Chapter 08

Landscape and Visual

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8. Landscape and Visual

8.1 Introduction

This chapter comprises a landscape and visual impact assessment of the Proposed Development. The Proposed Development consists of a new pedestrian and cyclist bridge that encompasses a segregated footway and cycleway that will be 5m wide. The proposed crossing will be approximately 460m long and will consist of a combination of different structural forms as follows:

- Northern approach ramp: combination of earthen embankment and elevated ramp structure;
- Irish Rail span: concrete portal frame structures;
- N25 span: steel network arch structure; and
- South approach ramp: combination of elevated ramp structure, at grade sections and earthen embankment.

The construction stage works will require areas for set down, assembly, access and manoeuvring of bridge infrastructure details of which are set out in this report under **Chapter 5**, *Construction Strategy*.

The objective of the assessment is to appraise the existing character and visual context of the site and its wider setting to assess the likely landscape and visual effects arising from the Proposed Development, describe any potential design mitigation measures and predict any residual effects of the Proposed Development.

This assessment was prepared by David Bosonnet and George Dundon of Brady Shipman Martin. Details of their relevant qualifications and experience are included in **Chapter 1**, *Introduction.*

This chapter initially sets out the assessment methodology (Section 8.2), followed by the description of the baseline condition of the site and context in terms of the character and visual environment (Section 8.3). The potential impacts of the Proposed Development are described and assessed in Section 8.4 and consider a 'Do Nothing Scenario', and the Construction, Operational and Decommissioning Phases. Proposed mitigation of landscape impacts is described and evaluated in Section 8.5, with mitigation considered for each of the Construction, Operational and Decommissioning Phases. Potential cumulative impacts with other Proposed Developments identified under the scope of this assessment are summarised and assessed in Section 8.6 followed by the Residual Impacts (Section 8.7). References used in the preparation of this landscape and visual impact assessment complete this chapter (Section 8.8).

8.2 Assessment Methodology

8.2.1 Introduction

Landscape has two separate, but closely related aspects. The first is visual impact, i.e., the extent to which new development can be seen in the landscape / townscape environment. The second is impact on the landscape character, i.e., effects of new development on the fabric or structure of the landscape including settlement as a constituent part of the landscape.

The visual impact assessment considers visual receptors in the vicinity of the Proposed Development. The majority of receptors comprise residential and commercial properties, cultural and heritage properties, community facilities, e.g., churches, amenities and recreational facilities, open spaces, walkways, public roads and railway routes and other views within the environment.

Landscape character is derived from the appearance of the land and built environment, and takes account of natural and man-made features such as topography, landform, vegetation, land uses and built environment, and their interaction to create specific patterns that are distinctive to particular localities.

8.2.2 Legislation and guidelines

The landscape and visual impact assessment has had regard to the following legislation, policy documents, and reference material:

- Cork County Council (CCC) (2022). Cork County Development Plan 2022-2028;
- CCC (2017). Little Island Transportation Study (LITS);
- Environmental Protection Agency (EPA, 2022). Guidelines on the information to be contained in Environmental Impact Assessment Reports;
- The Landscape Institute / Institute of Environmental Management and Assessment (2013). Guidelines for Landscape and Visual Impact Assessment. (GLVIA3, 3rd Edition);
- Fáilte Ireland (2011). Guidelines for treatment of tourism in an Environmental Impact Statement;
- Landscape Institute (2019). Landscape Institute Technical Advice Note 06/19; and
- From the experience of the professional landscape consultancy in carrying out landscape and visual assessments for over 25 years in Ireland.

8.2.3 Assessment methodology

The methodology used for the landscape and visual assessment entailed:

- A desktop study of the site in relation to its overall context locally, regionally and nationally; and
- Visiting the site and its environs in March 2023 and 2020 to assess the following:
    - Quality and type of views in the area;
    - The extent of the visual envelope, i.e., the potential area of visibility of the site in the surrounding townscape and
    - The character and quality of the surrounding townscape.

Following a review of the Proposed Development, desktop study and visit to the site, three key reference viewpoints in the surrounding environs were identified, photographed and surveyed for the purpose of preparing photomontages to help illustrate the visual effects of the Proposed Development (refer to **Appendix 8.2** in **Volume 4** of this EIAR). They have been chosen to reflect a range of distances, directions and sensitivity. A cumulative assessment of other significant planned or permitted (but not yet constructed) developments has also been prepared.

The overall design of the proposed pedestrian and cyclist bridge and links was part of an iterative design process informed by the potential landscape and visual effects, with mitigation incorporated into the design of the proposed infrastructure. This included a low-profile bridge deck structure, maximum use of columnar supports, prefabrication and assembly of the bridge deck structure, careful consideration of materials, finishes, and selection of the proposed route.

The extent to which additional illumination on the proposed bridge, which will be visible in the night landscape, will have an effect, was also considered.

8.2.4 Significance of impacts

The significance criteria as set out in the Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022) have been used for the purpose of this assessment.

The significance of landscape is considered against its designation (i.e., national, county, local, etc.). Where not designated or otherwise protected, the landscape is considered as being of local significance. Therefore, landscape assessments take account of the receiving environment, its character and features, as well as landscape planning designations and listings.

These impacts, which in quality may be positive, neutral or negative / adverse, are described as follows:

- **Imperceptible:** An effect capable of measurement but without noticeable consequences;
- **Not Significant:** An effect which causes noticeable changes in the character of the environment but without noticeable consequences;
- **Slight:** An effect which causes noticeable changes in the character of the environment without affecting its sensitivities;
- **Moderate:** An effect that alters the character of the environment in a manner that is consistent with existing and emerging trends;
- **Significant:** An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment;
- **Very Significant:** An effect which, by its character, magnitude, duration or intensity significantly alters the majority of a sensitive aspect of the environment; and
- **Profound**: An effect which obliterates sensitive characteristics.

In terms of duration, effects are considered as follows:

- **Brief:** lasting up to one day;
- **Temporary:** lasting up to one year;
- **Short-term:** lasting one to seven years;
- **Medium-term:** lasting seven to fifteen years;
- **Long-term:** lasting fifteen to sixty years; and
- **Permanent:** lasting over sixty years.

There were no limitations or constraints in carrying out the assessment.

8.2.5 Tourism and recreation

The 'Guidelines for treatment of tourism in an Environmental Impact Statement' (Fáilte Ireland, 2011) notes that there are two interactions between tourism and the environment, namely impacts caused by tourism projects and impacts affecting tourism (e.g., the quality of a destination or a tourism activity).

Chapter 3 of the Fáilte Ireland Guidelines lists the reasons why tourists visit and enjoy Ireland. Aspects of relevance to this 'Landscape' section of the EIAR would include any potential impact on 'beautiful scenery', 'nature, wildlife and flora' (considered with Biodiversity) and 'good range of attractions' (considered with Biodiversity and Archaeology, Architectural and Cultural Heritage).

