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FIGURES

INTRODUCTION

7.1 This chapter of the EIS addresses issues relating to potential climate impacts of an increase in the current rate of waste intake at the licensed inert soil waste recovery facility at the Huntstown quarry complex at North Road, Finglas, Dublin 11.

7.2 In the short to medium term future, the intensification of backfilling and waste recovery activities will be confined to the North Quarry and West Quarry at Huntstown. The location of the facility is shown in Figure 7-1

7.3 The assessment has been undertaken by SLR Consulting Ireland (SLR), to inform the wider Environmental Impact Assessment (EIA) process and production of an Environmental Impact Statement (EIS), to accompany a planning application for an increase in the inert soil and stone waste intake from a maximum of 750,000 tonnes per annum at the present time to 1,500,000 tonnes per annum in future years. This assessment presents data on the prevailing climatic conditions at the application site and assesses the potential impact of the proposed intensification of activity on the local climate.

7.4 The key objectives of this study are to:

- Assess the prevailing climatic conditions around the proposed development area at a local and regional level.
- Determine the impact, if any, of the development on the local micro-climate and regional macro-climate.
- Determine any interaction between other aspects of the proposed development and the climate of the area.

7.5 The data used in preparing this report was supplied by MET Éireann. The closest synoptic weather monitoring station to Huntstown Quarry is located at Dublin Airport (Position: 53°25'40"N; 06°14'27"W) approximately 6 km east of the application site and quarry complex, refer to Figure 7-1 for Site Location and Weather Monitoring Station Locations.

RECEIVING ENVIRONMENT

Regional Context

7.6 Ireland has a typical maritime climate, with relatively mild and moist winters and cool, cloudy summers. The prevailing winds are south-westerly in direction. The climate is influenced by warm maritime air associated with the Gulf Stream which has the effect of moderating the climate, and results in high average annual humidity across the country. The area of least precipitation is along the eastern seaboard of the country, in the rain shadow of the Leinster uplands.

Temperature

7.7 The moderating influence of the Atlantic Ocean is felt throughout Ireland. The annual mean temperature for different areas in Ireland varies between mountainous regions, lowlands and the coast. Mean daily maximum temperatures are typically between 8.1 to 19.5°C and mean daily minimum temperatures are typically between 2.3 to 11.7°C for the area surrounding Dublin Airport

7.8 The east of Ireland, which is sheltered from Atlantic frontal systems, is sunnier than the west. The sunniest months are May and June. The mean daily duration recording of sunshine for the area around Dublin Airport is 3.9 hours. December is the dullest month, with 1.7 hours of mean daily duration. May is the sunniest month, with 6.2 hours of mean daily duration, explained largely by its long days and finer weather.

Table 7- 1
Dublin Airport 1981-2010 Temperature Averages

Temperature (degrees Celsius)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Mean Daily Max	8.1	8.3	10.2	12.1	14.8	17.6	19.5	19.2	17	13.6	10.3	8.3	13.3
Mean Daily Min	2.4	2.3	3.4	4.6	6.9	9.6	11.7	11.5	9.8	7.3	4.5	2.8	6.4
Mean Temperature	5.3	5.3	6.8	8.3	10.9	13.6	15.6	15.3	13.4	10.5	7.4	5.6	9.8

Wind Climate

7.9 Results from the synoptic meteorological station at Dublin Airport, located approx. 6km east of the application site over the period 1990-2010, indicate that the main wind direction is from a west and south-westerly direction, with an annual incidence of 48% for winds between 200° and 280° (refer to Figure 7-2). The lowest frequency is for winds blowing from the North and northeast direction.

7.10 A windrose for the wind data recorded at Dublin Airport station is presented in Figure 7-2 for the period 1990-2000 inclusive.

Precipitation (Rainfall)

7.11 During the period 1981-2010, long-term monthly rates of precipitation were between 48.8mm and 79mm at the Dublin Airport station, with winter months receiving the heaviest amounts. The weather station at Dublin Airport is located approximately 6 km east of Huntstown Quarry, and for the purpose of this chapter, is considered to have a rainfall pattern similar to that which occurs at the application site. The mean of the Met Eireann records indicate that average annual rainfall around the application site is approximately 758mm / year (refer to Table 7-2). The averaged rainfall data indicates that the greatest daily total (73.9mm) falls in the month of June, refer to Table 7-2.

Table 7- 2
Average Precipitation Dublin Airport (mm) 1981-2010

Rainfall (mm)													
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Year**
Mean Monthly Total	62.6	48.8	52.7	54.1	59.5	66.7	56.2	73.3	59.5	79	72.9	72.7	758
Greatest Daily Total	27.1	28.1	35.8	30.4	42.1	73.9	39.2	72.2	40.6	53.2	62.8	42.4	73.9

IMPACT ASSESSMENT

Direct / Indirect Impacts

7.12 The intensification of waste intake at the existing backfill and recovery facility at the Huntstown quarry complex will not be of sufficient size or scale to have any direct or indirect impacts on existing regional or local climatic conditions. Conversely, the proposed development will not be affected to any significant degree by the prevailing weather conditions of the area.

7.13 Notwithstanding this, the intensification of soil and stone waste recovery activities at the existing Huntstown facility is generally consistent with the principles of sustainable development in that:

- it is located close to construction markets, originating sites and/or relevant waste sources in Dublin City and the Greater Dublin Area, thereby minimising fuel consumption and carbon emissions by haulage lorries;
- by virtue of being co-located within an existing extractive site and maximising use of available resources and existing site infrastructure, it also minimises consumption of natural resources;
- it maximises operational efficiencies and in particular offers opportunities to reduce the overall number of transport journeys to and from construction sites through the introduction of a backloading system (whereby HGVs delivering aggregates from the adjoining quarry will return with inert soil waste from the destination site or another construction site en route) and
- it minimises the potential development footprint.

