The uncovering and recording of the setts and kerbs in the earliest stages will, under discussion with the Local Authority, identify the most appropriate location for reinstation. The setts will be re-laid following the historic layout, bonding pattern and junction details where surfaces are to be re-laid and maintain the same joint width and pointing detail.

Proposed Public Presentation Methodology

The integration of the historic stone setts and kerbs into the design proposals will be considered subject to amount of original material available and condition surveys. It will also be managed in agreement with the statutory stakeholders.

As part of the Site 2 landscaping strategy, it is proposed to consolidate the historic setts from the current locations on O'Rahilly Parade and Moore Lane in order to provide a continuous visual appearance of the historic setts. The approximate quantity of stone setts and paving available based on the GPR survey would allow for the re-surfacing of Henry Place and the southern section of Moore Lane with historic setts. That is, in the area to the rear of the National Monument and along Henry Place where most of the 1916 activity was enacted. Correspondingly, the integration of the historic granite kerbs along Henry Place, and Moore Lane will be considered once further information is available about their dimensions, condition and the overall quantity available (

Figure 18.7).

Figure 18.7: Indicative location for the re-laying of the historic setts in the public realm

18.2.12.3 Proposed Development – No. 61 O'Connell Street

Construction Stage

No measures are required from an archaeological perspective for the development of No. 61 O'Connell Street Upper during the construction or operational stages of the development.

Operational Stage

Not applicable.

18.2.13 Risk Management (Major Accidents & Disasters) (Chapter 17)

Construction Phase

The mitigation measures relevant to each environmental factor outlined in chapters 5 – 16 of the EIAR, as well as in the Construction Management Plan, will be implemented during the construction phase and will collectively mitigate the risk of major accidents and disasters during this time.

The construction phase will be carried out in accordance with best practice site management measures relating to health and safety and emergency response. These measures are described in the Outline Construction Management Plan, prepared by Waterman Moylan Consulting Engineers.

Operational Stage

No mitigation or monitoring measures are proposed specific to reducing the risk of major accident / disaster during operation.

19 ENVIRONMENTAL INTERACTIONS & CUMULATIVE IMPACT

19.1 Introduction

This Chapter of the EIAR identifies the principal interactions between the potential impacts of the environmental factors identified in Chapter 5 to 17 inclusive.

The principal interactions are summarised below, under Table 19.1, and further discussed in Section 19.2 of this Chapter.

The predicted impacts identified in Chapters 5 – 17 have taken into account the principal interactions listed below and associated mitigation measures.

The cumulative impacts arising from the interaction of impacts identified below, is also outlined in this Chapter.

	Population & Human Health	Biodiversity	Land, Soils & Geology	Water	Climate (Air Quality & Climate Change)	Climate (Sunlight & Daylight)	Air (Noise & Vibration)	Landscape & Visual Impact	Material A (Transpo
Population & Human Health		X	✓	✓	✓	✓	✓	✓	✓
Biodiversity	X		X	✓	X	X	✓	✓	X
Land, Soils & Geology	✓	✓		✓	✓	X	✓	X	✓
Water	✓	✓	✓		X	X	✓	X	X
Climate (Air Quality & Climate Change)	✓	X	✓	X		X	X	X	✓
Climate (Sunlight & Daylight)	X	X	X	X	X		X	X	X
Air (Noise & Vibration)	✓	X	X	X	X	X		X	X
Landscape & Visual Impact	✓	✓	X	X	X	X	X		✓
Material Assets (Transport)	✓	✓	X	X	✓	X	✓	X	
Material Assets (Waste)	✓	X	✓	X	X	X	X	X	✓
Cultural Heritage (Archaeological)	X	X	X	X	X	✓	✓	✓	X
Cultural Heritage (Architectural)	X	X	X	X	X	X	X	X	X

Where there is an interaction = ✓ No Interaction = **X**

Table 19.1: Matrix of Interactions between Environmental Factors (During Construction and Operational Phases)

19.2 Interactions

19.2.1 Population and Human Health (Chapter 5)

Land, Soils & Geology

The interaction between Human Health on Soils resulted in baseline soils testing to ensure that there was no potential for spread of contaminant substances due to excavation works, or ground failure.

Water

The interaction between Human Health on Water resulted in baseline water investigations to ensure that there was no potential for contamination of water sources, no flooding risks, or risks of diminished potable water supply.

Climate (Air Quality & Climate Change)

The interaction between Human Health on Air Quality has resulted in controlled construction measures and traffic management plans to curtail air and dust emissions.

Climate (Sunlight & Daylight)

The interaction between Human Health on Sunlight has affected the design of the buildings to reduce sunlight depravation for both residents living in the area and residents living within the proposed development.

Air (Noise & Vibration)

The interaction between Human Health on Noise has resulted in controlled construction measures, traffic management plans and social noise management plans to curtail noise emissions.

Material Assets (Transportation)

The interaction of Human Health on Traffic has resulted in baseline traffic assessments and traffic management plans to ensure that stresses associated with longer waiting times and un-safe junctions do not pose a significant threat.

19.2.2 Biodiversity (Chapter 6)

Biodiversity receptors interact with other environmental items as outlined in Chapter 6 of this EIAR, these are summarised as follows: -

Water

Interactions between water and biodiversity including habitats, flora and fauna could potentially occur through impacts on water quality in the River Liffey either arising from an accidental pollution event during construction or during operation. This interaction has the potential to result in significant effects on hydrologically connected habitats such as those designated for in Dublin Bay European sites, and the sensitive fauna that rely on these habitats. Given the reasons discussed within section 6.5 of Chapter 6 and information based on the Hydrological and Hydrogeological qualitative risk assessment (AWN, 2021), negative effects on biodiversity as a result of the proposed development are not predicted to be significant at any geographic scale.

Air (Noise & Vibration)

Interactions between noise and vibration and sensitive fauna, i.e. breeding birds, could potentially occur owing to increased noise and vibration levels during construction works. This interaction has the potential to result in significant effects on sensitive fauna. Following the implementation of mitigation measures outlines in Section 6.7.3 of Chapter 6, effects on fauna arising from noise and vibration are not predicted to be significant at any geographic scale.

Landscape & Visual Impact Assessment

There are pockets of low value vegetation due for removal within the proposed development site. As a result, there are no effects predicted on biodiversity due to the lack of habitats within the Proposed Development site. Interactions between landscaping and biodiversity could occur due to the enhancement measures proposed within the landscaping design, providing benefits to biodiversity and residents in a predominantly urbanised environment.

19.2.3 Land, Soils and Geology (Chapter 7)

The interactions between Chapter 7 (Lands, Soils and Geology) and the other chapters of the EIAR are set out below: -

Population & Human Health

Dust from the site and from soil spillages on the existing road network around the site may impact human health, especially during dry conditions. Dampening down measures with water sprays will be implemented during periods of dry weather to reduce dust levels arising from the development works.

Water

Accidental oil or diesel spillages from construction plant and equipment, in particular at refuelling areas, may result in oil contamination of the soils and underlying geological structures, including surface water and groundwater. Measures will be implemented throughout the construction stage to prevent contamination of the soil and adjacent watercourses from oil and petrol leakages.

Climate (Air Quality & Climate Change)

Dust from the site and from soil spillages on the existing road network around the site may impact air quality, especially during dry conditions. Dampening down measures with water sprays will be implemented during periods of dry weather to reduce dust levels arising from the development works. Air Quality will be controlled and monitored as set out in Chapter 9 of this EIAR.

Air (Noise & Vibration)

Heavy machinery used for excavations may impact on noise and vibration. Both will be controlled and monitored as set out in Chapter 12 of this EIAR.

Waste Management

Excess soil excavated during construction works, including any potential contaminated soils, will be managed and disposed of in approved locations as provided for in this EIAR.

Biodiversity

Accidental oil or diesel spillages from construction plant and equipment may impact local flora and fauna. Such spills will be mitigated in accordance with Chapter 7 of this EIAR.

Material Assets (Transport)

Excess soil excavated during construction works for Dublin Central will be transported by road for disposal in approved locations as provided for in this EIAR. Movements of construction traffic will be managed in accordance with the Construction Traffic Management Plan.

19.2.4 Water (Chapter 8)

The interactions between Chapter 8 (Water) and the other chapters of the EIAR are set out below: -

Population & Human Health

There is a risk of pollution of groundwater and water courses by accidental spillage of foul effluent during connections being made to live sewers, which could impact human health. This risk will be mitigated in accordance with Chapter 8 of this EIAR.

Land, Soils & Geology

There is a risk of pollution of groundwater by accidental spillage of foul effluent during connections being made to live sewers. This risk will be mitigated in accordance with Chapter 8 of this EIAR.

Air (Noise & Vibration)

Heavy machinery used for excavations to facilitate watermains, drainage and attenuation may impact on noise and vibration. Both will be controlled and monitored as set out in Chapter 12 of this EIAR.

Waste Management

Excess soil excavated during construction works to facilitate watermains, drainage and attenuation, including any potential contaminated soils, will be managed and disposed of in approved locations as provided for in this EIAR.

Biodiversity

There is a risk of pollution of groundwater and water courses by accidental spillage of foul effluent during connections being made to live sewers, which could affect local flora and fauna. Such spills will be mitigated in accordance with Chapter 8 of this EIAR.

19.2.5 Climate (Air Quality and Climate Change) (Chapter 9)

Air quality does not have a significant number of interactions with other topics.

Population & Human Health

The most significant interactions are between population and human health and air quality. An adverse impact due to air quality in either the construction or operational phase has the potential to cause health and dust nuisance issues. The mitigation measures that will be put in place at the proposed development will ensure that the impact of the proposed development complies with all ambient air quality legislative limits and therefore the predicted impact is short to long term, negative and imperceptible with respect to human health.

Land, Soils and Geology

Construction phase activities such as land clearing, excavations, stockpiling of materials etc. have the potential for interactions between air quality and land and soils in the form of dust emissions. With the appropriate mitigation measures to prevent fugitive dust emissions, it is predicted that there will be no significant interactions between air quality and land and soils.

Material Assets (Transportation)

Interactions between air quality and traffic can be significant. With increased traffic movements and reduced engine efficiency, i.e. due to congestion, the emissions of vehicles increase. The impacts of the proposed development on air quality are assessed by reviewing the change in annual average daily traffic on the surrounding road network. In this assessment, the impact of the interactions between traffic and air quality are considered to be imperceptible.

No other significant interactions with air quality and climate have been identified.

19.2.6 Climate (Sunlight & Daylight) (Chapter 10)

No potential impacts from other chapters of this EIAR were considered to have the potential to have associated sunlight and daylight impacts.

19.2.7 Air, Noise and Vibration (Chapter 11)

Construction Phase

During the preparation of this chapter it was necessary to coordinate and align information with the design team working on the MetroLink project regarding the construction criteria for the Metro Enabling Works which are included under the planning permission being sought for the Proposed Development.

Operational Phase

The operational noise impact assessment has been prepared in consultation with the design team, mechanical & electrical engineers and traffic engineers. Reference can be made to the relevant chapters for additional information.

19.2.8 Landscape and Visual Impact (Chapter 12)

Introduction

All environmental factors are inter-related to some extent, these relationships can range from the tenuous to highly complex. Landscape and visual impacts often interact with and/or interrelate to the following topics for the proposed development.

Biodiversity

An interaction between biodiversity and landscape and visual impact during the operation phase of the proposed development is identified.

There is little of ecological interest present within the application site, so during construction there is little potential for loss of features of value. Once operational, the introduction of street trees, planted swales and courtyards in addition to green roofs is likely to have a positive effect on the ecological potential of the site and its setting.

Cultural Heritage

A potential interaction between cultural heritage and landscape and visual impact during both the construction and operational phases of the proposed development is identified.

The area around the site of the proposed development is one of cultural significance, including the surrounding streets and their historical significance and buildings and other elements in these streets. Short term effects derived from hoardings located along the boundary of the application site during construction in addition to cranes and scaffolding have the potential to affect how the cultural significance of the area is perceived. During the operational phase the proposed buildings and changes to the public realm also have the potential to affect the perception of cultural heritage. The design of buildings, landscape and the selection of materials have the potential to contribute to the understanding of, engagement with and perception of the cultural heritage of the area.

Population and Human Health

An interaction between the population and human health and landscape and visual impact during both the construction and operational phase of the proposed development is identified.

