

2.0 PROJECT DESCRIPTION

This Remedial Environmental Impact Assessment Report [rEIAR] has been prepared to accompany a substitute consent application for an existing quarry at Windmillhill, Rathcoole, Co. Dublin.

The substitute consent application is to be made concurrent with an application for further development of the quarry for extraction under S.37L of the Planning and Development Act, 2000 as amended that is accompanied by an EIAR.

The lands the subject of this rEIAR [the project site] extend to 46.14 ha. that reflect the historic operational site area including the extractable area declared under S.261 quarry registration in 2005. The quarry area that makes up the application for substitute consent planning unit currently extends to approximately 28.8 ha. lying at the centre of the EIA project site that is generally bounded by the N/M7 to the north and the local Windmillhill Road to the south. The eastern and western EIA project boundaries are demarcated by the Windmillhill townland boundary that consists of field boundaries and the entrance to a dwelling called 'Four Winds' that is within the ownership of the substitute consent applicant to the east; and the former local Athgoe Road to the west.

The current quarry site is accessed toward the centre of its northern boundary from the N/M7 and has been accessed from that road since extraction on the lands began and is reflected in the grant of planning permission for stone quarrying on site in 1968 (under Reg. Ref. 11547). The current quarry void is centrally located within the EIA unit and roughly rectangular in shape with an east – west orientation, parallel to the N/M7 and local Windmillhill Road. At the centre of the current quarry area is the existing administration and processing plant area over approximately 5 ha.

At baseline in 1990 the quarried area has been determined in the Land, Soils and Geology Section of this rEIAR to extend to 10.1 ha. and at 2021 to have expanded laterally to 28.8 ha. with an average working depth of 173 mAOD.

2.1 Location of Subject Lands

The rEIAR project unit occupies the majority of the townland area of Windmillhill, Rathcoole, Co. Dublin centered at ITM coordinates 699794, 725614, 53°16'23.3"N 6°30'08.0"W.

The lands are located on the southern side (outbound lane) of the N/M7, between Junctions 4 (east) and 5 (west) in County Dublin, just inside the county boundary approx. 2km from the County Kildare border to the west, Figure 2.1, below.

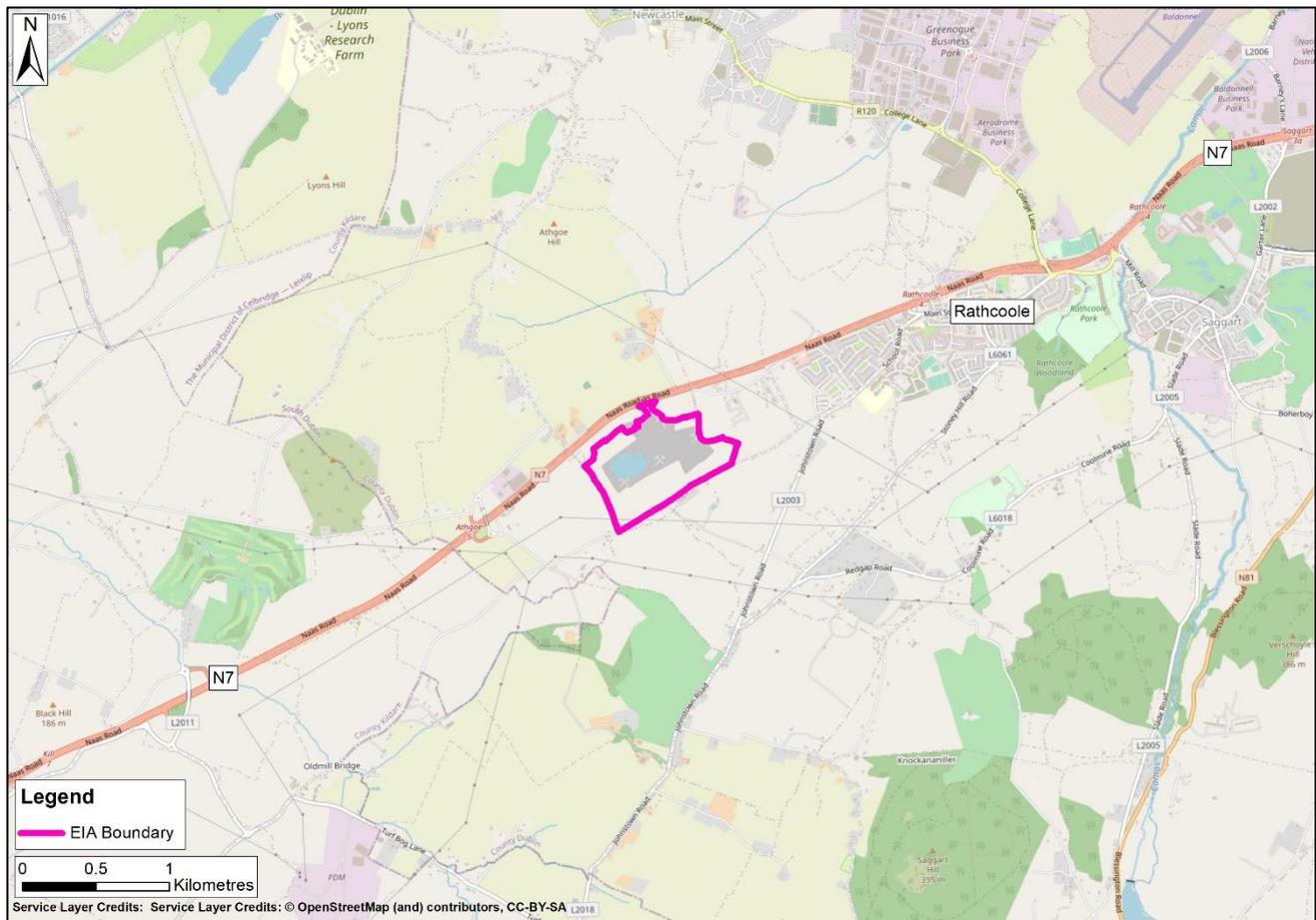


Figure 2.1: Site location

2.2 Context and Landscape Character of Subject Lands

The lands the subject of this rEiAR are roughly rectangular in shape with a south to north orientation toward the N/M7. The lands are also bound by a local public road (Windmillhill Road) to their south along which there are one-off house and agricultural pasture lands.

The western and eastern boundaries of the subject lands are formed by field boundaries and the eastern and western boundary of Windmillhill townland. The boundary to the west used to hold the local Athgoe Road, no longer in use since the upgrade of the N7 in 2006. The eastern boundary is formed to its north by the avenue to a private dwelling in the ownership of the developer called ‘Four Winds’ and mature field boundaries thereafter. Further east (about 1 km) is Rathcoole, currently designated as a Small Town in the County Development Plan 2016-2020. Between the subject lands and Rathcoole lie low density commercial uses; plant rentals and coach depot. Similarly, to the immediate northwest of the subject lands are two service garages that access the northern portion of the ex. local Athgoe Road. In addition to ‘Four Winds’, the subject lands holds another dwelling house, also in the ownership of the developer, which is the farmhouse associated with the management of the agricultural land bank owned by the developer that encloses the EIA project boundary.

