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INTRODUCTION

Background

- 4.1 This Chapter of the Environmental Impact Assessment (EIA) Report addresses the potential impacts on population and human health of the proposed soil and stone waste recovery activities on the western side of Huntstown South Quarry. These activities will facilitate backfilling of the quarry to surrounding ground level and the ultimate restoration of the quarry to grassland.
- 4.2 The existing parent permission for the Huntstown Quarry Complex (Planning Ref. FW12A/0022 and An Bord Pleanála Ref. No. 06F.241693) was granted in August 2014 and provides for continuation of quarrying activity for 20 years up to 2034. That permission also includes provision for the restoration of all quarry voids within the Huntstown Quarry complex, including the South Quarry, by backfilling to former (original) ground level by placement and recovery of naturally occurring soil and stone waste generated by construction and development activity across the Greater Dublin Area.
- 4.3 In order to facilitate the transfer and re-location of soil waste recovery activities from the North Quarry (where they are currently ongoing) to the South Quarry, a waste licence review application is to be submitted to the EPA to provide for the following:
 - importation of soil and stone waste to the western side of Huntstown South Quarry at a maximum rate of 750,000 tonnes per annum (as permitted by Planning Ref. FW12A/0012);
 - extension of the licensed site boundary to incorporate the proposed waste recovery area on the western side of the South Quarry and the haul roads leading to / from it
 - an increase in the total permitted (lifetime) soil and stone waste intake to the (extended) waste facility to 18.76 million tonnes
 - continued use of pre-existing site in frastructure to support recovery activities; and
 - re-routing of traffic flows via existing internal haul roads (i.e. within the quarry complex) to access the backfilling / recovery area at the South Quarry.
- No new infrastructure is required to facilitate transfer and re-location of established soil waste 4.4 recovery operations from Huntstown North Quarry across to the western side of the South Quarry or the extension of the waste licence boundary to include this area.
- It is currently envisaged that backfilling of the South Quarry will commence in early 2023, at which 4.5 time it is expected that the ongoing backfilling of the North Quarry to surrounding ground level will be largely complete and the importation, backfilling and recovery of soil and stone waste at that location will cease.
- 4.6 Further details on the proposed development (site infrastructure, operations, environmental management systems, and controls, etc.) are provided in Chapter 2 of this EIAR.

Scope of Work / EIA Scoping

- 4.7 The draft EPA guidelines in relation to the preparation of EIARs¹ note the following in respect of population and human health:
 - an assessment of land-use planning, and demographic issues or detailed socio-economic analysis is not generally required;

¹ Environmental Protection Agency (2017). Guidelines on the Information to be contained in Environmental Impact Assessment Reports. Draft dated August 2017. Environmental Protection Agency, Johnstown Castle Estate, Co. Wexford



- economic development or settlement patterns are only relevant if they give rise to new development and associated effects;
- human health should be considered in the context of the relevant environmental topics addressed by the EIAR;
- the effects on human health via relevant pathways (such as air, soil and water) should be considered in the context of accepted standards for exposure, dose or risk; and
- other health and safety issues are addressed under other EU directives.
- 4.8 On the basis of the guidelines, the scope of this Chapter of the EIAR is limited to a consideration of population, employment, human health and amenity in the context of the specialist environmental topics addressed by this EIAR.

Consultations / Consultees

4.9 Following a review of the proposed activities, existing consents and site mapping / surveys, it was considered that there was no requirement for formal external consultations to be carried out in respect of human health and population for the purposes of this assessment. There was however significant consultation with other specialist contributors.

Contributors / Author(s)

4.10 This Chapter of the EIAR was prepared by Aislinn O'Brien, a Frincipal Planner with SLR Consulting Ireland. Aislinn is a qualified Town Planner with over 12 years' experience. She holds a Bachelor of Arts in Economics and Spanish and a Master of Civic Design from the University of Liverpool. She is a member of the Irish Planning Institute and the Royal Town Planning Institute.

Limitations / Difficulties Encountered

4.11 No limitation or difficulties were encountered in the preparation of this Chapter of the EIAR.

REGULATORY BACKGROUND

Legislation

- 4.12 There is no specific legislation relevant to this Chapter of the EIAR. However, the information provided within this Chapter is informed by:
 - Section 261 and Section 261A of the Planning and Development Act, 2000 (as amended);
 - The Department of the Environment, Heritage and Local Government Quarries and Ancillary Activities Guidelines 2004; and
 - The EPA Guidelines for Environmental Management in the Extractive Industry 2006.

Planning Policy and Development Control

European and National Policy

- 4.13 Restoration of quarry voids through backfilling with imported, naturally occurring soil and stone waste is a designated waste recovery activity under national and European waste management legislation. The activity is technically classed as 'recovery through deposition on land' and in a waste management context, unlined quarry backfill locations are typically identified as 'soil recovery facilities'.
- 4.14 The proposed activities at the South Quarry support a move towards achieving a circular economy which is essential to making better use of resources and helping society become more resource



- efficient. Through soil recovery, there will be better use of available soil resources to deliver economic and environmental benefits. This is consistent with the move to a circular economy which is essential to deliver the resource efficiency ambition of the Europe 2020 Strategy².
- 4.15 The national waste management policy 'A Resource Opportunity' was published by the Department of the Environment, Community and Local Government in July 2012. One of the guiding principles of the policy (after the prevention and minimisation of waste) was to ensure that maximum value is extracted from generated wastes and that disposal is used only as a last resort. The policy approach adopted in the plan reflected the waste hierarchy set out in the Waste Framework Directive. The 2012 policy document does not however identify any specific measures in relation to management of soil and stone waste.
- 4.16 The recently updated national waste plan published in September 2020, 'A Waste Action Plan for a Circular Economy' references (in Chapter 11) the major construction projects envisaged under Project Ireland 2040, and the huge potential they provide in terms of preventing and recycling of construction and demolition waste and the challenge in ensuring there is capacity to manage the waste generated. The policy document specifically states that

'it is vital that there is sufficient capacity for the recovery and/or disposal of the envisaged increased construction and demolition waste'.

