

# Carrigtwohill URDF Initiative

## Public Realm Infrastructure Bundle - Part 8 Planning Application Report

Cork County Council

February 2022



# Notice

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## Document history

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
Rev 0	Issued for review	JO'C	-	-	RAN	23.07.2021
Rev 1	Updated following CCC comments	JO'C	-	-	RAN	27.08.2021
Rev 2	Updated following CCC comments	JO'C	-	-	RAN	11.01.2022
Rev 3	Updated following CCC comments	FM	JO'C	JO'C	RAN	15.02.2022
Rev 4	Issued for Part 8 Planning Application	FM	JO'C	JO'C	RAN	23.02.2022

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# 1. Introduction

## 1.1. Objective of Report

The objective of this report is to describe the projects which comprise the 'Carrigtwohill URDF Initiative - Public Realm Infrastructure Bundle'. The aims of the proposed infrastructure works included in the Carrigtwohill URDF Initiative - Public Infrastructure Bundle are as follows:

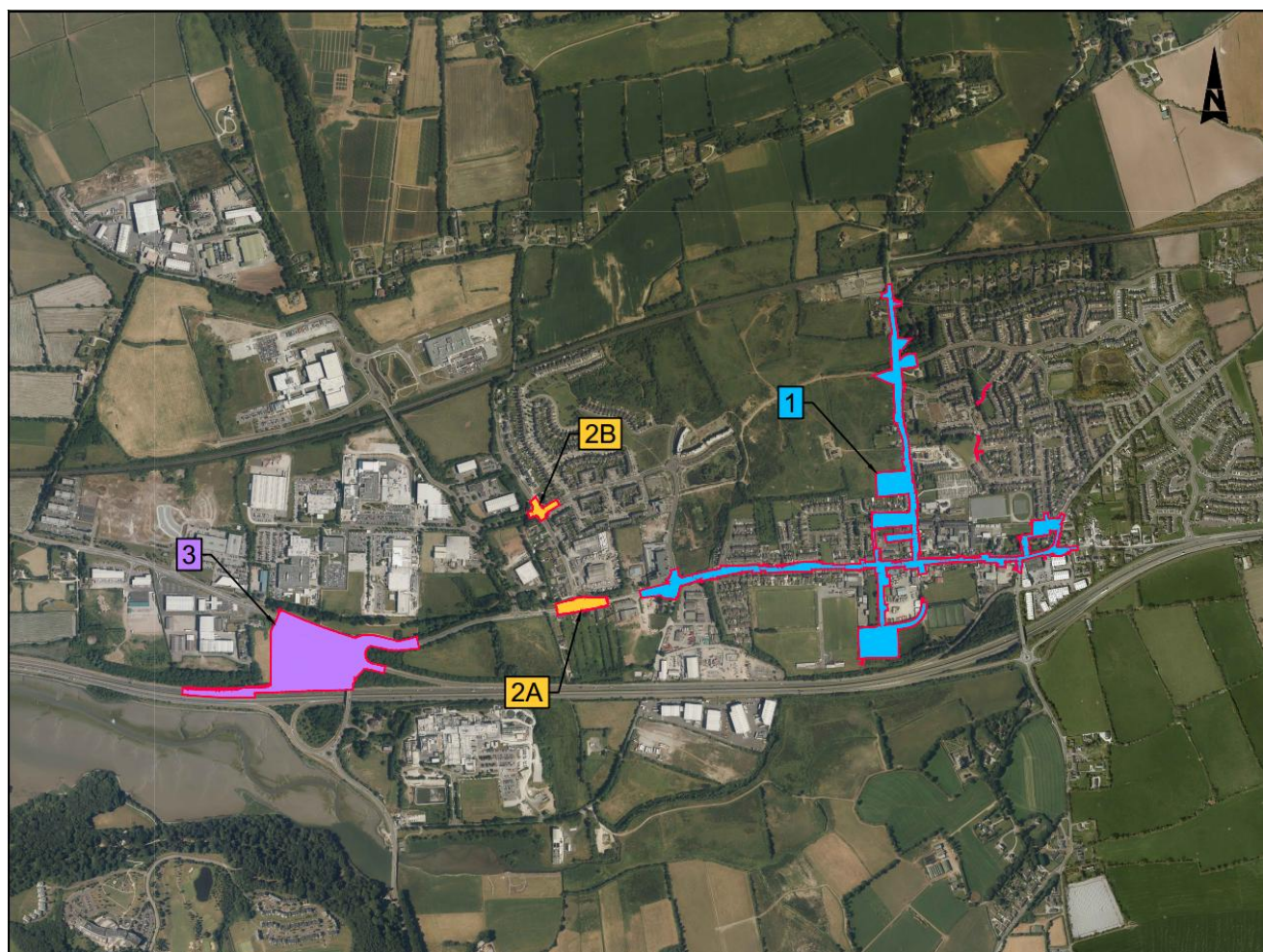
- To support regeneration, compact growth and sustainable development in Carrigtwohill;
- To provide a public realm upgrade with better quality streetscapes and public spaces and to unlock the potential of Carrigtwohill town;
- To improve connectivity between Carrigtwohill Town Centre and residential developments, Carrigtwohill train station, schools, business parks, commercial premises etc.
- To encourage sustainable modes of transport by reducing car dominance and providing safe pedestrian and cyclist facilities;
- To upgrade existing road junctions to improve performance for traffic as well as catering for pedestrian/cyclist demand;
- Co-ordination and integration of proposals with other proposed infrastructure projects in Carrigtwohill.

## 1.2. Proposed Development

With reference to Figure 1-1 the three projects which comprise the Carrigtwohill URDF Initiative - Public Realm Infrastructure Bundle are as follows:

1. **Main Street and Station Road Public Realm Works** comprising of the following:
  - a. Upgrade of Main Street and Station Road junction including footpath widening, road re-alignment and widening, re-surfacing, signalisation, provision of pedestrian crossings and removal of existing structures/buildings;
  - b. Provision of three new public spaces as follows:
    - i. At junction of Station Road and Main Street;
    - ii. At and north of the Community Centre on Main Street;
    - iii. At and west of St. Mary's Church on Station Road.
  - c. Public realm upgrade of Station Road from the junction with Main Street to the junction at Carrigtwohill Train Station including:
    - i. Road widening with footpaths / off-road cycle tracks on both sides of the road, raising of existing roads levels where required, and re-location of the existing Grotto;
    - ii. Removal of existing boundary walls, re-building of boundary walls, re-location of entrances and local realignment of the stream channel;
    - iii. Two number 'Biodiversity Areas';
    - iv. New street lighting, undergrounding of overhead lines, new underground services and drainage, and diversion of existing services where required;
    - v. Traffic calming measures including re-surfacing, road narrowing, tree planting and raised tables, signalised and unsignalised raised pedestrian crossings;
    - vi. Removal of on-street carparking and provision of a new car park (46 no. spaces);
    - vii. Upgrade of existing car park at Patrick Pearse Place;
    - viii. New shared use pedestrian and cyclist path between Station Road and recreation areas south of Main Street via Patrick Pearse Place and the existing Centra car park;
    - ix. New footpaths connecting the following housing developments:
      - Cluain Cairn and An Fána;
      - Cluain Cairn and Castle Close/Castle Avenue.
  - d. Public realm upgrade of Main Street from the junction with Castl lake Avenue to the junction with Carrigane Road including:
    - i. Footpath widening on both sides of the road with varying surface treatments;
    - ii. Shared cycle/pedestrian path on north side of the road from junction with Castl lake Avenue to Bán Na Gréine;
    - iii. Removal of existing boundary walls, re-building of boundary walls, and re-location of entrances;

- iv. Street lighting, undergrounding of overhead lines and diversion of existing services as required;
  - v. Traffic calming measures including re-surfacing, road narrowing, tree planting, raised tables, signalised and unsignalised raised pedestrian crossings;
  - vi. Re-location of on-street car parking to three new car parks (45 no. spaces);
  - vii. New road running south from Main Street including underground services, and public lighting;
  - viii. New school drop off area accessed from Carrigane Road and ambulant accessible parking.
2. **Wises Road Junction Upgrades** comprising of the following:
- a. Upgrade of junction of Wises Road and Main Street including provision of traffic signals, pedestrian crossings, road re-alignment and footpath widening;
  - b. Upgrade of junction of Wises Road and Oakbrook Link Road/ IDA Industrial Estate Access Road including provision of traffic signals, road re-alignment and footpath widening.
3. **N25 Junction 3 (Cobh Cross) Additional Capacity Interim Measures** to include an increase in the size of the existing northern roundabout, 2 no. pedestrian/ cyclist crossings, widening and re-alignment of approach roads to the roundabout. The crossings will be connected to the Dunkettle to Carrigtwohill Inter-Urban Cycle Route on the north side of the roundabout and to the proposed pedestrian and cyclist path which will cross the N25 on the existing bridge over the N25. The shared path across the bridge will be delivered as part of a separate project.



**Figure 1-1 - Carrigtwohill URDF Initiative - Public Realm Infrastructure Bundle**

### 1.3. Part 8 Documents

The following is a list of documents contained in the Part 8 planning application for the Carrigtwohill URDF Initiative - Public Realm Infrastructure Bundle:

- Part 8 Planning Application Report (this document);
- Ecological Impact Assessment;



- Flood Risk Assessment;
- Environmental Impact Assessment Screening Report;
- Report on Screening for Appropriate Assessment;
- Archaeological, Architectural and Built Heritage Impact Assessment;
- Part 8 Drawings.

## 1.4. Inspection of Plans and Particulars

Plans and particulars of the proposed development are available for inspection, or to purchase for a fee of €15 per set, from Friday 25th February 2022 until Friday 25th March 2022 at the following venues:

- Cork County Council's website at:  
<https://www.corkcoco.ie/en/planning/housing-infrastructure-implementation-team/public-consultation-part-8s>
- Planning Counter, Ground Floor, County Hall, Cork between the hours of 09:00 and 16:00 on each working day, subject to COVID-19 restrictions.
- Cork County Council Area Engineer's Office at Ballinglanna, Glanmire and Cobh Municipal District Office, Carrig House, Cobh, Co. Cork between the hours of 09:00 and 17:00 on each working day during which the said offices are opened for the transaction of business, subject to COVID-19 restrictions.

