

18.0 INTERACTIONS AND CUMULATIVE IMPACTS

18.1 Introduction

This Chapter of the EIAR was prepared by Sadhbh O'Connor (BA) (MRUP), Director of Thornton O'Connor Town Planning, and collates the significant interactions between the different disciplines outlined through this EIAR. Table 18.1 (included at the end of this chapter) provides a matrix which summarises the significant interactions associated with the proposed development.

This chapter outlines and discusses the principal significant interactions however many other slight or less significant interactions may occur which have been outlined throughout this EIAR.

This section addresses the intra-project significant effects (i.e. those occurring between environmental topics within the project). We have considered inter-project effects (i.e. those which are likely to occur as result of the likely impacts of the proposed development interacting with the impacts of other projects in the locality), and have established that there are no other known planned / permitted projects in the locality that are likely to interact with either the construction or operational phases of the development to a significant degree.

Throughout the preparation of this EIAR, each of the specialist consultant liaised with each other on a continual basis and dealt with potential interactions between effects predicted as a result of the proposed development and ensured that all required mitigation measures were incorporated where necessary.

18.2 Description of Significant Interactions

18.2.1 Interactions between Population and Air Quality and Climate

Interactions between population and air quality/climate are discussed in Chapter 5 and 11. The main interactions are predicated to arise during construction stage as there will be dust emissions associated with the construction of the proposed development. Mitigation measures such as a Dust Minimisation Plan (outlined in Appendix 11.3) will minimise dust emissions during construction stage and ensure that no significant adverse impacts will occur on population and human health. 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 long term and neutral with respect to human beings.

18.2.2 Interactions between Population and Noise and Vibration

Interactions between population and noise/vibration are discussed in Chapter 5 and 12. Best practice noise and vibration control measures will be employed by the contractor during the construction phase in order to avoid significant impacts at the nearest sensitive buildings. During the operational stage, the predicted noise level associated with additional traffic is predicted to be of insignificant impact along the existing road network. In the context of the existing noise environment, the overall contribution of traffic is not considered to pose any significant impact to nearby residential locations. It can be concluded that, once operational, the predicted change in noise levels associated with additional traffic is predicted to be of

imperceptible impact along the existing road network.

18.2.3 Interactions between Population and Human Health and Traffic and Transportation

The scheme will be developed in line with the Traffic and Transport chapter (Chapter 14 of this EIAR) and the separately enclosed Preliminary Construction Management Plan (PCMP) to ensure any impacts on local traffic is minimised during the construction stage. The PCMP notes that a large quantum of the on-site employees will arrive in shared transport therefore reducing the potential for associated temporary negative impacts on the surrounding road network.

As the development proposes some 564 No. residential units, small scale commercial development and associated (albeit) reduced car-parking, there will be additional traffic movements at the site and in the vicinity, which will have a minor negative impact on the existing population. However, the promotion of sustainable modes of transport from the site during the operational stage will significantly mitigate against any potential impacts that may arise on traffic in the area.

If the development does not proceed at the subject lands, there would be a potential negative impact for pedestrians in the local area as the significantly enhanced pedestrian permeability through the site would not be provided.

18.2.4 Interactions between Population and Human Health and Landscape and Visual Impact

Chapter 8 provides a Landscape and Visual Impact Assessment prepared by Mitchell and Associates Landscape Architects. The chapter provides an assessment of Landscape Character Impact which is an assessment of effects on the character of the landscape arising from the insertion of the proposed development into the existing landscape context. This 'landscape' aspect is relatively subjective and can be described broadly as the human, social and cultural experience of one's surroundings. These combined impacts will elicit responses whose significance will be partially dependent on how people perceive a particular landscape and how much the changes will matter in relation to other senses as experienced and valued by those concerned.

