Cork City Council

Beamish and Crawford Quarter Infrastructure

EIA Screening Report

BCQI-ARP-ZZ-XX-RP-EN-0002

Issue 1 | 02 July 2021

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 274700-00

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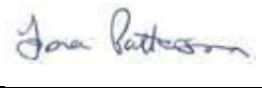
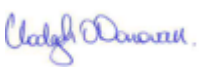
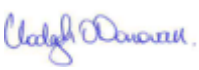
		Signature			
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Contents

Appendices

1 Introduction

This report has been prepared on behalf of Cork City Council to support the approval process for the proposed Beamish and Crawford Quarter Infrastructure development (hereinafter referred to as the "proposed development"). The purpose of the report is to provide sufficient information to enable Cork City Council to undertake screening of the proposed development to determine if an Environmental Impact Assessment (EIA) is required.

The report has been prepared by Arup.

2 Background

The proposed development is a public realm improvement scheme and will be located in the southwest of the City Centre Island, linking the city's medieval spine with the established commercial core of the City Centre island (**Figure 1**). The proposed development is located within "Beamish and Crawford / Grand Parade Quarter" which was identified in the Cork City Centre Strategy (Cork City Council, 2014) and highlighted as a 'Transformational Development Project' in the Cork City Development Plan 2015-2021.

There is a permitted mixed-use development at the former Beamish and Crawford Brewery site, which includes an Events Centre in addition to other uses including student accommodation.

The proposed Beamish and Crawford Quarter Infrastructure development aims to further enhance the quality, attractiveness and connectivity of the streets, river front quays and public spaces of this part of Cork City. The scheme aims to reallocate space, widening and improving the quality of footpaths, providing a coordinated street furniture and public lighting scheme and incorporating city greening/tree planting within the area.

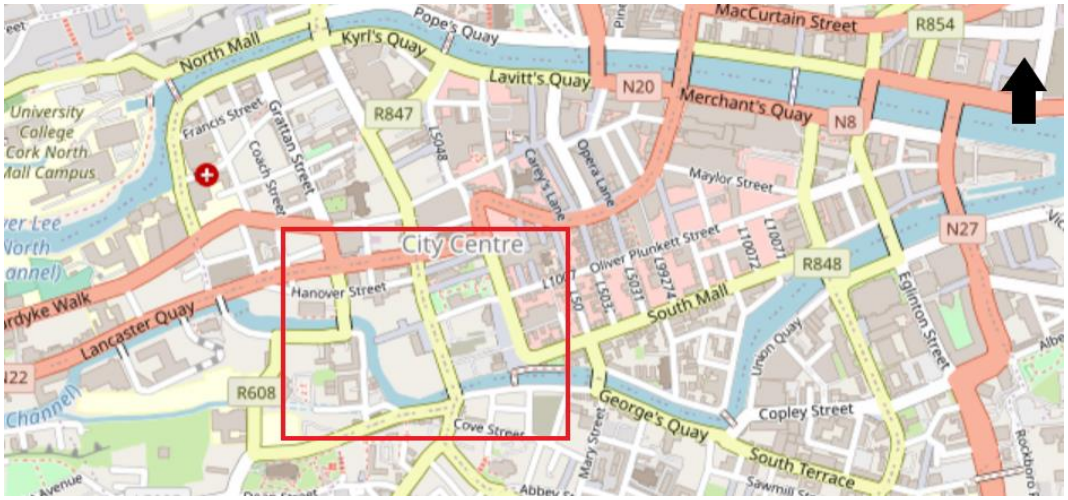

Figure 1: Beamish and Crawford Quarter Infrastructure development location and surrounding area (Source: EPA Envision mapping Maps) (not to scale)

3 Description of the Proposed Development

3.1 Site Location

The proposed Beamish and Crawford Quarter Infrastructure development will be located within the city centre island as indicated in **Figure 1** and Error! Reference source not found.**.** The River Lee bifurcates into two channels through Cork City centre between the weir near Western Road and Custom House Quay. A significant part of the proposed development is located next to the southern channel (**Figure 3**).

The proposed development will extend from the junction of South Main Street/Washington Street along South Main Street to Southgate Bridge, to Grand Parade to the east, to Proby's Quay/Keyser's Lane/St.Finbarre's Place to the south and Crosse's Green Quay and Wandesford Street to the west. There are a number of commercial and retail buildings located adjacent to the proposed development area along Tuckey Street, South Main Street and Tobin Street. There are also residential dwellings located along some of the streets where the works are proposed including Proby's Quay, French's Quay and Crosses' Green. An aerial photograph of the site showing the proposed development boundary is presented in **Figure 3**.

The majority of the area in which the proposed development will be located, consists of existing publicly owned hardstanding of mostly road surface, cycle lanes, footpaths and trees along existing streets. The land use of the proposed development (with the exception of the river) is generally classified as 'artificial surfaces' according to the EPA Corine (Coordination of Information on the Environment) land cover classification. The main natural resource in the general area is the River Lee which flows into Cork Harbour.

3.2 Surrounding Area

The general area surrounding the proposed development is typical of an urban area and comprises residential and commercial buildings. There are several important structures and amenities surrounding the proposed development that do not form part of the works and which are described below.

3.2.1.1 River Lee

The proposed development borders the southern channel of the River Lee as indicated on **Figures 2** and **3**. There are no works proposed within the river channel as part of the proposed development.

3.2.1.2 St Fin Barres Cathedral

St Fin Barre's Cathedral is a three-spire cathedral located on the south side of the River Lee and is dedicated to Finbarr of Cork, patron saint of the city. The cathedral is located to the south west of the proposed development off Bishops

St/Probys Quay. It is an important structure in relation to aesthetics and protected views that the proposed development will respect.

Figure 2: Site Location (Source: EPA Envision mapping Maps) (not to scale)

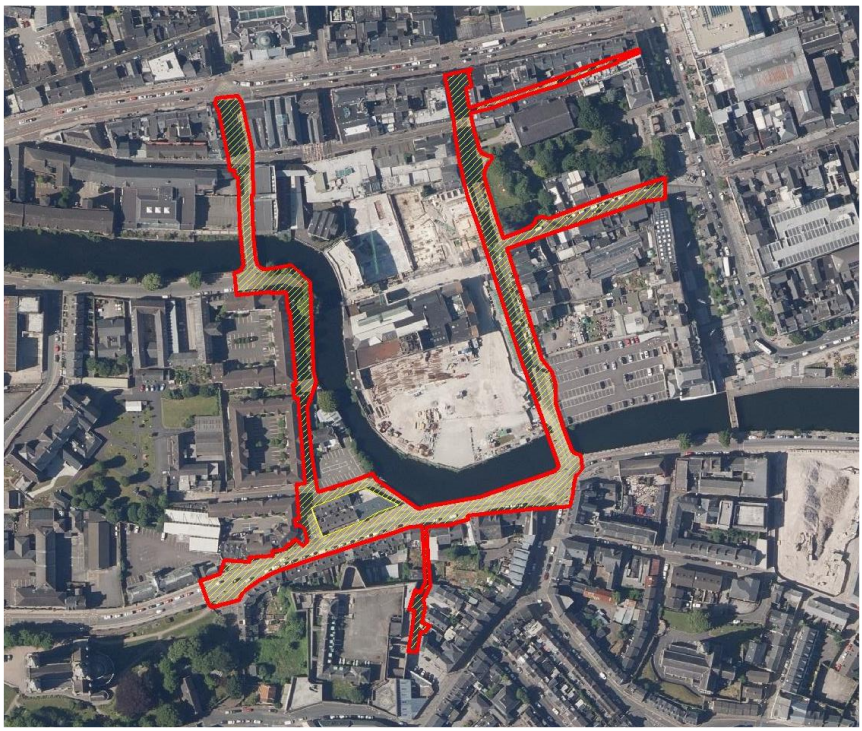

Figure 3 Aerial Photograph of the proposed development (Source: Google Earth) not to scale

3.2.1.3 Elizabeth Fort

Elizabeth Fort is a 17th-century star fort off Barrack Street. Originally built as a defensive fortification outside the city walls, the fort has seen some development as a tourism heritage site. The walls of the fort are accessible to the public. Elizabeth Fort is located adjacent to Keyser's Hill to the south of the proposed development.

3.2.1.4 Bishop Lucey Park and Triskel Arts Centre

Bishop Lucey Park is a public park located between Grand Parade and South Main Street in the centre of Cork. It is one of few green spaces in the city centre and among the largest.

The park will not form part of the proposed development but will be indirectly affected by the proposed works on Tuckey Street and South Main Street.

The park itself is subject to redevelopment and the design of this redevelopment is by Hall McKnight. There has been ongoing collaboration between the design teams of both projects to ensure successful integration of the public realm interface of the proposed development with the redevelopment of Bishop Lucey Park. Cork City Council is the client for both projects.

3.3 Description of the Proposed Development

3.3.1 Scheme Objectives

The overall objective of the proposed development is to provide public realm improvements to the streets and existing bridges within the development area. The proposed development comprises the removal of the existing pavement, public lighting, trees and street furniture and upgrading and installing new pavement, public lighting, trees and street furniture.

The key objectives of the scheme are to provide:

- High quality and high capacity access to, and around, the Beamish and Crawford site
- Better conditions for private investment in the area thereby underpinning commercial and recreational activity within the City Centre
- Enhancement to Cork City's reputation as a key tourist destination stimulating new business and employment opportunities
- Conditions to support increased retail, catering and tourism offerings in South Main Street, Barrack Street, Proby's Quay and City Centre

- A high-quality sense of place which reflects the urban setting and identity which connects all elements of the wider urban realm - linking pedestrian, residential, economic, civic, community and recreation networks
- Protection and enhancement of the existing built and natural heritage of the area
- Protection and enhancement of the existing and future community and residential population in the area

3.3.2 Description of the Proposed Development

The design of the proposed development is indicated on the drawings presented in **Appendix A**. The proposed development will include:

- Public realm improvements to South Main Street, Tobin Street, Tuckey Street, Proby's Quay, French's Quay, Keyser's Hill, Crosses Green, Wandesford Quay and Hanover Place/Hanover Street including increasing public domain and footpath widths, trees, planting, street furniture and ancillary infrastructure;
- Improved public lighting in the area;
- Realignment of Crosses Green and South Main street in some areas;
- Reduction of parking spaces on Crosses Green, French's Quay and South Main Street, Tuckey Street (Disabled Spaces), and a minimal number on Proby's Quay;
- Traffic calming measures at the junction of Hanover Street/South Main Street to protect cyclists;
- Reduction of road lanes from three lanes to two lanes at Hanover Place;
- Bike Channel on Keyser's Hill (to be used to facilitate cyclists travelling up/down the hill by using a shallow groove to allow the bike wheel to ride over the steps);
- A new traffic table pedestrian crossing at the junction of Tuckey Street and South Main Street; and at Proby's Quay;
- Traffic table outside Counting House plaza area as well as French's Quay and Proby's Quay; and
- Increased access link between Crosses Green and Cork City.

Following construction, there will be improved facilities for pedestrians and cyclists, higher modal shares for walking and cycling, increased safety for vulnerable road users, improved public realm including trees, planting, street furniture and less dependence on the private motor car, promoting the amenities of the area and economic benefits to residents and business owners. The installation of new public lighting will increase visibility in poorly lit areas of the existing area. There will be no change in traffic along routes where there will be a reconfiguration of the road layout.

It will provide a network for the optimum movement of all modes of transportation between Crosses Green and the City Centre and provide a high

quality public realm consistent with the overall ambition for the Beamish and Crawford Quarter as a vibrant, innovative, mixed use, sustainable, and socially inclusive urban quarter.

The method by which surface water will be managed during operation is largely unchanged and will continue to use road gullies as well as Arbor systems for trees and planting areas.

