15 Material Assets

15.1 Introduction

This chapter describes and assesses the potential impacts of the proposed Douglas Flood Relief Scheme (FRS) (including Togher culvert) on material assets. The existing environment is also described. Mitigation measures are proposed, where required and the predicted residual impacts are described.

The proposed development, a flood relief scheme, will consist of a series of measures and structures designed to reinforce the river banks, to mitigate flooding risk in the Cork City south environs, principally in the areas of Douglas, Donnybrook and Togher, along the Tramore River, Grange Stream and Ballybrack Stream.

Material assets are defined in the EPA Advice notes on current practice in the preparation of EIS (EPA 2003) as '*resources that are valued and that are intrinsic to specific places, they may be either human or natural origin and the value may arise for either economic or cultural reasons*'.

This chapter addresses the following aspects:

- Local Settlement,
- Commercial and Industrial Development
- Services,
- Natural Resources,
- Waste Management.

15.2 Methodology

This chapter has been prepared having regard to the following guidelines:

- Advice Notes on Current Practice in the preparation of Environmental Impact Statements (EPA 2003);
- Guidelines on the Information to be contained in Environmental Impact Statements (EPA 2002);
- Advice Notes on Current Practice in the Preparation of Environmental Impact Statements Draft September 2015 (EPA 2015) ;
- Revised Guidelines on the Information to be Contained in Environmental Impact Statements Draft September 2015 (EPA 2015);
- Censuses of Ireland 2006 and 2011;
- Central Statistics Office Quarterly National Household Survey Quarter 2 2016 (www.cso.ie);
- Cork City and County Councils Cork Area Strategic Plan 2001-2020;
- Cork County Council, Cork County Development Plan 2014;
- Fáilte Ireland Annual Report 2014;

- The Cork Area Strategic Plan – Strategy for Additional Economic and Population Growth – An Update (Indecon, RPOS and Savills HOK, 2008);
- Local Electoral Area Boundary Committee, Committee Report (2013);
- South West Regional Authority Regional Planning Guidelines 2010-2022;
- Waste Management Plan for Cork County 2015-2021.

A desk study was carried out on the existing material assets associated with the site of the proposed development. Projections of resource use were made, for both the construction and operational phases of the development, and the impact assessed.

Where relevant, impacts on particular material assets such as the road network and construction waste disposal facilities are considered in detail elsewhere in this EIS. Refer to **Chapters 4 Construction Activities** and **Chapter 14 Roads and Traffic** of this EIS for further assessment of the impact of the proposed development on these assets. Cultural heritage is dealt with in **Chapter 13 Archaeological, Architectural and Cultural Heritage** of this EIS. Refer to **Chapter 3 Description of the Proposed Development** of this EIS for a detailed description of the site and surrounding areas.

15.3 Receiving Environment

15.3.1 Local Settlement

The receiving environment for the proposed FRS refers to the areas in which works are proposed. These are in the vicinity of the Tramore River, Grange Stream and Ballybrack Stream in Togher, Donnybrook and Douglas respectively, in Cork City and County. The main settlements within the area are Togher and Douglas. However, the location for the scheme is a predominantly urban and built-up zone, mostly residential, community and commercial developments, with a number of small industrial estates. For the purposes of this EIS, the population study area will comprise the District Electoral Divisions (DEDs) within which the FRS study area is located. These include Lehenagh, Douglas, and Innishkenny. Refer to **Chapter 3 Description of the Proposed Development** of this EIS for further detail of the locations of the scheme.

15.3.2 Commercial and Industrial Development

The works will take place in close proximity to a number of commercial and industrial developments including the multi-unit developments at Lehenaghmore Industrial Estate, Donnybrook Commercial Centre, St Patricks Mills and the development along the left bank of the Ballybrack Stream opposite Douglas Community Park and Timber Joinery Workshop in Ravendsale. In Togher there is a commercial premises located in close proximity to the proposed works including convenience supermarket and dental practice located along Togher road and commercial premises at the northern junction of Greenwood Estate with Togher Road.

15.3.3 Services

This section reviews the services within the study area, assesses the potential impact on each service and describes the mitigation measures to be implemented to minimise any impacts.

Utility data for the study area has been collated from the following sources:

- Utility records received from the various providers including Cork County Council, Irish Water, ESB, Gas Networks Ireland, Virgin Media, Eir, E-NET and British Telecom (BT).
- Site visits.
- Survey information including topographic and utility surveys.
- Site investigation data including slit trenches and ground penetrating radar.

