

17 Material Assets

17.1 Introduction

This section describes the likely significant effects of the proposed scheme on material assets. Where necessary, mitigation measures are identified to reduce effects and the likely residual effects are described. Material assets are defined¹ as: “*Resources that are valued and that are intrinsic to specific places*”

Whilst the current draft EPA Guidelines² state that Material Assets:

“Can now be taken to mean built services and infrastructure.”

The purpose of this assessment is therefore to consider both the direct and indirect likely significant effects of the proposed scheme on existing services and infrastructure, including:

- Land and Property Ownership;
- Electricity and Lighting;
- Telecommunications;
- Gas;
- Water Supply Infrastructure; *and*
- Sewer Network and Drainage Infrastructure.

Material assets of natural origin are addressed separately in other chapters of this EIAR, such as **Chapter 8**, *Air quality and Odour*, **Chapter 10**, *Biodiversity*, **Chapter 13**, *Land and Soils*, **Chapter 14**, *Water*, and **Chapter 7**, *Traffic and Transport*.

Chapter 4, *Description of the Proposed Scheme*, provides a full description of the proposed scheme and **Chapter 5**, *Construction Strategy*, describes the construction strategy for the proposed scheme. The following aspects are particularly relevant to the material assets assessment:

- Design:
 - Proximity of the proposed scheme to existing material assets;
 - Land-use requirements; *and*
 - Interaction with the Arklow WwTP project.
- Construction:
 - Land acquisitions;
 - Diversions required to undertake construction activities in the vicinity of existing material assets;

¹ EPA (2015) Advice Notes for Preparing Environmental Impact Statements.

² EPA (2017) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports: Draft August 2017.

- Intrusive construction activities occurring in proximity to existing material assets; and
- Interaction with the Arklow WwTP project.
- Operation:
 - Land-use/access restrictions for maintenance works; *and*
 - Land-acquisition.

17.2 Assessment Methodology

17.2.1 Guidance and Legislation

This chapter has been prepared having regard to the overarching EIA guidance as described in **Section 1.3.1 of Chapter 1, Introduction**. The significance of effects has been determined based on the severity of potential disturbance to existing material assets.

This Section has been prepared in accordance with relevant European Union and Irish legislation and guidance, including the requirements of Directive 14/52/EU on the assessment of the effects of certain public and private projects on the environment (Environmental Impact Assessment (EIA) Directive) and in accordance with Schedule 6 of the Planning and Development Regulations 2001 as amended (S.I. No. 600 of 2001) and conforms to the relevant requirements as specified therein.

Using the EPA guidelines and taking account of aspects which are covered separately in this EIAR, the material assets considered herein address built services and infrastructure (including electricity, telecommunications, gas, water supply infrastructure and sewerage) and land use.

17.2.2 Significance Criteria

The significance criteria used to categorise significant effects on material assets is set out in **Table 17.1** and has been developed based on the description of significant effects as outlined in the guidance².

Table 17.1: Significance criteria for likely significant effects on material assets

Significance Level / Degree of Impact	Definition
Profound	Occurs where a non-agricultural property or other material asset of national or regional importance is acquired and/or demolished
Very Significant	Occurs where part, or all, of a non-agricultural property or other material asset is acquired, which may result in demolition of the property or removal of more than one asset in the area, e.g. a cluster of properties in one area are proposed to be demolished or impact to a substantial community asset, or where acquisition results in loss of employment and total loss of the business
Significant	Occurs where part, or all, of a non-agricultural property or other material asset is acquired, which may result in demolition of the property or removal of the

Significance Level / Degree of Impact	Definition
	asset, e.g. a single dwelling in one area is proposed to be demolished or removal of a business, or where acquisition results in partial loss of the business or total loss of the business without loss of employment
Moderate	Occurs where part, or all, of a non-agricultural property or other material asset is acquired, resulting in a major change to the environment of the property or material asset, e.g. the full acquisition of a property or a large portion of landtake from the property or where acquisition results in partial loss of the business or potential business
Slight	Occurs where part of a non-agricultural property or other material asset is acquired, resulting in little change to the environment, e.g. a small portion of landtake from a property
Not significant	Occurs where there is a change such as the removal of a boundary wall or entrance to a property or the diversion of low and medium voltage ESB network, telecommunications or water supply and foul sewer services
Imperceptible	Occurs where part of a non-agricultural property or other material asset is acquired, resulting in minimal changes to the environment of the property or material asset. This includes impacts on properties which are currently occupied by a public right-of-way. These lands are in the ownership of the adjacent property, however, are occupied by existing roads.

17.2.3 Categorisation of the Baseline Environment

In order to determine the existing utilities and services within the proposed scheme site, utility investigations have been undertaken to support the design development. A desk study, site visits and site-specific investigations were undertaken to provide the data to compile the description of the existing material assets. These survey findings reconciled with the relevant utility records at the time.

In early 2018 the design team reverted to utilities contacts for updated records, with no further updates highlighted at that stage.

Consultation with utility providers and Wicklow County Council was also undertaken in 2020, where applicable to determine the location and details of existing utilities including ESB, gas, surface and wastewater sewers, telecommunications, public lighting and infrastructure within the site.

17.2.4 Impact Assessment Methodology

A desk study has been carried out to identify the existing material assets associated within the study area of the proposed scheme (as it is defined in **Chapter 2, Background and Need for the Scheme**) and determine the likely significant effects of the construction and operation of the proposed scheme on those material assets.

Having regard to **Chapters 4, *Description of the Proposed Scheme*** and **Chapter 5, *Construction Strategy***, the likely significant effects of the proposed scheme on existing material assets have been assessed in the context of the significance criteria set out in **Table 17.1**.

17.3 Baseline Conditions

This section describes the existing environment of the study area prior to the implementation of the proposed scheme.

17.3.1 Land and Property Ownership

The existing land-use relating to the proposed scheme is described in detail in **Section 2.5 of Chapter 2, *Background and Need for the Scheme***.

The study area of the proposed scheme is largely within the ownership of Wicklow County Council (WCC), with the exception of approximately 15 private landholdings, as well as land within partial or complete ownership of state and semi-state organisations such as the Department of Housing, Local Government and Heritage, and Irish Water (Refer to **Appendix 17.1** for details on existing land-ownership).

As outlined in **Chapter 16, *Population and Human Health***, the Avoca River is used extensively for amenity purposes- including sailing, boating and other uses. There are as such a number of access points to the Avoca river and boat mooring facilities located within the study in the area. A pontoon, which is within the ownership of Wicklow County Council, is located along the North Quay side of the Avoca River and ‘set-down’ pontoon is located at Arklow Harbour/Dock, near Arklow Lifeboat Station. A number of floating moorings are located in the Avoca River. Refer to **Figure 17.1**.

There are four existing slipways within the site of the proposed scheme: two at South Quay- Coal Quay Slip and Tyrells Yard Slip, one at Arklow Harbour/Dock and one at North Quay. It should be noted that the existing ‘Coal Quay’ slip is in disrepair (Refer to **Figure 5.9 in Chapter 5, *Construction Strategy***) and not extensively used by the public. These features are indicated in **Figure 16.1 in Chapter 16, *Population and Human Health***.



Figure 17.1: Exiting pontoon and moorings in Avoca River

17.3.2 Electricity and Lighting

ESB maintains both underground and overhead power lines within and around the site of the proposed scheme. ESB's infrastructure of relevance to the proposed scheme includes the following:

- Underground ESB ducting running along River Walk to Arklow Bridge;
- Overhead ESB cable traversing the Avoca River from the intersection of Condrens Lane Upper and River Walk, to Arklow Town Marsh;
- Underground ESB ducting running along the South Quay, from Arklow Bridge to Doyle's Lane;
- Overhead ESB cable running along South Quay, from Arklow Bridge to the Arklow Harbour. Additional ESB overhead cables from the town centre meet this cable at a number of points along South Quay;
- Underground ESB cable running around the periphery of Arklow Harbour;
- Underground ESB ducting at Ferrybank,
- Overhead ESB cables along North Quay, from Arklow Bridge to Bridgewater Shopping Centre; *and*
- Overhead ESB cables in Arklow Town Marsh running northwards from the Avoca River to the Dublin Road.

