

15.0 INTERACTIONS – INTERRELATIONSHIPS BETWEEN THE ASPECTS

15.1 INTRODUCTION

This chapter has been produced following the guidance within the EIA Directive, the *Planning and Development Act 2000* (as amended), the *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2017) and EPA Draft Advice Notes for Preparing Environmental Impact Statements (EPA, 2015).

In accordance with the guidance not only are the individual significant impacts required to be considered when assessing the impact of a development on the environment, but so must the interrelationships between these factors be identified and assessed.

The majority of the EIA Report chapters have already included and described assessments of potential interactions between aspects, considered by the various specialists contributing to this impact assessment. The quality, magnitude and duration of potential impacts are defined in accordance with the criteria provided in the EPA 2017 Guidance as outlined in Chapter 1 (Introduction). This section of the assessment presents a summary and assessment of the identified interactions.

Section 171A of the Planning and Development Act requires that the interactions between the following be assessed:

- Population and human health;
- Land, soil, water, air and climate;
- Biodiversity, with particular attention to species and habitats protected under the Habitats Directive and the Birds Directive; and
- Material assets, cultural heritage, and the landscape;

15.2 DISCUSSION – POSITIVE IMPACTS

The reasoning behind the interactions that are considered to have a positive effect (i.e. a change which improves the quality of the environment) is outlined in this section.

Planning and Alternatives on:

Population and Human Health

The proposed development will create up to 450 full time jobs within the data centre and 40 in the vertical farms during operation with an average of 600 during the construction phase, peaking at 1200, which will have a *long-term, positive* effect on employment.

15.3 DISCUSSION – NEUTRAL IMPACTS

The reasoning behind the interactions that are considered to have a neutral effect (i.e. no effects or effects that are imperceptible, within the normal bounds of variation or within the margin of forecasting error) is outlined in this section.

15.3.1 Land, Soils, Geology and Hydrogeology on:

Population and Human Health

There will be a loss of soil available for agricultural use due to the development. However, the area of development is zoned by Clare Co Co (CCC) for development and as such it is not intended that it will be returned to agricultural use. In addition, the employment created by the construction and operation of the proposed development counterbalances this economic loss to some extent and so the impact is *long-term, imperceptible and neutral*.

Hydrology

Levelling and landscaping will have the potential to increase suspended solids within run-off during construction. However, the implementation of a CEMP as detailed Chapter 6 (Hydrology) during construction and design measures (bunding of oil), SUDs measures including attenuation and use of interceptors will ensure the effect will be *short term imperceptible and neutral during construction and long-term, imperceptible and neutral during operation*.

Biodiversity

The change in use of land from agricultural to industrial with result in loss of natural flora and fauna has been removed/displaced. However, the proposed landscaping as outlined in the landscape and biodiversity management plan will result in enhancing local biodiversity by incorporating native species and pollinator planting. The design measures and mitigation measures incorporated in the CEMP (and the surface water management plan) will ensure that there is no change in the overall water regime at water dependent habitats on site. The impact is *short term imperceptible and neutral during construction and long-term, imperceptible and neutral during operation*.

Archaeological, Architectural and Cultural Heritage

Although the archaeological assessment for the proposed development has identified no known features of archaeological interest on the site, aspects of the proposed development have the potential to impact on unidentified archaeological features during construction works. However, mitigation measures detailed in Chapter 11 (Archaeological, Architectural and Cultural Heritage) including a geophysical survey and test trenching and ceasing works if archaeological features or material is uncovered, will ensure that the effect is *short-term, imperceptible and neutral during construction*. Delimiting of the archaeological buffer zone will ensure no impact to any archaeology during operation resulting in a *long-term, imperceptible and neutral impact during operation*.

Waste Management

As detailed in Chapter 14 (Waste Management), c. 107,376m³ of material will be excavated and reused for landscaping and berms. Any spoil which cannot be reused on site will be removed off site for reuse or recovery, where practical, with disposal as last resort. Adherence to the mitigation measures in Chapter 14 and the requirements C&D Waste Management Plan (included as Appendix 14.1), will ensure the effect is *short-term, imperceptible and neutral*.