Please note that the above offices are open subject to COVID-19 restrictions.

## 1.5. Submissions and Observations

Submissions and observations with respect to the proposed development may be made within the timelines noted on the site notice as follows:

- Online submission form on Cork County Council's website at <https://yourcouncil.ie> or
- In writing clearly marked: *'Part 8 – Carrigtwohill URDF Initiative – Public Realm Infrastructure Bundle'*, Senior Executive Engineer, Housing Infrastructure Implementation Team, Cork County Council, Floor 3, County Hall, Carrigrohane Road, Cork, T12 R2NC

## 2. Project and Policy Background

### 2.1. Carrigtwohill

Carrigtwohill is a Metropolitan Town within the County Metropolitan Strategic Planning Area. It is located in East Cork approximately 12 kilometres east of Cork City and approximately 5 kilometres west of Midleton. It is located to the north of the N25 national road which connects Cork City to Rosslare Europort. The Cork to Midleton railway line, which was re-opened relatively recently, runs through the north of Carrigtwohill and Carrigtwohill Train Station is located to the north of the town.

Carrigtwohill historically functioned as a small rural village with limited residential and retail functions. Since the latter decades of the 20<sup>th</sup> century Carrigtwohill has been an important economic location and was designated as a Strategic Employment Area in the 2014 Cork County Development Plan. With reference to the 2017 Cobh Municipal District Local Area Plan (MDLAP) the re-opening of the railway line has resulted in significant population and employment growth in the town since 2002 and Carrigtwohill has experienced the most growth in percentage terms of any towns in Co. Cork. The growth in population was catered for by a rapid expansion of the town's housing stock and the development of new retail and commercial facilities on the outskirts of the town. Significant regeneration of the town centre itself has however yet to take place and traffic congestion, under-utilised spaces, on-street parking and limited connectivity are key issues which need to be addressed in the town.

### 2.2. National Planning and Transport Policy

The following national policy is relevant to the regeneration of towns such as Carrigtwohill and has been considered as part of this project, with the relevant sections summarised below.

#### 2.2.1. National Planning Framework

The National Planning Framework (NPF) is a planning framework to guide development in the coming years. It is a vision and a development strategy to shape Ireland's national, regional and local social development in economic, environmental and social terms to 2040.

By 2040 it is anticipated that there will be roughly an extra one million people living in Ireland. It is imperative that the NPF is able to manage such growth to ensure that the population increase enhances the entire country. The NPF has been developed to guide public and private investment, to create and promote opportunities for people across the country, and to protect and enhance the environment - from villages to cities.

As the NPF states, it is important that communities are designed to encourage active travel which supports improved public health, creating a variety of economic and social benefits.

*"Communities that are designed in a way that supports physical activity, e.g. generously sized footpaths, safe cycle lanes, safe attractive stairways and accessible recreation areas, all encourage residents to make healthy choices and live healthier lives."*

*Countries with extensive cycle infrastructure report higher levels of cycling and lower rates of obesity. Healthy places in turn create economic value by appealing to a skilled workforce and attracting innovative companies."*

The NPF has a variety of national objectives presented below which have been considered during the design of the Carrigtwohill URDF Initiative – Public Realm Infrastructure Bundle.

- National Policy Objective 4 - Ensure the creation of attractive, liveable, well designed, high quality urban places that are home to diverse and integrated communities that enjoy a high quality of life and well-being.
- National Policy Objective 5 – Develop cities and towns of sufficient scale and quality to compete internationally and to be drivers of national and regional growth, investment and prosperity.
- National Policy Objective 6 - Regenerate and rejuvenate cities, towns and villages of all types and scale as environmental assets, that can accommodate changing roles and functions, increased residential population and employment activity and enhanced levels of amenity and design quality, in order to sustainably influence and support their surrounding area.
- National Policy Objective 7 – Apply a tailored approach to urban development that will be linked to the Rural and Urban Regeneration and Development Fund, with a particular focus on items including:-
  - Encouraging population growth in strong employment and service centres of all sizes, supported by employment growth;

- Reversing the stagnation or decline of many smaller urban centres, by identifying and establishing new roles and functions and enhancement of local infrastructure and amenities;
  - Addressing the legacy of unplanned growth, by facilitating amenities and services catch-up, jobs and/or improved sustainable transport links to the cities, together with a slower rate of population growth in recently expanded commuter settlements of all sizes;
  - In more self-contained settlements of all sizes, supporting a continuation of balanced population and employment growth.
- National Policy Objective 11 – In meeting urban development requirements, there will be a presumption in favour of development that can encourage more people and generate more jobs and activity within existing cities, towns and villages, subject to development meeting appropriate planning standards and achieving targeted growth.
  - National Policy Objective 18a - To support the proportionate growth of and appropriately designed development in rural towns that will contribute to their regeneration and renewal, including interventions in the public realm, the provision of amenities, the acquisition of sites and the provision of services.
  - National Policy Objective 27 - Ensure the integration of safe and convenient alternatives to the car into the design of our communities, by prioritising walking and cycling accessibility to both existing and proposed developments and integrating physical activity facilities for all ages.

## 2.2.2. National Development Plan

The National Development Plan (NDP) sets out the investment priorities that will underpin the successful implementation of the NPF. The NDP will steer planning policy as well as guide investment decisions at a national, regional and local level. The NDP details the main investment projects, programmes and priorities envisaged over the next decade in order to drive implementation of the NPF.

The NDP and the NPF outline the importance of compact growth, where more compact urban and rural settlements are supported by jobs, houses, services and amenities. It highlights that this requires streamlined and co-ordinated investment in infrastructure by public authorities to realise the potential of infill development areas within our cities, towns and villages. This can play a crucial role in creating more attractive places for people to live and work in, facilitating economic growth and employment creation.

The €2 billion Urban Regeneration and Development Fund (URDF) aims to achieve sustainable growth in Ireland's five cities and other large urban centres to transform cities and towns.

As stated in the NDP, the Irish economy's ability to realise its full growth potential in a sustainable way is inextricably linked and critically dependent on the quality of spatial planning. A key aspect of spatial planning is sustainable mobility. Providing sustainable transport options will enable growth by facilitating the increasing demand on the transport network, allowing for further development.

Active travel also contributes to Ireland's low-carbon economy aspirations. The NDP states the importance of cycle and walking infrastructure and the opportunity to align to public transport:

*"provision of safe alternative active travel options such as segregated cycling and walking facilities can also help alleviate congestion and meet climate action objectives by providing viable alternatives and connectivity with existing public transport infrastructure".*

## 2.2.3. National Cycle Policy Framework

The backdrop to this policy is the government's new transport policy for Ireland. The National Cycle Policy Framework (NCPF) sets out a suite of interventions to improve the ease and safety of cycling in order to achieve greater mode share going forward. The framework states that the focus needs to be on:

- Reducing volumes of through-traffic, especially HGVs, in city and town centres and especially in the vicinity of schools and colleges;
- Calming traffic/enforcing low traffic speeds in urban areas;
- Making junctions safe for cyclists and removing cyclist-unfriendly multi-lane one-way street systems;
- Paying special attention to integrating cycling and public transport.

Other interventions include the following:

- Schools will be a strong focus of the NCPF;
- Ensuring surfaces used by cyclists are maintained to a high standard and are well lit;
- Ensuring that all cycling networks are sign-posted to a high standard;
- Supporting the provision of secure cycle parking at all destinations of importance;



- Integrating cycling and Public Transport, including cycle parking at stations, and the capability to carry bikes on Public Transport services;

The NCPF states that making provision for cyclists in the urban environment does not merely consist of providing dedicated cycling facilities, but also involves wider traffic interventions that benefit all vulnerable road users.

## 2.2.4. Get Ireland Active

Healthy Ireland, A Framework for Improved Health and Wellbeing 2013-2051 is the national framework for seeking to improve the health and wellbeing of people living in Ireland. The Framework identifies a number of broad inter-sectoral actions, one of which commits to the development of a plan to promote increased physical activity levels.

Get Ireland Active's aim is to increase physical activity levels across the entire population, thereby helping to improve health and wellbeing. Get Ireland Active has developed a plan which will seek to ensure that no group is disadvantaged and recognises that targeted interventions are required to address and overcome barriers to participation which are experienced by some people.

Get Ireland Active acknowledges the role that cycling and walking can play in achieving physical activity targets. The plan highlights the importance of good planning to promote the use of cycling and walking, stating that the layout of the environment has a significant impact on the levels of physical activity undertaken across age groups.

*"The built environment is an important determinant of physical activity behaviour. The way the built environment is designed, planned and built can also act as a barrier to being active and can reinforce sedentary behaviour and car dependence."*

*Walking or cycling for transport or leisure is a form of physical activity that can easily be incorporated into the daily activities for many people. Supportive environments for walking, cycling and recreational and outdoor physical activity have many benefits beyond the immediate physical activity gains."*

The Carrigtwohill URDF Initiative – Public Realm Infrastructure Bundle has the potential to be a positive example of how the built environment can be developed to promote physical activity, improving the health and wellbeing of those that choose to travel by bike or on foot. The Carrigtwohill URDF Initiative – Public Realm Infrastructure Bundle will provide high quality pedestrian and cyclist facilities with connectivity to key destinations in Carrigtwohill and will be used for a variety of journey purposes including travelling to work (directly or via the train), travelling to school, travelling to Carrigtwohill Town Centre etc. Making these journeys on foot or bike is an ideal opportunity to increase physical activity through everyday journeys.

## 2.3. Regional and Local Policy and Background Documents

The following regional and local policy and background documents have been considered as part of this project, with the relevant sections summarised below.

