tied into good construction practice. More notably, there is an acknowledgement that the works in question could potentially result in a temporary increase in the risk of fluvial flooding from the Tramore River, Ballybrack Stream and the Grange Stream during the construction phase (where in-stream / in-channel works are proposed) and thus it is proposed to provide for the temporary

diversion of watercourses in order to facilitate the construction of replacement culverts. It has also been stated that the risk of flooding could be exacerbated if the temporary diversions do not have sufficient conveyance capacity or if adequate overflow arrangements are not put in place whilst the over-pumping of watercourses, if used, could similarly increase the risk of flooding. The construction phase could also result in a temporary increase in the risk of pluvial flooding given that the works themselves will generate various debris, including silt, which if not handled correctly could result in the blockage of existing drainage networks thereby reducing the capacity of same to drain the surrounding areas during rainfall events.

With regard to operational impacts, reference has been made to the potential for water contamination / pollution attributable to routine maintenance activities (e.g. arising from the accidental release of hydrocarbons from construction plant and storage depots), although any such impact is likely to be both temporary and minimal and can be satisfactorily mitigated by way of adherence to best practice methodologies.

In terms of flood risk, it must be emphasized that the purpose of the flood relief scheme under consideration is to reduce the fluvial and tidal flood risk within both Togher and Douglas by providing a flood defence standard equal to the 1 in 100 year fluvial flood level plus the 1 in 200 year tidal flood event, including freeboard. Furthermore, whilst it has been acknowledged in the EIS that there may be a risk of increased fluvial flooding downstream of the proposed flood defences due to the increased volume of water being conveyed in the channel, it is considered that any such impact will be imperceptible.

It has been stated that the operational phase of the scheme will pose a permanent and slight risk of pluvial flooding in the vicinity of the flood defences due to the increased water levels within the watercourse channel during flood events which could result in the surcharging of surface water drainage outfalls with water backing up through the surface water drainage system causing flooding behind the flood defences. The flood defences could also block existing overland flow routes thereby increasing the risk of pluvial flooding behind the flood defences in the absence of a suitable surface water drainage network.

With regard to the potential impact of the proposed scheme on geomorphological considerations, including the likely impact on the erosion and deposition of sediment in the catchment and how the functioning of the scheme may be adversely affected by same, I would refer the Board to Section 12.5.2.3 of the EIS which details the basis on which it has been concluded that the impact of the scheme on the overall catchment geomorphology, or any high-quality physical river habitat, will likely be limited. This includes an assessment of the potential for localised sediment accumulation within the new culverting during low flow conditions due to the upgraded culvert being wider than the existing culvert thereby leading to a reduction in flow velocities whereby it has been stated that local higher magnitude and longer duration morphologically effective flows will have the effect of flushing sediments through the culverting whilst any localised changes to sediment transport conditions can be monitored through regular inspection protocols.

In response to the impacts identified, Section 12.6 of the EIS reiterates the various best practice construction methodologies which will be employed during the course of the construction works in order to avoid any water pollution / contamination incidents etc. It is also stated that the increased risk of flooding during the construction phase will be alleviated by ensuring that all temporary watercourse diversions have adequate hydraulic capacity to accommodate high fluvial flows or tidal water levels whilst provision will be made for suitable overflow arrangements in order to ensure that high flows can be conveyed downstream without increasing the risk of fluvial flooding. Similarly, the risk of pluvial flooding during the construction stage is to be mitigated by ensuring that all surface water drainage networks in the vicinity of the works area remain clear and free flowing with alternative outfalls constructed as necessary.

Given that the purpose of the proposed works is to reduce the risk of fluvial and tidal flooding no mitigation will be required in respect of same during the operational phase of the scheme, however, in order to mitigate the risk of increased pluvial flooding, it is proposed to install non-return valves on all surface water outfalls due to the risk of surcharging. In addition, new surface water drainage networks will be constructed to address any loss of overland flow routes consequent on the construction of the flood defences.

Having reviewed the available information, on balance, it is my opinion that the risk of a detrimental impact on hydrological considerations associated with the construction, operation and future maintenance of the proposed scheme can be satisfactorily mitigated to within acceptable limits due to both the nature / design of the works proposed and the implementation of an appropriate programme of pollution control measures, which are effectively tied into good construction and site management practice, combined with suitable monitoring arrangements.