Fingal County Development Plan 2017-2023

- 4.17 The Fingal County Development Plan (CDP) 2017-2023 identifies the following objectives in relation to waste and the recovery of waste:
 - Objective WM02: Facilitate the implementation of national legislation and national and regional waste management policy having regard to the waste hierarchy.
 - Objective WM03: Implement the provisions of the Eastern Midlands Region Waste Management Plan 2015 -2021 or any subsequent Waste Management Plan applicable within the lifetime of the Development Plan. All prospective developments in the County will be expected to take account of the provisions of the Regional Waste Management Plan and adhere to the requirements of that Plan.
 - Objective WM04: Facilitate the transition from a waste management economy to a green circular economy to enhance employment and increase the value recovery and recirculation of resources.
 - Objective WM14: Promote the recovery (including recovery of energy) from waste in accordance with the Eastern Midlands Region Waste Management Plan 2015 -2021 (or any subsequent plan).
- 4.18 The proposed development and associated waste licence review application provides for transfer and re-location of established soil waste recovery activities from Huntstown North Quarry so as to facilitate previously approved restoration / backfilling works on the western side of Huntstown South Quarry. The development provides further support for policies relating to waste recovery and the circular economy and is broadly consistent with the CDP Objectives WM02, WM03, WM04 and WM14 outlined above. It is also consistent with national legislation and the national / regional waste management policy outlined in the Eastern Midlands Region Waste Management Plan 2015 -2021.

Extractive Industries

4.19 As previously noted, the current quarry planning permission for the Huntstown Quarry Complex provides for the restoration of Huntstown South Quarry by backfilling to former ground level. The



² Circular Economy Action Plan, European Commission, March 2020, Brussels

permission is aligned with the Council's stated position in respect of restoration of extractive sites set out in Chapter 5 of the Fingal CDP 2017-2023, reproduced below:

'It is recognised that in certain instances quarries can also be beneficial to the environment, particularly at the decommissioning phase when opportunities for habitat creation and alternative uses can arise (See Chapter 12 Development Management Standards in relation to Quarry development)'.

Development Management Policies relating to the Extractive Industry

- 4.20 Section 12.13 of the current Fingal CDP 2017-2023 includes Objective DMS176 which states that proposals for extractive development shall have regard to the following:
 - Section 261 and Section 261A of the Planning and Development Act, 2000 (as amended);
 - The Department of the Environment, Heritage and Local Government Quarries and Ancillary Activities Guidelines 2004; and.
 - The EPA Guidelines for Environmental Management in the Extractive Industry 2006.
- 4.21 The Fingal CDP indicates that where extractive developments may impact on archaeological or architectural heritage, regard must also be had to the DoEHLG Architectural Conservation Guidelines 2004 and the Archaeological Code of Practice 2002 in the assessment of planning applications.
- 4.22 Where extractive development may significantly affect the environment or a European site or sites, regard shall be had to EIA guidelines and Appropriate Assessment of Plans and Projects, Guidance for Planning Authorities (DEHLG, 2009) and the requirements of this Development Plan. The CDP also states that reference should also be made to the Geological Heritage Guidelines for the Extractive Industry 2008 and that a detailed landscape and visual assessment should also be submitted.
- 4.23 Furthermore, the CDP states that a scheme of enabilitation and aftercare for the extractive site upon abandonment / exhaustion of resource must also be submitted for approval. Details to be submitted should include a report with plans and section drawings, detailing the following:
 - Anticipated finished landformand surface / landscape treatments (phased and final);
 - Quality and condition of topsoil and overburden;
 - Rehabilitation works proposed;
 - Type and location of any vegetation proposed; and
 - Proposed method of funding and delivery of restoration / reinstatement works etc.
- 4.24 The provisions outlined above in respect of extractive related development, including the planned future restoration / backfilling works at each of the Huntstown quarries, were previously addressed by the planning application submitted to Fingal County Council in 2012. That planning application was subsequently approved by the Council (and An Bord Pleanála on appeal) for a 20-year period extending out to 2034.

Guidelines

- 4.25 This Chapter of the EIAR has been prepared on the basis of:
 - Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning and Local Government, August 2018);
 - Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2017);
 - Draft Advice Notes for Preparing Environmental Impact Statements (EPA, September 2015);



- Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (EPA 2003); and
- Guidelines on the Information to be contained in Environmental Impact Statements (EPA 2002).

Technical Standards

- 4.26 There are no technical standards relevant to this Chapter of the EIAR. Technical standards, if any, that are relevant to each pathway (noise, air, soil, water, etc) are addressed elsewhere in this EIAR.
- 4.27 This Chapter of the EIAR was prepared utilising Census data of 2011 and 2016, for electoral divisions that both encompass the (extended) waste licence review area, and areas immediately adjacent. All calculations and data are taken from this Central Statistics Office (CSO) data.

Significant Risks

- 4.28 The proposed development and associated waste licence review provides for the restoration of a limestone quarry by backfilling with imported, naturally occurring excess soil and stone waste arising from construction and development projects.
- 4.29 The nature and extent of the works involved do not present any risk of a major accident or disaster which would give rise to uncontrolled emissions of dangerous substances to air, land or water which could, in turn, give rise to significant adverse impacts on the population, human health or amenity in the surrounding local area.

RECEIVING ENVIRONMENT

Baseline Study Methodology

- 4.30 The baseline study with regard to population and human health comprises a desk-top review of online and published resources, a review of census information (2011 and 2016) for the Ward Electoral Division (ED) and Fingal County and a review of Live Register Statistics and other local information sources.
- 4.31 A review of existing residential housing and sensitive receptors in the vicinity of the extended waste licence site area was undertaken as part of this study. Ordnance Survey maps and aerial photography were also examined.