In this way, the immediate character of the lands is peri-urban with low density, one off roadside housing and low density commercial development, most established and formerly directly associated with the N7. Moving more west and south of the lands, the landscape becomes predominantly rural.

The subject lands have been used for quarrying since 1710 and first obtained planning permission for stone quarrying in 1968. As such, the quarry and associated uses are an established feature of the landscape and the main feature of the EIA project lands.

The extracted area extends to 28.8 ha. and occupies the centre of the EIA project unit. The quarry has a roughly oblong shape with a west – east axis of approximately 800 meters in length as opposed to the north – south axis that is an average of 340 meters in width.

The quarry site is accessed from a left in / left out entrance via demarcated slip lanes off the N7. A short avenue leads to an administration and processing area that occupies an area of approximately 5 ha. that was evidently previously quarried. This plant area is established. As a result, extraction in recent decades has been to the west and south west and east and south east of this administration and processing plant area where extraction depth is now at an average of 173 mAOD.

A review of historic aerial photography and mapping indicates that the lands the subject of this EIAR have a south to north incline. This incline is removed from the extant quarry area but remains on surrounding agricultural land that is part of the developer's ownership. It is noted that the highest point of the lands is at the ruined wind mill located in the centre of the southern quadrant of the EIA project boundary. The Cultural Heritage Chapter of this rEIAR provides more detail on the wind mill, its status and the derived townland name, similarly landscape character assessment is provided at Chapter 10 of this rEIAR.

It is noted that the subject site is proximate to strategic infrastructure assets:

Roads: The N7 national primary road lies immediately north of the lands and the site is accessed from this road which was first upgraded in the 1960s commensurate with the first planning permission for quarrying stone on the lands. The N/M7 to the north of the site is strategic infrastructure that, elsewhere along its length, is amongst the National Development Plan 2018 – 2027 investment priorities and South Dublin / Kildare County Plans refer to the intention to protect this road along its current alignment.

Local roads existed to the west and south of the quarry area denoting the southern margin of the landholding (respectively referred to as the Athgoe and Windmillhill Roads in South Dublin Development Plan 2016 – 2022 maps). The Windmillhill Road is an in use public road, whilst the Athgoe Road (previously known as Tierney's Lane) is closed for through traffic since the last upgrade of the N7 in 2006.

The South Dublin Development Plan 2016 – 2022 indicates a roads objective for bypass to the west of Rathcoole within 1km of the site to the east. However, this is not within subject site landholding.

Electricity: 110kV line traversing south western corner of the quarry area of the landholding.

Water: Poulaphouca to Saggart water main runs parallel to the N7, part within the landholding. This is a major arterial watermain and therefore a strategic piece of established infrastructure indicated by wayleave on land folios.

Gas: There is a medium-pressure distribution pipe (180 PE-80 4 bar) located just outside the northern section of the Site, between the boundary of the study area and the N7 Dual Carriageway. There is a GNI transmission distribution pipeline some 1,800 m from the nearest extremity of the quarry.

The evolution of transport infrastructure around the site and in the vicinity is set out in the traffic section of this rEIAR at Chapter 11. The transformation of the landscape of the subject site as extraction progressed from the EIA appointed year (baseline) of 1990 is set out in the Landscape and Visual Impact Assessment at Chapter 10 of this rEIAR.

Having regard to the purpose of the rEIAR at Chapter 1, to illustrate development evolution for application for substitute consent, set out below is a summary description of the lands the subject of this rEIAR (subject site) at the current time and at baseline in 1990.

2.3 Development of Subject Site from Baseline to Current Time

Section 3.6.1 of the 2017 Draft EPA EIAR Guidance states that together: the description of the project “...the description of the baseline scenario is the second of the two factual foundations of the EIAR.”

In this instance an rEIAR is presented and thus relates to development already undertaken. For this reason, the baseline scenario required to be described has passed.

In deference to the requirement for Environmental Impact Assessment arising since 01 February 1990 the baseline of this rEIAR has been set at that appointed day. Therefore, the drawings submitted in support of the substitute consent application identify the site as it existed circa 1990 and today.

The reader is minded that extraction of the subject lands evidenced in previously submitted registration and application material was begun in 1710 with planning permission first secured for stone quarrying in 1968 (Reg. Ref. A.14/1157).

2.3.1 Sources of Information and Methodology

To retrospectively build a narrative of the development of the subject lands over their extraction lifetime we have reviewed and primarily rely upon publicly available resources; historic mapping and photography; permitting and licensing histories; and historic monitoring records.

The planning and related licensing history of the subject site and the surrounding quarry complex was reviewed to understand the evolution of the quarry complex. Site maps, surveys and information submitted with these applications, and their consideration by authorities, have been utilised to obtain point in time descriptions of the subject lands.

Environmental monitoring records made available by the developer have been utilised alongside site visits and monitoring undertaken specifically for the preparation of this rEIAR and concurrent EIAR. In addition, the developer and associated company employees, running the quarry site provided historical extraction rates and information on the direction of the phased extraction. It is of note that the imposition of conditions on the operation of the quarry in April 2007 as a result of S.261 registration was the first update of quarry operational limits since the inaugural planning permission in 1968. Therefore, consistent monitoring information for these lands generally arises from 2008 onward. The various rEIAR/EIAR contributors have extrapolated these results, relative to the level and location of extraction and processing to assesses the retrospective impact of development.

Information including, maps, raster data and aerial photography in respect of ground levels, ground cover and development is available from Ordnance Survey Ireland [OSI]. Figure 2.2 to Figure 2.5 is an overlay of the EIA project boundary and planning application boundaries on OSI aerial photographs from 1991, 2000, 2004 and Google Earth imagery from 2012 and 2016 produced in order that an independent source of description information for the lands at baseline and during the intervening years could be made. Although these are orthophotographs only an approximation of depth from these sources is possible. Other years were not available, and a topological survey of the lands was carried out in October 2020 that provides a snapshot of the quarry extent today.

The baseline map submitted as part of the substitute consent application to represent the extant of void and plant at 1990 was constructed using the current OSI map for the area with an estimation of ground levels in 1990 from historic 6” map and 1991 orthophotograph.