15.3.2 Hydrology on:

Population and Human Health

The proposed development will generate wastewater emissions (foul water) from the site. This will discharge following an upgrade of the foul sewer on the Tulla road to the Local Authority wastewater treatment plant (WWTP) at Gort Na mBlath located approximately 550 m west of the main site. The wastewater ultimately discharges to Ennis North (Clonroadmore) WWTP Reg D0048 which generally operates in compliance with its EPA licence. Consultation with CCC and IW has shown that there is sufficient capacity for the wastewater discharges from the proposed development. As the WWTP will provide treatment for wastewater emissions, the effect is considered to be *long-term, imperceptible and neutral*.

Land, Soils, Geology and Hydrogeology

Stormwater will be collected for hardstand areas and attenuated to greenfield run-off rates prior to discharge. However, a significant proportion of the site will remain greenfield and as such the impact on the groundwater regime will be *long-term, imperceptible and neutral*.

Biodiversity

The design measures and mitigation measures incorporated in the CEMP (and surface water management plan) will ensure that there is no change in the overall water regime at water dependent habitats on site. The impact is *short term imperceptible and neutral during construction and long-term, imperceptible and neutral during operation*.

Waste Management

Hydrocarbon sludge waste and debris will be generated in the hydrocarbon interceptors which will treat the surface water run-off from the proposed development during the operational phase. This waste stream will be managed in accordance with the relevant legislation identified in Chapter 14 such that the effect of the waste generation will be *long-term, imperceptible and neutral*.

15.3.3 Air Quality and Climate on:

Hydrology

Mitigation measures implemented during the construction phase will ensure that the deposition of dust is minimised and therefore the predicted effect from air (including dust) on the water environment during construction is *short-term, imperceptible and neutral*.

The operational procedures and other general site maintenance regime in accordance with the Environmental Safety and Health Management Procedures for the facilities will ensure that the impact of the facility complies with all ambient air quality legislative limits and therefore the predicted impact from air (including dust) on the water environment is *long term, imperceptible and neutral*.

Biodiversity

Mitigation measures during the construction phase of the proposed development will ensure that dust generation is minimised and the effect on biodiversity will be *short term, imperceptible and neutral*.

Results from the modelling of air emissions including emissions from back-up generators during the operational phase show that the emissions from the facility will comply with the relevant air quality legislative limits and the effect on biodiversity will be *long term, imperceptible and neutral*.

15.3.4 Air Quality and Climate on:

Population and Human Health

The design and mitigation measures set out in Section 8.6 of Chapter 8 (Air Quality and Climate) that will be put in place at the proposed facility will ensure that the impact of the facility complies with all ambient air quality legislative limits and therefore the predicted impact is *long term, imperceptible and neutral*.

15.3.5 Landscape and Visual on:

Biodiversity

The construction of the proposed development will involve the removal of some of the existing natural hedgerows. However, this will be replaced by other suitable landscaping treatments and overall will have a *long-term, imperceptible and neutral* impact.

15.3.6 Material Assets on:

Population and Human Health

The proposed development will have an impact on material assets such as surface water drainage, water supply, wastewater drainage, power supply and road infrastructure. The individual chapters of this EIA Report (Chapter 12 Traffic and Transportation and Chapter 13 Material Assets) have assessed the capacities of the available infrastructure to accommodate the proposed development and the implementation of the mitigation measure proposed in these chapters will ensure there are no residual negative impacts on the local population. The predicted effect is *long term, not significant and neutral*.

Hydrology

The proposed development will result in changes to surface water drainage (as a greenfield site is being developed), water supply and wastewater networks. However, a combination of mitigation measures to be implemented as detailed in Section 7.6 of Chapter 6 (Hydrology), as well as the capacity already built into these networks, will ensure that these changes will result in a *long-term, not significant and neutral* impact.

15.4 DISCUSSION – NEGATIVE IMPACTS

The reasoning behind the interactions that are considered to have a negative effect (i.e. a change which reduces the quality of the environment) is outlined in this section.

15.4.1 Noise on:

Biodiversity

Noise generated during the construction phase of the proposed development will have a *short-term, slight and negative* impact on fauna which are likely to be displaced during construction works. During operation, following additional landscaping to provide suitable habitats, the impacts will be *longterm-term, imperceptible*.