Sources of Information

- 4.32 Baseline information was obtained from the following sources:
 - Myplan.ie (<u>http://myplan.ie/index.html</u>);
 - Historic Environment Viewer (http://webgis.archaeology.ie/historicenvironment/);
 - Fingal County Development Plan 2017-2023;
 - The environmental topic chapters of this EIAR;
 - OSi Maps;
 - Aerial Photographs;
 - openstreetmap.org;
 - Live Register Statistics; and
 - CSO Small Area Population (SAP) Map data



Site Context

- 4.33 The site to which this waste licence review application relates is located entirely within the townlands of Coldwinters, Kilshane, Huntstown, Johnstown, Cappogue and Grange, Co. Dublin, approximately 2.5km north-west of the Dublin suburb of Finglas and 1km west of the interchange between the N2 Dual Carriageway and the M50 Motorway.
- 4.34 The area to be added to the existing waste licence area extends to approximately 22.5 hectares and comprises:
 - the western side of a deep limestone quarry (the South Quarry) including settlement ponds, perimeter screening and overburden mounds; and
 - an existing network of internal access roads leading from the existing on-site weighbridges to the proposed waste recovery area on the western side of the South Quarry.
- 4.35 At the present time, the existing floor level in the South Quarry varies across a number of benches which are currently being worked, from approximately 5mOD on the western side to -10mOD on the eastern side. The corresponding depth of the quarry from the original (surrounding) ground level varies from 75m to 80m around the western side and from 85m to 90m around the eastern side.
- 4.36 Rock extraction on the eastern side of the quarry is almost complete and close to the final excavation level which extends only very locally down to -18mOD in this area of the quarry, in line with the 2014 grant of planning permission. The bulk of the remaining extractable rock reserves at the quarry are located on the western side of the quarry and in this area two, the final floor level will be -18mOD. It is envisaged that the remaining limestone reserves at the South Quarry will be excavated over the next 2-2½ years and be complete early in 2024.

Study Area

4.37 For the purposes of this Chapter on requilation and Human Health, the study area principally comprises the Ward ED in Fingal, the residences / dwellings located therein and along the local road network surrounding the Huntstown Quarry Complex.

Sensitive Receptors

- 4.38 Approximately 27 existing residential properties are located within reasonable proximity of the South Quarry. There are 10 properties along the R135 Regional Road (also known as the North Road), the closest of which is located approximately 100m from the existing quarry access / entrance. The remainder are located approximately 650m or more from the main operational area of the South Quarry.
- 4.39 An individual residential dwelling and a housing estate (comprising 10 properties) are located along Cappagh Road to the south west and south of the extended waste licence area, at a distance of approximately 40m and 300m respectively. There is also a farm dwelling located approximately 650m east of the recovery area at the South Quarry (approximately 150m from the eastern quarry face).
- 4.40 There are a number of established businesses located in Millenium Business Park, Huntstown Business Park and Stadium Business Park, located immediately to the west and south west of Huntstown South Quarry. As many of the established businesses within the business parks are classified as general employment, in line with the land zoning, it is considered that they are likely to be less sensitive to future backfilling and recovery activities at the South Quarry. Residential property locations and surrounding land use are shown on a plan of the local area in Figure 4-1.



Environmental and Heritage Designations

- 4.41 The Fingal CDP indicates that the townlands around the South Quarry all lie within the designated low-lying agricultural landscape character area. There are no protected views or prospects into or out of the proposed waste licence extension area identified in the Plan, nor are there any designated or proposed Special Areas of Conservation (SACs), Special Protection Areas (SPAs) or proposed Natural Heritage Areas (NHA's) within or contiguous to Roadstone landholding.
- 4.42 The Huntstown Quarry complex has been designated as a County Geological Site (CGS), under Irish Geological Heritage (IGH) Theme No. 8, Lower Carboniferous (see Figure 6-5). The feature of interest is the contact between the Tober Colleen formation and the underlying Feltrim (Waulsortian) Limestone formation.
- 4.43 The contact is not exposed in the South Quarry, but rather adjacent to the access road leading to the Central Quarry area (which is within the existing licenced site area). Further details in respect of the geological heritage site identified and discussed above is presented in the GSI Geological Heritage Site Report reproduced in Appendix 6-B of this EIAR.
- 4.44 Records held by the National Monuments Service of the Department of Environment, Heritage and Local Government indicate that there are no national monuments within the proposed waste licence extension area but that there are several monuments in the immediate vicinity of Roadstone's landholding. At the extreme northern end of the landholding, the ruins of Kilshane Church, a graveyard and holy well (Ref. DU014-012) are identified as part of an extended archaeological site. These features are also included in the list of protected structures in the current Fingal CDP. There are no visible remains of these monuments remaining in situ.
- 4.45 Immediately east of Roadstone's landholding, the National Monuments Record (NMR) indicates that there is a ring ditch (Ref DU014-015) and enclosure (Ref. DU014-016) located in Coldwinters townland, on the opposite side of the R135 Regional Road. These features are also included in the list of protected structures in the current Fingal CDP. A castle, motte (earthen mound) and bailey (courtyard) (Ref. DU014-013) are located north-east of the landholding in Newtown townland, while a fulacht fia (Ref. DU014-050), a Bronze Age cooking site, is located to the west in Grange townland.

Population

- 4.46 The waste licence extension area comprises existing quarry voids and haul roads within the Huntstown Quarry Complex in the townlands of Grange, Cappogue and Huntstown. It lies in The Ward ED, which had a population of 8,241 people at the time of the 2011 Census and a population of 9,602 at the time of the 2016 Census. Demographic trends in the area generally mirror those in Fingal and North County Dublin. Details of past and predicted demographic trends are provided in Table 4-1 overleaf.
- 4.47 Demographic trends over the period 2011 and 2016 (as shown in Table 4-1 above) indicate that, over this period, there has been a marked increase in the population of The Ward, with a more moderate increase in the population of Fingal.



