Clifton Scannell Emerson Associates

Non-Technical Summary

Suir Island Infrastructure Links

Comhairle Contae Thiobraid Árann
Tipperary County Council

CONSULTING ENGINEERS

Civil Engineering | Structural Engineering | Transport Engineering | Environmental Engineering | Project Management | Health and Safety

Clifton Scannell Emerson Associates Limited,
Consulting Engineers, 3rd Floor The Highline, Bakers Point,
Dun Laoghaire, Co. Dublin, Ireland A96 KW29
T. +353 1 2885006 F. +353 1 2833466 E. info@csea.ie W. www.csea.ie

Document Control Sheet

Project Name:	Suir Island Infrastructure Links
Project Number:	20_071
Report Title:	EIAR Non-Technical Summary
Filename:	RPT-20_071-074

Issue No.	Issue Status	Date	Prepared by	Checked by
0	Final	22.09.2023	CKS (AWN)	LP

Table of Contents

List of Figures

1 Introduction

1.1 Proposed Development

This Non-Technical Summary (NTS) has been prepared as part of the Environmental Impact Assessment (EIA) Report. The proposed development site is located at located in the centre of Clonmel town, with the development encompassing areas located on The Quay, Quay Steet, and New Quay (i.e. The Quays), Suir Island and Raheen Road. The location of the Proposed Development is shown in Figure 1-1.

A full description of the development is provided in Chapter 2 (Project Description and Planning Policy Context) of the EIAR.

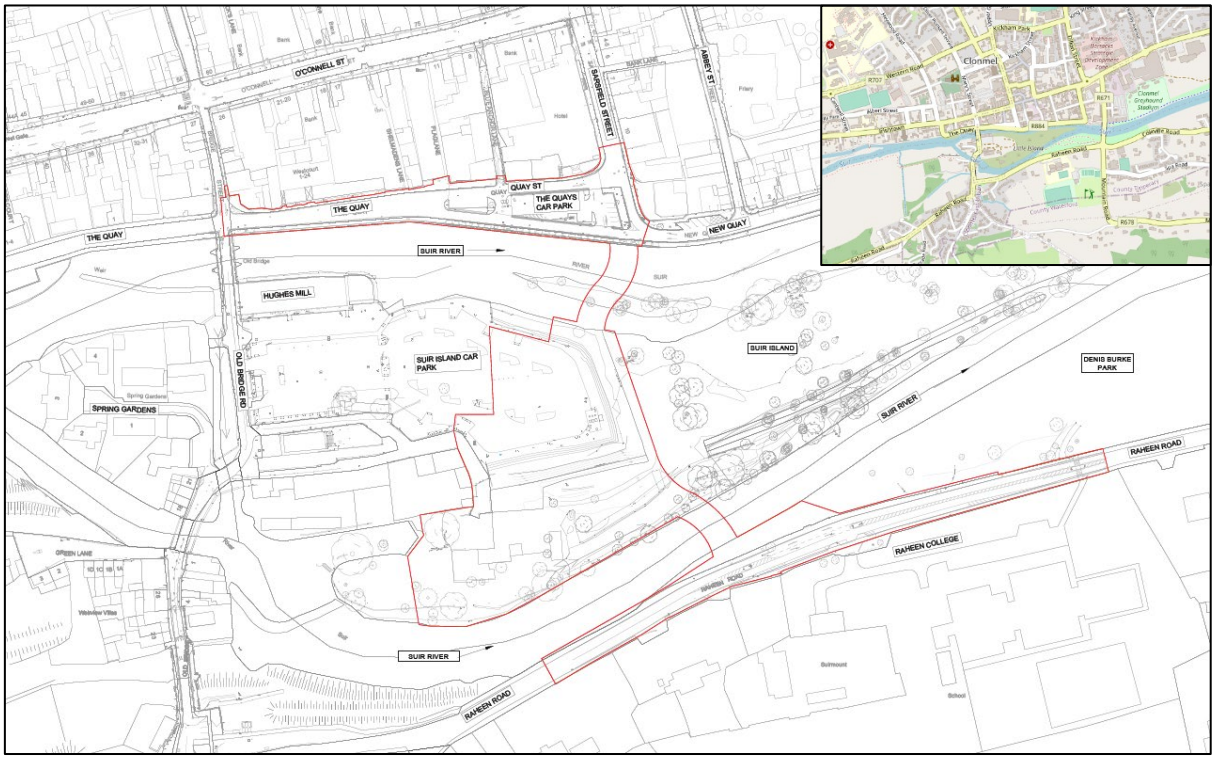

Figure 1-1: Location of the Proposed Development

The role and responsibility of each contributor, their qualifications and relevant experience are detailed in Table 1-3 of Chapter 1, along with the corresponding EIA Report chapter.

1.2 Description of Effects

The quality, magnitude and duration of potential impacts are defined in accordance with the criteria provided in the *Guidelines on Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2022). This criteria is duplicated in Table 1-2 of Chapter 1.

1.3 Additional Assessments Required

The additional reports and/or assessments required under Legislation or EU Directives other than the Environmental Impact Assessment Directive in respect of the Proposed Development are listed below.

- A Site-Specific Flood Risk Assessment (FRA) has been prepared by OCSC in accordance with the Planning System and Flood Risk Management Guidelines for Local Government (2009). This Site-Specific FRA is included as a separate report with the planning application.

- The 'Appropriate Assessment Screening' and the 'Natura Impact Statement' has been prepared for the proposed development by Altemar Environmental Consultants and is included with the planning application.
- A screening assessment for the Water Framework Directive has been prepared by AWN consulting in response to the requirements of the Water Framework Directive and is included as Appendix 6.1. This WFD Screening Assessment relies on information provided in the Land, Soils, Geology and Hydrogeology Chapter (Chapter 6) and Hydrology (Chapter 7) of the EIAR and should, therefore, be read together with these chapters.

1.4 Forecasting Methods and Difficulties in Compiling the Specified Information

Forecasting methods and evidence used to identify and assess the significant effects on the environment for each environmental aspect are set out in each chapter.

There were no significant difficulties in compiling the specified information for this EIA Report. Any issues encountered during the assessment of individual factors are noted within the relevant chapters.

2 Description Of The Proposed Development

2.1 Introduction

This chapter presents the description of the project comprising information on the site, design, size and other relevant features of the project.

2.2 Description of the Existing Area

The Suir Island Infrastructure Links proposed development is located within Clonmel Town in County Tipperary. The site is located in the centre of Clonmel Town along the River Suir as shown in Figure 1 1. The site is zoned as amenity and social and public. It is currently partially developed. To the north it is almost fully bordered by the River Suir and the Clonmel Town. To the south of the site is a mainly residential with agricultural lands.

The existing access linkage from the northern bank of the River Suir (town centre) and Raheen Road to Suir Island is available via Old Bridge Road located to the west of Suir Island. Old Bridge is a 14th-century protected structure (Reg. No. 22117113) consisting of a three-arch slightly humpbacked limestone road bridge, built c.1550 and rebuilt c.1750.

Currently, there is no safe and universally accessible facility available to cross the River Suir from the Suir Blueway to the Greenane Blueway. Options are limited to Old Bridge Road or Old Waterford Road Gashouse Bridge (Reg. No. 22118007). The Suir Blueway commence beneath Gashouse Bridge with only a set of step leading from the road to the Blueway facility.

There are no EPA licensed facilities within the site boundary of the proposed development site.

- Bulmer's Limited (Dowd's Lane), Dowd's Lane, Clonmel, Tipperary (P0444-01). Located circa 0.06 km to the north of the proposed development site. The class of activity is classed as Commercial Brewing. The licence has been surrendered since 2015.

Consultation with Tipperary County Council has confirmed that there are no known illegal/historic landfills within 500 metres of the site.