Adverse, short term visual impacts will arise for visual receptors located close to or adjoining the application site during construction. These effects will derive from the presence of scaffolding, cranes, hoarding and materials. Once operational, the proposed development will contribute to the structure and functionality of this area of the City. This is principally due to the transformation of disused parts of the development site into useful development and publicly accessible civic spaces. Enhancements to landscape and visual amenity have the potential to positively impact on population and human health by increasing footfall to the area.

Transport

An interaction between transport and landscape and visual impact during both the construction and operational phases of the proposed development is identified.

Adverse, short term impacts will arise for receptors located close to or adjoining the application site during construction. These effects will derive from the increased movement of vehicles both using the public road network delivering and removing materials and within the application site. Once operational, positive effects such as pedestrian and cyclist movements and activity deriving from the proposed development will enliven and animate the streetscape.

19.2.9 Material Assets (Transportation) (Chapter 13)

The interactions between Chapter 13 Material Assets (Transport) and the other chapters of the EIAR are set out below: -

Population and Human Health

Traffic diversions during the Construction Stage could result in a temporary slight negative impact on population and human health. Diversions will be managed in accordance with the Construction Traffic Management Plan.

Lands, Soil & Geology

Material excavated during the construction of the will be transported by road for disposal in approved locations as provided for in Chapter 7 of this EIAR. Movements of construction traffic will be managed in accordance with the Construction Traffic Management Plan.

Climate –(Air Quality & Climate Change)

The generation of traffic during the Construction Stage has the potential to impact on Air Quality. Air Quality will be controlled and monitored as set out in Chapter 9 of this EIAR.

Air (Noise and Vibration)

The traffic generated during the Construction Stage has the potential to impact on noise and vibration. Both will be controlled and monitored as set out in Chapter 11 of this EIAR.

Material Assets (Waste)

Excess material excavated during construction works for Dublin Central will be transported by road for disposal in approved locations as provided for in this EIAR. Movements of construction traffic will be managed in accordance with the Construction Traffic Management Plan.

19.2.10 Material Assets (Waste) (Chapter 14)

Dublin Central Masterplan

Adherence to the mitigation measures outlined in Section 14.6 will ensure that there are no significant impacts on resource or waste management from the proposed development. The management of waste during the construction phase in accordance with the Resource & Waste Management Plan (RWMP) and during the operational phase in accordance with the Operational Waste Management Plan (OWMP) will meet the requirements of regional and national waste legislation and promote the management of waste in line with the priorities of the waste hierarchy.

Land & Soils

During the construction phase excavated soil, stone, clay and made ground (c. 163,490m3) will be generated from the excavations required to facilitate site levelling and construction of foundations. It is estimated that all of excavated material will need to be removed offsite due to limited opportunities for reuse. Where material has to be taken off site it will be taken for reuse or recovery, where practical, with disposal as last resort. Adherence to the mitigation measures in Chapter 14 and the RWMP in appendix 14.1 will ensure the effect is long-term, imperceptible and neutral.

Material Assets -Transportation

Local traffic and transportation will be impacted by the additional vehicle movements generated by removal of waste from the site during the construction and operational phases of the development. The increase in vehicle movements as a result of waste generated during the construction phase will be temporary in duration. There will be an increase in vehicle movements in the area as a result of waste collections during the operational phase but these movement will be imperceptible in the context of the overall traffic and transportation increase and has been addressed in Chapter 13 Material Assets Transportation. Provided the mitigation measures detailed in Chapter 13, 14 and the requirements of the OWMP (included as Appendix 14.2) are adhered to, the effects should be short to long-term, imperceptible and neutral.

Population & Human Health

The potential impacts on human beings in relation to the generation of waste during the demoltion, construction and operational phases are that incorrect management of waste could result in littering which could cause a nuisance to the public and attract vermin. A carefully planned approach to waste management and adherence to the project specific C&DWMP and OWMP, will ensure appropriate

management of waste and avoid any negative impacts on the local population. long-term, imperceptible and neutral.

Site 2

Adherence to the mitigation measures outlined in Section 14.6 will ensure that there are no significant impacts on resource or waste management from the proposed development. The management of waste during the construction phase in accordance with the RWMP and during the operational phase in accordance with the OWMP will meet the requirements of regional and national waste legislation and promote the management of waste in line with the priorities of the waste hierarchy.

Land & Soils

During the construction phase excavated soil, stone, clay and made ground (Site 2 – 133,365m^3) will be generated from the excavations required to facilitate site levelling and construction of foundations. It is estimated that all of the excavated material will need to be removed offsite due to the limited opportunities for reuse onsite. Where material has to be taken off site it will be taken for reuse or recovery, where practical, with disposal as last resort. Adherence to the mitigation measures in Chapter 14 and the RWMP in appendix 14.1 will ensure the effect is long-term, imperceptible and neutral.

Material Assets -Transportation

Local traffic and transportation will be impacted by the additional vehicle movements generated by removal of waste from the site during the construction and operational phases of the development. The increase in vehicle movements as a result of waste generated during the construction phase will be temporary in duration. There will be an increase in vehicle movements in the area as a result of waste collections during the operational phase but these movement will be imperceptible in the context of the overall traffic and transportation increase and has been addressed in Chapter 13 Material Assets Transportation. Provided the mitigation measures detailed in Chapter 13, 14 and the requirements of the OWMP (included as Appendix 14.2) are adhered to, the effects should be short to long-term, imperceptible and neutral.

Population & Human Health

The potential impacts on human beings in relation to the generation of waste during the demoltion, construction and operational phases are that incorrect management of waste could result in littering which could cause a nuisance to the public and attract vermin. A carefully planned approach to waste management and adherence to the project specific C&DWMP and OWMP, will ensure appropriate management of waste and avoid any negative impacts on the local population. long-term, imperceptible and neutral.

No. 61 O'Connell Street Upper

Adherence to the mitigation measures outlined in Section 14.6 will ensure that there are no significant impacts on resource or waste management from the proposed development. The management of waste during the construction phase in accordance with the RWMP and during the operational phase in accordance with the OWMP will meet the requirements of regional and national waste legislation and promote the management of waste in line with the priorities of the waste hierarchy.

Land & Soils

During the construction phase a small quantity of excavated soil, stone, clay and made ground will be generated from the excavations required to facilitate site redevelopment and the installations of services. It is estimated that all of the excavated material will need to be removed offsite due to the limited opportunities for reuse onsite. Where material has to be taken off site it will be taken for reuse or recovery, where practical, with disposal as last resort. Adherence to the mitigation measures in Chapter 14 and the RWMP in appendix 14.1 will ensure the effect is long-term, imperceptible and neutral.

Material Assets -Transportation

Local traffic and transportation will be impacted by the additional vehicle movements generated by removal of waste from the site during the construction and operational phases of the development. The increase in vehicle movements as a result of waste generated during the construction phase will be temporary in duration. There will be an increase in vehicle movements in the area as a result of waste collections during the operational phase but these movement will be imperceptible in the context of the overall traffic and transportation increase and has been addressed in Chapter 13 Material Assets Transportation. Provided the mitigation measures detailed in Chapter 13, 14 and the requirements of the OWMP (included as Appendix 14.2) are adhered to, the effects should be short to long-term, imperceptible and neutral.

Population & Human Health

The potential impacts on human beings in relation to the generation of waste during the demoltion, construction and operational phases are that incorrect management of waste could result in littering which could cause a nuisance to the public and attract vermin. A carefully planned approach to waste management and adherence to the project specific C&DWMP and OWMP, will ensure appropriate management of waste and avoid any negative impacts on the local population. long-term, imperceptible and neutral.

19.2.11 Cultural Heritage (Architectural) (Chapter 15)

The existing Cultural Heritage character of retained historic building fabric within and historic building fabric external to the masterplan site is identified and informed by interactions with the following chapters of the EIAR: -

Climate (Sunlight & Daylight)

The interaction between cultural heritage and sunlight/ daylight has influenced the design of Sites 3, 4 and 5 in particular to reduce consequential daylight impacts for historic building fabric and historic streetscapes in the vicinity of the combined development.

Air (Noise & Vibration)

Retained structures of significance within Site 2 & No. 61 O'Connell Street Upper, and in particular immediately adjoining historic buildings have benefited from a comprehensive review of the likely effects of vibration due to heavy machinery at demolition, excavation and construction stages, and mechanisms to control and monitor these effects, as cited in the various construction and management plans (Appendix 3.1 - 3.3 of this EIAR).

Landscape and Visual Impact

Operational stage impacts for the setting of retained historic fabric within and historic fabric enclosing Site 2 & No. 61 O'Connell Street Upper are demonstrated in Chapter 12 of the EIAR, following consideration and tempering of impacts at design stage.

Cultural Heritage (Archaeological)

Chapter 16 of the EIAR has influenced consideration of impacts for the inherent and adjoining architectural cultural heritage of Site 2 & No. 61 O'Connell Street Upper insofar as its predictions for impacts at excavation stage, which have in turn informed methodologies for protection of architectural heritage, expanded at design stage and reflected in mitigations cited in the various construction and management plans (Appendix 3.1 - 3.3 of this EIAR).

19.2.12 Cultural Heritage (Archaeological) (Chapter 16)

No significant interactions with Archaeology are envisioned as the mitigation measures proposed are incorporated into the design, construction, or operation of the proposed development. Archaeological monitoring is recommended for all earthmoving works required within the Dublin Central Masterplan area which will have the potential to reveal in-situ archaeological remains. The implementation of the archaeological mitigation measures during site preparation and construction works will ensure that all interactions are mitigated appropriately.

19.2.13 Risk Management (Major Accidents and Disasters) (Chapter 17)

As outlined in sections 17.5.1.6 and 17.5.1.7 in chapter 17, no likely risks of a major accident / disaster occurring are identified during construction stage. A medium risk of major accident / disaster in respect of the proposed development during the operational phase. No cumulative effects are identified.

19.3 Cumulative Impacts

Where cumulative impacts were considered to arise, these have been outlined in the relevant Chapters of this EIAR. The below sections outline the cumulative impacts as raised in each relevant Chapter.

19.3.1 Population and Human Health (Chapter 5)

19.3.1.1 Proposed Development – Site 2 & No. 61 O'Connell Street Upper

Construction Stage

The cumulative impact of other potential impacts on human health from air quality, noise quality and traffic have been incorporated into the various models and assessment that have contributed to section 5.5.2 in chapter 5 of this EIAR.

Operational Stage

The cumulative impact of other potential impacts on human health from air quality, noise quality and traffic have been incorporated into the various models and assessment that have contributed to section 5.5.2 in chapter 5 of this EIAR.

19.3.2 Biodiversity (Chapter 6)

19.3.2.1 Dublin Central Masterplan

The Dublin Central Masterplan site is currently zoned as Z5 "City / Town / Village Centre, Central Area" with the zoning objective *"to consolidate and facilitate the development of the central area, and to identify, reinforce, strengthen and protect its civic design character and dignity"* within the Dublin City Development Plan 2016 – 2022[1].

This section of the chapter assesses the potential for any other Proposed Developments to act cumulatively with the development of the Dublin Central Masterplan, to give rise to likely significant effects on biodiversity.

Based on a search of active or recent planning applications in the immediate environs of the Dublin Central Masterplan site[2], most applications relate to minor additions or amendments to existing buildings, including installation of platform lifts, improved access facilities etc.

Potential cumulative impacts may arise during construction and operation, as a consequence of the development of the Dublin Central Masterplan acting in-combination with other plans and projects, on water quality in the downstream surface water environment, and on disturbance and habitat loss to birds.

There is potential for cumulative impacts to arise with other local developments that would also result in increased noise, vibration, and human presence. However, as any disturbance effects from other such local developments are likely to be or a minor nature, temporary, localised and over a short-duration, they are not likely to cumulatively affect the local breeding bird populations in conjunction with the implementation of the Dublin Central Masterplan.

Considering the predicted impacts associated with the implementation of the Dublin Central Masterplan, the mitigation measures proposed to protect the local biodiversity resource and the

[1] The zoning of the site remains the same as is currently zoned in the draft Dublin City Development Plan (2022 – 2028)

[2] Planning applications accessed via myplan.ie in August 2022. Only planning applications that have been granted permission within the last five years were considered.

receiving environment, and the protective policies and objectives on the land-use plans that will direct future development locally, significant cumulative negative effects on biodiversity are not predicted.

19.3.2.2 Proposed Development – Site 2 & No. 61 O'Connell Street Upper

The Cumulative impact for the Proposed Development is the same as the Masterplan in section 19.3.2.1 above.