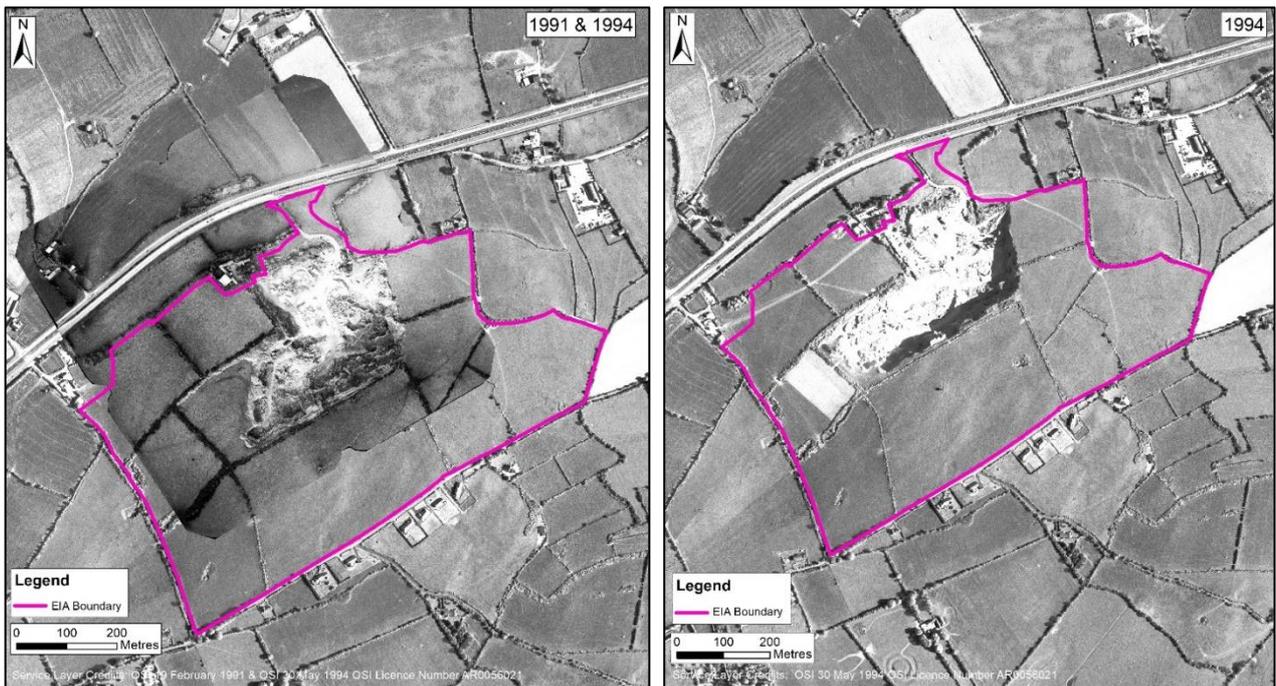


Figure 2.2: Aerial photos of the Site in 1991 (overlain on 1994 aerial) and 1994.

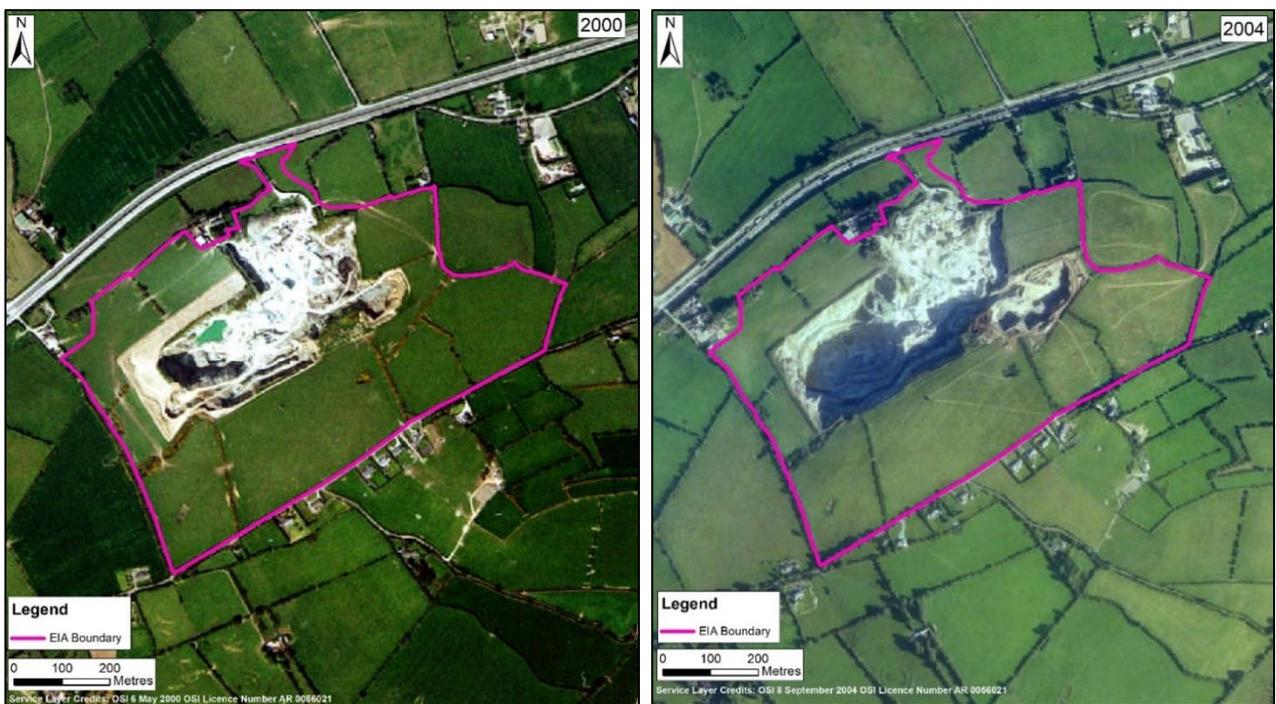


Figure 2.3: Aerial photos of the Site in 2000 and 2004.