3.3.2.1 Overview of Construction Strategy

Construction works within the proposed development area will include excavation of the street surfacing and sub base, removal of existing surface materials, installation of new utilities and deconstruction/burying of existing utilities, build-up of the street, repaving the street to include installation of new high quality public realm and kerbing, planting trees and other decorative plants, and installation of new street furniture, street lighting and wayfaring signs. These types of works are very straightforward, well understood, are carried out in the city on a regular basis and can be easily undertaken.

It is expected that construction will commence in Q1 2022, subject to statutory approval. The expected duration of the construction works will be approximately 12 months.

Given that most of the streets that are due to be improved (South Main Street, Proby's/French's Quay etc.) as part of the proposed development are heavily trafficked roads and that existing traffic will need to be facilitated during the works, the Contractor will be required to develop and implement a detailed Construction Traffic Management Plan (CTMP) at the outset to ensure that traffic disruption is kept to a minimum. The increase in construction traffic in the area will be low in comparison to the already busy existing streets the work will take place on. The overall area to be developed within the city centre is large but it is envisaged that the contractor will only work in small sections at any given time. Therefore, the works are not likely to be disruptive to pedestrians, cyclists and car users in the area of the development.

The envisaged types of vehicles used for the construction of the development will be for the delivery and disposal of materials used for construction, removal of existing pavement and installation of new pavement and for the excavation of materials and trenches.

The use of plant and machinery such as excavators with rock breakers, concrete trucks, loaders, road planers, generators and personnel with pneumatic drills and concrete saws are likely to generate some localised dust, surface-water, waste and noise emissions during the construction works.

However, these will not be significant due to the duration of the works, the low level of construction vehicles/plant and construction staff required to carry out the works, the nature of the works proposed and the narrow construction footprint along busy trafficked roads. It is expected that the noisier activities will need to be phased and planned to ensure that the nearest noise sensitive receptors (such as the residential buildings on Crosses Greene) do not experience significant disturbance. The noisier construction activities are likely to take place at the start

of the construction stage i.e. when demolishing/removing the existing pavement and surfaces so it is unlikely that intense construction noise will be ongoing throughout the entire construction period.

Surface water run-off will be managed as is currently the norm. The extent of the works within a highly urbanised area are relatively small. Excavations will not be significant with a maximum depth of 1,200mm required for the burying of utilities and drainage systems (which are only required within a small area of the proposed development). The type of construction works proposed involves standard routine construction methodologies and are not complex in nature.

An overview of the proposed development and proposed construction works in each area is outlined below in accordance with the design drawings presented in **Appendix A**. The estimated duration of works in each area will be subject to review once a contractor has been appointed. Construction of some of these areas could run concurrently.

3.3.2.2 Tobin Street (Drawing 302)

This street has recently been repaved and no further alterations are proposed to the pavement on this street. It is proposed to install catenary lighting as well as to replace existing wall mounted light fixtures which will be attached to the buildings at points along either side of the street. The plans also include some modest greening of the area with planters and installation of new street furniture. The construction works in this area are estimated to be approximately 3 weeks.

3.3.2.3 Tuckey Street (Drawing 302)

The general description of construction works described above in Section 3.3.2.1 will be applicable for this area. The new paving materials used will allow integration of Tuckey Street with the Bishop Lucey Park area (which is due to be upgraded) as well as Grand Parade.

It is proposed to install catenary lighting and to replace existing wall mounted light fixtures which will involve minor works to the existing buildings at attachment points of the fixtures.

The new layout of this street is to reflect that this street has recently been pedestrianised which will allow the installation of new trees, planting and street furniture as well as stone benches. The pedestrianisation also requires the removal of parking spaces and tactile hazard paving at the crossing of Grand Parade. This will allow for the installation of electronic bollards at the entrance of Tuckey St. at the intersection with Grand Parade. The street will be pedestrianised between the hours of 11 a.m. and 2 a.m., 7 days a week.

There are several sensitive and protected structures on Tuckey Street which will require vibration and crack monitoring throughout the works including the historic Berwick Fountain and Canon Bollard at the intersection of Tuckey Street and Grand Parade.

Vibration and crack monitoring will be utilised on all sensitive and protected structures and will be monitored throughout the works. Limitations to the amount of vibrations and widths of crack will be put in place and in the case where these limits are reached then works will stop immediately. An alternative method of construction will be implemented if necessary.

The construction of this area is estimated to be approximately 6 weeks.

3.3.2.4 South Main Street (North) (Drawing 301)

The general description of construction works described above in Section 3.3.2.1 will be applicable for this area. The entire area will be repaved including a small section that connects into Hanover St and extends into Bishop Lucey Park. On side street entrances such as this, a bevelled kerb will be required to maintain footpath levels and meet cycle lane/roadway elevations.

The existing boundary walls at the entrance to Bishop Lucey Park at South Main St. will be demolished. The demolition of these walls will require personnel with power tools and possibly machinery to demolish the wall. There will be a localised increase of noise and generation of dust while these activities take place. The demolition of the wall will take approximately 1 week to complete. The waste generated will be removed off site and disposed of responsibly.

There are several sensitive and protected structures on South Main Street which will require monitoring throughout the works. Vibration and crack monitoring will be utilised on all these structures and will be monitored throughout the works. Limitations to the amount of vibrations and widths of crack will be put in place and in the case where these limits are reached then works will stop immediately.

The construction of all South Main Street works is estimated to be approximately 20 weeks.

3.3.2.5 South Main Street (South) (Drawing 303)

The general description of construction works described above in Section 3.3.2.1 will be applicable for this area. Construction of a traffic table in the area outside the Counting House plaza will be the significant construction activity in this area.

Figure 3: Traffic Table Source | Google Images

The construction methodology for this table will be the same as the general works described above but more building up of materials will be required in the range of approximately 100-200mm. A stone seat wall will also be required in this area to marry in the existing building levels and proposed traffic table level.

The construction of all South Main Street works is estimated to be approximately 20 weeks.

3.3.2.6 Frenches Quay and Keyser Hill (Drawing 304)

The general description of construction works described above in Section 3.3.2.1 will be applicable for this area. There are a number of overhead utilities in this area which will be moved underground. The construction activities associated with burying of utilities will include the decommissioning of the existing services, dismantling existing infrastructure, installation of ducting or pipework as required and burying of the ductwork/pipework.

The existing pavement on Keyser's Hill will be replaced as per the general description of works above with the exception of an alternating coloured paving pattern to visually warn pedestrians of the step hazard. Some of the works will require additional care around historic areas when constructing the pavement i.e. near Elizabeth's Fort. The concrete cast replica of the historic bollard at the entrance to Keyser's Hill at the Proby's Quay end will be replaced with an enhanced cut limestone replica.

Wall mounted and catenary lighting are also proposed along Keyser's Hill lane. A bike channel will also be installed on this lane which will be constructed in textured limestone stone to match steps.

The construction of this area is estimated to be approximately 10 weeks.

3.3.2.7 Proby's Quay (Drawing 305)

The general description of construction works described above in Section 3.3.2.1 will be applicable for this area.

The area of St Fin Barre's plaza will be the focal point of this area and will include installation of better pavement, public lighting as well as planting of new trees. Some existing signage elements will be relocated.

The construction of this area is estimated to be approximately 8 weeks.

3.3.2.8 Crosses Green (Drawing 306)

The general description of construction works described above in Section 3.3.2.1 will be applicable for this area.

There are a number of lime trees located to the north of Crosse's Green that are proposed to be removed. There is a large Lime Tree located on Crosses Green that is to be retained.

There will be heavier civils and concrete works in the form of ramps and stairs in some areas on Crosses Green. The installation of the concrete elements will require concrete ancillary equipment (such as a concrete mixer truck and pump).

Accommodation works for landowners will need to be made in the form of repositioning of an existing car park entrance, construction of a retaining wall around a portion of the Funeral Home and removal of an existing entrance to the Funeral Home building. These tasks will involve dismantling of existing infrastructure and installation of new fencing and walls, including planting areas contained by stone walls constructed to match existing quay walls.

The construction of this area is estimated to be approximately 8 weeks.

3.3.2.9 Hanover Place and Wandesford Quay (Drawing 307)

The general description of construction works described above in Section 3.3.2.1 will be applicable for this area.

Existing public lighting will be upgraded and new lighting installed. There will be new trees planted in these areas and the pavement improvement will continue over Clarke's Bridge. A new loading bay/taxi rank will be created on Hanover Place.

The construction of this area is estimated to be approximately 6 weeks.

3.3.2.10 Works in areas close to River (South Gate Bridge, Clarkes Bridge, French's Quay, Crosses Green)

The proposed development includes works that will occur in areas that are close to the River Lee. These include the areas of the development which are next to quay walls, namely South Gate Bridge, Clarkes Bridge, Frenches Quay and Proby's Quay. The proposed works in these areas are shown in Drawings 303 to 306. The works encompass the continuation of the public realm improvements

over the existing bridges (Clarke's Bridge and South Gate Bridge) and quayside roads which include the removal of existing pavement and street lighting and installation of new and improved pavement and lighting.

There will be trenching required when burying existing utilities. Due to the heavy traffic congestion and widths of the roads, the excavated material will be moved from the excavated area soon after it is excavated to either be reused or disposed of. The length of the excavations will also be relative short and completed in small sections for the same reason. Therefore, infiltration of any material into the ground is not expected to be any more significant than it would be usually.

As mentioned previously, concrete works on Crosses Green will require the use of concrete mixers and pumps in the areas close to the quay walls. The amount of concrete envisaged for the construction of ramps and stairs in these areas is small and the risk of significant spillage is very low.

There are areas of the proposed development which will require raising of footpaths and road levels near existing quay walls. Due to the changes in levels, this may cause a substandard height for pedestrians using the footpaths near these walls. It is proposed that a new handrail be installed on the existing quay walls in areas that the quay walls are not of the required height. The height of these handrails is not envisaged to be significant.

Construction of these handrails will involve the boring of holes into the top of the quay wall for the baseplate of a handrail. The holes will be bored by a single person with a handheld drill. It is envisaged that this will produce a small amount of dust, which will be insignificant in the wider context of the urban area.

The handrail will then be attached by inserting bolts into the newly made holes and grouted to secure the handrail. The grouting will be done by one person using a bucket of grout and a trowel. Therefore, the risk of a large spillage into the neighbouring water causing a significant pollution event is negligible. The handrail is envisaged to be of a metal construction and of an open design and so will not retain water.

4 EIA Screening

4.1 General

Article 4 of EIA Directive (Council Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU) imposes the requirement for EIA for the projects, to which the Article applies. These projects are listed in Annexes I and II of the Directive. For Annex I projects, an EIA is mandatory. Member States must determine if an EIA is mandatory for Annex II projects. Member States must make the determination through (a) a case-by-case assessment or (b) thresholds or criteria set by the member State.

The Planning and Development Act 2000, as amended, transposes the requirements of Article 4 into Irish law. The projects for which EIA is mandatory

are listed in Part 1 of Schedule 5 of the Planning and Development Regulations, SI 600 of 2001, as amended, which are the regulations made under the Act. Annex II projects are addressed in Part 2 of Schedule 5. For most project classes, a threshold is specified. There are a number of classes which require a case by case assessment.

4.2 Screening for Mandatory EIA

Part 1 of Schedule 5

The proposed development is not a project type or class listed in Part 1 of Schedule 5 on the Regulations.

Part 2 of Schedule 5

The proposed development is a project type or class specifically listed in Part 2 of Schedule 5 on the Regulations, as follows:

10. Infrastructure

10 (b) (iv) Urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere.

The proposed development is 1.2ha. Thus, a mandatory EIA is not required under this class.

It is concluded that the project is not of a class for which an EIA is mandatory under the Directive and Irish legislation.

4.3 Screening for Sub-threshold EIA

4.3.1 Introduction

The proposed development does not exceed a threshold for which an EIA is mandatory. The proposed development requires to be screened for EIA under Section 103 of the Regulations.