Table 4-1 Population Trends

Area	2002	2006	2011	2016	% Change 2006 - 2011	% Change 2011 - 2016
The Ward ED	1,308	5,181	8,241	9,602	59.1%	16.5%
Fingal County Council	196,413	239,992	273,991	296,214	14.2%	8.1%
Dublin Region	1,122,821	1,187,176	1,273,069	1,345,402	7.2%	5.7%

Source: Census of Population 2002, 2006, 2011, 2016 C.S.O.

4.48 Current population projections estimate that the population of Fingal will rise to approximately 313,000 by 2022. The projected population figure for 2022 would equate to a 30.4% increase on official population figures contained in the 2006 census, a c.14.2% increase on the population in the 2011 census and a c.5.6% increase on the population in the 2016 census. In conjunction with this local and regional trend in population growth, there will be an associated increase in demand for housing and community facilities within the Greater Dublin area.

Employment

- According to the August 2021 Live Register statistics, there were 44,780 persons in County Dublin on 4.49 the live register. This figure had decreased from 51,541 in August 2020. The unemployment rate for the State was 6.4% in August 2021 which is a decrease from 7.1% 12 months previously. The fall in unemployment is principally a reflection of increased levels of economic activity which followed the lifting of many of the Covid related restrictions which previously applied during 2020.
- A breakdown of the industries in which those at work are employed is provided below in Table 4-2. 4.50 Employment by Industry in The Ward and Fingal follows a broadly regional pattern, with the highest participation in the commerce and trade and professional services sectors. A higher proportion of employees are engaged in the manufacturing and transport and communications sectors in The Ward and Fingal than in the wider Dublin Region.

Table 4-2 Employment by Industry

Industry		The Ward ³		Fingal ⁴		Dublin Region⁵	
	Year	No.	%	No.	%	No.	%
Agriculture, Forestry, Fishing	2011	26	0.07%	993	1.2%	2,003	0.37%
	2016	14	0.03%	1,193	0.8%	1,733	0.3%
Building and Construction	2011	151	4.9%	2,194	2.65%	18,544	4.5%
	2016	186	4.2%	5,866	4.3%	21,383	3.7%

³ http://www.cso.ie/en/census/census2011smallareapopulationstatisticssaps/



⁴ http://census.cso.ie/areaprofiles/areaprofile.aspx?Geog_Type=CTY&Geog_Code=04

⁵ http://www.cso.ie/en/census/census2011smallareapopulationstatisticssaps/

Indicator		The Ward ³		Fingal ⁴		Dublin Region ⁵	
Industry	Year	No.	%	No.	%	No.	%
Manufacturing Industries	2011	386	10.2%	8,936	10.8%	39,522	7.12%
	2016	377	8.5%	9,270	6.9%	38,143	6.6%
Commerce and Trade	2011	1,056	27.9%	22,776	27.5%	164,565	30.4%
	2016	1,065	24.1	36,935	27.5	164,709	28.5%
Transport and Communications	2011	604	15.9%	16,670	20.1%	64,802	11.9%
	2016	630	14.2%	18,998	14.1%	7,224	12.5%
Public Administration	2011	184	4.86%	4,120	4.97%	35,343	6.5%
	2016	181	4.9%	7,821	5.83%	31,208	5.4%
Professional Services	2011	781	20.65%	18,467	22.3%	130,320	24.1%
	2016	900	20.3%	30,428	22.7%	134,079	23.2%
Others	2011	593	15.0%	8,582	10.37%	85,630	15.8%
	2016	1,065	24.1%	23,460	17.5%	113,851	19.7%
Total	2011	3,78200	on 1274 12 16 on 12 on 1	82,738	-	540,729	-
	2016	4,448	-	133,971	-	577,928	-

Source: Census of Population 2011, 2016 C.S.O.

4.51 The main employment locations in the area surrounding the Huntstown Quarry Complex are the business and technology campus facilities of Northwest Business Park, Ballycoolin Business Park, Millennium Business Park, Stadium Business Park, Rosemont Business Park and Blanchardstown Corporate Park. All of these employment centres are located within a large area zoned for general employment uses which lies immediately to the west and south-west of the application site, between it and Blanchardstown / N3 Dual Carriageway.

Economic Activities

- 4.52 There are two principal economic activities in the Huntstown townland and Ward ED areas, namely
 - agriculture; and
 - industry

Agriculture

4.53 Many of the lands located immediately around the Huntstown Quarry Complex are currently used for agricultural activity and enterprise, typically tillage and grazing. Most of the land surrounding the Roadstone landholding, however, has been zoned for industrial development, and this is gradually displacing agricultural activity in the area. The one exception to this is for lands to the north-east, on the eastern side of the N2 Dual Carriageway, which remain zoned as greenbelt in order to demarcate the northern urban limit of Dublin City.