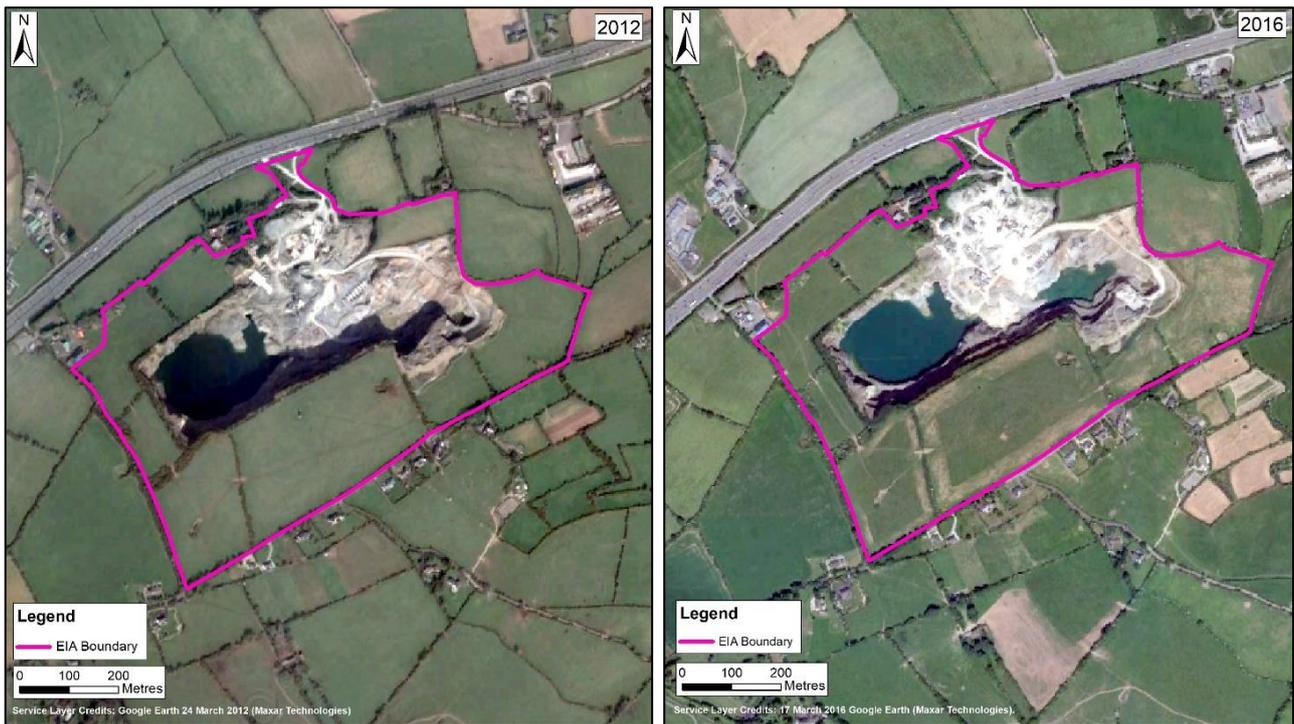


Figure 2.4: Aerial photos of the Site in 2012 and 2016.

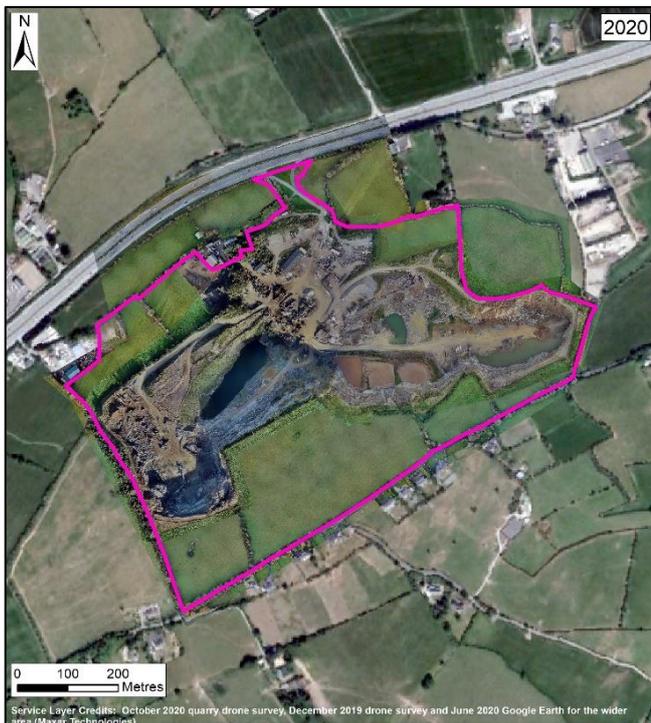


Figure 2.5: Aerial photos of the Site in 2020.

The figures above shows the receiving environment over the lifetime of extractive site use. Please see Site Layout plans submitted as part of substitute consent application (planning drawing pack) for the quarry that reflect baseline (1990) and current (2021) site conditions.

2.3.2 Site Development Progression

Taking the information above together; we can collate as comprehensive as possible a set of information on and around the site, including depth and extent of extraction, that allows for the estimation of rate of extraction and likely traffic flows generated over the lifetime of the development.

To present this information at a single location we have compiled Table 2.1 that sets out the principal occurrences on and around the subject site and the principal sources of information utilised to construct the history of the development of the lands, from a combination of planning, licensing and consent searches and information provided by the developer.

2.3.3 Development Principal Events

Table 2.1 sets down a timeline to present the progression of the subject site in a coherent order. Here we have identified the start of operations as 1710, 1968 and then from 1990 through to 2021. Whilst substitute consent cannot seek permission for any future development. Projected expected extraction is anticipated to remain at levels commensurate with averaged annual extraction rates for the last five years. In this way mitigation measures have been identified to accord with the requirements of EIA and allow for the identification of mitigation measures to ameliorate anticipated effects.

February 1990 is identified as a key event year for reason of that being the appointed time from which EIARs have been required.

To provide a description of the subject site and development over the identified timeline intervals between the key dates above have been chosen in order that intervals are at no more than 10 No. years.

The principal projects in the vicinity of the site are included alongside the principal events identified at Table 2.1 to allow for a description of the development of the site context.

Having regard to the EIAR requirement to assesses in-combination and cumulative effects we have similarly tracked significant projects in the area and their permitting timelines and, where possible, reviewed the information submitted with those applications, their considerations and decisions to further aid in building a profile of the development subject site over its lifetime.

Table 2.1: Summary of key events on subject site and surrounding lands.

Time		Events	
Year	Reference / Source	Site Event	Principal Projects / Extra Site Events
1710	25 April 2005, S.261 Registration Form & High Court Order [2018 No. 929 JR].	[1] Extraction declared and accepted to be began circa. 1710	
1937			
to 1945	1945	Watermain laid	Poulaphouca reservoir constructed and original watermain laid.
Oct 1964			<i>Local Government (Planning and Development) Act, 1963 commencement</i>
June 1968	Reg. Ref. 1547 A.14	Planning permission granted for 'stone quarrying'	
1972			Dublin County Development Plan 1972
	Reg. Ref. SA1936	Planning application submitted for ' <i>machinery store</i> ' (granted)	
1976			Planning act that required Development Plans for periods of 5 years and formed An Bord Pleanála.
Feb. 1980	Reg. Ref. SA1936	Planning permission granted for ' <i>machinery store</i> ' (Reg. Ref. SA1936)	
1983			Dublin County Development Plan 1983
Dec. 1988	Reg. Ref. 88A/709	Planning permission granted for ' <i>mobile asphalt mixing plant in existing quarry</i> ' (Reg. Ref. 88A/709)	
1991			Dublin County Draft Development Plan
1993			Dublin County Development Plan 1993
1994			Dublin County Council abolished and South Dublin County Council formed.
1998			South Dublin County Development Plan 1998 - 2004
1998			N7 Jct 1A-4 Newlands Cross-Rathcoole upgrade complete

