

*Cultural Heritage Assessment
of proposed works on outfalls at Cobh
& an Estuary Crossing by Horizontal Directional
Drilling as part of the Cork Lower Harbour
Main Drainage Project*

Prepared by:

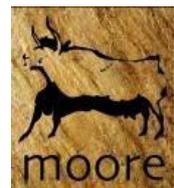
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Abbreviations

ACA	Architectural Conservation Areas
DoAHG	Department of Arts Heritage & the Gaeltacht
EPA	Environmental Protection Agency
GIS	Geographical Information System (mapping software)
NIAH	National Inventory of Architectural Heritage
OSI	Ordnance Survey Ireland
RMP	Record of Monuments and Places
RPS	Record of Protected Structures
SMR	Sites and Monuments Record
DLHG	Demesne Landscapes and Historic Gardens

1 Introduction

This report describes the results of a cultural heritage assessment carried out on proposed works on outfalls in the Cobh catchment and an estuary crossing by Horizontal Directional Drilling (HDD) from Cobh to Monkstown for the Cork Lower Harbour Main Drainage Project. The work was undertaken by the author for Moore Archaeological and Environmental Services Ltd. (Moore Group) on behalf of Nicholas O'Dwyer Consulting Engineers for Cork County Council and Irish Water.

The existing sewer network serving the Cork Lower Harbour area comprises mainly combined sewer systems. Wastewater from Cobh, Carrigaline, Passage West/Monkstown and Ringaskiddy is currently discharged following preliminary screening or untreated into the Harbour. It is proposed to transfer wastewater from the above catchments to a new wastewater treatment plant site at Shanbally for treatment.

This report addresses the proposed outfalls in the Cobh area extending along the shoreline from Ballynoe to Carrignafoy and the crossing of the River Lee estuary from the Cork Dockyard to Monkstown. Also considered is a temporary pipe stringing area along Glen Road.

The survey was undertaken in order to:

- Determine the archaeological potential of the works areas.
- Determine how the archaeological resource would be affected by the proposed project.
- Recommend appropriate mitigation measures.

For the purposes of this report the definition of "cultural heritage" is taken broadly from the UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage, 1972, which considers the following to be "cultural heritage":

- Monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;
- Groups of Buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science;
- Sites: works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.

Mitigation measures are proposed and an indication of the likely potential residual impacts upon the cultural heritage of the proposed development are assessed.

1.1 Description of Project

This project involves construction works at **five sewage outfall locations and removal of 11 decommissioned sewage outfalls** along the shoreline in Cobh between Ballynoe and Carrignafoy, and **construction of an estuary crossing pipeline** by Horizontal Directional Drilling from Cork Dockyard to

Monkstown (see Figures 1-3). Other outfalls are included in the scheme but do not require any physical works. These are included in Sections 4 and 5 for completeness.

All five outfall structures will operate as combined sewer overflows. Works at these five locations will include laying new pipeline: C-12; SW002; C-11; C-04 and SW007. Works will be required below the MLWS at four locations, namely SW002 "Dock Cottages Overflow", SW007 "Old Town Hall Overflow", C-11 "Pebble Beach Overflow" and C-12 "Rushbrooke Overflow". These outfalls will be constructed such that they are buried along the foreshore and terminate below the MLWS tide-mark. Upgrade works to C-04 "Station Car Park Overflow" will involve works to the quay wall and will employ a localised sheet pile solution to keep the works are dewatered.

To construct the estuary crossing pipeline, it is proposed to Horizontal Directional Drill from a launch site in Cork Dockyard, under the estuary and emerge above ground at a reception site (temporary exit point) located in the amenity area Glen Road in Monkstown (see Figure 2).

The pipe string will be attached to the drill head and then be pulled back through the drill bore. A pipe stringing area will be temporarily required along Glen Road whereby the pipe is placed along the road and/ or verge prior to the pipe 'pull back' operation.

Once the pipe has been installed, an interception manhole (permanent exit point), approximately 15m deep, will then be constructed at Marine Villas (location shown in Figure 3) to intercept the pipeline.

From here, a gravity sewer pipeline will be laid as far as the proposed Monkstown Pumping Station (PS) where it will be connected to the proposed Monkstown Rising Main.

Flows will then be pumped via the proposed Monkstown Rising Main to Shanbally WWTP for treatment.

2 Assessment Methodology

2.1 Introduction

The principle aim of the Cultural Heritage Assessment is to anticipate and avoid impacts on the cultural heritage resource. Detailed constraints mapping in GIS forms the basis of this work, followed by further analysis of sites that will potentially be impacted upon and field surveys to ground truth the results of the desk based assessment work and ascertain the significance of any potential impacts.

2.2 Legislation and Conventions

Ireland has ratified several European and international conventions in relation to the protection of its cultural heritage. This section summarises Ireland's obligations as a signatory to a number of International and European conventions relating to the protection and conservation of cultural heritage sites. Also included is a synopsis of existing national legislation governing the care and protection of our cultural heritage resource.

2.2.1 The Planning and Development Act 2006-2009;

The Planning and Development (Strategic Infrastructure) Act 2006 ensures the protection of the archaeological heritage resource by requiring that all applications under this Act are accompanied by

an EIS including information on material assets, including the architectural and archaeological heritage, and the cultural heritage.

2.2.2 The National Monuments Act 1930 to 2004

Irish legislation for the protection of archaeological heritage is based on the National Monuments Acts 1930 and amendments of 1954, 1987, 1994 and 2004. These acts are the principal statutes governing the care of monuments in the Irish Republic. They provide for the protection of national monuments through the use of preservation orders. The overall state archaeological service is provided by the Department of Arts, Heritage and the Gaeltacht (DAHG) and delivered through the Planning and Heritage Section of the DAHG and the National Museum of Ireland (Irish Antiquities Division) on behalf of the Minister.

Monuments are protected under the National Monuments Acts in a number of ways:

- National Monuments in the ownership or guardianship of the Minister or a local authority. A National Monument is a monument under preservation by the State, as a result of its being considered to be of national importance. The legal basis for this status is the National Monuments Acts 1930 to 2004. The original national monuments Act was enacted in 1930 updating an original inventory of monuments comprised of those to which the Ancient Monuments Protection Act, 1882 applied. The most recent amendment in 2004 includes provisions for the partial or complete destruction of National Monuments by the Government. Only a small section of our monuments are in state ownership. The remainder are protected by the state under the National Monuments Acts but the care and preservation of these features depends largely on the interests and respect of individuals.
- National Monuments, which are subject to a preservation order, where it appears to the Minister that a monument, considered to be a national monument, is in danger or is actually being destroyed or falling into decay the Minister may, by preservation order or temporary preservation order, undertake the preservation of the monument. A temporary preservation order will remain in force for six months and then expire.
- Historic monuments or archaeological areas recorded in the Register of Historic Monuments, contains a list of all historic monuments known to the Minister. Owners or occupiers must not, other than with consent, alter, deface, demolish or in any manner interfere with a historic monument entered in the register (National Monuments (Amendment) Act, 1987)
- Monuments recorded in the Record of Monuments and Places (RMP). All known sites and monuments are identified and listed for protection in the Record of Monuments and Places, a statutory inventory of sites protected under the National Monuments (Amendment) Act, 1994. Monuments entered into it are referred to as Recorded Monuments. Owners or occupiers of Recorded Monuments are required to give two months' notice to the Minister and obtain consent before carrying out any works in relation to the monument. This is to allow the National Monuments Service time to consider the proposed works and how best to proceed to further the protection of the monument. For national monuments in the ownership or guardianship of the Minister or a local authority or which are subject to a preservation order, the prior written consent of the Minister is required for any works at or in proximity to the monument. The RMP consists of a

set of 6" maps of the different counties with an accompanying index which shows all the sites, monuments and zones of archaeological potential, recorded to date and protected in the county. The inventory concentrates on pre 1700 AD sites.

2.2.3 The Planning and Development Act 2000

Under arrangements which came into operation on 1 January 2000 (The Planning and Development Act 2000), the system of listing buildings was replaced with strengthened procedures for the preservation of protected structures and structures in architectural conservation areas (ACA). A protected structure is a structure that a local authority considers to be of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social or technical point of view. Details of protected structures are entered by the authority in its Record of Protected Structures (RPS), which is part of the development plan. Each owner and occupier of a protected structure is legally obliged to ensure that the structure is preserved. The legislation obligates planning authorities to preserve the character of places and townscapes which are of special architectural, historic, archaeological, artistic, cultural, scientific, social or technical interest or that contribute to the appreciation of protected structures, by designating them ACA in their development plan. The Act also provides comprehensive protection for landscapes including views, prospects and the amenities of places and features of natural beauty or interest under a local authority's development plan. A development plan is required to include objectives for the preservation of the character of the landscape including the preservation of views and prospects. A planning authority may also designate, for the purposes of preservation, landscape conservation areas.

2.2.4 The Architectural Heritage and Historic Properties Act, 1999

This Act provides for the establishment of a national inventory of architectural heritage it is used by local authorities to inform the compilation of their Record of Protected Structures which, under the Planning and Development Act 2000, does afford legal protection.

2.2.5 The United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage Convention, 1972

This Convention provides for the identification, conservation and preservation of cultural and natural sites of outstanding universal value for inclusion in a world heritage list. The World Heritage status is a non-statutory designation and no additional statutory controls result from this designation. However, the impact of proposed development upon a World Heritage Site will be a key material consideration in determining planning applications.

2.2.6 EIA Directive 85/337/EEC as amended

In order to assist planning and other consent authorities in deciding if significant effects on the environment are likely to arise in the case of development below the national mandatory EIS thresholds, the Minister for the Environment, Heritage and Local Government published a Guidance document in August 2003.

2.2.7 The European Convention on the Protection of the Archaeological Heritage (Valletta Convention), 1997

In 1997 the Republic of Ireland ratified the Council of Europe, European Convention on the Protection of the Archaeological Heritage (the 'Valletta Convention'). Obligations under the Convention include: provision for statutory protection measures, including the maintenance of an inventory of the archaeological heritage and the designation of protected monuments and areas.

2.2.8 The European Convention on the Protection of the Architectural Heritage (Granada Convention), 1997

Under this convention the Republic of Ireland is obliged to maintain inventories of architectural heritage, to protect the architectural heritage and adopt conservation policies as integrated planning objectives.

2.2.9 The European Landscape Convention 2000

In 2002 Ireland ratified the European Landscape Convention - also known as the Florence Convention, which promotes the protection, management and planning of European landscapes and organises European co-operation on landscape issues. It is the first international treaty to be exclusively concerned with all dimensions of European landscape.

2.2.10 ICOMOS Xi'an Declaration on the Conservation of the Setting of Heritage Structures, Sites and Areas, 2005

Ireland is a signatory to an international declaration sponsored by International Council on Monuments and Sites (ICOMOS) that endeavours to ensure the safeguard and conservation of the World's cultural heritage as part of its sustainable and human development.

2.3 Other Policy Contexts and Guidelines

2.3.1 The National Inventory of Architectural Heritage (NIAH)

The NIAH is a state initiative that forms the basis for recommendations by the Minister of DAHG for inclusion in the Record of Protected Structures under the Planning and Development Act 2000.

2.3.2 The Framework and Principles for the Protection of the Archaeological Heritage Guidelines, 1999

This document sets out the basic principles of national policy on the protection of the archaeological heritage. A key principle set out in these guidelines is that there should always be a presumption in favour of avoidance of developmental impacts on the archaeological heritage and preservation in-situ of archaeological sites and monuments must be presumed to be the preferred option.

2.3.3 Cork County Development Plan and Heritage Plan (2009 & 2014)

The heritage and amenity (Vol 2) section of the Cork County Development Plan 2014 reviewed in the preparation of this assessment as well as:

- Cobh Town Development Plan 2013;
- Middleton Local Area Plan 2015;
- Carrigaline Local Area Plan 2015.

2.3.4 Assessment of Impacts Methodology

The assessment of impacts upon the archaeological, architectural and cultural heritage is based on a desktop study of published and unpublished documentary and cartographic sources, followed by a field survey and consultation with statutory stakeholders. In light of the legislative protection afforded to the cultural heritage resource (see above) this report assesses the archaeological, architectural, cultural and historical importance of the subject area and examines both the direct and indirect effects of the proposed development on the receiving environment as well as potential impacts and recommends mitigation measures.

Type of Impact	Direct	Indirect
Profound	Cultural Heritage site is within a development area. An impact where mitigation would be unlikely to remove adverse effects. Reserved for adverse, negative effects only. These effects arise where an archaeological site is completely and irreversibly destroyed by a proposed development	Cultural Heritage site is within a development area. Construction works will entail the destruction of the visual context of the site or isolate it from associated groups or features.
Significant	Cultural Heritage site is adjacent to a development area. An impact like this would be where part of a site would be permanently impacted upon, leading to a loss of character, integrity and data about the archaeological feature/site	Cultural Heritage site is adjacent to a development area. Construction works will greatly injure the visual context of the site or isolate it from associated groups or features.
Moderate	A moderate direct impact arises where a change to a site is proposed which though noticeable, is not such that the archaeological integrity of the site is compromised and which is reversible.	Development works will noticeably affect the context of a cultural heritage site.

Slight	An impact which causes a slight change in the setting of a site but does not directly impact or affect the feature.	Development works will slightly affect the context of a cultural heritage site
Imperceptible	An impact capable of measurement but without noticeable consequences.	The development will have no predicted impact.

2.3.5 Desk Based Study

World Heritage Sites and Candidate World Heritage Sites were reviewed to see if any are located within the vicinity of the proposed development.

All known cultural heritage sites were mapped in GIS along with aerial photography and Ordnance Survey Ireland (OSI) First Edition Mapping (Circa 1830). Sites mapped included the following:

- World Heritage Sites
- National Monuments, be they in the ownership or guardianship of the State, in the ownership of a local authority or monuments under preservation orders;
- Record of Monuments & Places (RMP) and Sites and Monuments Record (SMR) from www.archaeology.ie;
- Records of Protected Structures from Cork County Council;
- National Inventory of Architectural Heritage (NIAH) for County Cork
- Demesnes Landscapes and Historic Gardens indicated on the OSI First Edition Mapping.

All townlands located within 0.5km of the proposed development were listed and cross-referenced with:

- National Monuments List for County Cork from www.archaeology.ie; and
- Preservation Orders, a list available from the Department of Arts, Heritage and Local Government (DoAHG).
- All churches and graveyards which have the potential to be in the ownership of the Local Authorities were highlighted as potential National Monuments.

All townlands located within 2km of the proposed development site were listed and crossed referenced with:

- National Monuments, a list for County Cork available from www.archaeology.ie;
- Preservation Orders, a list available from the DoAHG; and
- Lists contained in the Report of the Commissioners or Church Temporalities of Ireland (1879) which contain lists of Churches, School Houses and Graveyards that were vested in the Representative Church Body and the Burial Boards under The Irish Church Act, 1869.

The Cork County Development Plan 2014 was reviewed and several other documentary and literary sources were reviewed to obtain a comprehensive understanding of the cultural heritage of the region. The development plans contain lists of cultural heritage sites including national monuments, recorded monuments, architectural conservation areas, protected structures and protected views as well as baseline assessments of the landscape character of the county. The plans also outline the county's heritage policies and objectives that aim to protect and promote the archaeological, architectural and cultural heritage of the region. This evaluation was carried out with due regard to these policies and other relevant information contained within the plans. It should be noted that the provisions of the plans are a material consideration for An Bord Pleanála (the Board) in its determination for planning applications.

In order to assess the potential impact of the proposal the following sources were also consulted or reviewed:

- Excavations Bulletin;
- Topographical files of the National Museum of Ireland;
- Cartographic Sources;
- Toponyms;
- Aerial photographs;
- Published archaeological inventories; and
- Documentary Sources: a number of literary references were consulted

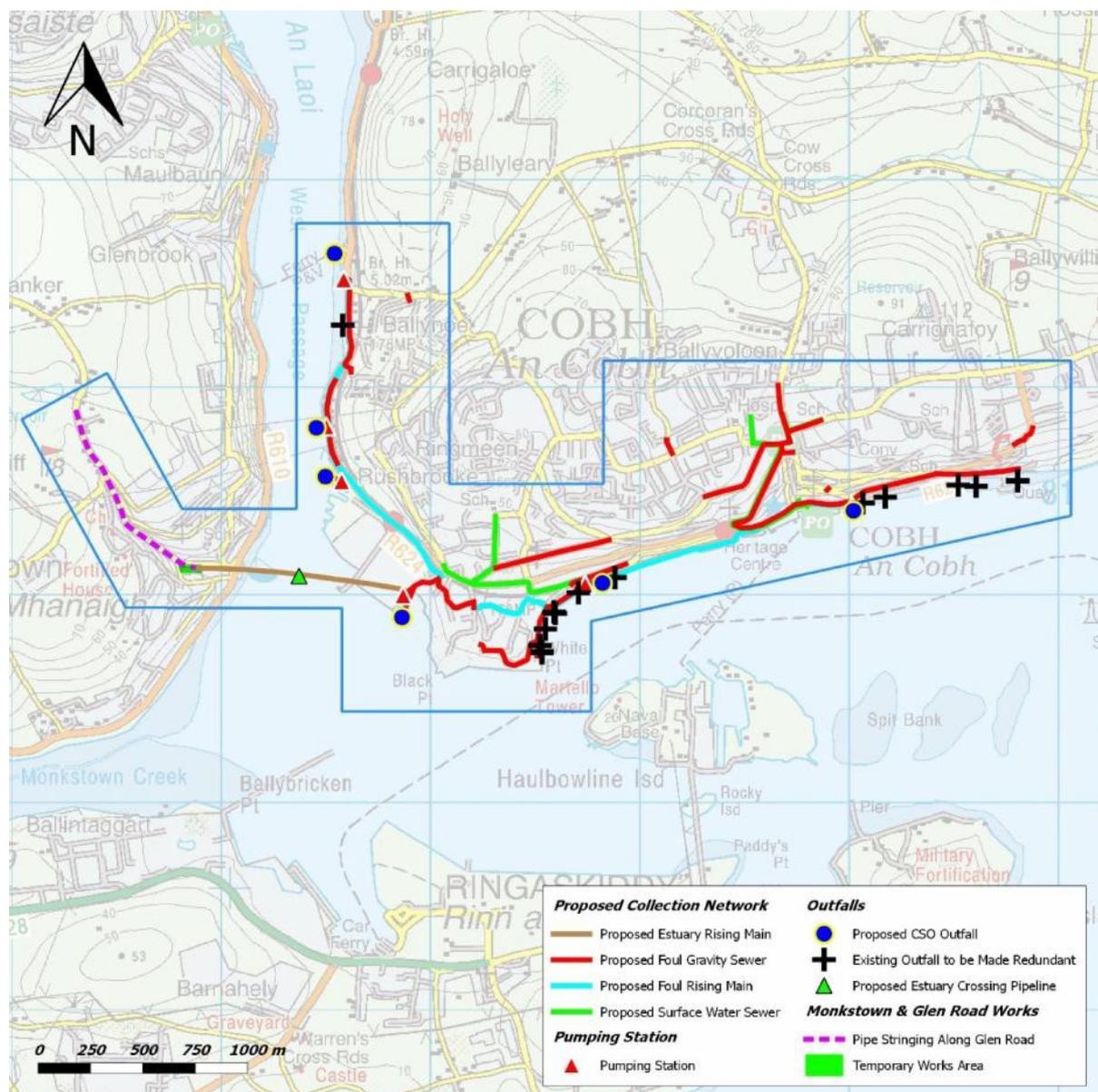


Figure 1 Outfalls and estuary crossing works areas and proposed estuary crossing.