### 2.3.1. Cork County Development Plan

The Cork County Development Plan 2014 is a six year plan that sets out the planning policy for the county up to the horizon year of 2022. The Cork County Development Plan sets out detailed objectives for Town Centres including the following which are applicable to the Carrigtwohill URDF Initiative - Public Realm Infrastructure Bundle:

- TCR 2-1a: Maintain, strengthen and reinvent the role of town centres as dynamic attractive and inclusive environments and enhance their mixed use character by encouraging the retention and development of general office, retail, housing, office based industry, community, civic and entertainment uses.
- TCR 2-1b: Encourage and promote innovation and creativity within town centres in relation to the use of streets, public spaces, vacant buildings and derelict sites for different public activities and events.
- TCR 2-1g: Encourage the preparation of targeted public realm strategies and other strategies in a general and specific sense for individual towns over the lifetime of the plan, particularly where a need has been identified through the local area plan process.
- TCR 2-1j: In relation to Derelict Sites the council will endeavour to use all mechanisms available to it as appropriate in order to maximize the potential of such lands.

The Cork County Development Plan also sets out detailed objectives for cycling under Objective TM 2-2 which are relevant to the Carrigtwohill URDF Initiative - Public Realm Infrastructure Bundle. These objectives are as follows:

- TM 2-2a: Encourage and facilitate a safe walking and cycling route network and a culture of walking and particularly cycling in the county as a viable alternative travel choice. Local Area Plans will set out Active Travel Strategies (cycling and walking) for individual towns and their hinterlands;
- TM 2-2b: Improve the streetscape environment for pedestrians, cyclists and those with special mobility needs while seeking to provide facilities which enhance safety and convenience. The Design Manual for Urban Roads and Streets (DMURS) is a useful guidance tool;
- TM 2-2c: Ensure that development in urban areas, towns and villages is well located, permeable and prioritises walking, cycling and access to public transport and other important amenities. The Design Manual for Urban Roads and Streets (DMURS) is a useful guidance tool.
- TM 2-2d: Promote the development of an integrated and coherent local and countywide cycle network to form part of the wider National Cycle Network. Routes will be promoted which generally seek to avoid or minimise impacts on the environment and on EU designated sites.

### 2.3.2. Cobh Municipal District Local Area Plan (Cork County Council, 2017)

The Cobh Municipal District Local Area Plan (MDLAP) was adopted in July 2017 and sets out the detailed planning strategy for the towns and villages of the Municipal District which includes Carrigtwohill. The overall aims described for Carrigtwohill are to *‘realise the significant population growth proposed, to maximise the value of the suburban rail project, grow the employment base of the town as a key location for the delivery of economic targets for the whole of Metropolitan Cork and build a vibrant and accessible town centre that provides for the needs of the expanding community, while retaining the unique character and community spirit of the town’*.

#### 2.3.2.1. Carrigtwohill Urban Expansion Area (UEA)

The Carrigtwohill Urban Expansion Area (UEA) has been identified by Cork County Council as an area capable of delivering significant residential development in a new residential neighbourhood. The UEA is located to the north of Carrigtwohill, north of the Cork to Midleton railway line. Lands within the UEA have been zoned to allow for the provision of up to 2,500 housing units, two new primary schools and one new post-primary school, open space/ amenity areas and a Station Quarter area adjacent to the existing Carrigtwohill Train Station which will include convenience retailing, professional services and leisure facilities as well as residential development above commercial premises.

#### 2.3.2.2. Carrigtwohill Urban Centre

The Cobh MDLAP notes that it is essential for Carrigtwohill to develop an attractive vibrant urban centre of its own with shops, services, attractive streets, buildings and public spaces to meet the needs of the local population, attract investment to the area and send a positive signal to investors about the importance of Carrigtwohill as a key growth centre for the future.

A key priority highlighted for the creation of such a vibrant urban centre is to develop a strategy to address issues such as pedestrian facilities, connectivity and traffic issues. In order to make the most advantageous use of the new railway service it is important to encourage the provision of safe, convenient and pleasant access to the station area for walkers and cyclists. Whilst provision of new pedestrian and cycle facilities will be incorporated into the development of the Carrigtwohill UEA it is important that these facilities will not be delivered in isolation and will be tied into a programme of wider improvements to the walking and cycling infrastructure in the town. New development should be designed in such a fashion as to encourage permeability avoiding cul-de-sacs and thereby allowing convenient pedestrian and cyclist movements. It is important to ensure that future residential development to the south of the rail line in Carrigtwohill allows for permeability between housing areas and in particular, direct, safe and convenient access to the rail station by pedestrians and cyclists.

It is noted that the existing primary schools in the town are clustered in the area of the Main Street and east of Station Road, and while centrally located, they cause serious problems with traffic congestion in the town centre at peak drop-off and collection times. It also notes a problem with on-street parking in the town centre which detracts from the public realm. It notes that during the lifetime of the plan road upgrades including the following infrastructure are required:

- Cobh/ Carrigtwohill Junction and Roundabouts;
- Upgrades to the road network within Carrigtwohill.

### 2.3.2.3. Objectives

The following objectives are included in the Cobh MDLAP which relate to this project:

- CT-GO-04 – To improve public realm spaces within the Town Centre and to allow greater connectivity between existing and proposed development areas;
- CT-GO-07 – A network of designated walking and cycling routes shall be established to provide safe, convenient and pleasant routes between the town's main residential areas, schools, the town centre and the railway station complex.
- CT-GO-08 - To ensure that provision is made in proposals for new development, particularly for housing, office, retail, industrial and educational uses to provide safe, convenient and pleasant routes linking the development to the railway station and the other principal areas of the town for walkers and cyclists. Any such provision must have regard to the existing deficiencies in infrastructure and the requirement to ensure the delivery of adequate infrastructure ahead of or in tandem with the new development. In achieving this objective, special attention will be paid to the layout of the development to ensure that appropriate measures are taken to establish a walking and cycling friendly environment.
- CT-GO-10 - To secure significant road safety and traffic management improvements to Station Road so that it can provide a safe, pleasant and effective route between the station and the town centre.
- CT-GO-11 - All development shall contribute to improved pedestrian and cyclist connectivity and shall include proposals for the provision of improved pedestrian / cycle access routes, provision of new footpaths or improvement of existing footpaths and provision of facilities for cyclists, as appropriate. A network of designated walking and cycling routes shall be established to provide safe, convenient and pleasant routes between the town's main residential areas, schools, the town centres in accordance with the Cork Cycle Network Plan 2017.
- CT-T-01 - Expansion of established town centre in line with overall uses acceptable in town centre areas and providing for improved connectivity and public realm spaces.
- CT-T-02 - Town/neighbourhood centre in line with the overall uses acceptable in town centre areas. Careful consideration shall be given to the overall design approach given the prominence of the site to both the entrance to Castlelake and the start of the Main Street.
- CT-U-13 – Upgrade of Station Road
- CT-U-14 – Upgrade of Main Street

### 2.3.3. Carrigtwohill Strategic Plan 2018 – 2022

The Carrigtwohill Strategic Plan was delivered by SECAD Partnership working in conjunction with Cork County Council and various stakeholders including community groups and business groups in Carrigtwohill. The plan is an initiative to foster socio-economic development and renewal through community led partnership over the duration of the plan (2018 – 2022). It was prepared as a complementary report to the Cobh MDLAP and the County Development Plan prepared by Cork County Council. The strategy is based around a series of 'Themes' that are the basis of a wide range of projects and initiatives for Carrigtwohill. It identifies ideas and the actions that are necessary to make them a reality.

The plan notes that while Carrigtwohill has a reasonable provision of footpaths, the pedestrian environment is highly vehicle dominated, especially at peak hours. It notes that the village has no clear pedestrian crossing points and notes that there is significant potential for the village centre to improve cycle friendly facilities. It notes that the development of infrastructure that connects the village centre to cycle paths which have been constructed in new housing developments north of Main Street would allow for a more coherent cycle network that would aid accessibility and mobility.

#### 2.3.3.1. Themes

Themes that were developed as part of formulating the strategy include:

- 1.1 – Re-position Carrigtwohill Main Street as the living centre of the village and define the centre of Carrigtwohill;
- 1.2 – Define and protect spaces for sitting, walking and talking. A commitment to the provision of 'pedestrian priority' areas in the village will allow the community to feel safer and less threatened by traffic incursion in the village;
- 1.3 – Enhance public space including upgrading of lighting in the village centre, investment in approaches/gateways to the village with strong vibrant planting and move the 'wirescape' underground;

- 1.4 – Create an environment and incentive for restaurants and coffee shops to be located in the core of the village thereby increasing dwell time and encourage other businesses to open in the heart of the village;
- 1.5 – School's Traffic Plan whereby stakeholders would define 'drop and no-drop zones' and parking for drop-off/ collection;

#### 2.3.3.2. Key Interventions

A series of key interventions are outlined including:

- New village square as integral part of Village Centre expansion;
- Loading/ short-stay parking (pick-up/ drop-off);
- Improved setting to Community Centre and bus-stop;
- Possible increase in off-street parking;
- Improved pavement pedestrian facilities;
- Gateway features to identify and define the entry points to the village e.g. at Scoil Mhuire Naofa on western approach and Carrigane Road/ Main Street junction, opposite Church Lane/ Station Road junction;
- Linkage to open space and green infrastructure network surrounding the main street and village;
- Streetscape improvements to support increase of planting and reduce car dominance.

#### 2.3.3.3. Game Changers

It also suggests a number of 'game changers' which if enacted could provide a major stimulus for growth and development in Carrigtwohill. These include:

- Re-positioning Main Street and village centre by improving traffic, safety and transportation including:
  - Safe crossing points;
  - Appropriate parking;
  - Establishing good practice with local businesses;
  - Traffic management plans for schools;
  - Improving accessibility and use of trains/ train station;
  - Review of usage of Main Street by HGVs and improving signage to direct HGV traffic to the N25 or restrict access to peak hours.