2.3 Characteristics of the Proposed Development

The proposed development will consist of:

- Two pedestrian bridges, the first bridge linking the proposed North Plaza on The Quay/Quay St/Sarsfield St Junction to Suir Island, and the second bridge connecting Suir Island to Raheen Road.
- The pedestrian bridges will be 4-metre-wide consisting of a double curvature alignment, which allow users to discover Suir Island 'from up high' by walking seamlessly between the trees while linking the project elements (North Plaza, the berm embankment, and the south riverbank) along one sinuous route. The first bridge follows the geometry of Sarsfield Street and arrives on the island following the line of the berm embankment, which then links onto the second bridge facilitating a link to Denis Burke Park on Raheen Road, creating a direct connection for pedestrians/cyclists between the park and the Town Centre.
- Provision of a new public open space called the North Plaza which will be aligned with Sarsfield Street. The steps and ramp will be visible from O'Connell Street creating a new landmark in the town of Clonmel and will encourage pedestrian movement towards the River Suir. The bicycle access ramp is designed to be as transparent as possible so as not to block the view of Suir Island from Sarsfield Street.
- Modification of traffic direction and carriageway width around the North Plaza and The Quay and Quay St.
- Provision of a bus stop on the western side of the North Plaza located on Quay Street with five benches providing comfortable facilities for public transport users.
- Upgrading of the existing 2-metre-wide sidewalk along Quay Street into a 4-metre-wide shared pedestrian/cycle path which will provide unencumbered access to the proposed plaza area underneath the elevated access ramp.
- Provision of a sloping landscaped terrace with public seating, located inside the hairpin-shaped access ramp leading up to the northern bridge crossing.
- Provision of three benches and a 9-metre-long stepped promenade seating area integrated into the circular-shaped plaza.
- Planting of various native tree species around the North Plaza to integrate the proposed development with the existing scenery of Suir Island and complement the visual experience of users.
- Provision of a pedestrian path or promenade along the existing berm embankment across Suir Island linking the two pedestrian bridges, to facilitate access between Denis Burke Park on Raheen Road and the proposed North Plaza on The Quay.
- Construction of a pedestrian/bicycle ramp from the link promenade onto Suir Island Carpark. The ramp is fully integrated into the landscape by using the existing slope of the berm.
- Construction of three sets of steps connecting the link promenade to Suir Island carpark and the eastern end of Suir Island.
- Provision of a mini public space within Suir Island Carpark at the entrance to the proposed Suir Island Gardens.
- Provision of a south arrival point for the second bridge connecting Suir Island to the Raheen Road. The South Arrival Point will consist of one access ramp to the east and one set of steps to the west, integrated with the bridge landing level and running parallel to the footpath. These elements will be located outside the existing flood barrier.
- Road improvements for the safety of pedestrians/cyclists at the South Arrival Point, including the footpaths being widened and the road narrowed to accommodate 3.0-metre-wide lanes. Removal of three carparking spaces from the southern edge of the road to allow for wider footpaths.
- Installation of two uncontrolled pedestrian crossings positioned at either ends of the proposed access ramp and flight of steps to provide traffic calming at the South Arrival Point. This bridge arrival point will be located close to the school entrance of Raheen College, providing safe and convenient access for the schoolchildren.

- Access ramps and steps are located behind the flood barriers to allow access even during flood events.
- Construction of a new foul pumping station to be located within Suir Island car park which will facilitate future Irish Water connections. Wastewater will be pumped 0.1km approx. via rising main along the proposed bridge linking Suir Island to the proposed North Plaza where it will connect into the existing public network along The Quay.
- Ancillary site development works to include, but not limited to, surface water drainage, lighting and associated electrical works, hard and soft landscaping, road works to include surfacing and line marking, landscaping and installation of street furniture.
- All associated site works.

Please refer to Chapter 2 of the EIAR for a full description of the proposed development.

2.4 Description of the Demolition, Construction, and Commissioning

The works during the construction and commissioning phase are summarised as:

- Site Preparation Works and Establishment of Construction Services;
- Demolition Works;
- Site Clearance, Excavation and Earthworks;
- Foundations;
- Structural and Building envelope works;
- Installation of Services and Fitout;
- Landscaping;

2.4.1 Potential Impacts and Mitigation Measures During Construction and Commissioning

The main potential impacts during demolition, excavation, construction, and commissioning which require mitigation are:

- Control of construction run-off water in terms of silt runoff and dewatering, and disposal of construction water (see Chapter 6 (Land, Soils, Geology & Hydrogeology) and Chapter 7 (Hydrology) for further information);
- Impacts on human beings in terms of nuisances relating to the air quality of the environs due to dust and other particulate matter generated (see Chapter 8 (Air Quality) for further information);
- Potential impacts on Natura 2000 sites (SPA and SAC) linked to the proposed development site (See Chapter 5 (Biodiversity) and the accompanying Appropriate Assessment Screening and Natural Impact Statement);
- Potential impacts on human beings in terms of nuisances due to plant noise and vibration from equipment (see Chapter 10 (Noise and Vibration) for further information);
- Potential impacts on Archaeology, Architectural and Cultural Heritage during the demolition and excavation works (See Chapter 14 (Archaeology and Cultural Heritage) for further details;
- Effects on the road network (due to construction workers and other staff attending site (see Chapter 12 (Traffic and Transportation) for further information); and
- The generation of construction waste materials such as soil from excavation works and litter (see Chapter 13 (Waste Management) for further information).

A Construction Environmental Management Plan (OCEMP) has been submitted with this EIAR as Appendix 7.1 to the Chapter 7 Hydrology. The CEMP will be implemented and adhered to by the construction Contractor(s).

2.5 Operation of the Proposed Development

The proposed development, when operational, will generate typical anthropogenic impacts associated with the usual operation of a tourist and amenity facility with the added impact of changes in vehicular and pedestrian. movements The interaction of landscape and visual impacts of the proposed development with The Suir Island heritage by retaining all the upstanding industrial heritage elements on the site, providing access. will provide people with a sense of place and connection to their historic environment.

The main potential impacts are associated with additional traffic (and associated air emissions), and noise, visual impacts, biodiversity, and wastes generation due to changes from the current undeveloped site to complement the existing water sports amenity in the river and the park to the south of the river in Denis Burke Park while improving linkages to the build environment of the town of Clonmel.

2.5.1 Potential Impacts During Operation and Mitigation Measures

The proposed development shall incorporate several design elements (mitigation by design).

The main potential impacts during operation which require mitigation are:

- Impacts on human beings in terms of nuisances relating to the air quality of the environs due to dust and other particulate matter generated (see Chapter 8 (Air Quality) for further information);
- Potential impacts on Natura 2000 sites (SPA and SAC) linked to the proposed development site (See Chapter 5 (Biodiversity) and the accompanying Appropriate Assessment Screening and Natural Impact Statement);
- Impacts on human beings in terms of nuisances due to traffic noise t (see Chapter 10 (Noise and Vibration) for further information);
- Interventions in the visual and landscape environment from the introduction of new buildings and structures (see Chapter 15 (Landscape and Visual) for further information);
- Effects on the road network due to changes in linkages (see Chapter 12 (Traffic and Transportation) for further information); and
- The management and segregation of operational waste generated from the public use of the amenity (see Chapter 13 (Waste Management) for further information).

Each chapter of the EIA Report prepared assesses the potential impact of the operation of the proposed development on the receiving environment.

2.6 Description of Other Cumulative Projects

The potential for Cumulative Impacts arising from these other related projects has been addressed within each specialist chapter of this EIA Report.

- TCC Reg. Ref.: P8/22/01
- TCC Reg. Ref.: 19/600729
- TCC Reg. Ref.: 19/600102

The potential for Cumulative Impacts has been addressed in each chapter of this EIA Report.

3 Alternatives Considered

3.1 Do Nothing Alternative

In the context of EIA the "do nothing" alternative refers to the option of not implementing the proposed project or activity and maintaining the current state or status quo. In other words, it is a scenario where no action is taken, and the environment is left unchanged.

If the proposed development is not carried out, the potential to provide a high-quality, safe and universally accessible pedestrian and cyclist route from the town centre and Raheen Road to Suir Island to enhance the amenity potential of Suir Island whilst conserving and promoting the rich cultural, architectural and natural heritage of Clonmel will not be realised. Currently, there is inadequate linkages between the town centre, Suir Island and the aforementioned Blueways for pedestrians and cyclists.

If the proposed elements of the development are not carried out, the need for development in the area would remain, and as such, it would be necessary to construct a similar development at another location. The only feasible, safe, universally accessible option to overcome the physical barrier that is the River Suir, is to provide a new bridge connection from the town centre and Raheen Road to the existing flood defence berm located on Suir Island.