Air Quality:

During construction of the proposed scheme the principle impact on air quality will most likely arise from fugitive dust emissions emanating from the on-site construction activity, with particular reference to excavation works and the movement of traffic and materials both within the site and along the surrounding road network, although construction traffic and generators etc. will also give rise to some exhaust fumes. However, the magnitude of any such impacts will depend on the proximity of nearby sensitive receptors in addition to environmental factors including rainfall, wind speed and wind direction. Accordingly, it would be best practice to provide for dust minimisation measures in order to protect the amenities of surrounding properties during construction works on site. In this respect I would refer the Board to Section 10.6 of the EIS which outlines the various mitigation measures that will be implemented during the construction phase as part of a dust minimisation plan, including the erection of 2.4m high hoarding around the site works in order to minimise the dispersion of dust from the working areas, the spraying of surfaces with water to control dust emissions from heavily trafficked locations, the provision of wheel-washing facilities, the control of vehicle speeds and the use of speed restrictions, and the sweeping of hard surface roads. It should also be noted that dust monitoring will be undertaken at the site boundary to ensure the effectiveness of the mitigation measures throughout the construction phase.

Having reviewed the submitted details, given the inherent temporary duration and impact of the proposed construction works, and subject to the implementation of an agreed Construction Management Plan which should include a series of detailed mitigation measures designed to ensure best practice site management and dust minimisation, I am satisfied that the construction of the proposed development will not result in any significant impact on air quality in the surrounding area.

Furthermore, as there will be no emissions generated during the operational phase of the scheme, I would accept that no mitigation measures for air quality are necessitated.

Climatic Considerations:

Whilst the construction of the proposed flood relief scheme will invariably result in the emission of some greenhouse gases due to the use of various construction machinery etc. and the transportation of materials to and from site, in my opinion, the impact of any such emissions on climatic considerations will be minimal whilst some degree of mitigation will likely be achieved through adherence to best practice site management such as the shutting off of equipment during periods of inactivity. Similarly, I would suggest that the climatic impact arising from the generation of greenhouse gas emissions during the course of any subsequent maintenance works will be negligible.

At this point it is also of relevance to reiterate that the proposed scheme within Douglas (Areas 1 to 3) has been designed to protect properties in the study area from 1 in 100 year fluvial / 1 in 200 year tidal flood events and that an allowance for freeboard has also been incorporated into the design in line with the OPW's national standard for constructing flood defence schemes in Ireland. Similarly, the proposed scheme for Togher (Area 4) consists of a replacement culvert which has been designed to meet with OPW Section 50 requirements i.e. it accommodates the 1 in 100 year fluvial flood plus an allowance for climate change and freeboard. The design flood defence levels have been developed as an output of the Lee Catchment CFRAMS and correspond to the modelled 200-year combined event (tidal region), and 100-year flow (fluvial zone) taking account of climate change modelling and freeboard. Furthermore, it has been submitted that the proposed scheme has been designed to ensure it is readily adaptable to climate change e.g. it would be feasible for the heights of the defence walls through Ravensdale to be increased without involving a significant impact on environmental and landscape features thereby increasing the capacity of the channel and allowing it to convey a greater flow through the reach. Conveyance improvements could also be implemented as part of any climate change adaptation strategy as the channel could be deepened in the future without involving a significant impact on the environment. Similarly, the channel could be widened where there is space to accommodate same.

Accordingly, having considered the available information, on balance, I am inclined to accept that when taken in context, and given the scale of the activity involved, the proposed development will not be likely to give rise to any significant impact on wider climatic considerations.

Landscape / Visual Impact:

In terms of assessing the visual impact of the proposed scheme it is of relevance in the first instance to note that the wider landscape type within which the subject lands are located has been classified as *'City Harbour and Estuary'* as per the landscape character mapping set out in the County Development Plan, 2014, whilst the area in question has also been identified as a *'High Value'* landscape with an increased sensitivity towards development. However, given the wider site context within what is predominantly an urbanised landscape (although I would concede that it is punctuated by several notable amenity spaces of increased local value and sensitivity, with particular reference to Ballybrack Woods and Douglas Community Park), I am inclined to concur with the findings of Chapter 7 of the EIS that while the wider landscape character area is identified as being of high value and sensitivity, the subject lands do not possess the main harbour/estuarine landscape characteristics that determine this high value and sensitivity and thus the landscape character of the affected area is perhaps more robust in terms of its ability to absorb development.

In a more localised context, I would agree with Section 7.3.3 of the EIS that more specific aspects of the proposed development works would, without mitigation, be likely to result in significant changes to some sections of the study area, such as through the alteration of the integrity of the river amenity or the setting of notable landscape features / buildings through the removal of trees and the erection of direct flood defences (e.g. flood walls). Furthermore, it is my opinion that Section 7.5 of the EIS provides a reasoned evaluation of the potential constructional and operational impacts of the proposed scheme on landscape considerations. In this regard I would advise the Board that it has been acknowledged that there will be a *'significant negative impact'* on the character of the river corridor arising from the removal of trees and vegetation in and around the Ballybrack Stream banks, especially within Douglas Community Park and at the entrance to Ballybrack Woods. It has also been submitted that there will be a *'significant negative impact'* on the residential amenity

of properties within Ravensdale attributable to the removal of trees. These impacts are perhaps more appreciable on review of the extent of tree removal proposed as detailed in Appendix 3.2 of the EIS and the photomontages contained in Appendix 7.1.