Interaction with Other Impacts

7.14 The effect of climatic conditions (e.g. rainfall, wind etc.) on other impacts of the development (e.g. dust deposition, surface water etc.), are dealt with in the relevant chapters of this EIS, in Chapter 6 Hydrology and Hydrogeology and Chapter 8, Air Quality.

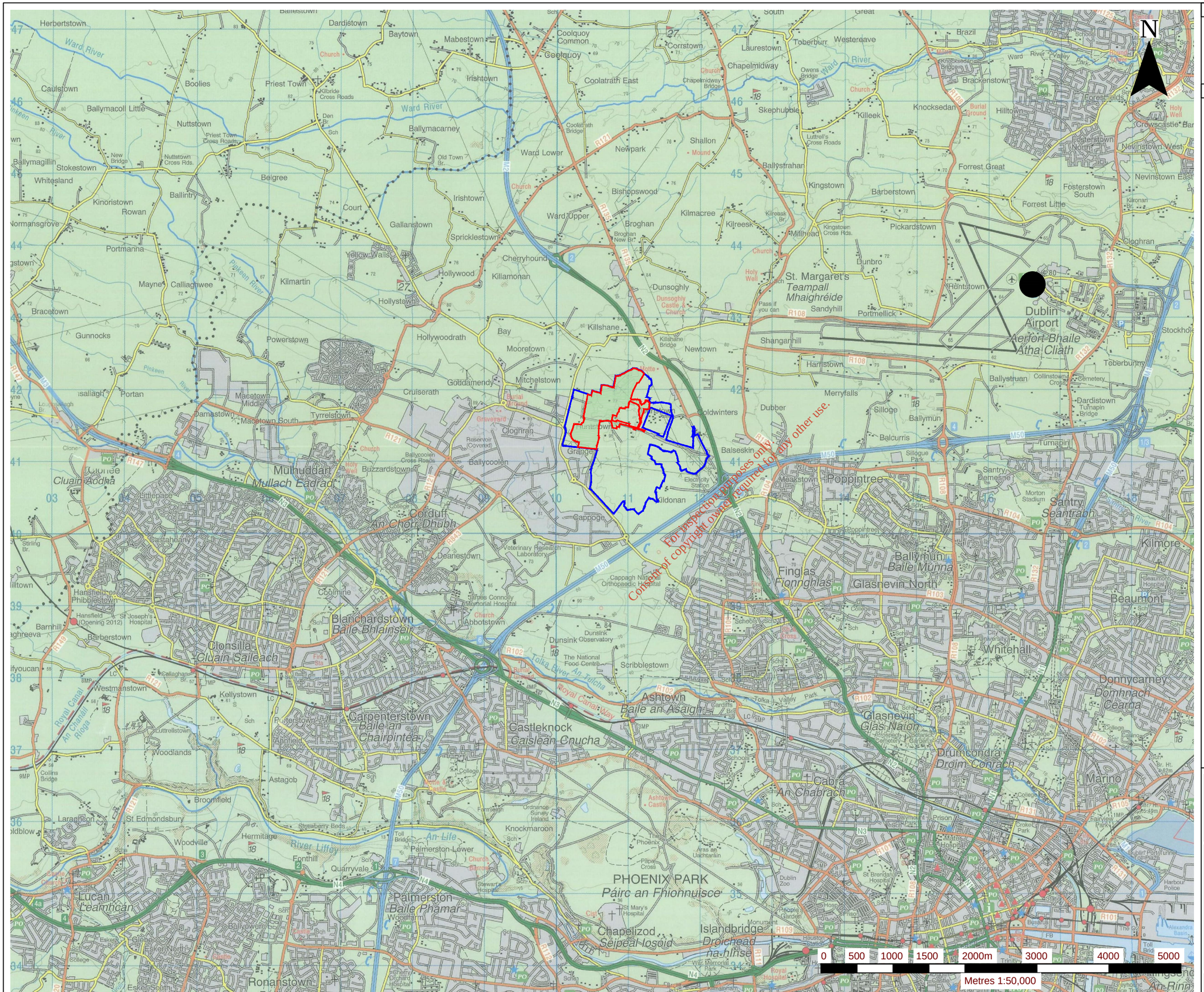
MITIGATION MEASURES

7.15 There is no requirement to carry out mitigation measures or monitoring within, or in the vicinity of the development, in relation to climate.

FIGURES

Figure 7-1
Meteorological Station Location

Figure 7-2
Dublin Airport Met Station 1990-2000



NOTES

1. EXTRACT FROM 1:50,000 O.S DISCOVERY MAP **NO. 50**

2. ORDNANCE SURVEY IRELAND LICENCE NO. **SU 0000716 (C)** ORDNANCE SURVEY & GOVERNMENT OF IRELAND

LEGEND

ROADSTONE LIMITED LAND INTEREST **(c. 200.3 ha)**

APPLICATION AREA **(c. 48.65 ha)**

DUBLIN AIRPORT WEATHER MONITORING LOCATION

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ROADSTONE LIMITED
ENVIRONMENTAL IMPACT STATEMENT

HUNTSTOWN WASTE RECOVERY FACILITY
NORTH ROAD, FINGLAS, DUBLIN 11

METEOROLOGICAL WEATHER STATION

FIGURE 7-1

Scale	Date
1:50,000 @ A3	AUGUST 2016

0180.00152.0.FIG_7-1.Meteorological Weather Station.dwg

FIGURE 7-2
Dublin Airport Met Station 1990-2000