Section 103 of the Planning and Development Regulations 2001, as amended sets out the requirements for screening a sub-threshold planning application for EIA as follows:

"(1) (a) Where a planning application for sub-threshold development is not accompanied by an EIAR, the planning authority shall carry out a preliminary examination of, at the least, the nature, size or location of the development.

(b) Where the planning authority concludes, based on such preliminary examination, that—

(i) there is no real likelihood of significant effects on the environment arising from the proposed development, it shall conclude that an EIA is not required,

(ii) there is significant and realistic doubt in regard to the likelihood of significant effects on the environment arising from the proposed development, it shall, by notice in writing served on the applicant, require the applicant to submit to the authority the information specified in Schedule 7A for the purposes of a screening determination unless the applicant has already provided such information, or

(iii) there is a real likelihood of significant effects on the environment arising from the proposed development, it shall—

(I) conclude that the development would be likely to have such effects, and

(II) by notice in writing served on the applicant, require the applicant to submit to the authority an EIAR and to comply with the requirements of article 105.

(1A)(a) Where an applicant is submitting to the planning authority the information specified in Schedule 7A, the information shall be accompanied by any further relevant information on the characteristics of the proposed development and its likely significant effects on the environment, including, where relevant, information on how the available results of other relevant assessments of the effects on the environment carried out pursuant to European Union legislation other than the Environmental Impact Assessment Directive have been taken into account.

(b) Where an applicant is submitting to the planning authority the information specified in Schedule 7A, the information may be accompanied by a description of the features, if any, of the proposed development and the measures, if any, envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment of the development."

4.3.2 Likely Significant Effects

4.3.2.1 Introduction

This section provides a description of the aspects of the environment likely to be significantly affected by the proposed development. This description is divided into the sub-headings below, which are based on the environmental factors specified in paragraph (b)(i)(I) to (V) of section 171A of the Planning and Development Act 2000, as amended.

Given that the proposed development is a public realm improvement scheme, located in the heart of the medieval city, particular emphasis has been given in this screening report to archaeological, architectural and cultural heritage aspects in addition to landscape and visual aspects.

4.3.2.2 Population, Human Health and Major Accidents and Disasters

Overall, there will be a positive impact for people due to the proposed development. It will provide an enhanced, attractive, safe, secure and durable public realm which integrates existing and proposed built development and it will improve the pedestrian and cyclist environment of the area, providing traffic calming measures, whilst incorporating public transport access, bus stops, set-down areas for commercial vehicles, and provide for on-street parking for existing residents in the area. The proposed development will improve urban greening with new street trees and planting proposed throughout the proposed public realm and it will improve the appearance and presentation of the public realm to respectfully rejuvenate this historic part of Cork City Centre.

During the construction stage, there will be some minor disruption and noise, dust emissions experienced by nearby residents, road users and pedestrians however these will be minor and temporary and will not cause significant negative impacts.

Access to residences and businesses within and adjacent to the proposed development area will be maintained for the duration of the works. Careful and considered local consultation will be carried out to ensure that the minimum amount of disturbance will be caused. The extent of the works within a highly urbanised area is relatively small.

A Construction Traffic Management Plan (CTMP) will be implemented for the duration of the construction works in order to minimise any disruption to traffic flow on the road network at and surrounding the proposed development areas. There will be some construction traffic associated with the construction of the proposed development; however, this traffic will be managed appropriately via the CTMP, in particular, with regard to hours of delivery and construction staff arrivals and departures, in order to minimise effects on the operation of the local road network. It is not envisaged that significant negative effects will arise.

Standard construction materials will be used and will not be harmful to human health or the environment. The contractor will ensure that the proposed works are carried out in accordance with the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013). It is envisaged that the risk of accidents, having regard to substances or technologies used is very low and therefore will not result in significant environmental effects.

There is a low probability that accidents will occur as the construction works are standard in nature and well understood. Normal good construction practice and construction mitigation measures (with regards to safety) will ensure that the risk of accidents will be low.

Given the type of development proposed, the vulnerability of the project to cause a major accident or disaster is extremely low. The proposed development area is not susceptible to earthquakes, subsidence, landslides or erosion. Some areas are susceptible to flooding but given the type of development involved – street improvements, significant negative impacts are not envisaged compared to the existing scenario. Significant negative impacts due to the vulnerability of the project from major accidents and disasters will not arise.

An overall positive impact on population and human health is predicted due to the proposed development. Whilst there are likely to be minor impacts experienced by people during the construction phase (noise dust, disturbance etc), these are temporary and will not be significant.

4.3.2.3 Biodiversity

Habitats within the proposed development site were assessed in line with the methodology outlined in the Heritage Council Publication, *Best Practice Guidance for Habitat Survey and Mapping* (Heritage Council, 2011). The terrestrial and aquatic habitats within or adjacent to the proposed development site were classified using the classification scheme outlined in the Heritage Council publication *A Guide to Habitats in Ireland* (Fossitt, 2000) and cross referenced with Annex I Habitats where required.

The proposed development site is dominated by artificial habitats (Buildings and artificial surfaces BL3) which includes buildings, bridges, quay walls, roads and footpaths. The River Lee (Tidal rivers CW2) is located outside the development boundary.

The ecological value of habitats has been defined using the classification scheme outlined in the *Guidelines for Assessment of Ecological Impacts of National Road Schemes* (National Roads Authority, 2009). Habitats within the proposed development site are of Local Importance (Lower Value). No rare or valuable habitats were recorded within the proposed development site. The proposed development site is located within the built-up urban area of Cork City centre and impacts on semi-natural habitats will be negligible. No rare habitats or plants will be affected.

The proposed development will be located approximately 5.3km upstream of the Cork Harbour SPA and 11.1km upstream of the Great Island Channel SAC. These sites are of value due to the presence of habitats and species designated under the EU Habitats and Birds Directives. The high value mudflat habitats for birds within the Cork Harbour SPA and qualifying habitats for the Great Island Channel SAC are robust and located a considerable distance from the proposed development. The AA screening report (Report in Support of Appropriate Assessment Screening for the Beamish and Crawford Quarter Infrastructure, DixonBrosnan, 2021) concluded the following:

The proposed Beamish and Crawford Quarter Infrastructure, either alone or in combination with other plans and/or projects, does not have the potential to significantly affect any European Site, in light of their conservation objectives. Therefore, a Stage 2 Appropriate Assessment is deemed not to be required.

Birds which are likely to occur within the works area include relatively common bird species, which are generally found in the urban environment e.g., Feral Pigeon, Rook, Pied Wagtail, Jackdaw. The presence of rare or uncommon species is considered unlikely. It is noted that areas of natural vegetation are very limited in extent and therefore bird communities are generally depauperate. The section of the River Lee which flows beneath the proposed development site provides little suitable nesting habitat for riverine species, as the river is confined within

high walls and vegetation is limited in extent. However some more specialist species such as Grey Heron, Grey Wagtail and Mallard were recorded. Sand Martin have been recorded nesting outside the survey area in the southern wall of the river downstream of South Gate Bridge (Leslie Lewis pers. comm.). Swifts were noted overflying close to St. Fin Barre's Cathedral outside the survey area. Aquatic bird species such as Grey Heron and cormorant also occur. Kingfisher, which is listed on Annex I of the Birds Directive are known to occur along the River Lee. However, the proposed development area is unlikely to be of high value for this species due to the absence of suitable perches or nesting habitat.

The most significant habitat of value within this area is the River Lee Estuary which is located near the southern boundary of the proposed development site. The River Lee is a designated salmonid river and therefore the movement of fish though the river is a key concern particularly in relation to Atlantic Salmon, River Lamprey and Sea Lamprey; all three of which are listed on Annex II of the EU Habitats Directive. European Eel which is considered endangered also migrates through the estuarine section of the River Lee. Although the Inniscarra dam forms a barrier to migration into the upper reaches of the River Lee, these species migrate into tributaries such as the River Bride and River Shournagh which discharge to the River Lee downstream of the dam. These species will move through the river at different times and at different stages of their life cycle e.g. adult salmon moving upstream to spawn and smolts moving downstream to the sea. There is a resident population of Brown Trout within the estuarine section of the River Lee and angling for this species is commonly carried out within the city. Sea Trout migrate through the estuary to the freshwater sections of the river and tributaries. Grey Mullet also occur although numbers have decreased following improvements in water quality in recent years. Flounder also occur.

Otter, which are listed on Annex II of the Habitats Directive commonly occur and forage within the proposed development area. However, the presence of holts within this area is unlikely given the high level of disturbance and the absence of suitable habitat. Grey Seal, which is listed on Annex II of the Habitats Directive, also feed within the city and have been recorded at Crosses Green Quay. A number of bat species utilise the River Lee including Common and Soprano Pipistrelle which have been recorded in this area (DixonBrosnan, 2021). Mammal species using the development area will be limited to Red Fox and rodent species such as Brown Rat. Bats are unlikely to use city streets for foraging and no potential roosting sites will be affected.

It is noted that works are very limited in extent and will not significantly elevate noise or disturbance levels in the context of high existing background noise levels associated with traffic. Lighting levels which can impact on nocturnal species will not be significantly changed. Minor impacts on water quality could occur due to minor localised run off of surface water during construction, use of concrete and minor contamination of surface water and ground water due to minor leaks of hydrocarbons from machinery. The proposed works are relatively minor in scope and with limited potential to impact significantly on water quality in the context of the dilution provided in this estuarine section of the River Lee.

Whilst there may be some disturbance/displacement of bird species during construction the effect is not likely to be significant, and fauna will habituate to any changes in ongoing noise and disturbance post construction.

Overall, it is concluded that there will be no significant effect on designated sites and the effect on local ecology will be negligible.

4.3.2.4 Archaeological, Architectural and Cultural Heritage

Introduction

The proposed development lies within the southern end of the historic, walled, medieval city of Cork and within the Zone of Archaeological Potential for the historic city (CO074-034001-) as listed in the Record of Monuments and Places (RMP) for Co Cork and the Sites and Monuments Record (SMR) database of the Archaeological Survey of Ireland (**Figures 5** and **6**). The RMP lists all archaeological monuments and places known to be of archaeological importance in the county and affords them statutory protection as Recorded Monuments under the National Monuments Act 1930 to 2004 (1994 amendment). The SMR database is a working database of all known archaeological monuments in the state and is continually updated.

There are three National Monuments within/close to the proposed development area; the town defences city walls (CO074-034002-), Elizabeth Fort (CO074-039001-) and the Dominican friars religious house (CO074-037).

National Monuments are defined under Section 2 of the National Monuments Act (1930), the preservation of which is considered a matter of national importance. The protection of town defences includes "*all walls (weather ancient or on the line of ancient walls) gates, towers, earthen banks and fosses, bastions, outworks and other features*" (National Policy of Town Defences 2008).

Much of the walls which once encircled the medieval city of Cork were demolished in the early 18th century but below ground level, Cork possesses the most intact circuit of walls of any Irish city (Hurley, 2005) and sections have been recorded by archaeological investigations since the 1970s. The remains of the religious house of the Dominican friars (CO074-037) to the north of Bishop's Street has been subject to a Temporary Preservation Order since 1993 (3/193 TPO). Archaeological excavation of the site was undertaken in 1993 in advance of development (Hurley and Sheehan 1995).

Elizabeth Fort (CO074-039001-) has been transferred from the ownership of the state to that of Cork City Council.

The built heritage of the city is protected through the inclusion of individual buildings in the Record of Protected Structures (RPS) as a Protected Structure (PS) and within the designation of larger areas of historic character as Architectural Conservation Areas (ACAs). Protected Structures are protected under Part IV of the Planning and Development Act 2000, as amended and the conservation and planning of ACAs is managed under section 82 of the Planning and Development Act 2000, as amended. Many other buildings within the proposed development area are included in the National Inventory of

Architectural Heritage (NIAH). The NIAH was set up under the Convention for the Protection of the Architectural Heritage of Europe or the Granada Convention of 1985. It was established on a statutory basis under Section 2 of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999. The work of the NIAH involves identifying and recording the architectural heritage of Ireland, from 1700 to the present day, in a systematic and consistent manner to form a baseline of information. Structures can then be recommended for inclusion in the RPS if rated of regional significance or above. Archaeological and architectural sites within/close to the proposed development area are listed in **Table 1** below.

