

# **11 INTERACTIONS**

## **11.1 INTRODUCTION**

This section describes the interactions between the various potential impacts identified in the previous sections during both the construction and operational phases of the proposed development.

The project team, in conjunction with the assistance of a variety of specialist environmental consultants, each one an expert in their chosen field, assessed the potential impact arising from the construction and operation of the proposed development. The interaction of environmental aspects was clearly identified at an early stage in the project to be an important factor to be considered in the full evaluation of the environmental impacts associated with the proposed development.

In the interests of clarity, significant interactions and inter-dependencies have in fact been taken into consideration, and are detailed, under each environmental topics heading. We refer the reader to the relevant sections of the Environmental Report.

## **11.2 MATRIX OF INTERACTIONS**

This section provides a simple matrix (see Figure 11.1) identifying environmental components and recording where interactions are identified. These are then expanded upon in the text with references made to the more detailed assessments outlined in the relevant sections of this Report.

Again, for detailed descriptions and accounts, the reader is referred to the relevant sections of this Report.

Interaction	Human Beings and Population		Ecology		Soils and Geology		Water (Hydrology and Hydrogeology)		Air and Climate (includes Noise)		Landscape and Visual Impact		Cultural Heritage	
	Constr.	Op.	Constr.	Op.	Constr.	Op.	Constr.	Op.	Const.	Op.	Constr.	Op.	Constr.	Op.
Human Beings and Population			✓	x	x	x	x	x	✓	x	✓	✓	✓	✓
Ecology	✓	x			✓	x	✓	x	x	x	x	x	x	x
Soils and Geology	x	x	✓	x			✓	✓	x	x	x	x	x	x
Water (Hydrology and Hydrogeology)	x	x	✓	x	✓	✓			x	x	x	x	x	x
Air and Climate (includes Noise)	✓	x	x	x	x	x	x	x			x	x	x	x
Landscape and Visual Impact	✓	✓	x	x	x	x	x	x	x	x			✓	✓
Cultural Heritage	✓	✓	x	x	x	x	x	x	x	x	✓	✓		

Notes:

✓ = interaction anticipated

x = no interaction anticipated

Constr. = construction stage

Op. = operation stage

Figure 11.1 Matrix of Interactions

### **11.3 HUMAN BEINGS AND POPULATION**

A short-term interaction may be experienced between human beings and population and ecology during construction due to works in fields and other land uses.

During construction works there may be interactions between noise of construction and human beings and population which may impact on nearby residents. However, the route avoids clusters of dwellings and centres of population. These issues are addressed in the aforementioned sections.

The interactions between human beings and population and landscape will arise first during construction when views will change; and will become more permanent as the project nears completion. Changed views will also create an interaction between human beings and population and cultural heritage in some locations.

### **11.4 ECOLOGY**

An interaction between ecology and human beings and population will arise during construction due to works in fields and other land uses.

The interactions between ecology and soils, geology and hydrogeology will arise during construction.

### **11.5 SOILS AND GEOLOGY**

The potential for interactions arises with water. Soils and geology have an interaction with water as a determinant of water chemistry, river flow regimes, water storage capacity and watercourse location. It also has an impact on water quality through the ability of bedrock and surface deposits to filter potential pollutants.

### **11.6 WATER (HYDROLOGY AND HYDROGEOLOGY)**

The potential for interactions arises with soils and geology and ecology. Potential impacts on the water environment such as impacts on water quality could lead to secondary effects on ecological interests including fisheries, aquatic habitats, as well as direct effects on the underlying soils, subsoils, hydrogeology and groundwater resources.

### **11.7 NOISE**

During construction works there may be interactions between noise and human beings and population which may impact on residents. These issues are addressed in the aforementioned sections.

### **11.8 LANDSCAPE**

The interactions between human beings and population and landscape will arise first during construction. The character and appearance of unscreened lands in the immediate proximity of the line will be considerably altered. The route selection generally avoided concentrations of rural residences and will have limited effects on the appearance and character of settlement centres and their approaches.

The interactions between landscape and cultural heritage have been described in the relevant sections and are accompanied by photomontage images with respect to architectural heritage.

### **11.9 CULTURAL HERITAGE**

The interactions between human beings and population, landscape and cultural heritage that will arise relate to the changed views.

## **11.10 CUMULATIVE EFFECTS OF INTERACTIONS**

With regard to the potential cumulative effects of the interactions of impacts addressed above, it is unlikely that any of these interactions will result in significant additional impacts that are not already anticipated by each environmental topic (see Sections 3 to 10 of this report).