Public lighting in the study area includes decorative 'string lighting' along River Walk and South Quay, as illustrated in **Figure 17.2**. Standard street lighting on electricity poles is also located along South Quay, also illustrated in **Figure 17.2**. Lamp posts are located along river walk, as illustrated in **Figure 17.3**.

Similarly, standard light posts and lower-level side lighting is located all across Arklow Bridge, both of which are illustrated in **Figure 17.4**. Further bridge lighting is located within the arches of the bridge, to illuminate the same.



Figure 17.2: Standard Street Lighting and Decorative ‘String Lighting’ along South Quay



Figure 17.3: Lampposts along River Walk



Figure 17.4: Lighting across Arklow Bridge

17.3.3 Telecommunications

There are telecommunication cables of relevance to the proposed scheme at the following locations within and around the site:

- Telecommunication cables running between River Walk and Arklow Bridge. Additional telecommunication cables from the town centre meet this cable at a number of points along River Walk;
- Telecommunications cables running along South Quay from South Green for approximately 75m;
- Telecommunications cables running along the west and south of Arklow Harbour; *and*
- Telecommunication cables running across Arklow Bridge;

17.3.4 Gas

There are gas mains of relevance to the proposed scheme at the following locations within and around the site:

- A 355mm diameter gas main running across Arklow Bridge which enters underground approximately 10m upstream of the River Walk – Arklow Bridge tie-in. This gas main supplies those parts of Arklow town to the south of the river channel; *and*
- Gas main running along South Quay between Arklow Bridge and the Harbour. At South Green there is an existing surface water outfall, therefore the gas main is manifolded into three lines that occupy the majority of the footprint of the road carriageway to pass over this outfall.

17.3.5 Water Supply Infrastructure

There is water supply infrastructure of relevance to the proposed scheme at the following locations within and around the site:

- A watermain running along River Walk to Arklow Bridge;
- Two watermains running across Arklow Bridge. Although relatively small (160mm and 100mm diameter pipelines), these are the only water supplies to those parts of Ferrybank to the north of the river channel; *and*
- A small section of watermain on South Quay, from Rockville Terrace to Arklow Harbour.

17.3.6 Sewer Network and Drainage Infrastructure

There is an existing combined sewer network (including outfalls to the Avoca River) and drainage infrastructure of relevance to the proposed scheme at the following locations within the site:

- A sewer running along River Walk that picks up perpendicular sewers and discharges via outfalls to the Avoca River;

- A sewer running along South Quay between Arklow Bridge and Doyle's Lane that picks up perpendicular sewers and discharges via outfalls to the Avoca River;
- At South Green, there are existing surface water outfalls;
- A sewer running along Bridge Street; and
- A sewer and outfall at the junction of South Quay and Harbour Road that discharges to the Avoca River.

17.3.7 Additional Material Assets

As outlined in **Section 2.5.2 of Chapter 2, *Background and Need for the Scheme***, some additional material assets are located within Arklow Town Marsh, including some disused above-ground piping from the former IFI site now owned by Crag Digital Avoca Ltd (Echelon Data Centres). An existing drainage channel also exists within Arklow Town Marsh as illustrated in **Figure 17.5**.



Figure 17.5: Existing Drainage Channel and Disused Piping in Arklow Town Marsh

17.4 Likely Significant Effects

17.4.1 Do-Nothing Scenario

The 'do-nothing' scenario represents the scenario whereby the proposed scheme, as described in **Chapter 4, *Description of the Proposed Scheme***, does not proceed as planned. Under the do-nothing scenario, the existing material assets within the study area will remain as described under **Section 17.3**. In addition, under the 'do-nothing' scenario, flooding of land and properties would continue to occur including recurring damage to existing services and utilities.

17.4.1 Assessment of effects During Construction

17.4.1.1 Land and Property Ownership

Overview

The proposed scheme will require land-take to accommodate construction activities and to accommodate control and maintenance of flood relief measures, during the operational phase.

The land-parcels which will be acquired are identified in the CPO documentation provided as part of this planning application submission.

Appendix 17.1 includes an assessment of the likely significant effects on land and property ownership during both the construction and operational phase of the proposed scheme. Where land is acquired from private landowners, moderate negative effects on property ownership are identified. Access to all existing residential properties, will be maintained at all times during the construction of the proposed development. This may require temporary alternate access arrangements at some locations.

The proposed scheme also involves the removal of a material asset- the existing above-ground piping from the former IFI site now owned by Crag Digital Avoca Ltd (Echelon Data Centres). The section of pipeline within the FRS planning boundary will be removed and will be disposed of at a licenced waste facility, as outlined in **Chapter 15, Resource and Waste Management**. Removal of the pipes will occur during the construction phase but will not be reinstated prior to operation. A permanent but significant negative effect on this material asset is therefore identified. Refer to **Appendix 17.1** for a detailed assessment.

It should be noted that **Appendix 17.1** assesses the impacts on property ownership only. Additional impacts on these land parcels, where identified, are addressed elsewhere in this EIAR. For example, **Chapter 16, Population and Human Health** contains an assessment of any potential loss of amenity or community use at any of these land-parcels and **Chapter 10, Biodiversity** assesses any potential impact on habitats.

As outlined in **Section 17.3.1**, a pontoon, which is within the ownership of Wicklow County Council, is located along the North Quay side of the Avoca River and 'set-down' pontoon is located at Arklow Harbour/Dock, near Arklow Lifeboat Station. A number of floating moorings are located in the Avoca River. There are four existing slipways within the site of the proposed scheme, as described in Section 17.3.1, and as illustrated on **Figure 16.11** in **Chapter 16, Population and Human Health**.

The steps/slipway along River Walk will be demolished during the construction period to facilitate work package 4 (WP4). A moderate negative, but temporary effect on this material asset is therefore identified at this location during the construction phase of the proposed scheme. The steps/slipway at this location will be replaced by a new pontoon in the operational phase.

As described in **Chapter 5, Construction Strategy**, during WP2 (Q2-Q3 2026), the pontoon located in the North Quay side of the Avoca River, will effectively be rendered inaccessible from the water as dredging will be ongoing during this period. Any boats using the existing berths at the pontoon will be required to relocate in order to facilitate the river dredging. Similarly, the existing floating mooring facilities within the Avoca River will be removed to facilitate the dredge works and any boats using these will also be required to relocate for the duration of the river dredging. These moorings have been temporarily removed previously for dredging of the river. A negative effect on both the mooring facilities and the berths is therefore identified during construction. However, as the berths and moorings will only be rendered inaccessible during the river dredging works, (Q2-Q3 2026), these effects are considered to be significant negative and temporary in nature. All mooring and berth facilities will be reinstated following completion of construction.

The proposed bridge underpinning works (WP1), river dredging (WP2), as well as the construction of the flood defence walls along South Quay (WP4) will render the existing Coal Quay slip permanently inaccessible, from the commencement of works (Q1 2023) until the slip is eventually demolished as part of WP4. However, it should be noted that this slip is currently in disrepair and is not extensively used by the public (Refer to **Figure 5.9** in **Chapter 5, Construction Strategy**). A permanent slight, negative significant effect on this material asset is therefore identified.

The existing slipway at North Quay will be used to facilitate RA3 during WP2 and, as such, will be rendered inaccessible for the duration of those works (May-September in-river works 2026)). A temporary, significant negative effect on this material asset is therefore identified during WP2 of the construction phase.

The proposed river dredging, as well as the construction of the flood defence walls along South Quay will also render the existing Tyrells Yard slip permanently inaccessible, from the commencement of the South Quay element of WP 4 (Q2 2025). It should be noted however that currently, access to the river via this slipway is not continuously maintained due to the demountable barrier currently in place. Nevertheless, a permanent moderate, negative significant effect on this material asset is therefore identified as a result of the loss of this river access.