3.2 Alternative Project Locations

The constraints in the development of reasonable alternative route options were; the River Suir's physical barrier and the isolated nature of Suir Island; flood risk arising from the River Suir, which inundates the eastern section of the island in its entirety with the exception of the Suir Island car park, which is protected by an earthfill berm constructed during the Clonmel Flood Defence Scheme works; and the existing 14th-century access bridge (Old Bridge Road) which is a protected structure as identified by the National Inventory of Architectural Heritage (NIAH), registration number 22117113.

Due to the above constraints, "reasonable alternatives" in the case of the proposed Suir Island Infrastructure Links development is contained to different bridge options and not alternative route options.

The proposed development is the culmination of a considered design process, weighing the development opportunity of the strategic land resource and certain characteristics of the context against the sensitivities which also exist. The proposal takes account of and responds to its varied context.

Overall, the final proposed design has considered various environmental factors in each layout option to ensure that the development has minimal impact on the environment. The specialist team which included the EIAR consultants referred to in Chapter 1 has worked to create a design that is both environmentally sustainable and socially acceptable, and that meets the needs and values of the local community. The final proposed design for the development has been carefully developed with consideration of various environmental factors.

3.3 Alternative Processes

In terms of the Proposed Development processes, the pre-planning initial design concept and the final design concept necessitate similar power requirements, waste, traffic generation and environmental emissions. . Building materials will be selected so as to withstand temperature variations as per their design

The following bridge options have been assessed for the proposed development:

Bridge Option 1 – Curved Bridge consisting of a hollow steel bridge superstructure on reinforced concrete piers and piled foundations.

The curved Footbridge allows one to discover the island 'from on high' by walking seamlessly between the trees while linking the project elements (Sarsfield street, the berm, the south river bank) along one sinuous route.

The departure of the footbridge follows the geometry of Sarsfield Street and arrives on the island following the line of the Berm.

On the south side, the curved path allows a perpendicular arrival point with Raheen road. In elevation, the structure of the footbridge is a 'caisson' (hollow section steel structure) supporting a lightweight deck. The caisson avoids having structural elements above the deck so as not to obstruct views.

- Bridge Option 2 – Curved Bridge same design to Bridge Option 1 with alternative North Plaza and Suir Island promenade designs.

This new public space is aligned with Sarsfield Street. The steps and landscaped ramp are visible from O'Connell Street creating a new landmark in the town of Clonmel, encouraging pedestrian movement towards the River.

The bicycle access ramp follows the line of the landscaped plaza edge down to street level.

The detailed design in this area will focus on enhancing the amphitheatrical qualities of the steps and seating facing Sarsfield Street. The 4m wide pedestrian and cycle route follows the flood barrier, passing under the bridge arrival point.

- Bridge Option 3 – Straight Bridge consisting of a hollow steel bridge superstructure on reinforced concrete piers and piled foundations and alternative North Plaza, Suir Island promenade and Raheen Road designs.

This option proposes two straight Footbridges along angled lines from point to point, one connecting from the northern berm to the western end of the plaza, the other from the southern berm to the same arrival point as Bridge Options 1 and 2 at Denis Burke park.

The arrival point to the west of the Plaza creates a generous public space facing the end of Sarsfield Street. In elevation, the structure 'inflects' at the intermediate supports, passing alternately above and below the deck. This variation makes it possible to sequence the promenade between its river and island crossing points.

3.4 Alternative Mitigation

Mitigation measures have been considered based on the effect on quality, duration of impact, probability and significance of effects. The selected mitigation measures for the proposed development are outlined in each of the EIA Report Chapters 4-15. By considering a range of mitigation measures and strategies, the specialist team has sought to ensure that the proposed development is as environmentally sustainable and responsible as possible.

The Proposed Development was carefully designed, taking into consideration the site context and existing neighbouring commercial and residential properties and the local environmental conditions including air quality, noise and vibration and visual impact.

The proposal will allow the development potential of the site to be maximised while improving natural screening through landscaping treatments.

4 Population and Human Health

4.1 Introduction

An evaluation of the effects of pathways on health, by considering the accepted standards of safety in dose, exposure or risk of air quality and noise levels for example, appropriate, as these standards have been arrived at via scientific and medical research.

4.2 Receiving Environment

4.2.1 Census and Demographics

The sensitivity of the surrounding area has been considered based on the details of the published data. The local area has seen a population growth between the 2016 and 2022 census, there is a large proportion of the population within working age (24 – 44 years old) reflective of the national level. The area surrounding the site is in the Clonmel East Urban electoral divisions with relatively high unemployment (17.22%).

The Pobal HP Deprivation Index shows County Tipperary and Clonmel East Urban ranking "marginally below average". The general health of the population is on trend with the state averages with the Mid West region showing that the prevalence of individuals walking and cycling as a form of transport and levels of participation in sports, fitness or recreational physical activities is similar in the mid-west region to that of the state. While the rate of death by suicide and intentional self-harm are generally decreasing year-on-year in the state, this is not the case with the pattern seen in south Tipperary where the rate has increased in 2017.

4.3 Location and Character of the Local Environment

The nearest noise sensitive locations comprise dwellings approximately 30m to the south of the proposed development site on Raheen Road. Other noise sensitive locations include Raheen College a school approximately 30m to the south of the proposed development site on Raheen Road. Other residential receptors include apartments at The Mill, some 60m to the west and residential properties north of the proposed Plaza, between Old Bridge Road and Sarsfield Street; and on the corner of Sarsfield Street and New Quay Road. There are primary and secondary schools, healthcare services, emergency services and places of worship in the vicinity of the Proposed Development site. Clonmel town centre lies north of the Proposed Development, with numerous shops, restaurants and professional services concentrated in this area, as is typical of its urban setting. The Carrigeen Business Park is located c. 1.3 km north of the Proposed Development. Clonmel town has been identified in *Tipperary Transforming: Tourism Product Development Plan 2020 – 2030* as an area of significance for tourism in the county. The Lower River Suir which surrounds the subject lands is a designated Special Area of Conservation (SAC). Tipperary Council intend to develop the full potential of the river Suir as an amenity and recreational asset. The Proposed Development site is not at risk of any major accidents, hazards of natural disasters.

4.4 Potential Impacts of the Proposed Development

4.4.1 Construction Phase

The main potential impacts on population and human health from the proposed development are potential for spills/leaks, air emissions, noise, visual, and traffic impacts:

- Construction will have an indirect positive effect on support industries such as builder suppliers, construction material manufacture, maintenance contracts, equipment supply, landscaping and other local services;

There will be a temporary limit of access to the current amenity assets of the island during the construction phase but this will be short term in duration.

The proposed development entails minimal use of material assets. There will be no impact to mineral resources in the area as a result of the proposed development. The proposed development will generate a range of non-hazardous and hazardous waste materials;

Dust emissions from the construction phase of the proposed development have the potential to impact human health through the release of PM10 and PM2.5 emissions;

There is potential for a significant impact from construction noise at nearby noise-sensitive properties;

An assessment of the additional traffic movements and temporary diversions associated with the proposed development during the construction phase assess the potential impact; and

The activities of contractors during the construction phase will be carried out in accordance with the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013).

There is limited potential for effects on the receiving environment as a result of minor accidents/leaks of fuel/oils during the construction phase as no bulk fuel storage required.

These potential impacts range from temporary to short-term, positive to negative, and imperceptible to significant.

4.4.2 Operational Phase

The main potential impacts on population and human health from the proposed development are potential for spills/leaks, air emissions, noise, visual, and traffic impacts:

- When operational the proposed development will be of benefit to local residents by providing another link across the River Suir. It will also promote the use of active modes of transport i.e. walking and cycling when travelling in Clonmel;
- The development of North Bridge and North Plaza with access ramps will create a public space of multi-use and will still maintain visual access to the riverbank;
- The design makes provision to minimise the restriction of flow area and available storage around the support piers and abutments;
- Improper, or a lack of, waste management during the operational phase would be a diversion from the priorities of the waste hierarchy which would lead to small volumes of waste being sent unnecessarily to landfill;
- The proposed development will not cause a >1% change in emissions from the baseline. Emissions of air pollutants from traffic are predicted to be significantly below the ambient air quality standards which are based on the protection of human health;
- The proposed uses of this area will not contribute to any significant noise levels over and above those currently experienced from the car parking and urban environment. The predicted change in noise level associated with additional traffic on the surrounding existing road network has a negligible effect;
- The road network in the vicinity of the site can accommodate the additional traffic resulting from the road changes proposed with the scheme. The proposed development will also promote the use of active modes of transport i.e. walking and cycling when travelling in Clonmel through the improvements to pedestrian and cyclist infrastructure in the town; and
- Due to the local topography and the underlying strata, there is a negligible risk of a landslide event occurring at the site. There is no history of seismic activity in the vicinity of the routes. There are no active volcanoes in Ireland so there is no risk of volcanic activity. As the proposed development lies in a flood defended area and deemed a water-compatible development, it is considered that this type of development is suitable for this flood zonation.