## 2.4. Other Key Projects in Carrigtwohill

A number of key infrastructure projects are currently being implemented in Carrigtwohill as follows:

### 2.4.1. Station Road Schools Campus

Cork County Council granted planning permission (Planning reference: 19/5707) for a new school's campus on Station Road. This campus comprises of two primary schools and one post-primary school. It will also include two new link roads providing access from Station Road and Castletlake. These link roads include segregated cycling facilities on both sides. An extract of the site layout plan from the planning application is shown in Figure 2-1 below.





**Figure 2-1 - Proposed Schools Campus Layout Plan (Planning Reference: 19/5707)**

### 2.4.2. Bury's Bridge Cycleway

Cork County Council granted Part 8 planning permission for a strategic cycleway scheme connecting Bury's Bridge at Dunkettle outside Cork City with Carrigtwohill. This scheme provides approximately 7.7 kilometres of pedestrian and cycle path segregated from vehicular traffic. The indicative route of the cycleway, as extracted from the Preliminary Design Report included with the planning submission, is shown in Figure 2-2 below. The cycleway enters the east side of Carrigtwohill to the north of Cobh Cross (N25 Junction 3). It runs parallel to Carrigtwohill Main Street before turning north and running along the Castllake Access Road. It then joins the link roads associated with the new schools' campus as described above.



**Figure 2-2 - Bury's Bridge Cycleway (Extract from Preliminary Design Report by Aecom 2020)**



## 3. Design Approach and Objectives

### 3.1. Objectives of Proposed Development

The objectives of the proposed works, which are outlined in Section 1.1 of this report, are outlined in more detail in the following sections.

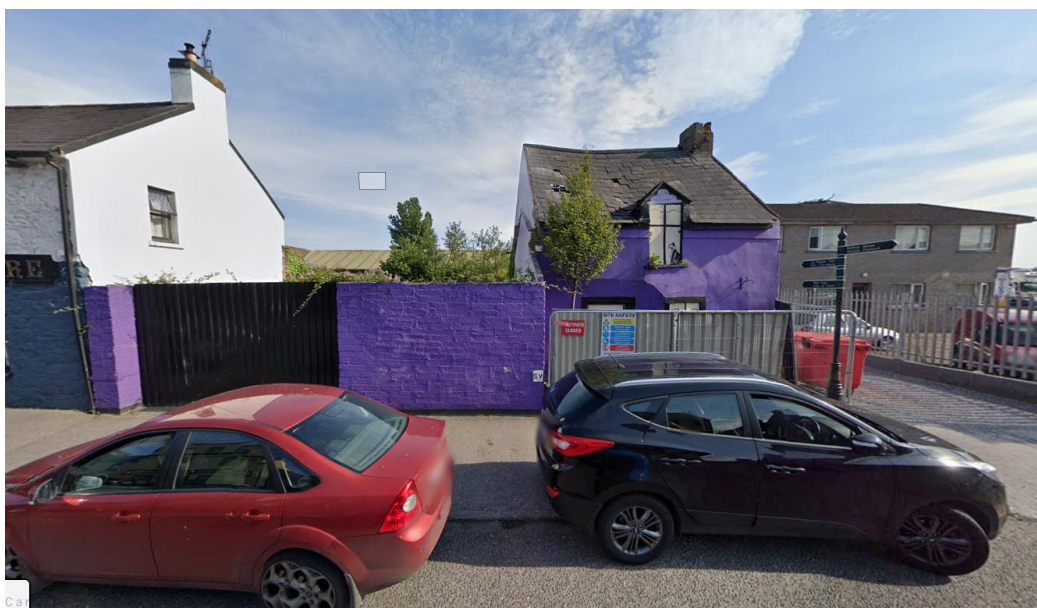
#### 3.1.1. To support regeneration, compact growth and sustainable development in Carrigtwohill

Given its location along the Cork to Midleton railway line, its designation as a Strategic Employment Area in the 2014 County Development Plan and the ability of the town to provide a strong supply of housing and business land, Carrigtwohill is well placed to facilitate rapid yet sustainable growth and development. The town requires an attractive, vibrant centre of its own with attractive streets and public spaces to meet the needs of the growing population, attract investment to the area and send a positive signal to potential investors about the importance of Carrigtwohill as a key growth centre.

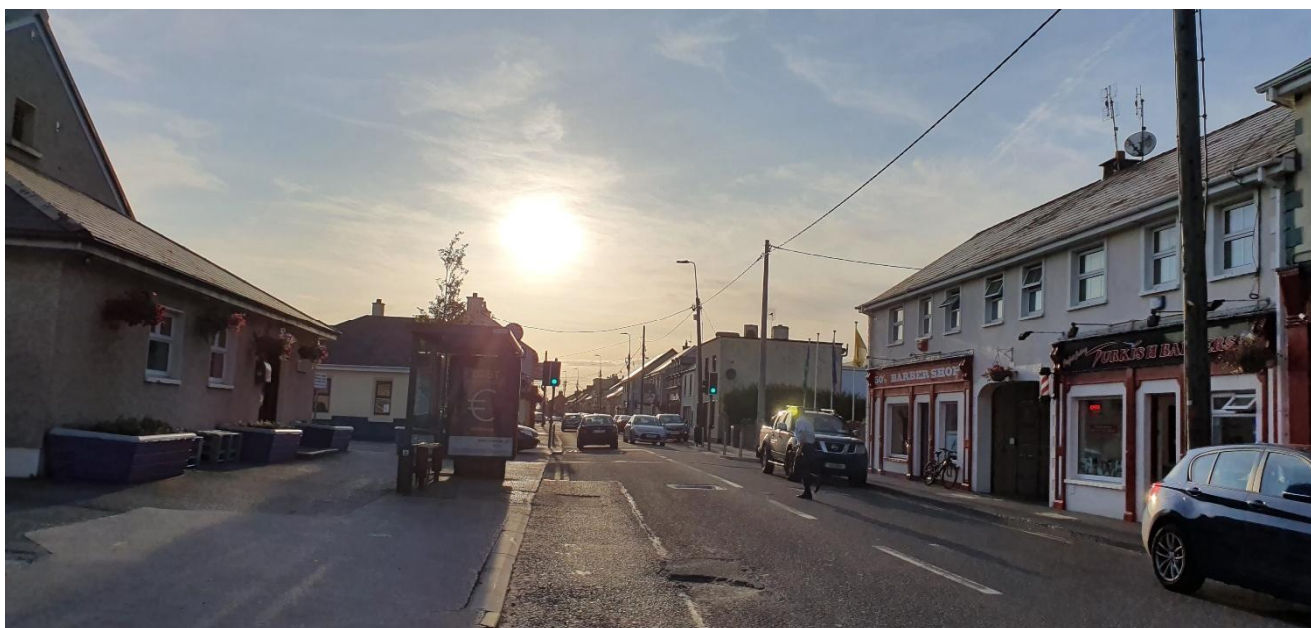
The projects proposed as part of this scheme will provide attractive streets and public spaces as envisaged by the Cobh MDLAP which will help to support regeneration, compact growth and sustainable development in Carrigtwohill.

#### 3.1.2. To provide a public realm upgrade with better quality streetscapes and public spaces and to unlock the potential of Carrigtwohill town

Carrigtwohill has grown significantly in recent years but regeneration of the town centre has not yet taken place. There are a number of under-utilised areas within the town centre which could be incorporated into the public realm – see Figure 3-1 for example. Overhead lines and services dominate the streetscape as shown in Figure 3-2.



**Figure 3-1 - Example of under-utilised space in Main Street, Carrigtwohill**



**Figure 3-2 - Overhead Lines and Services**

The projects proposed as part of this scheme aim to provide better quality streetscapes by diverting existing overhead services underground subject to agreement with utility providers. Derelict and underutilised spaces will be incorporated into the design to provide more street space.

There are a number of areas of great potential in Carrigtwohill such as St. Mary's Church on Station Road which is an imposing landmark building and a well-crafted late nineteenth century church of some significance. The Carrigtwohill Community Centre is a vibrant hub of activity and a focal point within the town centre. The project aims to enhance such areas by providing attractive spaces in the centre of Carrigtwohill, with new surfacing, street lighting, planting and seating areas, where local residents and visitors will want to spend time.

### **3.1.3. To improve connectivity between Carrigtwohill Town Centre and residential developments, Carrigtwohill Train Station, schools, business parks, commercial premises etc.**

Newer residential developments in Carrigtwohill have good footpaths and segregated cycle routes and it is likely that new pedestrian and cycling facilities will be incorporated into future residential developments. It is important that these facilities are tied into a programme of wider improvements to the walking and cycling infrastructure in the town to improve connectivity between key destinations in Carrigtwohill.

Connectivity to the train station is particularly important to encourage an increase in use of the rail service between Cork and Carrigtwohill. This rail connection has great potential to encourage people to live in Carrigtwohill and to encourage businesses to set up in Carrigtwohill. The main artery between the town and the train station is via Station Road. As shown in Figure 3-3 this road has a number of issues which need to be addressed including a lack of continuous pedestrian facilities of suitable width, continuity and cross-section, lack of off-road facilities for cyclists and varying road width for road vehicles in parts.



**Figure 3-3 - Station Road, Carrigtwohill (looking north)**

This project aims to improve the connectivity between the train station and key destinations in Carrigtwohill by providing an upgrade of Station Road which will provide adequate roadway width and forward visibility to accommodate improvements for road safety. It will also include high-quality segregated facilities for pedestrians and cyclists and verges. This will encourage greater use of the railway line as a means of travelling between Cork and Carrigtwohill.