The existing public slipway at Arklow Harbour/Dock will be inaccessible for a temporary period during the construction of the flood defence walls (WP4). Similarly, the 'set-down' pontoon at Arklow Harbour will be rendered inaccessible from the land at this time. River access will likely only be unavailable at these locations for the short period in which the flood walls are being constructed at Arklow Harbour/Dock and not for the entire duration of WP4, or indeed for the full timeframe for the South Quay element of the work between Q2 2025-Q1 2026. A significant negative, but temporary effect on this material asset is therefore identified during the construction phase of the proposed scheme. It is proposed that closure of the existing slipway and set-down pontoon at Arklow Harbour/Dock be avoided during the summer months (Jun-Aug). When temporarily inaccessible, the slipway at North Quay will be available for use depending on its suitability for users.

Foreshore License/Lease

As outlined in **Section 4.5.2** of **Chapter 4**, *Description of the Proposed Scheme*, the provisions of the Foreshore Act 1933 to 2014, as amended, require that a lease or licence must be obtained from the Minister for Housing, Local Government and Heritage for development works on the State-owned foreshore. Foreshore consent applications for both lease and licence will therefore be required for the following elements of the proposed development:

- The underpinning of Arklow Bridge;
- The dredging of the Avoca River;
- Temporary construction works (causeways, haul roads) in the Avoca River to facilitate construction access construct;
- Construction of Flood walls in the Avoca River;
- Construction works to construct the debris and gravel trap; *and*
- Access for maintenance of dredged areas and access for maintenance of debris and gravel trap.

Foreshore consent application(s) for the above works are being submitted to the Department of Housing, Planning and Local Government in parallel to the application for consent that is being submitted to An Bord Pleanála.

17.4.1.2 Electricity and Lighting

The proposed scheme will interact with the overhead electricity cables along River Walk and South Quay and as such, these will be relocated or diverted underground as part of the enabling works for WP1 and WP4.

The proposed scheme will also interact with the ESB overhead cables which run from River Walk across the Avoca River to the Dublin Road and again from this line to Ferrybank. As such, these will be repositioned and placed underground to avoid the flood embankment. There are also underground cables running from the Arklow Town Marsh to Ferrybank which will require diversion. All relocated services will be positioned to ensure that they allow safe progression of the works.

Some ESB Overhead cables which are located within Arklow Town Marsh will also be repositioned during the enabling works of WP5 to avoid the flood embankment. Refer to Drawing 1061 and 1062 in Appendix 5.1 and extract from Drawing 1062 below, as **Figure 17.6** for details on the proposed diversions). Refer to **Chapter 5**, *Construction Strategy*, for information on the proposed works involved in these diversions.

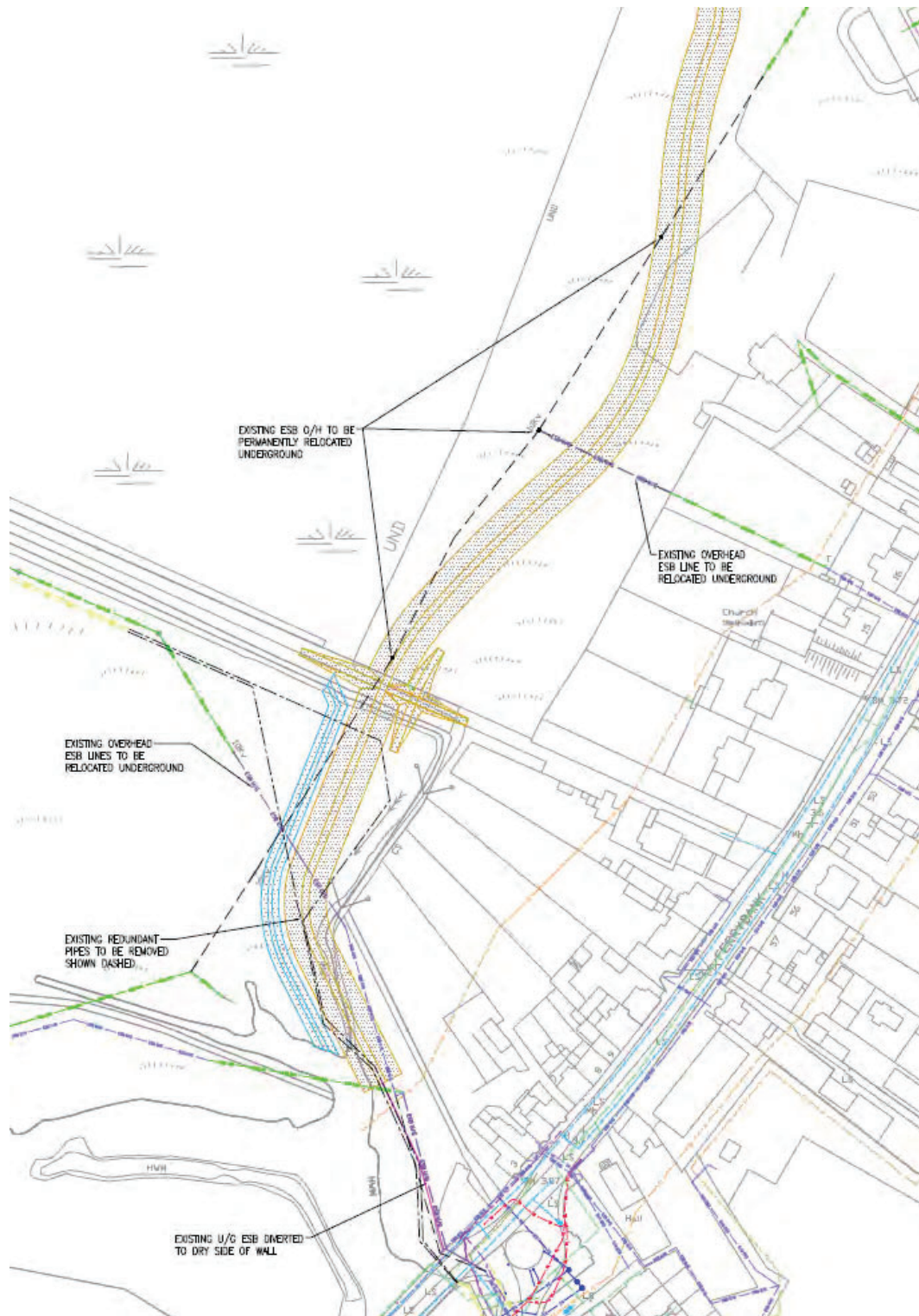


Figure 17.6 ESB diversions in Arklow Town Marsh. Extracted from Drawing No 1062. Not to Scale.

All diversions will occur during the construction phase but remain in place throughout operation.

A permanent, but not-significant effect on electricity infrastructure is therefore identified in the construction phase of the proposed scheme.

The diversion of services along River Walk, South Quay and Arklow Town Marsh may require temporary planned power outages. A moderate negative, temporary effect on electricity supply is therefore identified in the event of planned service disturbances.

As outlined in **Section 5.6 of Chapter 5, *Construction Strategy***, site services during construction will be powered by mains supplies or diesel generators where an electrical supply is not available.

The public and decorative lighting along River Walk and South Quay will be removed during construction. Similarly, the lower-level ‘side lighting’ on Arklow Bridge, as well as those which illuminate the arches of Arklow Bridge will be removed as part of WP1. A slight negative but temporary effect is therefore anticipated on these lighting features during the construction phase of the proposed scheme.

Construction lighting will generally be provided by tower mounted 1000W metal halide floodlights, which will be cowled and angled downwards to minimise spillage of light from the site. These will be powered by mains supplies or diesel generators where an electrical supply is not available.

Works to the arches of Arklow Bridge will require task lighting onto the surface of the arches. Similarly, works to the parapet and superstructure of Arklow Bridge will require task lighting directed horizontally onto the work area.

No likely significant effects on lighting are anticipated as a result of the provision of temporary construction lighting.

17.4.1.3 Telecommunications

The proposed underpinning of Arklow Bridge has the potential to interact with the Eir line running underneath the bridge deck.