For elements of relevance to this section of the EIAR, the Guidelines note that particular attention needs to be paid to effects on:

- Views from existing tourism facilities, touring routes and walking trails;
- Physical access to and visibility of habitats; and
- Damage to sites and structures of cultural, historical, archaeological, or architectural significance and to their contexts or settings.

8.3 Baseline Environment

8.3.1 Site context

The Proposed Development site and study area is located approximately 1.2km west of Glounthaune village and approximately 10km east of Cork City on land bounded by the L3004 Glounthaune Road to the north and the Eastgate Retail and Business Parks to the south.

Significant road and rail infrastructure are situated in the centre and immediately adjacent to the site. The N25 dual carriageway passes east / west through the centre of the site. This is characterised by the four-lane highway and central median together with slip roads to the north and south sides, serving the junction that connects to "An Crompan" roundabout on R623, southeast of the proposal site. The R623 passes over the N25 and railway line to the east of the site via a precast concrete road bridge to join the L3004 Glounthaune Road.

The Cork City to Middleton Cobh railway line passes east / west through the site between the northern slip road of the N25 and the L3004, Rockgrove Road. Little Island train station is situated on the mainline railway immediately to the east of the Proposed Development site and is characterised by a cluster of Victorian brick and rendered buildings and associated platforms to both sides of the track, a footbridge, and a car park with surrounding security fence.

A course macadam footpath runs east / west within the green space set back from the L3004 Glounthaune Road behind a concrete post and two rail fences. This path enters a car park and local recycling point at the eastern end of the green space. Onward pedestrian movement is through the recycling yard gateway, east along the Little Island train station access road and east along the south side of the L3004 Glounthaune Road as far as a point opposite the entrance to the light industrial development outside Glounthaune village. This path also connects to footpaths leading into Little Island along the R623. Phase 3 of the Dunkettle to Carrigtohill pedestrian and cycle route passes the site along the northern side of the L3004 Glounthaune Road. A bus stop is situated at both sides of the L3004 Glounthaune Road, adjacent to the community recycling centre.

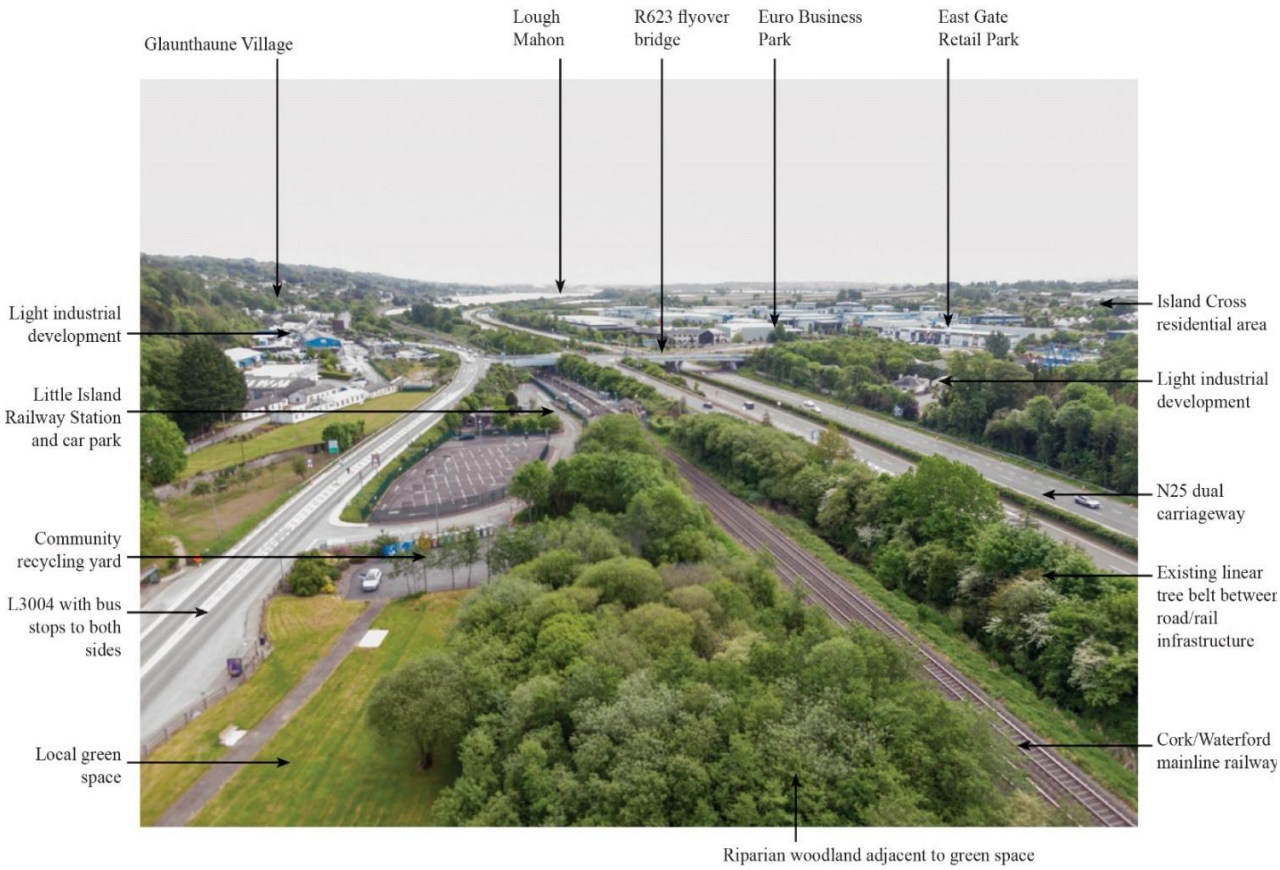
The Arboricultural Impact Assessment (refer to **Appendix 8.1** in **Volume 4** of this EIAR) has not identified any Tree Preservation Orders (TPOs) on the site and the site is not within an area designated by a Special Amenity Area Order. The road and rail corridor passing through the site and study area is characterised by established mixed deciduous trees alongside the roads and railway embankments. These belts of mixed species of trees and hedgerow vegetation along the linear infrastructure locally screen views north south between roads, railway and adjacent land at pedestrian and vehicle level (refer to **Photograph 8.1**).

Photograph 8.1: Aerial view looking northeast over Proposed Development site

An area of land between the south side of the N25 and the Radisson Blu Hotel and car park is characterised by mixed deciduous trees; predominantly Sycamore, Alder and Poplar, and evergreen trees; predominantly Sitka Spruce with woodland ground cover species within it. This block of woodland screens views to / from the Raddison Blu Hotel and the N25 which passes at approximately 5m below it to the north. The land of the Proposed Development site between the north side of the railway line and L3004 Glounthaune Road is characterised by a belt of mixed riparian trees comprised mainly of Willow, Alder and Ash. Part of this planting expands to form a block of woodland at the eastern end, wrapping around a hardstanding area and running between the railway line and the train station access road. A pond with marginal and aquatic plants enclosed by trees is located to the northwestern end of the study area. The remaining land between the riparian tree belt and the L3004 Glounthaune Road is laid to amenity grass with some relatively young individual specimen trees.