Industry

- 4.54 There has been active extraction of limestone at the Huntstown Quarry complex dating back to the late 1960s. It is a long-established activity and has provided employment in the area continually since its commencement right up to the present day. Quarrying, concrete batching and block-making are the main activities carried out at the site. Aggregate and concrete products from the quarry are dispatched across North County Dublin and into Counties Meath and Louth.
- 4.55 There is one former quarry in the surrounding area, located in the townland of Bay approximately 1.5 kilometres north-west of Huntstown. Extraction has ceased at this quarry and it is not currently in operation.
- 4.56 In 2002, Viridian successfully commissioned a high efficiency 340 MW Combined Cycle Gas Turbine (CCGT) power plant within the Huntstown Quarry complex. This plant shares an access road with traffic to the quarry and the existing licensed waste recovery facility at Huntstown North Quarry. In October 2007, Viridian commissioned a second CCGT power plant of 400 MW capacity on the same site. Following a re-branding exercise, these facilities are now operated by Energia.
- 4.57 Energia also recently commenced operation of a Renewable Bioenergy Plant also within the Huntstown Quarry Complex. This plant uses Anaerobic Digestion (AD) technology to generate up to 4.8MW of electricity from 99,900 tonnes of non-hazardous biodegradable waste intake per annum. The facility is located on a 2.4-hectare site to the south of the aforementioned Energia power plant(s) and likewise shares the access road leading to/from the R135 Regional Road.
- 4.58 One of the main employment hubs of north-west Dublin lies west and south of the Huntstown Quarry Complex. This area includes the business and technology campus facilities of Northwest Business Park, Ballycoolin Business Park, Millennium Business Park, Stadium Business Park, Rosemount Business Park and Blanchardstown Corporate Park among others. Several large distribution warehouses and multinational companies are located within these business parks.
- 4.59 There are also a number of small local exterprises and other organizations located in the immediate vicinity of the quarry complex, including a garden centre, a car sales business, a dog re-homing centre and a veterinary surgery, all of which are located along the R135 Regional Road / North Road. Most of the business parks and local enterprise locations referenced above are identified in Figure 4.1.
- 4.60 Fingal County Council had previously planned to develop a waste recycling park at Kilshane Cross to the north-east of the quarry complex, and although some site infrastructure was put in place, the development ultimately did not proceed as intended. It is understood that this site will be developed as a Regional Biosolids Waste Storage Facility for Irish Water at some point in the future to assist it in the management of sludges arising from its wastewater treatment plants.

Human / Social Infrastructure

- 4.61 As previously noted, the Huntstown area is predominantly rural in nature. It has no churches, schools or service industries and there are a limited number of retail outlets.
- 4.62 There are a wide variety of recreational, social, community and sport facilities within 4km of the site in the Blanchardstown and Finglas areas, which are available to local residents in the Huntstown townlands. These include golf courses at Elm Green, Hollystown and Sillogue, the national aquatic centre at Abbotstown and a range of football pitches, gyms and tennis courts located at both Blanchardstown and Finglas. There are also community and resource centres located at Blakestown in Blanchardstown and the Fingal Centre in Finglas.



IMPACT ASSESSMENT

Evaluation Methodology

- 4.63 The evaluation of effects on employment, human health and amenity comprises a qualitative assessment based on both quantitative and qualitative analysis of potential effects on the environment undertaken in other Chapters of this EIAR. The assessment also takes into account a review of relevant literature and professional judgement in relation to impact on population and human health.
- 4.64 It is currently envisaged that backfilling of the South Quarry will commence in early 2023, at which time it is expected that the ongoing backfilling of the North Quarry to surrounding ground level will be largely complete and the importation, backfilling and recovery of soil and stone waste will have ceased at that location.
- 4.65 The duration of the proposed backfilling and recovery activities at the South Quarry is ultimately dependent on the rate of backfilling but at maximum intake rates, it would be expected to continue for the remaining duration of the parent quarry permission and for short duration thereafter (out to mid-2035).
- 4.66 The location and intensity of associated environmental impacts at receptors will vary slightly as the active backfilling area moves across the proposed licence extension area over time. The proposed rate of restoration / backfilling and the time period over which these activities proceed, means that the duration of localised effects will likely be temporary and time limited.
- 4.67 The ongoing restoration works at the North Quarty provide for the importation, backfilling and recovery of up to 1,500,000 tonnes / annum of excess soil and stones generated by construction projects across North County Dublin and Counties Meath and Louth. The rate of importation, backfilling and recovery at the South Quarty will be half this, at 750,000 tonnes per annum, in line with the current extractive planning permission.
- 4.68 Some aggregate produced on-site at Huntstown is also used on occasion to construct temporary internal haul roads across backfilled materials as and when required. At the South Quarry, excess / excavated rock will also be used to construct the separation berm between the soil waste recovery area and the by-product infill area.
- 4.70 In all other respects, the restoration / backfilling activities at the South Quarry will essentially follow -on from, and mirror, those undertaken (and still ongoing) at the North Quarry.
- 4.71 Ultimately, all of the effects of a development on the environment impinge upon human beings. Direct effects relate to matters such as water and air quality, noise, and changes to landscape character. Indirect effects relate to such matters as flora and fauna.
- 4.72 The impact of the proposed backfilling at the South Quarry on human beings and socio-economic factors is addressed in the following sub-sections by means of an appraisal of the effects of the proposed activities on the environment in general, of which human beings are an integral part. The transfer and re-location of soil recovery activities to the South Quarry has the potential to generate a number of direct and indirect effects on the relevant socio-economic baseline characteristics of the surrounding area.



Employment

Operational Stage Impacts

- 4.73 Some proven / permitted limestone reserves have yet to be extracted at the South Quarry. At the current time (October 2021), it is expected that extraction activities at the quarry will be substantially complete within 2 to 2½ years, around mid-2024. Quarry backfilling and recovery activities are expected to be complete at the North Quarry by the end of 2022 and are scheduled to transfer across to the South Quarry in early 2023.
- 4.74 Backfilling activities on the western side of the South Quarry will likely commence while some remaining rock reserves remain to be extracted at the deeper benches in the north-western corner.
- 4.75 The backfilling and recovery activities will entail importation and placement of soil and stone on the south-western side of Huntstown South Quarry. In addition to imported materials, some soil and stone in existing screening berms and/or stockpiles across the quarry complex site will also be used, principally in the later stages of quarry restoration.
- 4.76 The proposed backfilling / recovery activities at the South Quarry will progress in stages. Final formation levels on completion of backfilling and recovery operations will vary from approximately 79mOD to 81mOD around the western side of the quarry (and from approximately 75mOD to 78mOD on the eastern side).
- 4.77 Transfer and re-location of backfilling and recovery operations on the western side of the South Quarry will sustain existing employment of at least five full time personnel based at the existing licensed recovery facility at Huntstown.
- 4.78 These will comprise the site (facility) manager and two assistants required to oversee and manage site operations, with specific responsibility for (i) checking that the soil and stone being brought to the facility has been pre-cleared and meets site acceptance criteria and (ii) collating and maintaining all records of waste intake. Two further individuals are required to (i) operate site plant and equipment such as a bulldozer or a mechanical excavator on a full-time basis as required and (ii) visually inspect and monitor the suitability of the soil and stone being imported and accepted at the facility.
- 4.79 The development will also indirectly support and sustain employment for hauliers servicing the construction and development industry, as well as providing occasional employment for subcontractors, maintenance contractors and environmental monitoring personnel and advisors as required.
- 4.80 In addition, the proposed development will contribute indirectly, supporting and sustaining both the local and regional economy through the provision of much needed waste recovery capacity for excess soil and stone generated by construction activities.
- 4.81 The employment impacts associated with the operational phase of the proposed development are therefore considered to have a medium-term, temporary, direct and positive effect which will not have a significant effect on the environment.