15.3.3.1 Wastewater

This section reviews the existing wastewater infrastructure, including pipe networks, pumping stations and treatment plants within the study area. The following is a brief description of the wastewater infrastructure in the study area:

- A 450mm diameter sewer crosses the Grange Stream in Donnybrook Commercial Centre
- 600mm and 1500mm diameter sewers cross the Ballybrack Stream to the south of Church Road
- A 450mm diameter sewer crosses the Ballybrack Stream in Douglas Community Park
- A 225/300mm diameter sewer is laid parallel to the Tramore River along Lehenaghmore Road and Togher Road. There are a number of connections to this sewer from the adjoining roads and buildings

15.3.3.2 Water Supply

This section reviews the existing water supply infrastructure, including pipe networks, pumping stations and treatment plants, within the study area. The following is a brief description of the water supply infrastructure in the study area:

- A 150mm diameter pipe crosses and is laid parallel to the proposed works in Donnybrook Commercial Centre
- A 100mm diameter pipe is laid parallel to the Ballybrack Stream through Ravensdale
- A 1200mm diameter pipe crosses the Ballybrack Stream at the ICA Hall
- A 150mm diameter pipe crosses the Ballybrack Stream at Church Road

- A 76mm diameter pipe is laid parallel to the Ballybrack Stream along the Pond Bank
- A 100mm diameter pipe crosses the Tramore River at Brooke Avenue
- A 150/100mm diameter pipe is laid parallel to the Tramore River along Lehenaghmore Road and Togher Road. There are a number of pipes of varying diameter, from Spur Hill, Robinscourt, Elmvale Close and Greenwood Estate, connected to this watermain
- A 600mm diameter pipe is laid parallel to the Tramore River along Togher Road

15.3.3.3 ESB

This section reviews the existing ESB infrastructure, including underground and overhead infrastructure, within the study area. The following is a brief description of the ESB infrastructure in the study area:

- 10kV/20kV underground power lines in Donnybrook Commercial Centre
- 230V/400V overhead power lines adjacent to and crossing the Ballybrack Stream in Ravensdale
- 230V/400V underground power lines cross the Ballybrack Stream at Church Road
- 230V/400V underground power line is laid parallel to the right bank of the Ballybrack Stream in Douglas Community Park
- 10kV/20kV underground power line is laid adjacent to the Tramore River in St Patricks Mills
- 230V/400V overhead power lines are located along Lehenaghmore Road and Togher Road
- 230V/400V underground power lines are located at various locations along Togher Road
- A substation is located adjacent to the Ballybrack Stream in Douglas Community Park
- A substation is located adjacent to the Ballybrack Stream to the south of Church Road

15.3.3.4 Gas Networks Ireland

This section reviews the existing Gas Networks Ireland infrastructure, including distribution and transmission infrastructure, within the study area. The following is a brief description of the Gas Networks Ireland infrastructure in the study area:

- A 125mm (4 bar) gas main is located within Donnybrook Commercial Centre
- A 180mm (4 bar) and 125mm (75 mbar) gas mains cross the Ballybrack Stream at Church Road

- A 63 mm (4 bar) and 125mm (75 mbar) gas mains are located within the footpath of the Tramore River Bridge on West Douglas Road
- A 315mm (4 bar) gas main is laid along Lehenaghmore Road
- A 180mm (75 mbar) gas main is laid along Togher Road
- Numerous 75 mbar connections, of varying pipe size, to the 180mm gas main are located on Togher Road
- A 150mm (4 bar) gas main is laid parallel to the Tramore River at Togher Road and the sports ground to the north of the Greenwood Estate

15.3.3.5 Telecommunications

This section review the existing telecommunications infrastructure, including Eir, British Telecom, Virgin Media and E-Net infrastructure, within the study area. The following is a brief description of the telecommunications infrastructure in the study area:

- BT and Eir ducting in Donnybrook Commercial Centre
- Virgin Media, BT and Eir ducting in Ravensdale and crossing the Ballybrack Stream at Church Road
- Virgin Media, E-Net and Eir ducting in Lehenaghmore Road and Togher Road. There are numerous ducts crossing the existing Tramore River culvert along Lehenaghmore and Togher Road.

15.3.4 Waste Management

A desktop study has been undertaken as part of this EIS to review the licensed waste facilities in proximity of the proposed scheme.