The contractor will be obliged to put measures in place to ensure that there are no interruptions to existing utilities and services unless this has been agreed in advance with the relevant service provider.

No significant negative effect on existing telecommunications is therefore identified during the construction phase of the proposed scheme.

17.4.1.4 Gas

The proposed underpinning of Arklow Bridge has the potential to interact with the gas main running underneath the bridge deck.

The contractor will be obliged to put measures in place to ensure that there are no interruptions to existing utilities and services unless this has been agreed in advance with the relevant service provider. All works in the vicinity of the gas pipeline will be carried out in consultation with Gas Networks Ireland and will be undertaken in compliance with GNI safety standards.

No significant negative effect on existing gas infrastructure is therefore identified during the construction phase of the proposed scheme.

17.4.1.5 Water Supply Infrastructure

The proposed underpinning of Arklow Bridge has the potential to interact with the two watermains running underneath the bridge deck.

The contractor will be obliged to put measures in place to ensure that there are no interruptions to existing utilities and services unless this has been agreed in advance with the relevant service provider.

No significant negative effect on existing gas infrastructure is therefore identified during the construction phase of the proposed scheme.

17.4.1.6 Sewer Network and Drainage Infrastructure

A surface water drainage network and pumping stations will be constructed as part of the proposed scheme, to prevent flooding occurring from rainwater run-off from hardstanding areas in the flood zones when gravity discharge is prevented by flood events. The new drainage network will entail the installation of new surface water pipes along Bridge St, Main St, the river side of Condrens Lane Lower, Harbour Road and along Dock Road.

This will require the demolition of the road surfaces in these areas. In addition, some diversions of existing underground ducts and drains will be required to provide a route for the stormwater pipework. A temporary slight negative effect on drainage infrastructure is therefore identified. Non-return valves (NRVs) will be fitted to the discharge pipes to ensure that the river flows cannot back up into the drainage network. The pumps would discharge to the river above the estimated design flood level.

In total, six NRVs are required at the pump stations outlet points. Duckbill valves will be fitted at the discharge points in the Avoca River. Concrete headwalls will be constructed to protect the valves from debris. **Figure 17.7** below illustrates the pump station layout plan along River walk.

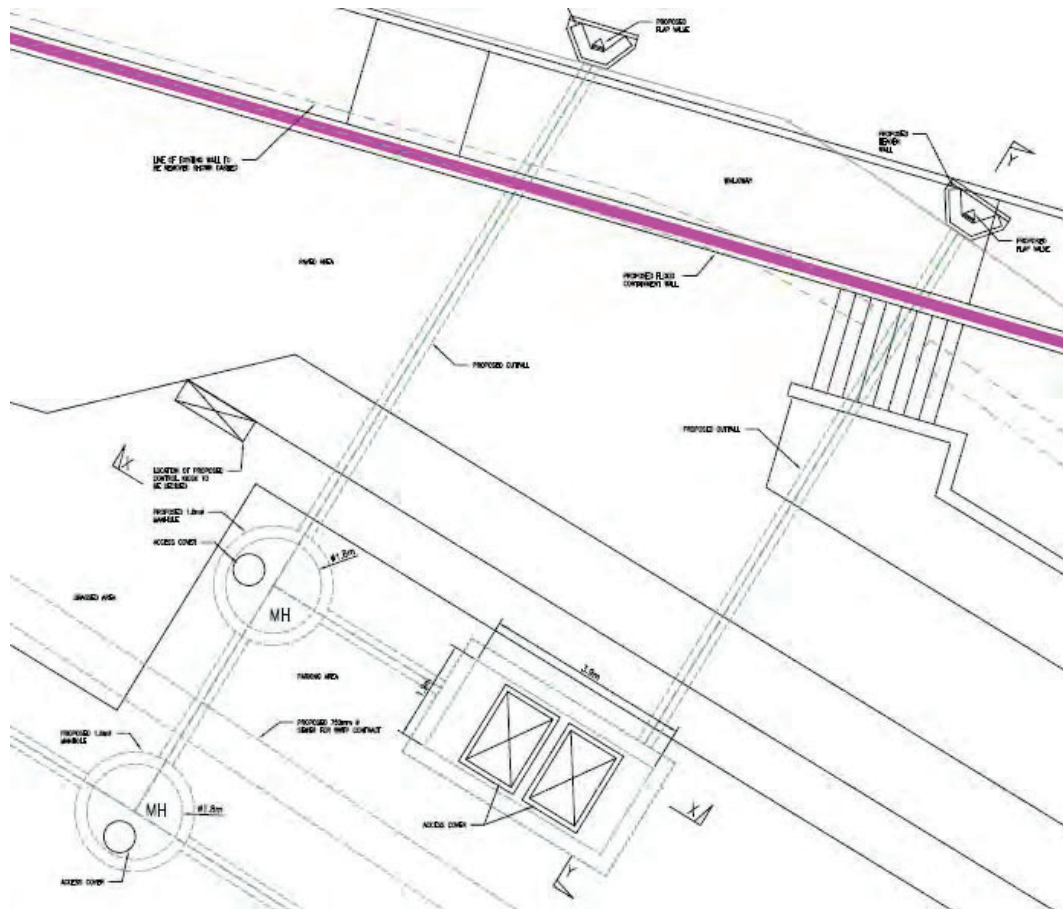


Figure 17.7: Typical pump station layout plan along River Walk. Extracted from Drawing No 1056. Not to Scale.

17.4.1.7 Additional Material Assets

In addition to its interaction with the existing ESB infrastructure, the proposed flood embankment will also interact with the additional material assets located in Arklow Town Marsh. The existing drainage channel will be realigned and both banks reformed/reinforced to the west of the proposed embankment, as illustrated in **Figure 17.8**. This realignment will occur during the construction phase but remain in place throughout operation. A permanent, but not-significant effect on material assets is therefore identified.