In order to minimise the identified impacts, it is proposed to implement a variety of generalised mitigation measures including the retention of existing trees (where possible), the protection of those trees not proposed for removal, the implementation of a replacement tree planting programme, and by seeking to ensure that riverbanks are left intact and vegetated where possible. More specific mitigation measures are also proposed at a number of locations as follows:

- The siting of the proposed flood walls along the line of the existing wall on the river bank at St Patrick's Mills in the interest of minimising intrusion on the existing landscape character.
- The finish to the new wall on the dry side at St. Patrick's Mills will be sympathetic to the historical character of the built fabric.
- The finish of the new walls on both sides will be sympathetic to the character of the river amenity and existing boundaries along Ballybrack Stream (this will include those sections of the stream which pass through Ravensdale and Douglas Community Park).
- The proposed tree removal at the entrance area to Ballybrack Woods and within Douglas Community Park will be compensated with newly planted trees along the banks specifically within these areas.

On balance, whilst I would acknowledge that some concerns have been raised in the submissions received from third parties as regards the potential negative visual impact of the proposed scheme, with specific reference having been made to the works proposed in the vicinity of Church Street (at the northern end of Douglas Community Park), and whilst I would accept there will some loss of riverine character consequent on the scheme (primarily along the Ballybrack Stream) which will detract from the level of amenity presently enjoyed by certain areas, such as within Douglas Community Park, it is my opinion that the overall landscape, townscape, visual and amenity impacts of the project will be somewhat localised and are within tolerable limits. Furthermore, I would suggest that it is only reasonable to have regard to the

site context in a built-up-area which forms part of a wider urbanised landscape whilst it is also of relevance to note that the residual impact of the scheme will be mitigated in part by the high quality finishes proposed and will be further alleviated as replacement planting matures.

Material Assets:

Archaeological Heritage:

In terms of the archaeological heritage implications of the proposed development, Chapter 13 of the EIS has identified a total of 34 No. archaeological sites listed in the 'Record of Monuments and Places' and the 'Sites and Monuments Record' within a 2km radius of the flood relief scheme. Notably, the following two sites are located within the proposed works area (as opposed to the study area):

- *CO074-095: Mill - woollen*

  Townland: Grange

  Description: Not available

- *CO086-100: Mill - flax*

  Townland: Grange

  Description: Roadside in Donnybrook. Rectangular 5-storey, 10-bay brick-built flax spinning mill designed by R. Brash and built in 1866 for Wallis and Pollock; 1-bay extension to E. Mill foundation of concrete; damaged by fire in 1919 and roof replaced. Internal flooring consists of a matrix of brick, segmental 'jack' arches which are supported on four tiers of cast-iron girders. Two-storey engine and boiler house attached at E end housed Inglis Corliss engine (C. Rynne, forthcoming). Two-storey gabled brick-built offices attached to E. Long one-storey brick-built range to W with modern buildings attached. Closed in 1885 but reopened in 1890 after being re-fitted as a woollen mill (Foley 1991, 31). All now part of industrial estate.

(*N.B.* A wading and metal detector survey of the watercourses was undertaken under licence whilst the stream banks were walked and inspected in an attempt to ascertain the presence of any items of archaeological or cultural heritage significance. No such features were recorded).

With regard to Recorded Monument No. CO074-095, I would advise the Board that this feature comprises the former woollen mill located at Douglas Mills / St. Patrick's Mills which is situated approximately 20m south of the Tramore River channel with the intervening lands occupied by a car park and an access roadway. In this respect I am inclined to concur with the findings of the EIS that the construction of the aforementioned roadway and car park will undoubtedly have given rise to significant amounts of ground disturbance in the recent past and thus it is unlikely that *in situ* archaeological deposits survive in the area. However, it should be acknowledged that the proposed works could potentially have a minor impact on any remaining subsurface archaeological remains.

In reference to Recorded Monument No. CO086-100, this comprises the former flax mill at the eastern end of the Donnybrook Commercial Centre with the Grange Stream at this location having previously formed part of the mill race associated with the historical milling operation. In this regard it is of particular relevance to note that this section of the Grange Stream is presently culverted beneath an existing roadway and hardstanding area whilst the remaining open sections of the watercourse are surrounded by a range of modern buildings and associated infrastructure which would suggest significant ground disturbance in the recent past. The likelihood is that the culverted section of the Grange Stream to the south of Recorded Monument No. CO086-100 was constructed in the latter half of the 20th Century and that these works would have resulted in significant disturbance to surrounding areas. Accordingly, it has been suggested in the EIS to be unlikely that any *in situ* archaeological deposits survive in the area, although any such deposits would be negatively impacted by the proposed works.