As discussed in detail in **Chapter 11 Soils, Geology and Hydrogeology**, facilities In Ireland carrying out waste activities are required to obtain authorisation in accordance with the Waste Management Act 1996, as amended. Depending on the type of waste activities carried out at the facility may be exempt or require either a waste licence, waste facility permit (WFP) or a certificate of registration (COR).

The EPA database and the National Waste Collection Permit Office (NWCPO) were reviewed for licensed waste facilities in proximity to the proposed works. **Table 15.1** presents the licensed waste facilities in proximity to the scheme and the type of waste they accept.

There are no licensed landfills operating within the scheme. The closest landfill site to the Study Area is at Bottlehill, approximately 20km north of Douglas however activities at the site have not commenced according to the Plan (2015). The Kinsale Road Landfill is approximately 1.5km northeast of Douglas Community Park and is a former landfill. The site is now closed and is currently a civic amenity site for domestic use only and operated under an EPA Waste Licence (Registration No. W0012-03).

Table 15.1: Cork County Council permitted Waste Facilities - Certificates of Registration, in the Study Area

Facility Name	Permit No.	Location	Waste accepted
Instant Waste Disposal Ltd.	WFP-CK-11-0095-01	Grange, Douglas	Wood, paper, cardboard, mixed construction and demolition waste, plastics, metals, mixed municipal waste.
David O'Leary	WFP-CK-13-0134-01	Unit 16 Togher Industrial Estate, Togher	End of life vehicles.
Pouladuff Dismantlers Cork Ltd.,	WFP-CK-10-0070-03	Airport Road, Cork	Waste metals, end-of-life vehicles and associated parts, batteries, glass, plastic, waste alumina.
Cork Hygiene Ltd.	WFP-CK-09-0015-02	Sarsfield Road	Wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, and diapers).
Ocon Chemicals Limited	WFP-CC-02/2016	Unit 5, South Cork Industrial Estate, Vicars Road, Cork City.	Sharps, medicines, discarded electrical and electronic equipment.
Emerald Waste Company Ltd.	COR-CC-04/2013	Kinsale Road	Biodegradable kitchen and canteen waste, mixed municipal waste.
Cork Recycling Company Ltd.	WFP-CK-14-0141-01	Lehenaghmore, Togher	Waste from wood not otherwise described (timber block rejects); Packaging; Concrete bricks, tiles and ceramics; Wood; Bituminous mixtures; Soil and Stone; C&D; Garden & Park; Other municipal wastes; Paper & Cardboard; WEEE.
CND Recycling Ltd.	WFP-CC-08/2015	South Ring West Business Park, Tramore Road	Plant tissue waste, sawdust, shavings, plastic packaging, plastic, bricks, concrete, mixed metals, minerals, rubber, glass, textiles, WEEE, mixed municipal waste, bulky waste, wood, soil and stones.

15.4 Characteristics of the Proposed Scheme

The proposed development will consist of the implementation of flood defences, in various forms, along the Ballybrack Stream and Tramore River. The entire Douglas FRS (including Togher culvert) consists of a number of measures which are summarised below and described in detail in **Chapter 4 Construction Activities**.

- Construction of new flood defence walls and/or replacement of existing walls with new flood defence walls;
- Replacement of and/or extension of existing culverts;
- Removal of and/or replacement of bridges;

- Removal of existing trash screens and construction of new screens;
- Local channel widening, deepening, realignment and regrading of river channel;
- Construction of new earthen flood defence embankment;
- Provision of civil works such as road/footpath re-grading at a number of locations;
- Removal of vegetation and trees to facilitate construction works;
- Protecting drainage outlets along the line of flood defence works;

Once construction is completed, ongoing maintenance of the river channel, trash screens etc. will be carried out.

15.5 Evaluation of Impacts

15.5.1 Construction Impacts

15.5.1.1 Local Settlement

The construction phase of the proposed scheme will be 18 months in total, however, localised works will be much shorter in duration. The impacts on local settlement during construction have been largely dealt with in other sections of this EIS, namely **Chapter 8 Population and Human Health, Chapter 9 Noise and Vibration, Chapter 10 Air Quality and Climate,** and **Chapter 14 Roads and Traffic**. Please refer to these chapters for construction impacts on local settlement.

In total, the scheme will impact on the curtilage of 9 no. residential properties, 8 in Douglas and 1 in Togher, and 7 no. social / community developments including the Church of the Way of the Cross, Togher Primary School, Togher Music School and Togher Community Association along Togher Road, Douglas Community Park and the HSE building and ICA Hall in Ravensdale.