Time		Events	
Aug 2002			ABP PL09 .ER2008 N7 ABP PL09 .ER2008 N7 Rathcoole to Kildare County Boundary Road Improvement Scheme (CPO confirmation & proposed rd. dev. S.51) (concurrent CPO ref. PL09 .CH2025)
July 2003			ABP PL06S.ER2018 N7 Rathcoole to Kildare County Boundary Road Improvement Scheme (CPO confirmation & proposed rd. dev. S.51) Confirmed (concurrent CPO ref. PL09 .CH2077)
Apr 2005	SDCC Waste Permit ref. WPR051	Waste permit for 'Deposit of waste bituminous product into haul Roads throughout the quarry of L. Behan & Sons, Windmill Hill.' Begins for up to 5,000 tonnes p.a. for 'Recycling or reclamation of other inorganic materials.'	
2004			Adoption of South Dublin County Development Plan for the period 2004 - 2010
Apr. 2005	South Dublin County Council (SDCC) S.261 Registration ref. SQU05A/4	Quarry registered as existing and Pre '63	
Oct. 2005	S.261 Registration SDCC ref. SQU05A/4	Response to further information request under S.261 received - revised map indicating (a) site boundary in red, (b) extractable area in blue, (c) 'total extracted area in green'.	
Oct. 2005	S.261 Registration SDCC ref. SQU05A/4	Letter from agent stating that they had found 'full planning permission for the operation of the he quarry' ref. 'A.14.11547 and is dated 20th May 1968'. Copy enclosed.	
Feb. 2006	S.261 Registration SDCC ref. SQU05A/4	This letter requires the site to be re-registered and a new public notice will be required as status found to be permitted and will be considered on that basis)	
Oct 2006	S.261 Registration SDCC ref. SQU05A/4	Resubmission of S.261 registration form by agent	
Feb. 2007	S.261 Registration SDCC ref. SQU05A/4	Revised planning conditions notified on operation (ref. SDQ05A/4) this followed preparation of planner's report on registration readvertisement in Jan 2007	
Apr 2007	S.261 Registration SDCC ref. SQU05A/4	36 no. conditions applied under S.261. Cond. No. 1 refers to original info. And further information maps. No. 35 limits extraction to within blue line on revised site location sheet no. 1 dated 23/04/05 'submitted as Additional Information on 10 October 2005.'	

Time		Events	
Sept 2007	An Bord Pleanála (ABP) ref. PL06S.PC0036	Application to determine if N7 Resource Recovery Project (N7RRP) Strategic Infrastructure Development (SID) (ref. PL06S.PC0036 (SID) for Energy Answers International Ltd.	
Dec. 2007	An Bord Pleanála (ABP) ref. PL06S.PC0036	N7 Resource Recovery Project (N7RRP) determined to be SID ((ref. PL06S.PC0036 (SID) for Energy Answers International Ltd.	
Apr 2008	SDCC Waste Permit ref. WPR051	Waste permit for 'Deposit of waste bituminous product into haul Roads throughout the quarry of L. Behan & Sons, Windmill Hill.' Ends	
May	SDCC Waste Permit	Application made (annotating anticipated start July 2008)	
May 2008	ABP ref. ref. PL06.PA0006	SID planning application submitted for N7 Resource Recovery Project (N7RRP)	
Feb. 2009	ABP ref. ref. PL06.PA0006	Planning consent refused to Energy Answers International Ltd. for SID N7 Resource Recovery Project (N7RRP) (ref.PL06.PA0006)	
Feb 2010			Refuse to approve Kildare County Council Motorway (M7 Osberstown Interchange) Scheme Order 2008 ref. PL09 .MA0005
Oct. 2008	SDCC Reg. Ref. SD08A/0707	Planning application for 1.5 storey office invalid (Reg. Ref. SD08A/0707)	
Nov. 2008	SDCC Reg. Ref. SD08A/0764	Planning application for 1.5 storey office withdrawn (Reg. Ref. SD08A/0764)	
May 2010	SDCC Reg. Ref. SD10A/0139	Planning application invalid to increase to 50,000 tonnes per annum the existing waste management facility (WPR 051/3) to accept tar macadam, waste concrete & waste aggregates for its recycling & reuse in the tar macadam manufacturing plant located on the site. (Reg. Ref. SD10A/0139)	
June 2010	SDCC Reg. Ref. SD10A/0175	Planning application invalid to increase to 24,000 tonnes per annum the existing waste management facility (WPR 051/2) to accept tar macadam, waste concrete & waste aggregates for its recycling & reuse in the tar macadam manufacturing plant located on the site. (Reg. Ref. SD10A/0175)	
July 2010	SDCC Reg. Ref. SD10A/0197	Planning application made for waste management facility 24,000 tonnes intake per year (reuse and recycling in asphalt plant and deposition on site in haul roads	
Oct 2010			South Dublin County Development Plan for the period 2010-2016 came into effect

Time		Events	
Mar. 2011	SDCC Reg. Ref. SD10A/0197	Planning application declared withdrawn for a Waste Management Facility with a maximum intake volume of 24,000 tonnes per annum to accept inert waste material including waste bituminous mixtures (EWC 170302), waste concrete (EWC 170101) & waste gravel and crushed rocks (EWC010408) for recycling & reuse in the existing tarmacadam manufacturing plant located on the site and to facilitate the deposit of waste bituminous product, waste gravel and waste concrete into haul roads throughout the subject quarry site in which the subject waste facility is located. The site currently has a Waste Permit (Waste Permit No. WPR 051/2) with a permitted volume of 500 tonnes per annum. This development requires a Waste Facility Permit under the Waste Management (Facility Permit and Registration) Regulations 2007 and 2008. (Reg. Ref. SD10A/0197)	
Nov 2011	SDCC Reg. Ref. SD11A/0271	Planning application made for waste management facility 10,000 tonnes intake per year (reuse and recycling in asphalt plant)	
Jan. 2012	SDCC Reg. Ref. SD11A/0271	Planning permission refused for 'a waste management facility with a maximum intake volume of 10,000 tonnes per annum to accept inert waste material including waste bituminous mixtures (EWC 170302), waste concrete (EWC 170101) & waste gravel and crushed rocks (EWC 010408) for its recycling & reuse in the existing tarmacadam manufacturing plant located on the site. The site currently has a waste permit (Waste Permit No. WPR 051/2) with a permitted volume of 500 tonnes per annum. This facility requires a Certificate of Registration under the Waste Management (Facility Permit and Registration) Regulations 2007 and 2008.' (Reg. Ref. SD11A/0271)	
Mar 2012	SDCC Reg. Ref. SD12A/0059 (appeal ref. PL06S.241259)	Planning application made for importation of 10,000 tonnes per year (reuse and recycling in asphalt plant)	
Aug 2012	S.261A Quarries Notice ABP ref. PL06S.QB0360	S.261A Quarries Notice issued to ABP by SDCC	
Aug 2012	S.261A Quarries Notice ABP ref. PL06S.QV0090	S.261A Quarries Notice application for review on behalf of operator	
Oct. 2012	S.261A Quarries Notice ABP	S.261A Quarries Notice recorded as received ref. SDQ05A/04 (ref. PL06S.QB0360)	