Table 1: Archaeological and Architectural sites within/close to area of proposed works

RMP	RPS & NIAH	SITE TYPE	LOCATION
CO074-034001-		Historic town	Cork city
CO074-034002-	**PS276 (fragment in City Car Park) 20514109 (Grand Parade)**	**Town defences**	**Cork city**
CO074-034012-	PS328 & 20515065	Bridge (South Gate)	Cork city
CO074-034011-		Church (St Laurances)	Cork city
CO074-034010-		College	Cork city
CO074-034009-	PS329 & 20514004	Church (Holy Trinity)	Cork city
CO074-034008-	20514054	Graveyard (Holy Trinity) (Christ Church)	Cork city
CO074-037 3/193 TPO		**Religious house (Dominican friars)**	**Cork city**
CO074-038004-		Leper hospital	Cork city
CO074-038003-		Round tower	Cork city
CO074-038001-		Graveyard (St Fin Barres)	Cork city
CO074-038002-	20503418	Cathedral (Ft Fin Barre's)	Cork city
CO074-039001-	**20503461**	**Bastioned fort (Elizabeth Fort)**	**Cork city**
CO074-039002-		Church (St Mary Del Nard)	Cork city
	PS1012 & 20514020	Post box	South Main St
	PS330 & 20514018	Half-timbered frontage to Beamish and Crawford Brewery	South Main St
	PS1151 & 20514012	House	33 South Main Street
	PS1150 & 20514008 20514009	House	27 South Main St (Spailpin Fanach)
	PS1149 & 20514007	House	South Main St (Kennedy's)
	PS1148	Public House	South Main St (The Oval)
	PS440 & 20514065	House	10 Tuckey St
	PS437 & 20514064	House	9 Tuckey St
	PS435 & 20514063	House	8 Tuckey St
	PS433		Tuckey St
	PS431		Tuckey St
	20514062	Street name plaque	6-7 Tuckey St
	20514068	House	22 Tuckey St
	20514070	Building miscellaneous	First Lodge of Ireland Tuckey St

RMP	RPS & NIAH	SITE TYPE	LOCATION
	20514071	Bollard	Tuckey St
	PS122 & 20514116	Berwick Fountain	Grand Parade
	PS123	Entrance to Bishop Lucy Park	Grand Parade
	PS1088 & 20514039	House	14 Washington St
	PS1087 & 20514036	House	10 Washington St
	PS1086 & 20514035	House	9 Washington St
	PS1085 & 20514034	House	8 Washington St
	PS1084 & 20514033	House	7 Washington St
	PS1083 & 20514032	House	6 Washington St
	PS1082 & 20514031	House	5 Washington St
	PS1081 & 20514030	House	4 Washington St
	PS1080 & 20514029	House	3 Washington St
	PS1078 & 20514028	House	2 Washington St
	PS1077 & 20514027	House	1 Washington St
	PS1076 & 20503215	Office	Washington St (The Chambers Bar/ Pi Restaurant)
	20503212	House	1 Hanover Place (Friends of Earthwatch)
	20503213	House	2 Hanover Place
	20503214	House	3 Hanover Place
	20503207	Office	4-5 Hanover Place
	PS026 & 20503247	Clarke's Bridge	Wandsford Street
	PS1131 & 20503316 20503317	Single arch bridge and slip	Frenche's Quay
	PS095 & 20514408	House	7 Frenche's Quay
	PS096		Frenche's Quay
	PS097		Frenche's Quay
	PS098		Frenche's Quay
	PS984 & 20503466	Post box	Keyser's Hill
	20503298	Building miscellaneous	Crawford Commercial Park

The earliest beginnings of Cork City as an established settlement can be traced to the monastic foundation of St. Fin Barre on high ground on the south bank of the river in the 6th/early 7th century AD (Gwynn and Hadcock 1970, 66). Historical references place a Viking settlement in Cork from 846, probably located on the south bank of the river opposite South Gate Bridge (CO074-034012-).

Archaeological evidence has identified Hiberno-Norse activity by the second half of the 11th century on the southern end of Barrack Street on the south bank of the river (Lane and Sutton 2003, 12). Across the south channel of the river on the south end of the south island and within the muddy estuary, reclamation associated with the development of settlement plots, began at the end of the 11th century (Ní Loingsigh 2014, 40 and Cleary 2014, 266). Archaeological excavations on a number of sites on the south island have found that urban development began in the late 12th century with the construction of post and wattle house. This initial settlement grew and progressed northwards over the

following centuries along a central spine of high ground that became (South and North) Main Street. The early settlement focused on the higher ground along the Main Street with episodes of reclamation on the adjoining lower ground at the edge of the marsh identified by archaeological excavations at Bishop Lucey Park (Hurley 1989), Tuckey St (O'Donnell 2003) and elsewhere. The reclaimed ground rose above the level of the marsh becoming suitable for occupation and over time defences were constructed around the edge of the settlement which was defined by the surrounding waterways.

The settlement on the South Island was probably walled by the late 12th century and by the end of the 14th century the circuit extended around the North Island as well. The medieval walls (CO074-034002-) enclosed a sub-rectangular area, approximately 654m N-S; c. 225m E-W. There were sixteen mural towers along the walls and at least two major gateways as well as a watergate. Inside the walls the city was oriented along the spine of higher ground which formed the Main Street with smaller streets and lanes running at right angles to it.

There are no cartographic depictions of the early walled town from the 12th century or its expansion northwards in the 14th century. The later medieval town is depicted on historic maps from the late 16th century and its development can be traced on cartographic sources from this time, as it developed from a defensive walled city, to the larger, expansive city of the late 19th century. One of the first cartographic representations of the city of Cork is the Pacata Hibernia dating to 1585 (**Figure 7**). This map depicts the walled city on the River Lee, spanning two islands (north and south) and joined by a bridge. The walls are interspersed with numerous round mural towers and tidal marshland occupies the areas to the east and west of the city. Bridges at the northern and southern extremity connect the city to the shore. Boats are depicted navigating the river channels enclosing the city while suburban development outside the city walls is evident on the northern and southern river banks. The Cathedral Church of old Corke (St. Fin Barre's Cathedral; CO074-038002-) is shown on the southern bank slightly west of the South Gate Bridge and further west again on an island in the western marsh Abby in ey Iland (Dominican friars religious house; CO074-037, 3/193 TPO).

The city remained a defended walled settlement throughout the medieval period defined by the surrounding watercourses. Small scale reclamation of the marshes to the east and west began in the post medieval period but until the city walls were breached by the Williamite forces during the siege of Cork in 1690 the city remained defended. The siege resulted in the burning of the suburbs, destruction of buildings as well as the breaching of the walls (Bradley et al 1985, 15-26) but was followed by a period of relative stability across the country and the need for walled defences around urban settlements lessened.

During the post medieval period the city began to expand beyond it walled defences facilitated by economic expansion. In tandem with the removal of the city walls the waterways outside became open quays which were later culverted. The modern streets developed along the line of these culverts. By the mid-18th century this process was well underway and 18th century cartographic sources (**Figure 8**) show an expanded city pushed beyond the medieval settlement on the islands with considerable growth into the western and particularly eastern marshes where the modern commercial centre now lies. Despite this growth in the 18th and

19th centuries much of the linear layout which characterises the medieval core of the city combined with the survival of subsurface remains of the city wall, have ensured that the imprint of the medieval streetscape endures within the modern city and framed much of the building that followed.

There are a large number of 18th century buildings and structures particularly at the southern end of the medieval city within the development area including South Gate Bridge, Clarkes Bridge and many of the buildings fronting South Main Street. The building along the northern side of Tobin Street and fronting Washington Street are generally early 19th century in date built in the 1820s after the Wide Streets Commission laid out Washington Street to connect the expanding western and eastern sides of the city.

The proposed development area lies within two Architectural Conservation Areas and a proposed third. An Architectural Conservation Area (ACA) is a place, area, group of structures or townscape that is of special architectural, historical, archaeological, technical, social, cultural or scientific interest, or that contributes to the appreciation of a Protected Structure/or series of Protected Structures. It is a mechanism which aims to identify and protect areas of special significance and promote an awareness of this significance.

The northern part of the development area lies within the North Main Street ACA (26). This extends north from Tobin Street and Hanover Street almost to the north channel of the Lee. The south bank of the Lee lies within the South Parish ACA (29) which extends from Infirmary Road at the east to St Finbarr's Road at the west. The western end of the proposed development area lies within the proposed North Mall - Marsh ACA (40) which includes much of the city's western marsh from Clarkes Bridge across the south channel of the Lee to the North Channel and the North Mall. There is also a potential new ACA located in close proximity to the proposed development. See **Figure 4** below. The proposed development does not conflict with the objectives of the ACAs and the design of the proposed development is sensitive to its location.

Figure 4: Architectural Conservation Areas in the vicinity of the proposed development | not to scale