4.5 Mitigation and Residual Impacts (Post-Mitigation)

4.5.1 Construction Phase

The mitigation measures to address the potential impacts on Population and Human Health from the construction phase of the Proposed Development and post-mitigation residual effects include:

- A Construction Environmental Management Plan (OCEMP) has been prepared as part of this application;
- There are no potential likely significant impacts on Businesses and Residences therefore additional measures are not required;
- The contractor will erect hoarding of a minimum 2.0 m in height around the site compound and all work areas on Suir Island;
- In order to mitigate the potential dust-related health impacts during the construction phase, a dust minimisation plan has been prepared;
- Best practice noise and vibration control measures will be employed by the contractor during the construction phase such as limiting the number of high-noise activities at the closest boundary to the properties;
- A Traffic Management Plan will be prepared by the contractor and agreed with Tipperary County Council's Transportation Department and An Garda Siochana; and

4.5.2 Operational Phase

- There are no potential likely significant impacts on Businesses and Residences therefore additional measures are not required;
- During the design phase several options of the link layout were considered, with the final preference on one option (i.e., Option -01, see Engineer's drawings). Option-01 layout was considered as inherently more appropriate and compatible to its surroundings along with design features that would mitigate and offset potential impacts;
- The existing surface and sub-surface drainage systems on the North Plaza and Southern Arrival Point will be maintained as part of the development;
- The impact of the proposed development on air quality and climate is predicted to be imperceptible with respect to the operational phase in the long term. Therefore, no site-specific mitigation measures are required;
- There are no activities that would generate significant levels of noise associated with the operational phase of the proposed development, therefore no mitigation measures are required;
- The capacity available on O'Connell Street and surrounding roads can accommodate the additional traffic without negatively affecting the efficacy of the network at a large scale. As such, no mitigation measures are required for the operational phase of the proposed development; and
- The potential effect is imperceptible, and unlikely, in respect of major accident hazards or natural disasters on population and human health during the operational phase of the proposed development. Therefore, no specific mitigation measures are required.

5 Biodiversity, Species and Habitats

5.1 Introduction

5.2 Methodology

A summary of the documents reviewed, and the baseline surveys completed are set out in Section 5.2 of the chapter.

5.3 Baseline Environment

The baseline biodiversity conditions have been established following the completion of the desktop review and ecological field surveys. Habitats occurring within the project site have been evaluated to be of low local to high local nature conservation value to international conservation importance. The project is located within and adjacent to the Lower River Suir SAC and the sections of the River Suir following through the project site are of international importance. No examples of Annex 1 qualifying habitats of the Lower River Suir SAC occur within the footprint of the project site. The terrestrial habitats occurring within the project site are of Local importance (lower value) to local importance (higher value). Riparian woodland habitat of County Importance occur on Suir Island, approximately 100m to the east of the project site.

Annex 2 freshwater qualifying species of the Lower River Suir SAC occur along the stretch of the River Suir within and adjacent to the project site. These include Atlantic salmon, sea lamprey, river lamprey, brook lamprey and white-clawed crayfish. Spawning redds for Atlantic salmon, sea lamprey and river lamprey occur along the north and south channel of the River Suir either side of Suir Island. Otters also use this stretch of the river for foraging. No resting or breeding sites for otters, in the form of couches or holts, were identified within the project site, or within a 150m buffer distance of the project site.

No evidence indicating the presence of other protected non-volant mammals, such as badger, red squirrel etc. was recorded on Suir Island during surveys. Bat species rely on the woodland habitats on Suir Island, to the east of the project site as a foraging resource. Bat activity on the island is dominated by Soprano pipistrelle, with high levels of activity recorded for this species during field surveys. There are no structures or trees within the project site that function as roost sites for bats.

The woodland habitat occurring on Suir Island support a diverse assemblage of bird species that is dominated by passerines. No kingfisher were recorded during the field surveys and bankside habitats occurring along the stretch of the river at Suir Island and along The Quay to the north and Raheen Road to the south do not provide suitable nesting habitat for kingfisher.

A number of non-native invasive species are present on Suir Island. High-impact non-native invasive species that are listed on the third schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 include Japanese Knotweed and Giant Hogweed. Infestations of these species do not occur within the project site but occur to the east on Suir Island. Infestations of these species are subject to ongoing treatment by Tipperary County Council. Other non-native invasive species that occur within the project site include Cherry Laural, Butterfly Bush, Old Man's Beard and Himalayan Honeysuckle.

5.4 Potential Impacts of the Proposed Development

5.4.1 Construction Phase

No instream works will form part of the project and there will no direct loss of instream habitat as a result of construction works.

During the construction phase there will be a loss of minor areas of terrestrial habitat to the footprint of bridge abutments and piers on Suir Island. The habitats that will be lost to the footprint of the project will result in slight negative and temporary to permanent impacts.

In the absence of the implementation of safeguards and mitigation measures the construction phase of the project will have the potential to result in a diminution of water quality within the River Suir with associated potential for indirect habitat damage or deterioration and disturbance or loss of habitat for sensitive key biodiversity receptors such as Atlantic salmon, lamprey species, white-clawed crayfish and otter. Any contribute to a deterioration of water quality within the River Suir during the construction phase will have the potential to result in a long-term significant and negative impact for the Lower River Suir SAC and qualifying habitats and species of this SAC.

Disturbance arising from the construction phase, in the form of the presence of site operatives, plant and machinery and noise emissions to mammal species and bird species are predicted to have the potential to result in temporary, slight, negative impacts.

5.4.2 Operational Phase

The operation phase of the project has been identified as having the potential to result in temporary and imperceptible impacts to the Lower River Suir SAC and the qualifying habitat and species of this SAC occurring at and downstream of the project site. The operation phase is not predicted to have the potential to result in significant ongoing disturbance effects to otters, other non-volant mammals and the assemblage of bird species occurring within and adjacent to the project site.

Bats and the qualifying fish species of the Lower River Suir SAC are sensitive to artificial light and illumination of the habitats that they rely upon. In event that the project generates night time light emissions and illumination of key habitats relied upon by these species there will be potential for disturbance. However the approach to the lighting design has minimised to the potential for night time lighting to alter light conditions within habitats relied upon by light sensitive species such as bats and Annex 2 fish species.

5.5 Cumulative Impact of the Proposed Development

Tipperary County Council have recently been granted planning permission to refurbish the gardens on Suir Island. The garden area is located south side of Suir Island to the west of the proposed Suir Island Infrastructure Links. The works required for the refurbishment of the gardens will be minor in scale and their potential to result in likely significant effects to the environment, including biodiversity, has been considered by the Planning Authority prior to the grant of planning permission where it was determined that this project will not have the potential to combine with other projects to result in cumulative negative impacts to the environment. In addition it is noted that the construction phase of the Suir Island gardens project will not overlap with the construction phase of the proposed Suir Island Infrastructure Links project. As such there will be no potential for these two projects to combine to result in cumulative construction phase effects to biodiversity receptors.

The potential for cumulative operation phase effects to arise as a result of the proposed Suir Island Infrastructure Links and the Suir Island Gardens has been considered and it has been found that the operation of both projects will not have the potential to result in significant ongoing disturbance effects to key biodiversity receptors such as habitats, otters, other mammals and the assemblage of bird species occurring within and adjacent to the project site.

There are other approved (or recently applied for) projects close by. Each of these projects have been either examined by the Planning Authority or have been subject to ecological impact assessment and Appropriate Assessment. For each of these projects it has been determined that there is no potential for them to combine with other projects to result in negative impacts to the environment or biodiversity receptors. Where required these other projects in the area will be required to be managed in compliance specified measures pertaining to the specific project that will mitigate for any potential cumulative effects to the environment and biodiversity receptors.