Connectivity to the following key destinations will also be addressed as part of the project:

- Proposed public spaces;
- Main Street and lands north and south of Main Street;
- Existing schools on Main Street;
- Proposed schools' campus as described in Section 2;
- Existing and proposed residential areas;
- Commercial premises on Main Street and Station Road;

#### **3.1.4. To encourage sustainable modes of transport by reducing car dominance and providing safe pedestrian and cyclist facilities**

The Cobh MDLAP notes that there is a problem with traffic congestion and on-street parking in the town centre which detracts from the public realm. Footpath provision along Main Street is of varying width and quality and footpath provision in new residential developments is good however beyond these areas footpath provision is limited and quality varies from sub-standard to no provision. An example of sub-standard footpath width is shown in Figure 3-4.





**Figure 3-4 - Sub-standard footpath width on Carrigane Road**

There is potential for increased levels of cycling and walking in Carrigtwohill due to the largely flat terrain and the proximity of key destinations to residential areas in Carrigtwohill. The project aims to encourage sustainable modes of transport (cycling, walking and rail) by reducing car dominance and providing high quality, safe pedestrian and cyclist facilities between key destinations in Carrigtwohill in line with national, regional and local policy.

### 3.1.5. To upgrade existing road junctions to improve performance for traffic as well as catering for pedestrian/ cyclist demand

Junctions within Carrigtwohill on Main Street and Station Road typically do not have dedicated pedestrian/ cyclist crossing facilities. This makes it more difficult for vulnerable road users to navigate busy junctions and is likely to discourage cycling and walking trips even for relatively short journeys e.g. parents may feel that it is safer to drive children to school rather than allowing them to walk. An important example of this is the junction of Main Street and Station Road as shown in Figure 3-5 and Figure 3-6.



**Figure 3-5 - Junction of Station Road and Main Street (taken from Station Road looking south)**



**Figure 3-6 - Junction of Station Road and Main Street (taken from Main Street looking north)**

The following issues existing at this junction:

- The road width on the Station Road arm is very narrow making it very difficult for two vehicles to pass each other safely. This also leads to traffic congestion at the junction at peak times especially during school drop-off and pick-up times.
- There is only a footpath on the east side of Station Road and this footpath is very narrow. At busy times pedestrians are forced on to the road to pass each other.
- The visibility for pedestrians and cyclists at the junction is very poor due to the proximity of the existing buildings to Station Road.

Other junctions in Carrigtwohill will also be upgraded to cater for pedestrian/ cyclist demand and to improve performance for traffic including:

- Main Street/ Wises Road Junction
- Main Street/ Castl lake Avenue Junction (Aldi Junction)
- Main Street/ Barryscourt Road Junction (Costcutter's Corner)
- Main Street/ Carrigane Road Junction
- Wises Road/ Oakbrook Link Junction

An interim upgrade of N25 Junction 3 (Cobh Cross) will also be undertaken to optimise its current operation and cater for additional capacity.

### 3.1.6. Co-ordination and integration of proposals with other proposed infrastructure projects in Carrigtwohill

As noted in Section 2 a number of key projects have recently received planning permission in Carrigtwohill including the proposed Carrigtwohill School's Campus on Station Road and the Bury's Bridge Cycleway connecting Carrigtwohill to Dunkettle via Little Island. A key aim of the Carrigtwohill URDF Initiative – Public Realm Infrastructure Bundle is to co-ordinate and integrate the design with these projects as well as other development in Carrigtwohill.

## 3.2. Design Guidance and Standards

The proposed works are designed in accordance with the following guidance and standards:

- Design Manual for Urban Roads and Streets (Department of Transport, Tourism and Sport, 2013);
- National Cycle Manual (National Transport Authority (NTA), 2011);
- The SuDS Manual (CIRIA C753) (CIRIA, 2015);
- The Greater Dublin Strategic Design Strategy;
- TII Design Standards.



## 4. Description of Proposed Projects

### 4.1. Main Street and Station Road Public Realm Works

#### 4.1.1. Drawings

The overall Main Street and Station Road Public Realm Works proposals are shown in the following drawings:

- 5194601-HTR-PR-DR-0020 to 0029.

#### 4.1.2. Overview of Upgrade of Main Street and Station Road Junction

##### 4.1.2.1. Description

The upgrade of Main Street and Station Road junction is shown in drawing 5194601-HTR-PR-DR-0023. It is proposed to signalise the junction and to provide a pedestrian crossing on each arm of the junction. The footpaths on all arms of the junction will be a minimum of 4 metres in width. This will provide suitable width for pedestrians and will enable them to navigate the junction safely. The Station Road carriageway will be increased to 6 metres in width. It will be necessary to remove the building on the north-west corner of the junction in order to provide suitable road and footpath widths. This will also ensure that there is sufficient visibility for vulnerable road users and vehicular traffic on all arms of the junction. A right turn lane will be provided for westbound traffic on Main Street turning right on to Station Road. This will help to reduce queuing at the junction arising from traffic on Main Street waiting to make this movement.

##### 4.1.2.2. New Public Space at Junction of Main Street and Station Road

An enhanced public space is proposed at the junction of Station Road and Main Street which will be a central focal point in Carrigtwohill Town Centre. The location of this space is shown on drawing 5194601-HTR-PR-DR-0023.

Existing overhead services will be diverted underground subject to agreement with utility providers. Derelict and underutilised spaces will be incorporated into the design to provide more street space and to remove unsightly objects from the town centre. On street parking will be re-located to reduce car dominance, improve safety and enhance the town core experience for the people of Carrigtwohill.

An enlarged public space will be provided which will allow for the development of a vibrant town centre with areas to meet and spend time in the centre of Carrigtwohill as well as other activities. This area will have new street lighting, trees, benches and planting; and will be an attractive space in the centre of Carrigtwohill.

#### 4.1.3. Overview of Station Road Upgrade

##### 4.1.3.1. Extents of Upgrade

The extents of the Station Road upgrade is shown in drawings 5194601-HTR-PR-DR-0023 to 0025 and is from the junction with Main Street in the south to the junction at Carrigtwohill Train Station in the north.

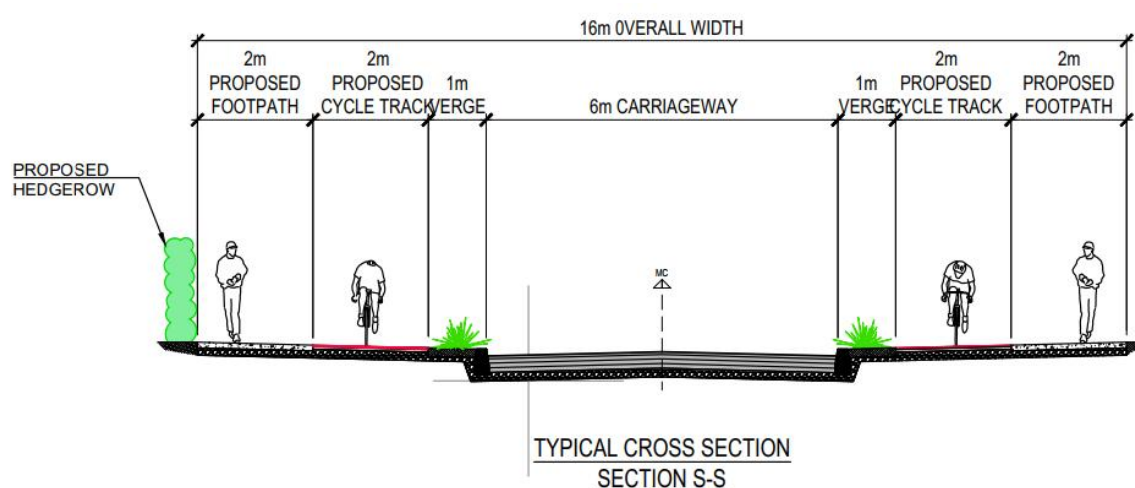
##### 4.1.3.2. Cross-Section

The proposed cross-section of Station Road is described in Table 1 and a typical section is shown in Figure 4-1.

**Table 1 - Proposed Services Corridor Link Road cross-section parameters**

Element	Width	Description
Carriageway	6m	A 6-metre carriageway is proposed generally. This is within the range noted in DMURS for 'Arterial and Link streets' with low to moderate design speeds.
Cycle Track	2 x 2m	Segregated off-road cycle tracks will be provided on both sides of the Station Road from the junction with Patrick Pearse Place as far as the junction with the Bog Road. The cycle track will connect to the cycle tracks proposed as part of the proposed school's campus on Station Road which has recently received planning permission (refer to Section 2). A connection from the cycle track will also be provided from a shared use

Element	Width	Description
		pedestrian and cycle track which will run from Patrick Pearse Place to recreational areas south of Main Street via the existing Centra car park. This will provide a safe, high quality cycling facility with connectivity to the train station and residential areas, commercial premises and schools (existing and proposed) on Main Street and Station Road. The cycle tracks will encourage cycling within Carrigtwohill and encourage sustainable modes of transport, reducing car dominance.
Footpath	2 x 2m minimum	Footpaths, a minimum of 2 metres in width, will be provided along the length of the upgrade of Station Road. Wider footpaths will be provided at busier locations outside of the proposed school's campus and close to the junction of Station Road and Main Street. This will provide a safe, high-quality pedestrian facility with connectivity to the train station and residential areas, commercial premises and schools (existing and proposed) on Main Street and Station Road. The footpaths will encourage walking within Carrigtwohill and encourage sustainable modes of transport, reducing car dominance.
Verges and Planting	Where possible (Width varies)	A verge is to be provided on both sides of the carriageway where possible to act as a buffer between vehicular traffic and pedestrians/ cyclists. Trees/ planting will be provided in the verge. The verge will also be used for the installation of below ground services where possible.



**Figure 4-1 - Typical Cross-Section of Station Road Upgrade**

#### 4.1.3.3. Shared Use Path

A new shared use pedestrian and cyclist path, a minimum of 3 metres in width, is proposed between Station Road and recreational areas south of Main Street via Patrick Pearse Place and the existing Centra car park. This facility will connect to the cycle tracks proposed on Station Road and is shown on drawing 5194601-HTR-PR-DR-0025.