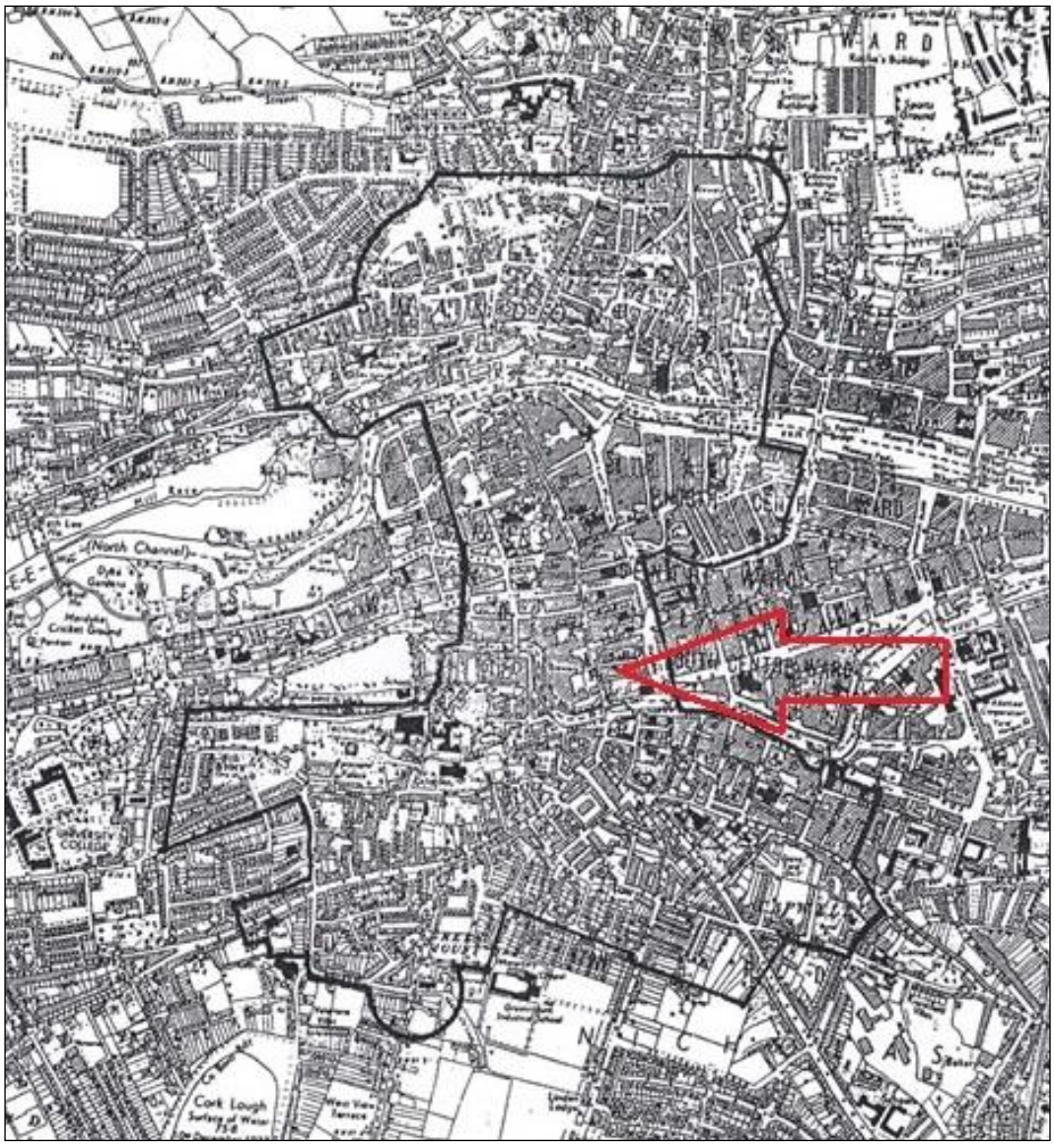

Figure 5: Outline of the Zone of Archaeological Potential as defined in the SMR

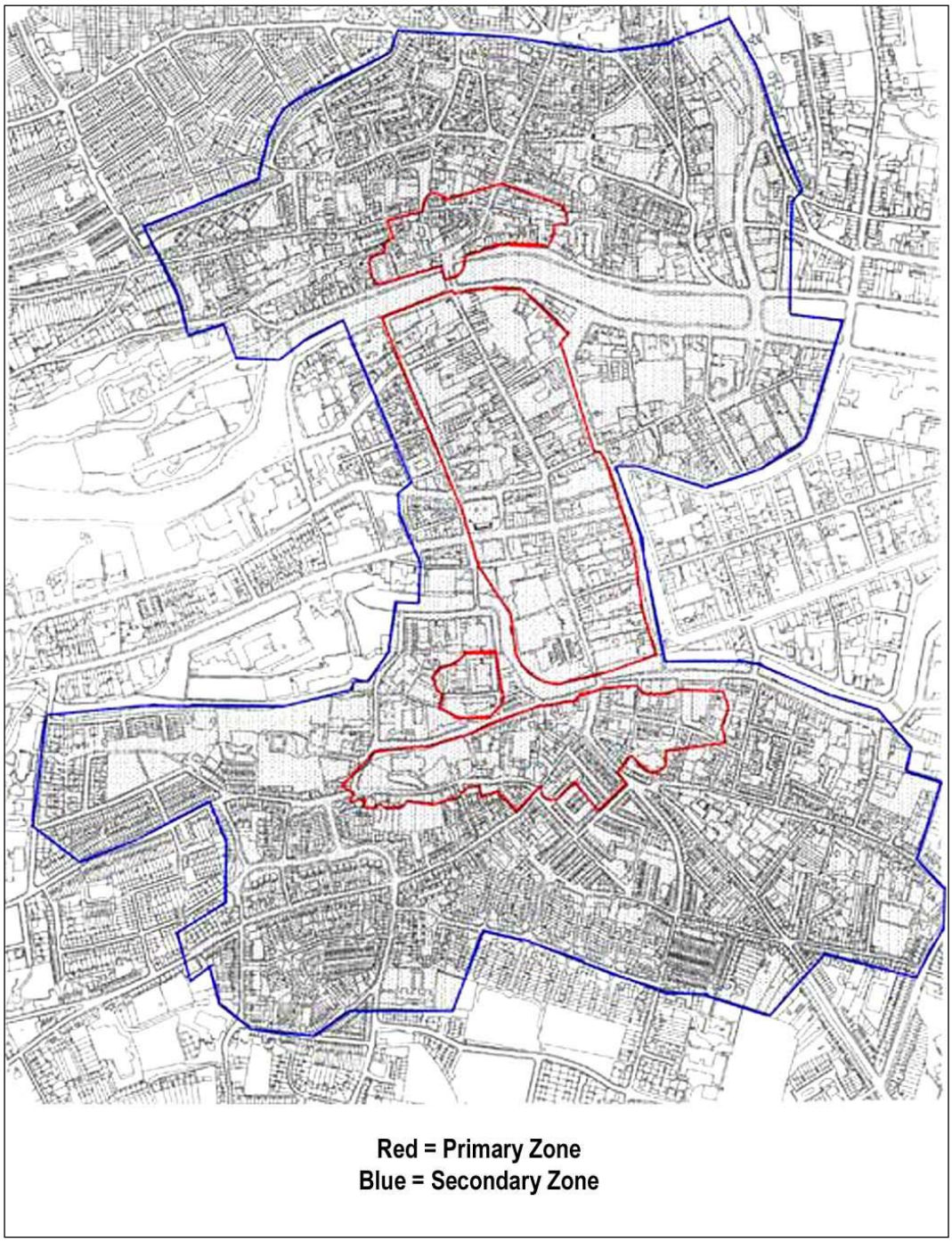

Figure 6: Zone of Archaeological Potential showing primary and secondary zones

Figure 7: Pacata Hibernia (1585) showing medieval walled city (north to right)

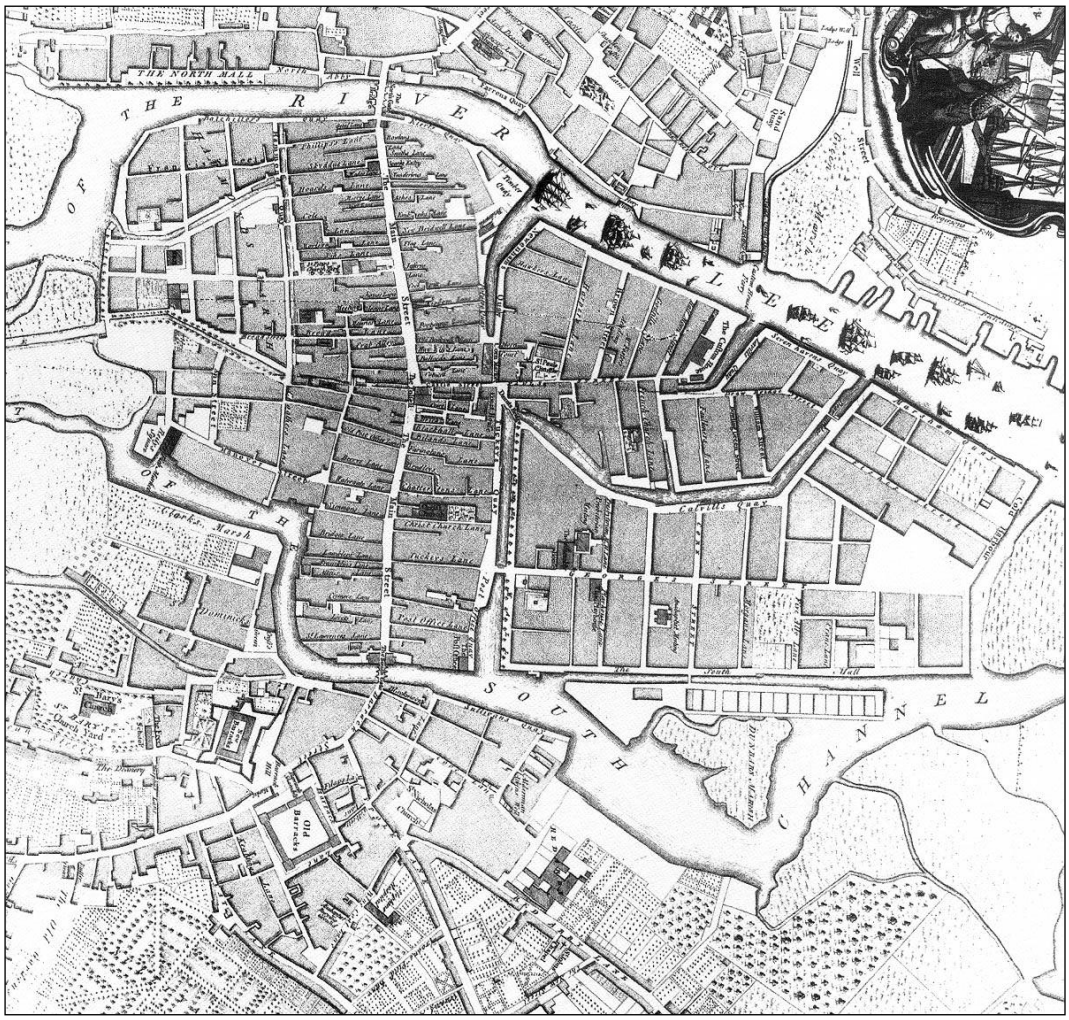

Figure 8: Rocques map of Cork (1759)

Potential Impacts

The proposed works will include excavation of the street surfaces and sub-base, installation of new utilities, deconstruction/burying existing utilities, build up of the street, re-paving, kerbing, planting trees and installation of new street furniture, street lighting etc. Excavation will have a maximum depth of c. 1.2m required for burying utilities and drainage which it is anticipated will be a small area of the overall site.

Numerous excavations and investigations have been undertaken within the proposed development area over the last decades and a detailed picture of the survival of archaeological features and deposits has emerged. In general, within the city, rubble deposits of 18th to 20th century date tend to exist to a depth of approximately 1.5m below the existing ground level. There are, however, notable exceptions to this particularly in relation to the city wall, the demolition of which in the early 18th century was generally only to ground level leaving much of it intact below the surface. In places, the city wall became a foundation upon which later buildings were placed.

Archaeological investigations at the southeastern corner of No. 2 Washington Street identified the city wall between 0.2 and 0.6m below the existing ground level (Cleary 1996). A short distance further south at 77-8 Grand Parade/ 1-7 Tobin Street the city wall was revealed on the boundary between No. 1-2 Tobin Street at a depth of 0.3m below existing ground level (Purcell 2004). In 2002 small trenches were opened on both sides of the city wall along Washington Street to facilitate Cork Main Drainage Scheme works. The trenches on the eastern side of the wall measured 1m by 5m and were close to the trench excavated by Cleary in 1996 (discussed above). The wall was 2.5m wide at the surface, however, the depth at which it was encountered below ground in the trenches was not specifically recorded; it was noted that across several trenches the wall survived to a depth of 0.4m – 1.29m below the street surface (Kelleher 2002).

The area of proposed works which overlies the city defences is relatively small (confined to the east end of Tobin Street and Tuckey Street and the south end of South Main Street in the vicinity of the South Gate to the city). Construction of services and utilities along the existing road network particularly since the mid - 20th century is likely to have negatively impacted the survival of the city wall and associated defences. The wall is likely to have been removed to accommodate these services. Due consideration shall be given to focusing new services in previously disturbed ground. Overall, the areas in which the city defences are likely to be impacted by the proposed works is likely to be relatively small.

Mitigation

New services proposed for the areas of works which overlie the city's defences shall be constructed in previously disturbed ground or re-routed to facilitate preservation in situ of the city defences and associated features.

Archaeological monitoring of excavation will be carried out. If features of archaeological significance are identified, further mitigation will be required following consultation with the City Archaeologist and National Monuments Service (NMS). Such features will be fully resolved to professional standards of archaeological practice either by preservation in situ or preservation by record, as outlined in Policy and Guidelines on Archaeological Excavation – Department of Arts, Heritage, Gaeltacht and the Islands (1999).

If the city defences or associated features are identified further mitigation will be required following consultation with the City Archaeologist and National Monuments Service (NMS). Due consideration must be given to the presumption in favour of preservation in situ outlined in the National Policy of Town Defences (2008) and new services should be accommodated within existing areas of disturbance.

Tree planting should be focused in areas of minimal archaeological sensitivity and limited to shallow rooting trees. Consultation with the City Archaeologist will be required in advance of any planting.