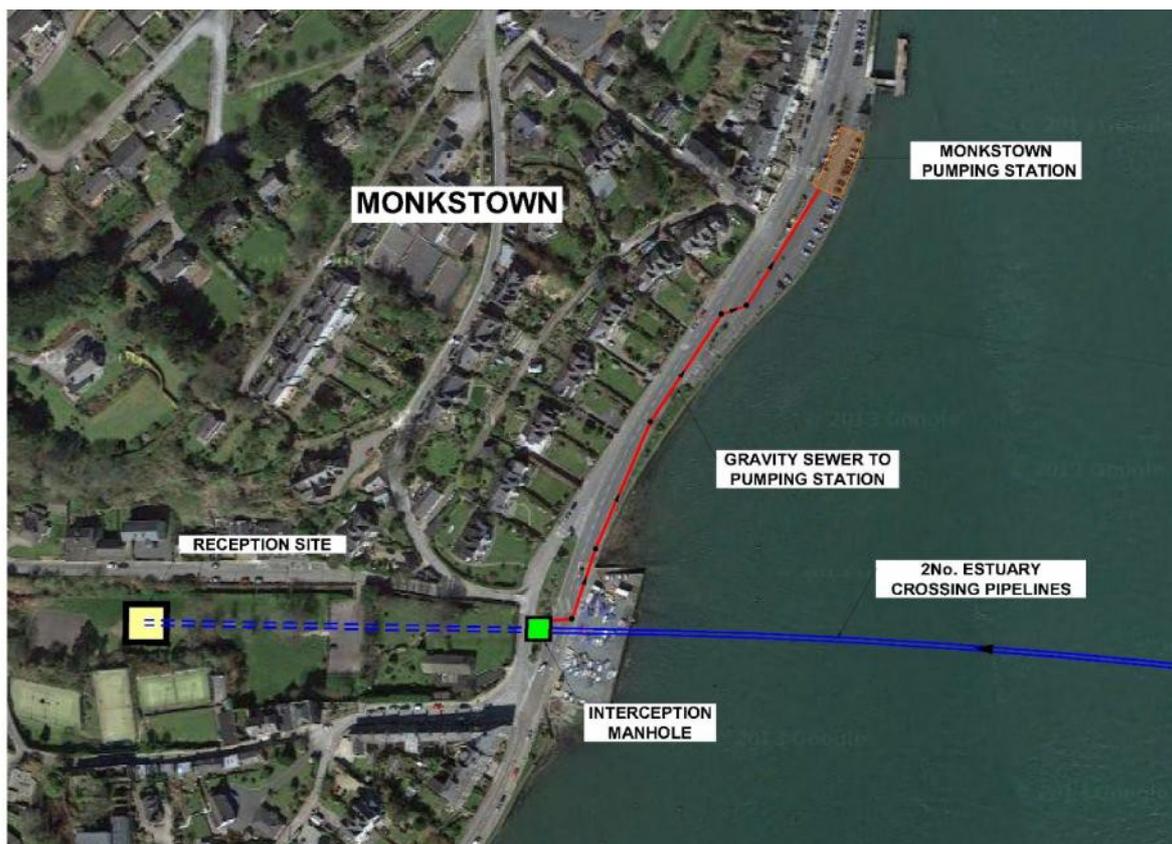


Figure 2 Proposed reception site and interception manhole with associated gravity sewer.

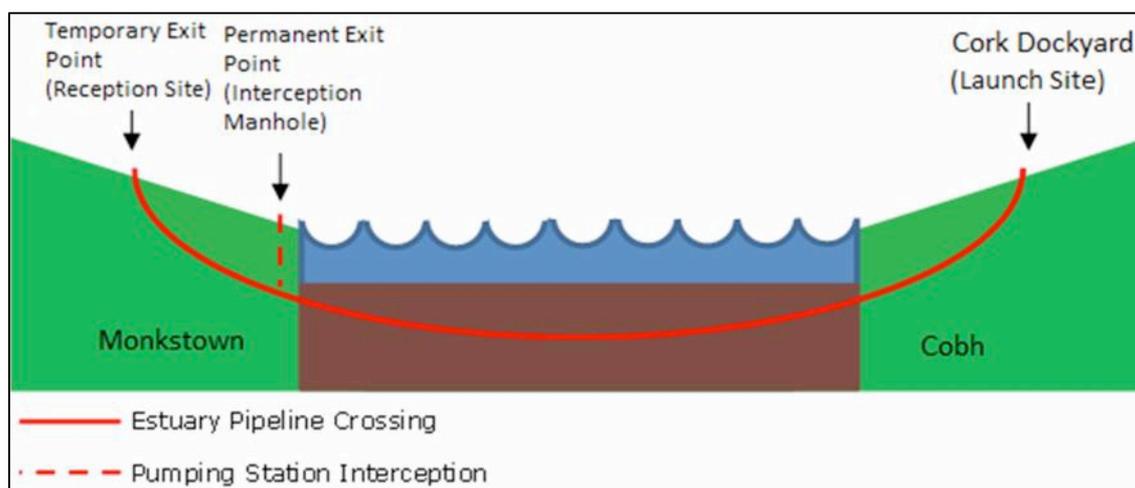


Figure 3 Schematic showing section across estuary.

3 Existing Environment

3.1 Location Details

The proposed outfall upgrade works will involve construction works at **five sewage outfall locations** (C-12, SW002, C-11, C-04 and SW007) and **removal of 11 decommissioned sewage outfalls** (C-01, C-10, C-09, C-07, C-08, C-06, SW003, SW020, SW-009, SW010 and SW011) along the shoreline in Cobh between Ballynoe and Carrignafof.

There are five recorded monuments in the immediate vicinity of the works; they are Cove Fort to the east of the town (RMP CO087-109), the Historic Town of Cobh (CO087-158), St. Garbhan's Church and graveyard near Pearse's Square (CO087-077 & CO087-079) and a Fulacht Fia at Ringacoltig (CO087-093).

Regarding built heritage, the town is a designated Architectural Conservation Area, with many of the Victorian structures appearing on both the list of Protected Structures and the NIAH. It should be noted that many quay features are protected, as are elements of the railway, piers, railings and post boxes. In addition, field work carried out originally in February 2014 and latterly in May 2016 identified a previously unrecorded Kiln site at Whitepoint road and a World War I era Pill Box in a car park at the former Rushbrooke Hotel.

Area	Cobh
Townlands	Ballynoe, Ringacoltig, Ringmeen, Ballyvoloon, Kilgarvan and Carrignafof
OS Sheet number (s)	CO087
Significant Archaeological sites	Historic Town of Cobh (CO087-158), St. Garbhan's Church and graveyard near the square Cobh (CO087-077 & CO087-079) Battery known as Cove Fort (CO087-109) and Fulacht Fia (CO087-093)
Significant Architectural sites	Georgian and Victorian streetscape and rail infrastructure (Cobh is a designated ACA)
ITM Centred on	578975/566296

Table 1 Location details for outfall works areas and significant archaeological and architectural sites

The proposed works for the estuary crossing will involve directionally drilling a pipeline under Cork Harbour between a launch site in the south-east corner of Cork Dockyard, Ringacoltig towards the proposed reception site in an amenity area south of the Glen Road, Monkstown on the west of the estuary. An interception manhole will then be constructed at a site near Marine Villas (adjacent to the R610). There are no known sites of archaeological interest located within the immediate vicinity of the pipeline route. Based on historic mapping Cork Dockyard was under water and the proposed launch site will be in an area of infilled ground with concrete structures. At the proposed sites of the reception site and interception manhole at Glen Road and Marine Villas respectively the groundworks will take place in areas that have been previously disturbed by landscaping in the amenity area and roadworks near the traffic island.

There are a number of NIAH sites of architectural interest in proximity to the proposed works including a Vent pipe at Sand Quay (NIAH Reg no. 20853048), and dwellings at Marine Villas, Castle Road and Glen Road (NIAH Reg no 20853026, 20853049, 20853045). None of these will be directly impacted by the works.

Area	River Lee/Cork Estuary crossing between Cork Dockyard and Monkstown	
OS Sheet number (s)	CO087	
Archaeological sites	No recorded monuments in the immediate area	
Architectural sites and relevant distance to nearest element of proposed works	Vent Pipe on the Monkstown Quay (NIAH ref 20853048)	30m
	Pair of single-bay two-storey over basement with dormer attic houses, built c.1850 Marine Villas, Monkstown, County Cork (NIAH ref 20853026)	40m
	Semi-detached two-bay two- and three-storey with dormer attic house, built c.1880 Glen Road, Monkstown, County Cork (NIAH ref 20853045)	66m
	Detached three-bay two-storey over basement former vicarage, built c.1820. Hazelhurst, Castle Road, County Cork (NIAH ref 20853049)	71m
Other Cultural Heritage Sites	None noted	
ITM Centred on	577268/566124	

Table 2 Location details for the estuary crossing

3.2 Archaeological and Historical Background - General

Research was undertaken in two phases. It comprised of a paper study of all available archaeological, historical and cartographic sources and a site walkover.

Cork Harbour is the second largest natural harbour in the world and Ireland's second largest port. The harbour entrance is a narrow channel at Roches Point, 2.5 kilometres long and some 1.3 kilometres wide. Geologically, Cork Harbour consists of two large areas of water in a limestone basin, separated from each and the sea by ridges of Old Red Sandstone. That area closer to the harbour mouth is known as the Lower Harbour, whilst that closer to Cork City is called the Upper Harbour.

The five largest islands in Cork Harbour are Great Island, Fota Island, Little Island, Haulbowline Island and Spike Island. All, with the exception of Spike Island, are now connected to the mainland. The headquarters of the Irish Navy is on Haulbowline Island.

3.2.1 Mesolithic Period (8000–4000 BC)

The Mesolithic (middle stone age) people were the first inhabitants of Ireland, arriving about 9000 years ago. They were a mobile society relying on wild resources for food, which was hunted and gathered using stone tools as well as boats, nets and traps. Settlement was in temporary and semi-permanent groups of huts constructed of wood slung with hide, which may have operated as seasonal or hunting camps. Mesolithic activity to date shows a marked concentration in the north-east of Ireland this can in part be attributed to both the availability of flint and the large number of antiquarians and collectors in the region and suggests that activity in this period was widespread in the country, with settlers probably utilising the extensive coastline for fish and shellfish. It is estimated that throughout the Mesolithic period the population of Ireland was probably never more than a few thousand. Due to the transitory nature of Mesolithic encampments evidence for settlement activity can be scarce and in many cases can only be determined by flint scatters. In Cork lithics have been retrieved from a number of sources particularly along river valleys like the Blackwater (Woodman 1989). Recent road schemes have also produced scatters in varying degrees of frequency along the Youghal and Ballincollig bypass

In the vicinity of Cork Harbour a research project carried out by Prof. Woodman in the 1980's involving surveys of ploughed fields between Roche's Point and Power Head identified a number of 'hot spots' for worked flints and debitage along the coast. Shell middens have also been identified around Cork Harbour at Ringaskiddy and Curraghbinny (CO087-054, 055,056, 057). These sites consist of concentrated discarded dumps of shell and domestic rubbish and can date from the late Mesolithic. Many of these come to light as a result of sea erosion, a midden at Corkbeg Island an example in point (CO088-105 & 106). The weight of evidence suggests that the subject area, with its natural harbour, available food sources and access to rivers would have sustained a Mesolithic population.

3.2.2 Neolithic Period (4000BC-2500BC)

The practice of farming spread from the Middle East, through eastern and southern Europe to reach Ireland via Britain around 4000BC. Ireland's Mesolithic hunters were, over a period of time, displaced or assimilated by the new Neolithic settlers. This transition fundamentally changed the local economy from one based on hunting and foraging to one of cereal cultivation and livestock rearing. The arrival of the first farmers resulted in land clearance by burning or chopping down trees with stone axes. There were no indigenous cereal crops but the settlers brought with them wheat and barley as well as domesticated sheep, goats and cattle. Tending of crops and animals required a more sedentary lifestyle and larger permanent settlements. Farming as a practice required new skills and, more importantly, new tools. This demand resulted in the development of specific crafts. Polished stone axes, ards (ploughs), flint tools for harvesting crops, and stone saddle querns for grinding the grain required the exploitation of specific stone sources. Flint remained an important stone for the production of tools and weapons, objects such as javelin heads, mace heads, polished axes and fine leaf and lozenge shaped arrowheads were used for both hunting and warfare. During this period the first long distance trade networks were established. Stone axes from Britain, a flint axe from Scandinavia, pitchstone from Scotland, and jadeite axes from the Alpine area of northern Europe have all been found throughout the country. Pottery also makes its first appearance in the archaeological record. The pots were handmade, coil built, and fired in bonfires or

pits. The earliest pots were mainly undecorated round bottomed bowls, although decoration became more common in the later part of the period. Towards the end of the Neolithic a great diversity in pottery styles existed and flat based pottery was introduced.

Other significant changes included the development of a ritual landscape dotted by large megalithic (from the Greek mega – large and lith – stone) monuments built as communal tombs or for ceremonial purposes. These monuments indicate status, knowledge of engineering, and the ability to organise resources, including labour. These tombs are divided into four classes; court tombs, portal tombs, passage tombs and wedge tombs. In the wider vicinity of the subject area there are only two megalithic structures, two upright parallel stones at Rostellan (CO088-010) and remains of a wedge tomb at Castlemary (CO088-015).

Cremation seems to have been the predominant burial rite and the burials were often accompanied by pottery vessels and stone implements.

3.2.3 The Bronze Age (2500BC-500BC)

As stone tools were replaced by the use of copper, which was later combined with tin to make bronze, the structure of society also changed. The somewhat crude copper objects were soon replaced by more durable bronze tools including axes, swords, spears, knives, halberds and cauldrons. Gold jewellery from this period in the form of lunulae, torcs and bracelets are amongst the finest in Europe and hint at the presence of new social elites. In a domestic context, dwellings changed from a general rectangular plan, typical of the Neolithic, to circular arrangements evidenced on excavation by postholes and slot trenches. Middle Bronze Age and Late Bronze Age settlements are usually located on well drained soils suitable for agriculture and near rivers or fording points for ease of transport and communication. As with the Neolithic houses, Bronze Age houses are not easily identifiable on the ground and none have been found in the vicinity of the proposed development to date.

Bronze Age ritual and ceremonial activity is represented by a range of monuments including stone circles, standing stone, stone alignments, henges, tumuli, cairns, barrows and flat cemeteries. Although there is some debate about the provenance of stone circles and standing stones, it is generally accepted that they date from the later part of the Bronze Age. Stone rows or single standing stones were probably ceremonial in function, although single standing stones may have acted as foci or markers at the edges of territories. In the context of this project there is a standing stone 3km to the north at Glenkeen (RMP106-013). Excavated standing stones occasionally provide evidence of an associated burial. However, as this is not always the case it is thought that standing stones may have marked a place of significance, or have formed part of an alignment which has since been removed, or perhaps that they marked route ways through the landscape (Waddell, 2000).

There is an unclassified cairn overlooking the harbour on top of a hill in Curraghbinní wood (CO099-023) near the Owenboy river valley. This site was excavated in 1932 by O Ríordáin (1933, 80-4) who found a cairn of stone enclosed by rough dry-stone wall, an inner arc of stones running from E to W and a platform of clay with embedded stones (c. 9ft x 4ft; H 41/2in) in the centre where he suggested inhumation took place. He also noted a circle of loose stones (diam. 3 ft) outside of, and adjoining the outer circle on east side; very fragmentary cremated human bone and charcoal between the stones of the circle on the

south east side and a post hole near centre. The monument was taken into State Care in 1984 and the cairn was reinstated in July 1998. A reappraisal of the evidence would suggest that the circle of boulders and the drystone 'revetment' wall, traces of which were found on the boulders, was probably an internal feature and that the cairn originally extended beyond it. Interestingly according to Lewis (1837, vol. 2, 602) excavations for the Development of Camden Fort at Crosshaven Hill destroyed 'a nearly perfect tumulus' -perhaps comparable with nearby tumulus at Curraghbinn (CO099-023).

Fulachtaí Fia have a broad date range from the Neolithic period through to the early medieval period but based on radiocarbon dates are primarily thought to belong to the mid to late Bronze Age. These enigmatic monuments consist of small, horseshoe shaped grass covered mounds composed of burnt and fire cracked stones around a central pit or trough. They may have functioned as cooking places or as brewing pits. They are common throughout the country and a number have been found around the extent of the Harbour including examples at Carrigaline (CO087-115), Ringacoltig (CO087-093) and Ballynoe (CO087-125). The Ballynoe site was discovered during the development of a housing estate. The site was found in a ploughed field just east of a country house named 'The Hermitage' on the 1934 OS 6-inch map, on a steep west-facing slope.

3.2.4 Iron Age (c. 500BC-500AD)

The end of the Irish Bronze Age merges into the Early Iron Age almost imperceptibly. Not much is known about this period in time and it has been dubbed 'The Irish Dark Age'. It would seem from the evidence so far uncovered that iron use was gradually introduced into Ireland, however bronze implements were still very much in use for everyday objects and for ornamentation. Many of the finds dating to the Iron Age include objects decorated in the 'La Tène' style such as the torc found at Broughter, County Derry. Life in Iron Age seems to have been defined by continually warring petty kingdoms vying for power. These kingdoms, run on an extended clan system, had their economy rooted in mixed farming and, in particular, cattle. Settlement was typically centred on a focal hillfort with satellite cashels and ringforts. Evidence for Iron Age sites in Cork as with the rest of the country can be quite scant, however recent road works particularly on the N22 Ballincollig Bypass, the N8Glanmire Watergrasshill Bypass and the M8 Rathcormac Fermoy road have revealed sites with Radio carbon dates from this period. The site types ranged from a roundhouse, Iron working sites and fire pits.

3.2.5 Early Medieval Period (c. 500AD-1200AD)

With an expansion in population, the Early Medieval Period witnessed the introduction of a new settlement type generally known as the ringfort. Other names for this site type include rath, lios, cashel and dun. These circular enclosures, numbering between 30,000 and 40,000 across the country, represent the homesteads of the upper echelons of Irish Early Medieval society. Ringforts are generally circular areas surrounded by a bank(s), walls and an external ditch. In some cases, there can be up to three sets of defences. The larger more impressive multivallate, raised and platform raths are generally regarded as higher status settlements and are the foci around which the smaller satellite univallate enclosures would be arranged. This relationship is the physical evidence for the Tuath system characterised by petty

kingdoms, sovereign in their own right that paid fealty to a larger regional / provincial state. By the 5th century, the pre-historic tribal polities were giving way to dynasties. In Cork and around the harbour records suggest that the area was anciently part of Muskerry llane. The O'Breghaim (O'Bregan) were chiefs here, as was (O'Glaisin) O'Gleeson cited as the chief of Ui Mac Caille, from which the barony derives its name. McTire is mentioned among them. O'Ciarin (O'Kieran) is given along with O'Brien and O'Halloran as a chief in this barony. The Mac Oitir (MacCotter) and O'Rinn (Ring) septs are also noted here.

In the fifth century Christianity was introduced to Ireland when missionaries such as Palladius and Patrick launched their missions. By the early 7th century AD, Christianity had subsumed the indigenous pagan religion resulting in the development of ecclesiastical centres, a new political landscape and the creation of a literate society. Significant ecclesiastical sites include Teampall Breacain at Ballintaggart (CO087-061), the Benedictine Abbey at Monkstown (CO087-027) and St. Garbhan's Church and nearby graveyard (CO087-077 & 079) near the square in Cobh. Significantly none of these sites have visible remains.

In the 9th and 10th centuries the Gaelic Kingdom of Munster ruled by the Eóganachta dynasty were threatened by succession of Viking raids from 846 AD onwards. In 914 the annals record that a great fleet from overseas devastated Munster. According to Cogadh Gaedhel re Gaillaibh, some of the Scandinavians from this fleet settled locally and began trading with the leading clans and the neighbouring monastic community. Urban Cork has its origins with St. Finbars settlement but it was the Vikings who properly developed the site into a significant regional trading centre.