As such the cumulative effect will be ***short-term, imperceptible*** and ***neutral.***

5.6 Mitigation and Residual Effects (Post-Mitigation)

5.6.1 Construction Phase

A carefully planned approach to the construction phase and the implementation of construction phase mitigation measures as specified in Chapter 5, as well as Chapter 7 of the EIAR, will ensure that the effect on the environment will be ***short-term, neutral*** and ***imperceptible.*** **See also Chapter 17 with the Summary of Mitigation Measures for the project;**

5.6.2 Operational Phase

Operation phase mitigation measures have been incorporated into the design of the project. This includes for the management of surface drainage waters during the operation phase and the provision of a night time lighting design that will not result in the illumination of key habitats relied upon by light sensitive species such as bats and Annex 2 freshwater species.

Ongoing monitoring of habitat reinstatement of areas disturbed by the temporary construction phase will continue to be implemented and monitored during the operation phase. In addition, the enhancement of riparian woodland habitat on the island, as specified in Chapter 5, will be implemented by Tipperary County Council during the operation phase and ongoing monitoring of the success of this enhancement will be completed by Tipperary County Council.

6 Land, Soils and Hydrogeology

6.1 Receiving Environment

The site is located south of Clonmel Town Centre, Co. Tipperary. The GSI/ Teagasc mapping shows that the soil type beneath the local area is composed of Made Ground (urban) which is composed of concrete, tarmacadam. There are two other main soil groups in the area of the proposed development – coarse loamy drift with sandstones and river alluvium soils.

The Geological Survey of Ireland (GSI) describes the underlying aquifer as “Locally Important Aquifer”. Bedrock was recorded at depths ranging from 13.00mbgl to 19.30mbgl with no bedrock encountered at BH02 (21.00mbgl) and BH05 (18.50mgbl). The bedrock is a moderately weak light grey muddy LIMESTONE with fossils, thin calcite veins and a fresh to slightly weathered state. Aquifer vulnerability (based on aquifer thickness and type) is *‘Moderate’* to *‘Low’* across the proposed development site. Bedrock was recorded at depths ranging from 13.00mbgl to 19.30mbgl with no bedrock encountered at BH02 (21.00mbgl) and BH05 (18.50mgbl). A perched water table was encountered at c 1m below ground surface.

Soil quality is considered to be free of contamination. There are minor concentrations of hydrocarbons, and heavy metals. However, concentrations are below the available LQM/CIEH for HHRA Residential Threshold at 1% SOM, where available. The suit is suitable for disposal at a non-hazardous waste facility.

Presently, the groundwater body in the region of the site Clonmel GWB (IE_SH_G_014) is classified under the WFD Risk Score system (EPA, 2021) as ‘Good’ and ‘Under Review’. The GWB was given a classification of “Good” for the last WFD cycle (2013-2018).

Based on the TII methodology (2009) criteria for rating site importance of geological features, the importance of the bedrock and soil features at this site is rated as ‘Low importance’ with low significance or value on a local scale. This is due to the existence of poorly drained and/or low fertility soils within the proposed development site. The importance of the hydrogeological features at this site is rated as

'Extremely High importance' based on the assessment that the attribute has a high-quality significance or value on a local scale. The aquifer is a Locally Important Aquifer but is not widely used for public water supply or generally for potable use. In addition, there is a direct hydrogeological connection between the site and protected sites (SAC, SPA, NHA).

6.1.1 Construction Phase

In the absence of mitigation measures, the construction phase would present potential impacts associated with the following activities:

- Increase of silt and sediment loading arising from construction site runoff and erosion of stockpiles or unprotected embankments;
- Spillage of cementitious products such as concrete, grout and epoxies;
- Accidental spillage of hydrocarbons from construction plant and storage depots;
- Faecal contamination arising from inadequate treatment of on-site ablution and washing facilities;
- Impact on Water Framework Directive status.

6.1.2 Operational Phase

In absence of mitigation methods, the operational phase would present potential impacts associated with the following activities:

- Slight reduction in recharge to ground due to increase in hardstand. The proposed development will result in minimal increase in hardstanding (3,125 m^2)
- Accidental spillages from vehicles.

In the absence of mitigation measures (or design measures) the potential impacts during the operational phase are ***neutral***, ***imperceptible***, and ***temporary.***

6.2 Mitigation and Residual Effects (Post-Mitigation)

6.2.1 Construction Phase

As part of the EIAR, a Construction Environmental Management Plan (OCEMP) has been prepared for the proposed development. The measures detailed in the appended reports will be considered minimum requirements to be undertaken as part of construction management.

Proposed general mitigation measures include:

- Control of soil excavation and export from site. It is proposed that 2,000m^3 of material will be excavated as part of the proposed development and that 500m^3 of the excavated soil that will be generated for this development will be reused as backfilling. Approx. 2,000m^3 will be imported on-site to be used as engineered fill material;
- Fuel and chemical handling, transport and storage; and
- Control of water during construction.
- Discharge of surface water from sumps, excavations and exposed soil surfaces shall include
- Storage areas of fuel, oil and chemicals shall be on impermeable surfaces and located away from drains and watercourses. Fuel storage areas shall be bunded to provide adequate retention capacity in the event of a leak or spillage occurring.

- Refuelling of construction vehicles to be on impermeable surfaces and located away from nearby drains and watercourses; and
- Spill kits to be provided near all high risk and sensitive areas.

As the use of concrete cannot be avoided the following control measures will be employed:

- Quick-setting or rapid hardener add-mixtures shall be used to promote early setting of concrete to ensure cementitious compounds are not absorbed by surface or groundwater;
- Where concrete works are required in or near water sources, the used of biodegradable products shall be used;
- Any plant operating close to water sources will require special consideration and monitoring when on site;
- Placing of concrete in or near watercourses will be carried out only under the supervision of the Ecological Clerk of Works (ECoW);
- No cleaning or hosing of any concrete surfaces, plant or equipment shall be permitted near surface water sources or drains. Designated impermeable areas to be prepared with sufficient settlement capacity and accidental spillage containment volume; and
- On-site concrete batching shall not be allowed near the site.

6.2.2 Operational Phase

All potential impacts have been identified as ***imperceptible*** to ***slight*** in the operational phase and as such no ***long-term*** mitigations measures are proposed.

6.3 Cumulative Impact of the Proposed Development

The cumulative impact of the proposed development with any/all relevant other planned or permitted developments are discussed below, refer to Section 1.15 in EIAR Chapter 1 for a list of projects.

6.3.1 Construction Phase

Contractors for the proposed development will be contractually required to operate in compliance with the CMP which includes the mitigation measures outlined in this EIA report. Other developments will also have to incorporate measures to protect water quality in compliance with legislative standards for receiving water quality (European Communities Environmental Objectives (Groundwater) Regulations (S.I. 9 of 2010 and S.I. 266 of 2016). As a result, there will be minimal cumulative potential for change in the natural soil and hydrogeological regime. The cumulative impact is considered to be neutral and imperceptible.

6.3.2 Operational Phase

All developments are required to manage discharges in accordance with (S.I. 9 of 2010 and S.I. 266 of 2016). As such there will be no cumulative impact to surface water quality and therefore there will be no cumulative impact on the Waterbody Status. The operation of the proposed development is concluded to have a **long-term, imperceptible** significance with a **neutral** impact on land soil and groundwater.

7 Hydrology

7.1 Methodology

The hydrological impact assessment has focused on the potential outward impacts associated with the construction and operational phases of the proposed development on its surrounding environment.

7.2 Baseline Environment

The existing hydrological receiving environment at the proposed development has been assessed from a desktop level consisting of an review of available hydrological and water quality data retrieved from National Monitoring Gauge Stations as well as hydraulic modelling. The hydrological data was used to determine the potential impacts of the proposed development during the construction and operational phases.

7.3 Potential Impacts of the Proposed Development

7.3.1 Construction Phase

The assessment has determined that for construction works, where works will occur within the Suir River floodplain, associated risks involve an increase in erosion and sediment transport, increase in flood water levels, accidental spillages of cementitious and hydrocarbon materials.