Time		Events	
	ref. PL06S.QB0360		
Oct / Nov 2012	SDCC Reg. Ref. SD12A/0059 (appeal ref. PL06S.241259)	Notification of grant of planning permission for importation of 10,000 tonnes per year (reuse and recycling in asphalt plant), 3 rd party appeal lodged	
Oct 2012	SDCC Certificate of registration (COR) COR-DS-12-0002-01	Application made for annual intake of inert (soil and stones) of less than 10,00 tonnes p.a.	
May 2013	S.261A Quarries Notice ABP ref. PL06S.QV0090	S.261A Quarries review ref. SDQ05A/04 resulting in modification: - requirement for substitute consent with rEIS (ref. PL06S.QV0090)	
May 2013	SDCC Reg. Ref. SD12A/0059 (appeal ref. PL06S.241259)	Planning permission upheld on appeal for 'a dedicated area within the existing quarry site in which no more than 10,000 tonnes per year of imported inert materials (soils, stones, rock, concrete, tarmacadam) generated by off-site construction activities shall be segregated, processed, recycled and reused as raw materials for the existing on-site asphalt manufacturing plant. The proposed development requires a Certificate of Registration under the Waste Management (Facility Permit and Registration) Regulations 2007 and 2008'. (Reg. Ref. SD12A/0059 and appeal ref. PL06S.241259)	
Aug 2014			Kildare County Council (M7 Naas Newbridge Bypass Upgrade) Motorway Scheme Order 2013 approved with modifications (ref. PL09.MA0012 (CPO ref. HA0045)) & Kildare County Council M7 Osberstown Interchange Motorway Scheme Order 2013 (ref. PL09MA.0013 (CPO refs. HA0046 & KA0031))
Jun 2016			South Dublin County Development Plan for the period 2016-2022 came into effect
Apr / May 2018	SDCC Reg. Ref. SD12A/0059/EP	Extension of duration of Reg. Ref. SD12A/0059 application made and refused (Reg. Ref. SD12A/0059/EP)	
Oct 2013	S.261A substitute consent application ABP ref. PL06S.SU0068	Substitute consent application made for	
Nov 2015	S.37L further development of a quarry application ABP ref. PL06S.QD0003	S.37L application made for ' <i>Continued development of a quarry, 40.875 Ha. Reinstatement of worked out quarry to agricultural use by importation of inert sub soil and top soil amounting to a total of 11,151,570 cubic metres.</i>	

Time		Events	
Sept 2018	S.261A substitute consent ABP ref. PL06S.SU0068	Substitute consent refused	
Sept 2018	S.37L further development of a quarry ABP ref. PL06S.QD0003	S.37L further quarry development refused	
Aug 2020	High Court Order No.	Substitute consent application ABP ref. PL06S.SU0068 and S.37L further quarry development PL06S.QD0003 decision quashed and new applications ordered.	
Sept 2020			Pre-Draft consultation phase for South Dublin Development Plan 20022 – 2028 ends.

NOTES: Reg. Ref. = Planning Application Register Reference Number under Planning & Development Acts
SDCC = South Dublin County Council
ABP= An Bord Pleanála

2.3.4 Summary of Progression of Extraction from Baseline to Current Time

The single most significant impact of the development the subject of this rEIAR is that it consists of a quarry and therefore there has been movement of soils and subsoils and extraction of aggregate beneath across the void area.

The amalgamation of historic mapping, current surveys and aerial photographs has provided a credible estimation of total volumes extracted from the site in 1990 and today. In order to augment these findings and provide an estimation of the rate of progression of extraction to date during the intervening period where historic mapping and photography is not available, we have reverted to historic planning and licensing submitted information.

Table 2.2 provides an estimate of the amount of reserve recovered from the subject lands over time by combining total void size, estimate of reserve recovered therefrom audited against statements of extraction rates provided in planning and permitting history files and information obtained from the developer.

Set out below is the methodology used by the Senior rEIAR Geologist to estimate the total volume of material extracted. In the interests of a precautionary approach please note that no wastage has been allowed and therefore it is expected that the calculated estimated total volume extracted will be higher than was actually observed being processed and leaving the site i.e., an estimate of total extracted volume has been calculated here.

The calculation method included consideration of:

- i) Estimated pre-extraction ground levels (estimated from OSI historic mapping);
- ii) Observed current average working depth of 173 mAOD from topographical survey of October 2021;
- iii) Obtained estimated extraction direction and extraction rates from developer;
- iv) Estimated current void volumes;
- v) Assumed depth of rock below overburden;
- vi) The m³ total extracted volume was converted to tonnes using a recovery factor of 2.5 for rock; and
- vii) These assumptions result in an estimation of a total extraction of over approximately 22 million tonnes of aggregate from the lands over 58 years from 1962 to 2021. Approximately 17 million tonnes of that extraction has occurred since 1990.

The developer provided information that provides extraction direction of lands beginning in an area of approximately 8 ha. centred on the established administration and processing plant area (approximately 1962 to 2012). Extraction then moved westward over an area of about 10 ha. and continues to be extracted today (approximately 1990 – today) and continued eastward in tandem over another area of nearly 12 ha. that also continues to be extracted today. Together, these extraction areas give rise to the substitute consent application area of 28.8 ha.

Estimated historic extraction rates from baseline are provided at Table 2.2.

Table 2.2: Estimated historic extraction rate from 1990 baseline to 2021.

Year	Estimated Extraction (Tonnes)	Year	Estimated Extraction (Tonnes)
1990	540,000	2006	500,000
1991	540,000	2007	1,000,000
1992	432,000	2008	1,000,000
1993	432,000	2009	1,000,000
1994	432,000	2010	50,000
1995	432,000	2011	50,000
1996	432,000	2012	50,000
1997	432,000	2013	50,000
1998	560,000	2014	580,000
1999	560,000	2015	1,000,000
2000	560,000	2016	1,000,000
2001	560,000	2017	1,000,000
2002	560,000	2018	1,000,000
2003	560,000	2019	1,000,000
2004	500,000	2020	450,000*
2005	500,000	2021	450,000*
Estimated Total 17,762,000 or 17.5M Tonnes			

*2020 and 2021 were subject to site closures in line with Covid-19 government guidance. The average annual extraction rate is extrapolated from the occasions when the site was fully operational. During 2020 and 2021 operational times, the extraction rate was maximised and therefore the daily extraction, plant usage and traffic rates on operational days was equivalent, if not in daily excess, of that for 2019.

2.3.5 Future Extraction

This rEIAR is to accompany an application for substitute consent and therefore does not conceive of future extraction as substitute consent may only apply to development that has taken place.

As stated at the outset of this section however, some forecasting of expected extraction rates has been undertaken in deference to the EIA requirement for anticipating effects and identifying mitigation measures.

It is the applicant's intention to submit a concurrent application under S.37L of the Planning and Development Act, 2000 for extraction to greater depth of the current void areas east and west of the central administration and processing plant area with relatively minor lateral extension of the void to the north. The rates of extraction predicted as part of that application, which will be accompanied by EIAR that has regard to the historic rates here set out.

2.3.6 Traffic Control

All traffic occurring within the quarried unit is internal traffic using internal short informal haul routes. No pedestrian access is permitted to the active extraction areas of the site.

Once excavated aggregate leaves the void it is transported to the plant area (via internal haul route) by truck or digger for processing: washing, crushing, transformation into other product (asphalt or concrete), storage and on selling from the plant area. Internal traffic speed limits are also posted to maintain vehicular speeds below 15 kmh.

Material transported from the plant area into the public realm is by the only operational entrance / exit to the quarry site located on the southern side of the N7.