The principal land uses within the study area are commercial / retail, industrial, transport infrastructure and residential. The area to the south of the proposal site is characterised by extensive commercial and retail development with surface car parking and circulation roads including Little Island Industrial Estate, Eastgate Business Park and Eastgate Retail Park, interspersed with suburban residential development. The area to the north of the site is characterised by a steep slope rising north up to Rockgrove Road at circa 100m AOD above the River Lee Valley. The lower to middle parts of the slope is characterised by detached homes on large plots bounded by mature trees and hedgerows overlooking Little Island and Lough Mahon, before the landscape changes to agricultural land on the upper level extending into the countryside to the north. The extent of mature trees within and surrounding properties along this slope merge to create a locally dense tree canopy, which is a distinctive feature of the landscape setting to the north of the site.

Photograph 8.2: Aerial view looking southeast from Proposed Development site



Photograph 8.3: Aerial view looking east from Proposed Development site

Photograph 8.4: View looking west on L3004 opposite junction with Little Island train station access road. Bus stops to both sides of road, mature trees and open space bounded by concrete post and rail fence

Photograph 8.5: View looking southwest from community recycling yard with open space path terminating at yard and riparian tree belt along boundary with railway line

Photograph 8.6: View looking east from within Little Island train station car park at east end of station with the view terminated by R623 flyover bridge

Photograph 8.7: View looking east from Radisson Blu Hotel car park towards existing woodland within the Proposed Development site

The site and study area are located within a designated High Value Landscape area in the Cork County Development Plan 2022-2028 (refer to **Image 8.1**) which sets the following objective regarding landscape:

"GI 14-9: Landscape

a) Protect the visual and scenic amenities of County Cork's built and natural environment.

b) Landscape issues will be an important factor in all land-use proposals, ensuring that a pro-active view of development is undertaken while protecting the environment and heritage generally in line with the principle of sustainability.

c) Ensure that new development meets high standards of siting and design.

d) Protect skylines and ridgelines from development.

e) Discourage proposals necessitating the removal of extensive amounts of trees, hedgerows and historic walls or other distinctive boundary treatments."

County Development Plan Objective GI 14-11: Draft Landscape Strategy, Land Use Plans and Policy Guidance refers to the Draft Cork County Landscape Strategy (2007) in the preparation of plans and other policy guidance being prepared during the lifetime of the Plan.

The Cork County Landscape Strategy defines the Landscape Character Area within which the site is situated as *'Character Area 19: Cork City and Estuary'*. Key characteristics of this landscape type include:

- *"A mix of rural and intensely urban areas, combined with a large expansive harbour.*
- *The harbour area also has a wealth of natural heritage, including a number of important habitats and wetland areas, which are of international significance due to the number and diversity of bird species they support.*
- *The rural areas around much of the greater harbour area are now characterised by a prevalence of infrastructure such as roads, bridges and electricity power lines and some urban sprawl.*
- *It is also home to a number of prime industrial/enterprise sites including one of the largest concentrations of pharmaceutical industries in the world."*

Notable recommendations for '*Character Area 19: Cork City and Estuary*', which are relevant to the proposal site include:

- *"Protect the north and south ridges and hillsides around the city, to ensure the protection of the visual backdrop to the city. These ridges would be adversely affected by unsympathetic development thus interfering with views of special amenity value to the city and surrounding area.*
- *Maintain and enhance views of the harbour. Proposals for development in the harbour should respect the sensitivity of this landscape and in particular should have regard to its rich and diverse natural heritage and concentration of Natural Heritage Areas that are designated for protection and the relationship between these and the built environment.*
- *Recognise the potential constraints on development created by the River Lee flood plain and the value of this flood plain as an increasingly rare habitat."*