Having reviewed the available information, I would concur with the findings of the EIS that the construction of the proposed flood relief scheme has the potential to directly impact on any subsurface archaeology in the vicinity of Recorded Monument Nos. CO074-095 & CO086-100. Furthermore, I would accept that the proposed works could also potentially have a significant negative impact on any previously undisturbed / unrecorded archaeological deposits / features within the wider works area, notwithstanding that survey work of the watercourses and the stream banks has not identified any items of interest. In addition, it is clear that the works themselves will inevitably result in a localised visual impact on the wider setting of

the recorded monuments, although it should be emphasised that any such impacts will be both minor and of a temporary duration.

In order to mitigate the potential for the disturbance of items of archaeological interest during the construction stage of the proposed development, Section 13.5 of the EIS has indicated that it is proposed to carry out archaeological monitoring of ground works at a number of locations including:

- Ballybrack Stream, Douglas townland, in Douglas Community Park
- Ballybrack Stream in Ardarrig and Ballybrack townlands, Ravensdale, Douglas
- Tramore River at Doughcloyne and Lehenagh More townlands, Leheneaghmore Industrial Estate
- Tramore River at Doughcloyne and Lehenagh More townlands upstream of Togher Road Roundabout, Togher.

In addition, intermittent archaeological monitoring / inspections of subsurface disturbance will be carried out in the following areas:

- Grange Stream in Grange and Castletreasure townlands in Donnybrook Commercial Park, Douglas
- Tramore River at St. Patrick's Woollen Mills / Douglas Mills in Grange townland.

Notably, the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs (Development Applications Unit) has indicated that it is in full agreement with the archaeological mitigation proposed in the Environmental Impact Statement and that it has no issue with the proposed works or the recommended archaeological monitoring.

On balance, I am satisfied that the proposed works, subject to the implementation of suitable mitigation measures, are unlikely to have any significant impact on items of archaeological interest.

Architectural & Cultural Heritage:

With regard to the architectural and cultural heritage implications of the proposed development, it is relevance to note that part of the works area will extend into the

Church Street Architectural Conservation Area and the West Douglas Street Architectural Conservation Area whilst the millhouses at the eastern end of the Donnybrook Commercial Centre (RPS Ref. No. 00566), the Douglas Woollen Mills (RPS Ref. No. 00482) and the St. Patrick's Woollen Mills (RPS Ref. No. 01243) have all been designated as protected structures by reason of their inclusion in the Record of Protected Structures contained in the Cork County Development Plan, 2014. The EIS has also identified a number of additional structures / buildings which are considered to be architectural heritage interest along the route of the proposed works by reason of their inclusion in the National Inventory of Architectural Heritage.

Whilst the proposed construction works will inevitably have an adverse impact on the overall setting of the aforementioned structures, any such impacts will be both confined and of a limited duration. With regard to those works to be undertaken in the vicinity of the millhouses at the eastern end of the Donnybrook Commercial Centre (RPS Ref. No. 00566), it is of relevance to note that these works will consist of the construction of a culvert and thus there will be no residual visual impact on the adjacent protected structure following the completion of the works. In relation to the proposed flood defence works to be undertaken in the vicinity of the Douglas Woollen Mills (RPS Ref. No. 00482) and the St. Patrick's Woollen Mills (RPS Ref. No. 01243), I would advise the Board that the proposed flood wall construction at this location will have a minimal impact on the overall setting and wider appreciation of these structures, particularly in light of the extent of modern interventions which have already been carried out at this location. Finally, whilst I would accept that the flood relief scheme will negatively impact to some extent on the setting of certain structures identified in the National Inventory of Architectural Heritage (as detailed in Section 13.4.1 of the EIS), I am inclined to suggest that these impacts are within tolerable limits and that they should be balanced against the wider benefits to both those structures and the wider area in terms of reduced flood risk.

Having considered the available information, it is my opinion that the constructional impact of the proposed works on architectural and cultural heritage considerations will be both limited in scale and extent and will also be of a temporary duration. Furthermore, whilst I would acknowledge that there may be some residual negative impacts on the setting of certain structures identified in the National Inventory of Architectural Heritage upon completion of the works, I would suggest that any such

impacts are of limited significance and will be offset by the wider benefits attributable to the reduced risk of flooding in the surrounding area.

Other Material Assets:

Having reviewed the available information, I would concur with the findings set out in Chapter 15 of the EIS as regards the likely impact of the proposed flood relief scheme on local settlement, commercial and industrial development, services, natural resources and waste management. In this regard it is clear that there will be some disruption to local services, businesses, traffic movement etc. during the construction phase of the proposed scheme, however, this will be of a temporary duration and can be mitigated to some extent through the implementation of traffic management, notification procedures and best practice construction. Similarly, whilst there will be a number of instances of direct impacts within third party properties, I note that provision has been made for the reinstatement of private garden areas and new / replacement planting / landscaping.