Post – Operational Stage Impacts

4.82 The final restoration works at the South Quarry will comprise placement of subsoil and topsoil cover, seeding with grass to promote stability and minimise soil erosion / dust generation and planting of hedgerows across the restored area to re-establish some former field boundaries which pre-dated quarry development. Site infrastructure will also be decommissioned and plant / materials / waste will be removed off-site. On completion, the backfilled quarry will be returned to agricultural grassland, in keeping with some of the surrounding landscape / land-use.



- 4.83 Establishment maintenance will be carried out for a period of up to a year following seeding and hedgerow establishment works with a number of seasonal maintenance visits (i.e. spring, summer and autumn). Environmental monitoring will also continue for a period or at least one year. This will provide some intermittent, short-term indirect employment for contractors over the post-operational stage.
- 4.84 The employment impacts associated with the post-operational phase of the proposed development are therefore considered to have a short-term, direct and indirect and minor positive effect which will not have a significant impact on the environment.

Human Health

- 4.85 Ultimately, all of the effects of a development on the environment impinge upon human beings. Direct effects relate to matters such as water and air quality, noise, and changes to landscape character. Indirect effects relate to such matters as flora and fauna.
- 4.86 The impact of the future backfilling and recovery activities on the western side of Huntstown South Quarry on human health is addressed in this sub-section by means of an appraisal of their effects on the environment in general, of which human beings are an integral part.

Operational Stage Impacts

- 4.87 Following some initial site works, the operational stage of the development will principally entail the importation, unloading and placement of soil and stone and associated environmental management activities.
- 4.88 During these stages, the potential impacts on air, poise, water and soils may include the following:
 - an increased risk of accidental leakage of spillage of materials such as fuel / oil into the underlying soil and ultimately to groundwater and possibly some discharge to the local surface water drainage networks.
 - the generation of dust, particularly during extended periods of dry weather, through the unloading and placement of soil and stone and the movement of haulage trucks and earthmoving equipment, and
 - the generation of noise by the movement and operation of haulage trucks and earthmoving plant.
- 4.89 As outlined in Chapters 7, 8 and 10 of this EIAR, a number of mitigation measures are proposed to control and minimise these effects and to ensure that the residual effects of any activities on human health during the construction and operational phases are acceptable and not significant.
- 4.90 Existing perimeter screening berms and the separation distance between dust and noise sources and sensitive receptors both provide significant attenuation of any dust and noise emissions likely to be generated by the backfilling and soil waste recovery activities.
- 4.91 Existing controls on soil waste intake and acceptance at the North Quarry and the storage and handling of fuels and potentially hazardous substances around the wider quarry complex have proven effective in minimising potential risks to groundwater and surface water and will also be implemented during the future backfilling and recovery operations at the South Quarry.
- 4.92 On this basis, it is considered that, with implementation of appropriate mitigation measures as proposed, there would be no likely significant temporary or permanent effects on human health during either the construction or operational stages of the proposed development.



Post – Operational Stage Impacts

4.93 Following cessation of backfilling and recovery activities and the final restoration / seeding of the backfilled ground, any potential effects on water, air and noise would cease and there would be no consequent effects on human health.

Amenity

4.94 Potential effects on the amenity of areas surrounding the South Quarry arising as a result of the proposed backfilling and recovery activities relate mainly to potential nuisance from noise, dust, traffic and visual effects. All such effects would however be temporary in nature, occurring for the duration of the recovery operations, but effectively ceasing on completion of the backfilling and final restoration works.

Operational Stage Impacts

- 4.95 Activities during operational stages have the potential to generate dust and noise, which could potentially cause nuisance, particularly as a result of:
 - generating dust and air borne particulates during extended periods of dry weather, through the unloading and placement of soil and stone and the movement of haulage trucks and earthmoving equipment across the South Quarry; and
 - the generation of noise by the movement and operation of haulage trucks and earthmoving plant.
- 4.96 Detailed assessments of the potential effects of the proposed development on air quality and the noise environment are detailed in Chapters 8 and 10 of this EIAR. The potential for the proposed soil waste intake to generate dust and noise impacting local residential property has been assessed having regard to baseline monitoring data and modelling potential impacts using accepted methodologies. Impacts are most likely to arise at some residential properties to the west, east and north-east, beyond the Roadstone property boundary, when active restoration / backfilling works are underway at the western end of the quarry.
- 4.97 A number of mitigation measures are outlined in Chapters 8 and 10 of this EIAR to ameliorate any potential adverse environmental effects (and any associated dust and noise nuisance) at nearby sensitive receptors, principally through good housekeeping and the adoption of best operational practices.
- 4.98 The assessments presented in Chapters 8 and 10 of this EIAR indicate that existing and/or proposed mitigation measures will minimise potential for dust and noise nuisance at the nearest sensitive receptors and also ensure that no significant impact arises from the planned activities.
- 4.99 In the absence of mitigation measures and environmental management systems the backfilling and recovery activities at the South Quarry could also present a minor risk to local groundwater quality. Measures implemented to ameliorate any potential adverse environmental effects on surface water and groundwater at sensitive receptors downstream (or down-gradient) are outlined in Chapter 7 of this EIAR. The impact assessment presented in Chapter 7 concludes that implementation of the identified mitigation measures will ensure there is no significant adverse impact on water receptors as a result of the planned activities.