3.2.6 Medieval Period to Late Medieval (c. 1200AD-1600AD)

The late medieval period coincides with the arrival of the Anglo Normans in 1169. Their impact on the archaeological, cultural and political landscape transformed the country and over time the tuath system was replaced by a feudal system ruled by lords and barons. Towns began to develop and monument types associated with this period include motte and baileys, moated sites and later stone castles in particular tower houses. The new settlers fought a series of campaigns against the local Norsemen eventually achieving victory following a naval battle in 1173. The significance of Cork was later confirmed when the city received its charter from Prince John in 1185. Territorially Cork and its hinterland was held by the Fitzgerald's who later became the Earls of Desmond. The Fitzgerald's assimilated with their new subjects and as was often the case became more 'Irish than the Irish themselves'. Their opposition to the reformation provoked them to a number of rebellions during the Tudor era. Significant sites of this period include a castle site recorded at Corkbeg (CO088-030) and another at Crosshaven (CO099-022).

3.2.7 Modern Period

Cork in the seventeenth century saw massive social and political upheaval as a result of the Confederate wars, the Cromwellian response and finally the Wars of the two kings. The impact on the local population was catastrophic resulting in a third of the population dying from warfare, famine and plague. In lieu of payment many of the Parliamentary soldiers were given land grants. Other new arrivals into the country were Huguenot refugees fleeing persecution in France.

In the late seventeenth and early eighteenth century with the development of the British Empire, Cork's strategic location and natural harbour led to the city's rapid development as a commercial and naval centre. The Napoleonic threat resulted in the construction of new defences, including Martello towers at Ringaskiddy and Haulbowline. Relevant to the subject area is the roughly star shaped battery at Carrinafoy near Cobh. This was built between 1743-9 and consisted of 'a battery of 20 pieces of ordnance'.

Local industries to serve both the regional and international markets developed in the eighteenth century, mills (CO087-033, Carrigaline) and kilns (CO087-026 Monkstown) were developed. Improvements to local infrastructure also resulted in the development of roads, cut stone quays and harbours. By 1800 Cork's population grew to over 75,000 people. With this increased growth the value of building land for shops and offices and residences for the affluent led to the first suburbs. To service these new areas modes of suburban transport were created. At the turn of the last century there were five county railway lines and one national line, all operating and out of Cork City. Lines near the subject area include the Cobh Line original built by Cork, Youghal & Queenstown Railway in 1862 and the now decommissioned Cork, Blackrock, and Passage Light Railway. The latter line was opened in 1850 between Cork and Passage West, but was converted to lighter gauge in 1902. An extension southward from Passage West to Crosshaven opened in 1904. The railway was closed in 1932.

3.2.8 Cobh Excerpts from Lewis' Topographical Directory 1837.

COBH or COVE, commonly called the COVE of CORK, a sea-port, market, and post-town, partly in the parish of CLONMELL, but chiefly in that of TEMPLEROBIN, in the Great Island, barony of BARRYMORE, county of CORK, and province of MUNSTER; containing 6996 inhabitants. As recently as 1786 it was a small village, consisting of a few scattered houses inhabited by the tide-waiters and pilots of Cork, and some miserable cabins occupied by fishermen; at present it is a large and handsome town, comprising nine large and several smaller streets. The great increase of its population principally arose from its convenient situation for the shipping in Cork harbour, in which, during the French war, Cobh 600 sail of merchant vessels have been at anchor at one time, and 400 sail have left the harbour under convoy in one day. These great fleets always lay immediately in front of the present town, and many of them within half a cable's length of the shore. It has also been greatly benefited by the erection of Carlisle and Camden forts; Martello towers on Great Island, Haulbowline, and Ringaskiddy; and by the bomb-proof artillery barracks on Spike Island. In addition to this, Haulbowline was fortified and made the ordnance depot, and the Lords of the Admiralty made it the only naval victualling depot in Ireland; and Rocky Island was excavated and made the chief gunpowder magazine for the southern part of the kingdom. It was also the place of embarkation for troops ordered on Foreign Service, and the station of an admiral. Cove is built on the side of a Clayslate hill, on the south shore of Great Island, which rises from the water's edge, and being very steep, the streets, which are parallel to the shore, rise tier above tier, and being backed by the high grounds of the island, present a very picturesque view from the entrance to the harbour. The principal streets are nearly level, and those that connect them wind so gradually as greatly to diminish the apparent steepness of their ascent. The houses in the main streets are mostly large and well-built of stone, and many of them faced with slate; the streets are all wide, clean, well paved, and abundantly supplied with water from springs in the clay-slate.

3.2.9 Cobh Key Dates

The history and development of the town is available at URL <http://cobhonline.com>

- Originally known as Ballyvollon
- 1176 in the hands of Anglo Normans
- 1750 Smith describes it as being 'occupied by seamen and revenue officials'
- During Napoleonic wars town becomes a British Navalport
- Early 19th century port develops as an international port with steam ships servicing English, continental and transatlantic route
- 1838 Sirius left harbour to become first steamer to complete the trans-Atlantic route
- 1849 Queen Victoria visits Queenstown
- Work commences on St. Colman Cathedral 1868, completed 1919.
- 1912 Titanic leaves Cobh for New York
- 1917 Sinking of Lusitania
- 1922 Queenstown becomes Cobh.

3.3 Archaeological Heritage

3.3.1 World Heritage Sites

There are no World Heritage sites within 50km of the proposed Scheme.

3.3.2 National Monuments in the Ownership or Guardianship of the State or Subject to Preservation Orders

On a national level the highest degree of protection granted to archaeological monuments are those afforded National Monument status protected under the National Monuments Act of 1930 and its various amendments, these are the pre-eminent archaeological sites in Ireland. These sites are either in state ownership or guardianship or are the subject of protection orders and include Walled Towns. Generally National Monuments in state care are numbered amongst the best preserved and most impressive monuments in the country.

In order to ensure that all potential National Monuments were recorded the following methodology was employed in assessing potential impacts. All National Monuments in the ownership or guardianship of the state or a local authority or sites under Preservation Orders within 2km were reviewed in GIS to ascertain whether there was any potential for direct impacts (physical or on their setting) or indirect impacts.

There are two monuments within Cobh Town Council in Local Authority ownership. These are the Battery CO087-109 (Cove Fort to the east of the town of Cobh) and Kilgarvan Graveyard (St. Garbhan's) CO087-079. As they are in Local Authority ownership they are potential National Monuments and may require Ministerial consent for any works within their zone of archaeological potential.

3.3.3 Sites and Monuments Record (SMR) / Record of Monuments and Places (RMP)

Sites that are not in state care are listed in the Record of Monuments and Places. This inventory consists of a nationwide set of 6" maps with an accompanying index which shows all the sites, monuments and zones of archaeological potential, recorded to date. The inventory concentrates on pre 1,700 AD sites. Monuments and places included in the record are protected as follows:

"When the owner or occupier (not being the commissioners) of a monument or place which have been recorded under subsection (1) of this section or any person proposes to carry out, or to cause or permit the carrying out of, any work at or in relation to such monument or place, he shall give notice in writing of his proposal to carry out the work to the Commissioners, commence the work for a period of two months after having given the notice".

It should be noted that RMP'S are protected by the National Monuments Act but that the care and preservation of these features depends largely on the interests and respect of the individual landowners. All the County Development Plans have policies asserting the protection and preservation of archaeological sites, which have been identified in the Record of Monuments and Places. There are several designations/terms that cover archaeological monuments, including the SMR, Record of Monuments and Places (RMP) and Register of Historic Monuments (RHM). For the purposes of this project archaeological monuments will be referred to as SMR sites as the Sites and Monuments Database contains the most up to date list of sites, including sites that are not contained in either the RMP or RHM.

A review of the Record of Monument and Places (RMP) dataset identified the following six sites:

RMP No	Classification	Townland	ITM Reference	Distance from project
CO087-093	Fulacht fia	RINGACOLTIG	577622, 566754	125m from SW002 "Dock Cottages Overflow"
CO087-077	Church	KILGARVAN	579715, 566500	Exact location unknown but 'situated where the old square now stands'
CO087-079	Graveyard	KILGARVAN	579715, 566500	Exact location unknown but 'situated where the old square now stands'
CO087-158	Town	BALLYVOLOON ,KILGARVAN	579685, 566641	0m: SW007 "Old Town Hall Overflow" is within the boundary of this RMP
CO087-109	Battery	CARRIGNAFOY	580881, 566671	125m from C-13SW011 "Pilots Pier".
CO087-028-- --	House - fortified house	MONKSTOWN (Castle Farm)	576535 566265	Approx. 80m from Glen Road near Pipe Stringing area.

Table 3 Inventory of sites in the vicinity of the proposed works.

The following details the available information on the above sites.

SMR No: CO087-093

Classification: Fulacht fia

Description: Spread of burnt material (L 26m; Wth 22m) visible in ploughed field.

SMR No: CO087-077

Classification: Church (no longer extant)

Description: In a graveyard (CO087-079). Power (Placenames and Antiquities of South East Cork, PRIA 1918, 222) recorded 'Ceall Garbhain — " St. Garbhan's Church." The primitive church-site lay within what is now Queenstown. Kilgarvan was, at one time, another name for the parish, or for part of it'

There are no visible remains of this church (Zajac et al. 1995, 36).

SMR No: CO087-079

Classification: Graveyard

Description: O'Farrell (1894, 35) noted the following 'Graveyard's are also said to have existed at the southern Part of Mr. Maurice O'Connell's farm at Ballydanielmore' in the playground of the Cove Male National School, and where the old Square now stands in Queenstown'. There are no visible remains of this graveyard and the site is currently occupied by Pearse Square (Zajac et al. 1995, 36). The church (CO087-077) was associated with this graveyard.

SMR No: CO087-158

Classification: Town

Description: 'At the end of the 18th century Cobh was described as a small fishing village consisting of 'a few scattered houses'. Its subsequent rise to prominence arose from its convenient, island location, for shipping in Cork Harbour. It also benefited from the erection of Camden and Carlisle forts and by the construction of an artillery barracks on Spike Island. It remained a British naval base until 1937 and was the principal base of American naval forces in European waters during the First World War. The Cork Ship 'Sirius', the first steamer to cross the Atlantic, sailed from here in 1838. In the 19th century the town developed a reputation as a winter resort and in 1894 on the occasion of a royal visit from Queen Victoria the name of Cobh was temporarily changed to Queenstown.' (Zajac et al. 1995, 35)

SMR No: CO087-109

Classification: Battery

Description: On steep S-facing shore of Great Island with commanding view of entrance to Cork harbour; remains of roughly star-shaped fort (c. 100m N-S; c. 80m E-W) later enclosed within rectangular ordnance grounds (c. 200m N-S; c. 170m E-W). Fort built 1743-9 (Brunnicardi 1982, 4); described by Smith (1750, vol. 1, 165) as consisting of 'a battery of 20 pieces of ordnance'; 1804 report describes 'the lower level mounting six 24-pounders, the middle battery thirteen and the upper battery one' (Kerrigan 1978, 147), there was also a barracks 'situated over these tiers; and a battery for defence on the land side' (Anon 1846, vol. 1, 560); According to Lewis (1837, vol 1, 415) 'now dismantled and occupied as a naval hospital'; by 1842, OS 6-inch map names barracks as 'hospital'; as 'military hospital' on 1902 OS 6-inch map with separate 'fever wards' to N. Enclosing walls of fort largely intact but no trace of barracks/hospital. Piered entrance mid-way on W side, flanked by D-shaped bastion to S with many musket loops; by out-turn of wall to N, also pierced by musket loops; line of wall then continues straight northwards. Terrace at shoreline, including SW and SE bastions; behind this high retaining wall with central staircase. This leads up to second terrace, where Harbour Commissioners have new office; behind is steep grassy slope and above this third

terrace at level of entrance, residential house just inside gateway. Behind this, overgrown rocky face and top terrace, also overgrown, with NW and NE bastions (the latter poorly preserved). At centre of N wall pedimented doorway; flanking faces of corner bastions pierced by covering musket loops.

High wall encloses larger ordnance grounds; N end now occupied by Irish Army as Belmont Military Depot. On E side Victorian military building, now in residential use; on W side modern residential bungalow. At SW cornerstone slipway with reconstructed boathouse.

SMR No: CO087-028-

Classification: House - fortified house

Description: On shoulder of rising ground, overlooking S entrance into West Passage of Cork Harbour to E; steep-sided glen close-by to N. Three storey rectangular block (int. 11.5m E-W; 6.3m N-S) with square towers (ext. L c. 7.5m; int. L c. 5m) at each corner; towers four storey with attic. Walls stand to full height but floors and roofs collapsed and in dangerous condition. Gables atop each elevation of main block and towers; string courses on all elevations between floor levels. Each tower has square chimney stack atop both inward-facing gables, also stack atop main W wall. Bartizan atop outside corner on each tower; each supported by five elegantly tapering corbels (central one set on corner); traces of stepped crenellations atop walls of bartizans. Numerous gun loops at ground level (see plan, Craig 1982, 127), most now blocked up. Most windows now blocked or closed with galvanised sheets; originally all had square or rectangular lights, some with mullion and transom divisions; largest intact light in E wall at 1st floor level divided by two mullions and a transom; most covered externally by hood mouldings with stepped terminals. Wide door in N wall of main block; cut-stone surround in two plain orders with elliptical arch, hood moulding overhead; now blocked up. Similar surround to smaller door at E end of S wall in NW tower; opposite blocked door in SW tower; these face each other under wide segmental arch (Wth 2m) which carries forward upper part of W wall of main block. Against N wall of SW tower straight flight of stone steps rise to blocked door, at 1st floor level, in W wall of main block.

Much of interior no longer accessible due to collapse but layout appears similar to Mount Long (CO112-041---): corner towers have single room at each level entered from main chamber. At ground level, in central block, large fireplace in centre of W wall; cut stone surround with elliptical arch and slightly prominent keystone, shallow cornice; opening blocked. Above it, at 1st floor level, more elaborate fireplace; again elliptical arch cut on underside of lintel but more elaborate mantle: three tiered cornice brought forward at ends and in centre, central projection rests on console with shallow 'branch and leaf' carving; directly below, the date 1636 stands in shallow relief; very similar to door in Kanturk Castle, North Cork. Above console are inscribed initials 'B.S.' and date '1814', these commemorates re-roofing and repair of house by owner Bernard Shaw (Coleman 1915, 3). Shortly afterwards used as barracks by British army (ibid.); report of 'very considerable additions' in 1873 when owned by Lord De Vesci (see notice in *The Irish Builder*, May 15, 1873); apparently vacant when leased to Monkstown Golf Club as club house in 1908 (Hurse 1925, 90-5), they purchased it outright in 1959 but house abandoned again in 1971 when new club house built. House originally built by Archdeacon family (ibid.), presumably in 1636, and probably by same builder as Mount Long (CO112-041---) which it closely resembles.

The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 2: East and South Cork' (Dublin: Stationery Office, 1994). In certain instances the entries have been revised and updated in the light of recent research.

Date of upload/revision: 14 January 2009

Date of last visit: February 17, 1986

3.3.4 Topographical Files of the National Museum of Ireland

The topographical files of the NMI identify all recorded finds held in the NMI archive that have been donated to the state in accordance with national monuments legislation. The files sometimes include reports on excavations undertaken by NMI archaeologists in the early 20th century. Valuable information that can be gleaned might include the exact location, ground type, depth below ground level and condition when found, of each artefact. See as follows:

There are no finds listed in the topographical files for the relevant townlands.

3.3.5 Previous Archaeological Fieldwork

The Excavation Bulletin is both a published annual directory and an online database that provides summary accounts of all the excavations carried out in Ireland and Northern Ireland from 1970 to 2012. Similarly, the National Roads Authority (NRA) archaeological database (<https://www.archaeology.ie/>) contains a description of the results of excavations carried out in advance of various road schemes.

The following is a summary of relevant reports:

County: Cork Site name: **Ringacollig**

Excavations.ie number: 1999:121 License number: 99E0334

Author: Martin E. Byrne, 31 Millford, Athgarvan, Co. Kildare.

Site type: Possible enclosure site

ITM: E 577670m, N 566353m

A possible enclosure site is marked on the 1st edition OS 6-inch map in an area of a proposed residential development site on the north-western outskirts of Cobh. The precise location, nature and extent of the site had not been determined because it had been levelled sometime in the mid-late 19th century and the area had been constantly ploughed over a long period of time.

Testing was carried out at the site on 10 and 11 July 1999. This consisted of the combination of machine- and hand-excavation of eight trenches. In general, it was found that the topsoil / ploughzone material was deepest to the west and south, which would be expected given the existing slope down to these areas. None of the geophysical anomalies reflected features or deposits of archaeological interest or potential. In addition, no finds of archaeological or historical interest were recovered during the archaeological testing. It is suggested that the site depicted on the map may have been a circular enclosure comprising only a bank. This bank was levelled, and all traces of the site were subsequently destroyed by constant ploughing.

County: Cork Site name: **Carrignafoy**

Excavations.ie number: 2007:229 License number: 07E0217

Author: Máire Ní Loingsigh, Sheila Lane & Associates, Deanrock Business Park, Togher, Cork.

Site type: Fulacht fiadh

ITM: E 580622m, N 567419m

A spread of burnt stone, c. 18m by 20m, was noted during site clearance at a greenfield development site in the townland of Carrignafoy, on the north-east outskirts of Cobh, Co. Cork. As development was already under way, full excavation of the site was recommended by the local authority. The site was located at c. 60m OD on the east slope of a 91m-high hill which dominates the town of Cobh. Cork Harbour is located over the top of the hill, to the south of the site.

Excavation took place in April–May 2007. The uppermost level of the spread of burnt and heat-shattered stone was removed to reveal a trough connected by a shallow channel to two further troughs, all of which had been cut into the natural boulder clay. The upper (northern) trough (F35) was rectangular and orientated with its long axis north-north-west/south-south-east. It measured 5.18m by 1.5m with a maximum depth of 0.9m. The lowermost 0.3m of the sides of the trough were lined with a rough layer of sandstones, and two horizontal oak timbers were recorded at the base of the trough. A circular structure (F20) enclosed the trough. It was 5m in diameter and consisted of a series of seven post-holes, slot-trenches and stake-holes.

Directly north-north-west of the trough was a stone-paved hearth with a stone surround. The hearth measured 2m². A 5.8m-long channel, U-shaped in profile, led downslope from the northern (F35) to the eastern troughs (F17, F9). The smaller trough (F17) (1.4m east–west by 2m by 0.5m deep), to the west, was cut by a larger oval trough (F9). It appears that the smaller trough (F17) may originally have had the same dimensions as the rectangular trough (F35) to the north-west. The oval trough (F9) measured 5.18m by 4.2m (maximum) by 0.65m deep (maximum). The south side of the trough sloped gradually, while on the north the sides were steeper. This may represent a later use of the site when F17 was enlarged, either intentionally or through continued use or by flooding/erosion, to form a larger oval trough (F9). Four metres to the east of the rectangular trough (F35) and 1m to the north of the oval trough (F9) was an area measuring c. 4.5m south-west/north-east by 3m containing 23 post- and/or stake-holes in an apparently irregular arrangement. The post-holes contained fills of clay, stone and occasional charcoal. No apparent form or plan was evident in the layout/location of the post-holes, but they may represent a

structure that was ploughed out, truncated by later agricultural activity. There was no evidence to link these cut features with the troughs and associated features to the south and west.

County: Cork Site name: **Barrack Street, Cobh**

Excavations.ie number: 1998:064 License number: 98E0507

Author: Sheila Lane, 1 Charlemont Heights, Coach Hill, Rochestown, Cork.

Site type: Urban

ITM: E 567111m, N 571394m

A site assessment consisting of one test-trench was carried out on 2 November 1998. The trench was opened to a depth of 1.1m and was found to contain loose rubble fill. At 1.1m a layer containing earth, bone fragment, shell and organic material was noted. This was deemed an archaeological layer and was not investigated. The developer was advised to design foundations for the proposed building that would not interfere with this layer. No development has taken place on the site to date

County: Cork Site name: **Cobh Cruise Terminal, Cork Harbour**

Excavations.ie number: 2008:203 License number: 08E0192; 08D012; 08R044

Author: Rex Bangerter, The Archaeological Diving Company Ltd, Brehon House, Castlecomer, Co. Kilkenny.