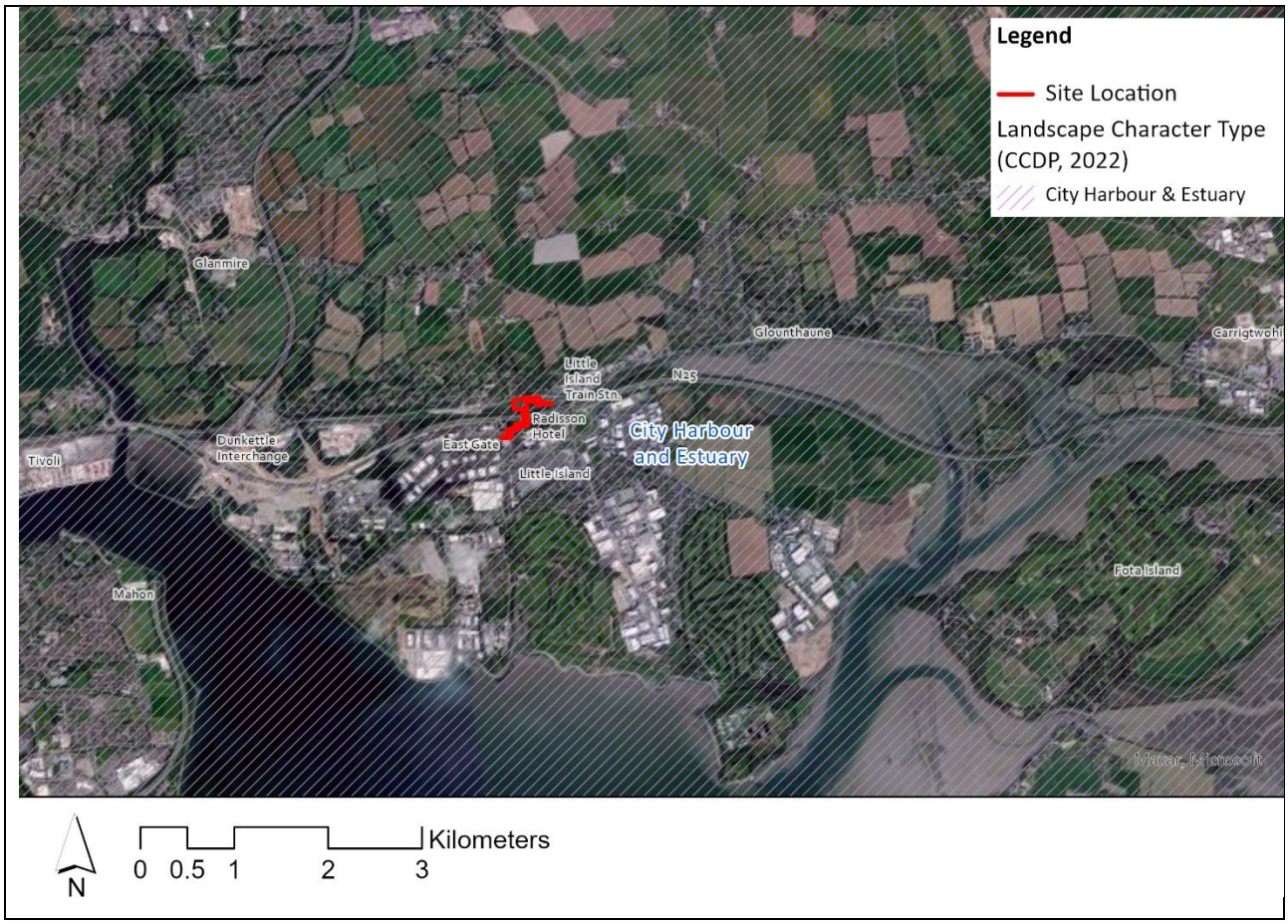


Image 8.1: Area of high landscape value

The designated Scenic Routes within the study area are shown in **Image 8.2** and are as follows:

- Road at Cashnagarriffe, N.W. Carrigtwohill and Westwards to Caherlag. Cork County Council Ref. No. S42. This route runs west / east across the elevated landscape north of the site for approximately 7km through the townlands of Rowgarrane, Ballynaroon, Johnstown, Killahora, Killacloyne, Carhoo and Anngrove before turning north to Forest-Town. The closest point of this scenic route to the site is approximately 1km; and
- Road from Dunkettle to Glanmire and eastwards to Caherlag and Glounthaune. Cork County Council Ref. No. S41. This route runs west / east across the elevated landscape north of the site for approximately 4.5km from the M8 through the townlands of Ballyhennick and Glounthaune as far as the L3004 Glounthaune Road at Johnstown Close. The closest point of this scenic route to the site is approximately 700m.

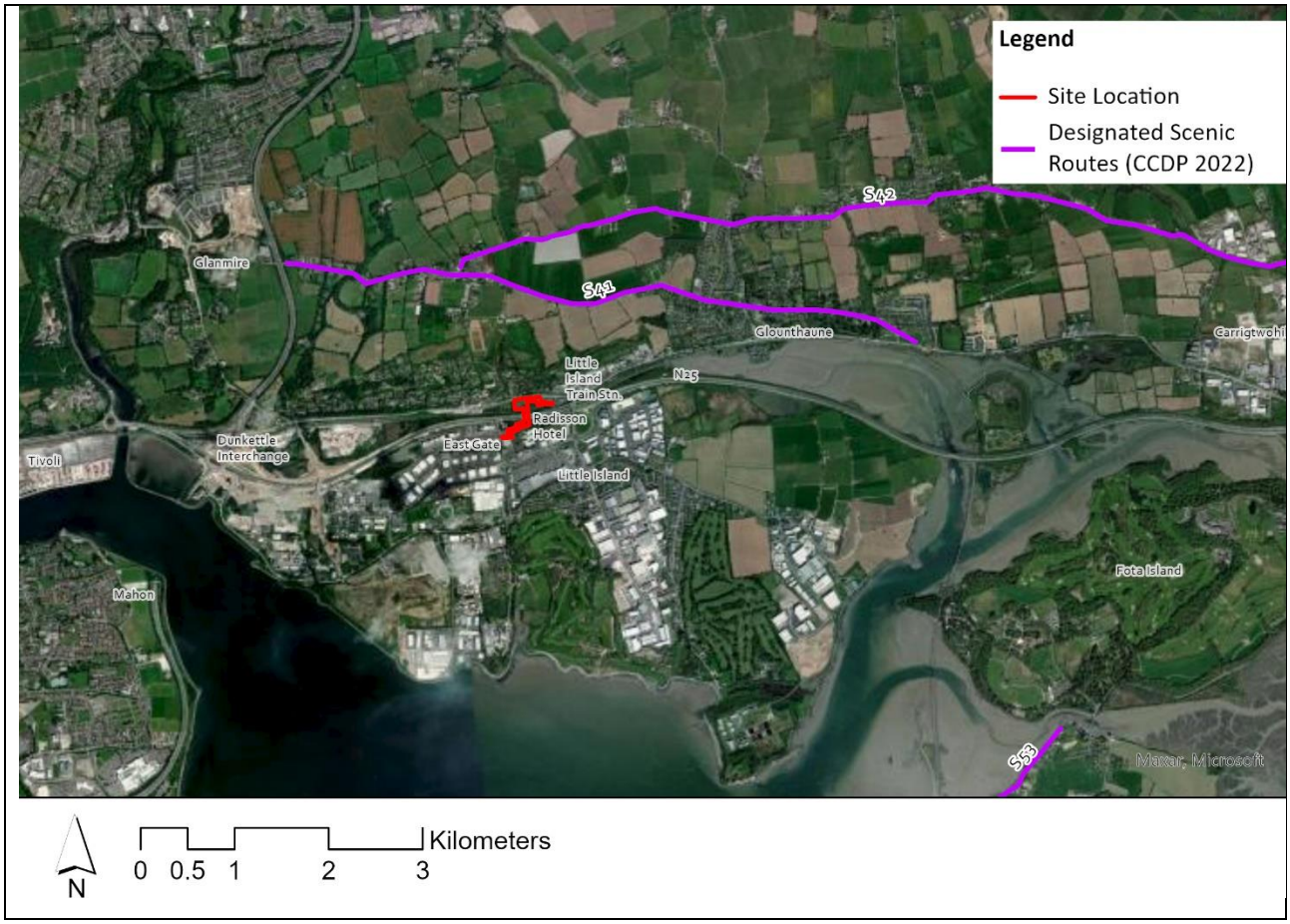


Image 8.2: Designated scenic routes

Architectural and archaeological features are addressed in **Chapter 13**, *Archaeology, Architectural and Cultural Heritage*. The designated architectural features in the study area include the following:

- Ditchley House, registered architectural heritage feature of regional significance (NIAH Reg. No. 20907527). A country house, gate lodge and piers dating from 1800-1840 incorporated into the Radisson Blu Hotel is located approximately 30m south of the Proposed Development site. The NIAH Appraisal states *"Substantial and imposing country house retaining much of its early character despite extensive site alterations. It exhibits the fine craftsmanship associated with the Georgian period, most particularly in the carved limestone door case and delicate fanlight. The remaining demesne structures on the site include Ditchley house, gate lodge and gate piers, all of which remain largely intact and form a pleasing grouping in the landscape."*