15.4.2 Noise on:

Population and Human Health

The potential impact of noise and vibration on the local population is discussed in Chapter 4 (Population and Human Health) and Chapter 9 (Noise & Vibration). The application of noise limits and limits on the hours of operation, along with implementation of appropriate noise and vibration control measures, will ensure that noise and vibration impact is kept to a minimum. The noise impact is assessed to be *short-term* in duration with a *slight to moderate negative* significance considering the existing background low level of noise in this rural location. As reported, the noise impact will reduce to *slight* as construction moves above ground. Due to the distance between the site and the nearest sensitive locations, vibration impacts generated during construction are expected to be *short term* duration and *imperceptible* significance. Therefore, the noise and vibration impact of the construction phase of the proposed development is negative but not considered significant with respect to human health.

The predicted noise emissions associated with the proposed development of the site during the operational phases are within the relevant noise criteria considered suitable for the development considering the guidance outlined in EPA: *Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4 – 2016)*. These guidelines consider impacts on human health. As such the modelling has due consideration to human health, and has shown that although there will be an increase in noise as a result of the operation of the facility, this is not considered to have a significant impact on human health. The proposed development will not generate any perceptible levels of vibration during operation and therefore there will be no impact from vibrations on human health.

15.4.3 Traffic on:

Population and Human Health

The traffic assessment shows that the impacts on the local community resulting from the additional traffic movements associated with the proposed development were found to be *short-term, negative and slight* for the construction phase and *long-term, negative and slight* for the operational phase. No significant traffic delays are forecast during either the construction or operational phases.

15.4.4 Air Quality on:

Landscape

The proposed development will include industrial type generator stacks which will permanently alter the existing landscape. The generator stacks associated with the Data Centres will not be visible as they will be screened by the Data Centres and the

proposed landscaping measures. The taller 25m stacks associated with the Energy Centre have greater potential for visibility. However, due to the siting of the Energy Centre next to the tall hill on site, views towards the stacks from the east and south will be screened for the most part. In views from the north and west, where the stacks may be visible these will be viewed at a similar vertical scale to existing trees on the horizon. The residual landscape and visual effects are considered to range from *long term negative, moderate significance* down to *not Significant*.

15.4.5 Landscape and Visual on:

Population and Human Health

The predicted impact of the proposed development on the landscape is described in Chapter 10. The proposed development is well-sited and includes architectural and landscape proposals that will ensure the development is integrated into its setting, including the use of landscaped berms and woodland planting which will provide visual screening. Residual impact in terms of landscape amenity will be *long term, negative and moderate significance*.

15.4.6 Land, Soils, Geology and Hydrogeology on:

Noise

Impacts associated with excavation works will be transient in nature and have a temporary to short-term impact on the noise environment, which will be mitigated by the implementation of the measures outlined in Chapter 9. The effect of construction noise impacts will be *slight to moderate (dependant on location), negative and short-term* in nature. Also, it is considered that as the proposed development progresses from initial ground works that construction noise impacts will reduce to slight. There is no longterm interaction.

15.5 SUMMARY

In summary, the interactions between the environmental factors and impacts discussed in this EIA Report have been assessed and the majority of interactions are *short to long-term and neutral*.

15.6 TABLE OF INTERACTIONS

Table 15.1 Summary of interrelationships Between the Aspects

	Planning and Alternatives		Population & Human Health		Land, Soils and Hydrogeology		Hydrology		Biodiversity		Air Quality and Climate		Noise and Vibration		Landscape and Visual Impact		Cultural Heritage		Material Assets, including Transport and Waste		
	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	
Planning and Alternatives			+	+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Population & Human Health					o	o	o	o	x	x	o	o	-	-	-	-	x	x	o	o/-	
Land, Soils and Hydrogeology							o	o	o	o	-	x	-	x	x	x	o	x	o	o	
Hydrology									o	o	o	o	x	x	x	x	x	x	o	o	
Biodiversity											o	x	-	x	o	o	x	x	x	x	
Air Quality and Climate													x	x	x	-	x	x	x	x	
Noise and Vibration															x	x	x	x	x	x	
Landscape and Visual Impact																	x	x	x	x	
Cultural Heritage																			x	x	
Material Assets, including Transport and Waste																					

Con.	Construction Phase	+	Positive Interaction
Op.	Operational Phase	o	Neutral Interaction
x	No Interaction	-	Negative Interaction

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