The Traffic section of this rEIAR at Chapter 11, sets down a description of the traffic arising on site as a function of the estimated extracted material at the master timeline and extraction rates in Table 2.2 set against declared traffic levels in historic planning applications.

It is of note that the main site entrance off the N7 to the rEIAR project lands is the primary entrance for the development and thus caters for all employees, visitors and movement of aggregate products and materials (import/export).

Due to the slip road arrangement of the site entrance onto the N7 all (100%) of traffic entering and leaving the project area (100%) enters from the outbound (westbound) lane of the N7. The one way in and out arrangement of the site has formally existed since 1996 when this section of road began to be upgraded from two to three lanes as part of the N7 Junctions 1A-4 Newlands Cross-Rathcoole upgrade.

2.3.7 Hours of Operation

There were no prescribed operational hours for quarry operation under the 1968 permission. Reflecting normal practice and declared on the S.261 registration form for the site ref. SQU05A/4 in both April 2005 and October 2006 were operational hours of 0500 to 1900 hours Monday to Friday and 0500 to 1400 hours Saturday with no Sunday working. Further information responses and resubmission of the S.261 registration appear to include reference to out of hours working resulting in the final S.261 conditions for the site, from April 2007, imposing condition no. 3 that sets operational hours of 0500 to 2100 Monday to Friday and 0500 to 1400 on Saturdays.

Historically the site has been permitted via waste permit and planning permission for the importation of inert materials that set operational hours for those activities over the period 2005 to 2018:

- Under Waste permit No. WP051, valid from April 2005 to April 2008 for the importation of waste bituminous product into haul roads throughout the quarry, operational hours were set at condition 2.4 [2.5] from 0600 to 1800 hours, Monday to Friday and 0800 to 1300 hours on Saturdays, unless otherwise agreed with the authority. Application for extension to this permit was made in May 2008.
- In May 2013, a grant of permission for 5 years under Reg. Ref. 12A/0059 (appeal ref. PL063S.241259) for the importation and processing of 10,000 tonnes per year of inert materials required operational hours at condition no. 5 of 0700 to 1900 Monday to Friday and 0700 to 1400 Saturdays with no working on Sundays or bank or public holidays. This permission had a matching Certificate of Registration ref. COR-DS-12-0002-01 that declared operating hours matching that of the planning permission.

No other permissions, consents or licenses ascribe specific quarrying or associated activity operational hours.

Having regard to the above and observed operational practices on site, those operational hours imposed under S.261 registration remain: 0500 to 1900 hours Monday to Friday and 0500 to 1400 hours Saturday. Operations do not occur on Sundays or bank holidays. It is understood that working outside of these hours has been undertaken on ad hoc occasions for the fulfillment of certain significant infrastructure projects. It is further understood that such out of hours working is by arrangement with the authority.

2.3.8 Employment

Direct and indirect employment is attributable to the rEIAR area since baseline. Employment levels vary in accordance with market demand and associated extraction and processing requirements. Direct employment is in the categories of plant operators, fitters, laboratory technicians and administrative staff.

The operations on site are part of a family business, established and led by the owner / operator who has worked himself on the site since the 1960s after his father purchased the quarry and associated lands in the 1940s.

Since 1990, there has been a steady increase in full time employment generated by the site and its associated activities for reason of both increased demand and increased administrative and product audit complexities. Since 1990, full time employment on the site is an average of 12 no. employees with hauliers and other contractors and service employees generating secondary employment of a further 30 no. fulltime equivalents.

The quarry operator has a fleet of haulage vehicles and drivers but the majority of the haulage requirements of the site are met by independent contractors who do not have their permanent work place on site.

It is noted that at times when peak demand existed; the work including direct employees, sub-contractors, haulier, maintenance contractors, material suppliers etc. has increased from time to time.

2.3.9 Fuel and Chemical Storage

Fuel storage is in bunded fuel tanks in the plant area (Drawing 26) on site layouts submitted with substitute consent application for plant area). Refueling occurs at these tanks over a concrete apron with interceptor below. Oils, chemicals and admixtures are ordered and used as needed and used oil and chemical containers are separately stored within the maintenance sheds for disposal by licensed contractor.

2.3.10 Waste Management

The waste arising on site is municipal waste from staff welfare activities and is disposed of via domestic waste collection. Similarly, scrap metal arising on site is stored within a designated area at the site prior to collection by a licensed waste contractor.

As noted at 2.3.7 above, part of the quarry site has been utilised for the purposes of the operation of intake and processing for reuse of inert C&D waste under waste permits and a certificate of registration over the period 2005 to 2018. Currently there is no waste permit, certificate of registration or license associated with the site.

It is noted that the operator maintains a fleet of haulage vehicles that are engaged in direct construction for the transportation of aggregates and aggregate products to construction sites. In accordance with Section 24(1) of the Waste Management (Collection Permit) Regulations 2007 & 2008, there is a requirement that the transportation of material off construction sites must be by waste collection waste permitted vehicles. In observance of this requirement, the operator maintains a vehicular waste permit for the transportation of materials from construction sites, current permit is form 2019 ref. NWCPO-13-11273-02.

2.3.11 Waste Water

There exists a holding tank on site of sufficient capacity to cater for the PE equivalent of average 30 persons on site arising from; full time site employees, contractors and additional visitors. The location of this tank is indicated on the submitted site layout. Chapter 6 of this rEiAR describes this system.

2.3.12 Potable, Surface and Groundwater

There is a well in the plant area as indicated on site layouts submitted with substitute consent application from which water is drawn for welfare facilities water requirements on site. Potable water is by bottle delivery to Site by a contractor. Also indicated on submitted site layout drawings is a separate well from which water for the purposes of aggregate processing is drawn. Obtaining water from wells within the site boundaries is the established situation on site and pre-dates the 1990s.

There is currently no below groundwater table working nor any below watertable working at baseline. Chapter 6 of this rEiAR reports a water balance for the substitute consent quarry and plant areas in order to demonstrate the ability of the existing settlement ponds within the substitute consent area to manage within site boundaries the surface water arising within the operational areas of the EIA project area.

2.3.13 Power Supply and Telecommunications

Power is supplied to the subject lands via the electricity network. The south-western corner of the EIA project area and substitute consent application area are traversed by a 110kV public power line. There is a substation on site indicated on site layouts submitted with substitute consent application that has been in existence on site since before 1990.

2.3.14 Safety and Security

The subject site is required to meet conditions of existing planning permissions, licences and permits and certain statutes. In particular, the relevant Health and Safety legislation (*Safety, Health and Welfare at Work Act, 2005*, the *Mines and Quarries Act, 1965*) and subsequent Quarries Regulations relating to health and safety, training, appropriate site management etc. will be complied with in the main quarry complex. Amongst these regulatory requirements are the need to keep on site an up to date Health and Safety File which records safe procedures, deviations from those procedures and accident reports.

Compliance with these requirements is assumed to have been contemporaneously complied with throughout the life of the operations to date. The operator maintains a Health and Safety File and facilitates site inspections by the Health and Safety Authority (HSA) and audits for geotechnical stability and site arrangements.

