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Introduction

- 4.1 This Chapter of the Environmental Impact Assessment Report (EIAR), prepared by SLR Consulting Ireland Ltd, addresses the potential effects of a proposed development at an existing sand and gravel pit on population and human health. The existing pit is located at Mounthall and Cummer townlands, Camross, Co. Laois.
- 4.2 The proposed development being applied for under this planning application will consist of:
- Continued use and extension to existing permitted sand and gravel pit registered under Section 261 of the Planning & Development Act 2000, as amended (site ref. QY05/10) within an overall application area of c. 12.2 hectares;
 - Extraction of sand and gravel (dry working) over an area of c. 8 hectares with processing and washing of material on site (closed loop water recycling system with associated silt storage lagoons 1,952.25m²), and all ancillary works and structures;
 - Site facilities consisting of mobile processing plant, portacabin site office (6.25m²), portacabin welfare facility (18.9m²), serviced portaloo toilet, bunded fuel storage and refuelling pad with hydrocarbon interceptor, weighbridge, wheelwash, water supply borehole, perimeter berms, vegetation planting and fencing;
 - Access to the site will be via the existing sand & gravel pit entrance;
 - Restoration of the site to agricultural lands; and
 - The proposed extraction operational period is for 10 years plus 1 year to complete restoration (total duration sought 11 years).
- 4.3 Further information on the proposed development, site activities, environmental management systems and controls at the application site are provided in Chapter 2 of this EIAR.
- 4.4 The application site is situated within the townlands of Mounthall and Cummer, and within the Electoral Division of Arderin, Co. Laois, see **Figure 4-1**.

Scope of Work

- 4.5 The EPA guidelines in relation to the preparation of EIAR¹ note the following in respect of population and human health:
- assessment of land-use planning and demographic issues or detailed socio-economic analysis is not generally required;
 - 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 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.

¹ Environmental Protection Agency (2022). *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*. Environmental Protection Agency, Johnstown Castle Estate, Co. Wexford.

- 4.6 This chapter of the EIAR has considered all of the above items in relation to population, employment, amenity and human health.
- 4.7 The Institute of Environmental Management and Assessment (IEMA) issued two guidance documents in 2022 on the assessment of human health within EIA as follows:
- Effective Scoping of Human Health in EIA; and
 - Determining Significance for Human Health in EIA.
- 4.8 Section 1.11 of the IEMA Guidance on the Effective Scoping of Human Health in EIA recommends that if there is not potential for likely significant population effect, human health should be scoped out of the EIA. The guidance makes clear that the topics of population and human health are separate technical topics. The assessment of socio-economic conditions addressed through the topic of 'Population' provides baseline information on which an assessment of sensitivity of human health can be made, therefore it is considered appropriate that both topics are covered within this chapter.
- 4.9 **Table 4-1** of this chapter sets out an initial review of the wider determinants of health identified within the guidance on scoping of human health and how these have the potential to be impacted by the proposed development. The initial assessment within **Table 4-1** provides a framework in order to focus the assessment of human health impacts on areas of most relevance.
- 4.10 This Chapter of the EIAR presents baseline information on population (including employment, amenity and community resources) and assesses likely impacts as a result of the proposed development. This facilitates an assessment of the potential impacts on human health where there is a potential for this to be impacted as identified within **Table 4-1**.

Table 4-1: Wider Determinants of Health and Proposed Development

Categories	Wider Determinants of Health	Commentary
Health related behaviours	Physical activity	No changes likely as a result of proposed development
	Risk taking behaviour	No changes likely as a result of proposed development
	Diet and nutrition	No changes likely as a result of proposed development
Social environment	Housing	Increased supply of aggregates has potential to support increased supply of infrastructure
	Relocation	Not relevant, no relocation proposed
	Open space, leisure and play	No changes likely as a result of proposed development
	Transport modes, access and connections	No changes likely as a result of proposed development, using existing accesses/routes
	Community Safety	No changes likely, boundaries of application site will continue to be kept secure
	Community identity, culture, resilience and influence	No changes likely, proposed development is activity that is in keeping with existing activity at site
	Social participation, interaction and support	Not relevant to application site/proposed development

Categories	Wider Determinants of Health	Commentary
Economic environment	Education and training	Not relevant to application site/proposed development
	Employment and income	Proposed development will be a source of small-scale employment within the local area
Bio-physical environment	Climate change mitigation and adaptation	Potential for aggregates from site to contribute to developing infrastructure in line with national planning / Increased CO ₂ emissions from activities on site
	Air quality	Potential for air quality impacts from HGV use and dust from activities on site
	Water quality or availability	Potential for contaminants in, run-off to, impact on surface water and/or groundwater
	Land quality	Removal of minerals, overburden
	Noise and vibration	Potential for impacts from site activities
	Radiation	Potential exposure to radon gas
Institutional and built environment	Health and social care services	No changes likely as a result of proposed development
	Built environment	Increased supply of aggregates has potential to support enhancements to wider infrastructure
	Wider societal infrastructure and resources	Increased supply of aggregates has potential to support enhancements to wider infrastructure

