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## TABLE

Table 14-1 Impact Interaction and Interrelationships Matrix

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## INTRODUCTION

- 14.1 All of the reasonably predictable significant impacts of the planned quarry restoration scheme at Huntstown South Quarry, specifically the soil waste importation, backfilling and recovery activities and the measures in place to mitigate them, have been outlined in this Environmental Impact Assessment Report (EIAR). However, for any development activity with potential for significant environmental impacts there is also the potential for interaction amongst these impacts. The result of these interactions may either exacerbate the magnitude of the impact or ameliorate it. The interaction of impacts on the surrounding environment is required to be addressed as part of the Environmental Impact Assessment process.
- 14.2 This EIA Report was prepared by SLR Consulting on behalf of Roadstone Ltd as an integrated document, rather than a collection of separate reports. The impacts that arise as a result of interactions between different environmental elements in the course of the planned backfilling and recovery activities have therefore been addressed in the main body of each EIAR Chapter.

### The Interaction of the Foregoing

- 14.3 The interaction between the various environmental elements has been covered within each of the EIAR Chapters 4 through to 13, where relevant. For example, the interaction of geology and groundwater has been addressed in EIAR Chapter 7.
- 14.4 The environmental components which might potentially be impacted by a development of this kind and at this location have been identified through the site assessment as follows:
- Effects on land use and amenity;
  - Impacts on local sensitive receptors;
  - Impacts on natural heritage and wildlife habitats and disturbance to flora and fauna;
  - Impacts on groundwater, surface water bodies, soils and bedrock geology;
  - Nuisance potential and/or public health effects of noise or dust emissions;
  - Impacts on local archaeology;
  - Changes in visual character; and
  - Impacts on material assets such as infrastructure or local utilities.
- 14.5 A matrix method has been used, in which the environmental components addressed in the previous Chapters of this EIAR have been placed on both axes to show interactions. Where interactions arise between two environmental components, the intersection square along a row or column of the matrix in Table 14-1 overleaf is shaded green.
- 14.6 The purpose of the effects matrix is to readily identify potential interactions. As mentioned above, actual interactions and their significance are dealt with in the relevant topic Chapter of the EIAR and therefore only a brief overview of some of the more pertinent interactions are provided in this Chapter.

**Table 14-1  
Impact Interaction and Interrelationships Matrix**

	Population and Human Health	Biodiversity	Land, Soils & Geology	Water	Air Quality	Noise & Vibration	Material Assets	Cultural Heritage	Landscape & Visual
Population and Human Health	Black	White	White	Green	Green	Green	Green	White	Green
Biodiversity	White	Black	Green	Green	Green	Green	White	White	Green
Land, Soils & Geology	White	Green	Black	Green	Green	White	White	Green	Green
Water	Green	Green	Green	Black	White	White	Green	White	White
Air Quality	Green	Green	Green	White	Black	White	White	White	White
Noise & Vibration	Green	Green	White	White	White	Black	White	White	White
Material Assets	Green	White	White	Green	White	White	Black	White	White
Cultural Heritage	White	White	Green	White	White	White	White	Black	White
Landscape & Visual	Green	Green	Green	White	White	White	White	White	Black

## POTENTIAL INTERACTIONS

### Population and Human Health

14.7 According to the relevant guidelines, human health should be considered in the context of the relevant environmental topics addressed by the EIAR. Also, effects on human health should be considered in relation to relevant pathways (such as noise, vibration, air and water) and should be considered in the context of accepted standards for exposure, dose or risk.

- 14.8 This EIA Report indicates that the future backfilling and soil waste recovery activities on the western side of Huntstown South Quarry can proceed with acceptable emission limits for noise and dust emissions, while potential effects on surface water and groundwater can be adequately addressed through established discharge treatment processes and continued implementation of environmental management practices and mitigation measures to prevent importation of contaminated soils and avoid accidental spillages of fuel, etc.
- 14.9 The key matters in relation to amenity are noise, dust, landscape and traffic. This EIA Report has identified a number of mitigation measures to be implemented to ensure that the planned backfilling and recovery activities at the South Quarry can proceed without adversely impacting local amenity. The visual impact assessment concluded that the effect of these activities over the operational life of the South Quarry recovery facility would be negligible.
- 14.10 Potential interactions associated with development activities are discussed in Chapter 7 (Water), Chapter 8 (Air Quality), Chapter 10 (Noise), Chapter 11 (Material Assets) and Chapter 13 (Landscape).

