

## 6 ENVIRONMENTAL IMPACT ASSESSMENT METHODOLOGY

The primary objective of an EIA is to ensure that projects which are likely to have significant effects on the environment are assessed and impacts avoided, where possible. This assessment process aims to achieve the most sustainable and environmentally friendly integration of a development with the local environment.

Firstly, the planning context, the background to the project including the need for the development, the alternatives assessed and the existing and proposed development is described. This sets the reader in context as to the practical and dynamic process undertaken, in order to arrive at the layout and design of the proposed development that will cause least impact on the environment.

Subsequent chapters deal with specific environmental topics for example, human beings, air, water, noise, etc. These appraisals may involve specialist studies and evaluations. The methodology applied during these specific environmental appraisals is a systematic analysis of the proposed development in relation to the existing environment. The broad methodology framework for these assessments is outlined below and is designed to be clear and concise and allow the reader to logically follow the appraisals process through each environmental topic. In some instances, more specific topic related methodologies are outlined in the relevant chapters of the EIS.

The broad methodology framework used in all chapters includes:

- Introduction
- Methodology
- Existing Environment
- Summary of Key Possible Impacts
- Mitigation Measures
- Predicted Impacts after Mitigation
- Monitoring
- Conclusion and Summary
- References

The advantage of using this framework is that it is easy to investigate each environmental topic and it facilitates easy cross-reference to specialist studies undertaken as part of the appraisals.

The following sections outline the methodology used during this assessment process. The methodology has been undertaken in accordance with best practice EIS guidelines:

- *Guidelines on the Information to be contained in Environmental Impact Statements*, (EPA, 2002)
- *Advice notes on Current Practice (in the preparation of Environmental Impact Statements)* (EPA, 2003)

### 6.1 Environmental Appraisal Methodology

#### 6.1.1 Introduction

This section generally introduces the environmental topic to be assessed and the areas to be examined with the appraisal.

#### 6.1.2 Methodology

Specific topic related methodologies are outlined in this section. This will include the methodology used in describing the existing environment and undertaking the impact assessment.

It is important that the methodology is documented so that the reader understands how the assessment was undertaken. This can also be used as a reference if future studies are required.

### 6.1.3 Existing Environment

An accurate description of the existing environment is necessary to predict the likely significant impacts of a new development. Existing baseline environmental monitoring data can also be used as a valuable reference for the assessment of actual impacts from a development once it is in operation.

To describe the existing environment, desktop reviews of existing data sources were undertaken for each specialist area. This literature review relied on published reference reports and datasets to ensure the objectivity of the assessment. Desktop studies are also supplemented by specialised field walkovers or studies in order to confirm the accuracy of the desktop study or to gather more baseline environmental information for incorporation into the EIS.

The existing environment was evaluated to highlight the character of the existing environment that is distinctive and what the significance of this is. The significance of a specific environment can be derived from legislation, national policies, local plans and policies, guidelines or professional judgements. The sensitivity of the environment was also described.

### 6.1.4 Summary of Key Possible Impacts

In this section individual specialists predict how the receiving environment will interact with the proposed development. The full extent of the proposed development's effects and emissions before the proposed mitigation measures are introduced is outlined here. Impacts from both the construction and operation phases of the proposed development are outlined. Interactions and cumulative impacts with other environmental topics are also included in this assessment. The evaluation of the significance of the impact is also undertaken. Where possible, pre-existing standardised criteria for the significance of impacts will be used. Such criteria can include Irish legislation, international standards, EPA guidelines or good practice guidelines. Where appropriate criteria do not exist the assessment methodology section states the criteria used to evaluate the significance.

### 6.1.5 Mitigation Measures

If significant impacts are anticipated mitigation measures are devised to minimise impacts on the environment. Mitigation measures by avoidance, by reduction and by remedy can be outlined.

### 6.1.6 Predicted Impacts after Mitigation

This identifies the likely impact that will occur after the proposed mitigation measures have been put in place. These impacts are described in detail and assessment of their significance undertaken.

### 6.1.7 Monitoring

This section outlines specific monitoring programmes for the individual environmental topic to be undertaken to ensure the effectiveness of mitigation measures put forward in the EIS. Monitoring results can be compared with baseline monitoring undertaken as part of the EIS or with other regulatory standards, planning conditions, Industrial Emission, IPC or waste licence conditions, etc.

### 6.1.8 Conclusion and Summary

An overall summary of the assessment undertaken, specific impacts predicted, mitigation measures outlined and final residual impacts is provided in this section.

## **6.2 EIS Conclusion: Development and its Impacts in Context**

This section provides a summary of the key impacts and mitigation measures associated with the proposed development. It also discusses cumulative impacts and interactions and inter-relationships between environmental topics. This section provides an overall conclusion to the EIS.