Site type: Seabed; no archaeological significance

Monitoring of the dredged extension to the existing berthing slot at Cobh Cruise Terminal was carried out in March 2008. The dredging process was undertaken by backhoe dredger, using differential GPS to allow accurate seabed excavation down to design depth. The existing berthing slot was extended on both its eastern and western side (Areas A–B), increasing its overall length by 45m, to achieve a total length of 385m. This extension has facilitated the berthing of Freedom-class vessels in all tied states. Dredging was undertaken to a design depth of –9m OD and resulted in the removal of 3m of seabed from Areas A and B. Monitoring of the dredging work was undertaken on a twelve-hour basis between 12 and 13 March 2008. The seabed area under development was previously inspected by ADCO. Diver-truthing of side scan-sonar anomalies identified for the Cork–Cobh Cruise Terminal (turning-circle) Scheme was undertaken in March 2005. This was followed by an additional dive inspection of the berthing slot in March 2005.

The removal of all seabed material was monitored. Seabed deposits were largely sterile in nature and very little man-made material was observed as part of the monitoring process. The seabed was primarily composed of a grey silty-clay deposit with frequent angular gravel and oyster shell inclusions. Frequent modern dumped material was recovered from the upper layers of the dredged material. No archaeologically significant material / deposit / structure was encountered during monitoring.

3.3.6 Toponym Analysis

Townland names are a rich source of information for the land use, history, archaeology and folklore of an area. The place name can have a variety of language origins such as, Irish, Viking, Anglo-Norman and English. The names can provide information on families, topographical features, and historical incidents. In terms of the built environment many names reference churches, fords, castles, raths, graveyards, roads and passes etc. In compiling the following data, a number of resources were consulted including the Placenames Database of Ireland www.logainm.ie and Irish Names of Places by P.W. Joyce (Joyce, 1913).

Townland Name	Name/	Irish Version	Translation
Ballynoe		an Bhaile Nua	New Town
Ringacoltig		Rinn an Chabhaltaigh	Point of the fleet
Cobh		an Chóibh	The Cove
Ballyleary		Bhaile Uí Laoire	O'Leary's town
Ringmeen		Rinn Mhín	Smooth point
Ballyvoloon		Bhaile Bhallúin	O'Malone's town
Kilgarvan		Chill Gharbháin	'Garvan's church'
Carrignafoy		Churrach an Eich Bhuí	Rock of the Yellow Horse
Ticknock		Thigh an Chnoic	House of the hill
Monkstown		Baile an Mhanaigh	The Town of the Monk

Table 4 Toponymns

3.3.7 Aerial Photography

The usefulness of aerial photography is that it allows for a different perspective. Archaeological sites may show up on the ground surface, depending on their state of preservation, by light and shadow contrasts (shadow marks), tonal differences in the soil (soil marks) or differences in height and colour of cultivated cereal (crop marks). It is also a useful aid in pinpointing existing features and can assist in ascertaining their extent and degree of preservation.

Aerial photographs, from a number of online resources including OSI and Google/Bing Maps were reviewed for the purposes of this project. As the scheme largely takes part in urban areas and along existing roads, with limited green field sections no previously unknown anomalies were noted.

3.3.8 Cartographic Research

Analysis of historic mapping shows how the landscape has changed over time. The comparison of editions of historic maps can show how some landscape features have been created, altered or removed over a period of time. Sometimes features that appear on these early maps are found to be of potential archaeological significance during fieldwork. For this study the following historic maps were consulted:

- First edition Ordnance Survey 6" Maps circa 1830; and
- Second edition Ordnance Survey 25" Maps circa 1900.
- 6" Cassini

The first edition map of Cobh shows the town and the access roads in the 1830's. From west to east along the existing R624 the prominent features are as follows:

In Ballynoe townland there are a number of small demesnes and roadside dwellings, Ballynoe House which is still extant overlooks the channel. There are a number of period properties in this area that are protected structures, many date to the mid-19th century and are typical of the prevailing style defined by red brick construction with multiple steeply-pitched gables, tall chimneystacks and decorative elements such as bargeboards and window surrounds.

Through Ringacoltig there is a ringfort visible (CO087-009) to the north east of the townland. Along the roadway there are roadside dwellings many annotated as Cottages, e.g. Rose, Strand, Trellis etc. Between Black point and White Point there is a shaded area with a concentration of residences, with adjacent gardens and large surrounding plots. Significant properties include Coolgreena House, Travara and White Point House.

Along Lower Road the first edition map shows a long line of small dwellings overlooking the coast. This section was dramatically changed with the arrival of the railway and the development of Whitepoint moorings. Two cast iron footbridges along the moorings, circa 1870-1890 are listed on the NIAH.

Within the town the early map annotates a number of significant features including a Market house, a Gun Battery, docks, a New Quay and Fitzpatrick Quay. Other prominent features are the Admiralty House and both the R.C. Chapel and Church of Ireland (since demolished). Further east along Harbour Row and Connolly Street are a Customs House, Coast Guard station and Cove fort marked Hospital and Ordnance Ground.

Renamed Queenstown after Victoria's visit in 1849, the town in keeping with its new royal status was transformed with significant commercial, civic and residential development. Westbourne Place, West Beach, West View, the town hall and the Crescent date from this period. All of these projects however pale in comparison to the ambition and scale of the development of St. Colman's Cathedral, a monumental architectural feat that still dominates the harbours skyline. The cathedral, of international importance, was designed by E. W. Pugin and G. C. Ashlin in 1868 and completed in 1919.

Later development in the 1870's include the clock tower built as the Cork Harbour Commissioners Office, and later used as the Urban District Council Office.

West along Connolly Street, formerly Queens Street and Cotterall's Row, the old range of houses featured on the early editions have since been replaced with modern houses. At the eastern terminal of the Mall is Cove fort. This was built between 1743 and 1749, it was enlarged and re-fortified during the Napoleonic wars. In 1804 it had four batteries.

An examination of the first edition map of the proposed site of the estuary crossing between Cork Dockyard, Ringacoltig on the east bank and environs of Glen Road, Monkstown on the west bank shows the subject area in the mid nineteenth century. On the east side the launch site for the drilling rig is within a tidal area that has since been infilled and concreted over. The nearby dockyard was established in

1853. In 1957 Irish Shipping in partnership with Dutch shipping magnet Cornelius Verolme purchased the dockyard to assist in the development of the Irish Building Industry. At this stage much of the existing docks was reclaimed and developed. In 1995 the dockyard was purchased by the Doyle Group and renamed Cork Dockyard. Also featured near the proposed pipeline is a Gas Works.

On the west side at Monkstown there are two exit sites, a temporary exit within the former site of a glebe associated with Hazelhurst vicarage and a permanent exit point on the road near Marine Villas. Figure 6 is a later 25" map (dated 1888-1913) and shows the Glebe as a Tennis Court.

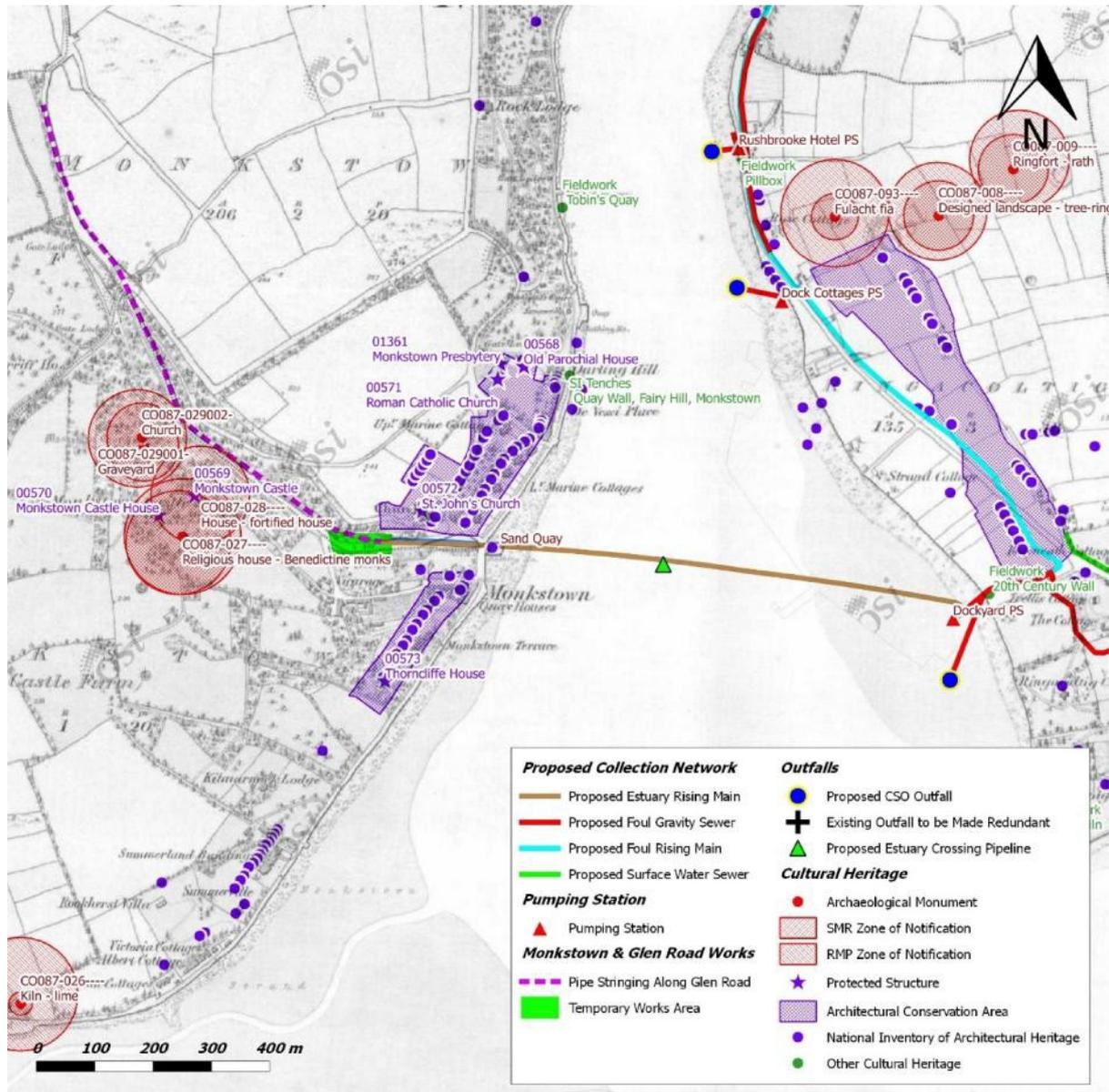


Figure 4 Extract from First edition OS map (1837-1842) showing crossing area.

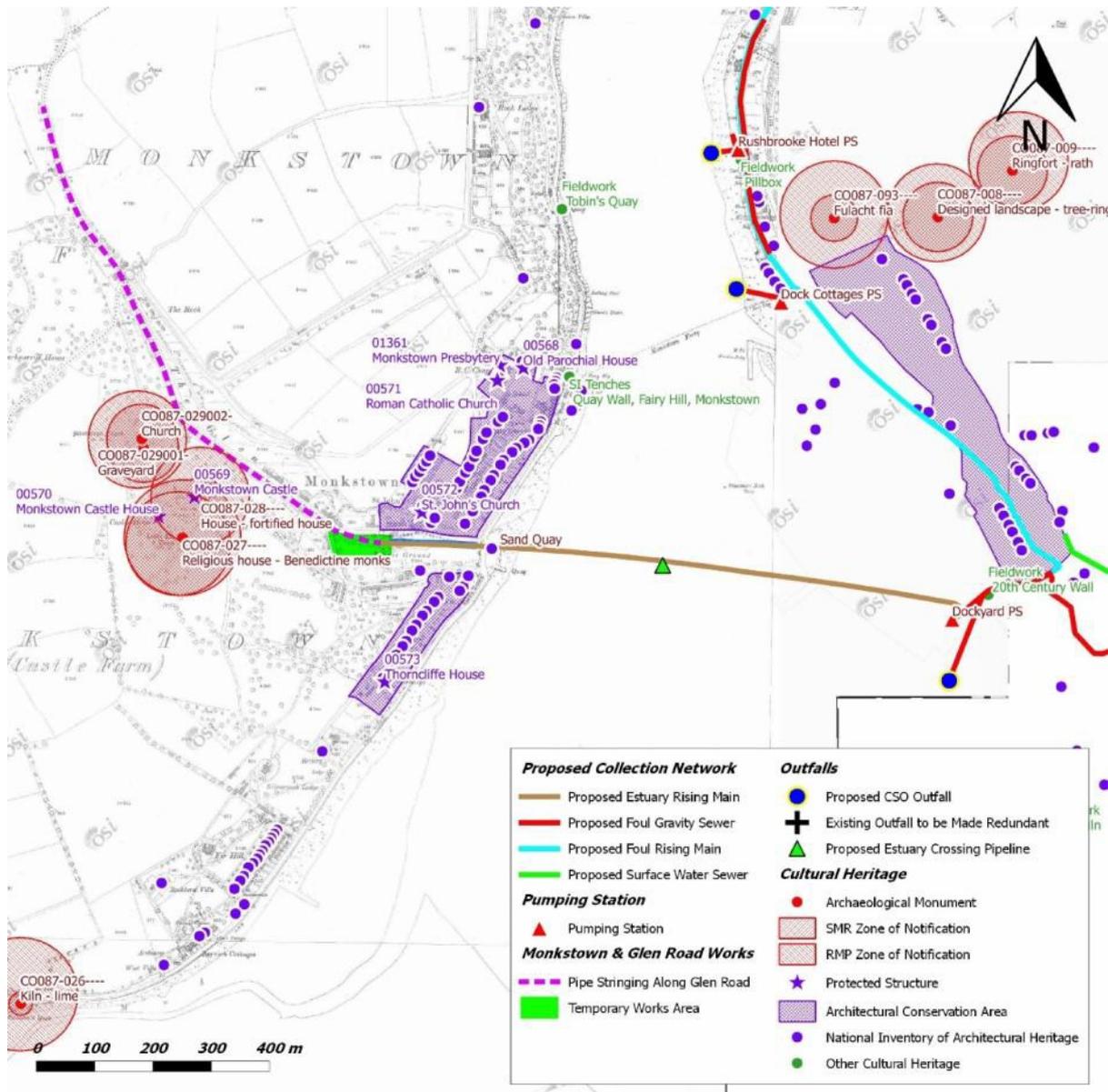


Figure 5 Overlay from 25" map showing crossing area (1880-1930)

3.3.9 Unrecorded Cultural Heritage Sites

During the field surveys undertaken in February 2015 and May 2016, a number of features were identified, in particular sections of stone built quay walls, some of these like Lynch's Quay and the Wharf at Lower Road are registered on the NIAH others are not specifically noted. Particularly fine sections are found near the breakwater and slip opposite The Mall, Lynch's Quay, Admiralty Pier, along the Promenade to the Naval Pier, the wharf at Lower Road and the sea wall along Whitepoint Moorings. The majority of these walls were built between 1830 and 1870 and attest to the engineering skill of local masons.

A previously unidentified kiln was noted along White point road. This site overlooks the harbour and the roof is now used as a garden terrace. Also of note is a World War I era pill box located in a car park at

the former Rushbrooke Hotel, this is a discreet concrete structure with a viewing port overlooking the estuary and is accessed to the rear.



Plate 1 World War 1 Pill Box, Rush Brooke Hotel,



Plate 2 Kiln Site Whitepoint Road.

At Pebble Beach the survey noted a rubble built section of wall near the access to the beach. This wall with a centrally placed blocked up opening was part of the boundary for a gas works built circa 1900. This wall is not an NIAH site.



Plate 3 Rubble wall at access to Pebble Beach.

3.4 Architectural Heritage

The residential architecture of Monkstown consists of a high number of large town houses, many of which are terraced, also included are smaller artisan-style houses, and a number of civic buildings. In Cork Dockyard, the sites that feature on the NIAH inventory are industrial structures including office buildings and cranes appraised as examples of functional design and mid-twentieth century engineering.

3.4.1 Architectural Conservation Areas (ACA's)

An Architectural Conservation Area (ACA) is defined as a place, area, group of structures or townscape that is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or contributes to the appreciation of protected structures. ACA's are designated in recognition of the special character of an area where individual elements such as building heights, building lines, roof lines, materials, construction systems, designed landscapes, public spaces and architectural features combine to give a place a harmonious, distinctive and special quality which merits protection.

The Cork County Development Plan (2015-2021) and the Cobh Town Development Plan (2013) were reviewed for this report. The Cobh Town Plan has carried forward the four Architectural Conservation Areas included in the Plan and proposes an additional architectural conservation area at Athenian, Willmott and St. Maur's Terrace. The full list of architectural conservation area designations for the Town are as follows:

- Town Centre
- Victorian villas adjacent to and in Midleton Park
- The Crescent
- Patrick's Square
- Athenian Terrace, Willmott Terrace and St. Maur's Terrace

Cobh

There are a number of ACA's in the Cobh area including areas along Riviera Terrace, Castleview Terrace, Westbourne Place and Cobh Town Centre. Cork Dockyard is not part of the designated ACA's.

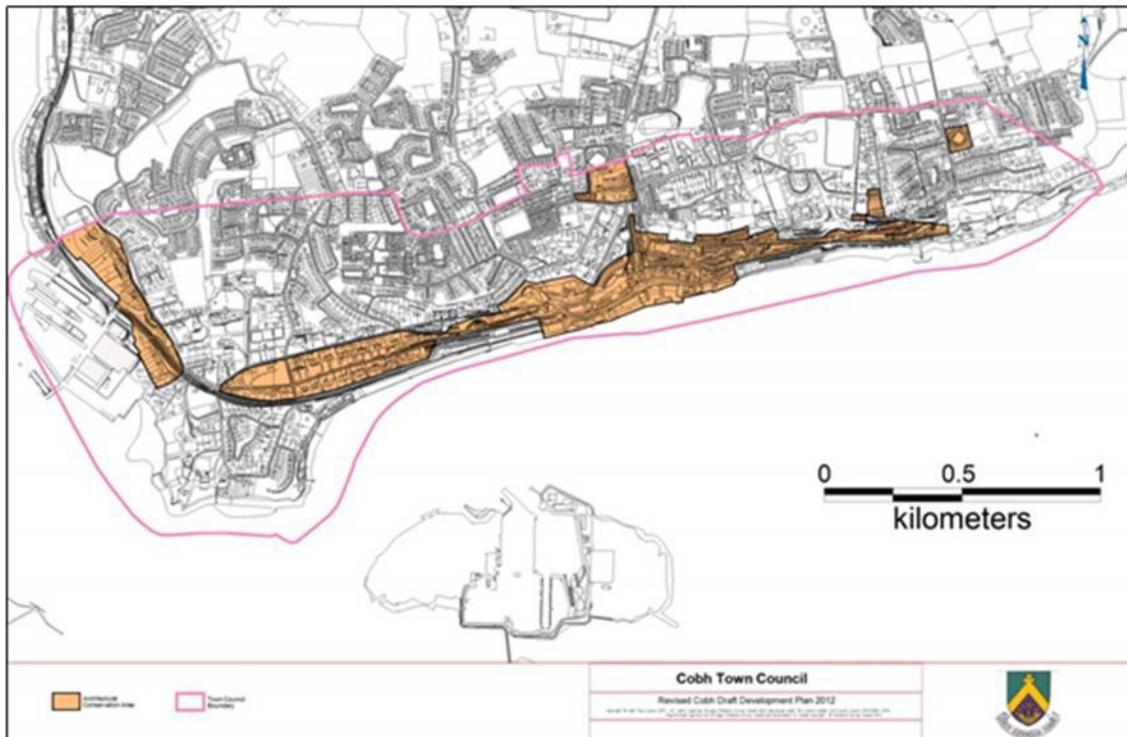


Figure 6 ACA of Cobh Area

Monkstown

The Carrigaline Electoral Area Plan designates two ACA's in Monkstown, Upper and Lower separated by the Glen Road. The proposed works at Marine Villas and Glen Road are outside the ACA area.



Figure 7 Monkstown Upper and Lower ACA's.