In my opinion, the residual impact of the proposal on the surrounding area will be within acceptable limits.

Interactions and Cumulative Effects:

With regard to the inter-relationships between several of the foregoing factors / impacts, I am satisfied that these interactions have been satisfactorily addressed both within this report and throughout the application documentation.

Environmental Impact Assessment: Conclusions:

Having regard to the foregoing, I consider it reasonable to conclude on the basis of the information available, which I consider adequate, that the proposed development, subject to the implementation of the recommended mitigation measures and adherence to suitable monitoring protocols, will not give rise to any unacceptable residual impacts on the surrounding environment.

9.3. ***Appropriate Assessment:***

From a review of the available mapping, including the data maps from the website of the National Parks and Wildlife Service, it is apparent that whilst the proposed development site is not located within any Natura 2000 designation, the subject works will be undertaken both within and adjacent to watercourses upstream of the

Cork Harbour Special Protection Area (Site Code: 004030) and the Great Island Channel Special Area of Conservation (Site Code: 001058). In this respect it is of relevance to note that it is the policy of the planning authority, as set out in Objective No. HE 2-1: *'Sites Designated for Nature Conservation'* of Chapter 13 of the Cork County Development Plan, 2014, to protect all natural heritage sites, both designated or proposed for designation, in accordance with National and European legislation. In effect, it is apparent from the foregoing provisions that any development likely to have a serious adverse effect on a Natura 2000 site will not normally be permitted and that any development proposal in the vicinity of, or affecting in any way, the designated site should be accompanied by such sufficient information as to show how the proposal will impact on the designated site. Therefore, a proposed development may only be authorised after it has been established that the development will not have a negative impact on the fauna, flora or habitat being protected through an Appropriate Assessment pursuant to Article 6 of the Habitats Directive.

Having reviewed the available information (including the *'Screening Report for Appropriate Assessment'* contained in Appendix 6.5 of the EIS), the nature and scale of the proposed development, the specifics of the site location relative to certain Natura 2000 sites, and having regard to the prevailing site topography, in my opinion, by employing the source/pathway/receptor principle of risk assessment, it can be determined that particular consideration needs to be given to the likelihood of the proposed development to have a significant effect on the conservation objectives of the Cork Harbour Special Protection Area and the Great Island Channel Special Area of Conservation on the basis that the lands in question are situated upstream of these Natura 2000 sites and thus drain towards same i.e. it will be necessary to consider the potential for hydrological or water-based pollution / contamination impacts. In this respect I would advise the Board that any deterioration in water quality downstream as a result of the proposed construction works (such as may be attributable to sedimentation, pollution or other contamination) could potentially have a significant adverse impact on those protected habitats and species etc. within the SAC & SPA which are to be maintained and / or restored to a favourable conservation condition pursuant to the relevant conservation objectives.

At this point it is of relevance to note that the Cork Harbour Special Protection Area (Site Code: 004030) comprises most of the main intertidal areas of Cork Harbour, including all of the North Channel, the Douglas River Estuary, inner Lough Mahon, Monkstown Creek, Lough Beg, the Owenboy River Estuary, Whitegate Bay, Ringabella Creek and the Rostellan and Poulnabibe inlets. It is an internationally important wetland site and is of major ornithological significance, being of international importance both for the total numbers of wintering birds (i.e. > 20,000) and for its populations of Black-tailed Godwit and Redshank whilst it also supports nationally important wintering populations of 22 No. species as well as a nationally important breeding colony of Common Tern. The Special Protection Area is of considerable conservation significance and has been designated under the E.U. Birds Directive as being of special conservation interest for the following species (and habitat):

- [A004] Little Grebe *Tachybaptus ruficollis*
- [A005] Great Crested Grebe *Podiceps cristatus*
- [A017] Cormorant *Phalacrocorax carbo*
- [A028] Grey Heron *Ardea cinerea*
- [A048] Shelduck *Tadorna tadorna*
- [A050] Wigeon *Anas Penelope*
- [A052] Teal *Anas crecca*
- [A054] Pintail *Anas acuta*
- [A056] Shoveler *Anas clypeata*
- [A069] Red-breasted Merganser *Mergus serrator*
- [A130] Oystercatcher *Haematopus ostralegus*
- [A140] Golden Plover *Pluvialis apricaria*
- [A141] Grey Plover *Pluvialis squatarola*
- [A142] Lapwing *Vanellus vanellus*
- [A149] Dunlin *Calidris alpina alpine*
- [A156] Black-tailed Godwit *Limosa limosa*

- [A157] Bar-tailed Godwit *Limosa lapponica*
- [A160] Curlew *Numenius arquata*
- [A162] Redshank *Tringa tetanus*
- [A179] Black-headed Gull *Chroicocephalus ridibundus*
- [A182] Common Gull *Larus canus*
- [A183] Lesser Black-backed Gull *Larus fuscus*
- [A193] Common Tern *Sterna hirundo*
- [A999] Wetlands

The NPWS conservation objectives applicable to the site seek to maintain the favourable conservation condition of the aforementioned species as well as the *'A999: Wetlands'* habitat that utilise it.