Works to Protected Structures will require consultation with Cork Conservation Officer and agreement of detailed method statements for such work.

The design of new paving surfaces, street furniture, lighting etc shall be agreed with the Conservation Office in advance of construction to ensure such elements do not detract from the historic character and local sensitivities of the ACAs and the curtilage of the many protected structures within the proposed works area.

With the implementation of the mitigation measures outlined above, it is envisaged that there will not be any likely significant impacts on archaeological, architectural and cultural heritage.

4.3.2.5 Landscape and Visual

A detailed description of the proposed development is provided in Section 3 above, however from a landscape and visual perspective, the scheme seeks to:-

- Provide an enhanced, attractive, safe, secure and durable public realm which integrates existing and proposed built development;
- Improve the pedestrian and cyclist environment of the area, providing traffic calming measures, whilst incorporating public transport access, bus stops, set-down areas for commercial vehicles, and provide for on-street parking for existing residents in the area.
- Provide universal accessible design throughout all of the streets and spaces, improving pedestrian and cycle routes;
- Link and connect existing urban spaces and streets with upgraded spaces such as Counting House Square and Bishop Lucey Park. The public realm works will also highlight and provide connections to the historic lanes (existing and those to be re-opened/redeveloped in the future) within the area;
- Improve urban greening with new street trees and planting proposed throughout the proposed public realm;
- Improve the appearance and presentation of the public realm to respectfully rejuvenate this historic part of Cork City Centre.

The proposed works will include:-

- Demolition and removal of existing footpath surfaces and kerbs;
- Localised changes to falls/levels to facilitate pavement drainage and tie into the two pedestrian bridges;
- Relocation of utilities/street lighting and undergrounding of overhead electrical lines where possible;
- Widening of footpaths, improved pedestrian crossings of streets and re-organisation of on-street parking and set down areas. This will include the reduction/removal of a number of on-street parking spaces on South Main Street, French's Quay, Proby's Quay and Crosse's Green;
- Retention and protection of existing natural and built heritage features, such as existing trees, quay walls, South Gate Bridge, historic street furniture and river access slip at Crosse's Green), however 3no. existing semi-mature Lime trees at the northern end of Crosse's Green will need to be removed to facilitate

changes to footpath levels to tie-in with the pedestrian bridge crossing to Lambley's Lane associated with the Event's Centre development. New streets trees will be planted with the proposed public realm works;

- Laying of new, high-quality stone and exposed aggregate concrete paving and kerbing, widening pedestrian footpaths and providing traffic calming measures
- Installation new street furniture (lighting, signage, seating, bollards, planters, tree grilles, hand rails to steps/ramps); and,
- New street tree planting with suitable urban street tree species.

Existing Landscape/Townscape Character

This is an urban area with a strong townscape character forming part of the Medieval Spine/Core of Cork City, which historically extended from Northgate at the top end of North Main Street to Southgate at the bottom end of South Main Street. In the Cork City Development Plan (CCDP) 2015, the area is located in a number of overlapping character and designated areas including part of the *'Medieval Spine/Core', 'River Lee Waterfront' and 'Grand Parade / Beamish and Crawford Cluster*'. Historically, the area acted as the southern gateway to the city with an evolving range of industrial (brewing, mills, iron works, commercial), education, residential and defensive (Elizabeth Fort) uses. Today, this is a busy and important quadrant of the city centre with significant potential for urban regeneration with a number of run down/underutilised/derelict sites.

There are a number of elements which strongly contribute to the area's character including:

- Historic street pattern with North/South Main streets, small perpendicular streets and lanes east/west, including Tobin Street, Christ Church Lane, Tuckey Street, Kift's Lane, Old Post Office Lane, Hanover Street.
- The curved corridor of the south channel of the River Lee and quays (Wandesford, Crosse's Green, French's and Proby's Quays) with their stone walls and arched bridges (Clarke's Bridge and South Gate Bridge), street trees, street furniture, slipways at Crosse's Green and weir at South Gate bridge, all providing views and vistas to other city landmarks along the river corridor.
- Mix of building heights, widths, and architectural styles with views to significant landmark buildings around the city, and in particular St. Fin Barre's Cathedral and Elizabeth Fort in this part of the city.
- The mixture of civic, cultural, leisure and amenity destinations within or immediately adjacent including Cork City Library, St Peter's Church/Triskel Arts Centre, Bishop Lucey Park, Lavitt Gallery (Wandesford Quay).
- Core city centre use to the east and north, including retail, commercial, residential and amenity uses.
- Outer city centre uses to the south and west, including residential and commercial.

- Redevelopment of the Beamish and Crawford brewery site which includes the development of a student centre, a mixed-use retail and commercial use building located within the old Counting House, and upcoming construction of the 6,000 seat events centre. This development will transform this part of the site from a semi-derelict, run down part of the city to a vibrant, active urban quarter of the city.
- Evolving transformation of the South Parish/Barrack Street area with the public realm upgrade of Barrack Street and opening of the Nano Nagle centre as a community, education, cultural and visitor centre.

The area's character is considered to have a high value, high sensitivity and is of regional and national importance.

However, the quality of the public realm (paving, street furniture, lighting etc.) is of variable quality, and in some places is poor, detracting from the area.

Existing landscape/visual planning designations

Within the Cork City Development Plan (CCDP) 2015-2021, there are three landuse zonings pertaining to the area, namely:-

1. City Centre Retail Area which seeks *'to provide for the protection, upgrading and expansion of retailing, in particular higher order comparison retailing, as well as a range of other supporting uses in the City Centre retail area*'.
2. City Centre Commercial Core Area which seeks to *'to support the retention and expansion of a wide range of commercial, cultural, leisure and residential uses in the commercial core area (apart from comparison retail uses)'.*
3. Public Open Space which seeks to '*to protect, retain and provide for recreational uses, open space and amenity facilities, with a presumption against developing land zoned public open space areas for alternative purposes...'.*

The CCDP sets out a number of clear policies and objectives in relation to protecting the landscape character and visual environment of the City, including:

- Objective 10.1 Landscape Strategic Objectives seeks '*to preserve and enhance Cork's landscape character and key landscape assets…and preserve and enhance Cork's views and prospects of special amenity value'*.
- Objective 10.6 Views and Prospects seeks *'to protect and enhance views and prospects of special amenity value or special interest and contribute to the character of the City's landscape from inappropriate development, in particular those listed in the development plan. There will be a presumption against development that would harm, obstruct or compromise the quality or setting of linear views of landmark buildings, panoramic views, rivers prospects, townscape and landscape views and approach road views'*.

Protected views are mapped in Maps 12 and 13, Volume 2 and listed in Volume 3 of the CCDP. View RP6 from South Gate bridge looking upstream along the

River Lee to St. Fin Barre's Cathedral and Elizabeth Fort, and view LT1 from Elizabeth Fort overlooking the City are located within/adjacent to the proposed public realm improvement works.

The CCDP identifies a number of improvements in the Study area related to the public realm, including:

- Objective 13.13 City Centre Public realm projects

A public realm strategy will be prepared to highlight the 'link and place' function of City Centre streets and other places public spaces and to guide future public realm projects. The Cork City Council will aim to deliver the public realm projects outlined in Objective 13.15 and illustrated in Map 2 Volume 2 within the lifetime of the Plan.

Furthermore, it sets out the objective to create south facing waterfront amenity areas along the banks of the River Lee, noting:-

In recognition of the importance of improving the amenities of the areas along the City Centre waterfront the Cork City Council will seek as a priority the development of a south facing Waterfront Amenity Area (Map 2 City Centre Development Objectives, Volume 2) from Custom House Quay to Morrison's Quay as far as South Gate Bridge and westwards through the Beamish and Crawford site. This will complement the proposed Quayside Amenity Area upgrades planned for the Docklands and eventually provide an uninterrupted south facing river walk linking the City Centre and Docklands along an East-West axis.

- Objective 13.14 Waterfront Amenity Areas

To create Waterfront Amenity Areas to provide accessible public space along the river for pedestrians and cyclists. There is a general presumption against development encroaching within 10 metres of the existing quayside apart from:

- Small-scale development within the space, which relates to the use of the river or quayside space and can ensure an adequate amenity space to facilitate passive recreation, walking and cycling; or

- In confined sites provision of a reduced setback supplemented by a boardwalk may be an acceptable alternative.

- Objective 13.15 Priority Public Realm Improvement Projects

c. Waterfront amenity route on Northside of South Channel;

h. South Main Street;

l. Pedestrian bridge and link from Beamish and Crawford site to Wandesford Quay.

- Objective 13.16 City Centre Parks

It is the policy of Cork City Council to improve the number and variety of public spaces, both hard and soft, in the City Centre. This will be achieved through the following initiatives:

a. Promote the river corridors as strategic lungs of the city, with the long term objective to create an uninterrupted pedestrian connection on the south side of the River Lee from Fitzgerald's Park to Marina Park (see Waterfront Amenity Areas section above) through the City Centre;

b. Promote "pocket parks" as rest and reorientation points throughout the City Centre and along the river corridor in particular, with small play areas, refreshment stands and cafés developed and encouraged where appropriate.

Within the 2014 Cork City Centre Strategy, a number of significant sites with development potential were identified as projects which would have transformational impacts on the City Centre including:-

- The Grand Parade / Beamish and Crawford Cluster

Section 13.53 notes that:-

'the combination of the Beamish and Crawford site, the Grand Parade sites and the former Government Buildings on Sullivan's Quay provide major opportunities for redevelopment that could transform the western end of the City Centre Island. Together there is potential for a new mixed use quarter with an emphasis on entertainment, creative activity, cultural activity (library, museum) third level education (such as the schools of Art and Design and Architecture) as well as scope for residential uses and other mixed uses.

Section 13.54 notes that:-

'A development brief was prepared for the Beamish and Crawford site and adopted by Council (2010).

It sets out the planning policy framework, conservation strategy, urban design guidance, and access and parking issues and will guide the future development of the site. Planning permission has been granted for a mixed use development including an event centre, cinema, offices, retailing, and student housing. Whether or not this particular development goes ahead a mix of leisure, cultural, office, retail uses (including comparison retail uses up to a maximum of 15% of floor area, supporting cultural, civic or leisure functions) and residential development, is considered desirable and acceptable and would have a significant positive impact in terms of regeneration of this part of the City Centre.'

The mixed residential and commercial development at the Beamish and Crawford site with Counting House Square is nearing completion with the proposed Events Centre on the southern half of the site due to commence soon.

Predicted Townscape Effects

The proposed public realm improvement scheme is located within an area of high landscape/townscape value and sensitivity.

The proposed scheme involves enhancing the quality of the public realm in the Beamish and Crawford Quarter of Cork City. This involves reallocating space within existing urban streets, to provide safer, more attractive and vibrant streets, and spaces. The streets will experience an upgrade in terms of layout and quality

of paving materials, contributing to combined improvement to the existing townscape fabric and character.

Temporary, moderate and negative townscape effects will arise during the construction phase which will involve lifting paving/kerbs, laying of utilities/services, repaving and landscape works, which will be carefully managed to minimise construction nuisance and disturbance.

The loss of the 3no. semi-mature Lime trees at the northern end of Crosse's Green will result in locally moderate, negative effects, but with the replacement tree planting proposed will be temporary in nature.

The proposed scheme will result in a change in the townscape character along the upgraded streets and public realm. Beyond the immediately adjoining commercial and residential properties, the change in townscape character is anticipated to be not significant and changes will be beneficial. It is considered that the introduction of the proposed scheme would not result in significant adverse townscape effects.

Predicted Visual Effects

The sensitivity to visual change of receptors is considered to be medium (vehicle drivers/passengers) to high (residents, walkers and cyclists, visitors/tourists). The majority of visual effects will be experienced from along the upgraded streets, from surrounding urban areas and from adjoining residential and commercial properties with views towards the proposed scheme.