### Biodiversity

- 14.11 The planned waste recovery activities at the South Quarry could potentially impact local habitats and species by way of changes to existing land-use and ground surfaces, the loss of some existing vegetation and habitats, as well as the generation of noise and dust during the operational phase. The habitats within the proposed waste licence extension area are commonly occurring, widespread and resilient. The active quarries and mines habitat will be lost by backfilling to former ground level. When completed, the quarry restoration will result in a net increase in the amount of grassland and hedgerow within the local area.
- 14.12 Potential interactions with local habitats and species associated with development activities are discussed in Chapter 5 (Biodiversity), Chapter 6 (Land, Soil and Geology), Chapter 7 (Water), Chapter 8 (Air Quality), Chapter 10 (Noise) and Chapter 13 (Landscape).

### Land, Soils and Geology

- 14.13 The planned waste recovery activities at the South Quarry have potential implications for biodiversity (loss or degradation of habitat), water quality (contamination and sediment transport), air quality (through dust emissions), geological features of cultural / heritage value (contact exposure) and visual amenity (though use of excavated soils for long-term restoration / land-use).
- 14.14 The potential impact of the proposed activities on land, soil and geology and the potential interactions with other environmental topics are discussed in Chapter 6 (Land Soil and Geology), Chapter 5 (Biodiversity), Chapter 7 (Water), Chapter 8 (Air Quality), Chapter 12 (Cultural Heritage) and Chapter 13 (Landscape).

### Water

- 14.15 The planned waste recovery activities at the South Quarry could have potential implications for surface water and groundwater quality through sediment transport, importation and placement of contaminated soils and spills / leakage of fuels. As such, it could also potentially impact human health, soil and geology (land quality), biodiversity (habitats and species) and material assets (aquifers).
- 14.16 The potential impact of the proposed activities on the water environment and the potential interactions with other receiving environments are discussed in Chapter 7 (Water), Chapter 4 (Population and Human Health), Chapter 5 (Biodiversity), Chapter 6 (Land Soil and Geology) and Chapter 11 (Material Assets).

## Air Quality

- 14.17 The Air Quality Chapter presented in EIAR Chapter 8, indicates that with the implementation of industry standard air quality mitigation measures, residual impacts arising from the planned soil waste recovery activities at the South Quarry will be insignificant or otherwise acceptable. On this basis therefore, interactions in respect of residential amenity, habitats and soil degradation / erosion are also considered to be acceptable.
- 14.18 The impact of the recovery activities on the atmosphere and the potential interactions with other receiving environments are discussed in Chapter 8 (Air Quality), Chapter 4 (Population and Human Health), Chapter 5 (Biodiversity and Chapter 6 (Land, Soils and Geology).

## Noise and Vibration

- 14.19 The Noise and Vibration assessment, presented in EIAR Chapter 10, indicates that with the continued implementation of industry standard noise mitigation measures, the residual impacts from the planned soil waste recovery activities at the South Quarry are negligible or minor. On this basis therefore, interactions in respect of residential amenity and habitats are also considered to be acceptable.
- 14.20 The interaction between noise / vibration and other receiving environments is discussed in Chapter 10 (Noise), Chapter 4 (Population and Human Health) and Chapter 5 (Biodiversity).

## Material Assets

- 14.21 The impact of the proposed development on material assets and its two key interactions in respect of residential amenity and water quality in the existing, locally important groundwater aquifer are addressed in Chapter 11 (Material Assets), Chapter 4 (Population and Human Health) and Chapter 7 (Water).

## Cultural Heritage

- 14.22 The cultural heritage study concluded that the operation of the waste recovery facility at the South Quarry will have no direct impact on any known archaeological, architectural or cultural heritage feature or item, nor will it have any impact on the geological exposure at the Central Quarry.
- 14.23 The impact of the planned soil waste recovery activities at the South Quarry on cultural heritage and the potential interaction with other receiving environments are discussed in Chapter 12 (Cultural Heritage) and Chapter 6 (Land, Soil and Geology).

## Landscape and Visual

- 14.24 Details of the approved long-term restoration scheme at Huntstown South Quarry are presented in Chapter 2 of this EIAR. The backfilling and soil waste recovery activities at the quarry have the potential to impact the existing landscape and visual amenity, with potential implications for human beings, habitats and land / soil quality.
- 14.25 The impact of the planned recovery activities on the landscape and the potential interaction with other receiving environments are discussed in Chapter 13 (Landscape), Chapter 4 (Population and Human Health), Chapter 5 (Biodiversity) and Chapter 6 (Land, Soil and Geology).