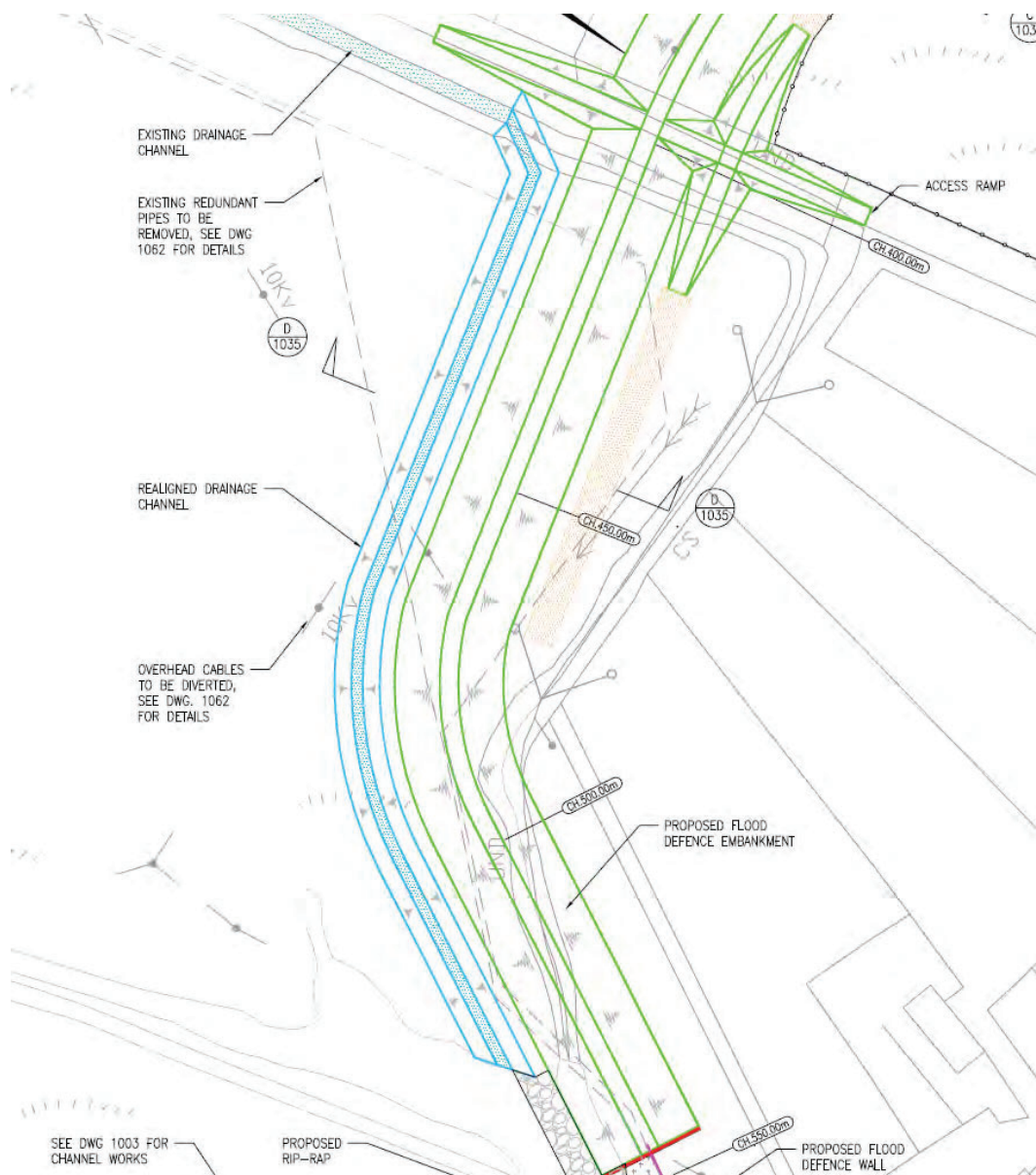


Figure 17.8: Proposed channel realignment (extracted from drawing no 1032 in Appendix 4.1) Not to scale.

17.4.2 Assessment of Effects During Operation

17.4.2.1 Land and Property Ownership

As outlined in **Section 17.4.2.1**, the proposed scheme will require land take to accommodate construction activities, accommodate control and maintenance of flood relief measures within the foreshore.

The acquisition of these lands will occur in advance of the construction phase of the proposed scheme and will remain in place throughout the operational phase. **Appendix 17.1** includes an assessment of the likely significant effects on property

ownership during both the construction and operational phase of the proposed scheme.

As outlined in **Section 17.3.2.7**, the section of existing disused above-ground pipeline (within the FRS planning boundary) within the marsh will be removed during the construction phase of the proposed development and will not be reinstated prior to operation. A permanent significant negative effect on this material asset is therefore identified.

It should be noted that **Appendix 17.1** assesses the impacts on property ownership only. Additional impacts on these land parcels, where identified, are addressed elsewhere in this EIAR. For example, **Chapter 16, *Population and Human Health*** contains an assessment of any potential loss of amenity or community use at any of these land-parcels and **Chapter 10, *Biodiversity*** assesses any potential impact on habitats.

During the operational phase of the proposed scheme, access to, and use of the pontoon along the North Quay, as well as the floating moorings in the river, will be re-instated. A neutral effect on the existing moorings is therefore identified. However, it is worth noting that the river dredging will give rise to an improved estuarine environment for moorings, in the operational phase.

The existing slipway at North Quay will be reinstated in the operational phase of the proposed scheme, following its temporary use as a River Access point for WP2. A neutral effect on this material asset is therefore identified during operation. As outlined in **Section 17.4.1**, the Coal Quay slipway will be removed during the construction phase of the proposed scheme. However, it should be noted that this slip is currently in disrepair and is not extensively used by the public. A permanent slight, negative significant effect on this material asset is therefore identified.

The existing slipway at South Quay (Tyrells Yard) while maintained during the operational phase, will be rendered inaccessible. It should be noted however that currently, access to the river via this slipway is not fully maintained due to the demountable barrier currently in place at this location. As such, a permanent moderate negative effect on this material asset is identified.

The existing slipway at Arklow Harbour is to be maintained during the operational phase of the proposed scheme. However, a demountable flood defence is to be installed at this location. Access arrangements will be put in place to allow interested parties to gain access to the slipway during operation, as required. A permanent slight negative effect on these material assets are therefore identified during the operational phase of the proposed scheme. Refer to **Chapter 16, *Population and Human Health***, for an assessment of the amenity effects.

During the operational phase of the proposed scheme, the existing pedestrian access to the 'set-down' pontoon at Arklow Harbour will be restricted. A slight negative and permanent effect is therefore identified on this material asset.

At River Walk, a new floating pontoon will have replaced the demolished steps/slipway, resulting in a positive effect on amenity at this location.

The proposed scheme will provide protection from the 1% AEP fluvial flood event and the 0.5% coastal flood event. This will result in very significant positive impacts in a number of areas such as tangible and intangible flood damages, financial loss, extensive community disruption, health and safety issues and development restrictions as described below. Damages due to flooding include direct damages to residential and non-residential properties, commercial buildings, agricultural lands, damage to infrastructure and utility assets and the cost of emergency services will be avoided for all flood events up to the design event.

As previously outlined in **Section 17.4.2**, a foreshore consent application is being submitted for both a lease and licence to facilitate construction and operation of the proposed scheme.

17.4.2.2 Electricity and Lighting

As previously outlined, some ESB infrastructure will be diverted to facilitate construction of the proposed embankment. This diversion will occur during the construction phase but remain in place throughout operation. A permanent, but non-significant operational effect is therefore identified on electricity.

As outlined, any public lighting which is required to be removed to facilitate construction of the proposed scheme will be reinstated once construction is complete. An imperceptible effect on public lighting is therefore identified.

17.4.2.3 Telecommunications

There will be no effect on existing telecommunications infrastructure during the operation of the proposed development.

17.4.2.4 Gas

There will be no effect on existing gas infrastructure during the operation of the proposed development.

17.4.2.5 Water Supply Infrastructure

There will be no effect on existing water supply infrastructure during the operation of the proposed development.

17.4.2.6 Sewer Network and Drainage Infrastructure

As outlined in **Section 17.3.2.6**, the construction phase of the proposed scheme will involve the construction of a surface water drainage network and pumping stations on the dry side of the flood defence walls along River Walk, South Quay and the Dock. This will remain in place throughout the operational phase of the proposed scheme. A permanent, positive effect is therefore identified.

17.4.2.7 Additional Material Assets

The existing drainage channel in Arklow Town Marsh will be diverted to the east of the proposed embankment. This diversion will occur during the construction phase but remain in place throughout operation. A permanent, but not-significant effect on material assets is therefore identified

17.5 Mitigation Measures and Monitoring

17.5.1 Mitigation During Construction

17.5.1.1 General

As described in **Chapter 5**, *Construction Strategy*, and outlined in **Appendix 5.1**, the contractor will be required to prepare and maintain a CEMP during the construction phase of the proposed scheme. The appointed contractor will be required to comply with the CEMP. Effective implementation of the CEMP will ensure that disruption and nuisance are kept to a minimum throughout the construction of the proposed development. The CEMP will be required to have regard to the guidance³ and industry best practice. The CEMPs will be effective throughout construction and the contractor will be required to review and update the CEMP as construction progresses.

Every effort will be made to ensure that any significant effects on material assets will be avoided, prevented or reduced during the construction of the proposed scheme.

17.5.1.2 Land and Property Ownership

Wherever possible, mitigation by avoidance of negative effects on property was a priority during the design development of the proposed scheme. However, as outlined in **Section 17.4.2.1**, the proposed scheme will require land take to accommodate construction activities and to accommodate control and maintenance of flood relief measures within the foreshore, during the operational phase.

Access to all residential properties will be maintained at all times during the construction of the proposed development. This may require temporary alternate access arrangements at some locations.

Landowners will be compensated as appropriate for land acquisition, in accordance with the relevant legislation. The details of any individual agreements will be private and confidential and therefore mitigation measures in the form of compensation are not specific or detailed herein.

It is proposed that closure of the existing slipway and set-down pontoon at Arklow Harbour/Dock be avoided during the summer months (Jun-Aug).