#### 4.1.3.4. Connectivity between Existing Residential Areas

New footpaths are proposed to connect the below housing developments as shown on drawing 5194601-HTR-PR-DR-0028:

- Cluain Cairn and An Fána;
- Cluain Cairn and Castle Close/Castle Avenue.

This will enhance pedestrian connectivity within these existing residential areas in Carrigtwohill.

#### 4.1.3.5. New Civic Space at and north of St. Mary's Church

A civic space is proposed to enhance the area around the St Mary's Church. This space will be a significant gateway on Station Road to Carrigtwohill Town Centre. The location of this space is shown on drawing 5194601-HTR-PR-DR-0025.

Overhead services will be diverted underground subject to agreement with utility service providers. On street parking will be re-located to facilitate the proposed upgrades. The existing road will be narrowed to 6 metres at this location to provide additional space for meeting and gathering outside of the church. This area will have attractive surfacing, new street lighting, trees, benches and planting; and will be another attractive focal point in the centre of Carrigtwohill. Footpaths will be provided on both sides of the road and there will be enhanced connectivity between the church and Patrick Pearse Place. The road alignment, surfaces and planting will act as traffic calming measures which will provide greater priority for pedestrians and cyclists in this area.

#### 4.1.3.6. Landscaping and Wild Planting Areas

Landscaping, including trees and hedges, will be provided in the public realm areas and verges along Station Road. Two wild planting areas, which will include wildflower and tree planting, will be provided on Station Road. These areas are shown on drawings 5194601-HTR-PR-DR-0026 and 0027.

#### 4.1.3.7. Existing Grotto

The existing grotto on Station Road, as shown in Figure 4-2, will be re-located to the back of the proposed footpath as shown on drawing 5194601-HTR-PR-DR-0026. This will allow the grotto to be accessed safely from a footpath. The grotto will be further from the carriageway than the existing grotto.



**Figure 4-2 - Existing Station Road Grotto**

#### 4.1.3.8. Traffic Calming

Traffic calming measures including the use of different road surface materials, the introduction of a gateway feature at St. Mary's Church, road narrowing, tree planting, raised tables and signalised and unsignalised raised pedestrian crossings will be provided on Station Road. These measures will reduce traffic speeds and will provide greater priority for vulnerable road users on Station Road.

#### 4.1.3.9. Parking

On-street car parking will be re-located to allow for wider footpaths, to provide more space for vulnerable road users and to reduce car dominance. A new car park will be provided on the west side of Station Road to the north of the junction of Station Road and Main Street. The existing car park to the south of Patrick Pearse Place will be lined to maximise the capacity of this car park. Disabled car parking will be provided in both car parks and a disabled space will also be provided outside the cemetery. These car parks and spaces are shown in drawing 5194601-HTR-PR-DR-0025.

#### 4.1.3.10. Junctions

It is proposed to signalise two junctions on Station Road. These are the junctions with Main Street and with the proposed school's campus Northern Link Road/ Cul Ard. Raised table crossing facilities for pedestrians and cyclists will be provided at each of these junctions to prioritise safe pedestrian and cyclist movements.

The junctions of other roads with Station Road will be priority junctions. Traffic travelling north to south along Station Road will have priority. Raised table crossing facilities for pedestrians and cyclists shall be provided at all minor junctions to prioritise safe pedestrian and cyclist movements over vehicular traffic.

### 4.1.4. Overview of Main Street Upgrade

#### 4.1.4.1. Extents of Upgrade

The extents of the Main Street upgrade is shown in drawings 5194601-HTR-PR-DR-0021 to 0024 and is from the junction with Castl lake Access Road in the west to the junction with Carrigane Road in the east.

#### 4.1.4.2. Cross-Section

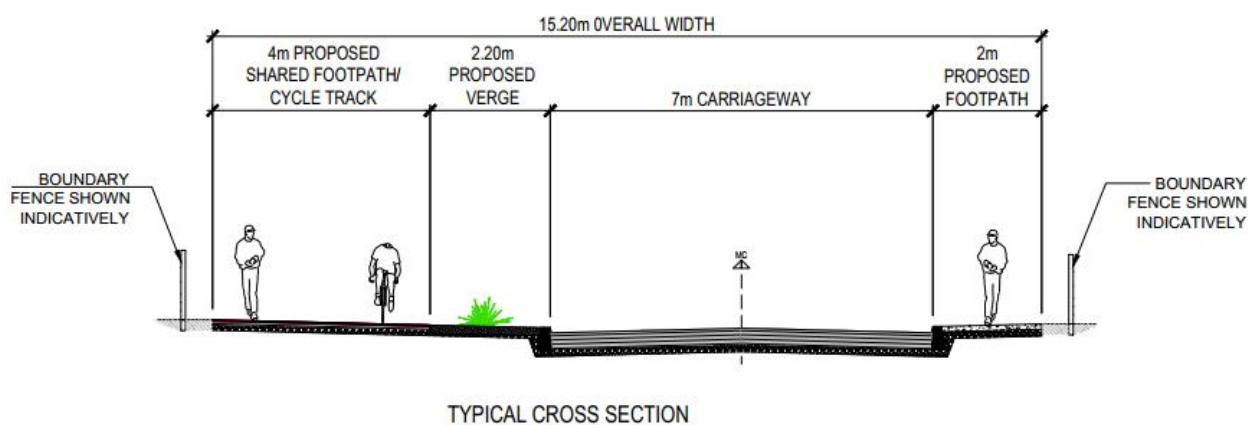
The proposed cross-section varies as shown in drawings 5194601-HTR-PR-DR-0021 to 0024. The existing carriageway width will be maintained from the junction of Castl lake Access Road to a point east of the entrance to Ryan and Aherne Place. The carriageway will then narrow to a width of 6 metres and will mainly continue at this width until the junction with Carrigane Road where it will widen back to its existing width. There will be a reduced carriageway width of 5.5 metres from east of the junction with Station Road to west of the Community Centre.

A minimum 3 metre wide shared cycle and pedestrian path is proposed on the north side of Main Street from Castl lake Access Road as far as the entrance to Bán na Gréine. This will connect the proposed Bury's Bridge cycle route, which has received Part 8 planning approval, with Carrigtwohill Town Centre. From Bán na Gréine eastwards a minimum 3 metre wide footpath will be provided on the north side of the road as far as the junction with the Carrigane Road.

A minimum 2 metre wide footpath will be provided on the south side of Main Street between Castl lake Access Road and Carrigane Road.

#### 4.1.4.3. New Road south of Main Street

A new road is proposed to run south from Main Street to lands zoned 'Town Centre' in the Cobh MDLAP. This road will help to divert heavy goods vehicles away from the centre of Carrigtwohill. The typical proposed cross-section of this road is shown in Figure 4-3. This road will include underground services and public lighting.



**Figure 4-3 - Typical Cross-Section of new road south of Main Street**

#### 4.1.4.4. New Public Space at and north of the Community Centre

It is proposed to enhance the area around the Community Centre by creating a larger and more attractive civic space for Carrigtwohill residents that will be a focal point within the town centre. This civic space is shown on drawing 5194601-HTR-PR-DR-0024.

Existing overhead services will be diverted underground subject to agreement with utility providers. The road will be narrowed and on-street car parking will be re-located to allow for wider footpaths and to provide more space for vulnerable road users.



An area outside of the Community Centre, with new surfacing street lighting, trees and benches, will provide an attractive space for people to meet and relax.

#### 4.1.4.5. Landscaping

Landscaping, including trees and planted areas, will be provided in the public realm areas along Main Street.

#### 4.1.4.6. Traffic Calming

Traffic calming measures including the use of different road surface materials, road narrowing, tree planting, raised tables and signalised and unsignalised raised pedestrian crossings will be provided on Main Street. These measures will reduce traffic speeds and will provide greater priority for vulnerable road users on Main Street.

#### 4.1.4.7. Parking including School drop-off areas

On-street car parking will be re-located to allow for wider footpaths and to provide more space for vulnerable road users. Two new car parks will be provided. One will be relocated to the west of the Main Street/ Station Road junction and south of Main Street. The other will be located between the junctions of Main Street with Station Road and Carrigane Road and will be located to the north of Main Street.

As well as this drop-off areas are proposed for Scoil Chlochair Mhuire and St. Aloysius schools. An ambulant accessible drop-off area, as shown on drawing 5194601-HTR-PR-DR-0024, is proposed on Main Street for Scoil Chlochair Mhuire. A drop-off area with an attached car park will be provided to serve both schools. This is also shown in drawing 5194601-HTR-PR-DR-0024. This will be accessed from the junction of Carrigane Road and Castlevue Estate access road.

#### 4.1.4.8. Junctions

It is proposed to signalise three junctions on Main Street as part of the Main Street upgrade works. These are the junctions with Castlake Avenue, Station Road and Barryscourt Road (Costcutter's Corner). Signalised crossings will be provided at these junctions.

The junctions of other roads with Station Road will be priority junctions. Traffic travelling east - west along Main Street will have priority. Raised table crossing facilities for pedestrians and cyclists will be provided at each of these junctions to prioritise safe pedestrian and cyclist movements.

#### 4.1.5. Public Lighting

New public lighting will be provided along the extents of the proposed upgrade of Main Street and Station Road. The road lighting will be designed to the correct lux levels for the road carriageway, cycle lanes, footpaths and public spaces. The lighting shall be designed in accordance with Cork County Council's Public Lighting Manual and Product Specification 2020 and BS 5489:2013.

#### 4.1.6. Signage and Road Markings

Traffic signs and road markings will be provided in accordance with the Department of Transport Traffic Signs Manual.

#### 4.1.7. Services

Existing overhead services will be diverted underground below the footprint of the proposed works subject to agreement with utility providers. Underground services will be diverted or replaced to facilitate the works where required also subject to agreement with utility providers. Ducts and services to facilitate the future development of the Carrigwohill UEA will be installed below Station Road.

