
Environmental Impact Assessment Report Development at Waterford Airport

Volume 2 – Chapter 15 – Interactions of the Foregoing

Prepared for: Waterford City & County Council in Partnership with Waterford Regional Airport PLC



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15. INTERACTIONS OF THE FOREGOING

15.1 Introduction

This chapter considers the potential for interactions and inter-relationships between the aspects of the environment, that were examined individually throughout this EIAR, which could result in an impact being either positive or negative, as well as having varying levels of significance. The preceding chapters of this EIAR identified the potential impacts that may occur as a result of the proposed development in terms of Population and Human Health, Land, Soils and Geology, Hydrology and Water Quality, Traffic and Transport, Landscape and Visual, Air Quality and Climate, Noise and Vibration, Biodiversity and Cultural Heritage. As well as potential impacts, mitigation measures are set out throughout the preceding chapters.

For a project of this nature, there is also the potential for interaction amongst these impacts that may not be perceived when examined individually. Therefore, it is necessary to consider the relationships between the impacts. The result of interactive impacts may either exacerbate the magnitude or ameliorate the extent of impact. The numerous interactions and inter-relationships that have been identified for the purposed development with respect to the various aspects of the environment are discussed, where relevant, in this chapter.


Table 15-1 herein provides a matrix indicating the key interactions and inter-relationships between the aforementioned environmental aspects of the proposed development at Waterford Airport subject to planning consent. Table 15-2 provides further detail and examples of the diverse range of interactions and inter-relationships between the project's key environmental aspects.



15.2 Primary Interactions

Table 15-1: Summary of Interactions & Inter-relationships between the Key Environmental Aspects of the proposed development

	Population & Human Health	Land, Soils & Geology	Hydrology and Water Quality	Traffic & Transport	Landscape & Visual	Air Quality & Climate	Noise & Vibration	Biodiversity	Cultural Heritage
Population & Human Health									
Land, Soils & Geology									
Hydrology and Water Quality									
Traffic & Transport									
Landscape & Visual									
Air Quality & Climate									
Noise & Vibration									
Biodiversity									
Cultural Heritage									

 = interaction or inter-relationship


 = no interaction or inter-relationship



Table 15-2: Table of Interactions

INTERACTION	DESCRIPTION
Population and Human Health, Traffic and Transportation	The development of the Waterford Airport expansion will have an effect on population growth in the area due to new airlinks and potential economic investment that will provide new jobs. This will have a direct effect on traffic and road capacity. This has been considered in the EIAR. It has been established that the local road network has capacity to provide for the expected passenger numbers. Population growth is considered to be a long-term effect which will not negatively impact the local road capacity in the short-term.
Population and Human Health, Traffic and Transportation, Land, Soils and Geology	Soiling of public roads may occur due to spoil migrating to public roads due to construction traffic leaving the site. This may have implications on human safety as the soiling of public roads can have an effect on skid resistance for motor vehicles. This has been considered in the EIAR and mitigation measures will be in place to prevent soiling of public roads. This includes quality traffic management practices.
Population and Human Health, Air Quality, Noise and Vibration	During the construction phase, construction plant and works may cause noise and vibration nuisance and migration of dust effecting air quality. This could have a negative effect on residential amenity and human health in the locality. These effects are considered to be temporary in nature and due to lack of proximity to the proposed works, nearby receptors are not expected to be adversely affected.
Population and Human Health - Hydrology and Water Quality	Potential for fuel spills at the airport, on or adjacent to the runway, could potentially disperse into the surface water drainage system. Mitigation in the form of fuel spill protocols are identified as the means of avoidance.
Land, Soils and Geology, Hydrology and Water Quality	The use of construction machinery can cause soil to become compacted due to the heavy weight of machinery. This can cause extra surface water run-off due to lack of soil infiltration effecting the drainage of the land. This potential moderate/slight impact will be avoided with the use of a works corridor which machinery must stay within to avoid damage to soils outside this area. Temporary drainage infrastructure will be provided along these routes.
Land, Soils and Geology, Hydrology and Water Quality, Air Quality	Exposed soil during the construction phase may be eroded by wind and rain which can affect both air quality in the immediate area due to migration of dust and water quality due to migration of silt to local streams. This has been considered in the EIAR and mitigation has been set out. Silt fencing will be utilised where works will be taking place adjacent to streams. Spoil heaps will be removed to appropriate hard standing areas and covered where necessary.
Hydrology and Water Quality, Traffic and Transportation	Construction traffic may have a negative effect on water quality. Haul routes passing close by to ditches could allow migration of silt effecting water quality. Increased sediment loading of drains may occur due to increased traffic. This possible interaction has been considered in the EIAR and mitigation measures set out to avoid the sedimentation of streams.
Land, Soils and Geology, Hydrology and Water Quality, Biodiversity	The potential for suspended solids within streams caused by spoil and migration of dust due to the construction process may have a negative effect on aquatic habitats downstream from the construction site. Similarly, hydrocarbons have potential to effect water quality and biodiversity due to on-site spillage during construction. This has been considered in the EIAR and mitigation measures have been set out.



INTERACTION	DESCRIPTION
Land, Soils and Geology, Hydrology and Water Quality, Biodiversity	The potential for transfer of de-icing agents to the drainage system by surface water run-off from the runway pavement may have a negative effect to water quality to adjacent streams. This has been considered in the EIAR and mitigation measures have been set-out.
Land, Soils and Geology, Hydrology and Water Quality, Population and Human Health	Potential saturation of ground and ditches due to excessive run-off caused by the construction process has potential to cause risk to the safety of site personnel and the public. This has been considered in the EIAR. Mitigation includes proper site management and safety protocols to avoid risk to human safety.
Air Quality, Biodiversity	There is potential for emissions caused by additional air traffic to affect local ecosystems. The study set out in chapter 10 of the EIAR states that the forecasted emissions do not exceed the relevant air quality standards and therefore is not expected to negatively affect local ecosystems.
Air Quality, Traffic and Transportation, Population and Human Health	Increased passenger numbers to Waterford Airport is expected to bring with it increased traffic to the area. This may have a negative effect on emissions in the area which could have a negative impact on human health. This has been considered in the EIAR. The projected numbers expected to use the airport is not considered not to cause a significant negative impact on air quality in the area.
Noise and Vibration, Traffic and Transport, Population and Human Health	The additional traffic expected during the construction phase may have a negative effect on residential amenity and human health due to noise and vibration. This would most likely be caused by excavation work and lorry movements. This impact is temporary in nature and predicted noise levels are below 65db for nearby receptors, therefore, impacts on residential amenity due to noise and vibration from construction traffic will be negligible.
Noise and Vibration, Population and Human Health (land-use)	Development of the airport expansion will have an effect on land-use in that the development of certain land-uses will not be viable in close proximity to the airport due to noise caused by aircraft movements. For example, residential development must be within a 57db contour. Beyond this level noise may cause nuisance to living conditions, therefore, dwellings should not be sited where aircraft noise would negatively impact residential amenity. This has been considered in chapter 11 noise and vibration and chapter 5 in terms of human health and residential amenity.

15.3 Conclusions on the Development Interactions and Inter-Relationships and their Impacts in Context

As outlined above, the proposed development at Waterford Airport has the potential to impact on various environmental aspects, with interactions and inter-relationships between these aspects as described above. The EIAR has considered these interactions and inter-relationships throughout the appraisal, firstly through the design and layout of the proposed expansion, to avoid impacts where possible, and also in the definition of suitable mitigation measures to minimise the impacts.



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