The highest visual effects will be experienced during the construction stage when disruption and construction traffic will be evident. Visual effects related to construction works will be moderate, negative but temporary in nature.

The proposed public realm improvement works will result in an overall improvement in the visual amenity of this part of Cork City Centre, with beneficial visual effects for the above mentioned receptor groups at operation.

Designated views RP6 from South Gate bridge looking upstream along the River Lee to St. Fin Barre's Cathedral and Elizabeth Fort, and view LT1 from Elizabeth Fort overlooking the City are located within/adjacent to the proposed public realm improvement but will not be affected by the proposed scheme.

It is considered that a townscape and visual impact assessment is not warranted with regard to the proposed scheme.

4.3.2.6 Soils and Geology

The bedrock in the proposed works areas is classified as either sandstones, mudstones and limestones. The underlying soils are classified as 'made ground' according to the GSI Groundwater Data Viewer. The groundwater aquifer in the area is classified as a 'locally important aquifer – bedrock which is moderately productive only in local zones' for the majority of the proposed development area and classified as a "regionally important gravel aquifer". The groundwater vulnerability within the development boundary is moderate.

No significant excavations or milling will be required (maximum depth 1200mm for excavations in limited locations and 100mm required for milling) during the construction of the proposed development. No dewatering will be required during the excavation process or during the operational phase. The Contractor will send any excavated material which cannot be re-used/recycled for disposal to a suitable licensed facility. The contractor will ensure that any interim storage or waste management facilities for excavated material have the appropriate waste licences of waste facility permits in place. The proposed development will not result in a significant effect on soils and geology.

Soil, stone and naturally occurring material, excavated in the course of the works, will be re-used on site where feasible. Off-site re-use options will be sought for excavated material, for which there is no reuse requirement on site. The reuse of surplus material as a by-product on other construction sites will be subject to Article 27 notification to the EPA, or recovery at suitable authorised waste facilities i.e. facilities which have been granted a Certificate of Registration, Waste Facility Permit or EPA licensed soil recovery facilities in accordance with the Waste Management Acts 1996-2016.

There will be no planned discharges to ground during the construction phase. There is the possibility of minor spillages to ground during construction, but these are highly unlikely and if they did arise, would not result in significant negative effects.

4.3.2.7 Water

The primary water feature adjacent to the proposed development boundary is the River Lee. The risk status of the River Lee is classified as ‘at risk’ according to the Transitional Waterbodies Risk, while it has a ‘moderate’ Transitional Waterbody WFD Status 2010-2015.

According to Flood Maps (www.floodinfo.ie), the River Lee has a high probability of flooding.

Surface water within the proposed development boundary currently enters the existing surface water drainage network and enters the River Lee.

There is the possibility of minor spillages to surface or groundwater during construction, but these are highly unlikely and if they did arise, would not result in significant water quality effects.

The extent of earthworks will be very limited and will be unlikely to have an effect on the groundwater regime. Groundwater will not be extracted. There will be no planned discharges to ground or groundwater during the construction phase.

Neither the construction nor the operation of the proposed development is expected to have a significant effect on water.

4.3.2.8 Air (including Air Quality, Noise and Vibration and Climate)

During the construction phase, the potential for dust emissions will arise in respect of excavations/milling in dry weather and during such activities the levels of dust are likely to be small. Dust may be raised by wind from dry surfaces and stockpiles. Air emissions from the exhausts of construction plant, machinery and haulage trucks will also be elevated during construction but are not expected to be significant. No odour emissions are envisaged from the proposed construction works. The employment of good construction management practices for the proposed development will serve to minimise the risk of dust emissions. Examples of measures to be employed include the spraying of exposed earthworks during dry periods, the provision of wheel washes and sweeping of roads. A full list of proposed measures will be proposed and implemented by the Contractor in advance of the construction works.

During the operational phase, there will be no significant air emissions from the proposed development. There will be no significant negative air or climate effects as a result of the proposed development.

Noise will be generated during the construction of the proposed development due to construction traffic, construction machinery, excavation works etc. The effect of construction noise on sensitive receptors (residential dwellings) in the immediate vicinity of the site will be temporary due to the short duration of the construction works. Construction hours will be limited to 07:30-18:00 Monday to Friday. No night time works or works at the weekends or on bank holidays are envisaged. Any works which are required to be carried out during these times will be agreed with Cork City Council in advance.

Noise emissions will be controlled by the implementation of best construction practice. Examples of measures to be employed include the selection of quiet plant, not leaving plant idling and maintenance of plant to minimise noise generation. A full list of proposed measures will be proposed and implemented by the contractor in advance of the construction works.

Rock breaking will be required in order to install services such as storm drainage along a limited area within the development boundary. The main vibration source during the construction phase will be from the proposed excavation works. A variety of potential vibration-causing items of plant are likely to be used such as excavators, lifting equipment and dumper trucks.

Vibration effects will be controlled by the implementation of best construction practice. Examples of measures to be employed include the use of suitable vibration isolators in equipment mountings and ensuring that materials are lowered rather than dropped from heights. A full list of proposed measures will be proposed and implemented by the contractor in advance of the construction works.

There will be no significant negative noise or vibration effects as the result of the proposed development.

4.3.2.9 Land Use and Material Assets

The land use across the area of the proposed development is classified as 'artificial surfaces' according to the EPA Corine (Coordination of Information on the Environment) land cover classification with the exception of the River Lee). The majority of the proposed development area consists of hardstanding – mostly road surface, cycle lane and footpath with limited greenfield space. There will be no change in landuse within the proposed development boundary.

Services will be diverted within the road as required and surface water run-off will be managed via a network of road gullies.

There will be no disruption to existing water supplies during the proposed works.

Construction materials will include concrete, support structures, pipework, signage etc. It is not considered that there will be a significant use of these resources during these works. Surplus construction materials which are not required for use on site will be reused, recovered or disposed off-site. An appropriate waste collection permit holder will be used for removal of wastes from site. All by products and wastes removed from site will be reused, recovered or disposed of in accordance with the Waste Management Act, 1996, as amended.

There may be short term, minor effects on the environment during construction on land due to noise or dust emissions depending on the activity involved and the ambient conditions at the time. However, these effects will not be significant due to the short duration of the works, the low level of construction vehicles, plant and construction staff required to carry out the works, the nature of the works proposed and the narrow construction footprint along busy trafficked roads. The type of construction works proposed are not complex in nature, they are well understood, therefore significant environmental emissions are not predicted.

Careful and considered local consultation will be carried out with nearby residents to ensure that the minimum amount of disturbance will be caused.

Significant negative effects on the relative abundance, quality and regenerative capacity of natural resources in the area are not predicted.

No significant negative effects on land use or material assets are predicted during the construction of operational phases of the proposed development.

4.3.2.10 Interaction between the above factors

The interaction of the above factors has been considered in this screening assessment. For example, noise and vibration impacts have been considered in terms of effects on people. Water quality impacts in the River Lee have also been considered in terms of effects on biodiversity. In particular, the construction stage has many interactions such as movement of machinery on land, the management of construction materials (i.e. concrete) the level of intensity of construction activities and consequent disturbance effects on biodiversity and water quality. Significant effects due to these interactions are not predicted.

4.3.2.11 Cumulative effects

The Cork City Council Online planning records were consulted in July 2021.

The proposed development will have a very short term temporary moderate effect, for a number of weeks to a few months at most for individual dwellings and properties in the different areas in the immediate vicinity of the construction works.

Depending on the timing of the construction of the proposed development, there may be an overlap with the construction of the permitted Beamish and Crawford development and the proposed improvements at Bishop Lucey park.

The proposed redevelopment of Bishop Lucey Park is an entirely separate and unrelated to the proposed development and neither project relies on the other to proceed. In relation to traffic and transportation, if both projects were to proceed concurrently (subject to a grant of planning) a combined Construction Traffic Management Plan will be prepared.

The effects on all aspects of the environment from the proposed development are not expected to be significant. The construction or operation of the proposed development is not likely to contribute to a significant cumulative effect, in combination with any other projects.

Therefore, due to the minor nature of the works and the minimal environmental effects associated with the proposed development and the proposed redeveloped Bishop Lucey Park, along with the absence of significant environmental effects associated with the aforementioned permitted developments, significant cumulative effects are not envisaged.

4.4 EC Guidance Checklist

The potential environmental effects associated with the proposed development have been outlined in the previous sections of this report.

The EC Guidance on EIA Screening (EC, 2017) provides a checklist to help users decide whether EIA is required based on the characteristics of the project and its environment. This screening checklist is included in Table 1 below.

Table 2: Screening Checklist to determine if EIA is required based on the characteristics of a project and its environment

Brief Project Description	**Yes/No**	**Is this likely to result in a significant impact** **Yes/No - Why**
1. Will construction, operation or decommissioning of the project involve actions which will cause physical changes in the locality (topography, land use, changes in waterbodies, etc.)?	No	No

Brief Project Description	**Yes/No**	**Is this likely to result in a significant impact** **Yes/No - Why**
2. Will construction or operation of the project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?	Yes. The project will use natural resources such as land, water, materials or energy. The construction materials will be non-renewable but they are not in short supply.	No. The use on non-renewable resources will not be significant.
3. Will the project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?	Yes. Construction of the project will use fuels, lubricants and other chemicals which could be harmful to the environment, if there was a spill or leak.	No. Such materials will be stored and used in relatively small quantities. Normal good construction practice will minimise the risk of a spill or leak and a response plan will be in place to minimise the consequences should a spill or leak occur.
4. Will the project produce solid wastes during construction or operation or decommissioning?	Yes. The construction works will produce waste concrete, steel, bitumen, asphalt, soil and organic material.	No. The quantities of waste generated will be relatively small. Normal good construction waste management practice will minimise the generation of waste and prioritise reuse and recycling of waste over disposal.
5. Will the project release pollutants or any hazardous, toxic or noxious substances to air or lead to exceeding Ambient Air Quality standards in Directives 2008/50/EC and 2004/107/EC?	Yes. The construction of the project will result in the emission to air of the combustion exhaust from the construction plant and machinery and the vehicles used to transport the workforce, materials and waste to and from the works areas.	No. The construction works will be relatively small-scale. The contractor will implement normal good practice in reducing exhaust and dust emissions. Construction traffic will be managed to keep trips by heavy goods vehicles to the practical minimum. Air quality standards will not be exceeded. For the operational phase, air emissions will be reduced.
6. Will the project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	Yes. The construction phase of the proposed development will result in noise emissions from construction plant and machinery and from the vehicles used to transport of the workforce, materials and waste.	No. During daytime working hours there will be a temporary moderate effect from noise emissions on residents in the immediate vicinity of the construction works. For the remainder of the construction phase, noise emissions will not be significant.
7. Will the project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface	Yes. Construction of the project will use fuels, lubricants and other	No. Such materials will be stored and used in relatively small quantities. Normal

Brief Project Description	**Yes/No**	**Is this likely to result in a significant impact** **Yes/No - Why**
waters, groundwater, coastal wasters or the sea?	chemicals which could cause contamination, if there was a spill or leak.	good construction practice will minimise the risk of a spill or leak and a response plan will be in place to minimise the consequences should a spill or leak occur.
8. Will there be any risk of accidents during construction or operation of the project which could affect human health or the environment?	Yes. There will be the risk of accidents which could affect human health or the environment during the construction phase.	No. Normal good health and safety precautions during the construction phase will minimise the risk of accidents to the workforce, the general public and road users.
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?	Yes, the project will provide better public realm, pedestrian and cycling facilities in the city centre	No. There will be a moderate beneficial effect on commuting patterns in the area.
10. Are there any other factors which should be considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality?	No	No
11. Is the project located within or close to any areas which are protected under international, EU, or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	Yes	No. Refer to Sections 4.3.2.3- 4.3.2.5 above
12. Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other waterbodies, the coastal zone, mountains, forests or woodlands, which could be affected by the project?	Yes – River Lee	No. Refer to Section 4.3.2.3 above
13. Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	Yes – River Lee	No. Refer to Section 4.3.2.3 above
14. Are there any inland, coastal, marine or underground waters (or features of the marine environment) on or around the location that could be affected by the project?	Yes – River Lee	No. Refer to Section 4.3.2.3 above
15. Are there any areas or features of high landscape or scenic value on or around	Yes	No. Refer to Section 4.3.2.4 – 4.3.2.5 above