#### 4.1.8. Accommodation Works

A number of existing structures including buildings, boundary walls and entrances will be removed to facilitate the proposed works. A number of boundary walls and entrances will be re-located to suit the new alignment. Details of structures to be removed/ re-located are shown on drawings 5194601-HTR-PR-DR-0020 to 0029.



## 4.2. Wises Road Junction Upgrades

### 4.2.1. Overview

The aims of the junction upgrades of Wises Road/ Main Street and Wises Road/ Oakbrook Link are to enhance pedestrian and cyclist connectivity to the IDA Business Park and to allow for existing and future pedestrian, cycle and vehicular traffic.

### 4.2.2. Drawings

The proposed junction upgrades of Wises Road/ Main Street and Wises Road/ Oakbrook Link are shown in the following drawings:

- 5194601-HTR-DR-0030 to 0032

### 4.2.3. Description of Junction Upgrades

#### 4.2.3.1. Wises Road/ Main Street Junction

This junction upgrade is shown in drawing 5194601-HTR-PR-DR-0031. It is proposed to signalise this junction and provide pedestrian crossings on each arm of the junction. The corner radii at the junction will be tightened to reduce crossing distances for pedestrians. The shared path layout at the junction will be integrated with the proposed Bury's Bridge cycleway which recently received Part 8 planning permission from Cork County Council and with Active Travel measures which are proposed for Wises Road as part of a separate Cork County Council project.

#### 4.2.3.2. Wises Road/ Oakbrook Link Junction

This junction upgrade is shown in drawing 5194601-HTR-PR-DR-0032. It is proposed to signalise this junction and provide pedestrian/ cyclist crossings on each arm of the junction. The corner radii at the junction will be tightened to reduce crossing distances for pedestrians. The shared path layout at the junction will be integrated with Active Travel measures which are proposed for Wises Road as part of a separate Cork County Council project.

## 4.3. N25 Junction 3 (Cobh Cross) Additional Capacity Interim Measures

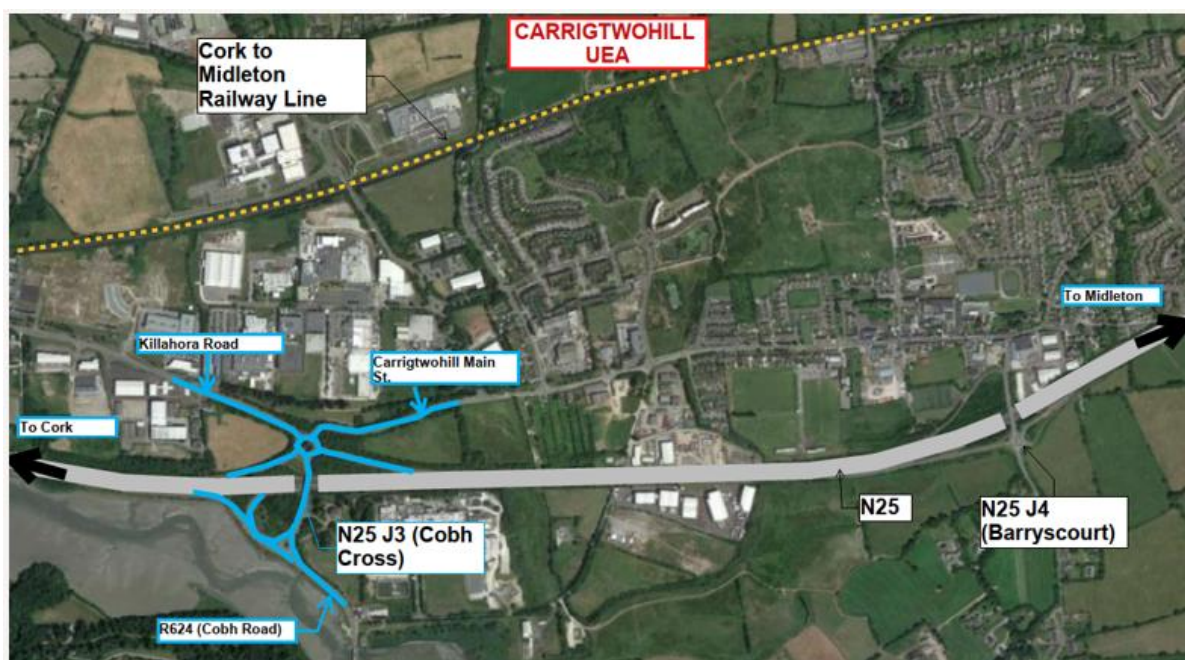
### 4.3.1. Overview

The objectives of the N25 Junction 3 (Cobh Cross) Additional Capacity Interim Measures are:

- To provide a safe route for pedestrians and cyclists through the junction between the planned Dunkettle to Carrigtwohill Inter-urban cycle route and the proposed pedestrian/ cycle link to the R624 which is being proposed as part of a separate project;
- To provide additional capacity at the junction to reduce the occurrence of traffic on the off-slips from backing up on the N25 mainline carriageway and to cater for future development.

### 4.3.2. Existing Junction Layout

The junction is located on the N25 between Cork and Rosslare to the west of Carrigtwohill as shown in Figure 4-3 below. The junction is one of two main entry/ exit points between Carrigtwohill and the national road network and is the closer of the two Carrigtwohill N25 junctions to Cork City and the Carrigtwohill IDA Business Park. It is also the main entry/ exit point between Cobh and the national road network. Cork Harbour Special Protection Area (SPA) is located to the south of the N25 and west of the R624 at the junction.



**Figure 4-4 - N25 Junction 3 - Cobh Cross**

The junction consists of merge/ diverge lanes on both sides of the dual carriageway. These are connected to two roundabouts to the north and south of the N25. The two roundabouts are connected by a bridge over the N25. This bridge is approximately 11 metres in width.

There are five arms on the northern roundabout comprising of the N25 eastbound off-ramp, the Killahora Road, Carrigtwohill Main Street, the N25 eastbound on-ramp and the bridge over the N25 to the south leading to the southern roundabout.

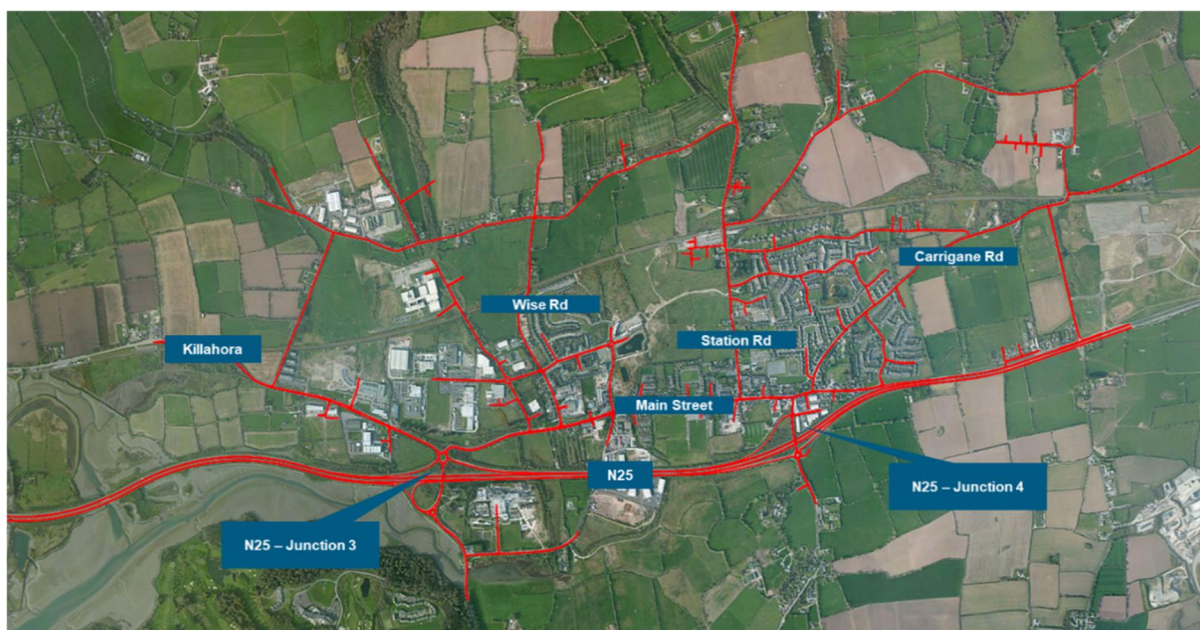
There are three arms on the southern roundabout comprising of the N25 westbound on/off-slip arm, the R624 (Cobh Road) and the bridge over the N25 from the northern roundabout to the north.

There are no footpaths or segregated cyclist facilities provided on the merge/ diverge lanes, on the roundabouts or on the overbridge. There is a footpath along the north side of Killahora Road and Carrigtwohill Main Street to the north side of the northern roundabout. This footpath is to be upgraded to form part of the Bury's Bridge Interurban Cycle/ Pedestrian Route which has received Part 8 planning permission from Cork County Council.

### 4.3.3. Transport Assessment

Cork County Council have commissioned the Carrigtwohill Strategic Traffic and Transport Assessment (STTA) as part of the Carrigtwohill URDF Initiative. The aim of the STTA is to consider the optimum approach for development within Carrigtwohill UEA and other areas coupled with new infrastructure as part of the Carrigtwohill URDF Initiative brief. The STTA will provide an assessment of the impacts of development on the existing road network and provide requirements and timing for upgrading elements of the existing road infrastructure in conjunction with the UEA and other development. The STTA involved the development of two traffic models as follows:

- i. A strategic level Local Area Model (LAM) developed in SATURN (Simulation Assignment of Traffic to Urban Road Networks), which is used to assess the transport impacts of development on the wider Carrigtwohill road network at a strategic level.
- ii. A micro-simulation model developed in VISSIM (Verkehr In Städten –SIMulationsmodell), which is used for a more detailed assessment of the impacts of the development on junctions within the Carrigtwohill road network (shown in Figure 4-5) including N25 Junctions 3 (Cobh Cross).