With regard to the Great Island Channel Special Area of Conservation (Site Code: 001058), the Great Island Channel stretches from Little Island to Midleton, with its southern boundary being formed by Great Island, and is an integral part of Cork Harbour which contains several other sites of conservation interest. Accordingly, the Great Island Channel Special Area of Conservation has been selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive:

- [1140] Tidal Mudflats and Sandflats
- [1330] Atlantic Salt Meadows

The applicable conservation objectives seek to maintain or restore the favourable conservation condition of the Annex I/II habitats (i.e. the qualifying interests) for which the Natura 2000 designation has been selected.

The subject application has been accompanied by a *'Screening Report'* which essentially states that the proposed development will not result in any direct impact on the qualifying interests of the aforementioned Natura 2000 sites (such as by way of a loss of habitat) and that any indirect impacts, which may be attributable to the generation of increased levels of noise and disturbance, the potential for the spread of invasive species, or the possible deterioration in water quality within those watercourses which discharge into Cork Harbour, will be negligible given the limited scope of the proposed works, the separation distance between the works areas and

the designated sites, the proposed implementation of standard environmental control measures, and the level of dilution likely to be provided by the estuary. The report subsequently concludes that the proposed development will not result in any likely significant direct or indirect impacts, either alone or in combination, on the qualifying interests or conservation objectives of the Cork Harbour Special Protection Area and the Great Island Channel Special Area of Conservation.

In screening the subject proposal for the purposes of appropriate assessment, it is necessary to consider the likelihood of any significant effects on the conservation objectives of the aforementioned Natura 2000 sites by way of habitat loss and alteration, habitat or species fragmentation, disturbance and/or displacement of species, and any impacts on water quality and resources.

In the first instance, given that the closest point of the proposed works area is located approximately 400m southwest of the Cork Harbour Special Protection Area and c. 7.0km west of the Great Island Channel Special Area of Conservation, I would concur with the findings of the submitted screening exercise that the proposed flood relief scheme will not give rise to any direct impact on either of the aforementioned Natura 2000 sites by way of habitat loss and alteration. Whilst the submitted Screening Report does acknowledge that there will be a short-term net loss of feeding habitat for Grey Heron (a species of special conservation interest within the Cork Harbour Special Protection Area) within the works area, I would accept that the loss of same will not be of significance in the context of the habitat available elsewhere within the same watercourses and Cork Harbour and as the fish population within the works area would be expected to recover following completion of the scheme thereby restoring habitat value for piscivorous bird species.

In respect of the likelihood of any significant effects pertaining to the fragmentation of habitat or species consequent on the proposed works, I am similarly satisfied that given the separation distances involved, the nature and scale of the works proposed, and the absence of any water-based species or habitats of special conservation interest within the affected sections of watercourse, the proposed works would not result in any significant habitat or species fragmentation within either the Cork Harbour Special Protection Area or the Great Island Channel Special Area of Conservation

In reference to the possibility of the disturbance and/or displacement of species, whilst I would acknowledge that the increased levels of noise and disturbance typically associated with construction works could potentially have an adverse impact on bird species, given the separation distances involved between the works areas and the relevant Natura 2000 sites, the site location within an existing built-up area with relatively high levels of background noise to which species have become accustomed, the short-term nature and limited duration of the proposed works, and the proposed implementation of good practice construction management protocols as regards noise emissions etc., I would concur with the submitted screening exercise that the proposed development will not adversely impact on those bird species listed as qualifying interests for the Cork Harbour SPA.

Given the nature of the proposed works, it is clear that any deterioration in water quality within the Tramore River, Ballybrack Stream or Grange Stream as a result of the accidental (or otherwise) release of substances such as fuels, oils, lubricants, concrete or cementitious materials, the uncontrolled runoff of contaminated waters / suspended solids from construction areas etc., or the disturbance of fine substrates / silt during the carrying out of in-stream works, could potentially have an adverse impact on downstream habitats and species. In this regard it has been submitted that a range of standard environmental control measures will be implemented as part of the project design in order to reduce the levels of silt reaching the downstream aquatic environments whilst the actual levels of silt likely to be generated by the works will not be of significance in the context of the dilution provided by the estuary, particularly as estuarine habitats are considered to be robust in that they naturally experience fluctuations in silt levels to which flora and fauna are naturally habituated. It has also been suggested that in light of the distance between the proposed works and the Great Island Channel Special Area of Conservation, the robust nature of the qualifying habitats for this Natura 2000 site, and the dilution provided by the estuary, the ecological impact on the SAC will be negligible.