In Togher, there will be disruption to residential property to the west of the existing section of open channel at Lehenaghmore Road during construction. The works in this area will consist of the construction of a new culvert in place of the open channel, a new footpath to connect the existing footpath on the western side of Lehenaghmore Road to the footpath on Spur Hill and a new boundary wall at the edge of the path. A number of trees will be removed to facilitate the construction of the scheme in this area.

At Togher Road, there will be disruption to the eastern boundary of the church, primary school and music school to facilitate the construction the works. No permanent works are proposed in these areas but they form part of the proposed works area to provide adequate room for the works to be constructed while maintaining traffic flow on Togher Road.

In Douglas Community Park, the area of the park to the west of the footpath / cycle track running through the park will be closed during construction, including the walkway nearest the stream and the outdoor exercise equipment.

The construction works in this area will consist of the widening of the existing channel in the southern part of the park and the construction of a low flood defence embankment in the northern half of the park. Stabilisation works to both banks are also required. The construction of the scheme will also require a number of trees within the park to be removed.

In Ravensdale, there will be disruption to all residential properties located along the stream bank. The gardens of the properties adjacent to the Ballybrack Stream will be inaccessible while the defences in that location are constructed. Once construction is complete, the gardens will be fully reinstated. The works proposed in Ravensdale consist of the construction of new reinforced concrete flood defence walls, widening and realignment of the Ballybrack Stream downstream of Middle Ravensdale Bridge and the replacement and relocation of Lower Ravensdale Bridge. The proposed walls will be stone clad in this area. To construct the works in this area, existing trees and vegetation along the stream bank will be removed.

There will also be disruption to the grounds of the ICA Hall between the building and the Ballybrack Stream. It is proposed to widen the channel by 2m in this area and construct new reinforced concrete flood defence walls along both banks. The walls will be stone clad on both sides in this area. The existing access bridge to the ICA Hall will be removed as part of the works and a new pedestrian access provided. The disruption to the HSE building will involve the temporary loss of use of the area in the vicinity of the existing western boundary wall. This wall may need to be strengthened to facilitate the regrading of the access road to the properties in Ravensdale.

The above impacts will be temporary during the construction phase of the scheme and generally consist of lands adjacent to the watercourse being inaccessible for short durations while each section of the scheme is constructed. It is considered that the works will have a slightly negative impact on these properties during the construction phase.

15.5.1.2 Road and Transport Network

The proposed FRS works will require traffic diversions during the construction phase to facilitate construction works. In Togher, the Togher Road will need traffic management for proposed works on the culvert. In Douglas, West Douglas Street, Church Road and Ravensdale will likely experience traffic disruptions during construction. Construction impacts on the roads and transportation network are detailed in **Chapter 14 Roads and Traffic**.

15.5.1.3 Commercial and Industrial Development

The proposed FRS works will take place in proximity to a number of commercial and industrial developments. In total, the scheme will impact on the curtilage of 5 commercial/industrial developments, including the multi-unit developments at Lehenaghmore Industrial Estate, Donnybrook Commercial Centre, St Patricks Mills, the development along the left bank of the Ballybrack Stream opposite Douglas Community Park and Timber Joinery Workshop in Ravendsale.

In Lehenaghmore Industrial Estate, there will be disruption to the existing parking area and circulatory road at the northern boundary of the site. The works in this area will comprise the construction of a new culvert along the northern boundary of the parking area / circulatory road and the construction of a new trash screen upstream of the existing screen. The construction of the trash screen will require the removal of any trees in the vicinity, however, the hedgerow between the industrial estate and Brooke Avenue will be maintained.

At St Patricks Mills, there is no direct impact to the existing commercial developments, however, the majority of the existing car park adjacent to the Tramore River will be closed during the construction phase.

The impact to the commercial development along the western bank of the Ballybrack Stream at Douglas Community Park will be temporary to construct the proposed bank stabilisation works. Any stabilisation works required to the existing concrete walls which form part of this development will be undertaken from the channel.

In Ravensdale there will be temporary impact due to the disruption caused by the construction works.

In Donnybrook Commercial Centre, there will be a temporary impact on the businesses due to the construction of the proposed culvert. The existing access route to the eastern part of the centre to be closed during construction.

The above impacts will be temporary during the construction phase of the scheme and generally consist of lands adjacent to the works being inaccessible for short durations while each section of the scheme is constructed. It is considered that the works will have a slightly negative impact on these properties during the construction phase.