Traffic

Operational Stage Impacts

- 4.100 The transfer and re-location of soil waste recovery activities to Huntstown South Quarry will proceed at half the importation and recovery rate to that currently permitted for the same activities at the North Quarry. The reduction in traffic movements will therefore result in a significant reduction in traffic movements along the existing R135 Regional Road (also known as the North Road and the former N2 National Primary Road) and through the existing quarry complex at Huntstown.
- 4.101 A Junction capacity assessment was previously carried out to determine the impact of soil importation and recovery at an elevated rate of 1,500,000 tonnes per annum (which is ongoing for backfilling of the North Quarry) on the future utility of existing junctions on the public road network around the Huntstown Quarry Complex.
- 4.102 That analysis showed that even at the elevated importation rate of 1,500,000 tonnes per annum, the existing R135 / Elm Road signalised junction and the R135 / N2 Link Road (at Broghan) roundabout junction would continue to operate within capacity in 2023 and 2035.
- 4.103 The R135 / N2 Slip Road priority junction (at Coldwinters) and the R135 / L3125 signalised junction (at Kilshane Cross) are currently operating at capacity. With an elevated importation rate of 1,500,000 tonnes per annum, both junctions would continue to operate at capacity in 2023 and 2035, albeit with slightly extended queues and delays during the AM and PM peak hours than would otherwise arise were the importation rate reduced (or eliminated).
- 4.104 A road capacity assessment of the R135 was also carried out previously to assess development impacts at the higher importation rate (of 1,500,000 tonnes per annum).
- 4.105 The assessment showed that in 2021, the R135 operates within capacity for a level of service D with an existing Annual Average Daily Traffic (AADT) level of 8,243 vehicles. Allowing for an increase in background traffic flows out to 2023 and 2035 and the reduction in traffic levels generated by the waste recovery activities at the South Quarry (i.e. half of present-day levels at the North Quarry), the R135 will continue to have an AAD below the recommended AADT capacity for a Level of Service D for a Type 2 Single Carriageway.
- 4.106 It is considered in light of these findings that the local public road network will operate adequately in the future, for the duration of the proposed soil waste backfilling and recovery activities at the South Quarry and that any related traffic movements across the network will have minimal impact.

Post Operational Stage Impacts

4.107 On completion of backfilling and final restoration activities, there will be a permanent reduction in HGV traffic movements over the public road network with consequent improvement of the human environment.

Land Use

- 4.70 The proposed maximum rate of backfilling and recovery is consistent with that set by the existing planning permission in respect of extractive and restoration activities at Huntstown. The duration of any impacts on the human and natural environment will therefore be in line with those foreseen at the time the planning permission was issued.
- 4.71 The most notable long-term benefit of the backfilling and recovery activities will be the reinstatement of the subject lands at the South Quarry to a beneficial use (as grassland) and the removal of a large area of bare (unvegetated) disturbed ground from the landscape. These impacts are considered to



- be permanent, minor and positive. An assessment of landscape and visual impacts associated with the proposed development is presented in Chapter 13 of this EIAR.
- 4.72 The proposed development will also facilitate final restoration of the quarry and its return to productive agricultural use in the immediate short-term following restoration. It will also facilitate potential re-development for zoned industrial and enterprise activity thereafter.

Unplanned Events

- 4.73 According to the EPA guidelines, unplanned events, such as accidents, can include "spill from traffic accidents, floods or landslides affecting the site, fire, collapse or equipment failure on the site". The 2014 EIA directive refers to "major accidents, and/or natural disasters (such as flooding, sea level rise, or earthquakes)".
- 4.74 In this instance, the vulnerability of the proposed development to accidents, unplanned events or natural disasters is relatively limited owing to:
 - the relatively straight-forward nature of the proposed site infrastructure works, backfilling and recovery activities and final restoration works;
 - the nature of the materials to be handled on-site and the relatively isolated location of the proposed works;
 - the proven capability and performance of the plant, equipment and technologies to be used in executing the works; and
 - the well-established procedures which will be employed to manage and control the works.
- 4.75 Unplanned events in relation to the proposed development could potentially relate to:
 - instability arising from over-steep placement of imported soils at the quarry;
 - spill from vehicles moving within the site; and
 - flooding
- 4.76 Instability arising from over-steep placement of imported soils and stones at the waste licence extension area will be minimised by site management procedures which limit the height and gradient of slopes developed in them. Localised instability in the imported materials could have a potential impact on human health and safety of personnel working there. This will be managed and mitigated through the implementation of site health and safety regulations and active management of the works. Any instability in the imported materials, were it ever to arise, is likely to be localised at small areas within the licenced area and unlikely to have any significant impacts on employment, human health or amenity beyond the site.
- 4.77 The local road network will not be significantly impacted by the traffic generated by the development, which constitutes a reduction on existing levels generated by backfilling and recovery activities at the North Quarry. The risk of an accident resulting in a fuel or oil spillage is considered to be no greater in relation to recovery activities than for permitted extraction activities, or any other form of existing development that relies on the transportation of goods and materials by HGVs. The potential for significant impacts on employment, human health in the wider population or amenity as a result of a road spillage is likely to be low and relatively localised and that any potential impacts would be temporary.
- 4.78 The risk of flooding is considered separately in Chapter 7, Water, of this EIAR.