The critical works identified for the construction phase involves the construction of the bridge supports in the floodplain. The construction of the bridge supports will require temporary localised sheetpiling to protect the works in case of flooding. The impacts on flood water levels is predicted to be neutral, imperceptible and short-term.

During excavation works, there is a potential of disturbed ground to increase silt-laden runoff to the River Suir. The impact is considered negative, significant and short-term. Accidental spillages of cementitious and hydrocarbon materials are likely to result in negative, significant and short-term impacts.

7.3.2 Operational Phase

Once operational, potential effects associated with the proposed development on flooding were determined as neutral, imperceptible and permanent.

The proposed development surface and foul drainage proposals does not drain or interact with the River Suir and thus the effects on water quality are considered to be neutral, imperceptible and permanent. The proposed development will not increase runoff to the river Suir and the effects on the hydrological regime will likely be neutral, imperceptible and permanent.

During the operational phase, the proposed development will interface with flood defences. The development will not impact on the installation of demountable barriers on the Quays and will not undermine the flood defences on Suir Island or Raheen Road. The effect is considered to be neutral, imperceptible and permanent.

7.4 Residual Effects (Post-Mitigation)

Mitigation measures are proposed during the construction phase.

With mitigation measures as part of the project, implementation of best-practice construction control measures and construction supervision, the residual impacts are considered to be negative, slight and short-term.

8 Air Quality

8.1 Methodology

In terms of the existing air quality environment, baseline monitoring data available from similar environments indicates that levels of nitrogen dioxide (NO_2), particulate matter less than 10 microns (PM_{10}) and particulate matter less than 2.5 microns ($PM_{2.5}$) are generally well below the National and European Union (EU) ambient air quality standards.

Impacts to air quality can occur during both the construction and operational phases of the proposed development. With regard to the construction stage the greatest potential for air quality impacts is from fugitive dust emissions impacting nearby sensitive receptors. In terms of the operational stage air quality impacts will predominantly occur as a result of the change in traffic in the local areas associated with the proposed development.

8.2 Baseline Environment

There are a number of high sensitivity receptors (residential properties) in close proximity to the site at which dust impacts may occur. The surrounding area has been assessed as having a high sensitivity to dust soiling impacts and a low sensitivity to dust related human health impacts.

8.3 Potential Impacts of the Proposed Development

The surrounding area is considered a high sensitivity environment to potential dust related ecological impacts as a section of the Lower River Suir SAC, a designated area for sensitive ecology, is within the site boundary.

8.4 Residual Effects (Post-Mitigation)

The magnitude of the construction works were assessed and it was determined that there was an overall medium risk of dust soiling impacts and dust-related ecological impacts from the construction phase and a low risk of dust-related human health impacts.

As a result a number of mitigation measures associated with medium risk of dust impacts have been proposed within Section 8.6.1 and Appendix 8.2 of Chapter 8. Provided the dust mitigation measures are implemented, dust emissions are predicted to be short-term, negative and imperceptible and will not cause a nuisance at nearby sensitive receptors.

The best practice dust mitigation measures that will be put in place during construction of the proposed development will ensure that the impact of the development complies with all EU ambient air quality legislative limit values which are based on the protection of human health. Therefore, the impact of construction of the proposed development will be short-term, localised, negative and imperceptible with respect to human health.

Potential impacts to air quality during the operational phase of the proposed development are as a result of a change in traffic flows and volumes on the local road network. The changes in traffic were assessed against the Transport Infrastructure Ireland (TII) screening criteria for an air quality assessment and it was determined that there were a small number of road links that will experience a change in traffic of the required magnitude for a detailed air assessment. The operational phase air quality modelling assessment determined that there is no potential for significant impacts as a result of traffic related to the proposed development. It can therefore be determined that the impact to air quality as a result of altered traffic volumes during the operational phase of the proposed development is localised, neutral, imperceptible and long-term in relation to air quality.

As the National and EU standards for air quality are based on the protection of human health, and concentrations of pollutants in the operational stage of the proposed development are predicted to be significantly below these standards, the impact to human health is predicted to be imperceptible, neutral and long term.

No significant impacts to air quality are predicted during the construction or operational phases of the proposed development.

9 Climate

9.1 Methodology

The assessment methodology takes into account the criteria for ratings, climate agreements and current legislation as outlined in Chapter 9 during the construction and operation phases.

9.2 Baseline Environment

The existing climate baseline can be determined by reference to data from the EPA on Ireland's total greenhouse gas (GHG) emissions and compliance with European Union's Regulation 2018/842. The EPA state that Ireland had total ESR GHG emissions of 46.16 Mt CO_2eq in 2021. This is 2.71 Mt CO_2eq higher than Ireland's annual target for emissions in 2021. The EPA predict that Ireland can comply with the GHG targets for 2021 – 2030 provided full implementation of the measures outlined within the Climate Action Plan and the use of the flexibilities available.

9.3 Potential Impacts of the Proposed Development

Impacts to climate are likely as a result of greenhouse gas (GHG) emissions during both the construction and operational phase. GHG emissions will result from construction activities, construction materials, land-use clearance, material transport to site, maintenance of the infrastructure and waste materials.

9.4 Residual Effects (Post-Mitigation)

The carbon emissions associated with the proposed development have been quantified within Chapter 9 – Climate. These show that the carbon associated with construction activities is the largest contributor to GHG emissions during the construction phase at 84% of the total, this is primarily due to electricity usage on-site. The proposed development will result in total construction phase emissions over the 18-month construction period which amount to 0.14% of the 2030 Transport Sector emissions ceiling of 6 MtCO_2e. In the context of total national GHG emissions, Ireland's national GHG emissions in 2021 were 61,528 kt CO_2e, the project related GHG emissions equate to 0.013% of Ireland's 2021 total GHG emissions. As the proposed development will promote sustainable travel by providing new links for pedestrians and cyclists this is in line with Ireland's net zero trajectory. In addition, the proposed development will not significantly contribute to GHG emission. The impact of the proposed development in relation to GHG emissions is considered short-term, minor adverse and not significant.

In addition to greenhouse gas emissions the vulnerability of the proposed development to climate change has been assessed. This was conducted by determining the sensitivity of the area to various climate hazards and the likelihood of the climate hazards occurring on site. The vulnerability assessment determined that there is a medium risk of flooding and extreme temperatures to the development as a result of climate change. However, flooding impacts have ben mitigated as part of the design of the development with adequate attenuation and drainage provided. Building materials will be selected so as to withstand temperature variations as per their design. Overall, there were no significant residual climate change related risks.

10 Noise and Vibration

10.1 Methodology

The noise impact assessment has focused on the potential outward impacts associated with the construction and operational phases of the proposed development on its surrounding environment.

10.2 Baseline Environment

The existing noise and vibration climate at the proposed development has been surveyed. Prevailing noise levels are primarily due to local road traffic, water noise from the river and pedestrian activity. Noise levels measured on the site have been used in the assessment of potential impacts associated with the proposed development.

10.3 Potential Impacts of the Proposed Development

10.3.1 Construction Phase

During the construction phase the assessment has determined that for construction works taking place close to the site boundaries, the predicted noise levels will be above the construction noise criteria at the nearest sensitive properties. During periods of construction in these areas of the site it is predicted that short term significant impacts are likely. As works move further away from offsite receptors, predicted noise levels are lower. At distances of 50m from works, construction noise is predicted to be within the relevant criteria for noise.

10.3.2 Operational Phase

Once operational, potential effects associated with the proposed development will be low in noise, i.e. people cycling and walking, limited vehicular activity at car parking areas, occasional maintenance works comprising management of surface, scheduled maintenance as necessary to the bridge structure and vegetation.

Change in noise level associated with traffic during the operational phase is predicted to be imperceptible and expected to decrease in some instances.

10.4 Residual Effects (Post-Mitigation)

Mitigation measures are proposed during the construction phase so that impacts are reduced. There is potential for significant impacts associated with the most intensive construction works and where works take place close to dwellings located adjacent to the site boundary.

With respect to traffic movements, no mitigation measures are determined to be necessary.

11 Material Assets: Built Services

11.1 Methodology

The assessment has focused on the potential outward impacts associated with the construction and operational phases of the proposed development on its surrounding environment.