3.4.2 Record of Protected Structures (RPS) / National Inventory of Architectural Heritage (NIAH)

Both the Record of Protected Structures and the NIAH survey of County Cork and Cobh Town Council were referenced as part of this assessment. There are a significant number of structures listed in the Cobh Town Development Plan (2013). The majority of these sites are Victorian and Edwardian houses that overlook the Harbour. These buildings will not be directly affected by the works. Also featured are infrastructural links, the dockyards and street furniture and utilities. These sites have larger footprints and may experience impacts.

These structures are as follows;

NIAH Reg No	Name	Nearest Outfall	Description
20908719	Ballynoe Villa	C-01 "Ballynoe"	Detached three-bay two-storey over half-basement with attic accommodation house, built c. 1860, with projecting gabled bay with flat-roofed bay window, gabled dormer windows and gabled canopy to front (west) elevation. Sited prominently along the shoreline and with quay to front.
20908728	1 Strand Ville, County	SW002 "Dock Cottages Overflow"	Detached three-bay two-storey house, built c. 1890, with gabled central projecting bay and flanking gables to front (west) elevation. Gabled dormer windows to rear (east).
20827355	Lynch's Quay, Cobh	SW007 "Old Town Hall Overflow"	Pairs of square-profile chamfered cast-iron piers, c. 1860, having balls finials to caps and double-leaf cast-iron gates. Cast-iron railings set in rendered plinths.
20827354	Lynch's Quay, Cobh	SW007 "Old Town Hall Overflow"	Pair of cast-iron bollards, c. 1860, having raised lettering

Table 5 NIAH & RPS sites near Cobh outfalls

With regard to the estuary crossing, there is a listing for a vent pipe on the Monkstown Terminal and it should be noted that the majority of properties on both Carlisle Place and Marine Villas feature on the NIAH.

There are no structures in the immediate vicinity on the Cork Dockyard side of the crossing, the nearest NIAH site is an office building dated to 1962 (Ref No. 20828003) located in excess of 200m from the launch site.

The relevant listings are as follows.

Monkstown (West Side)

NIAH Reg No	Name	Address/ Street	Description	Distance from Works
20853048	Vent Pipe	Sand Quay, Monkstown	Freestanding circular-profile vent-pipe, erected c.1870, having cast-iron banded base with raised lettering and shaft with cast-iron cowling	30m from Interception Manhole
20853026	Dwellings	Marine Villas, Monkstown,	Former pair of single-bay two-storey over basement with dormer attic houses, built c.1850, having two-storey flat roof canted bays to front (south-east), two-storey pitched roof extensions to sides (north-east, south-west) and two-storey canted bay addition to side (south-west). Now in use as single detached house	40m from Interception Manhole
20853045	Dwelling	Glen Road Monkstown	Semi-detached two-bay two- and three-storey with dormer attic house, built c.1880, having flat and hipped roofed canted bays and gabled dormer and half dormer windows to front (south-east)	66m from Reception site
20853049	Dwelling	Hazelhurst, Castle Road, County Cork	Detached three-bay two-storey over basement former vicarage, built c.1820, having breakfront end bays flanking entrance portico. Later in use as house, now in use as shop. Recent lean-to conservatory to rear (west).	71m from Reception site

Table 6 Monkstown RPS/NIAH sites

Cobh (East Side)

Reg No NIAH	Name	Address/ Street	Description	Distance from Works
NIAH 20828003	Office and ramp	Cork Dockyard, Rushbrooke, Cobh, County Cork	Detached multiple-bay single-storey ramp and office building, built 1962, having integral vehicular access way and square-profile concrete piers to first three-bays.	330m to estuary crossing launch site in Cork Dockyard

Table 7 Cobh RPS/NIAH sites

3.4.3 NIAH Garden Survey - Demesne Landscapes and Historic Gardens

Demesne landscapes and historic gardens appear as shaded areas on the OSI first edition mapping. In the preparation of this assessment, OSI first edition mapping was consulted in conjunction with the NIAH Garden Survey, to assess all demesne landscapes and historic gardens within 250m of the proposed development. There are no demesnes within the immediate vicinity of the subject area.

Within the Cobh Area, many of the old demesnes and historic properties featured on the first edition maps have been encroached by development. The NIAH lists both Ballynoe House, Ringmeen Lodge and Coolgrena House as having 'its main features unrecognisable- peripheral features visible'. In all the above instances the principal building survives but the core landscape has been developed for modern housing.

With regard to the estuary crossing, the proposed temporary reception site and manhole are located in what was the former demesne of Monkstown Castle (NIAH Garden Survey CO-87-W-765662). The castle is still extant and is classified as a fortified house (RMP CO087-028) and a protected structure (RPS 00569). The demesne, is not featured on the NIAH survey, and has been broken up into house developments and forms part of the Monkstown Golf Club. Notable features in the area of the proposed groundworks are the Vicarage and associated glebe. This glebe is now the location of the area containing the basketball court, pitch and playground and proposed reception site.



Figure 8 Monkstown NIAH Survey from First edition OS map

3.5 Fieldwork

All the proposed outfalls were visited and recorded, particular attention was paid to stone built quay walls and piers. These features are in many instances not recorded monuments or protected structures, nevertheless they have Cultural Heritage value. In areas where masonry will be impacted it is proposed to core through the walls and patch with underwater accelerated mortar. These impacts will be discrete and can be coloured to match surrounding stone work.

Note: None of the existing outfalls will impact on known recorded monuments.

There are no recorded monuments in the areas of the proposed estuary crossing works, nor were there previously unrecorded cultural heritage sites noted. The structures featured on the NIAH inventory are all bounded by perimeter walls and works will not affect their curtilages. Both the locations of the reception site and interception manhole were visited. The reception site is in a former glebe that was associated with the vicarage of Hazelhurst House and now is a public park and play area. The interception manhole is located in a lay-by at Marine Villas.



Plate 4 Looking north east towards Marine Villas, the proposed location of interception manhole.

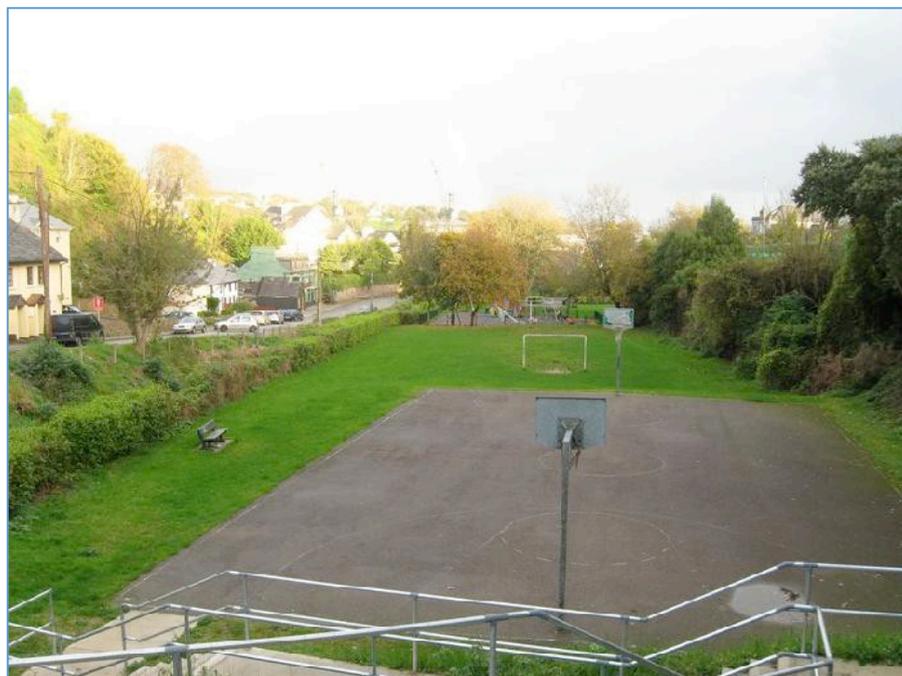


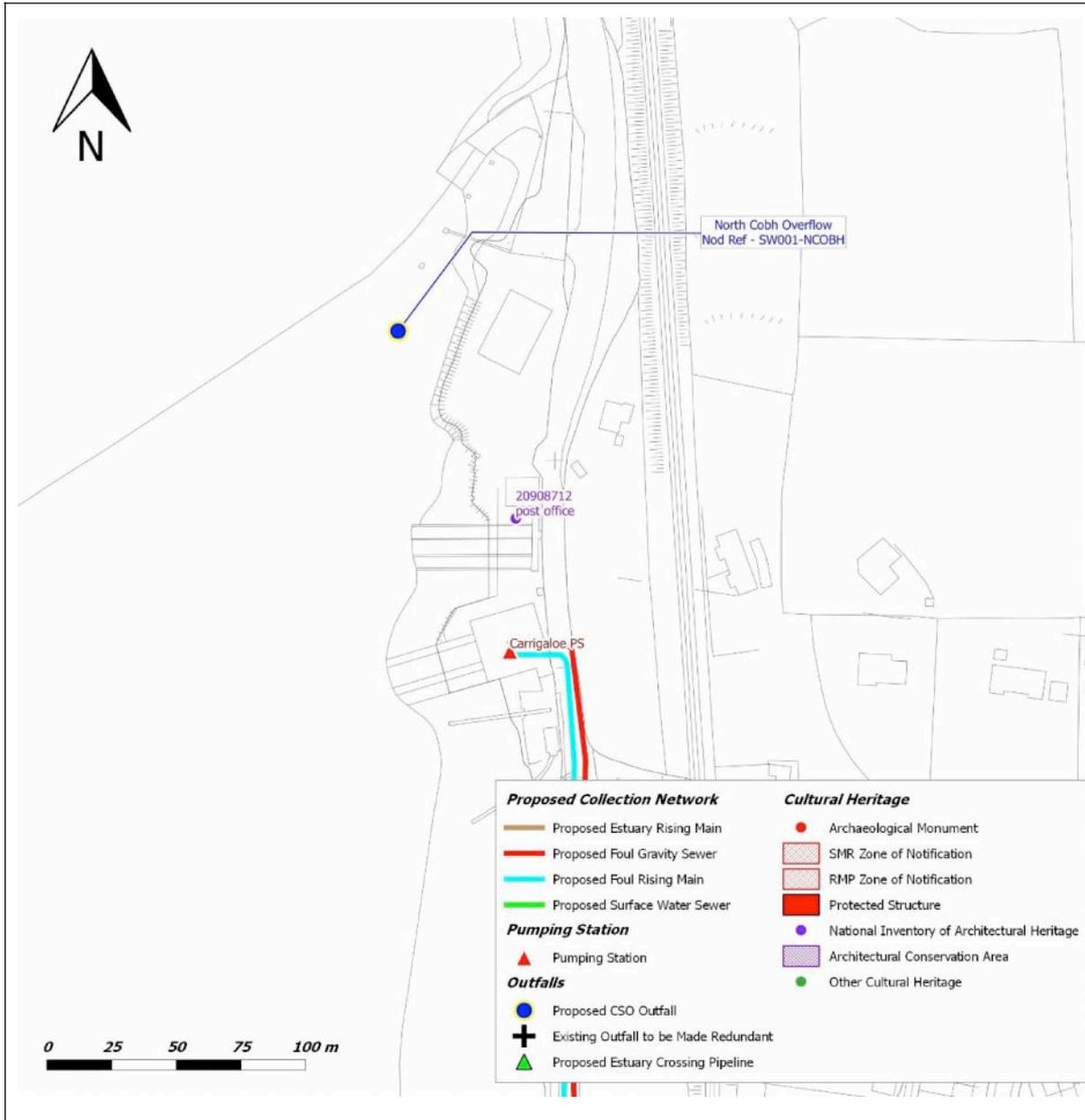
Plate 5 Looking west to area of proposed temporary reception site, this area was formerly a glebe associated with a vicarage.

4 Predicted Impacts

4.1 Impacts from Outfall Works

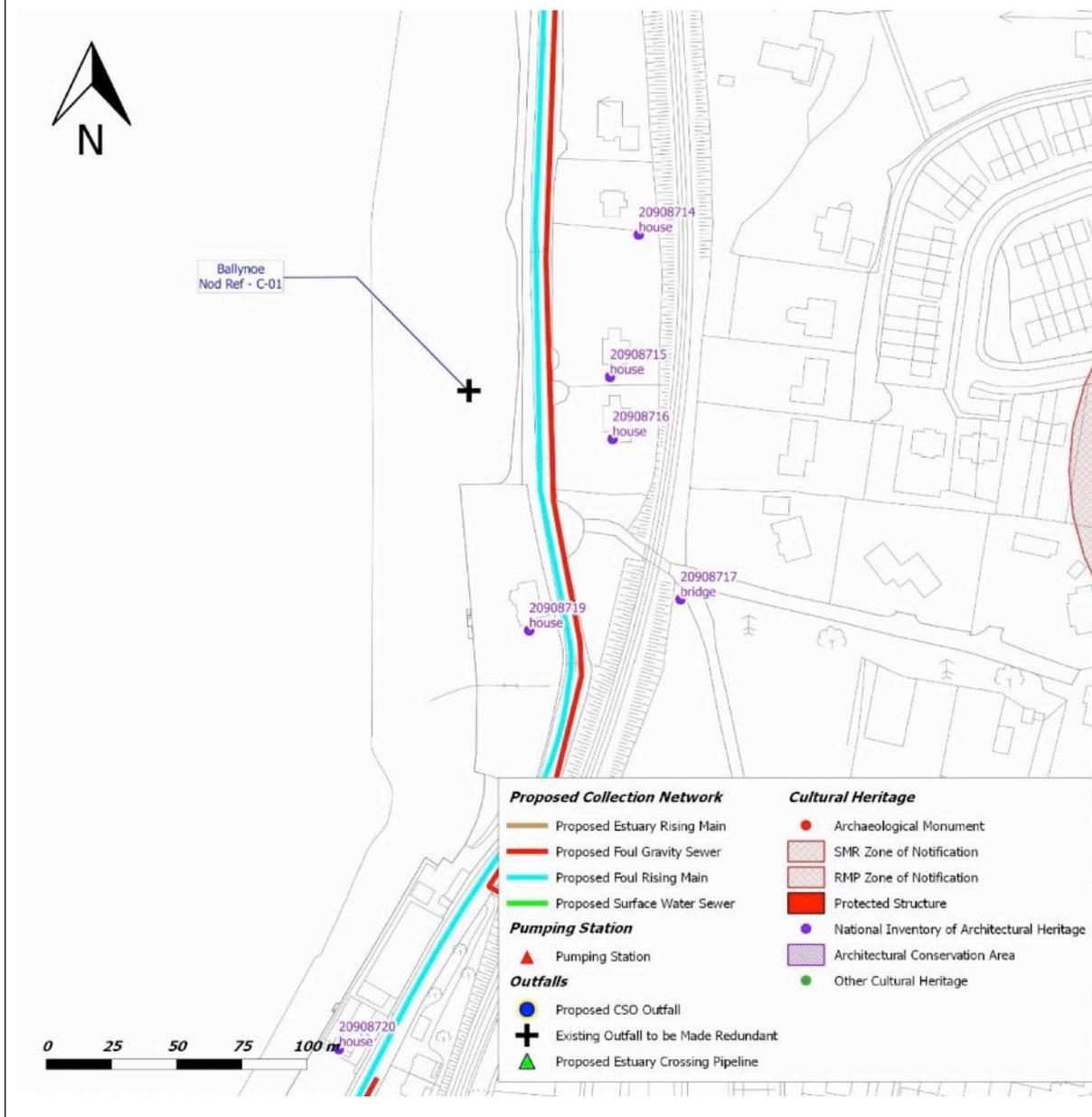
The following tables provide details on the location, the proposed works and predicted impacts on the local cultural heritage resource. Note: Where works are proposed on the foreshore it is proposed to monitor excavations by a suitably qualified archaeologist in order to retrieve artefacts or record previously undiscovered sites. Where works extend beyond the Mean Low Water-Mark on a Spring Tide (MLWS) at C-11 'Pebble Beach', C-12 'Rushbrooke Overflow', SW002 'Dock Cottages Overflow' and SW007 'Old Town Hall Overflow' a suitably qualified underwater archaeologist will be required to monitor excavations of the seabed.

SW001 "North Cobh Overflow"	EPA Outfall Reference	Location	Townland	Works proposed in foreshore
	SW001-NCobh	North Cobh	Ballynoe	No
Proposal	The proposed structure will serve as a combined sewer overflow for the proposed Carrigaloe Pumping Station.			
Cultural Heritage Considerations	No			
Does area contain archaeological or architectural site or feature?	The nearest recorded site is an NIAH railway bridge (Ref 20908713) in excess of 230m to the south east. A nearby post office (Ref.20908712) has been removed in recent years.			
Are you proposing any measures to mitigate impacts?	No mitigation required			



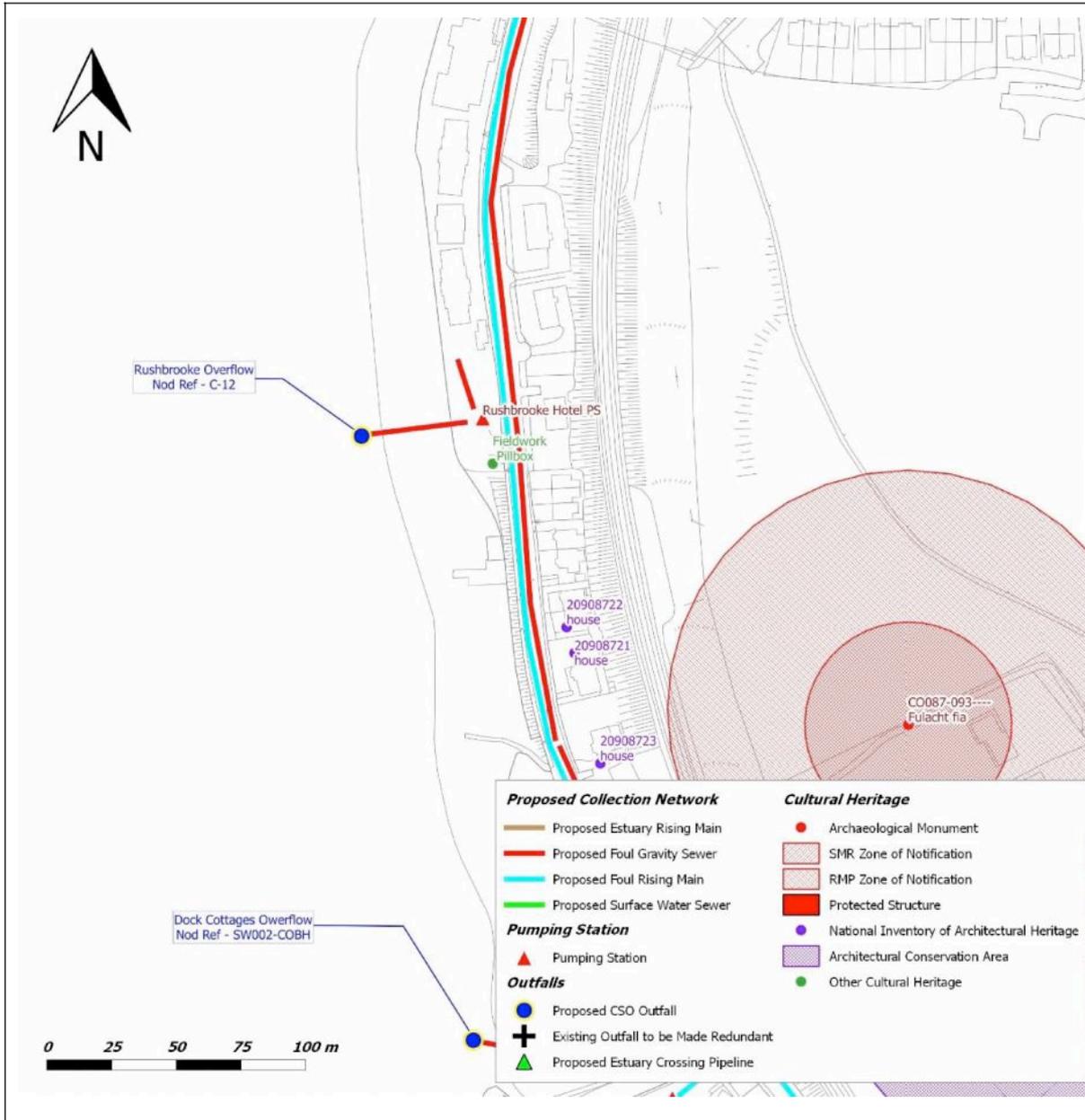
C-01 "Ballynoe"	EPA Outfall Reference	Location	Townland	Works proposed in foreshore
	-	Cobh	Ballynoe	Yes
Proposal	The existing structure on Cobh Road will be made redundant and the foreshore returned to its natural condition.			
Cultural Heritage Considerations	There are six nineteenth century houses in the general area (NIAH Ref 20908714- 20908719).			