³ CIRIA (2015) Environmental Good Practice on Site Guide, 4th Edition

17.5.1.3 Electricity and Lighting

All utilities and service diversions will be agreed and undertaken as part of the enabling works and in advance of the commencement of construction activities. In the event of disruption to services- these will be planned and communicated to the public in advance and carried out in accordance with the relevant codes of practice.

All construction activities in the vicinity of existing services and utilities will be carried out in ongoing consultation with the relevant service provide and undertaken in compliance with any requirements or guidelines they may have.

Temporary construction lighting will be provided throughout the duration of the construction phase in lieu of the public lighting.

17.5.1.4 Telecommunications

The contractor will be obliged to put measures in place to ensure that there are no interruptions to existing utilities and services unless this has been agreed in advance with the relevant service provider. All construction activities in the vicinity of existing services and utilities will be carried out in ongoing consultation with the relevant service provide and undertaken in compliance with any requirements or guidelines they may have.

17.5.1.5 Gas

The contractor will be obliged to put measures in place to ensure that there are no interruptions to existing utilities and services unless this has been agreed in advance with the relevant service provider. All construction activities in the vicinity of existing services and utilities will be carried out in ongoing consultation with the relevant service provide and undertaken in compliance with any requirements or guidelines they may have.

17.5.1.6 Water Supply Infrastructure

The contractor will be obliged to put measures in place to ensure that there are no interruptions to existing utilities and services unless this has been agreed in advance with the relevant service provider. All construction activities in the vicinity of existing services and utilities will be carried out in ongoing consultation with the relevant service provide and undertaken in compliance with any requirements or guidelines they may have.

17.5.1.7 Sewer Network and Drainage Infrastructure

The contractor will be obliged to put measures in place to ensure that there are no interruptions to existing utilities and services unless this has been agreed in advance with the relevant service provider. All construction activities in the vicinity of existing services and utilities will be carried out in ongoing consultation with the relevant service provide and undertaken in compliance with any requirements or guidelines they may have

17.5.2 Mitigation During Operation

17.5.2.1 Land and Property Ownership

Landowners will be compensated as appropriate for permanent land acquisition, in accordance with legislation.

The details of any individual agreements will be private and confidential and therefore mitigation measures in the form of compensation are not specific or detailed in this EIAR.

17.5.2.2 Electricity and Lighting

Lighting which was removed as part of the construction works for the proposed scheme will be reinstated or replaced during operation.

17.5.2.3 Telecommunications

No mitigation measures regarding telecommunications are proposed during the operational phase of the proposed scheme.

17.5.2.4 Gas

No mitigation measures regarding gas infrastructure are proposed during the operational phase of the proposed scheme.

17.5.2.5 Water Supply Infrastructure

No mitigation measures regarding water supply infrastructure are proposed during the operational phase of the proposed scheme.

17.5.2.6 Sewer Network and Drainage Infrastructure

No mitigation measures regarding the sewer network and drainage infrastructure are proposed during the operational phase of the proposed scheme.

17.5.2.7 Additional Material Assets

No mitigation measures regarding the drainage channel or pipeline are proposed during the operational phase of the proposed scheme.

17.5.3 Monitoring During Construction

17.5.3.1 Land and Property Ownership

Construction phase mitigation measures have been proposed to ensure that significant negative effects on material assets will be avoided, prevented or reduced during the construction of the proposed scheme. As such, no monitoring measures are proposed during the construction phase.

17.5.3.2 Electricity and Lighting

Construction phase mitigation measures have been proposed to ensure that significant negative effects on material assets will be avoided, prevented or reduced during the construction of the proposed scheme. As such, no monitoring measures are proposed during the construction phase.

17.5.3.3 Telecommunications

Construction phase mitigation measures have been proposed to ensure that significant negative effects on material assets will be avoided, prevented or reduced during the construction of the proposed scheme. As such, no monitoring measures are proposed during the construction phase.

17.5.3.4 Gas

Construction phase mitigation measures have been proposed to ensure that significant negative effects on material assets will be avoided, prevented or reduced during the construction of the proposed scheme. As such, no monitoring measures are proposed during the construction phase.

17.5.3.5 Water Supply Infrastructure

Construction phase mitigation measures have been proposed to ensure that significant negative effects on material assets will be avoided, prevented or reduced during the construction of the proposed scheme. As such, no monitoring measures are proposed during the construction phase.

17.5.3.6 Sewer Network and Drainage Infrastructure

Construction phase mitigation measures have been proposed to ensure that significant negative effects on material assets will be avoided, prevented or reduced during the construction of the proposed scheme. As such, no monitoring measures are proposed during the construction phase.

17.5.3.7 Additional Material Assets

Construction phase mitigation measures have been proposed to ensure that significant negative effects on material assets will be avoided, prevented or reduced during the construction of the proposed scheme. As such, no monitoring measures are proposed during the construction phase.

17.5.4 Monitoring During Operation

17.5.4.1 Land and Property Ownership

As no significant, negative operational effects of the proposed scheme on material assets are identified, no operational monitoring measures have been proposed.

17.5.4.2 Electricity and Lighting

As no significant, negative operational effects of the proposed scheme on material assets are identified, no operational monitoring measures have been proposed.

17.5.4.3 Telecommunications

As no significant, negative operational effects of the proposed scheme on material assets are identified, no operational monitoring measures have been proposed.

17.5.4.4 Gas

As no significant, negative operational effects of the proposed scheme on material assets are identified, no operational monitoring measures have been proposed.

17.5.4.5 Water Supply Infrastructure

As no significant, negative operational effects of the proposed scheme on material assets are identified, no operational monitoring measures have been proposed.

17.5.4.6 Sewer Network and Drainage Infrastructure

As no significant, negative operational effects of the proposed scheme on material assets are identified, no operational monitoring measures have been proposed.

17.5.4.7 Additional Material Assets

As no significant, negative operational effects of the proposed scheme on material assets are identified, no operational monitoring measures have been proposed.

17.6 Cumulative Effects

This section includes an assessment of the potential for likely significant direct and indirect cumulative effects of projects listed in **Table 20.1 in Chapter 20, Cumulative and Interactive Effects**, in combination with the proposed scheme. It also includes an assessment of the potential for likely significant direct and indirect cumulative effects of all projects listed in **Table 20.1 in Chapter 20, Cumulative and Interactive Effects**, taken together in combination with the proposed scheme.

Action Health Enterprises GP Limited the Former Boland's Builders Providers, Castle Park (181170)

This project relates to the development of a primary care facility at Castle Park.

Should construction of this development happen concurrently with the construction of the proposed scheme, there is potential for cumulative effects on material assets by means of greater demand on existing services and utilities in the

Arklow area. A potential slight negative and temporary direct cumulative effect is therefore identified, under this scenario.

Should construction of the proposed scheme happen once this project is operational, there may be some cumulative effects on existing material assets by means of potential disruption to some utilities and services in the Arklow area. A potential slight negative and temporary indirect cumulative effect is therefore identified, under this scenario.

Circle K Safeway Service Station (20426)

This project relates to the demolition of the existing, and construction of a new, fuel forecourt at the existing Circle K service station, which is located immediately adjacent to Arklow Town Marsh and SC1 of the proposed scheme.

Should construction of this development happen concurrently with the construction of the proposed scheme, there is potential for cumulative effects on material assets by means of greater demand on existing services and utilities in the Arklow area. A potential slight negative and temporary direct cumulative effect is therefore identified, under this scenario.

Should construction of the proposed scheme happen once this project is operational, there may be some cumulative effects on existing material assets by means of potential disruption to some utilities and services in the Arklow area. A potential slight negative and temporary indirect cumulative effect is therefore identified, under this scenario.

Frank & Sandra Duffy No 7 and 8 Bridge Street &, No 34 Main Street (19750)

The project relates to the demolition of 2 existing buildings and the construction of a new retail and commercial building on Main Street.

Should construction of this development happen concurrently with the construction of the proposed scheme, there is potential for cumulative effects on material assets by means of greater demand on existing services and utilities in the Arklow area. A potential slight negative and temporary direct cumulative effect is therefore identified, under this scenario.