- Little Island train station - building, registered architectural heritage feature of regional significance (NIAH Reg. No. 20907528). A red brick Victorian railway station building dating from 1855-1860 is located immediately to the east of the Proposed Development site. The NIAH Appraisal states it is *"A fine example of the quality of craftsmanship employed by the railway authority in the construction of their utilitarian structures throughout the latter half of the nineteenth century. The composition employs materials of superior quality along with well-executed and considered detailing. The use of red brick together with carved limestone quoins provides textural interest and chromatic variation. It is one of a group of related railway structures including the foot bridge and station master's house."*

- Little Island train station - footbridge, registered architectural heritage feature of regional significance (NIAH Reg. No. 20907530). A Victorian free standing single span cast iron footbridge erected 1859 is located immediately to the east of the Proposed Development site. The NIAH Appraisal states it is *"A good example of Victorian engineering, this intact cast-iron footbridge features well-executed decorative detailing and still serves its original purpose."*

- Little Island train station master's house, registered architectural heritage feature of regional significance (NIAH Reg. No. 20907529). A detached two storey former station master's house dating from 1859 is located immediately to the east of the Proposed Development site. The NIAH Appraisal states that despite re-fenestration and alterations, it represents an occupied example of the large numbers of these buildings that were constructed, but many of which have fallen into disuse.

Photograph 8.8: View looking west from Little Island train station with Victorian station building and cast-iron footbridge and Proposed Development site beyond

- Rockgrove House, Registered Architectural Heritage feature of regional significance (NIAH Reg. No. 20907531). A country house, gate lodge and piers dating from circa 1760 is located approximately 350m northeast of the Proposed Development site. The NIAH Appraisal states *"The subtle bowed bays are a feature particularly characteristic of the Cork region. In spite of refenestration, the original character and form of this house is retained in the delicate detailing of features such as the render door case and window surrounds. The grouping of demesne structures including grotto, well-executed limestone gate piers and gate lodge adds significantly to the architectural heritage of the area."*

The designated natural heritage features in the study area are described in **Chapter 9**, *Biodiversity*.

The steeply rising topography, residential development and vegetation to the north and the scale and extent of commercial development and vegetated road corridor along the south, combine to create a contained site with a low degree of intervisibility with adjacent areas.

Road and rail infrastructure and commercial and residential development dominate the character of the southern context of the site. The industrial and infrastructural features of this landscape are consistent with this type of character described in '*Character Area 19: Cork City and Estuary*.' On the northern side of the proposal site, the L3004 is characterised by some individual residential dwellings, with a greener leafier character in the northern part of the study area. Solid concrete walls alongside the L3004 Glounthaune Road, road and rail infrastructure and an area of light industrial uses just east of the site contribute to the urbanising influences that, overall, create a peri-urban character to the site and its setting.

8.3.2 Characteristics of the Proposed Development

A detailed description of the Proposed Development and construction strategy is set out in **Chapter 4**, *Description of the Proposed Development* and **Chapter 5**, *Construction Strategy*, respectively.

The proposed bridge and link paths that serve it will function as an active travel link for pedestrian and cyclists to travel from the Little Island train station and surrounding area to the Eastgate Business Park and the wider area of Little Island. It also promotes the use of sustainable modes of transport of walking, cycling and public transport by providing a safe and attractive link for people travelling between Little Island train station and Little Island.

The proposed crossing main spans (N25 & Irish Rail) consist of a single span steel network arch structure over the N25 and a 2-span precast concrete segmental portal frame structure over the Irish Rail track and adjacent land to the south. The spans of these structures will be approximately 49m (N25) and 2x15m (Irish Rail).

The ramp structures will consist of a combination of elevated structures, embankments, landscaping and at grade sections. The southern ramp section between the Radisson Blu Hotel car park and the N25 bridge tie in will be an elevated structure due to the fall off in level to the north and east of the Radisson Blu Hotel car park. An earthen embankment is also proposed on the west side tie into the Radisson Blu Hotel car park due to the level difference. For details of proposed makeup of approach ramps, refer to **Figure 4.3** in **Volume 3** of this EIAR.

Both elevated ramp structures will use reinforced concrete spans. For the north elevated ramp, a bespoke concrete structure with single piers is proposed. For the southern elevated ramp structure, a precast prestressed bridge beam bridge design with two column piers and crossheads is proposed.

Proposed design interventions to incorporate the proposed bridge and access ramps into the landscape setting include:

- A new shared foot / cycle path link from the end of the northern access ramp leading east along the access route into Little Island train station;
- Redesign of the existing community recycling facility to include resurfacing and improved boundary treatment and landscape presentation;
- Proposed tree planting along the corridor of the proposed access ramps and bridge landing points as part of the compensation for removal of trees due to Proposed Development;
- Landscape and amenity enhancements to the existing open green space between the L3004 Glounthaune Road and the railway corridor to include, wetland habitat creation, improvement to the existing path, additional footpath links, grassland diversification and tree planting;
- Re-design of the Radisson Blu Hotel car park at the boundary with the proposed southern access ramp to include direct access from the car park to the bridge; and
- A new controlled crossing on Eastgate Road at the end of the southern approach ramp providing safe onward connectivity for pedestrians and cyclists into Little Island.

8.4 Potential Impacts

8.4.1 Do-Nothing Scenario

If the Proposed Development does not proceed, no landscape and visual impacts associated with the Proposed Development would arise. Additionally, the existing setting would experience little or no change in the short to medium-term.

8.4.2 Construction Phase

The main characteristics of the Construction Phase of the Proposed Development that have potential for landscape and visual impacts include:

- Site mobilisation and establishment, mature tree and vegetation removal;
- Construction of northern construction compound, southern construction compound and bridge assembly compound and associated fencing / hoarding (refer to **Figure 5.2** in **Chapter 5**, *Construction*) and the fencing of lands for the safe site management and construction of the works;
- The temporary closure of a section of the existing footpath in the green space adjacent to L3004 Glounthaune Road, the community waste recycling yard, a portion of the Radisson Blu Hotel car park and a portion of the public car park at Eastgate Road for the duration of the works;

- The temporary removal of 38 no. car parking spaces from the Radisson Blu Hotel car park and 32 no. car parking spaces from the Eastgate Business Park car park to construct the southern path link to the bridge to Eastgate Road and proposed pedestrian / cycle crossing;
- The temporary closure of Eastgate Road to construct the proposed pedestrian / cycle crossing;
- Disturbance and activity, including removal of topsoil, general earthworks, construction of pile caps and movements of construction traffic;
- Excavation and protection of services and utilities diversions;
- Construction of north and south approach path ramps and embankments adjacent to L3004 Glounthaune Road on the north side and in Eastgate Business Park car park and adjacent to Radisson Blu Hotel on the south side of the Proposed Development site. The construction of two bridge abutments on the N25;
- Offsite fabrication of the main bridge span and approach spans with the sections transported to the temporary bridge assembly compound and lifted into position using cranes; and
- Upgrade works and improvements to existing footpaths in the green space adjacent to the Proposed Development site and the L3004 Glounthaune Road and construction of new footpaths linkages to Little Island train station and the pedestrian / cycle crossing to Dunkettle to Carrigtwohill pedestrian and cycle route.