11.2 Baseline Environment

The existing Built Services receiving environment at the proposed development has been assessed from a desktop level consisting of an review of available existing utility services such as foul and surface water networks, telecommunication, power and gas networks, land uses, access and critical

infrastructure. The available data was used to determine the potential impacts of the proposed development during the construction and operational phases.

11.3 Potential Impacts of the Proposed Development

11.3.1 Construction Phase

The assessment has determined that for construction works, there will be a likely impact on land uses and access on Suir Island, Raheen Road and the Quays with pedestrian movement restrictions. The effects are considered to be negative, not significant and short-term.

The effects of the proposed works will require connections to existing utilities such as power/electrical, telecommunications and water networks. The effect on the increased demand on the networks for the construction compounds and works are considered neutral, imperceptible and short-term.

The effects on critical flood defence infrastructure was assessed to be neutral, imperceptible and short-term in Chapter 7 Hydrology for the construction phase.

11.3.2 Operational Phase

Once operational, potential effects associated with the proposed development on flood defence infrastructure were determined as neutral, imperceptible and permanent.

The proposed development will provide foul and surface water connections to existing networks and the effects assessed as neutral, imperceptible and long-term.

The proposed bespoke lighting and alterations to existing public lighting will affect the existing power/electrical services, but due to the low demand, the effect is considered neutral, imperceptible and long-term.

11.4 Residual Effects (Post-Mitigation)

There were no significant impacts identified during the assessment. The design of the proposed development was done in accordance with relevant guidelines, Code of Practice documents and consultations with owners of critical infrastructure as to negate significant impacts.

12 Material Assets: Traffic and Transport

12.1 Methodology

A ‘do-nothing’ and a ‘do-something’ scenario have been developed in assessing the traffic impact. The years considered were base year (2022), the year of opening (YoO, 2025), future year (YoO+5, 2030), and horizon year (YoO+15, 2040).

A review of the planning applications submitted in the local area has been undertaken to identify committed developments in the surrounding area.

Due to constraints with the geometry of some of the junctions under study and a significant number of one-way sections in major arms within the network, it has not been possible to use the TRL PICADY software for modelling priority-controlled junctions. In light if this, the industry standard LinSig traffic modelling software was considered the next best option to estimate the traffic impacts of the scheme

12.2 Baseline Environment

At the time of the assessment, 2023 traffic counts were not available for all the junctions included in this Traffic Impact Assessment (TIA). Traffic counts dated from Tuesday 24th May 2022 were available only for junction 2 (Old Bridge and Bridge Street Movements only), junction 4 and junction 5. In light of this,

historic traffic data has been considered for the assessment. The available 2022 traffic counts have been used to validate the changes in traffic volumes.

Traffic surveys were carried out at 21 No. junctions within Clonmel to be utilised for the Clonmel Town Centre Traffic Management Study. This set of surveys were undertaken on Tuesday 8th May 2018 by MHC Traffic Ltd., on behalf of Tipperary County Council. activities that generated waste, were up until recently, still undertaken on this site.

12.3 Potential Impacts of the Proposed Development

12.3.1 Construction Phase

At the construction stage, disruptions to the traffic movements should be expected for the areas along the Quays, Quay Street, Old Bridge, and Raheen Road, with road closures in some instances are anticipated.

A Construction Environmental Management Plan (CEMP) is part of the EIAR to ensure the safety of the workforce and the public, as well as minimising traffic delays and disruption in the local area. This will also aim to maintain access to properties..

The impacts of the proposed scheme at the construction phase will be ***short-term, negative, and not significant.***

12.3.2 Operational Phase

Traffic modelling demonstrates that the road network in the vicinity of the site can accommodate the additional traffic resulting from the road changes proposed with the scheme.

The traffic impact of the proposed scheme at the operational phase can be described as long-term, neutral, and imperceptible.

12.3.3 Car Parking Impacts

The implementation of the proposed scheme will result in the **loss** of parking in the local area. The demand for these spaces will be accommodated within the Suir Island Car Park**.**

13 Material Assets: Waste Management

13.1 Introduction

The receiving environment is largely defined by Tipperary County Council (TCC) as the local authority responsible for setting and administering waste management activities in the area through regional and development zone specific policies and regulations.

13.2 Methodology

A summary of the documents reviewed, and the relevant legislation is provided in the RWMP provided in Appendices 12.1 of the EIAR.

13.3 Baseline Environment

There is currently no waste generated at the proposed development site.

.

13.4 Mitigation and Residual Effects (Post-Mitigation)

13.5 Construction Phase

During the demolition and construction phase, typical construction waste materials will be generated which will be source segregated on-site into appropriate skips/containers, within designated waste storage areas and removed from site by suitably permitted waste contractors as required, to authorised waste facilities, by appropriately licensed waste contractors. Waste records will be undertaken. All waste leaving the site will be recorded and copies of relevant documentation maintained.

Where possible, materials will be reused on-site to minimise raw material consumption or reuse of materials . Source segregation of waste materials will improve the re-use/recycling opportunities of recyclable materials off-site. This will all be overseen by the main contractor, who will appoint a construction phase Resource Manager to ensure effective management of waste during the excavation and construction works. All construction staff will be provided with training regarding the waste management procedures on site.

A carefully planned approach to waste management and adherence to the site-specific Outline Construction and Demolition Waste Management Plan (Appendix 13.1) and Chapter 13 during the construction phase, this will ensure that the effect on the environment will be ***short-term, neutral*** and ***imperceptible.***

13.6 Operational Phase

During the operational phase, waste will be generated at the site by users of the development. The nature of the development means the generation of waste materials during the operational phase is unavoidable. Networks of waste collection, treatment, recovery, and disposal infrastructure are in place in the region to manage waste efficiently from this type of development.

The predicted effect of the operational phase on the environment will be ***long-term, neutral*** and ***imperceptible.***

13.7 Cumulative Impact of the Proposed Development

A comprehensive review of all other projects occurring in the vicinity of the proposed development has been completed by undertaking a review of the Tipperary County Council online planning applications portal and identifying all recently approved and live planning applications in the vicinity of the River Suir, upstream and downstream of the proposed development site. Relevant projects identified during this review are listed in Section 1.15 of the EIAR Chapter 1 Introduction and are examined for their potential to result in likely significant effects to the Lower River Suir SAC. In addition to the planning application projects to Tipperary County Council as listed in Section 1.15 (Chapter 1), Tipperary County Council have also applied for Part VIII planning for the refurbishment of the Suir Island gardens located adjacent to the proposed Suir Island Infrastructure Links development. The Part VIII Planning Application for the Suir Island Gardens development was approved in October 2022.

13.7.1 Construction Phase

There are existing developments close by, along with the multiple permissions remaining in place in the area. In a worst-case scenario, multiple developments in the area could be developed concurrently or overlap in the construction phase.

Due to the high number of waste contractors in the Southern Region there would be sufficient contractors available to handle waste generated from a large number of these sites simultaneously, if required. Similar waste materials would be generated by all the developments.

Other developments in the area will be required to manage waste in compliance with national and local legislation, policies and plans which will mitigate against any potential cumulative effects associated with waste generation and waste management. As such the effect will be *short-term* and *not significant*

13.7.2 Operational Phase

There are existing public areas and pedestrian areas all around the vicinity of the development site. All of the current public spaces will generate similar waste types during their operational phases. TCC / the operator or authorised waste contractors will be required to collect waste materials as required. An increased density of development in the area is likely to improve the efficiencies of waste collections in the area.

Other developments in the area, will be required to manage waste in compliance with national and local legislation, policies and plans which will minimise/mitigate any potential cumulative impacts associated with waste generation and waste management. As such the effect will be a long-term and imperceptible**.**

14 Material Assets: Architecture, Archaeology and Cultural Heritage

14.1 Methodology

The assessment examined the likely significant effects on the cultural heritage environment resulting from the construction and operation of the proposed development. It was based on a desk study of documentary and cartographic sources supported by a site inspection and the results of limited archaeological monitoring of ground investigation work.

14.2 Baseline Environment

Suir Island has been an important crossing point of the River Suir since medieval times, linking the Anglo-Norman walled town of Clonmel to County Waterford on the southern side of the river. The island is accessible from the town centre via Old Bridge to the island's northwest. In the 18th and 19th centuries, the town was a prosperous transportation and industrial hub in the Midlands. There were extensive milling operations on the river and the island. Numerous medieval and post-medieval references exist to milling on Little Island at Hughes Mill.