Should construction of the proposed scheme happen once this project is operational, there may be some cumulative effects on existing material assets by means of potential disruption to some utilities and services in the Arklow area. A potential slight negative and temporary indirect cumulative effect is therefore identified, under this scenario.

Gaines Europe Ltd Unit 1A Lower Tinahisk, South Quay (16248)

This project relates to the development of a new warehouse and distribution facility at Arklow Harbour.

Should construction of this development happen concurrently with the construction of the proposed scheme, there is potential for cumulative effects on

material assets by means of greater demand on existing services and utilities in the Arklow area. A potential slight negative and temporary direct cumulative effect is therefore identified, under this scenario.

Gaines Europe Ltd Tinahask Lower, South Quay (16414)

This project relates to the demolition of an existing industrial building at Arklow Harbour.

Should construction of this development happen concurrently with the construction of the proposed scheme, there is potential for cumulative effects on material assets by means of greater demand on existing services and utilities in the Arklow area. A potential slight negative and temporary direct cumulative effect is therefore identified, under this scenario.

Irish Water Arklow, Co. Wicklow (SI201801) and Foreshore Licence FS006862

As previously outlined, it is anticipated that the Arklow WwTP project will commence construction in 2021 and as such, construction activities may have to be coordinated between the WwTP project and the proposed scheme, depending on the final construction programmes for the same. This includes coordination and management of any common temporary working areas.

It has also been identified that there are some works which are common to both projects. The key works in common to both projects are described in **Section 5.2.3** in **Chapter 5, Construction Strategy**. There are also some service/utility diversions that will be required to facilitate both the WwTP project, and the proposed scheme. The promoters of the proposed scheme; the OPW and WCC, and Irish Water; the promoter of the WwTP project have agreed that whichever scheme commences first will carry out the common works in order to reduce the overall impact on Material Assets, among other aspects of the environment.

The WwTP project provides for the diversion of overhead ESB cables on South Quay in order to facilitate the installation of the interceptor sewer. As noted in **Section 17.4.2.2**, it is also proposed, as part of the proposed scheme, that the overhead electricity infrastructure along South Quay be diverted underground as part of the enabling works for WP1 and WP4.

Thus, in the event that the WwTP project is constructed first (particularly the proposed works along South Quay), it may not be necessary to underground the overhead ESB cables on South Quay during WP4, as these will have already been relocated. Similarly, in the event of this proposed scheme being constructed first, this scheme will underground the overhead ESB cables on South Quay.

Whichever project is underpinning the arches of Arklow Bridge first will also be responsible for removing the side lighting along Arklow Bridge.

Any street furniture or lighting removed as part of the scheme will be given to Arklow Municipal District for storage and possible reinstatement in the future.

There will be increased demand on services and utilities whether the two projects are carried out sequentially or concurrently. Where both projects are carried out

sequentially, there may be increased duration of potential disturbance to services and utilities in Arklow. Thus, the construction phase of the Arklow WwTP project will result in a likely negative and temporary direct cumulative effect with the construction phase of the proposed scheme

Joby Developments North Quay, Arklow (15857)

This project relates to the demolition of existing structures and construction of retail and residential units at North Quay.

Should construction of this development happen concurrently with the construction of the proposed scheme, there is potential for cumulative effects on material assets by means of greater demand on existing services and utilities in the Arklow area. A potential slight negative and temporary direct cumulative effect is therefore identified, under this scenario.

Should construction of the proposed scheme happen once this project is operational, there may be some cumulative effects on existing material assets by means of potential disruption to some utilities and services in the Arklow area. A potential slight negative and temporary indirect cumulative effect is therefore identified, under this scenario.

Mill Sea Ltd North Quay, Arklow (18316)

This project relates to the demolition of existing structures at Arklow Harbour.

Should construction of this development happen concurrently with the construction of the proposed scheme, there is potential for cumulative effects on material assets by means of greater demand on existing services and utilities in the Arklow area. A potential slight negative and temporary direct cumulative effect is therefore identified, under this scenario.

Wicklow County Council Inner Harbour / Dock, Off South Quay (20469)

This project relates to the development of storage units at Arklow Harbour.

Should construction of this development happen concurrently with the construction of the proposed scheme, there is potential for cumulative effects on material assets by means of greater demand on existing services and utilities in the Arklow area. A potential slight negative and temporary direct cumulative effect is therefore identified, under this scenario.

Crag Digital Avoca Limited (201285)

This project relates to the demolition of existing buildings and the development of 3 No data centre buildings and associated development.

Should construction of this development happen concurrently with the construction of the proposed scheme, there is potential for cumulative effects on material assets by means of greater demand on existing services and utilities in the Arklow area. A potential slight negative and temporary direct cumulative effect is therefore identified, under this scenario.

Should construction of the proposed scheme happen once this project is operational, there may be some cumulative effects on existing material assets by

means of potential disruption to some utilities and services in the Arklow area. A potential slight negative and temporary indirect cumulative effect is therefore identified, under this scenario.

Arklow, Co. Wicklow- Pre-Application (306662)

This project relates to the development of onshore transmission connection infrastructure related to the Arklow Bank Wind Park offshore wind energy project.

Should construction of this development happen concurrently with the construction of the proposed scheme, there is potential for cumulative effects on material assets by means of greater demand on existing services and utilities in the Arklow area. A potential slight negative and temporary direct cumulative effect is therefore identified, under this scenario.

Parade Ground- WCC Part 8

This project relates to public realm improvement works at Parade Ground, Arklow.

Should construction of this development happen concurrently with the construction of the proposed scheme, there is potential for cumulative effects on material assets by means of greater demand on existing services and utilities in the Arklow area. A potential slight negative and temporary direct cumulative effect is therefore identified, under this scenario.

FORESHORE

FS007049 Sure Partners Site Investigations at Arklow Bank

Due to the offshore location and nature of this development, no likely significant negative direct or indirect cumulative effects with the proposed scheme are identified with regards material assets.

All projects taken together in combination with the proposed scheme

Overall, taking all of the projects together in-combination with the proposed scheme, there is the potential for temporary direct and in-direct cumulative effects on material assets by means of increased demands on utilities and services during the construction phase of the proposed scheme.

17.7 Residual Effects

17.7.1 Residual effects during construction

17.7.1.1 Land and Property Ownership

As outlined in **Section 17.4**, land acquisition will occur in advance of the construction phase of the proposed scheme. As land-take will be permanent, all likely effects identified in **Appendix 17.1** are residual effects.

Appendix 17.1 includes an assessment of the likely significant effects on land and property ownership during both the construction and operational phase of the proposed scheme. Where land is acquired from private landowners, moderate negative effects on property ownership are identified. Access to all existing residential properties, will be maintained at all times during the construction of the proposed development. This may require temporary alternate access arrangements at some locations.

The proposed scheme also involves the removal of a material asset- the existing above-ground piping from the former IFI site now owned by Crag Digital Avoca Ltd (Echelon Data Centres). The section of pipeline within the FRS planning boundary will be removed and will be disposed of at a licenced waste facility, as outlined in **Chapter 15, Resource and Waste Management**. Removal of the pipes will occur during the construction phase but will not be reinstated prior to operation. A permanent but significant negative effect on this material asset is therefore identified. Refer to **Appendix 17.1** for a detailed assessment.

The steps/slipway along River Walk will be demolished during the construction period to facilitate WP4. A moderate negative, but temporary residual effect on this material asset is therefore identified. The steps/slipway at this location will be replaced by a new pontoon in the operational phase.

During WP2 (Q2-Q3 2026), the pontoon located in the North Quay side of the Avoca River, will effectively be rendered inaccessible from the water as dredging will be ongoing during this period. Any boats using the existing berths at the pontoon will be required to relocate in order to facilitate the river dredging. Similarly, the existing floating mooring facilities within the Avoca River will be removed to facilitate the dredge works and any boats using these will also be required to relocate for the duration of the river dredging. A negative residual effect on both the mooring facilities and the berths is therefore identified during construction.