19.3.3 Land, Soils and Geology (Chapter 7)

No cumulative impacts are noted for land, soils and geology.

19.3.4 Water (Chapter 8)

19.3.4.1 Dublin Central Masterplan

No cumulative impacts are noted for water.

19.3.5 Climate (Air Quality and Climate Change) (Chapter 9)

No cumulative impacts are noted for Climate (Air Quality and Climate Change).

19.3.6 Climate – (Sunlight & Daylight) (Chapter 10)

19.3.6.1 Proposed Development – Site 2 & No. 61 O'Connell Street Upper

Construction Stage

The proposed Dublin Central Masterplan development will be constructed in a number of sites (Site 1 – 5), the construction stage for the individual phases will overlap with each other thus leading to cumulative construction dust emissions. However, a high level of dust control will be implemented across the full Dublin Central Masterplan site which will control dust emissions from each phase of the development. Therefore, cumulative dust emissions associated with the full Dublin Central Masterplan development will be **short-term, localised, negative** and **imperceptible.**

According to the IAQM guidance (2014) should the construction phase of the Proposed Development or Dublin Central Masterplan development coincide with the construction phase of any other development within 350m then there is the potential for cumulative construction dust impacts. However, as stated above a high level of dust control will be implemented across the full Dublin Central Masterplan site which will avoid significant dust emissions. Provided these mitigation measures are in place for the duration of the demolition and construction phase cumulative dust related impacts to nearby sensitive receptors are not predicted to be significant. Cumulative impacts to air quality will be **short-term, localised, negative** and **imperceptible.**

Due to the short-term duration of the construction phase and the low potential for significant CO_2 and N_2O emissions cumulative impacts to climate are considered neutral.

There are no significant cumulative impacts to air quality or climate predicted for the construction phase.

Operational Stage

The traffic data reviewed for the operational stage impacts to air quality and climate included the cumulative traffic associated with other existing and permitted developments in the local area as well as traffic associated with the full Dublin Central Masterplan development. Therefore, the cumulative impact is included within the operational stage impact for the Proposed Development. The impact is predicted to be **long-term, neutral** and **imperceptible** with regards to air quality and climate.

In addition, the proposed Dublin Central Masterplan development will facilitate the development of the proposed Metrolink with a station located within the development. The development of the Metrolink, if permitted, will provide for an alternative, more sustainable method of transport in comparison to personal passenger cars. This will result in a positive impact to air quality and climate by reducing emissions associated with cars.

The likely evolution of the current state of the environment (the baseline scenario) with the MetroLink project involves passengers using the intended station, using the railway infrastructure and all associated apparatus necessary for the station and metro.

Having regard to the standards proposed to be complied with by TII, the Dublin Central Proposed Development is not likely to have any significant impact on the MetroLink project to report within this EIAR, or any different effect on the environment, after its evolution to include the MetroLink project.

Strictly, the likely effect of the MetroLink project on the Dublin Central Proposed Development is a matter to be examined, analysed and evaluated within the EIAR for the MetroLink project, and by An Bord Pleanála, the competent authority that must complete the assessment of the application for a Railway Order. Even so, for the sake of completeness, the Applicant is pleased to confirm that, on the basis of available information, at the date of this application, including the standards proposed to be complied with by TII, no significant adverse effect from the MetroLink project on those occupying and using the Dublin Central Proposed Development is predicted.

19.3.7 Air, Noise and Vibration (Chapter 11)

19.3.7.1 Dublin Central masterplan

Construction Stage

The construction stages of the Dublin Central Masterplan will occur on a phased basis. There are no expected cumulative impacts associated with external construction works to the Dublin Central Masterplan. The closest construction work relative to the site is more than 40m from the closest site boundary. As illustrated in **Error! Reference source not found.**, the contribution from any secondary site external to the Dublin Central Masterplan is likely to be more than 10 dB below noise contribution from the closest site within the Dublin Central Masterplan and will not add to the noise impact at the nearest sensitive receptor.

Notwithstanding the above, any cumulative construction activities undertaken will be required to operate below the recommended noise and vibration criteria set out in Section **Error! Reference source not found.** and Section **Error! Reference source not found.**. Mitigation measures and recommended good practices have been outlined in Section 11.6.1.1.

Operational Stage

The different sites within the Dublin Central Masterplan will be designed so that the cumulative noise emissions from processes and activities are within the relevant noise criteria set out. In the same way, Proposed Developments external to the Dublin Central Masterplan site will in turn be designed in order to comply with appropriate noise criteria.

Any major development in close proximity to the Dublin Central Masterplan site will be required to prepare an EIAR wherein cumulative impacts will also be considered.

19.3.8 Landscape and Visual Impact (Chapter 12)

No cumulative impacts are noted for landscape and visual impact.

19.3.9 Material Assets (Transportation) (Chapter 13)

19.3.9.1 Dublin Central Masterplan

The Potential Impact of the Cumulative Development arising from the Construction Stage is the same as the Potential Impact of the Proposed Development described in Section 13.4.2.1.1 in Chapter 13.

19.3.9.2 Proposed Development – Site 2 & No. 61 O'Connell Street Upper

The Potential Impact of the Cumulative Development arising from the Construction Stage is the same as the Potential Impact of the Proposed Development described in Section 13.4.2.1.1 in Chapter 13.

19.3.10 Material Assets (Waste) (Chapter 14)

As has been identified in the receiving environment section all cumulative developments that are already built and in operation contribute to our characterisation of the baseline environment. As such any further environmental impacts that the proposed development may have in addition to these already constructed and operational cumulative developments has been assessed in the preceding sections of this chapter.

Construction Stage

Multiple permissions remain in place for both residential and commercial developments within the vicinity of the development. Due to the high number of waste contractors in the Dublin 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 minimise / mitigate any potential cumulative effects associated with waste generation and waste management. As such the effect will be short-term, not significant and negative.

Operational Stage

There are existing residential and commercial developments close by, along with the multiple permissions remaining in place. All of the current developments will generate similar waste types during their operational phases. Authorised waste contractors will be required to collect waste materials segregated, at a minimum, into recyclables, organic waste and non-recyclables. An increased density of development in the area is likely 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, imperceptible and neutral.

Do-Nothing Impact

If the proposed development was not to go ahead (i.e. in the Do-Nothing scenario) there would be no demolition, excavation or construction at this site. Current operational waste would continue to be generated at the same levels. There would, therefore, be a neutral effect on the environment in terms of waste.

19.3.11 Cultural Heritage (Architectural) (Chapter 15)

No cumulative impacts are noted for Cultural Heritage (Architectural).

19.3.12 Cultural Heritage (Archaeology) (Chapter 16)

19.3.12.1 Dublin Central Masterplan

Construction Stage

Potential cumulative impacts may arise during construction and operation, as a consequence of the proposed development acting in-combination with other plans and projects. The archaeological sites within the environs of the development are subsurface in nature and do not have an above ground legibility, the below ground surviving remains albeit truncated provide a record of the of the past.

Considering the predicted impacts associated with the proposed Dublin Central Masterplan development on archaeology, the mitigation measures proposed to identify and record the archaeological resource and the receiving environment, and the protective policies and objectives of the City Development Plans that will direct future development locally, significant cumulative negative effects on archaeology are not predicted.

Operational Stage

There is no likely or significant predicted impact during the operational stage of the Dublin Central Masterplan area. All physical archaeological impact issues will be resolved at the pre-construction stage of the development and therefore no potential impacts are envisioned at the operation stage of the development.

The Dublin Central Development proposals include the retention of structures of historic merit that are contemporaneous with the events of the 1916 Rising, the retention of the laneways of the evacuation route from the GPO and the reuse of stone sett pavements and kerbstones. When considered in combination with the development of Nos. 14 – 17 Moore Street as a commemorative centre the proposed development will have a permanent positive impact on the setting of the national monument. It ensures its protection and appreciation into the future and will bring to the fore the relationship between these structures and laneways and the history and heritage of the Moore Street area.

The retention of the lanes and properties of historic merit within the site have a significant positive and permanent impact on the setting of the National Monument.

Do-Nothing Impact

In the "do-nothing" scenario the Dublin Central Masterplan area would not be redeveloped and therefore there would be no adverse impacts to any as yet undiscovered subsurface archaeological deposits, features or finds. Under the do-nothing scenario, any archaeological features that lie below the existing ground level will remain in- situ. Any information that might enhance our understanding of the eastern development of the city in the early post medieval and post medieval period will remain unknown.

19.3.13 Risk Management (Major Accidents and Disasters) (Chapter 17)

As outlined in sections 17.5.1.6 and 17.5.1.7 in chapter 17, no likely risks of a major accident / disaster occurring are identified during construction stage. A medium risk of major accident / disaster is identified during the operational phase. No cumulative effects are identified.

20 SUMMARY OF RESIDUAL IMPACTS

20.1 INTRODUCTION

This Chapter of the EIAR collates the predicted residual impacts on the environment as identified in Chapters 5 to 17, arising from the Proposed Development, during Construction and Operational Phases.

Residual Impacts, according to the Draft EPA Guidelines (2017, p.3) are: -

> *"The final or intended effects which occur after the proposed mitigation measures have been implemented."*

A summary of the Proposed Mitigation Measures are outlined under Chapter 18: Summary of Mitigation Measures.

20.2 PROPOSED RESIDUAL IMPACTS

20.2.1 Population and Human Health (Chapter 5)

20.2.1.1 Dublin Central Masterplan

Construction Stage

Residual Impacts on Business and Residences

Taking into account the mitigation measures outlined in Section 5.6.6.1 in chapter 5 it is predicted that there will be no likely significant effect with regard to the construction phase on business and residences.

Residual Impacts on Human Health from Air Quality

The greatest residual impact on air quality during the demolition and construction phase of the Dublin Central Masterplan is from construction dust emissions and the potential for nuisance dust. Taking into account the mitigation measures in Section 9.6 (and Appendix 9.2 'Dust Minimisation Plan') of this EIAR, there will be no residual impact to human health arising from air quality impact.

Residual Impacts on Human Health from Noise & Vibration

The implementation of the mitigation measures outlined in Chapter 11 will aim to minimise impact of construction noise experienced at nearby sensitive receptors.

All commercial and residential receptors are predicted to have residual construction noise levels below the relevant noise criteria during general construction work activities and below the existing baseline noise levels. At all commercial and residential receptors there will be a neutral, not significant and short-term impact during general construction work activities.

During utilities and structural construction works at the closest commercial receptors (within 10m) there will be a negative, slight to moderate and short-term residual noise impact, which will decrease to neutral, not significant and short-term for all residential receptors and all commercial receptors outside of the closer range detailed above.

During the initial site work activities at the closest commercial receptors (within 10m) and the closest residential receptors (within 15m) there will be a negative, moderate to significant and short-term residual noise impact. At a 10 – 15m distance from the works this will decrease to a negative, slight to moderate and short-term noise impact. As the works move to a greater distance from the sensitive receptors there will be a neutral, not significant and short-term noise impact.

The closest clinical receptor is at 20m distance and there will be a neutral, not significant and short-term residual noise impact during all works activities at closest boundaries to the clinical receptors.

There are no predicted significant adverse impact arising from vibration during construction provided the relevant vibration mitigation detailed in Chapter 11 is implemented.

Residual Impacts on Local Amenities and Tourism

It is predicted that there will be no likely significant effect of the residual impacts of the construction of the Dublin Central Masterplan on material assets.

Residual Impacts from Additional Traffic & Roadworks

Taking into account mitigation measures outlined in Chapter 13: Material Assets (Transportation) it is predicted that the predicted residual impacts with regard to the construction phase on the local population is concluded to be temporary, short-term, slight and negative.

Unplanned Events / Impacts on Health and Safety

Taking into account the mitigation measures outlined in Section 5.6 in chapter 5 it is predicted that there will be no likely significant effect arising from the predicted residual impacts with regard to the construction phase for unplanned events and human health and safety.

Operational Stage

Residual Impacts on Businesses and Residences

Taking into account the mitigation measures outlined in Section 5.6 in chapter 5 the predicted residual impacts with regard to the operational phase on business and residences is concluded to be positive and significant.

Residual Impacts on Human Health from Air Quality

It is predicted that there will be no likely significant effect of the residual impact of air quality on Human Health.