Does area contain archaeological or architectural site or feature?	No recorded sites in immediate area
Are you proposing any measures to mitigate impacts?	Monitoring of removal works.



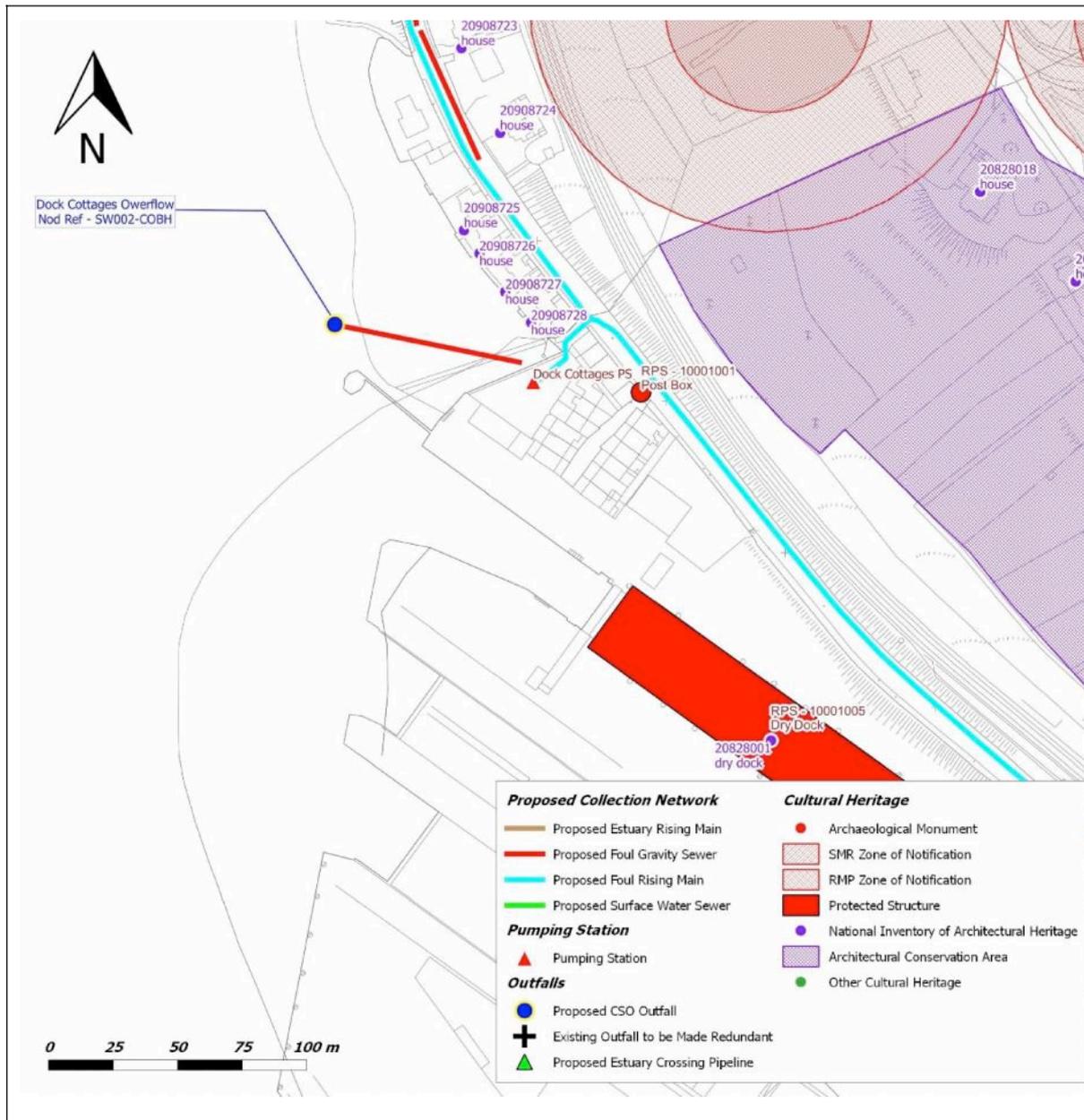
C-12 'Rushbrooke Overflow'	EPA Reference	Outfall	Location	Townland	Works proposed in foreshore
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	-	Cobh	Rushrooke	Yes
Proposal	<p>The proposed structure at Cobh Road, Ballynoe will serve as a combined sewer overflow for the Rushbrooke Hotel Pumping Station. Works will involve the construction of a new outfall pipe which will be buried under the foreshore and will terminate below the mean low water mark on a spring-tide (MLWS).</p> <p>Note: The first 30m of the outfall pipeline will be excavated through the foreshore as far as the MLWS. This part of the works will be carried out at times of low tide; The remaining 10m of the outfall will be below the MLWS and will therefore require the construction of a causeway for machinery to access the works. Material will be imported to build a causeway to above the Mean High Water-mark on a Spring-tide (MHWS). This will allow the excavator to dredge the remaining 10m of the pipeline from the causeway.</p>			
Cultural Heritage Considerations	<p>There are a number of nineteenth century houses in the general area (NIAH Ref 20908714- 20908719) that will not be impacted by the works. There is also a pill box in the south western corner of the Rush Brooke Hotel car park. This concrete structure has a slit window overlooking the estuary. The pill box is accessed via a doorway to the rear. There will be no impacts on this site, however it should be demarcated to prevent inadvertent impacts. There will be impacts on the seabed in the foreshore due to excavation works.</p>			
Does area contain archaeological or architectural site or feature?	No recorded sites in immediate area			
Are you proposing any measures to mitigate impacts?	It is recommended that these works be monitored by a suitably qualified underwater archaeologist.			



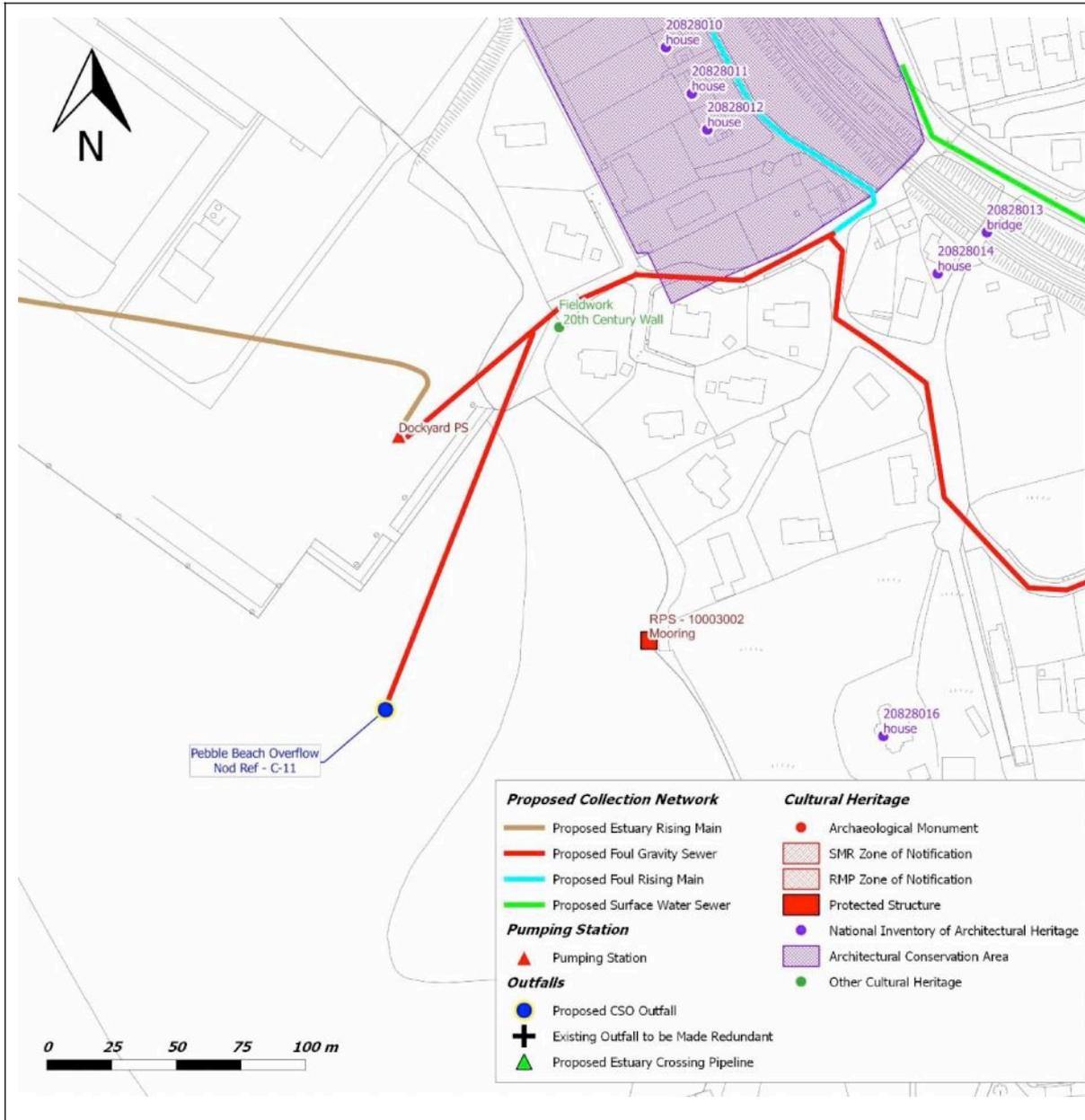
SW002-"Dock Cottages Overflow"	EPA Reference	Outfall	Location	Townland	Works proposed in foreshore
	SW002-Cobh		Cobh	Ringacoltig	Yes
Proposal	The proposed structure will serve as a combined sewer overflow for Dock Cottages Pumping Station. Works will involve the removal of the existing outfall structure and the construction of a new outfall pipe which will be buried under the foreshore and will terminate below the mean low water mark on a spring-tide (MLWS).				

	<p>Note: The first 50m of the outfall pipeline will be excavated through the foreshore as far as the MLWS. This part of the works will also be carried out at times of low tide; The remaining 15m of the outfall will be below the MLWS and will therefore require the construction of a causeway for machinery to access the works. Material will be imported to build a causeway to above the Mean High Water-mark on a Spring-tide (MHWS). This will allow the excavator to dredge the remaining 15m of the pipeline from the causeway.</p>
Cultural Heritage Considerations	<p>There are a number of nineteenth century houses in the general area (NIAH Ref 20908725- 20908728)) that will not be impacted on by the works. There will be impacts on the seabed in the foreshore due to excavation works.</p>
Does area contain archaeological or architectural site or feature?	<p>The proposed works will take place beside a late 19th century, stone built, boat slip/quay</p>
Are you proposing any measures to mitigate impacts?	<p>It is recommended that all works in foreshore are monitored by a suitably qualified underwater archaeologist.</p>



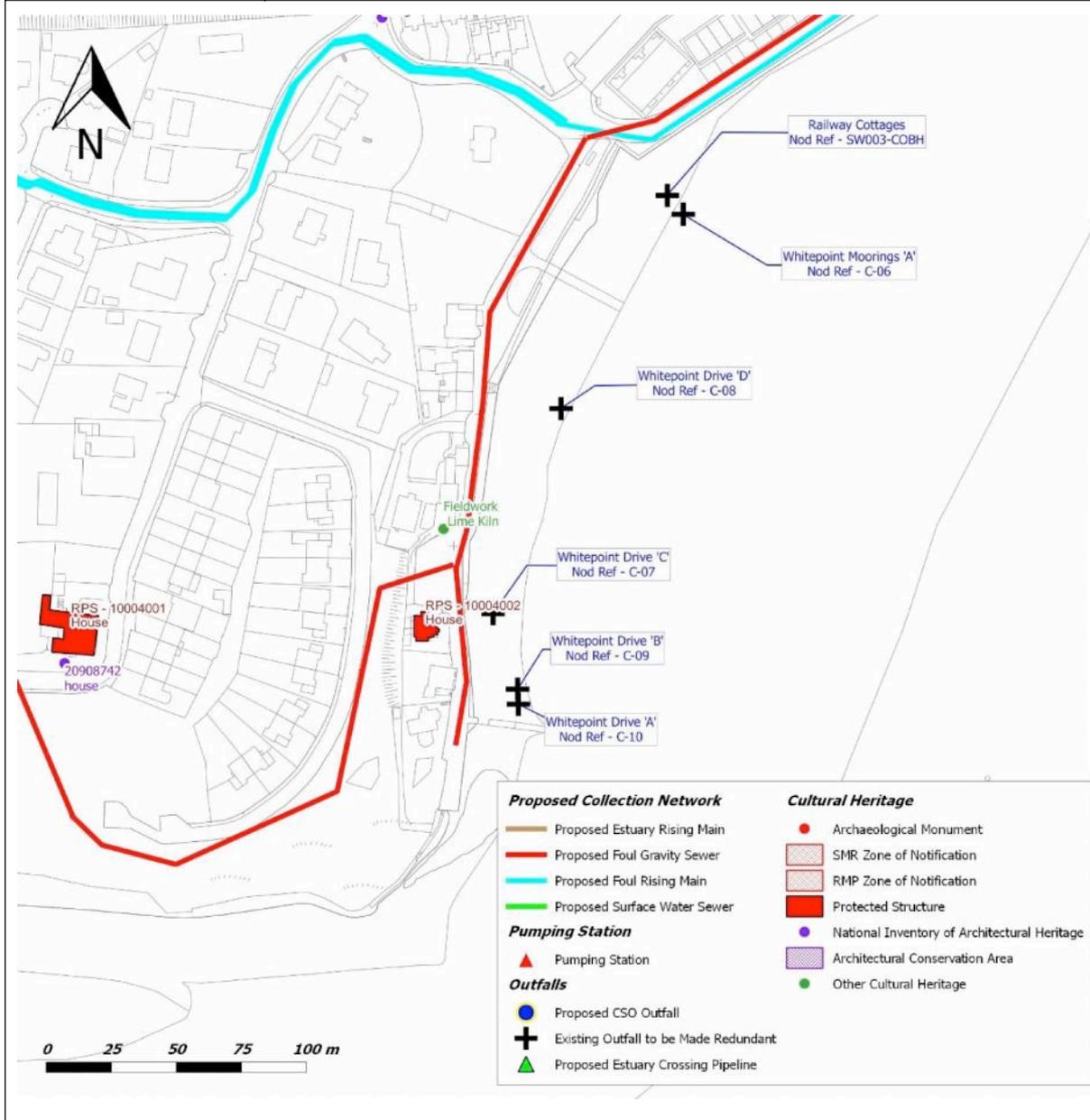
C-11 "Pebble Beach Overflow"	EPA Reference	Outfall Location	Townland	Works proposed in foreshore
	-	Cobh	Ringacoltig	Yes
Proposal	<p>The proposed structure will serve as a combined sewer overflow for the Dockyard Pumping Station. Works will involve replacing the existing outfall with a new outfall pipe which will be buried under the foreshore and will terminate below the mean low water mark on a spring-tide (MLWS).</p> <p>Note: The first 100m of the outfall pipeline will be excavated through the foreshore as far as the MLWS. This part of the works will be carried out at times</p>			

	of low tide; The remaining 30m of the pipeline will be dredged along the seabed by an excavator working from a jack up barge;
Cultural Heritage Considerations	<p>There are a number of nineteenth century houses in the general area (NIAH Ref 20908739, 20908740, 20908739,- 20908741 & 20908017) that will not be impacted by the works. There will be a direct impact on a rubble built wall associated with a Gasworks plant decommissioned in the 1970's. This section of wall measuring approximate 4.5m in length may have to be removed to allow construction access.</p> <p>There will be impacts on the seabed in the foreshore area due to the excavation works.</p>
Does area contain archaeological or architectural site or feature?	No
Are you proposing any measures to mitigate impacts?	At the remaining section of Gas Works wall a photographic record of the impacted section should be undertaken prior to demolition. It is recommended that all the works are monitored by a suitably qualified underwater archaeologist.



C-10 "Whitepoint Drive A"	EPA Reference	Outfall	Location	Townland	Works proposed in foreshore
	-		Cobh	Ringmeen	Yes
Proposal	The existing structure adjacent to Whitepoint Road will be made redundant as a result of the works and the foreshore returned to its natural condition.				
Cultural Heritage Considerations	No recorded archaeology in immediate area, however White Point has been settled since the late 18 th century and is geographically strategic.				