Architectural, Industrial and Cultural Heritage

The proposed development lies outside Architectural Conservation Area (ACA) for Clonmel. Suir Island House on Willow Island is a protected structure (RPS 289). It is a former miller's house, built c.1760 and stands as a ruin that has been conserved and made safe. A complex of former industrial structures, built in c.1820-30, comprising the ruins of multi-storey stores and warehouses arranged on the sides of narrow streets is located on Suir Island and are recorded in the National Inventory of Architectural Heritage (NIAH, Ref: 22121004).

Archaeological Heritage

There are no individual recorded archaeological sites recorded within the proposed development. Suir Island is within Clonmel's Zone of Archaeological Potential (ZAP) (TS083-019). This area has an increased potential to reveal subsurface archaeological sites or soils dating back to the town's foundation in the Medieval period.

Archaeological monitoring of site investigation works for the proposed development revealed modern services and infill associated with the Clonmel Main Drainage Project and River Suir Flood Relief Scheme to the north of the river. Modern infill/made-up ground and services dominated two trenches south of the river. The monitoring concluded that the proposed development is not likely to have a significant archaeological impact.

14.3 Potential Impacts of the Proposed Development

14.3.1 Construction Phase

There is a potential that previously unknown (but truncated) archaeological deposits, features, or sites may be present below ground within the proposed development area. Earthmoving works in association with the following phases of the construction may encounter truncated belowground archaeological remains:

- North Plaza: Despite post-medieval and modern disturbance, there remains a low potential that archaeological soils, features or structures associated with the medieval town and the medieval town wall might be uncovered during the development of the north plaza.
- Suir Island compound: The extent of previous monitoring and excavation works in this area is unknown, so there remains a low potential that milling activity might be identified should undisturbed pockets survive.
- Pedestrian path from Denis Burke Park to the proposed North Plaza: Apart from the localised excavation for the piles through the berm, the works will take place on the existing embankments, reducing the archaeological impact.
- Ancillary site development: Excavation works associated with upgrading surface water drainage in the North Plaza, Suir Island car park and Raheen Road will potentially reveal archaeological remains.

No works will occur within the main river channels of the River Suir.

There will be a negative impact on any archaeological features that might be revealed during earthmoving works associated with the proposed development. The overall significance of the effect on potential archaeological features will be of moderate significance. Should undesignated industrial archaeological features be identified, there will be an impact of slight significance on the feature.

14.3.2 Operational Phase

Suir Island presents a huge opportunity for the town as a central amenity. The proposal is an innovative opportunity to positively impact the towns heritage to access. The plaza and pedestrian link will provide people with a sense of place and connection to their historic environment. It will complement the existing water sports amenity in the river and Denis Burke Park. There will be a positive impact on the cultural heritage environment and interaction between public spaces in the town, improving amenities.

14.4 Mitigation

Archaeological monitoring will take place of any works requiring ground disturbance/excavation, including the enabling works for the piers in the floodplain. It will be carried out under licence to the Department of Housing Local Government and Heritage (DHLGH) and the National Museum of Ireland (NMI). It will ensure the full recognition of, and the proper excavation and recording of, all archaeological soils, features, finds and deposits which may be disturbed below the ground surface. All archaeological issues must be resolved to the satisfaction of the DHLGH and the NMI.

15 Landscape and Visual

15.1 Methodology

The assessment was carried out following the methodology specified in relevant guidance documents, along with images enabling the identification of any potential impact to the existing inherent landscape

character (LCA) and cover the process for a landscape visual impact (LVIA), including current and future requirements for landscape management.

15.2 Baseline Environment

The baseline environment or existing receiving environment is the River Suir traversing Clonmel town referred to as a townscape within an "Urban and Fringe" Landscape Character Area and Suir Island, a typical floodplain valley landscape. The proposed development will involve the construction of two bridges at the River Suir's northern and southern riverbanks within the town of Clonmel. The two bridges will be linked by a promenade structure built on an existing flood barrier mound in Suir Island. This infrastructures via Suir Island will link the riverbanks, thus providing a connection to the town of Clonmel for both pedestrians and cyclists. The objective is to improve pedestrian and cyclists' circulation and provide an amenity recreational facility in the receiving environment. The proposed design scheme is based on identifying the existing built and natural features, the opportunities, and constraints inherent in this site area and includes subareas that are deemed as distinctive environments and as landscape characters, and in response the design objective is to integrate the scheme with the existing landscape character subareas in order to minimize any potential landscape character and visual impact (i.e., views) to key receptors (i.e., people or users of the site).

15.3 Potential Impacts of the Proposed Development

15.3.1 Construction Phase

The onsite implementation will generate a degree of impact during construction activity on both existing hard and soft features such as the required demolition/ removal of these features in order meet the design requirements of this proposed infrastructure. With mitigation measure the construction phase *on landscape character* shall be **short term duration** and **moderate**, and for the *landscape visual impact* to its receptors it shall be a **short-term duration, significant** and **negative.**

15.3.2 Operational Phase

The potential impacts on the environment during the operational phase of the proposed development would be caused by improper, or lack of landscape maintenance and review of the condition of both the existing and new built and natural features. With mitigation measure the operational phase on the *landscape character* shall be of a permanent ***duration*** *and* ***moderate***, and for *the landscape visual impact* to its receptors it shall be a ***permanent duration, moderate*** *and* ***neutral***.

15.4 Mitigation and Residual Effects (Post-Mitigation)

15.4.1 Construction Phase

Pre-planning and programming relating to the construction phase is necessary to mitigate potential impacts for either built or natural features. A Tree Management Plan along with relevant drawings by the arborist will be the template for reducing any environmental impact on the landscape such as identifying trees requiring protection through fencing, methods to minimize erosion and compaction, appropriate locations of access points and circulation of construction traffic. During construction phase mitigation measures will ensure the environment 's landscape and as a visual amenity will be ***short-term duration, neutral,*** and ***moderate,*** effectively the end result once the mitigation measures have been implemented.

15.4.2 Operational Phase

During the operational phase, the implementation of a Post Construction Review of both built and natural features is essential, in order set a guideline of inspections for any damage identified requiring further

mitigation measures such as structural impairments, remedial pruning to damaged branches, areas of replanting and any missed disturbance where a tree may have been undermined, comprising its health and the safety to the public, this includes associated minor infrastructures relating to the landscape that have been compromised.

With mitigation measures, the residual effect of the operational phase on the environment will be ***long-term duration, neutral,*** and ***imperceptible.***

15.5 Cumulative Impact of the Proposed Development

15.5.1 Construction Phase

A separate application for a proposed development referred to as “Suir Island Garden “is located within Suir Island adjacent to the core study or site area, along with other existing built features. This development is the only one that has relevance to this landscape assessment due to its proximity to the new proposed infrastructure, and its distinctive landscape character and historical value. The cumulative effect in terms of the landscape character impact for this adjacent project will be of a ***permanent-duration, moderate*** and ***neutral,*** and landscape visual impact to its receptors shall be ***permanent - duration, moderate and neutral*** with mitigation measures .

15.5.2 Operational Phase

As stated for the construction phase the separate application for the proposed development referred to as “Suir Island Garden” has relevance to this landscape assessment due to its proximity to the new proposed infrastructure, and its distinctive landscape character and historical value. The cumulative effect in terms of the landscape character impact for this adjacent project will be of a ***permanent-duration, moderate*** and ***neutral,*** and landscape visual impact to its receptors shall be ***permanent - duration, moderate and neutral*** with mitigation measures.

16 Interactions of the Foregoing

Overall, the interactions between the proposed development and the various environmental factors are generally considered to be not significant, negative but short-term in duration. Mitigation measures are proposed throughout this EIAR to minimise any potentially negative impact which is summarised in Chapter 17 Schedule of Mitigation Measures and Monitoring.

Clifton Scannell Emerson Associates Limited, Civil & Structural Consulting Engineers
3rd Floor The Highline, Bakers Point, Pottery Road, Dun Laoghaire, Co Dublin, Ireland A96 KW29

T. +353 1 288 5006 E. info@csea.ie W. www.csea.ie