Residual Impacts on Human Health from Noise & Vibration

Taking into account the mitigation measures and design recommendations outlined in Section 11.6 of Chapter 11: Air (Noise & Vibration) of this EIAR, there will be no residual impact to human health arising from noise and vibration impact.

Residual Impacts on Local Amenities and Tourism

It is predicted that there will be no likely significant effect of the residual impact of the operational phase of the Dublin Central Masterplan on local amenities and tourism.

Residual Impacts on Material Assets

It is predicted that there will be no likely significant effect of the residual impact of the operational phase of the Dublin Central Masterplan on material assets.

Residual Impacts from Additional Traffic

Taking into account the mitigation measures and design recommendations outlined in Section 13.6 of Chapter 13: Material Assets (Transportation) of this EIAR, there will be no residual impact to human health arising from noise and vibration impact.

Unplanned Events / Impacts on Health and Safety

It is predicted that there will be no likely significant effect of the residual impact of the operational phase of the Dublin Central Masterplan on unplanned events and human health and safety.

Worst Case

The precautionary principle has been applied throughout this assessment.

20.2.1.2 Proposed Development – Site 2 & No. 61 O'Connell Street

Construction Stage

The residual impacts of the Proposed Development are the same as the residual impacts of the Dublin Central Masterplan described in Section 5.7.1.1. Any differing sections are covered below.

Residual Impacts on Human Health from Noise and Vibration

The residual impacts on Human Health from Noise and Vibration of the Proposed Development are the same as the residual impacts of the Dublin Central Masterplan described in Section 5.7.1.1.3 with the exception of clinical receptors.

The closest clinical receptor is at 20m distance and there will be a negative, not significant and short-term residual noise impact during all works activities at closest boundaries to the clinical receptors.

Operational Stage

The residual impacts of the Proposed Development are the same as the residual impacts of the Dublin Central Masterplan described in Section 5.7.1.2.

Worst Case

The precautionary principle has been applied throughout this assessment.

20.2.1.3 Cumulative

Construction Stage

The cumulative impact of other potential impacts on human health from air quality, noise quality and traffic have been incorporated into the various models and assessments that have contributed to section 5.5 of chapter 5.

Operational Stage

The cumulative impact of other potential impacts on human health from air quality, noise quality and traffic have been incorporated into the various models and assessment that have contributed to Section 5.5 of chapter 5.

20.2.2 Biodiversity (Chapter 6)

20.2.2.1 Dublin Central Masterplan

Designated Sites

European Sites

The assessment presented in the Appropriate Assessment Screening Report (Scott Cawley Ltd 2022) concluded that there was no risk of the Proposed Development resulting in a likely significant effect on any European site, either alone or in combination with other plans or projects. Therefore, the Proposed Development is not likely to have significant residual effects on any European sites.

National Sites

There is no risk of the Proposed Development to affect the integrity of any nationally designated site, either alone or in combination with other plans or projects. Therefore, the Proposed Development is not likely to have significant residual effects on any nationally designated sites.

Birds

The effects of the Proposed Development on breeding birds have been considered within Section 6.6.2.5 of chapter 6. Measures to avoid, reduce and mitigate effects on breeding birds have been provided in Section 6.6.3.2 of chapter 6. Following the implementation of these measures, residual effects on breeding birds arising from the Proposed Development will be reduced to levels not considered to be significant.

Worst Case Impact

Construction and operational activities are assessed under the best and worst-case operating conditions, to determine all potential impacts associated with the Dublin Central Masterplan.

20.2.2.2 Proposed Development – Site 2 & No. 61 O'Connell Street Upper

Designated Sites

European Sites

The assessment presented in the Appropriate Assessment Screening Report concluded that there was no risk of the Proposed Development resulting in a likely significant effect on any European site, either alone or in combination with other plans or projects. Therefore, the Proposed Development is not likely to have significant residual effects on any European sites.

National Sites

There is no risk of the Proposed Development to affect the integrity of any nationally designated site, either alone or in combination with other plans or projects. Therefore, the Proposed Development is not likely to have significant residual effects on any nationally designated sites.

Birds

The effects of the Proposed Development on breeding birds have been considered within Section 6.7.2.3 of chapter 6. Measures to avoid, reduce and mitigate effects on breeding birds have been provided in Section 6.7.3.2 of chapter 6. Following the implementation of these measures, residual effects on breeding birds arising from the Proposed Development will be reduced to levels not considered to be significant.

Worst Case Impact

Construction and operational activities are assessed under the best and worst-case operating conditions, to determine all potential impacts associated with the Proposed Development.

20.2.3 Land, Soils and Geology (Chapter 7)

20.2.3.1 Dublin Central Masterplan

Construction Stage

With the protective measures noted above in place during excavation works, any potential impacts on soils and geology in the area will be minimised.

The Proposed Development will result in a surplus of excavated material, which may contain contaminants. Any contaminated material will be exported to an approved licensed waste facility.

No significant adverse impacts on the soils and geology of the subject lands are envisaged.

Operational Stage

During the operational stage, the buildings and public realm will be an urban environment, largely covered in roof and hard standing. Some areas with permeable paving, tree pits and green planting will allow for some surface water to permeate the soil. These SuDS devices treat and improve water quality by trapping suspended solids and filtering pollutants before they enter the soil.

No likely significant adverse impacts are predicted on soils or geology.

Worst Case Impact

The worst case scenario would be for contaminated soils to be encountered during the works. As noted above, any contaminated soils encountered will be excavated and disposed of off-site in accordance with the Waste Management Acts, 1998-2006, and associated regulations and guidance provided in Guidelines for the Management of Waste from National Road Construction Projects published by the National Roads Authority in 2008.

There may be disruption to existing services supplying adjacent properties should damage be caused to the service during excavation works.

In the worst case scenario, subsoil may be exposed to inclement weather during construction and may result in the erosion of soils. However, with the proposed mitigation measures the quantity of soils exposed and the duration of that exposure will be minimised.

20.2.3.2 Proposed Development – Site 2 & No. 61 O'Connell Street Upper

Construction Stage

The residual impacts for the Proposed Development (Site 2AB, Site 2C and 61 O'Connell Street Upper, including associated Metro Enabling Works and Public Realm Works) are the same as the residual impacts described for the Dublin Central Masterplan described in Section 20.2.3.1.

Operational Stage

The residual impacts for the Proposed Development (Site 2AB, Site 2C and 61 O'Connell Street Upper, including associated Metro Enabling Works and Public Realm Works) are the same as the residual impacts described for the Dublin Central Masterplan described in Section 20.2.3.1.

Worst Case Impact

The worst case impact for the Proposed Development (Site 2AB, Site 2C and 61 O'Connell Street Upper, including associated Metro Enabling Works and Public Realm Works) are the same as the worst case impact described for the Dublin Central Masterplan described in Section 20.2.3.1.

20.2.4 Water (Chapter 8)

20.2.4.1 Dublin Central Masterplan

Water Supply

Construction Stage

Due to the proposed remedial measures outlined above no significant adverse impacts are expected to arise during the construction stage of the implementation of the Dublin Central Masterplan on the water supply network.

There may be short term disruption to local water supply when connection are being made to the water supply network.

Operational Stage

There will be a water demand for the implementation of the Dublin Central Masterplan of approximately 760m^3 per day. Irish Water will confirm whether the existing network has sufficient capacity, or alternatively will outline any upgrades required to facilitate the development.

Foul Water Drainage

Construction Stage

During the construction stage of implementation of the Dublin Central Masterplan some short-term negative impacts as identified above may result. However, if the proposed remedial and reductive measures are implemented, the impact of the implementation of the Dublin Central Masterplan during the construction stage will be minimised and no significant long-term impacts will result from the construction works.

Operational Stage

By removing surface water flows from the combined network, the implementation of the Dublin Central Masterplan will result in a net decrease in the wastewater flows discharging to the existing combined drainage system and will therefore reduce the inflows arriving at the Ringsend Wastewater Treatment plant.

Surface Water Drainage

Construction Stage

During the construction stage of implementation of the Dublin Central Masterplan some short-term negative impacts as identified above may result. However, if the proposed remedial and reductive measures are implemented, the impact of the implementation of the Dublin Central Masterplan during the construction stage will be minimised and no significant long-term impacts will result from the construction works.

Operational Stage

With the implementation of the SuDS treatment train, attenuation and flow control, there will be a net improvement in the quality and a net reduction in the quantity of surface water discharging from the individual site within the Dublin Central Masterplan. The proposal to discharge Site 2C to the existing surface water network, rather than the combined network, will result in a significant decrease in flows to the combined network and a net increase in flows to the surface water network.

No significant adverse impacts are envisaged.

Groundwater

Construction Stage

During the construction stage of implementation of the Dublin Central Masterplan, groundwater dewatering will be required. By pumping this groundwater back into the deep aquifer using recharge wells, the impact on the groundwater in the vicinity of the site will be mitigated, limiting the impact on the groundwater table. This solution also avoids the need to discharge groundwater to the surface water network, ensuring that the drainage network will not be impacted by groundwater dewatering. No significant long-term impacts will result from the construction works.

Operational Stage

As noted above, the groundwater modelling indicates that groundwater head variations as a result of the development are negligible.

With the buildings' design incorporating suitable damp proof membranes to protect against damp and water ingress from below ground level, and with a proposed granular blanket surrounding the basement structures to allow groundwater to seep around the subterranean structures, the impact that the development will have on the local water table is minimised.

No significant adverse impacts are envisaged.

Worst Case Impact

In the worst-case scenario, there could be some surface water ingress into the foul water drainage system due to poor workmanship. Leakage from sewers and drains could result in local contamination of soil and ground waters in the area. The runoff from the roads and hardstanding areas will discharge contaminants, including oils and silts, to the surface water system which might result in polluting of the surface water network. There may be groundwater seepage into the basement and below ground parts of the development. However, with the mitigation measures set out above, the likelihood of these impacts will be minimised, and no significant long-term impacts will result from the development.

20.2.4.2 Proposed Development – Site 2 & No. 61 O'Connell Street

Water Supply

The potential impacts on water supply of the Proposed Development (Site 2AB, Site 2C and 61 O'Connell Street Upper, including associated Metro Enabling Works and Public Realm Works) are the same as the potential impacts of the Dublin Central Masterplan described in Section 20.2.4.1

Foul Water Drainage

The potential impacts on foul water drainage of the Proposed Development (Site 2AB, Site 2C and 61 O'Connell Street Upper, including associated Metro Enabling Works and Public Realm Works) are the same as the potential impacts of the Dublin Central Masterplan described in Section 20.2.4.1.

Surface Water Drainage

The potential impacts on surface water drainage of the Proposed Development (Site 2AB, Site 2C and 61 O'Connell Street Upper, including associated Metro Enabling Works and Public Realm Works) are the same as the potential impacts of the Dublin Central Masterplan described in Section 20.2.4.1

Groundwater

The potential impacts on groundwater of the Proposed Development (Site 2AB, Site 2C and No. 61 O'Connell Street Upper, including associated Metro Enabling Works and Public Realm Works) are the same as the potential impacts of the Dublin Central Masterplan described in Section 8.7.1.4.

Worst Case Impact

The worst case impact of the Proposed Development (Site 2AB, Site 2C and 61 O'Connell Street Upper, including associated Metro Enabling Works and Public Realm Works) is the same as the do noting impact of the Dublin Central Masterplan described in Section 20.2.4.1.

20.2.5 Climate (Air Quality and Climate Change) (Chapter 9)

20.2.5.1 Dublin Central Masterplan

Construction Stage

Air Quality

In order to minimise dust emissions during construction, a series of mitigation measures have been prepared in the form of a dust minimisation plan which will be incorporated into the construction environmental management plan (CEMP) for the site. Provided the dust minimisation measures outlined in the plan (see Appendix 9.2 and Section 9.6.1.1) are adhered to, the air quality impacts during the construction phase will be short-term, negative, localised and imperceptible.

Construction traffic emissions will have a **long-term, localised, negative** and **imperceptible** impact on air quality as per Section 9.5.1.1.1 in Chapter 9.

Climate

According to the IAQM guidance (2014) site traffic and plant are unlikely to make a significant impact on climate during the construction phase. Therefore, the potential impact on climate is considered to be **imperceptible** and **short-term.**

Human Health

Best practice mitigation measures are proposed for the construction phase of the Proposed Development which will focus on the pro-active control of dust and other air pollutants to minimise generation of emissions at source. The 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 (see Table 9.1). Therefore, the impact of construction of the Proposed Development is likely to be **negative, short-term** and **imperceptible** with respect to human health.