15.5.1.4 Services

During the construction of the scheme in Douglas and Togher there will be a number of conflicts with existing utilities. These impacts may require the relaying and/or realignment of the utilities local to the proposed works. Relaying the utilities is anticipated to be required where the existing utilities are located immediately adjacent to the proposed defences.

In Donnybrook Community Centre, it is envisaged that any services clashing with the proposed culvert upgrade will be diverted locally to facilitate the construction of the scheme.

In Douglas, it is envisaged that a number of permanent local diversions will be required to provide adequate space for the construction of the flood defence walls. Temporary diversions will also be required to facilitate the construction of the proposed culvert at Church Road. In Douglas Community Park, it is anticipated that the existing services laid parallel and in close proximity to the Ballybrack Stream will be permanently diverted. This includes the ESB substation in the park. The ESB substation located to the south of Church Road will also be relocated.

There are a number of large diameter wastewater sewers and water supply pipes crossing the Ballybrack Stream in the vicinity of Church Road. It is envisaged that these pipes, including the 1500mm and 600mm diameter foul sewers and the 1200mm diameter watermain, will be protected in place and the proposed flood defence walls designed to span over the utilities.

At St Patricks Mills it is envisaged that any services clashing with the proposed flood defence wall will be diverted locally.

In Togher, it is envisaged that there will be a significant number of permanent local diversions required to construct the proposed culvert. Temporary diversions will also be required to facilitate the construction of the culvert in Lehenaghmore Road and Togher Road.

Some minor and temporary disruption to the existing services which are to be diverted will occur during the construction of the scheme. This disruption is expected to be over a short duration and therefore no significant impacts on the operation of these services in Douglas and Togher is anticipated.

15.5.1.5 Natural Resources

The construction of proposed FRS will require natural resources in the form of engineering fill, water, electricity and fuel for construction vehicles and plant machinery.

15.5.1.6 Waste Management

The proposed scheme will not impact on waste management operations in the area. However, construction works associated with the proposed scheme are likely to generate construction waste from excavation works and general construction activities.

Excavated material will be generated from ground preparation for foundations flood defence walls, embankments, regarding and channel widening and deepening works. Where possible excavated material will be re-used on site. Where material must be removed from site it will be classified under the Commission Regulation (EU) No. 1357/2014 and categorised according to List of Wastes (LoW) of the revised Waste Framework Directive (2008/98/EC) and of the European Council decision (2014/955/EEC). These classifications will determine the suitable location of disposal.

Refer to **Chapter 4 Construction Activities** for further details on construction waste management.

15.5.2 Operational Impacts

15.5.2.1 Local Settlement

Generally the operational impact of the scheme will be positive due to the standard of protection to be provided against flooding.

There will be no operational impacts on the properties in Togher, however, there will be an impact in Douglas Community Park and Ravendale.

In Douglas Community Park, there will be a loss in the recreational area of the park due to the widening and stabilisation works proposed along the right bank of the Ballybrack Stream. The residential property on the left bank of the Ballybrack Stream, immediately north of Church Road, will be impacted due to the reconstruction of the existing embankment. This impact will be limited to the garden adjacent to the stream. These impacts are considered to be minor as the loss of land in the park is small in the overall context of the park and the new embankment along the left bank will generally be constructed on the footprint of the existing embankment.

In Ravensdale, there will be a permanent loss of land at the ICA Hall and the three properties along the left bank of the stream to the south of the ICA Hall due to the widening and realignment of the Ballybrack Stream. The impact on the ICA Hall and the property located at Middle Ravensdale Bridge will be minor with the impact due to the channel realignment to the two properties accessed from Lower Ravensdale Bridge considered moderate due to the close proximity of the flood defence walls and loss of land.

Once operational the FRS will require maintenance activities. These activities will include clearing of the trash screens to prevent blockages, inspection of the defences, repair works and invasive plant species (Japanese knotweed) treatment. Refer to **Appendix 4.1** for details on the treatment strategy for the scheme in relation to managing the Japanese knotweed.

15.5.2.2 Road and Transport Network

Operational impacts on the roads and transportation network are detailed in **Chapter 14 Roads and Traffic**.

15.5.2.3 Commercial and Industrial Development

There will be no significant operational impacts on the commercial and industrial developments in Togher, St Patrick's Mill, Douglas or Donnybrook Commercial Centre.