Brief Project Description	**Yes/No**	**Is this likely to result in a significant impact** **Yes/No - Why**
the location which could be affected by the project?		
16. Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?	No	No
17. Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?	No	No
18. Is the project in a location where it is likely to be highly visible to many people?	Yes	No. Refer to Section 4.3.2.5 above
19. Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?	Yes	No. Refer to Section 4.3.2.4 above
20. Is the project located in a previously undeveloped area where there will be loss of greenfield land?	No	No
21. Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the project?	Yes	No
22. Are there any plans for future land uses on or around the location which could be affected by the project?	No	No
23. Are there any areas on or around the location which are densely populated or built-up, which could be affected by the project?	Yes	No. Refer to Section 4.3.2.2 above
24. Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the project?	Yes	No. Refer to Sections 4.3.2.2 and 4.3.2.8 above
25. Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project?	Yes – River Lee	No. Refer to Section 4.3.2.3 above
26. Are there any areas on or around the location which are already subject to pollution or environmental damage e.g.	No	No

Brief Project Description	Yes/No	Is this likely to result in a significant impact Yes/No - Why
where existing legal environmental standards are exceeded, which could be affected by the project?		
27. Is the project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes – River Lee	No. Refer to Section 4.3.2.7 above

Using the EC Guidance checklist, no feature of the proposed development or its interaction with the surrounding environment, was identified, which is likely to result in a significant environmental effect.

4.5 Conclusion of EIA Screening

The conclusion of the EIA Screening is based on the nature of the proposed development, the baseline environment in the area and the likely significant effects of the proposed development.

The nature, scale and location of the proposed development is such that there is no real likelihood of significant effects on the environment arising from the proposed development. It is the conclusion of Arup's EIA screening exercise that an EIA is not required. The final determination in this regard will be made by the competent authority Cork City Council.

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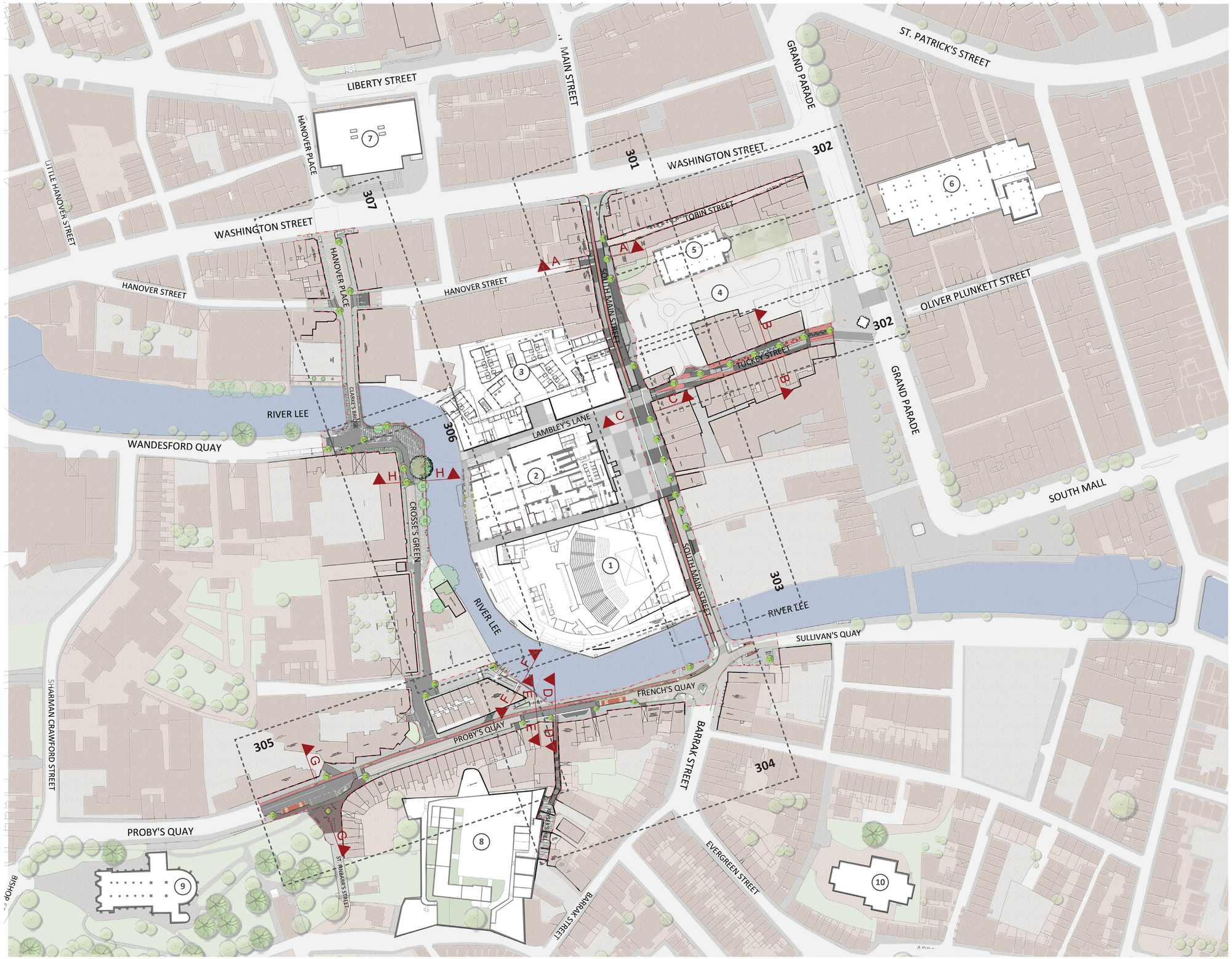
Appendix A

Design Drawings

A1



LEGEND

- Existing Tree - High Value
- Existing Tree - Moderate Value
- Proposed Street Tree - Fastigiate habit
- Existing Tree to be removed
- Existing Surrounding Trees
- Existing Kerb Line
- Section Line
- Site Notice Location

SITE FEATURES/FURNISHINGS

- Planting Area
- Planter Box
- Proposed Raised Access Pedestrian Crossing
- Stone Seatwall
- Bench/Individual Seat
- Cafe Tables & Chairs
- Relocated bike share terminal

KEY BUILDINGS AND LANDMARKS

1. Events Centre
2. Counting House
3. Uninest Student Apartments
4. Bishop Lucey Park
5. Triskel Arts Centre
6. English Market
7. Cork Court House
8. Elizabeth Fort
9. Saint Fin Barre's Cathedral
10. Saint Nicholas Church

Rev	Date	Drawn	Checked	Description	Notes

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Project	BEAMISH & CRAWFORD QUARTER INFRASTRUCTURE	Project No.	6813
Drg.	OVERALL SITE PLAN	Drawing No.	300
Rev.			
Scales	1:500 @ A1	Status	Planning
Date	12/07/2021		
Drn.	EG	Chd.	DB
Passed			

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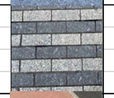
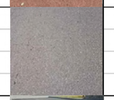
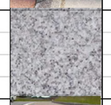
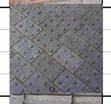
BSM Est. 1968

MATERIALS SCHEDULE

SYMBOL	MATERIAL	REFERENCE IMAGE	DRAWING NUMBER
HARDSCAPE			
	Paving Type A - Dark Granite		
	A1: Picked Finish, 150 x 150 x 150mm paving		
	A2: Flamed Finish, 150 x 150 x 150mm paving		301; 302;
	A3: Picked Finish, 150 x 150 x 100mm paving at building threshold		303
	A4: Picked Finish, 150 x 150 x 150mm paving at Historic Laneway with artwork		
	A5: Granite Cobbles, 100 x 100 x 100mm setts at building access and Hanover St.		
	Paving Type B - Light Granite		
	B1: Picked Finish, 150 x 150 x 150mm paving		301; 302;
	B2: Flamed Finish, 150 x 150 x 150mm paving		303
	Paving Type C		
	600 x 300 x 80mm granite paving		301; 302;
	100 x 100 x 100mm granite sett at driving apron		303; 304
	Paving Type D		
	Red Granite Setts		302; 303
	TBC to match Bishop Lucey Park		
	Paving Type E		
	Typical granite aggregate paving		301; 304;
			305; 306; 307
	Paving Type F		
	Alternating Dark and Light granite pavers at controlled Crossing		301; 302;
			303;304
	Paving Type G		
	Standard Cycle Lane - Red chip asphalt		301; 303;
			304;305
	Paving Type H		
	Standard chip asphalt		ALL
	Paving Type I		
	Street print Asphalt/Concrete		304; 305;
			306;307
	Paving Type K		
	100 x 100 x 100mm, blue grey limestone setts, fan-tail pattern (TBC)		304
	Specialty Paving at Keyser's Hil		
	Paving Type J		
	100 x 100 x 100mm porphyry fan-tail paving (TBC)		305
	Specialty Paving at St. Fin Barre's Plaza		
	Paving Type L		
	600 x 450-900mm varied lengths, blue grey limestone, bush hammered (TBC)		306
	Specialty Paving at Crosse's Green		
	Paving Type M		
	Resin Bound Aggregate		306
	Specialty Permeable Paving at Specimen Tree on Crosse's Green		

KERBS			
	K1: Dark Stone Kerb		
K1	300x300x914mm dark granite, picked finish		301; 302;
			303; 304
	K2: Flush Kerb - Stone Banding		
K2	300x300x914mm dark granite, picked finish		301; 302;
			303; 304
	K3: Chamfered Stone Kerb at Cycle Lane		
K3	300x300x914mm dark granite with chamfered edge, picked finish		301; 302;
			303; 304
	K4: Light Stone Kerb		
K4	200x200x914mm light granite, picked finish		306
	K5: Standard Kerb		
	Standard PC/Cast in Situ Kerb		304; 305;
			306;307
TACTILE PAVING			
	Red Blister at controlled crossing		
	200x133x65mm clay bricks		
	Blue Blister at uncontrolled crossing		
	200x133x65mm clay bricks		
	Corduroy Hazard at uncontrolled crossing		
	200x100x65mm clay bricks		
	Cycleway controlled slabs		
	400x400x50mm precast concrete tactile flags		

SITE FEATURES/FURNISHINGS:			
	Planting Area		
	Proposed tree planting pit with Tree Grille		
	Planter Box		
	Proposed Raised Access Pedestrian Crossing		
	Stone Seatwall	See Suggested Materials Document for Site Furnishing Reference Images and Planting Information	
	Bench/Individual Seat		
	Cafe Tables & Chairs		
	Proposed Bollard and retention socket		
	Proposed Light Column location		
	Proposed push button crossing signal		
	Proposed slot drain location		
	Proposed cycle stand location		
	Relocated bike share terminal		

TABLE OF CONTENTS

NOTES

See Suggested Materials Document for detailed specifications of each Hardscape element and furnishings.

Mood images shown on the following pages are meant to reflect the character of the site and may not depict exact features.

All historic laneways to have consistent laser etchng in paving and wayfinding signage consistent with surrounding historic sites and laneways throughout the city.

KEY PLAN

Rev	Date	Drawn	Checked	Description	Notes

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Project	BEAMISH & CRAWFORD QUARTER INFRASTRUCTURE	Project No.	6813
Drg.	MATERIALS SCHEDULE	Drawing No.	300
Scales	NTS	Status	Planning
Date	12/07/2021		
Drn.	EG	Chd.	DB
Passed			

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