**Figure 4-5 - Extents of Vissim Microsimulation Model**

Initial traffic modelling results for N25 Junction 3 have been obtained and are summarised below.

#### 4.3.3.1. Do-Minimum Results of Traffic Modelling

The traffic modelling initially looked at the Do-Minimum scenario for the year 2025. This scenario considers background growth and committed development in Carrigtwohill, Midleton and elsewhere on the N25 network. It does not however include any development in the Carrigtwohill Urban Expansion Area (UEA). It also assumes no upgrade to the existing Cobh Cross junction.

The model shows that for this scenario the Cobh Cross junction will be operating over-capacity with the following issues noted:

- Significant queuing and delays on the N25 eastbound off-ramp approaching the northern roundabout in both the morning and evening peak times – see section 1.5 for further detail;
- Queues back up to the N25 eastbound mainline restricting movement along the mainline during both morning and evening peaks;
- The issue is caused by the following two factors:
  - i. In the morning peak there is a significant volume of traffic arriving at the northern roundabout from the R624 overbridge. This limits the opportunity for vehicles arriving from the N25 eastbound carriageway to enter on to the northern roundabout resulting in queuing back to the N25 mainline.
  - ii. In the evening peak the volume of traffic arriving at the northern roundabout from the R624 overbridge is not significant. There is more opportunity for vehicles on the eastbound off-slip to move on to the roundabout. However, because of the very large volume of traffic coming from Cork exiting the N25 on to the eastbound off-ramp the northern roundabout is significantly over-capacity and a longer queue, further back on to the N25 mainline, was observed in the evening peak.
- The southern roundabout was found to be operating within capacity in this scenario.

The Do-Minimum model results for the year 2025 indicate that an upgrade of the northern roundabout of Cobh Cross is required to cater for background growth and committed development by the year 2025.

#### 4.3.3.2. Proposed Junction Upgrade Arising from Traffic Modelling

A number of different junction upgrade options were modelled in Vissim. The modelling found that increasing the size of the northern roundabout to provide more opportunity for vehicles to enter the roundabout from the N25 eastbound off-slip, an additional lane around the roundabout and additional stacking capacity as far as the N25 diverge lane addressed the issues observed during both the morning and evening peaks better than any other option modelled. A larger roundabout allows for an increase in the distance between the entries on to the northern roundabout from the N25 overbridge and the N25 eastbound off-ramp arms respectively. This allows more gap opportunities for the vehicles entering the roundabout from the off-ramp which is particularly important during the morning peak. The increased size of the roundabout, the additional lane around the



roundabout and additional stacking as far as the N25 diverge lane are particularly important during the PM peak. Two number signalised pedestrian/ cyclist crossings through the roundabout will also be included in the upgrade. The crossings will be connected to the Dunkettle to Carrigtwohill Inter-Urban Cycle Route on the north side of the roundabout and to the proposed pedestrian and cyclist path which will cross the N25 on the existing bridge over the N25. The shared path across the bridge will be provided as part of a separate project.

The implementation of the upgrade, as described above, in the 2025 Do-Something scenario results in a significant reduction of queue lengths on the N25 off-slip in both the morning and evening peaks when compared to the 2025 Do-Minimum scenario. It is noted that the Do-Something scenario includes Phase 1A development in the Carrigtwohill UEA comprising of 250 residential units as well as the background growth and committed development in Carrigtwohill, Midleton and elsewhere on the N25 network included in the corresponding Do-Minimum scenario.

Further future year modelling beyond 2025, including the upgrade of Cobh Cross as described has been undertaken and the results show that the upgrade will have capacity for further development beyond Phase 1A of the Carrigtwohill UEA.

Atkins have developed a preliminary design for Cobh Cross Additional Capacity Interim Measures. This design is based on the geometry of the roundabout used in the Vissim model as well as TII standards. The geometry has been further refined using auto-tracking. The preliminary design is shown in drawings 5194601-HTR-DR-0040 to 0042. A Preliminary Design Report for the proposed junction upgrade has been submitted to TII.

## 5. Environmental Summary

### 5.1. Flood Risk Assessment

A flood risk assessment (FRA) for the Carrigtwohill URDF Initiative – Public Realm Infrastructure Bundle has been undertaken in accordance with under the Planning System and Flood Risk Management Guidelines for Planning Authorities (Department of Environment, Heritage and Local Government & Office of Public Works, 2009). The FRA was completed to inform the proposed development as it relates to flood risk and is included as part of the Part 8 planning application. The objectives of the FRA were to:

- Identify potential sources of flood risk;
- Confirm the level of flood risk at and adjacent to the proposed development and identify key hydraulic features;
- Assess the impact the proposed development has on flood risk;
- Develop appropriate flood risk mitigation and management measures which will reduce the flood risk and allow for safe and sustainable development of the proposed infrastructure.

Based on historic data and predictive mapping it was assessed that a section of the proposed development, at the northern end of Station Road, is located in Flood Zone A (1% Annual Exceedance Probability (AEP)) and B (0.1% AEP). Ideally road infrastructure would be located in flood zone B or C (<0.1% AEP). It was assessed that the existing flood risk is caused by an undersized culvert below Station Road along the Woodstock Stream. Construction of a replacement culvert, with capacity to convey flows up to the 0.1% Annual Exceedance Probability (AEP) flood event, was found to completely remove Station Road from the 1% AEP event and significantly reduce the flood extents during the 0.1% event. This mitigation measure was found not to result in flood risk downstream of the site and is recommended by the FRA.

The remainder of the proposed works are within Flood Zone C. It is recommended that to ensure no increased risk of pluvial flooding that all existing levels are maintained where possible so as not to impact on potential flow pathways.

A stormwater system will be incorporated within the proposed development to manage surface water flows. This will ensure that the works will not negatively impact on potential pluvial flooding across the scheme area.

The Flood Risk Assessment concludes that the development is in agreement with the core principles contained within the Planning System and Flood Risk Management Guidelines.

### 5.2. Appropriate Assessment Screening

A screening for Appropriate Assessment (AA) report has been prepared to assist the competent authority, in this case Cork County Council, to carry out a Screening for Appropriate Assessment for the Carrigtwohill URDF Initiative – Public Realm Infrastructure Bundle.

This Screening for Appropriate Assessment report is based on the best available scientific information. It is concluded by the authors of the AA screening report that it can be excluded, on the basis of objective information, that the proposed project, individually or in combination with other plans and projects, will have likely significant impacts on the Great Island Channel Special Area of Conservation (SAC) or Cork Harbour Special Protection Area (SPA). Thus, it is concluded that the proposed project does not need to proceed to Appropriate Assessment.

Should the scope or nature of the proposed project change, a new Appropriate Assessment Screening report would be required.

### 5.3. Environmental Impact Assessment Screening

This Environmental Impact Assessment screening report has been carried out in accordance with the Planning and Development Regulations as amended 2001- 2021 (which give effect to the provisions of EU Directive 2014/52/EU), and the Roads Acts 1993-2021. The report assessed the potential impact of the Carrigtwohill URDF Initiative – Public Realm Infrastructure Bundle, in conjunction with committed developments in the surrounding area.



The project is deemed a sub-threshold development; hence the potential for significant environmental effects arising as a result of the proposed project has been evaluated, in accordance with the requirements of Schedule 7A and Schedule 7 of the Planning and Development Acts 2001-2021.

Key findings are summarised as follows;

- Due to the limited nature of the works it is considered that there will be no cumulative impacts with other developments in the general area.
- Limited noise, vibration and dust emissions may be generated during construction; however, this is anticipated to be minimal in effect and will cause no significant impact.
- Some waste may be generated during construction however this is not anticipated to have a significant adverse effect.
- There will be no significant adverse impacts on biodiversity, surface water, groundwater or traffic.
- There will be no impact on recorded monuments or historic features.

The authors of the EIA screening report conclude that, no significant adverse impacts to the receiving environment will arise as a result of the proposed development. Based on all available information, and taking account of the scale, nature and location of the proposed project, it is the opinion of the authors of the report that the preparation of an EIAR is not a mandatory requirement (under Section 50 of the Roads Acts 1993-2021).

## 5.4. Archaeological and Built Heritage Assessment

An archaeological and built heritage assessment of Carrigtwohill URDF Initiative - Public Realm Infrastructure Bundle has been undertaken. The associated report is included in the Part 8 planning application. The report concludes that the Works associated with the Public Realm Infrastructure Bundle will not directly impact any recorded archaeological sites or protected structures. There is, however, potential to uncover sub-surface archaeological remains during ground works within greenfield areas. As such, a programme of licenced archaeological monitoring has been recommended for this portion of the works. It notes that the works will require the removal and replacement of a number of nineteenth-century road-side structures and removal of sections of historic masonry walls. A programme of pre-works architectural recording is proposed.

It is considered by the authors of the report that Public Realm Infrastructure Bundle has the potential to greatly improve the built environment and town centre of Carrigtwohill and that overall the proposals will have a positive impact on the townscape and streetscape character of the settlement.

## 5.5. Ecological Impact Assessment

An Ecological Impact Assessment (EclA) report has been prepared for the Carrigtwohill URDF Initiative - Public Realm Infrastructure Bundle. The report aims to identify, quantify and evaluate potential effects of the proposed infrastructure project on habitats species and ecosystems in the surrounding environment. The report considers impacts to ecological receptors and proposes mitigation measures to offset or reduce the identified impacts.

The EclA identified a number of pre-construction surveys which are to be undertaken in advance of construction and within the appropriate season. It identifies measures, including monitoring of these measures, which are to be included in the Construction Environmental Management Plan (CEMP) and implemented during construction.

The EclA concludes that consideration of the pre-construction surveys and measures to be adopted during construction results in the residual effects of the proposed development being reduced to 'not significant'. In essence, this can be described as having no perceivable impacts on ecological features (habitats or species). Impacts may be beneath levels of perception, within normal bounds of variation.

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