The visual effects over the construction of the development will vary from moderate and neutral to moderate and negative, depending on one's location, the stage of construction, and the intensity of site activity. These effects will however be of short term duration. During the construction phase, it is inevitable that there will machinery and materials located on site in addition to ancillary storage, facilities for workers and hoarding for example. There may be potential for a slightly negative impact on the visual appearance of the site. It is anticipated that the impact will be temporary in nature and will ultimately provide a positive visual appearance on completion of the development. Notwithstanding the above, the provision of site hoarding along the property boundaries will substantially address many potential effects of construction operations during the delivery stage.

Chapter 8 concludes that it would be expected that the completion of almost any proposed development on this derelict urban site would be perceived to improve the appearance and functioning of the site and the area immediately around it, simply as a consequence of completing the work. The proposed permeability through the site and its connections with neighbouring lands and developments is a major social (and therefore landscape)

improvement. However, ultimately the final development will be judged by many, primarily on its finished appearance and the impact of time, use and the elements upon it. The proposed development is well-researched and will provide living accommodation and a living environment of high quality which is both sustainable and durable.

18.2.5 Interactions between Wind and LVIA

The Landscape and Visual Impact Assessment provided in Chapter 8 stipulates that it is important to note that the proposed design has responded to the findings of the wind study undertaken. In particular, the final planting incorporated into the design will significantly mitigate the wind effects around and within the scheme. This is outlined in the Wind Assessment carried out in Chapter 13.

18.2.6 Interactions between Population, Biodiversity and Water-Hydrology

There are interactions between biodiversity and the water-hydrology chapter. Measures to enhance the surface water characteristics from the site (through SUDS) will benefit water bodies by improving water quality and reducing pulse flow impacts and therefore there will be no negative impacts on population and human health in relation to water quality.

18.2.7 Interactions between Biodiversity and Landscape

The landscaping strategy incorporates the introduction of soft landscaping which will provide habitat for invertebrates and birds.

18.2.8 Interactions between Land, Soils and Geology, Water-Hydrology and Site Services (Civils)

Excavated and stripped soil can be disturbed and eroded by site vehicles during the construction phase. Rainfall and wind can also impact on non-vegetated/uncovered areas within the excavation or where soil is stockpiled. This can lead to run-off with high suspended solid content which can impact on water bodies. The potential risk from this indirect impact to water bodies and/or habitats from contaminated water would depend on the magnitude and duration of any water quality impact.

Construction phase dewatering may be required to excavate the basements and associated infrastructure and to maintain dry working conditions in the excavation (for rainfall). Pumped water will require discharge offsite (discharge to sewer). Potential for dewatering is addressed in Chapter 10.

As with all construction projects there is potential for water (rainfall and/or groundwater) to become contaminated with pollutants associated with construction activity. Contaminated water which arises from construction sites can pose a significant short-term risk to groundwater quality for the duration of the construction if contaminated water is allowed to percolate to the aquifer. This is discussed further in Chapter 10. The potential main contaminants include:

- Suspended solids (muddy water with increase turbidity) – arising from excavation and ground disturbance;
- Cement/concrete (increase turbidity and pH) – arising from construction materials;
- Hydrocarbons (ecotoxic) – accidental spillages from construction plant or onsite storage; and contaminated groundwater within the site from previous site activities;
- Wastewater (nutrient and microbial rich) – arising from poor on-site toilet and washrooms.

18.2.9 Interactions between Land, Soils and Geology and Air Quality and Climate

There is a potential for dust from excavations or stockpiles to impact on air quality. This is discussed further in Chapter 11 Air Quality and Climate.

Chapter 11 outlines that in compiling this impact assessment, reference has been made to the project description provided by the project co-ordinators, project drawings provided by the project architects and traffic flow projections associated with the development provided by the traffic consultants as discussed in Chapter 9 (Land Soils and Geology), Chapter 10 (Water-Hydrology) and Chapter 14 (Traffic and Transportation).

With the appropriate mitigation measures to prevent fugitive dust emissions, it is predicted that there will be no significant interactions between air quality and soil and geology.