The most significant effects on the townscape and visual environment will be during the Construction Phase, which is estimated to last approximately 18 months and will give rise to a number of landscape and visual impacts.

8.4.2.1 Landscape impact

Removal of existing trees and vegetation

To facilitate the Proposed Development and associated infrastructure works, it will be necessary to remove and prune trees and vegetation within the Proposed Development site.

These works are detailed in the Arboricultural Impact Assessment (refer to **Appendix 8.1** in **Volume 4** of this EIAR) and are summarised in **Table 8.1**.

Table 8.1: Summary of tree removal and pruning works

Impact	Category A	Category B	Category C	Category U	Total
Individual trees to be removed to facilitate the Proposed Development	13	36	33	21	**103**
Individual trees to be pruned to facilitate the Proposed Development	14	10	5	0	**29**
Tree groups to be removed to facilitate the Proposed Development	0	8	4	1	**13**
Part-groups (i.e., sections of a tree group) to be removed to facilitate the Proposed Development	4	1	0	0	**5**
Tree groups to be pruned to facilitate the Proposed Development	2	1	0	0	**3**

The estimated total number of trees to be removed on site is 277. The removal of trees and vegetation will give rise to localised **significant, negative** and **short** to **medium-term** effects on the immediate environs.

8.4.2.2 Visual impact

Construction activity, construction compounds and bridge assembly area

There will be a requirement for temporary hoarding / fencing, parking, deliveries, lighting, piling rigs, cranes etc. during the Construction Phase. Public access to the green area adjacent to the L3004 Glounthaune Road

will be restricted during the Construction Phase. This restriction will give rise to **locally significant, negative** and **short-term** effects on the immediate environs and views in the area.

Alterations to ground levels utilising soils and materials on site

There will be a requirement to construct foundations and abutments at two locations for the main bridge span; to the north and south of the N25 road. There will also be a requirement for embankments to be constructed to support the ramped footpath / cycleways to the bridge crossing. These embankments are expected to be constructed using strengthened and reinforced soil methods to minimise the overall land take and import volume. Side slopes of these embankments are proposed to be up to 70 degrees. Sections of the proposed approach paths to the bridge from the embankments will be constructed on concrete piers and crossheads. This will require localised changes to ground levels and removal of excess spoil off-site, resulting in **locally significant, negative** and **short-term** effects on the immediate environs.

In general, construction impacts will be **significant, temporary, negative** and **localised** in nature.

8.4.3 Operational Phase

The main characteristics of the Operational Phase of the Proposed Development that have potential for landscape and visual impacts include:

- The presence of a new bridge structure across the rail and road corridor;
- The permanent removal of 12 no. car parking spaces from the Radisson Blu Hotel car park and 32 no. car parking spaces from the Eastgate Business Park car park at Eastgate Road;
- The movement of pedestrians and cyclists across the new bridge; and
- The presence of additional lighting on the new bridge.

8.4.3.1 Landscape impact

The site of the proposed pedestrian and cyclist bridge crossing is in a peri-urban setting characterised by significant national road and railway infrastructure, commercial, retail and light industrial development, low density residential development and local distributor roads and footpaths. Parts of the site and its immediate environs are characterised by green space with linear belts of trees and vegetation associate with road and rail infrastructure. The wider context of the site to the north is characterised by mature trees and hedgerows on the south facing slope of The River Lee Valley. Overall, the site and its setting are of low sensitivity to change given the existing urbanising influences on its character.

Considering the low landscape sensitivity of the site and its context, the Proposed Development will not adversely change the inherent landscape, its significance, or value.

The proposed pedestrian and cyclist bridge will link to existing active travel infrastructure, including the Little Island train station, bus stops on the L3004 Glounthaune Road and the Dunkettle to Carrigtwohill pedestrian and cycle route. The Proposed Development will therefore provide a strategic and essential piece to complete a network of sustainable transport and active travel that is attractive to a wide range of users. In providing this connection, the Proposed Development supports modal shift from private vehicles which are a dominant, negative, feature and influence on the local area. The proposed pedestrian and cyclist bridge will also provide a universally accessible direct linkage to the primary destination of Little Island, away from trafficked areas and through green space, that is a safe alternative to the currently inadequate vehicle dominated route.

Careful consideration has been given to the design of the Proposed Development. The combination of proposed concrete columns and crossheads to support sections of the approach to the main bridge span will reduce impact on existing woodlands and green space. The use of living retaining walls to the embankments supporting access ramps and a bridge design with minimum deck thickness, single span double arches and lattice supports, will reduce the mass of construction and integrate the proposed structures into the landscape setting.

The Proposed Development will therefore have a **significant, positive** and **permanent** impact on the site and its environs.

8.4.3.2 Local amenity impact

A green area is situated on the land between the L3004 Glounthaune Road and the Cork City to Middleton Cobh railway line, adjacent to the northern portion of the Proposed Development. It is comprised of open amenity grass and individual trees, a belt of trees along the boundary with the railway line, a set of cycle parking hoops and a path with benches. There is no crossing point to this space from the residential development on the northern side of the road and no dedicated footpath connection to the space from Little Island train station.

The Proposed Development will provide a:

- Dedicated footpath to this space from Little Island train station;
- Link to the Dunkettle to Carrigtwohill pedestrian and cycle route; and
- Landscape enhancement of the amenity space through new tree planting, additional paths and seating, and creation of wet grassland habitat to increase biodiversity and the natural amenity value of this space for people.

On the southern side the Proposed Development will provide a:

- Dedicated pedestrian / cycle path to Eastgate Road and a new crossing on that road for onward connectivity into Little Island;
- Direct access to the proposed bridge from the Radisson Blu Hotel; and
- New tree and ground cover planting within the bridge construction corridor as part of proposed landscape integration and to support biodiversity enhancement.

Considering the proposed enhancements in connectivity and amenity associated with the Proposed Development, the impact will be **moderate**, **positive** and **permanent**.

8.4.3.3 Visual impact

The proposed bridge introduces a modern structure into a visual environment that already has a number of modern structures, including concrete walls, metal railings, crash barriers, fly over road bridge, metal gantries and large directional signage. The topography and vegetation associated with the linear infrastructure combined with the built development along the N25 corridor restrict views of the Proposed Development. Considering the low-profile nature of the bridge deck with the overall bridge structure contained within the topography, vegetation and built context to both sides of the N25 corridor, views of the structure will be generally localised in nature. The Proposed Development will be visible from eastern approaches towards Little Island train station on the L3004 Glounthaune Road and the N25, and the R623 bridge as it crosses the N25 at the corner of Eastgate Road, adjacent to the northeast corner of Eastgate Business Park. There is potential for glimpse views of the Proposed Development from the Radisson Blu Hotel and car park on the northern side and from individual residential properties located on the south facing slope north of the site above Factory Hill Road.