Operational Stage

Air Quality

As the traffic generated by the Proposed Development does not meet the criteria detailed in Section 9.2.2.1 for requiring a detailed air quality assessment the impact to air quality from traffic emissions during the operational stage is **neutral, long-term** and **imperceptible.**

Climate

The traffic associated with the operational phase of the Proposed Development is below the criteria requiring a detailed climate assessment. The impact to climate as a result of traffic emissions is predicted to be **long-term, neutral** and **imperceptible.**

In addition, the Proposed Development has been designed to reduce the impact to climate where possible through incorporated design measures. Full details of all measures included are outlined within the Energy & Sustainability Statement submitted as part of the planning application.

Human Health

Emissions of air pollutants are predicted to be significantly below the ambient air quality standards which are based on the protection of human health, impacts to human health are **long-term, neutral** and **imperceptible.**

Worst Case Impact

In terms of construction phase impacts, worst-case assumptions regarding volumes of excavation materials and number of vehicle movements have been used in order to determine the highest level of mitigation required in relation to potential dust impacts (see Section 9.5.1.1). The Dublin Central Masterplan development is the worst-case scenario in terms of dust emissions, emissions from each individual phase will be lower than the cumulative Dublin Central Masterplan.

Worst-case traffic data was used in the assessment of construction and operational phase impacts. In addition, conservative background concentrations were used in order to ensure a robust assessment. Thus, the predicted results of the construction and operational stage assessment are worst-case and the significance of effects is most likely overestimated.

20.2.5.2 Proposed Development – Site 2

Construction Stage

Air Quality

Once the dust minimisation measures outlined in Section 9.6.1.1 and Appendix 9.2 are adhered to, the air quality impacts during the construction phase will be **short-term, negative, localised** and **imperceptible.**

Climate

According to the IAQM guidance (2014) site traffic and plant are unlikely to make a significant impact on climate during the construction phase. Therefore, the potential impact on climate is considered to be **neutral**, **imperceptible** and **short-term.**

Human Health

Best practice mitigation measures are proposed for the construction phase of the Proposed Development which will focus on the pro-active control of dust and other air pollutants to minimise

generation of emissions at source. The 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 (see Table 9.1). Therefore, the impact of construction of the Proposed Development is likely to be **negative, short-term** and **imperceptible** with respect to human health.

Operational Stage

Air Quality

As the traffic generated by the Proposed Development does not meet the criteria detailed in Section 9.2.2.1 for requiring a detailed air quality assessment the impact to air quality from traffic emissions during the operational stage is **neutral, long-term** and **imperceptible.**

Climate

The traffic associated with the operational phase of the Proposed Development is below the criteria requiring a detailed climate assessment. The impact to climate as a result of traffic emissions is predicted to be **long-term, neutral** and **imperceptible.**

In addition, the Proposed Development has been designed to reduce the impact to climate where possible through incorporated design measures. Full details of all measures included are outlined within the Energy & Sustainability Statement submitted as part of the planning application.

Human Health

Emissions of air pollutants are predicted to be significantly below the ambient air quality standards which are based on the protection of human health, impacts to human health are **long-term, neutral** and **imperceptible.**

Worst Case Impact

The worst case impact described in Section 20.2.5.1 for the implementation of the Dublin Central Masterplan is also applicable to the Proposed Development.

20.2.5.3 Proposed Development – No. 61 O'Connell Street Upper

Construction Stage

Air Quality

Once the dust minimisation measures outlined in Section 9.6.1.1 and Appendix 9.2 are adhered to, the air quality impacts during the construction phase will be **short-term, negative, localised** and **imperceptible.**

Climate

According to the IAQM guidance (2014) site traffic and plant are unlikely to make a significant impact on climate during the construction phase. Therefore, the potential impact on climate is considered to be **neutral**, **imperceptible** and **short-term.**

Human Health

Best practice mitigation measures are proposed for the construction phase of the Proposed Development which will focus on the pro-active control of dust and other air pollutants to minimise

generation of emissions at source. The 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 (see Table 9.1). Therefore, the impact of construction of the Proposed Development is likely to be **negative, short-term** and **imperceptible** with respect to human health.

Operational Stage

Air Quality

As the traffic generated by the Proposed Development does not meet the criteria detailed in Section 9.2.2.1 for requiring a detailed air quality assessment the impact to air quality from traffic emissions during the operational stage is **neutral, long-term** and **imperceptible.**

Climate

The traffic associated with the operational phase of the Proposed Development is below the criteria requiring a detailed climate assessment. The impact to climate as a result of traffic emissions is predicted to be **long-term, neutral** and **imperceptible.**

In addition, the Proposed Development has been designed to reduce the impact to climate where possible through incorporated design measures. Full details of all measures included are outlined within the Energy & Sustainability Statement submitted as part of the planning application.

Human Health

Emissions of air pollutants are predicted to be significantly below the ambient air quality standards which are based on the protection of human health, impacts to human health are **long-term, neutral** and **imperceptible.**

Worst Case Impact

The worst case impact described in Section 20.2.5.1 for the implementation of the Dublin Central Masterplan is also applicable to the Proposed Development.

20.2.5.4 Cumulative Development

Construction Stage

The proposed Dublin Central Masterplan development will be constructed in a number of sites (Site 1 – 5), the construction stage for the individual phases will overlap with each other thus leading to cumulative construction dust emissions. However, a high level of dust control will be implemented across the full Dublin Central Masterplan site which will control dust emissions from each phase of the development. Therefore, cumulative dust emissions associated with the full Dublin Central Masterplan development will be **short-term, localised, negative** and **imperceptible.**

According to the IAQM guidance (2014) should the construction phase of the Proposed Development or Dublin Central Masterplan development coincide with the construction phase of any other development within 350m then there is the potential for cumulative construction dust impacts. However, as stated above a high level of dust control will be implemented across the full Dublin Central Masterplan site which will avoid significant dust emissions. Provided these mitigation measures are in place for the duration of the demolition and construction phase cumulative dust related impacts to nearby sensitive receptors are not predicted to be significant. Cumulative impacts to air quality will be **short-term, localised, negative** and **imperceptible.**

Due to the short-term duration of the construction phase and the low potential for significant CO_2 and N_2O emissions cumulative impacts to climate are considered neutral.

There are no significant cumulative impacts to air quality or climate predicted for the construction phase.

Operational Stage

The traffic data reviewed for the operational stage impacts to air quality and climate included the cumulative traffic associated with other existing and permitted developments in the local area as well as traffic associated with the full Dublin Central Masterplan development. Therefore, the cumulative impact is included within the operational stage impact for the Proposed Development. The impact is predicted to be **long-term, neutral** and **imperceptible** with regards to air quality and climate.

In addition, the proposed Dublin Central Masterplan development will facilitate the development of the proposed Metrolink with a station located within the development. The development of the Metrolink, if permitted, will provide for an alternative, more sustainable method of transport in comparison to personal passenger cars. This will result in a positive impact to air quality and climate by reducing emissions associated with cars.

The likely evolution of the current state of the environment (the baseline scenario) with the MetroLink project involves of passengers using the intended station, using the railway infrastructure and all associated apparatus necessary for the station and metro.

Having regard to the standards proposed to be complied with by TII, the Dublin Central Proposed Development is not likely to have any significant impact on the MetroLink project to report within this EIAR, or any different effect on the environment, after its evolution to include the MetroLink project.

Strictly, the likely effect of the MetroLink project on the Dublin Central Proposed Development is a matter to be examined, analysed and evaluated within the EIAR for the MetroLink project, and by An Bord Pleanála, the competent authority that must complete the assessment of the application for a Railway Order. Even so, for the sake of completeness, the Applicant is pleased to confirm that, on the basis of available information, at the date of this application, including the standards proposed to be complied with by TII, no significant adverse effect from the MetroLink project on those occupying and using the Dublin Central Proposed Development is predicted.

Worst Case Impact

The worst case impact described in Section 20.2.5.1 for the implementation of the Dublin Central Masterplan is also applicable to the Proposed Development.

20.2.6 Climate (Sunlight & Daylight) (Chapter 10)

The scale of the development at Site 2 will have a **minor impact** on the shadow environment but the consequences of this will not be noticeable due to the site orientation and existing urban density of the area.

20.2.7 Air, Noise and Vibration (Chapter 11)

20.2.7.1 Dublin Central Masterplan

Construction Stage

Noise

All cumulative Dublin Central Masterplan construction activities are predicted to exceed the noise threshold value when they occur at the closest proximity to the residential, commercial and clinical receptors closest to the proposed site boundary. However, it should be noted that the assessment can be considered highly worst case and it is unlikely that all items of plant assessed will be in operational simultaneously, or that two adjoining sites of the development will be under construction simultaneously. Additionally, the predictions only indicate a potential significant effect (based on a worst-case scenario) when working at the closest location to the dwellings, with lesser impacts predicted at all other locations across site.

The implementation of the mitigation measures outlined in Section **Error! Reference source not found.**, and detailed in Appendix 11.2, will aim to minimise impact of construction noise experienced at nearby residential, commercial and clinical receivers.

Due to the nature of construction noise and the proximity of noise sensitive receivers, it is predicted the residual construction noise levels will be at or above the relevant noise criteria while works are within 15m of commercial receptors and less than 20m of residential receptors during initial site works. There will be a **negative, moderate to significant** and **short-term** residual noise impact during the initial site works activities at commercial and residential receptors within 10m and 15m respectively.

As the initial construction works move greater than 15m and 20m from commercial and residential receptors respectively, the predicted residual noise levels are at or below the relevant noise criteria but above the existing baseline noise levels, there will be a **negative, slight to moderate** and **short-term** noise impact. As the works move further away than 30m, the predicted noise levels are below the relevant noise criteria and existing baseline noise levels there will be a **neutral, not significant** and **short-term** noise impact.

All commercial receptors are predicted to have residual construction noise levels below the relevant noise criteria during utilities and structural construction works. The closest residential receptors are at 15m distance, which have residual noise levels below the relevant noise criteria during works but above the existing baseline noise level. There will be a **negative, slight to moderate** and **short-term** residual noise impact during the utilities and structural construction works at the commercial and residential receptors within 15m. As the works move further away than 20m from commercial and residential receptors, the predicted residual noise levels are below the relevant noise criteria and existing baseline noise levels there will be a **neutral, not significant** and **short-term** noise impact.

All commercial and residential receptors are predicted to have residual construction noise levels below the relevant noise criteria during general construction work activities and below the existing baseline noise levels. At all commercial and residential receptors there will be a **neutral, not significant** and **short-term** impact during general construction work activities.

The closest clinical receptor is at 20m distance with an existing baseline noise level above 70 dB $L_{Aeq,T}$, therefore there will be a **neutral, not significant** and **short-term** residual noise impact during all works activities at closest boundaries to the clinical receptors.

Vibration

No predicted significant adverse impact arising from vibration during construction provided works are carried out so as to fall under the relevant vibration criteria.

Worst Case Impact

In terms of potential noise and vibration impacts, the assessment has considered a range of worst case scenarios to determine the potential impacts of the Proposed Development.

During the construction phase, a range of worst case scenarios have been assessed assuming all plant items are operating along the closest noise sensitive boundaries. The assessment has determined impacts associated with these scenarios can be controlled through the best practice measures outlined in Section **Error! Reference source not found.**.

Operational Stage

Noise

Mechanical Plant Noise

Once cumulative plant noise emissions from the various sites of the Dublin Central Masterplan are designed to achieve the appropriate noise criteria the cumulative noise impact will be **neutral**, **imperceptible** and **permanent**.

Entertainment Noise

Once entertainment noise is designed and managed to achieve the criteria set out, i.e. inaudibility, the residual noise impact will be **neutral**, **imperceptible** and **permanent.**

Delivery and Servicing Traffic

Delivery activity has been considered in the context of the existing environment of a serviced, city centre location. The cumulative noise impact will be **neutral**, **not significant** and **permanent.**

Inward Noise Impact

With respect to inward noise impacts, the specification of noise mitigation has been recommended so that the internal noise criterion will be met. The residual noise impact will be **neutral**, **not significant** and **permanent.**

Vibration

There are no significant sources of vibration associated with the operational phases of the Dublin Central Masterplan. There is therefore a **neutral**, **imperceptible** and **permanent** cumulative impact associated.