With regard to the potential effect on fish populations due to increased silt levels and the consequential impact on adult fish which serve as a food source for piscivorous birds listed as qualifying interests for the Cork Harbour SPA, the applicant's screening exercise has similarly asserted that given the limited nature of the works proposed, the robust nature of the qualifying habitats, and the dilution provided by

the estuarine environment, the ecological impact attributable to elevated silt levels in the SPA will be negligible.

In relation to the potential for downstream impacts consequent on the accidental (or otherwise) release / discharge of hydrocarbons or other contaminants during the construction works, the applicant has sought to reiterate that the impact on the downstream Natura 2000 sites will be negligible due to the separation distances available sites, the robust nature of the qualifying habitats, and the dilution provided by the estuary, whilst it has also been emphasised that best practice environmental control measures will be implemented as standard during the construction phase of the project.

By way of clarity, and in the interest of completeness, it should be noted that the applicant has placed a considerable emphasis on the implementation of best practice measures in arriving at the conclusion that the proposed development is unlikely to give rise to any significant direct or indirect impacts on any of the identified Natura 2000 sites (and other downstream ecology) and thus the compilation of a Natura Impact Statement for the purposes of a Stage 2 Appropriate Assessment is not required. Accordingly, the question arises as to whether or not best industry practice can be considered to form an integral part of the development in question or if it constitutes a means of 'mitigation' which cannot be considered as part of the appropriate assessment screening process. In this regard I would refer the Board in the first instance to the judgement of Mr. Justice Robert Haughton in the case of *Ratheniska Timahoe and Spink (RTS) Substation Action Group and Environmental Action Alliance Ireland v. An Bord Pleanala: 2014 JR 340*, which concerned the Board's decision to grant approval for a development comprising electricity transmission infrastructure and associated works (the Laois – Kilkenny Reinforcement Project), wherein it was held that it was reasonable for both the Inspector and the Board, in the context of assessing any likely "significant effect" when screening the proposed development for the purposes of appropriate assessment, *'to assume that best practice construction management techniques would be adopted to prevent any deterioration of water quality within or upstream of the River Nore SPA'*. This judgement provides some useful clarity as regards *'best practice construction methods'* and would seem to lend credence to the suggestion that it is entirely permissible to consider the implementation of best practice methods

when screening a particular project for the purposes of appropriate assessment. Further support for this position can be derived from *Rossmore Properties Ltd. and Kilross Properties Ltd. v. An Bord Pleanala: 2014 JR 320* which concerned the Board's determination of ABP Ref. Nos. RL09.RL3080, RL09.RL3081 & RL09.RL3113 wherein it had held that the works in question constituted development which was exempted development. In his judgement in that case, Mr. Justice Hedigan stated that *'Where the mitigating factor in question is an intrinsic part of the work to be carried out it makes no sense that [the Board should not take it into account]'.* It was also noted that in the ruling in the case of *Harte DC v Secretary of State for Communities and Local Government* it was stated that *'If certain features (to use a neutral term) have been incorporated into that project, there is no sensible reason why those features should be ignored at the initial, screening stage merely because they have been incorporated into the project in order to avoid, or mitigate, any likely effect on the SPA'.* Therefore, on the basis of the foregoing, it would seem that if the implementation of the various best practice methods proposed to be employed during the course of the works can be held to form an intrinsic part of the works, then it is entirely reasonable to have regard to same in screening the development for the purposes of appropriate assessment.

In addition to the foregoing, it is also necessary to consider the implications of the proposed development as regards the possible spread of invasive species (with specific reference to Japanese Knotweed) and the potential impact of same on downstream Natura 2000 sites. In this regard it has been submitted that the qualifying interests of the Great Island Channel SAC (i.e. Tidal Mudflats and Sandflats & Atlantic Salt Meadows) will not be affected by Japanese Knotweed whilst the invasive species will also not become established on the mudflat habitats within the Cork Harbour SPA on which important bird populations feed. Whilst it is acknowledged that fragments of Japanese Knotweed could potentially become established on the peripheral terrestrial areas of the Cork Harbour SPA, it is submitted that this is likely to be low risk. In further support of the foregoing, reference has been made to the ongoing implementation of a treatment programme within the works area and the proposal to resurvey the entire works area immediately prior to the commencement of any works which will serve to inform the preparation of a final invasive species management plan as outlined in Appendix 4.1 of the EIS.