<p>Does area contain archaeological or architectural site or feature?</p>	<p>Nearby is a house that is a protected structure (RPS No. 10004002).</p>
<p>Are you proposing any measures to mitigate impacts?</p>	<p>Demarcation of Protected Structure (RPS No. 10004002) to prevent inadvertent impacts. Monitoring of removal works.</p>



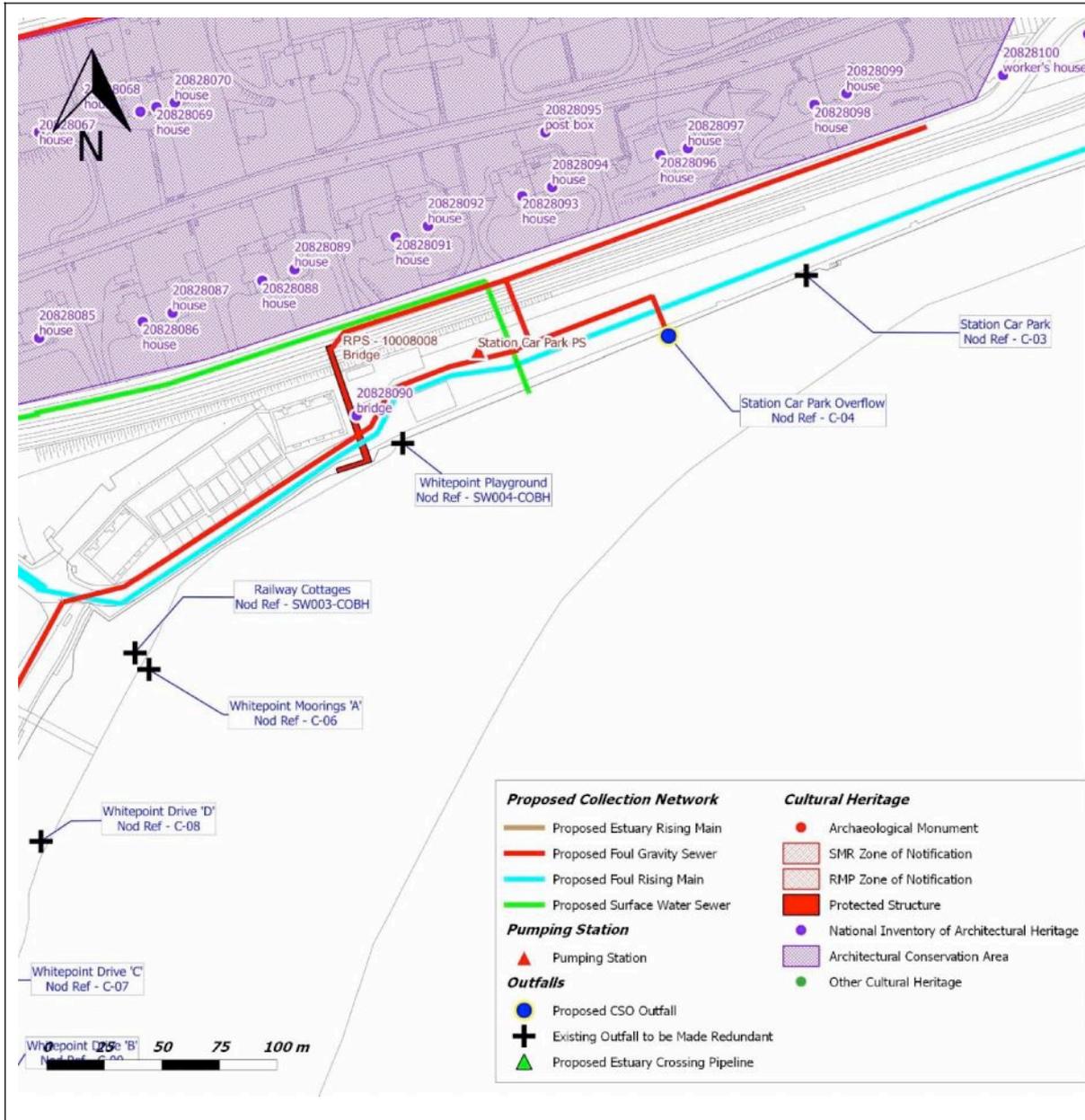
<p>C-09 "Whitepoint Drive B"</p>	<p>EPA Reference</p>	<p>Outfall Location</p>	<p>Townland</p>	<p>Works proposed in foreshore</p>
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	-	Cobh	Ringmeen	Yes
Proposal	The existing structure adjacent to Whitepoint Road will be made redundant as a result of the works and the foreshore returned to its natural condition.			
Cultural Heritage Considerations	No recorded archaeology in immediate area, however White Point has been settled since the late 18 th century and is geographically strategic.			
Does area contain archaeological or architectural site or feature?	Nearby is a house that is a protected structure (RPS No. 10004002).			
Are you proposing any measures to mitigate impacts?	Demarcation of Protected Structure (RPS No. 10004002) to prevent inadvertent impacts. Monitoring of removal works.			
See C-10 Image				

C-07 “Whitepoint Drive C”	EPA Outfall Reference	Location	Townland	Works proposed in foreshore
	-	Cobh	Ringmeen	Yes
Proposal	The existing structure adjacent to Whitepoint Road will be made redundant as a result of the works and the foreshore returned to its natural condition.			
Cultural Heritage Considerations	No recorded archaeology in immediate area, however White Point has been settled since the late 18 th century and is geographically strategic.			
Does area contain archaeological or architectural site or feature?	Nearby is a house that is a protected structure (RPS No. 10004002)			
Are you proposing any measures to mitigate impacts?	Demarcation of Protected Structure (RPS No. 10004002) to prevent inadvertent impacts. Monitoring of removal works.			
See C-10 Image				

C-08 "Whitepoint Drive D"	EPA Outfall Reference	Location	Townland	Works proposed in foreshore
	-	Cobh	Ringmeen	Yes
Proposal	The existing structure adjacent to Whitepoint Road will be made redundant as a result of the works and the foreshore returned to its natural condition.			
Cultural Heritage Considerations	No recorded archaeology in immediate area, however White Point has been settled since the late 18 th century and is geographically strategic			
Does area contain archaeological or architectural site or feature?	No			
Are you proposing any measures to mitigate impacts?	Monitoring of removal works.			
See C-10 Image				

C-06 "Whitepoint Moorings A"	EPA Outfall Reference	Location	Townland	Works proposed in foreshore
	-	Cobh	Ringmeen	Yes
Proposal	The proposed structure at Whitepoint Moorings will be made redundant as a result of the works and the foreshore returned to its natural condition.			
Cultural Heritage Considerations	The works are near an unrecorded lime kiln and a stone built sea wall.			
Does area contain archaeological or architectural site or feature?	No			
Are you proposing any measures to mitigate impacts?	Monitoring of removal works.			



SW003-"Railway Cottages"	EPA Reference	Outfall	Location	Townland	Works proposed in foreshore
	SW003-Cobh		Cobh	Ringmeen	Yes
Proposal	The existing structure at Railway Cottages will be made redundant as a result of the works and the foreshore returned to its natural condition.				
Cultural Heritage Considerations	The works are near a stone built quay wall.				

Does area contain archaeological or architectural site or feature?	No
Are you proposing any measures to mitigate impacts?	Monitoring of removal works in the foreshore.
See C-06 for image	

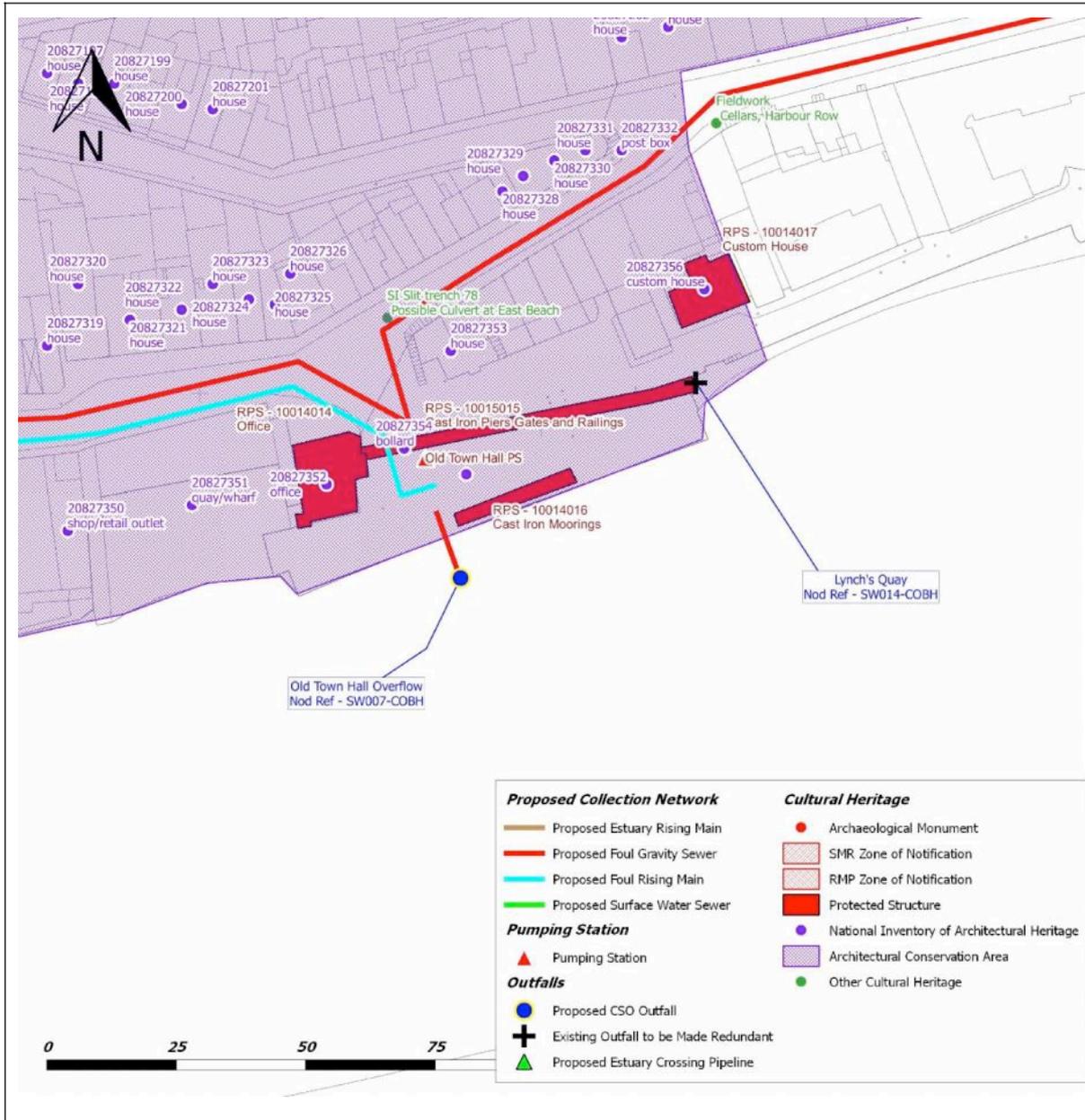
SW004-"Whitepoint Playground"	EPA Outfall Reference	Location	Townland	Works proposed in foreshore
	SW004-Cobh	Cobh	Ringmeen	No
Proposal	The proposed structure at Whitepoint Playground will be made redundant as a result of the proposed works. No works are proposed on this outfall.			
Cultural Heritage Considerations	In vicinity of Railway Bridge (NIAH ref. 20828090)			
Does area contain archaeological or architectural site or feature?	No			
Are you proposing any measures to mitigate impacts?	No mitigation required as no works are proposed at this outfall.			
See C-06 for image				

C-04 "Station Car Park Overflow"	EPA Outfall Reference	Location	Townland	Works proposed in foreshore
	-	Cobh	Ringmeen	Yes
Proposal	The proposed structure at Lower Road will serve as a combined sewer overflow for the proposed Station Car Park Pumping Station. Works will involve upsizing			

	the existing outfall through the quay wall. A tidal defence system will be required on the marine side of the wall to carry out the works.
Cultural Heritage Considerations	No
Does area contain archaeological or architectural site or feature?	No
Are you proposing any measures to mitigate impacts?	It is recommended that works in the foreshore are monitored by a suitably qualified underwater archaeologist. Note: The penetration of the sea wall by the bore will be made good with an underwater accelerated mortar (coloured to match surrounding stone work).
See C-06 for image	

C-03 "Station Car Park"	EPA Outfall Reference	Location	Townland	Works proposed in foreshore
	-	Cobh	Ringmeen	No
Proposal	The proposed structure will be made redundant as a result of the works. No works are proposed on this outfall.			
Cultural Heritage Considerations	Cut stone sea wall			
Does area contain archaeological or architectural site or feature?	No			
Are you proposing any measures to mitigate impacts?	No mitigation required as no works are proposed at this outfall.			
See C-06 for image				

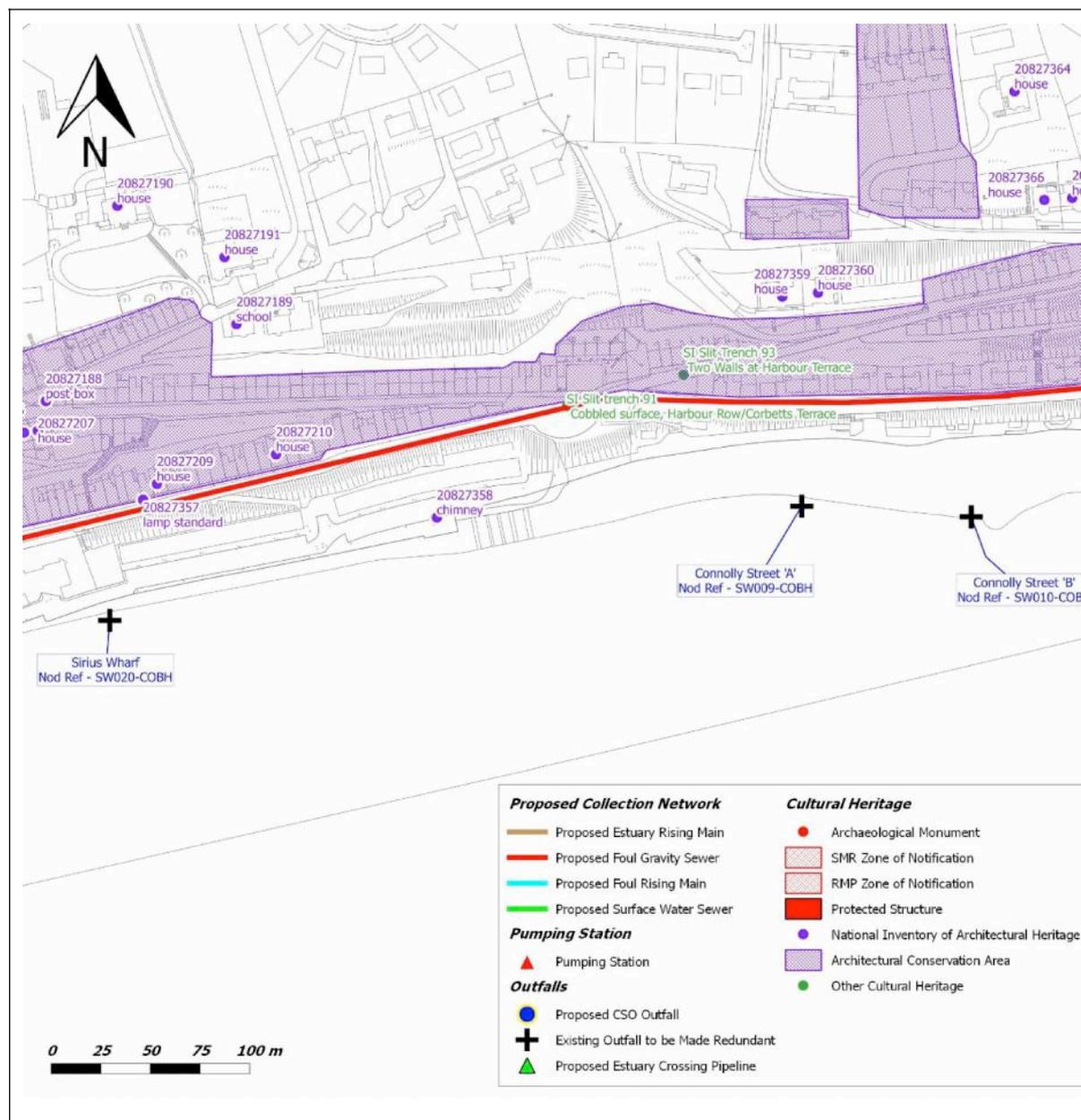
SW007- "Old Town Hall Overflow"	EPA Outfall Reference	Location	Townland	Works proposed in foreshore
	SW007-Cobh	Cobh	Kilgarvan	Yes
Proposal	The proposed structure will require upgrading the existing combined sewer overflow for Old Town Hall Pumping Station. The outfall pipeline at this location will be constructed through the quay wall and dredged along the seabed for a distance of 10m by an excavator working from a jack up barge; A localised damming structure will be constructed to create a dry environment around the penetration of the quay wall thus allowing the opening in the quay wall around the outfall pipeline to be reinstated.			
Cultural Heritage Considerations	There are three NIAH sites near this location including Ref No 20827352, 20827354 and 20827355, the sites are the former Cork Harbour Commissioners Office, a pair of cast-iron bollards and cast iron gate piers respectively; All the above can be safely avoided with appropriate buffers. In addition there will be a discreet impact on the fabric of the sea wall and the seabed due to the construction of the outfall pipe.			
Does area contain archaeological or architectural site or feature?	As above			
Are you proposing any measures to mitigate impacts?	It is recommended that these works be monitored by a suitably qualified underwater archaeologist. Note: The penetration of the sea wall by the bore will be made good with an underwater accelerated mortar (coloured to match surrounding stone work).			



SW014- "Lynch's Quay"	EPA Reference	Outfall	Location	Townland	Works proposed in foreshore
	SW014-Cobh		Cobh	Kilgarvan	No
	SW018-Cobh				
Proposal	The existing structure at Lynch's Quay will be made redundant as a result of the works. No works are proposed at this location.				
Cultural Heritage Considerations	Near a number of recorded structures including site of former Customs House (NIAH Ref. 20827356)				

Does area contain archaeological or architectural site or feature?	No
Are you proposing any measures to mitigate impacts?	No mitigation required as no works are proposed at this outfall.
See SW007 for image	

SW020- "Sirius Wharf"	EPA Outfall Reference	Location	Townland	Works proposed in foreshore
	SW020-Cobh	Cobh	Kilgarvan	Yes
Proposal	The existing structure at Lynch's Quay will be made redundant as a result of the works and the foreshore will be returned to its natural condition.			
Cultural Heritage Considerations	No			
Does area contain archaeological or architectural site or feature?	No			
Are you proposing any measures to mitigate impacts?	Monitoring of removal works.			



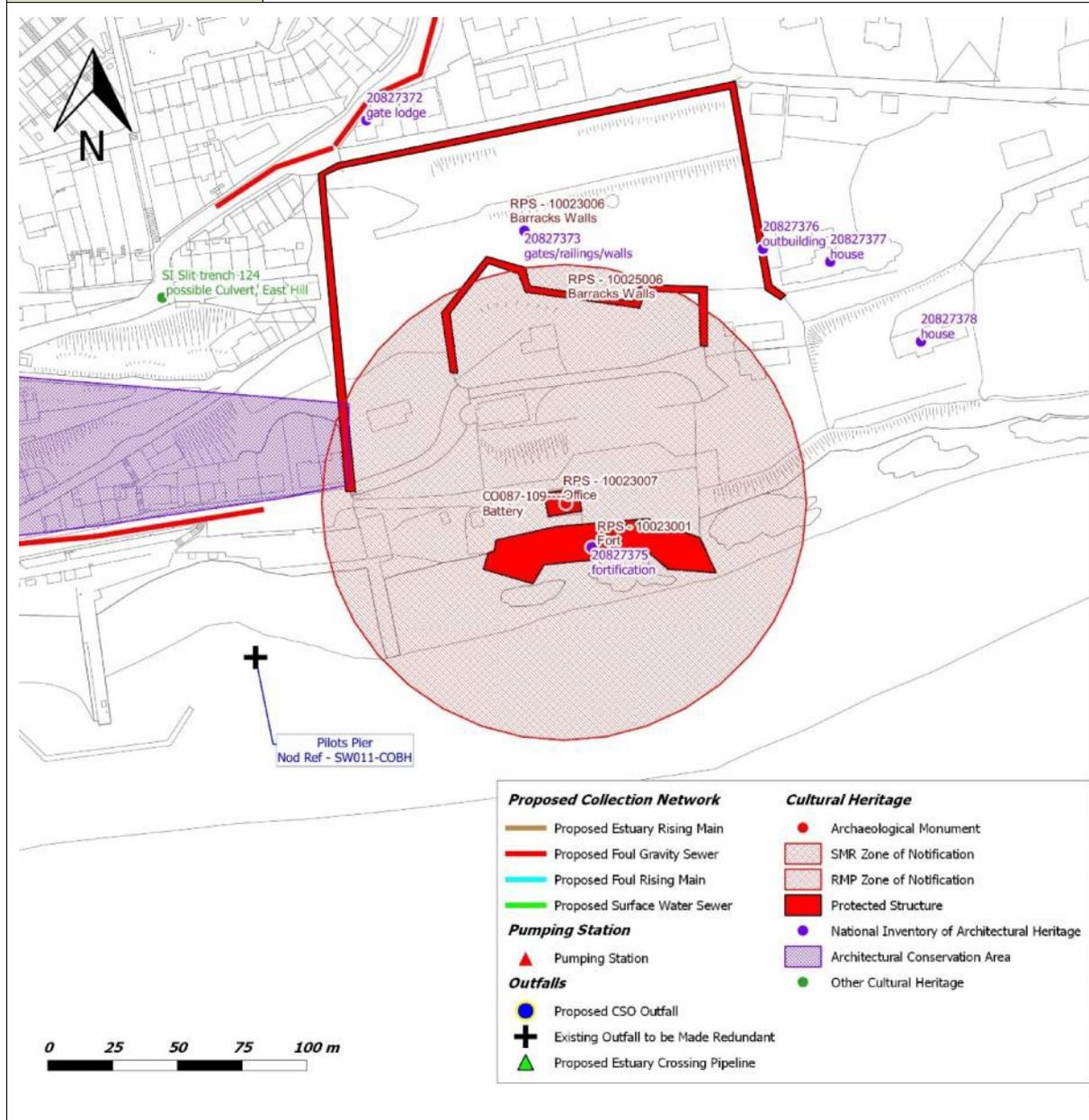
SW009-"Connolly Street A"	EPA Outfall Reference	Location	Townland	Works proposed in foreshore
	SW009-Cobh	Cobh	Kilgarvan	Yes
Proposal	The existing structure on Connolly Street will be made redundant as a result of the works and the foreshore will be returned to its natural condition.			
Cultural Heritage Considerations	No			

Does area contain archaeological or architectural site or feature?	No
Are you proposing any measures to mitigate impacts?	Monitoring of removal works.
See SW020 for image	

SW010-"Connolly Street B"	EPA Outfall Reference	Location	Townland	Works proposed in foreshore
	SW010-Cobh	Cobh	Kilgarvan	Yes
Proposal	The existing structure on Connolly Street will be made redundant as a result of the works and the foreshore will be returned to its natural condition.			
Cultural Heritage Considerations	Stone built sea wall			
Does area contain archaeological or architectural site or feature?	No			
Are you proposing any measures to mitigate impacts?	Monitoring of removal works.			
See SW020 for image				

SW011- "Pilots Pier"	EPA Outfall Reference	Location	Townland	Works proposed in foreshore
	SW011-Cobh	Cobh	Carrignafoy	Yes
Proposal	The proposed structure at Pilots Pier will be made redundant as a result of the works and the foreshore will be returned to its natural condition.			