20.2.7.2 Proposed Development – Site 2

Construction Stage

Noise

The implementation of the mitigation measures outlined in Section **Error! Reference source not found.**, and detailed in Appendix 11.2, will aim to minimise impact of construction noise experienced at nearby residential, commercial and clinical receivers.

Due to the nature of construction noise and the proximity of noise sensitive receivers, it is predicted the residual construction noise levels will be at or above the relevant noise criteria while works are within 10m of commercial receptors and 15m of residential receptors during initial site works. There will be a **negative, moderate to significant** and **short-term** residual noise impact during the initial site works activities at commercial and residential receptors within 10m and 15m respectively. When the initial construction works are between 10m to 15m of the commercial receptors the residual noise levels are below the relevant noise criteria but above the existing baseline noise levels, there will be a **negative, slight to moderate** and **short-term** noise impact. As the works move more than 20m from commercial and residential receptors the predicted residual noise levels are below the relevant noise criteria and below the existing baseline noise levels, there will be a **neutral, not significant** and **short-term** noise impact.

All commercial and residential receptors are predicted to have residual construction noise levels below the relevant noise criteria during utilities and structural construction works. At commercial receptors within 10m of the works, the residual construction noise level is predicted above the existing baseline noise level. There will be a **negative, slight to moderate** and **short-term** residual

noise impact during works at the commercial receptors within 10m. As the works move further away than 10m from commercial receptors and 15m from the closest residential receptors, the predicted residual noise levels are below the relevant noise criteria and existing baseline noise levels, therefore there will be a **neutral, not significant** and **short-term** noise impact.

All commercial and residential receptors are predicted to have residual construction noise levels below the relevant noise criteria during general construction work activities and below the existing baseline noise levels. At all commercial and residential receptors there will be a **neutral, not significant** and **short-term** impact during general construction work activities.

The closest clinical receptor is at 20m distance with an existing baseline noise level above 70 dB $L_{Aeq,T}$, therefore there will be a **negative, not significant** and **short-term** residual noise impact during all works activities at closest boundaries to the clinical receptors.

Vibration

No predicted significant adverse impact arising from vibration during construction provided works are carried out so as to fall under the relevant vibration criteria.

Operational Stage

Noise

Mechanical Plant Noise

Once cumulative plant noise emissions from the various sites of the Dublin Central Masterplan are designed to achieve the appropriate noise criteria the cumulative noise impact will be **neutral**, **imperceptible** and **permanent**.

Entertainment Noise

Once entertainment noise is designed and managed to achieve the criteria set out, i.e. inaudibility, the residual noise impact will be **neutral**, **imperceptible** and **permanent.**

Delivery and Servicing Traffic

Delivery activity has been considered in the context of the existing environment of a serviced, city centre location. The cumulative noise impact will be **neutral**, **not significant** and **permanent.**

Inward Noise Impact

With respect to inward noise impacts, the specification of noise mitigation has been recommended so that the internal noise criterion will be met. The residual noise impact will be **neutral**, **not significant** and **permanent.**

Vibration

There are no significant sources of vibration associated with the operational phases of the Dublin Central Masterplan. There is therefore a **neutral**, **imperceptible** and **permanent** cumulative impact associated.

20.2.7.3 Proposed Development –No. 61 O'Connell Street Upper

Construction Stage

Noise

Construction works associated with the proposed development are anticipated to be of a lesser scale to other sites within the Masterplan. It is expected that noise from construction noise will be limited and that noise breakout to the surroundings will be minimal. In the overall context of the Masterplan construction this works at 61 O'Connell Street are deemed to have a negative, not significant and short-term impact.

Vibration

No predicted significant adverse impact arising from vibration during construction, provided works are carried out so as to fall under the relevant vibration criteria.

Operational Stage

Mechanical Plant Noise

Noise from plant items serving the proposed development will be designed to be within the noise criteria set out in Section 11.5.2.5.2. The residual impact is therefore predicted to be negative, imperceptible and long-term.

Entertainment Noise Breakout

Entertainment noise from the gym area is required to be designed/managed in line with the noise criteria set out in Section 11.5.1.2.1. The residual impact is therefore predicted to be negative, imperceptible and long-term.

20.2.7.4 Cumulative Development

Construction Stage

The similar magnitude of residual noise and vibration impacts discussed in Section 20.2.7.1 for the Dublin Central Masterplan are relevant to the cumulative assessment of construction works external to the proposed site given it is anticipated that the same construction noise and vibration criteria would apply to these external construction sites.

Operational Stage

The different sites within the Proposed Development will be designed so that the cumulative noise emissions from processes and activities are within the relevant noise criteria set out. In the same way, Proposed Developments external to the Proposed Development will in turn be designed in order to comply with appropriate noise criteria.

Any major proposed development in close proximity to the Proposed Development will be required to prepare an EIAR wherein cumulative impacts will also be considered.

20.2.8 Landscape and Visual Impact Assessment (Chapter 12)

20.2.8.1 Dublin Central Masterplan

Not applicable as the masterplan is still being refined and discussions with the Planning Authority are on-going. Notwithstanding this, as the masterplan presents an integrated design for a new city quarter, no remedial or reductive measures are likely to be applicable.

20.2.8.2 Proposed Development – Site 2 & No. 61 O'Connell Street Upper

Since remedial and reductive measures do not apply, residual impacts will, initially, be as tabulated for potential impacts, above. Reduction in the visibility of the Proposed Development, resulting from the construction of other development, will gradually reduce its visibility and thereby its impacts, whether positive, negative or neutral in character.

20.2.8.3 Worst Case Impact

The effects considered above represent the 'worst case' scenario

20.2.9 Material Assets (Transportation) (Chapter 13)

20.2.9.1 Dublin Central Masterplan

Construction Stage

Car Parking

During the Construction Stage, there will be a permanent loss of 160no. car parking spaces on the subject site currently accessed from O'Rahilly Parade and Moore Lane. The reduction in car parking is predicted to be a **permanent long-term slight** impact which will be ameliorated by the high provision of public transport in the surrounding area.

Traffic Flow / Speed

The presence of construction traffic on the surrounding streets during the Construction Stage is not expected to lead to significant delays to vehicular traffic including public transport. Construction traffic is predicted to generate a temporary **slight negative, short term** impact during the construction site.

Diversion of Traffic

No traffic diversions are proposed on Parnell Street or O'Connell Street Upper. Local traffic diversions could occur on O'Rahilly Parade, Moore Lane and Henry Place which could lead to a temporary **slight negative, short term** impact during the Construction Stage.

Capacity of Public Transport

Due to the proposed non-provision of car parking on-site, there is likely to be an increased demand for public transport from construction workers. The impact of the additional passenger demand is expected to be **temporary, short-term, slight,** and **negative.**

Cycle and Pedestrian

During construction works for the installation of underground services on the public streets, temporary facilities will be required to be provided by the main contractor to maintain cycle connectivity and pedestrian access. These facilities will be provided in accordance with the Construction Management & Waste Management Plan and the Construction Traffic Management Plan. The impact is predicted to be **temporary, short-term, slight,** and **negative**.

Overall

Overall, the impact of the Construction Stage on the transportation environment in the area of the subject site is predicted to be **temporary, short-term, slight**, and **negative**.

Operational Stage

Car Parking

The loss of 160no. car parking spaces on Moore Lane will result in the permanent loss of car parking revenue to the operators together with an increased demand on other car parking in the surrounding area, primarily off-street. The loss of car parking is likely to be a **permanent, long-term, slight**, and **negative impact** which will be ameliorated by the high provision of public transport in the surrounding area.

Traffic Flow / Speed

No works are proposed to the carriageways or junctions on O'Connell Street Upper, Parnell Street or Moore Street. The results of the traffic modelling undertaken demonstrates that the surrounding street network will operate without any material or significant impact on the road infrastructure. As a result, the Proposed Development is predicted to have a **permanent, neutral, long term slight** and **impact** on traffic flows and speeds on O'Connell Street Upper and Parnell Street.

Diversion of Traffic

No traffic diversions are proposed on Parnell Street or O'Connell Street Upper. Permanent reversal of traffic flow from one-way southbound to one-way northbound is proposed on the northern section of Moore Lane. Pedestrianisation is proposed on Henry Place and on the southern section of Moore Lane. These changes are predicted to have a **permanent, long term, moderate** and **positive impact** on the transportation network.

Delays to Public Transport

No delays or disruption to bus or Luas services are predicted. The impact of the development is predicted to be **permanent, long term, imperceptible** and **neutral.**

Capacity of Public Transport

The commissioning of Metrolink and the high level of public transport usage by staff, guests, and residents at Dublin Central are predicted to **create a permanent, long term, significant** and **positive impact** on public transport in the City Centre.

Cycle and Pedestrian

The proposed pedestrian area on Moore Lane and Henry Place in conjunction with the extensive provision of cycle parking are predicted to create **a permanent, long term, significant** and **positive impact** on the pedestrian and cycle environment in the City Centre.

Overall

Overall, the impact of the Operational Stage on the transportation environment in the area of the subject site is predicted to be permanent, long-term, slight, and positive.

Cumulative Development

Construction Stage

The Residual Impact for the Cumulative Development arising from the Construction Stage will be the same as the Residual Impact for the Proposed Development described in Section 13.7.1.1.

Operational Stage

The Residual Impact for the Cumulative Development arising from the Operational Stage will be the same as the Residual Impact for the Proposed Development described in Section 13.7.1.2.

Worst Case Impact

Where the various mitigation measures (ameliorative, remedial, reductive, and monitoring) described in Section 13.6 are not implemented correctly or fail, the proposal is likely to have to be a **negative short-term moderate impact** on the transportation environment during the Construction Stage and **a negative long term slight impact** on the transportation environment during the Operational Stage.

20.2.9.2 Proposed Development – Site 2 & No. 61 O'Connell Street Upper

Construction Stage

The Residual Impact for the Proposed Development arising from the Construction Stage of the Proposed Development will be the same as the Residual Impact for the Dublin Central Masterplan Site described in Section 13.7.1.1.

Operational Stage

The Residual Impact for the Cumulative Development arising from the Operational Stage of the Proposed Development will be the same as the Residual Impact for the Dublin Central Masterplan Site described in Section 13.7.1.2.

Cumulative Development

Construction Stage

The Residual Impact for the Cumulative Development arising from the Construction Stage of the Proposed Development will be the same as the Residual Impact for the Dublin Central Masterplan Site described in Section 13.7.1.3.1.

Operational Stage

The Residual Impact for the Cumulative Development arising from the Operational Stage of the Proposed Development will be the same as the Residual Impact for the Dublin Central Masterplan Site described in Section 13.7.1.3.1.

Worst Case Impact

The Worst-Case Impact for the Proposed Development will be the same as the Worst-Case Impact for the Dublin Central Masterplan described in Section 13.7.1.4

20.2.10 Material Assets (Waste) (Chapter 14)

20.2.10.1 Dublin Central Masterplan

Construction Stage

A carefully planned approach to waste management as set out in Section 14.6 of Chapter 14 and adherence to the RWMP during the demolition, excavation and construction phase will ensure that the effect on the environment will be short-term, imperceptible and neutral.

Operational Stage

During the operational phase, a structured approach to waste management as set out in Section 14.6 of Chapter 14 and adherence to the OWMP will promote resource efficiency and waste minimisation. Provided the mitigation measures are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the operational phase on the environment will be long-term, imperceptible and neutral.

Worst Case Impact

In a worst-case scenario, if no mitigation measures found in section 14.6 of chapter 14 are followed, poor onsite waste management, non-permitted waste contractors or unauthorised waste facilities could give rise to inappropriate management of waste offsite and result in negative environmental impacts or pollution as shown in section 14.5 of chapter 14.

20.2.10.2 Proposed Development - Site 2

Construction Stage

A carefully planned approach to waste management as set out in Section 14.6 of chapter 14 and adherence to the RWMP during the demolition, excavation and construction phase will ensure that the effect on the environment will be **short-term**, **imperceptible** and **neutral**.

Operational Stage

During the operational phase, a structured approach to waste management as set out in Section 14.6 of chapter 14 and adherence to the OWMP will promote resource efficiency and waste minimisation. Provided the mitigation measures are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the operational phase on the environment will be **long-term**, **imperceptible** and **neutral.**

Worst Case Impact

In a worst-case scenario, if no mitigation measures found in section 14.6 of chapter 14 are followed, poor onsite waste management, non-permitted waste contractors or unauthorised waste facilities could give rise to inappropriate management of waste offsite and result in negative environmental impacts or pollution as shown in section 14.5 of chapter 14.