Cumulative / Synergistic Impacts

- 4.79 A search of the Fingal County Council online planning search facilities indicates that the following developments are currently seeking planning permission or have been granted planning permission in the last five years (and not yet built) in the vicinity of the (extended) waste licence area:
 - The development of a construction and demolition waste recovery facility on lands within the Huntstown Quarry Complex (Planning Ref. No. FW17A/0012);
 - The prospective Irish Water Biosolids Waste Facility to be located in Newtown, on lands to the west of the R135 Regional Road and north-east of the Roadstone landholding (ABP Reference SID/02/18):
 - The construction of a 5,000m² pilot scale circular economy research and development building in the townlands of Huntstown / Coldwinters for Rathdrinagh Land Limited (Planning Ref. No. FW20A/0063); and
 - The development of two data centre buildings immediately east of the Huntstown Power Station, between it and the R135 Regional Road (Planning Ref. No FW21A/0151).
- 4.80 There is potential for cumulative effects on the local environment associated with these developments. However it has been shown in Chapters 8 and 10 that the potential for significant adverse effects in respect of air quality and noise is minimal.

Interaction with other Environmental Receptors

- 4.81 As mentioned above, all environmental factors ultimately impact upon, and interact with human beings to some degree or other. These impacts are discussed in detail in the relevant Chapters of this EIAR as follows: -
 - Chapter 7 Water (Hydrology and Hydrogeology)
 - Chapter 8 Air Quality
 - Chapter 10 Noise
 - Chapter 11 Material Assets
 - Chapter 13 Landscapes

Transboundary Impacts

4.82 Given the location of the existing licenced facility and the impacts, the proposed activities will have no significant transboundary effects on population and human health.

'Do-nothing Scenario'

- 4.83 If the proposed waste licence review application is not approved, alternative strategies would have to be developed to progress the restoration / backfilling of the South Quarry to agricultural land use in line with the conditions attached to the current extractive permission, most likely using materials classified as non-waste by-product under Article 27 of the European Communities (Waste Directive) Regulations (S.I. No. 126 of 2011, as amended). Although the end result would be the same as that provided for in the licence review application, it could ultimately take longer to complete given the limited number of decisions made by the Agency confirming by-product status for soil and stone to date.
- 4.84 In the meantime, and in the absence of any further soil waste intake capacity being made available at Huntstown, a replacement soil waste intake and recovery capacity (of 750,000 tonnes per annum) would need to be identified and made available within a relatively short time period (by early 2023) across a range of other waste facilities within the Greater Dublin Region. Such facilities would likely



be more distant from the core Dublin market where much of the soil waste is likely to be generated and would result in an increased number of longer HGV trips on the road network, increased emissions, reduced efficiency and increased cost.

MITIGATION MEASURES

- 4.85 Mitigation measures to be adopted during the backfilling and recovery soil activities will aim to minimise any impacts of backfilling and recovery activities on surrounding sensitive receptors (primarily those generated by dust, noise and traffic). These measures are discussed in the following chapters of this EIAR:
 - Chapter 7 Water (Hydrology and Hydrogeology)
 - Chapter 8 Air Quality
 - Chapter 10 Noise
 - Chapter 11 Material Assets
 - Chapter 13 Landscape
- 4.86 As will be seen from a review of the relevant EIAR Chapters, these mitigation measures include, but are not limited to, the following:
 - the re-fuelling of plant and machinery over designated sealed and drained surfaces;
 - the use of mobile water bowsers and potential automated sprinkler systems (if required) to suppress dust during dry weather and as required;
 - the use of a wheelwash to prevent the deposition of dust on the public road;
 - backfilling and recovery activities only being undertaken during specified working hours;
 - maintaining plant and actively managing works activities to ensure compliance with specified noise emission levels; and
 - the retention, maintenance (and strengthening) of existing boundary hedgerows, screening berms and boundary fences to provide continued acoustic, dust and visual screening.
- 4.87 In addition, to the proposed mitigation measures, it is anticipated that impacts associated with the proposed backfilling and recovery activities could be controlled by further conditions attached to the review of the existing waste licence by the Environmental Protection Agency.
- 4.88 Waste recovery activities and all associated environmental emissions will be subject to continuous, ongoing monitoring to ensure compliance with emission limit values (ELVs) set by planning and/or waste licensing consents.

RESIDUAL IMPACT ASSESSMENT

Construction and Operational Stage

- 4.89 Review of the identified potential impacts on the receiving environment following implementation of appropriate mitigation measures indicates that there are no significant residual impacts with respect to population, human health and amenity during the construction and operational stages of the proposed development.
- 4.90 It is therefore considered that, subject to implementation of the mitigation measures outlined in Chapters 7, 8, and 10 of this EIAR, the proposed development will not cause any significant impact on the population, human health and amenity of the surrounding area.



Post – Operational Stage

- 4.91 As all potential impacts on the receiving environment are eliminated following cessation of activities at the South Quarry, the proposed development will have no significant residual impacts with respect to population and human health during the post-operational stage.
- 4.92 The assessment of landscape and visual impacts presented in Chapter 13 of this EIAR concluded that the proposed development will, on completion, have an overall permanent positive impact on the local landscape character.

MONITORING

- 4.93 As outlined in Chapters 7, 8 and 10 of this EIAR, it is proposed to undertake monitoring of water, air and noise emissions associated with the backfilling and recovery activities at the South Quarry over their full duration. Refer to the relevant Chapters of this EIAR for full details of the monitoring programmes to be implemented.
- 4.94 Ongoing noise, dust, surface water and groundwater monitoring will be undertaken around the extended licence site area. Environmental monitoring locations shall be reviewed and revised where and as/when necessary. All environmental monitoring results will be submitted to Local Authorities and the EPA on a regular basis, in accordance with consent requirements, for review and record purposes.
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Planning and Development Regulations, 2001 (as amended).



FIGURES Figure 4-1 Surrounding Land Use For inspection purpose the first property of the pro