Representative viewpoints of the Proposed Development have been prepared from the following locations:

Open space to the west: Refer to Figure 1.1.1 in **Appendix 8.2** in **Volume 4** of this EIAR. This viewpoint is located approximately 140m west of the centre of the proposed bridge within the Proposed Development and is representative of receptors approaching from the west along the L3004 Glounthaune Road and the open space itself. The view is characterised by the open amenity grass area, rough gravel footpath, the belt of trees and vegetation defining the boundary of the space and screening the railway line. The concrete post and rail fence is visible along the left of the view with low light industrial buildings visible in the background together with light columns and the elevating road. Individual elements of street furniture and a timber pole with powerlines is visible. The coloured array of recycling containers in the community recycling yard are visible in the background.

The embankment supporting the northern approach ramp to the bridge will be visible adjacent to the path heading east in the green open space (refer to Figure 1.1.2 in **Appendix 8.2** in **Volume 4** of this EIAR). The remaining elevated sections and support columns of the proposed bridge approach as it turns south to cross over the railway line will be visible between the existing and proposed trees in the open space. A new path

and the resurfaced existing path will be visible within a diversified landscape mosaic of wet grassland and associated planting in the green space. The green embankment will screen the community recycling facility. The visual impact is considered to be **moderate**, **neutral** and **permanent**.

R623 Flyover Bridge: Refer to Figure 1.2.1 in **Appendix 8.2** in **Volume 4** of this EIAR. This viewpoint is located 295m east of the centre of the proposed bridge within the Proposed Development on the fly over road bridge crossing the N25 and the Cork City to Middleton Cobh railway line. This view is representative of receptors moving north / south along the flyover bridge on foot or in a vehicle. The view is characterised by the four-lane dual carriageway of the N25 with the slip roads to the junction serving this road visible in the centre and right of the view. The mixed tree belts and vegetation along the road corridor and the tree cover of the south facing slope of the River Lee Valley combine to create a green setting to the road corridor from this view. Individual residential dwellings are glimpsed between the tree canopy of the south facing slope. Light columns and a concrete wall are visible on the slip road and a gantry over the N25 with large highway signage visible further west.

The single span arches with bridge deck suspended from the network of steel lattice cable will be visible over the N25 in the middle distance in this view (refer to Figure 1.2.2 in **Appendix 8.2** in **Volume 4** of this EIAR). The uppermost point of the arches will project into the skyline but appear below the top of the trees to either side of the N25. The overall structure of the bridge will appear nestled within the infrastructure corridor created by the linear vegetation along it and the tree covered south facing slope to the right of the view. The vegetation along the road / rail corridor screens views of approach ramps, decks and columns and the bridge abutments in this view. It is anticipated that glimpse views of the bridge structure will be visible from individual properties in the middle to upper portions of the south facing slope. The proposed bridge will appear as an added urbanising feature in the view. The visual impact is **moderate**, **negative** and **permanent**.

Northeast Corner of Eastgate Business Park: Refer to Figure 1.3.1 in **Appendix 8.2** in **Volume 4** of this EIAR. This viewpoint is located adjacent to the start of the southern approach ramp looking northeast across the public car park towards the Radisson Blu Hotel car park, 215m from the centre of the proposed bridge within the Proposed Development. This view is representative of receptors in the northeast of the business park and passing along Eastgate Road. The existing road is visible in the foreground together with car parking, a footpath and light columns. A green painted service cabinet and a green post and mesh fence is visible on the right of the view. A white concrete utility building is visible on the edge of the car park. Parked cars in the Radisson Blu Hotel car park are visible on a level above the foreground between clipped vegetation and a row of trees on the boundary of the car park. A mix of deciduous woodland and trees form a consistent backdrop to the view screening views beyond the car parking areas.

The proposed pedestrian / cyclist crossing on Eastgate Road will be visible in the foreground (refer to Figure 1.3.2 in **Appendix 8.2** in **Volume 4** of this EIAR). The pedestrian and cycle path extends east along the southern edge of the car park will turn north, gradually rising as it runs along the boundary with the Radisson Blu Hotel car park. The green vegetated embankment supporting the approach path will be visible at the rear of the public car park together with the protective railing. The approach path turns east at the corner of the Radisson Blu Hotel car park, disappearing as it enters the mixed woodland and onward to connect to the new bridge.

The approach path to the bridge runs at grade with the Radisson Blu Hotel car park making it invisible from this location. New tree planting along the boundary between the approach path and the hotel car park will be visible and also between the new path and the southern edge of the public car park. The new bridge is screened by the retained woodland and new tree planting. Taking account of the context of this view and the view itself, the impact is **slight**, **negative** and **permanent**.

8.4.3.3.1 Lighting impact

Lighting of the proposed structure will be integrated into the parapets to light the deck. All lighting will be incorporated into the structure and maintained from the proposed structure thereby avoiding any requirement for access through landscape and woodland at ground level.

Light fittings will be specified and selected to achieve compliance with dark-sky criteria (i.e., no upward lighting), with precise light control capability. The lamps will be low-impact LED with an anti-glare and cut-off facility. Taking account of the night-time context of the site, the visual effects are considered **slight**, **negative** and **long term**.

8.5 Mitigation and Monitoring

8.5.1 Construction Phase

8.5.1.1 Mitigation

Avoiding significant landscape and visual impact during construction has been considered from the outset of the design development of the Proposed Development. However, all construction projects have some degree of unavoidable landscape and visual effects for the duration of the Construction Phase.

Prior to the commencement of works, the appointed contractor will update the Construction Environmental Management Plan (CEMP), included as **Appendix 5.1** in **Volume 4** of this EIAR. The purpose of the CEMP is to ensure good working practices are implemented on site, including the mitigation measures set out in this chapter, thereby minimising and managing any potential negative environmental effects.