Once operational, the FRS will require maintenance activities. These activities will include clearing of the trash screens to prevent blockages, inspection of the defences, repair works, removal of trees and vegetation and invasive plant species (Japanese knotweed) treatment. Refer to **Appendix 4.1** for details on the treatment strategy for the scheme in relation to managing the Japanese knotweed.

15.5.2.4 Services

There will be no operational impacts on services due to the scheme.

15.5.2.5 Natural Resources

There will be no operational impacts on natural resources due to the scheme.

15.5.2.6 Waste Management

There will be no operational impacts on waste management due to the scheme.

15.6 Mitigation Measures

15.6.1 Construction Mitigation Measures

15.6.1.1 Local Settlement

The impact of the scheme during the construction stage has been carefully considered in the design of the defences. Vehicular and pedestrian access to all properties will be maintained throughout the construction of the scheme.

In Douglas Community Park, the proposed works are limited to the area in the vicinity of the Ballybrack Stream. This will require the closure of the walkway closes to the stream but the existing footpath / cycle track running through the centre of the park will be open throughout the construction period. The outdoor exercise equipment impacted by the scheme will be reinstated / relocated on completion of the works.

In Ravensdale, it is proposed to use precast concrete U channels in areas where space is restricted. This will minimise the land required in the gardens of the existing properties to construct the works.

15.6.1.2 Road and Transport Networks

Mitigation measures for impacts on roads and transport networks are discussed in **Chapter 14 Roads and Traffic**.

15.6.1.3 Commercial and Industrial Development

In Lehenaghmore Industrial Estate, the horizontal and vertical alignment of the culvert has been designed to minimise the construction impacts. Also, it is proposed to construct the new trash screen adjacent to the existing river channel to minimise the impact on the river itself and the industrial estate circulatory road.

At St Patricks Mills the construction methodology chosen for the flood defence wall will minimise the time taken to complete the works and therefore, minimise the impact on the car park adjacent to the Tramore River.

In Donnybrook Commercial Centre, a temporary access to Donnybrook Hill will be constructed to maintain access to the properties in the eastern part of the development during the construction of the new culvert.

15.6.1.4 Services

Standard industry practice for construction works will ensure the safety of the workers and maintain the integrity and operational functions of any service, above or underground.

Prior to construction, drainage networks, electrical cabling, gas pipelines, and telecommunications infrastructure will be reported in detail and incorporated into the detailed design of the scheme to avoid any clashes where possible. All diversions will be designed and constructed in accordance with the requirements and under the supervision of the relevant utility provider. Businesses and residents will be notified in advance of any disruptions. Contractors will be provided with all the locations of any services.

15.6.1.5 Natural Resources

No mitigation measures will be required during the construction of the scheme.

15.6.1.6 Waste Management

Standard mitigation measures for dealing with waste arising will be employed, including the implementation of a CEMP. Further details of mitigation of construction waste can be found in **Chapter 4 Construction Activities**, and **Chapter 11 Soils, Geology and Hydrogeology**.

15.6.2 Operational Mitigation Measures

15.6.2.1 Local Settlement

To mitigate the impact on the existing walkway in the park due to the widening of the channel and construction of the flood defence embankment, the walkway will be realigned adjacent to the top of the proposed bank adjacent to the channel widening. At the location of the embankment, the walkway will be constructed on top of the embankment.

To mitigate the impact on the parking / turning area at the properties accessed by Lower Ravensdale Bridge, a new car parking area will be provided to the south of the property.

15.6.2.2 Road and Transport Networks

No mitigation measures will be required during operation of the scheme.

15.6.2.3 Commercial and Industrial Development

No mitigation measures will be required during operation of the scheme.

15.6.2.4 Services

No mitigation measures will be required during operation of the scheme.

15.6.2.5 Natural Resources

No mitigation measures will be required during operation of the scheme.

15.6.2.6 Waste Management

No mitigation measures will be required during operation of the scheme.

15.7 Residual Impacts

The residual impact of the scheme on each aspect viz; Local Settlement, Commercial and Industrial Development, Services, Natural Resources and Waste Management will be minimised through mitigation, but is expected to be slight.

15.8 References

Environmental Protection Agency (2015) *Revised Guidelines on the Information to be Contained in Environmental Impact Statements Draft September 2015*

Environmental Protection Agency (2015) *Advice Notes for Preparing Environmental Impact Statements Draft September 2015*

Environmental Protection Agency (2002) *Guidelines on the Information to be contained in Environmental Impact Statements*

Environmental Protection Agency (2003) *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*

Southern Waste Region (2015) Southern Region Waste Management Plan 2015-2021