18.2.10 Interactions between Land, Soils and Geology and Noise and Vibration and Traffic and Transportation

Noise and vibration will be generated through the construction phase particularly during excavation work. It is anticipated that conventional excavation techniques (i.e. hard digging) will suffice. Noise and vibration impacts are considered in detail in Chapter 12, Noise and Vibration.

The construction phase and any import or export of material to the site (as part of excavation or infilling works) will have implications for traffic in the surrounding road network. Excavated and stripped soil can be disturbed and eroded by site vehicles during the construction. These impacts are considered further in Chapter 9 Lands, Soils and Geology, Chapter 12 Noise and Vibration and Chapter 14 Traffic and Transportation.

18.2.11 Interactions between Waste and Land, Soils and Geology

During the construction phase excavated soil, stone, gravel, clay and rock (c. 10,100 m³) will be generated from the excavations required to facilitate site levelling, construction of the basement, construction of new foundations, the installation of underground services and attenuation tank. It is envisaged that all of excavated material will need to be removed offsite. 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 15 and the requirements of the Construction and Demolition Waste Management Plan will ensure the effect is long-term, imperceptible and neutral.

18.2.12 Interactions between Waste and Traffic and 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 14 Traffic and Transportation. Provided the mitigation measures detailed in Chapter 14 and the requirements of the OWMP (included as Appendix 15.2) are adhered to, the effects will be short to long-term, imperceptible and neutral.

18.2.13 Interactions between Site Services (Utilities) and Land, Soils and Geology

Trench excavations to facilitate site service installation will result in exposure of subsoils to potential erosion and subsequent sediment generation. Mitigation measures are outlined in Chapter 9 Land & Soils (i.e. service trenches to be backfilled as soon as practicable to minimise potential erosion of subsoils).

18.2.14 Interactions between Air Quality and Traffic

Chapters 11 and 14 outline interactions between air quality and traffic. 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 roads close to the site. In this assessment, the impact of the interactions between traffic and air quality are considered to be imperceptible.

'Do Nothing' Scenario

If the proposed project does not proceed, there will be no cumulative impacts arising.

18.3 Cumulative Impacts

At the time of writing this Environmental Impact Assessment Report, it appears that there are no current projects in the immediate vicinity of the site seeking planning permission. There has been one planning application 'Rockbrook Phase II' in close proximity to the subject site which has recently been granted permission for the construction of a Build-to-Sell mixed use scheme (Ref.: ABP-304405-19) This scheme has been reviewed and included within the enclosed EIAR chapters.

The cumulate effects with other existing and/or approved projects in the area have also been considered to determine whether these could be sufficient to generate impacts of significance on the environment. Any predicted specific cumulative impacts are outlined in the various EIAR chapters, and tend to be temporary; related to the construction period; and manageable by way of mitigation. No significant interactions are envisaged in terms of interactions arising from cumulative impacts.

Therefore, it is not proposed to include any specific measures for monitoring or mitigation to

be undertaken in relation to cumulative impacts.

Interactions	Population and Human Health	Archaeology & Cultural Heritage	Biodiversity	L VIA	Lands, Soil & Geology	Water-Hydrology	Air Quality & Climate	Noise & Vibrations	Wind	Traffic & Transportation	Waste Management	Site Services: Civils	Site Services: Utilities
Population and Human Health			✓	✓		✓	✓	✓		✓			
Archaeology & Cultural Heritage													
Biodiversity				✓		✓							
L VIA									✓				
Lands, Soil & Geology						✓	✓	✓		✓	✓	✓	✓
Water-Hydrology												✓	
Air Quality & Climate										✓			
Noise & Vibrations										✓			
Wind													
Traffic & Transportation											✓		
Waste Management													
Site Services: Civils													
Site Services: Utilities													

Table 18.1 Matrix of Significant Interactions Discussed Throughout Chapter 18.