However, as the berths and moorings will only be rendered inaccessible during the river dredging works, (Q2-Q3 2026), these effects are considered to be slight negative and temporary in nature. All mooring and berth facilities will be reinstated following completion of construction.

The proposed bridge underpinning works (WP1), river dredging (WP2), as well as the construction of the flood defence walls along South Quay (WP4) will render the existing Coal Quay slip permanently inaccessible, from the commencement of works (Q1 2023) until the slip is eventually demolished as part of WP4. However, it should be noted that this slip is currently in disrepair and is not extensively used by the public. A permanent slight, negative significant residual effect on this material asset is therefore identified.

The existing slipway at North Quay will be used to facilitate RA3 during WP2 and, as such, will be rendered inaccessible for the duration of those works (May-September in-river works 2026)). A temporary, significant negative residual effect on this material asset is therefore identified during WP2 of the construction phase.

The proposed river dredging, as well as the construction of the flood defence walls along South Quay will also render the existing Tyrells Yard slip

permanently inaccessible, from the commencement of the South Quay element of WP 4 (Q2 2025). It should be noted however that currently, access to the river via this slipway is not continuously maintained due to the demountable barrier currently in place. Nevertheless, a permanent moderate, negative significant residual effect on this material asset is therefore identified as a result of the loss of this river access.

The existing public slipway at Arklow Harbour/Dock will be inaccessible for a temporary period during the construction of the flood defence walls (WP4). Similarly, the 'set-down' pontoon at Arklow Harbour will be rendered inaccessible from the land at this time. River access will likely only be unavailable at these locations for the short period in which the flood walls are being constructed at Arklow Harbour/Dock and not for the entire duration of WP4, or indeed for the full timeframe for the South Quay element of the work between Q2 2025-Q1 2026. A significant negative, but temporary residual effect on this material asset is therefore identified during the construction phase of the proposed scheme. It is proposed that closure of the existing slipway and set-down pontoon at Arklow Harbour/Dock be avoided during the summer months (Jun-Aug). When temporarily inaccessible, the slipway at North Quay will be available for use depending on its suitability for users.

17.7.1.2 Electricity and Lighting

As previously outlined, the proposed scheme will interact with the overhead electricity cables along River Walk and South Quay and as such, these will be relocated or diverted underground as part of the enabling works for WP1 and WP4 and remain in place throughout operation. The ESB Overhead cables which are located within Arklow Town Marsh will be repositioned during the enabling works of WP5 to avoid the flood embankment. Overhead services which branch off the main line will be diverted underground.

All diversions will occur during the construction phase but remain in place throughout operation. A permanent, but not-significant residual construction phase effect on electricity infrastructure is therefore identified.

There may be some temporary disruption to services during the construction phase of the proposed scheme. However, these will be planned and communicated to the public in advance and carried out in accordance with the relevant codes of practice.

The existing decorative and bridge lighting will be removed along River Walk and South Quay during construction. A slight-negative residual effect on lighting features is therefore identified during construction. Temporary construction lighting will be provided.

17.7.1.3 Telecommunications

Following implementation of the mitigation measures outlined in Section 17.5.1, no residual effects are anticipated to occur during the construction phase of the proposed scheme.

17.7.1.4 Gas

Following implementation of the mitigation measures outlined in **Section 17.5.1**, no residual effects are anticipated to occur during the construction phase of the proposed scheme.

17.7.1.5 Water Supply Infrastructure

Following implementation of the mitigation measures outlined in **Section 17.5.1**, no residual effects are anticipated to occur during the construction phase of the proposed scheme.

17.7.1.6 Sewer Network and Drainage Infrastructure

Following implementation of the mitigation measures outlined in **Section 17.5.1**, no residual effects are anticipated to occur during the construction phase of the proposed scheme.

17.7.1.7 Additional Material Assets

The existing drainage channel in Arklow Town Marsh will be realigned to the east of the proposed embankment. This realignment will occur during the construction phase but remain in place throughout operation. A permanent, but not-significant effect on material assets is therefore identified

17.7.2 Residual effects during operation

17.7.2.1 Land and Property Ownership

As outlined in **Section 17.4**, land acquisition will occur in advance of the construction phase of the proposed scheme and remain in place throughout operation. As land-take will be permanent, all likely effects identified in **Appendix 17.1** are residual effects.

During the operational phase of the proposed scheme, access to, and use of the pontoon along the North Quay, as well as the floating moorings in the river, will be re-instated and the river dredging will give rise to an improved estuarine environment for moorings, in the operational phase. The existing slipway at North Quay will be reinstated in the operational phase of the proposed scheme.

The Coal Quay slipway will be removed. However, it should be noted that this slip is currently in disrepair and is not extensively used by the public. A permanent slight, negative significant residual effect on this material asset is therefore identified.

The existing slipway at South Quay (Tyrells Yard) while maintained during the operational phase, will be rendered inaccessible. It should be noted however that currently, access to the river via this slipway is not fully maintained due to the demountable barrier currently in place at this location. As such, a permanent moderate negative residual effect on this material asset is identified.

The existing slipway at Arklow Harbour is to be maintained during the operational phase of the proposed scheme. However, a demountable flood defence is to be installed at this location. Access arrangements will be put in place to allow interested parties to gain access to the slipway during operation, as required. The existing pedestrian access to the 'set-down' pontoon at Arklow Harbour will also be restricted. A permanent slight negative residual effect on these material assets are therefore identified.

At River Walk, a new floating pontoon will replace the demolished steps/slipway, resulting in a positive effect on amenity at this location.

The proposed scheme will provide protection from the 1% AEP fluvial flood event and the 0.5% coastal flood event. This will result in very significant positive impacts in a number of areas such as tangible and intangible flood damages, financial loss, extensive community disruption, health and safety issues and development restrictions as described below. Damages due to flooding include direct damages to residential and non-residential properties, commercial buildings, agricultural lands, damage to infrastructure and utility assets and the cost of emergency services will be avoided for all flood events up to the design event.

17.7.2.2 Electricity and Lighting

As previously outlined, the proposed scheme will interact with the overhead electricity cables along River Walk and South Quay and as such, these will be relocated or diverted underground as part of the enabling works for WP1 and WP4 and remain in place throughout operation. The ESB Overhead cables which are located within Arklow Town Marsh will be repositioned during the enabling works of WP5 to avoid the flood embankment. Overhead services which branch off the main line will be diverted underground.

All diversions will occur during the construction phase but remain in place throughout operation. A permanent, but not-significant residual operational effect on electricity infrastructure is therefore identified.

Lighting that is removed during the construction phase will be reinstated during operation. No residual effects on electricity or lighting are therefore anticipated during the operational phase of the proposed scheme.

17.7.2.3 Telecommunications

No residual effects on telecommunications during the operational phase of the proposed scheme are anticipated.

17.7.2.4 Gas

No residual effects on gas infrastructure during the operational phase of the proposed scheme are anticipated.

17.7.2.5 Water Supply Infrastructure

No residual effects on water supply infrastructure during the operational phase of the proposed scheme are anticipated.

17.7.2.6 Sewer Network and Drainage Infrastructure

No residual effects on the sewer network and drainage infrastructure during the operational phase of the proposed scheme are anticipated.

17.7.2.7 Additional Material Assets

The existing drainage channel in Arklow Town Marsh will be realigned to the east of the proposed embankment. This diversion will occur during the construction phase but remain in place throughout operation. A permanent, but not-significant effect on material assets is therefore identified.

17.8 References

- CIRIA (2015) *Environmental Good Practice on Site Guide, 4th Edition*
- EPA (2017) *Guidelines on Information to be contained in Environmental Impact Statements*
- EPA (2015a) *Revised Guidelines on the information to be contained in Environmental Impact Statements Draft*
- EPA (2015b) *Advice Notes for Preparing Environmental Impact Statements Draft.*
- EPA (2003) *Advice Notes on Current Practice in the preparation of Environmental Impact Statements*
- Wicklow County Council (2018) *Arklow and Environs Local Area Plan 2018 - 2024*