20.2.10.3 Proposed Development – 61 O'Connell Street Upper

Construction Stage

A carefully planned approach to waste management as set out in Section 14.6 and adherence to the RWMP during the demolition, excavation and construction phase will ensure that the effect on the environment will be **short-term**, **imperceptible** and **neutral**.

Operational Stage

During the operational phase, a structured approach to waste management as set out in Section 14.6 and adherence to the OWMP will promote resource efficiency and waste minimisation. Provided the mitigation measures are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the operational phase on the environment will be **long-term**, **imperceptible** and **neutral.**

Worst Case Impact

In a worst-case scenario, if no mitigation measures found in section 14.6 in chapter 14 are followed, poor onsite waste management, non-permitted waste contractors or unauthorised waste facilities could give rise to inappropriate management of waste offsite and result in negative environmental impacts or pollution as shown in section 14.5 in chapter 14.

20.2.11 Cultural Heritage (Architectural) (Chapter 15)

20.2.11.1 Dublin Central Masterplan

Operational Phase

The viability of the masterplan development at operational stage is dependant on the prosperity of the community for which it is intended to be delivered. In the event of a recession, and piecemeal occupancy – the vitality of the scheme and long term securing of its architectural heritage would be impacted. A positive residual impact, even in the event of a future recession, would be the securing of that same architectural heritage at construction stage, overcoming the current status of incremental decline.

Construction Phase

A key residual impact is the possibility of accidental/ unforeseen permanent loss during the construction stage, of architectural heritage cited as having significance and intended to be retained as part of the proposed development.

A less tangible residual impact following the commencement of the development of the masterplan is economic uncertainty or a continuing post-Covid pandemic-scenario or continuing conflict to the east of Europe arising in the temporary or prolonged cessation of works, leaving historic fabric more vulnerable than it is currently.

The proposed development has been designed so that on commencement of the masterplan development, both risks are mitigated against in the certainty of funding and in the natural elimination of the pandemic.

20.2.11.2 Proposed Development Site 2 & No. 61 O'Connell Street Upper

Operational Phase

The massing, scale and height of the scheme as a single development exceeds the existing, largely consistently formed volumes. However, considerable incremental intensification of plots on this western side of O'Connell Street has occurred over the course of the 20th century, commencing with the full infilling of certain plot footprints in the 19th century and gradual infilling of others in the 1920s and 1930s.

The proposed increased massing and plot amalgamation inevitably accompanies a commercially viable city centre development designed to maximise occupancy and ensure functional occupancy where every urban convenience of transport and use mix is offered.

The consequences of the scheme's massing, scale and height are more perceptible from the north, due south, along Cavendish Row and due west from Cathal Brugha Street, than corresponding views due north up O'Connell Street.

In terms of materiality, each proposed scheme seeks to reflect to palette of pre-existing materials within the ACA, of brick, Portland stone and granite. All are used in contemporary methods, to good effect, with the consequence of a materially compatible scheme.

In respect of use, the proposed development within Site 2 comprises a mixture of offices, with restaurant and retail uses at ground level opening onto pedestrian street and new civic squares to create vibrant urban spaces. No.61 O'Connell Street in turn offers a mix of residential and retail, and

also accommodates a critically important pedestrian link connecting O'Connell Street with laneway networks to the rear. Within the wider Masterplan, diverse range of uses including residential, hotel and cultural are proposed, with each element contributing cohesively to the success of the whole.

Multiple uses proposed complimenting the residential, cultural and hotel uses proposed elsewhere in the wider Masterplan are designed to a high quality to attract long term occupants ensuring purposeful long-term occupancy, which will benefit the vibrancy of the ACA.

Summary of anticipated residual architectural heritage impacts for the enclosing environs referencing Section 12.5.2.6 of EIAR Chapter 12, Landscape and Visual Impact Assessment are tabled below. The assessment reflects on findings of the LVIA, but reviews same views from the perspective of architectural heritage impacts, differing in some instances from the opinion contained therein.

Viewpoint	Distance	Extent of Effects	Anticipated Architectural Heritage Impact
1. Parnell Square North West	270m	Moderate	*Moderate* It is accepted that the height of the proposed development is visible above existing buildings on the south side of Parnell Street from this vantage point. However, it is found that the character of the western 18th century terrace is sensitively reflected in the rhythmic modulation of the development with the result that its impact is reduced.
2. Parnell Square North	280m	Imperceptible to Slight	*Slight* The proposed development is taller than the existing townscape but is largely screened from this vantage point by existing buildings, merging with the existing terraced roofscapes provided by buildings on Parnell Street.
3. O'Connell Street at the Parnell Monument	100m	Moderate to Significant	*Significant* As described in 7.8.3.3. above, the permanent effect of the proposed development following development of Site 1 (i.e. infilling of the vacant former terraced plots at Nos 40 and 42 O'Connell Street) is not examined in this application. The *temporary* condition of a gable at No.43 rising above the roof of No.42 introduces a significant visual change from within the ACA due south down O'Connell Street. The removal of chimneys repeating the rhythm established by the corner structure at No.39 is also notable, but one which will inevitably be obscured in the future development of Site 1.
4. O'Connell Street at Cathal Brugha Street	40m	Moderate to Significant	*Significant* The proposed development changes the character of the terrace to the west of the ACA. Its new infill frontages replacing selected buildings introduces a divergence stylistically from the existing settled street and roofscape, however, an excitement is also generated in the quality of the architectural provision, fusing with early 20th century retained facades.
4a. O'Connell Street at the Carlton	40m	Moderate to Significant	*Significant* The façade of the Carlton is largely obscured by trees in this view, reflecting the reality of this verified view. However, in examination of proposed contiguous elevations, the proposal is found to successfully respect the proportions and materiality of the Carlton as the dominant protected façade, in its referencing of a rhythm established by this nationally important early modernist building. Notwithstanding the careful synchrony introduced in the crafting of a denser, taller enclosing development, the change brought about by the scheme is significant, but found to be tempered.
5. Cathal Brugha Street near O'Connell Street	60m	Moderate to Significant	*Moderate* Site 2C is less dramatic from this vantage point when compared with View 3 above, with the architectural intention behind the gesture of the belvedere is most evident. The subtle consistency in approach to the colonnaded façade at Nos 46-49 and the belvedere successfully terminates the gable and is found to be respectful of the lower roof form of No.42.

Viewpoint	Distance	Extent of Effects	Anticipated Architectural Heritage Impact
5a. Cathal Brugha Street	150m	Moderate to Significant	*Moderate* The development is found to merge with the character of the southern terrace of Cathal Brugha Street whilst retaining the legibility of parapets of the opposing O'Connell Street terrace, including that of No.42. The recessed attic stories of the taller structures are rendered distinct from their terraced plinths, relating as much to a rear development on Moore Lane as to a hinterland development visible above the streetscape of O'Connell Street.
6. O'Connell Street at the GPO	120m	Moderate	*Slight* The proposal is barely discernible above an established streetscape offering differing attic storey treatments, from this vantage point within the ACA. The GPO retains its prominence as a focal landmark structure and is not found to be compromised by the scale of the development. It is noted that an assessment of the cumulative impact of Site 3 with Site 2 is absent from this submission, however on its own merits, Site 2 is considered to provide a benign change within the streetscape.
7. O'Connell Street at Abbey Street	200m	Slight to Moderate	*Slight* As above, the proposed development merges with the given roofscape of the western side of O'Connell Street and is not found to present a significant change within the ACA.
8. O'Connell Bridge	360m	Moderate	*Slight* As with View 7 above, the proposed development merges with the given roofscape of the western side of O'Connell Street and is not found to present a significant change within the ACA.
9. Cavendish Row	120m	Moderate	*Moderate* The set-back of upper levels of Site 2C is visible above the parapet line of No.39 O'Connell Street and the Rotunda but recedes behind the established streetscape with the result of a reduced relationship with O'Connell Street and greater association with Moore Lane. The change is moderate and generally found to be acceptable.
10. Parnell Square West	95m	Moderate	*Moderate* The full depth of the plot at No.43 is visible from this vantage point, however the taller building, perhaps owing to its orientation aligns itself with the character of the hotel development at the western junction of Parnell Street with Moore Lane. As a consequence, morphological impacts are reduced.
11. Moore Street looking into O'Rahilly Parade	80m	Moderate	*Significant* Whilst outside the ACA, this view due east towards the ACA is already dominated by the unfortunately angled, anonymous rear structure at Nos 46-49 O'Connell Street. Setting aside the visual change, the proposed development being perforated and incorporating the MetroLink entrance, successfully animates this junction and enhances its purposeful connection with the ACA.
12. Moore St looking towards the National Monument	65m	None	*None* No change to the compositional integrity of the National Monument or its setting arises from the proposal, from this pivotal viewpoint.
12a. Moore St looking into Henry Place	65m	Slight	*None* Please note that an assessment of the proposed redevelopment of No.61 O'Connell Street falls outside the scope of this study. No change to the compositional integrity of Moore Street arises from the proposal, from this pivotal viewpoint.
13. Henry Street at Liffey Street	245m	None	*None* No architectural heritage impacts arise from the development of Site 2, which is not visible from this viewpoint.

Viewpoint	Distance	Extent of Effects	Anticipated Architectural Heritage Impact
14. Parnell Street at Dominick Street	195m	None	*None* As above
15. Sean McDermott Street at Gardiner Street	400m	Slight to Moderate	*None* As above
16. Marlborough Street at North Earl Street	240m	None	*None* As above

Table 15.7.1: Summary of impacts for the enclosing environs as described in Section 12.5.3.2. of EIAR Chapter 12, Landscape and Visual Impact Assessment

Anticipated impacts for protected structures and adjoining historic buildings adjoining the site are tabled below: -

Address	RPS Ref.	NIAH Rating (L= Local) (R=Regional) (N= National)	Anticipated Architectural Heritage Impact
10 Moore Street, Dublin 1	8908	-	The proposed development is positioned at a distance from this recently designated protected structure and is not considered to alter its setting significantly. The proposed enhancement of the public realm and rear of No.61 will arise in a positive impact for the quality of Henry Place, and the gable of this protected structure. Due to construction traffic management mitigations, construction stage impacts are not envisaged.
12- 13 Moore Street, Dublin 1	8909 8910	-	This structure, being embedded within existing building fabric, is not at risk from damage from the proposed development of Site 2.
14 Moore Street, Dublin 1	5282	50010489 (R)	As cited above, physical impacts arising from the proposed development have been mitigated in favour of conserving the special status of the national monument at Nos.14-17 Moore Street. The western edge of Site 2 will alter the outward visual setting of the monument, as it opposes its Moore Lane elevation, with visual impacts anticipated as including absent connection with the rear of the O'Connell Street terrace, as viewed from upper rear rooms of the monument. Visual impacts from Moore Lane are not considered especially adverse, as it is intended to develop the presently ruined façade of No.9 Moore Lane (to the west of the Moore Street terrace), which will unify with similarly scaled buildings opposing.
15 Moore Street, Dublin 1	5283	50010490 (R)	
16 Moore Street, Dublin 1	5284	50010491 (N)	
17 Moore Street, Dublin 1	5285	50010492 (R)	