<p>Cultural Heritage Considerations</p>	<p>Close proximity to the 'zone of notification' for the Cobh Battery RMP CO087-109.</p>
<p>Does area contain archaeological or architectural site or feature?</p>	<p>No</p>
<p>Are you proposing any measures to mitigate impacts?</p>	<p>Monitoring of removal works.</p>



4.2 Impacts from Estuary Crossing Works

There will be no impacts on any recorded archaeological sites.

There will be no impacts on any Protected Structures/NIAH sites.

No additional cultural heritage sites were noted during the field survey. Generally, the area is defined by mid-nineteenth century houses within the former demesne of Monkstown Castle. There is the potential that there are unrecorded deposits in the former Glebe at the location of the proposed temporary exit point. This impact was assessed as being imperceptible to slight.

Through the Cork Dockyard site and across the estuary, there will be no impacts on any archaeological sites or Protected Structures/NIAH sites due to the pipeline being constructed deep within the bedrock.

Indirect impacts can take the form of impacts on the settings of architectural or cultural heritage features – impacts on setting are primarily visual and examine the effect of the development upon the setting of a site within the wider landscape. Visual impacts can be reduced with sensitive site development and screening.

There will be no indirect impacts on the setting of any known sites or structures.

4.3 Impacts from Pipe Stringing Temporary Area

To facilitate pipe 'pull back' of the estuary crossing a temporary pipe stringing area will be required along the Glen Road heading north north east towards the Junction of Diamond Road and the L6470 (**Error! Reference source not found.**). This 'Pull back' operation may take place along the road verges and in places vegetation clearance may be required. Where the ground is uneven and/ or the placement of equipment is required e.g. winch, water tanker, it is likely that levelling works will also take place.

Set back from the road is a rubble built townland boundary wall associated with the former Monkstown Castle Demesne. Monkstown Castle is classified as a fortified House (SMR CO087-028--) and a Protected structure (RPS No. 00569). It is approximately 80m to the west of Glen Road and the works cross the outer margin of the RMP Zone of Notification but not the more recently circumscribed SMR Zone of Notification that appears on the www.archaeology.ie website (Figure 9). The NIAH Garden Survey describes Monkstown Castle demesne (NIAH CO-87-W-765662) as having 'Virtually no recognisable features'. The area is heavily vegetated and it is not possible to ascertain for certain whether any features exist outside of the demesne boundary.

There is the potential that clearance of vegetation and levelling of ground in the vicinity of the demesne could disturb archaeological and/ or architectural features, associated with Monkstown Castle. There is the potential that in storing and moving the pipe in the stringing area the boundary wall may be inadvertently negatively impacted.

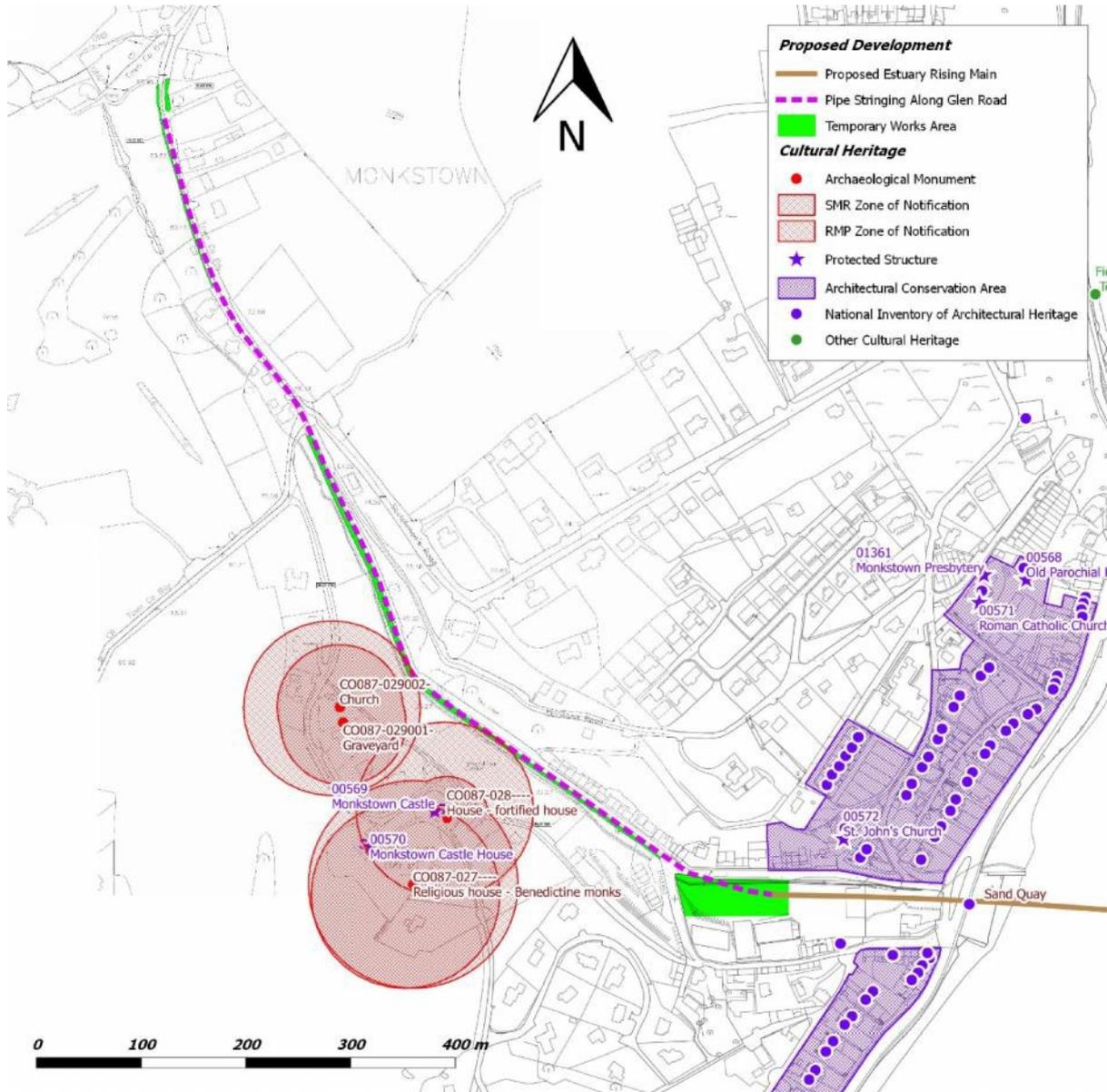


Figure 9 Cultural Heritage Sites in the vicinity of the Glen Road Stringing Area.

5 Mitigation Measures

5.1 Mitigation of Outfall Works

NOD Outfall Reference	Location	Mitigation
SW001 "North Cobh Overflow"	Ballynoe near R624	No mitigation required.
C-01 "Ballynoe"	Ballynoe near R624	Monitoring of removal works.

C-12 "Rushbrooke Overflow"	The Rushbrooke Hotel car park north of Cork Dockyard	Demarcation of Pill Box to prevent inadvertent impacts. Monitoring of excavations by a suitably qualified underwater archaeologist.
SW002- "Dock Cottages Overflow"	Near Dock Cottages, Ringacoltig	Monitoring of excavations by a suitably qualified underwater archaeologist.
C-11 "Pebble Beach Overflow"	Ringacoltig	Monitoring of excavations by a suitably qualified underwater archaeologist.
C-10 "Whitepoint Drive A"	Ringmeen	Demarcation of nearby house which is a Protected Structure (RPS No. 10004002) to prevent inadvertent impacts. Monitoring of removal works.
C-09 "Whitepoint Drive B"	Ringmeen	Demarcation of nearby house which is a Protected Structure (RPS No. 10004002) to prevent inadvertent impacts. Monitoring of removal works.
C-07 "Whitepoint Drive C"	Ringmeen	Demarcation of nearby house which is a Protected Structure (RPS No. 10004002) to prevent inadvertent impacts. Monitoring of removal works.
C-08 "Whitepoint Drive D"	Ringmeen	Monitoring of removal works.
C-06 "Whitepoint Moorings A"	Ringmeen	Monitoring of removal works.
SW003 "Railway Cottages"	Ringmeen	Monitoring of removal works.
SW004-"Whitepoint Playground"	Ringmeen	No mitigation required.
C-04 "Station Car Park Overflow"	Ringmeen	Monitoring of excavations by a suitably qualified underwater archaeologist.
C-03 "Station Car Park"	Ringmeen	No mitigation required.

SW007- "Old Town Hall Overflow	Kilgarvan	Monitoring of excavations by a suitably qualified underwater archaeologist.
SW014- "Lynch's Quay"	Kilgarvan	No mitigation required.
SW020- "Sirius Wharf	Kilgarvan	Monitoring of removal works.
SW009-'Connolly Street A'	Carrignafoy	Monitoring of removal works.
SW010-'Connolly Street B'	Carrignafoy	Monitoring of removal works.
SW011- "Pilots Pier'	Carrignafoy	Monitoring of removal works.

5.2 Mitigation of Estuary Crossing Works

It is recommended that archaeological monitoring take place at both the reception site in the green-field area (former glebe) and the interception manhole at Marine Villas under licence to the Department of Arts, Heritage and the Gaeltacht. This is to ensure that previously unrecorded archaeological deposits are recorded and protected.

5.3 Mitigation for Pipe Stringing area

It is recommended that in the vicinity of sections of the extant townland boundary wall on the Glen Road associated with Monkstown Castle, that the wall be demarcated with an appropriate buffer and that the contractors are advised to take due care and attention to prevent any inadvertent damage to the fabric. Any groundworks that may be required in this area will be monitored by a suitably qualified archaeologist.

Residual Impacts

Following the implementation of the above mitigation measures, the residual impacts of the proposed outfall works on the local archaeological, architectural and cultural heritage resource will be negligible.

There will be no significant impacts on the local archaeological, architectural or cultural heritage resource as a result of the drilling activities for the proposed estuary crossing. The residual impacts of the proposed development on the local archaeology, architectural and cultural heritage resource will be negligible.

Summary and Conclusion

The proposed works on the outfalls in the Cobh area as part of the Cork Lower Harbour Main Drainage Project will result in the construction of new infrastructure and the upgrade and/or the deactivation of

existing infrastructure. In most instances outfalls that have been used to discharge untreated effluent will be reutilised for surface water or combined sewer overflows. Where drilling works impact on sea walls the enlarged bore will be made good with an underwater accelerated mortar (coloured to match surrounding stone work). Where works are proposed on the foreshore it is proposed to monitor excavations by a suitably qualified archaeologist in order to retrieve artefacts or record previously undiscovered sites. Where works extend beyond the Mean Low Water-Mark on a Spring Tide (MLWS) at C-11 'Pebble Beach', C-12 'Rushbrooke Overflow', SW002 'Dock Cottages Overflow' and SW007 'Old Town Hall Overflow' a suitably qualified underwater archaeologist will be required to monitor excavations of the seabed.

It is proposed to Horizontal Directional Drill an estuary crossing pipeline from a launch site in Cork Dockyard, under the estuary and emerge above ground at a reception site (temporary exit point) located in the former glebe at Glen Road in Monkstown. The permanent exit point of the estuary crossing pipeline will be the interception manhole at Marine Villas. Monitoring of excavations at both the reception site in the green-field area (former glebe) and the interception manhole at Marine Villas during the estuary crossing works will avoid impacts on artefacts or record previously undiscovered sites.

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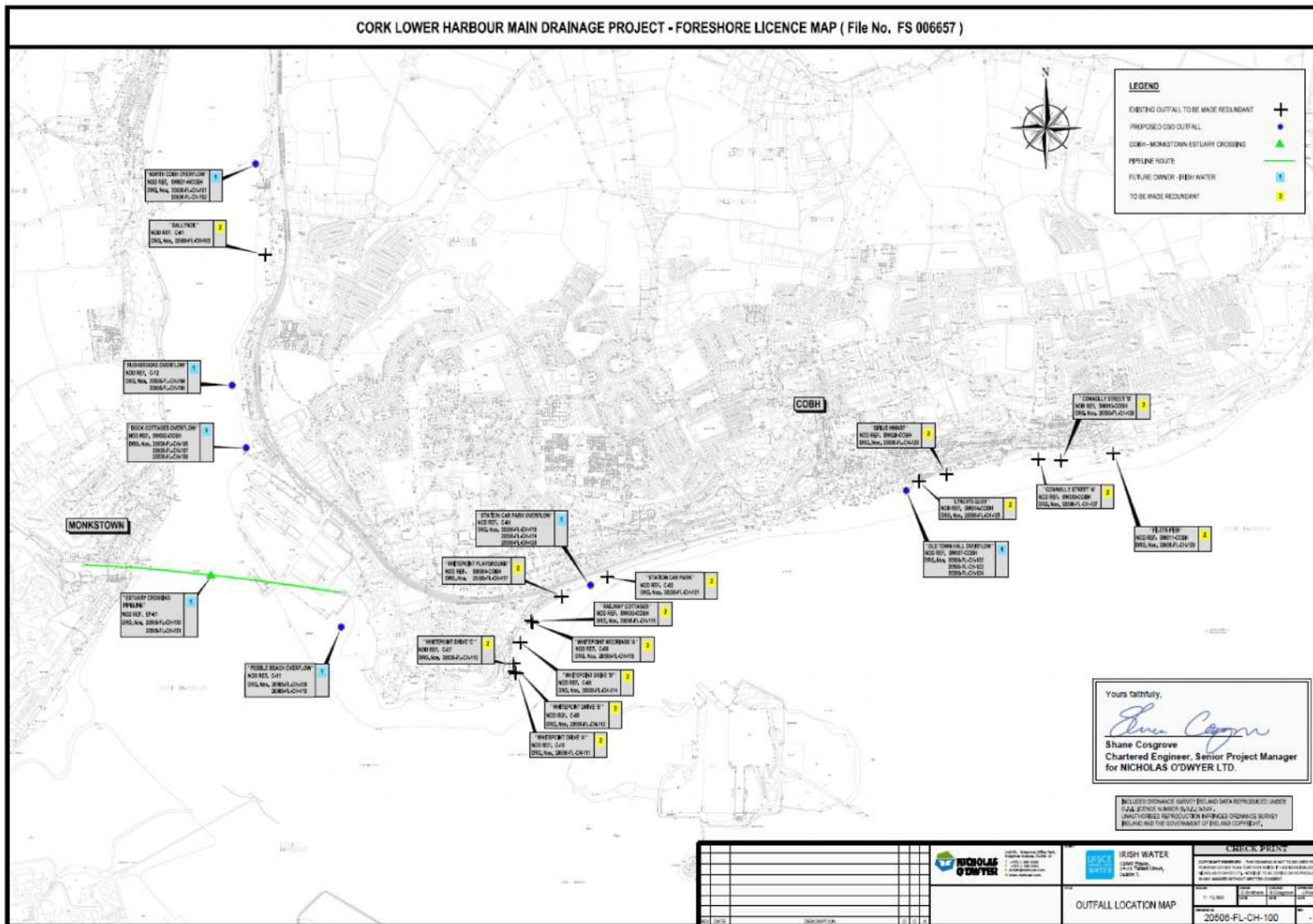
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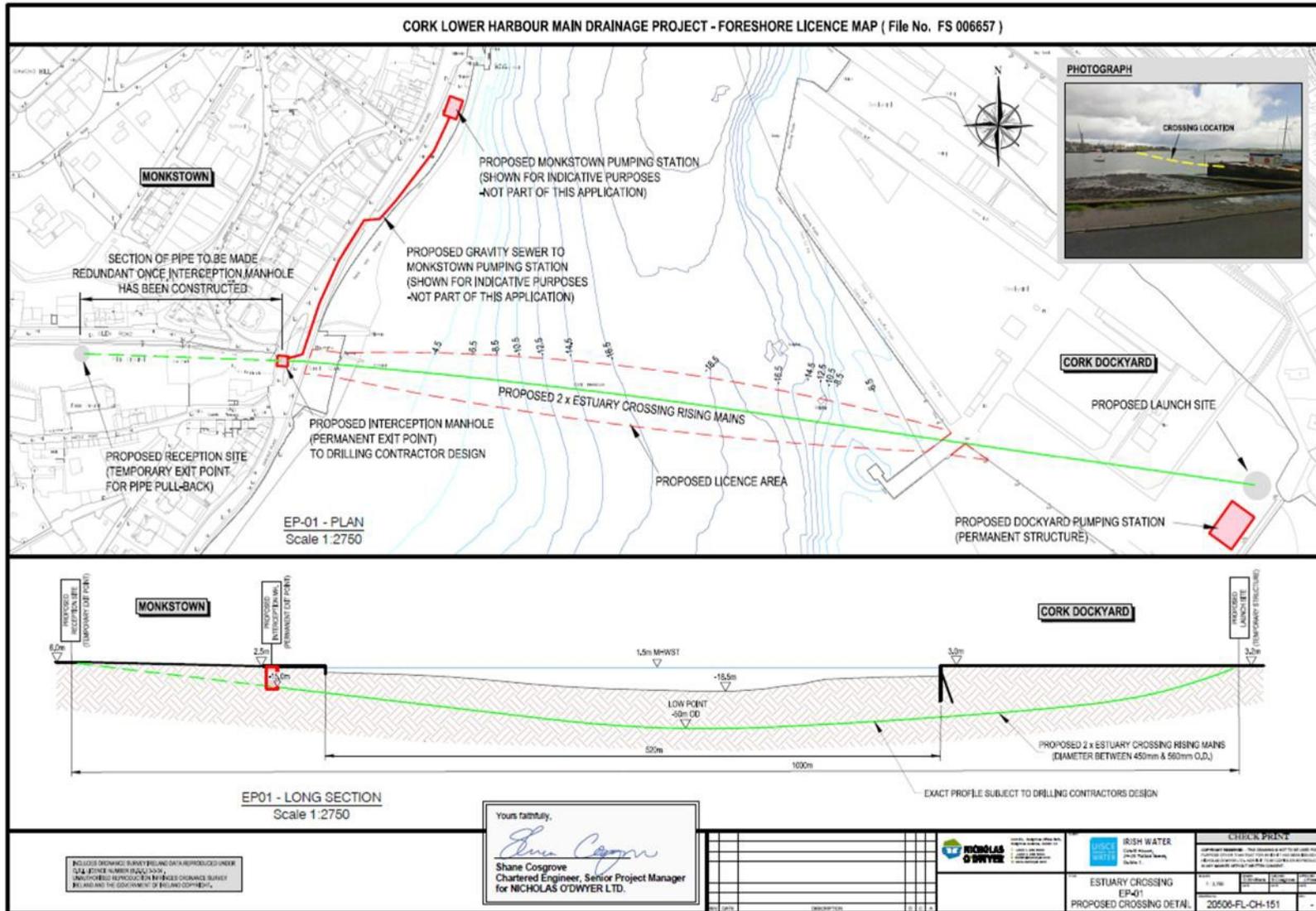
<https://excavations.ie/>

Appendix 1

Outfall Locations & Estuary Crossing Map



Outfalls & Estuary Crossing location map.



Proposed Estuary Crossing Detail