Specific measures will ensure that:

- Temporary site hoarding will be erected around areas that adjoin public or private land that may be impacted by the works. This includes the:
    - North, east and western site boundary with the L3004 Glounthaune Road, access road to Little Island train station and public green space respectively; and
    - Boundaries with the existing public Eastgate Business Park car park at Eastgate Road and the Radisson Blu Hotel car park.
- Additional protective fencing will be erected at the boundary of proposed works areas to protect retained landscape, planting, features etc. The remaining trees along the railway line embankments, N25 road corridor and the woodland block between the N25 and Radisson Blu Hotel will be protected with fencing in accordance with BS5837:2012: Trees in relation to Design, Demolition and Construction (BSI, 2012) and TII's Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, During and Post Construction of National Road Schemes (TII, 2006). Refer to the Arboricultural Impact Assessment with accompanying tree clearance and tree constraints plans by Heritage Tree Care Ltd., for details of existing trees and tree groups to be removed, retained and the specification of protection measures (refer to **Appendix 8.1** in **Volume 4** of this EIAR). All necessary measures will be taken to avoid non-native, invasive species establishing in the area;
- Site machinery will only operate within the Proposed Development area;
- Storage of materials and temporary stockpiling will only be permitted at the bridge assembly area and construction compounds located at the northern and southern ends of the Proposed Development site;
- Proposed construction which uses the optimum number and arrangement of pile foundations, support columns and bridge abutments to minimise Construction Phase impacts on the landscape, particularly existing trees and woodland blocks;
- Location, arrangement and design of construction and assembly zones so that they use existing hard standing areas and / or minimise construction within existing landscape areas which will require removal and subsequent reinstatement as landscape; and
- Design and construction that minimises requirement for future access under the structure and within woodland / landscape areas, thereby minimising potential disturbance to reinstated landscape areas.

8.5.1.2 Monitoring

The works will be monitored continuously as part of the CEMP (refer to **Appendix 5.1** in **Volume 4** of this EIAR) to ensure the adequate protection of trees, built heritage features, amenity and public realm areas.

Any construction works within close proximity to the retained trees are advised to be undertaken in accordance with approved method statements prepared by the construction contractor under the direct supervision of a qualified consultant Arboriculturist. Therefore, during the construction works, a professionally qualified Arboriculturist is recommended to be retained by the principal contractor or site

manager to monitor and advise on any works within the root protection area (RPA) of retained trees to ensure successful retention and planning compliance.

Copies of the tree clearance and tree constraints plans included with the Arboricultural Impact Assessment prepared by Heritage Tree Care Ltd. (refer to **Appendix 8.1** in **Volume 4** of this EIAR) and BS5837:2012: Trees in relation to Design, Demolition and Construction (BSI, 2012) should be kept available on-site during the construction works. All works are to be carried out in accordance with these documents.

On the completion of the construction works, all trees and vegetation retained are to be reviewed by the project Arboriculturist and any necessary remedial tree surgery works required to promote health and safety are to be implemented.

8.5.2 Operational Phase

Mitigation of potential impacts of the Proposed Development has been considered from the earliest stages of design development to integrate measures into the design and construction of the bridge and approach ramps. Key measures integrating mitigation include the:

- Selection of a route corridor for the proposed bridge and access ramps that minimises the impact on the existing landscape whilst achieving universal access;
- High quality architectural design of the bridge with a shallow deck and a single span double arch with lattice supports to minimise apparent mass in views towards the structure from east and west; and
- Enhancement of existing landscape within and adjacent the works area to include new tree planting, amenity paths and linkages to active travel and public transport and grassland diversification to enhance the local landscape for nature and amenity for people.

8.5.3 Decommissioning Phase

Chapter 4, *Description of the Proposed Development* outlines the decommissioning of the Proposed Development. In the event of the proposed bridge and approach ramps and paths being removed, there would likely be significant, negative and long-term effects in removing and reducing the pedestrian and cycle connectivity in the area. The corridor of the structure could be replanted with trees or left to naturally regenerate with riparian vegetation.

8.6 Cumulative Impacts

A review of Cork County Council (CCC), An Bord Pleanála (ABP) and Department of Housing, Local Government and Heritage (DHLGH) online planning records has indicated that other projects have been permitted or proposed within the surrounding area that may give rise to cumulative impacts in combination with the impacts of the Proposed Development. Detail on these projects is presented in **Chapter 20,** *Cumulative and Interactive Impacts*, with an overview presented in **Table 8.2**.

Table 8.2: Cumulative assessment projects

Project No.	Project Description
1	30 no. bedroom, three-storey extension to the existing Radisson Blu Hotel & Spa, Little Island
2	Construction of light industrial building, Euro Business Park, Little Island

The proposed construction of Project 2, a light industrial building in Euro Business Park, is unlikely to be visible together with the Proposed Development and is likely to be perceived as part of the industrial and commercial peri-urban context of Little Island. The only project which may potentially have a cumulative effect is Project 1 which is considered further below.

8.6.1 Project 1: Extension to Radisson Blu Hotel

The iNua Hospitality development at Radisson Blu Hotel is comprised of a three-storey extension to the existing hotel at its eastern end providing 30 no. bedrooms with rooftop plant, ancillary works, the omission of two existing hotel rooms at upper floors and omission of a meeting room at ground level to facilitate

internal connectivity between the proposed extension and the existing hotel. It is likely to give rise to **moderate**, **negative** and **short-term** cumulative landscape and visual effects during the Construction Phase. The location of the proposed extension to the hotel is separated from the Proposed Development by the existing hotel building and would be screened from view by the built form and established woodland to the north and east. Intervisibility between the Proposed Development and this project is likely to be very low and would be perceived as consistent with the peri-urban context of Little Island leading to **slight**, **negative** and **permanent** cumulative effects during the Operational Phase.

8.7 Residual Impacts

The Proposed Development requires the removal of 103 no. individual trees, 5 no. part-groups (i.e., sections of a tree group) and 13 no. tree groups along the route of the proposed bridge and access ramps, primarily within the woodland situated between the N25 and the Radisson Blu Hotel. The estimated total number of trees to be removed on site is 277. This will result in **significant, negative** and **short** to **medium-term** residual landscape and visual effects at construction, which will recede to **moderate, neutral** and **long-term** residual effects as the new landscape planting establishes and matures.

Once complete and operational, the Proposed Development will have an overall **moderate**, **positive** and **permanent** residual effect on the site and its context. Direct benefits will arise from the improved accessibility and connectivity for people to take active forms of travel and public transport, along with the local enhancement of public green space.

There will also be wider indirect benefits to people arising from the Proposed Development through its support of modal shift to sustainable forms of travel, thereby reducing vehicle movements to / from Little Island and the improvement in the local environment for people that flows from this.

8.8 References

British Standards Institution (BSI) (2012). BS5837: 2012: Trees in Relation to Design, Demolition and Construction.

Cork County Council (2022). Cork County Development Plan 2022-2028.

Cork County Council (2017). Little Island Transportation Study (LITIS).

Environmental Protection Agency (EPA) (2022). Guidelines on the information to be contained in Environmental Impact Assessment Reports.

Fáilte Ireland (2011). Guidelines for treatment of tourism in an Environmental Impact Statement.

Landscape Institute (2019). Landscape Institute Technical Advice Note 06/19.

The Landscape Institute / Institute of Environmental Management and Assessment (2013). Guidelines for Landscape and Visual Impact Assessment. (GLVIA3, 3rd Edition).

Transport Infrastructure Ireland (TII, previously NRA) (2006). Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, During and Post Construction of National Road Schemes.

ARUP (2021). Little Island Sustainable Transport Interventions – Environmental Impact Assessment Screening Report.