The potential for cumulative / in-combination impacts with other plans or projects is considered in Section 7.5 of the 'Screening Report' which notes the site location within a heavily populated rea characterised by a mixture of residential estates and retail services etc. before stating that in the absence of any significant impacts associated with the subject works, no potential cumulative impacts have been identified. In this respect, it is my opinion that given the nature, scale and locational context of the proposed works, in addition to the foregoing conclusion that the proposal in isolation would not be likely to significantly affect the integrity of any Natura 2000 sites and would not undermine or conflict with the Conservation Objectives applicable to same, the proposed works would not be likely to give rise to any in-combination / cumulative impacts with other plans or projects which would significantly affect the integrity of any Natura 2000 sites and would not undermine or conflict with the Conservation Objectives applicable to same.

Accordingly, having reviewed the available information, including the *'Screening Report for Appropriate Assessment'* contained in Appendix 6.5 of the EIS, in my opinion, it is reasonable to conclude that, on the basis of the information available, which I consider adequate in order to issue a screening determination, the proposed development, both individually and in combination with other plans or projects, would not be likely to have a significant effect on any European site and, in particular, specific Site Codes: 004030 & 001058, in view of the relevant conservation objectives, and that a Stage 2 appropriate assessment (and the submission of a NIS) is not therefore required.

10.0 **Recommendation**

Approve, subject to conditions, the proposed development based on the reasons and considerations set out below.

11.0 **Reasons and Considerations**

Having regard to:-

a) Directive 2000/60/EC of the European Parliament and of the Council Establishing a Framework for Community Action in the Field of Water Policy, and Directive 2007/60/EC of the European Parliament and of the Council on the Assessment and Management of Flood Risks,

b) the European Communities (Environmental Impact Assessment) Regulations 1989, as amended, and the European Communities (Birds and Natural Habitats) Regulations, 2011,

c) the policies and objectives set out in the Cork County Development Plan 2014,

d) the nature and frequency of the flooding that occurs in Douglas and Togher within the catchment of the Tramore River, the Ballybrack Stream and the Grange Stream, and the potential impacts of climate change,

e) the nature, scale and design of the proposed development, and the pattern of development in the vicinity,

f) the documentation and submissions of the local authority, including the environmental impact statement and associated documentation submitted with the application and further information, and the range of mitigation measures proposed,

g) the submissions and observations made to An Bord Pleanála in connection with the application, and

h) the likely consequences for the environment and the proper planning and sustainable development of the area in which it is proposed to carry out the proposed development and the likely significant effects of the proposed development on European sites,

it is considered that, subject to compliance with the conditions set out below, the proposed development would not:

- have adverse consequences for hydrology or hydrogeology,
- result in significant impacts on ecology or on the aquatic environment, or on any protected species or habitat,
- give rise to a risk of pollution,

- have a significant effect on soils or geology,
- give rise to significant visual or landscape impacts,
- have a detrimental impact on archaeological or architectural heritage,
- be detrimental in terms of traffic safety and convenience, and
- would not seriously injure the amenities of the area or of property in the vicinity.

It is considered that the proposed development would result in a benefit to the area by relieving serious and frequent flooding, would be in the interest of the common good, would be in accordance with the policies and objectives set out in the Cork County Development Plan 2014 and would, therefore, be in accordance with the proper planning and sustainable development of the area.

12.0 **Conditions**

1. The proposed development shall be carried out and completed in accordance with the plans and particulars, including the environmental impact statement, and other associated documentation, lodged with An Bord Pleanála on the 15th day of May, 2017, except as may otherwise be required in order to comply with the conditions set out below.

   Reason: In the interest of clarity.

2. The mitigation measures contained in the environmental impact statement and the documentation submitted with the application, shall be implemented in full, except as may otherwise be required in order to comply with the following conditions, and in accordance with a time schedule for implementation that shall be made available for public inspection at the offices of the local authority prior to commencement of development and for a following period at least until completion of construction.

   Reason: In the interest of clarity and the protection of the environment.

3. The developer shall facilitate the preservation, recording and protection of archaeological materials or features that may exist within the site. In this regard, the developer shall –

    a) notify the planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development,
    b) employ a suitably-qualified archaeologist who shall undertake archaeological monitoring as identified in the EIS. The archaeologist shall apply for an Excavation Licence to monitor the works which shall be accompanied by a detailed method statement that addresses all archaeological requirements as identified in the EIS and includes a definitive finds retrieval strategy
    c) provide arrangements, acceptable to the planning authority, for the recording and for the removal of any archaeological material which the authority considers appropriate to remove.

    In default of agreement on any of these requirements, the matter shall be referred to An Bord Pleanála for determination.

    Reason: In order to conserve the archaeological heritage of the area and to secure the preservation (in-situ or by record) and protection of any archaeological remains that may exist within the site.

Robert Speer
Planning Inspector

5th October, 2017