The EIA unit is fully fenced with any agricultural entrance permanently closed and locked. The only vehicular entrance in operation is that from the N7 which is gated inside the edge of the carriageway to allow for safe onward travel of vehicles that may mistakenly exit the N7 on the slip road to the site. All vehicles entering the site must do so from the N7 entrance and travel along the dedicated private avenue which is observed by the shipping office into the operational areas of the site.

The lands are remotely secured via CCTV cameras with 24-hour monitoring. There is no requirement for lighting outside of the subject lands but within the lands, certain working hours (after dark in winter periods) necessitate lighting that is extinguished when the site is closed, thus no external light spill occurs.

2.3.15 Rehabilitation

This rEIAR has been prepared for a substitute consent application for quarrying under S.261A of the Planning and Development Act, 2000 as amended. It is recognised that substitute consent applications cannot propose development that is not quarrying, the definitions of which are at section 1.1.6 of this rEIAR. Extraction has occurred on the subject lands since 1710 and the originating planning permission is from 1968 when proposals for post-quarrying reuse (rehabilitation, restoration) were not envisaged nor required. Condition nos. 26, 27 and 28 of the April 2007 conditions imposed after S.261 registration required inter alia; the submission of 'phased carrying out of rehabilitation and landscaping operations within a definite period or periods related to the anticipated pace of extraction operations' (cond. no. 26); landscaping and boundary treatment proposals (cond. no. 27); and the removal of all plant and buildings within 12 months of the cessation of quarrying on site with implementation of landscaping proposals at that time (cond. no. 28).

Compliance submissions in relation to the above conditions were made on behalf of the operator in May 2008. Exchanges on the material submitted continued until May 2013 when the local authority had begun S.261A review of quarries within their administrative area and communicated that further compliance submissions would be inappropriate given that review¹. In summary, it is submitted that the then proposed phasing indicated the

¹ Compliance submissions in relation to the above conditions were made on behalf of the operator in May 2008. In January 2012, the local authority responded that the submissions in relation to condition nos. 26 and 28 were not acceptable. Revised phasing plans and sections were submitted on behalf of the applicant in January and December 2012 with response in January 2013 that submissions received were not acceptable in relation to condition no. 27. In February 2013 further resubmission was made on behalf of the operator in relation to

further lateral extraction over the areas from the central plant area southwest and southeast to the S.261 extraction boundary to a final average depth of 150 mAOD with a 'low point' of 120 mAOD.

It is further submitted that restoration was then submitted to be carried out at the end of the extraction life of the site. This is submitted to remain the practical rehabilitation model in this instance as the extant void is an open pit that holds commercial reserve and that cannot be worked on a phased basis.

This rEIAR (Chapter 11 Landscape and Visual Impact) contains a concept for restoration plan. This plan is conceptual only and not a works to be undertaken proposal having regard to the above limitation on substitute consent application for further works, historic information, site surveys and analysis undertaken for the preparation of this rEIAR and concurrent EIAR to accompany a S.37L application, and the requirement to provide parameters for the analyses of the rEIAR contributors and the EIA requirement to identify effects and mitigation measures.

As noted, it is intended to submit a concurrent application for extraction. A restoration plan forms part of that application that considers the entire EIA unit and is cognisant of the approach here presented.

2.4 Major Accidents and Disasters

The EIA Directive (Directive 2011/92/EU, as amended by Directive 2014/52/EU), requires that an assessment is made of *'the expected effects deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned'*.

The consideration of major accidents and disasters seeks to assess the relevant accidents and disasters which a Development is vulnerable to, and the relevant accidents and disasters that a Development could give rise to. These unforeseen and unplanned events are to be assessed on the risk of their occurrence, however in view of the retrospective nature of this rEIAR the scope of this section is limited to a rudimentary review of previous operations at the Site.

Potential risks of major accidents and / or disasters which are inherent to quarrying operations include;

- Fire / explosion;
- Unplanned outages or disruption to services;
- Road traffic accidents resulting from Heavy Good Vehicle (HGV) movements;
- Contamination of the groundwater/ surface water;
- Flooding; and
- Falling debris or the collapse of benches or quarry faces.

Extraction activities at the Site during the assessment period have been managed to ensure that the risk and vulnerability of the Site and the surrounding infrastructure to major accidents and disaster has been minimised.

In terms of national guidance, in January 2010 the then Department of Environment, Heritage and Local Government (DEHLG) produced 'Guidance Document 1, A Guide to Risk Assessment in Major Emergency Management' (DEHLG 2010 Guidance).

condition no. 26, in May 2013 the authority responded that the submissions were not acceptable and that the consideration of further compliance submissions was not appropriate as the S.261A review of quarries was in being.

This document sets out a criterion to classify emergencies on a five-level scale from 'Minor' to 'Catastrophic', (Table 2.3). Those emergencies which have been classified as 'Serious', 'Very Serious' and 'Catastrophic' are deemed to be 'Major Emergencies'.

During the assessment period of 1990 to the present day, activities at the Site have not resulted in accidents or disasters which are deemed to be 'Major', therefore there has been an **imperceptible** effect (including no effect) of the Site activities on the surrounding environment in regard to major accidents and disasters.

Table 2.3: DEHLG, 'A Guide to Risk Assessment in Major Emergency Management' (2010), Risk Classification Table.

<i>Rank</i>	<i>Classification</i>	<i>Impact</i>	<i>Description</i>
1	Minor	Life, Health, Welfare Environment Infrastructure Social	Small number of people affected; no fatalities and small number of minor injuries with first aid treatment. No contamination, localised effects <€0.5M. Minor localised disruption to community services or infrastructure (<6 hours).
2	Limited	Life, Health, Welfare Environment Infrastructure Social	Single fatality; limited number of people affected; a few serious injuries with hospitalisation and medical treatment required. Localised displacement of a small number of people for 6 - 24 hours. Personal support satisfied through local arrangements. Simple contamination, localised effects of short duration €0.5-3M Normal community functioning with some inconvenience.
3	Serious	Life, Health, Welfare Environment Infrastructure Social	Significant number of people in affected area impacted with multiple fatalities (<5), multiple serious or extensive injuries (20), significant hospitalisation. Large number of people displaced for 6-24 hours or possibly beyond; up to 500 evacuated. External resources required for personal support. Simple contamination, widespread effects or extended duration €3-10M. Community only partially functioning, some services available.
4	Very Serious	Life, Health, Welfare Environment Infrastructure Social	5 to 50 fatalities, up to 100 serious injuries, up to 2000 evacuated. Heavy contamination, localised effects or extended duration €10 - 25M Community functioning poorly, minimal services available
5	Catastrophic	Life, Health, Welfare Environment Infrastructure Social	Large numbers of people impacted with significant numbers of fatalities (>50), injuries in the hundreds, more than 2000 evacuated. Very heavy contamination, widespread effects of extended duration. >€25M Serious damage to infrastructure causing significant disruption to, or loss of, key services for prolonged period. Community unable to function without significant support.