Address	RPS Ref.	NIAH Rating (L= Local) (R=Regional) (N= National)	Anticipated Architectural Heritage Impact
20-21 Moore Street, Dublin 1	8911	-	The proposed structure, if no development occurs to the rear as proposed for the development of Site 4, will be shielded physically and visually from Site 2 due to the scale of buildings immediately to its rear and as a consequence will not experience any effect. Its setting onto Moore Street will remain intact, as the proposed development will not visible from within the public realm of Moore Street.
Rotunda Hospital: Parnell Square West, Dublin 1	6419	50010619- 50010622 (N)	Site 2C is most visible from the section of Cavendish Row aligned with the Rotunda. It is likely to be visible from upper rooms due south across the city roofscape, a factor not considered central to the continuance of character of a city centre protected structure. As assessed in Section 7.10 above, the proposed intensification of the site is not found to present an injurious impact for the outward visual integrity of this compositionally intact 18th century building group.
70 Parnell Street, Dublin 1	6423	50010561 (R)	Due to the once terraced composition of No.70 Parnell Street to the south aligned with Moore Lane, a historic visual connection between Site 2 and its accommodation was not originally enjoyed. Owing to the bulk of O'Connell Hall at No.42 O'Connell Street, the present-day visibility of Site 2C in particular, being in closest proximity, is largely imperceptible, with little impact arising as a consequence.
71 Parnell Street, Dublin 1	-	50010562 (R)	The rear of this 19th century structure previously opposed the hotel, now demolished, at Nos.40-41 O'Connell Street. as a consequence, no visual connection with Site 2 existed. A present day connection is possible but limited from mostly blocked up upper level rear windows. Visual impacts are therefore reduced.
72-74 Parnell Street, Dublin 1	6424	50010559 (R)	The rear of this public house due south towards Site 2 presents an impervious boundary with no openings, precluding a direct visual connection between the two sites. Site 2 will not be visible from the streetscaped setting of this protected structure, precluding any visual impact.
37-38 O'Connell Street Upper, Dublin 1	6021	50010558 (R)	A similar rear boundary condition to that at Nos.72-74 Parnell Street exists at this protected Bank building forming a chamfered junction between O'Connell Street Upper and Parnell Street. whilst no direct visual connection exists between the two sites, the gable of 2C will be visible from the junction of Cavendish Row/ O'Connell Street Upper and Parnell Street, altering the roofscape profile of this protected structure when viewed due south within the ACA.
42 O'Connell Street Upper, Dublin 1	6022	50010554/ 50010560 (N/R)	The proposed intensified development of a plot adjoining the southern boundary of this protected structure is bound to introduce a change to its amenity. The form of the building occupies the full of the plot length, with a gap created at the boundary offering respite from the scale of the new building. the set back succeeds in separating the proposal from the rear rooms of the protected structure, and in particular its stair hall which is of exceptional importance. A Sunlight, Shadow and Daylight Analysis – Site 2 (BDP), has been generated examining existing daylight levels and comparing the differences between the proposed development and the previously permitted, taller development which also encroaches the rear of No.42. It is not surprising that the proposed scheme presents significantly lesser impacts, not just in terms of loss of daylight, but also loss of separation and legibility of form. The subject development will however, reduce daylight levels to rear rooms and

Address	RPS Ref.	NIAH Rating (L= Local) (R=Regional) (N= National)	Anticipated Architectural Heritage Impact
			from rooflights within No.42. As examined in the daylight assessment, the loss is attached to any vertical extension of the plot above an additional floor level. It is inevitable therefore that daylight quality will be reduced within No.42 in any form of taller development at No.43. The proposal, as cited above, presents a marked improvement on the originally permitted scheme in reducing its encroachment enclosing the rear of No.42. The proposal also presents a reduced impact in terms of construction, in the provision of a more generous set back for excavations to what was previously permitted. On the whole, whilst the scheme may be perceived as introducing radical and unacceptable change, the inevitable development of this site encapsulated by the proposal is a significant improvement on the originally permitted development. Changes in the condition of Moore Lane to the south of the subject site will not adversely impact O'Connell Hall.
59 O'Connell Street Upper, Dublin 1	-	50060601 (R)	The rear, western building range to No.59 is included in the boundary of Site 2, with positive impacts associated with the redevelopment as proposed to retain and purposefully re-use the former Reading Room as a cafe. The proposed taller development of Site 2, within the plot of No. 58 to the north of this retained structure will have little impact on its integrity. The principal building range to the east is outside the subject site. Its integrity is largely respected physically and visually by the proposal.
60 O'Connell Street Upper, Dublin 1	6028	50010535 (R)	Notwithstanding the proximity of No.60 to the taller development of Site 2 above the plot of No.58 O'Connell Street, the integrity of this building remains largely unaffected by the development. Outward vistas from upper rear rooms when viewed obliquely due north will be altered in the infilling of a presently modestly scaled footprint commencing at No.58. No similar visual connection will arise from outward vistas to front rooms. The vertical extension above the retained façade of Nos.43-58 O'Connell Street will alter the urban composition of No.60 insofar as it will become more legibly intact as retaining its original building form within the terrace. On the whole, the scheme will have little adverse impact on the quality of this protected structure.
61 O'Connell Street Upper, Dublin 1	6029	50010534 (R)	Similar to an assessment of No.60 adjacent, the architectural amenity of spaces within No.61 will remain largely unaffected by the proposed development of Site 2. Further, its external composition will remain independent of the scheme and will still be legible.
62 O'Connell Street Upper, Dublin 1	6030	50010533 (R)	No.62 O'Connell Street is considered at a sufficient distance from Site 2 to preclude significant impacts.

Address	RPS Ref.	NIAH Rating (L= Local) (R=Regional) (N= National)	Anticipated Architectural Heritage Impact
63-64 O'Connell Street Upper, Dublin 1	6031	50010532 (R)	Nos.63-64 O'Connell Street are considered at a sufficient distance from Site 2 to preclude significant impacts.
65-66 O'Connell Street Upper, Dublin 1	6032	50010531 (R)	Nos.65-66 O'Connell Street are considered at a sufficient distance from Site 2 to preclude significant impacts.
67 O'Connell Street Upper, Dublin 1	6033	50010530 (R)	No.67 O'Connell Street is considered at a sufficient distance from Site 2 to preclude significant impacts.
68 O'Connell Street Upper, Dublin 1	6034	50010529 (R)	No.68 O'Connell Street is considered at a sufficient distance from Site 2 to preclude significant impacts.
69 O'Connell Street Upper, Dublin 1		50010493 (R)	No.69 O'Connell Street is considered at a sufficient distance from Site 2 to preclude significant impacts.
O'Connell Street Lower, Dublin 1, The GPO	6010	50010528 (N) 50010500 (R)	The GPO remains the most significant landmark building in the vicinity of the development site, and is considered at a sufficient distance to preclude significant impacts.
7-15 (inc.) Arnott's., Henry Street, Dublin 1	3666	50010470 (N)	Owing to their distance from Site 2, these buildings will remain visually and physically unaffected by the proposed development.
16 Henry Street, Dublin 1	3667	50010471 (R)	
17 Henry Street, Dublin 1	3669	50010472 (R)	
18 Henry Street, Dublin 1	3670	50010473 (R)	
19 Henry Street, Dublin 1	3671	-	
20 Henry Street, Dublin 1	3672	50010474 (R)	
21 Henry Street, Dublin 1	3673	50010475 (R)	These structures are considered at a sufficient distance from Site 2 to preclude significant impacts.
22-23 Henry Street, Dublin 1	3674	50010476 (R)	

Address	RPS Ref.	NIAH Rating (L= Local) (R=Regional) (N= National)	Anticipated Architectural Heritage Impact
24 Henry Street, Dublin 1	3675	-	
25 Henry Street, Dublin 1	3676	-	
33 Henry Street, Dublin 1	-	50010494 (R)	These structures are considered at a sufficient distance from Site 2 to preclude significant visual impacts. However, a physical impact might arise at construction stage, due to the intensification of Henry Place.
4-8 Henry Place, Dublin 1	8906	-	This protected façade opposes the west side of the proposed development, at the 'knuckle' in Henry Place. Whilst a short term impact will arise at development stage, the improved public realm attached to the development will enhance the meaning of the retained historic structure.
17-18 Henry Place, Dublin 1	8907	-	As above, the protected façade opposes the west of the development site, but will improve in the positioning of the public pocket square adjacent to the Reading Room.

Table 15.7.2: Anticipated impact for protected structures and adjoining historic buildings

Anticipated residual impact for the legibility of the 1916 Battlefield

Please read in conjunction with Appendix 15.15 and Figures Fig 15.3.12 , 15.3.13. and 15.3.14. above, where pre-1916 fabric of Moore Lane Fabric is graphically represented in sketch form.

The proposed development will arise in the loss of surviving pre-1916 fragments embedded within post-1916 structures linings the eastern side of Moore Lane. The quantum of fabric surviving from the 1916 era is minimal, as gauged from a sketch shown in Figures 5.2 and 5.3a/5.3b above.

The question as to possible evidence of a bullet hole in a surviving fragment of a brick pier at the rear of No.57 O'Connell Street Upper onto Moore Lane will remain unanswered, as it is held that such detail cannot be proven in the passage of time since occurrence.

Mindful of the physical absence of battle scars in the laneway otherwise, the removal of building fabric having emotive collective association with the framing of the battlefield will likely arise in controversy. The proposed placement of buildings representative of the lane's past industrial character will not compensate for the loss of authenticity, however, the proposals of TII and the Applicant cannot succeed if these wall fragments are to remain insitu.

The most intact structure from the 1916 period comprises the partial stable building at No.60A O'Connell Street Upper which framed the junction between Moore Lane and Henry Place and saw most action from the time of the battle. The removal of this building is deemed critical to emergency and servicing access from Henry Place to Moore Lane, both in terms of the safe operation of both the Dublin Central Masterplan Area and any future MetroLink Station (subject to a separate application by TII).

The loss of No.60A will present the greatest morphological change for the townscape, not least its impact for the legibility of the 1916 battlefield. However, it is intended, as part of the Site 4

development, to retain and purposefully reuse Nos.15-17 Henry Place, at the opposing western corner.

The advantage of this gesture is the proposed presentation of a detached former reading room and its enhanced presence in the street.

One or other structure is required to be removed for operational purposes, with the difficult decision taken to remove No.60A in favour of retaining the cohesive contribution of Nos.15-17 Henry Place to the wider 1916 narrative west and north of the south-eastern corner of Site 4.

A benefit of the proposed development of Site 2 for the 1916 cause is its support of the delivery of a future museum at Moore Street, in the creation of accessible lateral connectivity from O'Connell Street Upper and other improvements to encourage positive occupancy of an enhanced urban realm.

Construction Phase

Residual impacts attached to the planning application will be tempered by careful coordination and sequencing of the works, which have been devised to minimise impacts, anticipated and yet unforeseen, insofar as is reasonable for a project of this scale. Please refer to the Outline Construction & Demolition Management Plan –Site 2 (Waterman Moylan Consulting Engineers Limited) and the Dublin Central Masterplan Façade Retention Policy appended to the Masterplan Design Statement.

Conservation works, by their nature, will ensure the accurate legibility of retained fabric and its endurance in the long-term. All works, including demolitions, will be recorded and documented in accordance with Article 16 of the Venice Charter and Articles 31-32 of the Burra Charter, with as-built records and progress related photographs submitted to the Authority upon completion for archival purposes.

On this basis, construction phase residual impacts for the site's inherent and its enclosing architectural heritage are considered manageable.

Worst Case Impact

A worst-case scenario would be the permanent loss of architectural heritage of significance as a consequence of the development.

A further detriment for the delivery of the masterplan objectives for either Site 2 or No.61 O'Connell Street would be for the works to either not commence in the first instance; or to partially commence arising in an incomplete development, further incrementally eroding the urban character of the ACA and its architecturally significant buildings.

20.2.12 Cultural Heritage (Archaeology) (Chapter 16)

20.2.12.1 Dublin Central Masterplan

Construction Stage

Following the implementation of an approved programme of mitigation, any impact on archaeological soils, finds or features identified within the Dublin Central Masterplan area lands will be resolved in consultation with the relevant authorities during the course of the project. There will therefore be no residual impacts on the archaeological resource. A beneficial residual impact will be the increased knowledge of the archaeology of this part of Dublin City.

A beneficial residual impact will be the increased knowledge of the archaeology of this part of Dublin City.

Operational Stage

There will be no residual impact on the archaeological heritage during the operational stage of the development.

Worst Case Impact

There is no worst case residual impact on the site

20.2.12.2 Proposed Development – Site 2

Construction Stage

Following the implementation of an approved programme of mitigation, any impact on archaeological soils, finds or features identified within Site 2 will be resolved in consultation with the relevant authorities during the course of the project. There will therefore be negligible residual impacts on the archaeological resource. A beneficial residual impact will be the increased knowledge of the archaeology of this part of Dublin City.

Operational Stage

There will be no residual impact on the archaeological heritage during the operational stage of the development.

Worst Case Impact

There is no worst case residual impact on the site.

20.2.12.3 Proposed Development – No. 61 O'Connell Street Upper

Construction Stage

Not applicable.

Operational Stage

Not applicable.

Worst Case Impact

There is no worst case residual impact on the site.

20.2.13 Risk Management (Major Accidents & Disasters) (Chapter 17)

The risk of a major accident and / or disaster during the construction phase of the 'Masterplan' and the Proposed Development is considered low.

The risk of a major accident and / or disaster during the operational phase of the 'Masterplan' and the Proposed Development is considered medium.

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