Consultations

- 4.11 In preparing this Environmental Impact Assessment Report an initial pre-planning consultation meeting was held between officials of Laois County Council and the Applicant on the 1st of May 2024.
- 4.12 In addition, a pre-planning consultation document was issued to statutory consultees. Details of those consulted and feedback obtained is contained in Chapter 1 of this EIAR.
- 4.13 Feedback of most relevance to the assessment of population and human health was received from Uisce Éireann, which highlighted the required measures to ensure the protection of supply and protection of public water supplies. The means by which these measures have been incorporated into the proposed development are described in Chapter 7 of this EIAR. The assessments within the technical chapters provide the basis for the population and human health assessment. Specific consultation with local residents in relation to wells on their site has been undertaken and the details are included in Chapter 7.
- 4.14 In addition, consultation has been undertaken directly with EIA specialist contributors such as noise and air in the preparation of the population and human health assessment.

Contributors / Authors

- 4.15 This chapter of the EIAR was prepared by Lynn Hassett who is an EIA co-ordinator with a BSc in Applied Ecology (2000) and a MSc in Environmental Impact Assessment (2001). She has over 15 years of experience of EIA across the not-for-profit, public and private sectors in the UK and Ireland. She has worked on both the review of EIA on behalf of planning authorities assessing applications and in the production of them to support planning applications being lodged. She is a Practitioner member of the Institute of

Environmental Management and Assessment, which she is a member of since 2001. She is also a Full Member of the Institution of Environmental Sciences, which she joined in 2023.

- 4.16 She has worked on numerous extractive industry and other sector planning applications and EIARs. She has experience in both the project management of EIA as well as preparation of generalist assessments such as Population and Human Health and Material Assets.

Limitations / Difficulties Encountered

- 4.17 No limitations or difficulties were encountered in the preparation of this chapter of the EIAR.

Regulatory Background

Legislation

- 4.18 There is no specific legislation relevant to this chapter of the EIAR. Legislation that is relevant to each pathway (noise, air, water, etc.) is addressed elsewhere in this EIAR. However, the framework of information provided within this chapter is informed by:
- Section 37D and 171A of the Planning and Development Act, 2000 (as amended);
 - Section 94 and Schedule 6 of the Planning and Development Regulations, 2001 (as amended); and
 - European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018.

Guidance and Technical Standards

- 4.19 This chapter of the EIAR has been prepared on the basis of the Guidelines on the Information to be contained in Environmental Impact Assessment Reports by the EPA (2022).
- 4.20 There are no technical standards relevant to this chapter of the EIAR. Technical standards, if any, that are relevant to each pathway (noise, air, water, etc.) are addressed elsewhere in this EIAR.
- 4.21 The framework for human health protection is predominantly set out within World Health Organisation (WHO) Guidelines and Limits.
- 4.22 The WHO works worldwide to promote health, keep the world safe, and serve the vulnerable. Their goal is to ensure that a billion more people have universal health coverage, to protect a billion more people from health emergencies, and provide a further billion people with better health and well-being. It has a wide remit, from setting limits to prevent danger to human health, to providing responses to health emergencies, and promoting health and wellbeing.
- 4.23 The Institute of Public Health (IPH) is an organisation that informs public policy to promote health and wellbeing and reduce health inequalities in Ireland and Northern Ireland. It has previously provided comments on draft legislation on EIA and has been represented on the working group for the IEMA guidance on human health in EIA. It has its own guidance on stand-alone Health Impact Assessments² (HIAs), however, the guidance is clear that EIA does not have to adopt all the HIA methods and tools. The IPH set its Strategic Objectives 2020-2025 in order to be able to fulfil its role to its best potential in informing public health

² <https://www.publichealth.ie/reports/health-impact-assessment-guidance-manual>

- policy. The Institute supports the national implementation of the UN Sustainable Development Goals, including SDG3, which focuses on good health and wellbeing. Taking opportunities to enhance wellbeing is a common thread in the IPH and IEMA guidance on human health assessment.
- 4.24 There is no policy or validation requirement to undertake HIA for the proposed development, therefore this chapter of the EIA aligns to HIA principles, as identified in the IPH Guidelines, including considering wider determinants of health, considering existing inequalities of health and encouraging stakeholder engagement.
- 4.25 The Healthy Ireland Framework was launched by the Irish Government in 2013, with a focus to deliver a vision where 'everyone can enjoy physical and mental health and wellbeing to their full potential, where wellbeing is valued and supported at every level of society and is everyone's responsibility'. The Healthy Ireland Strategic Action Plan 2021-2025 identifies 6 themes to deliver the vision and identifies relevant government departments as well as specific implementation actions. A network of Healthy Cities and Counties (including one for Laois) is intended to be developed to deliver the Framework at a local level. One of the commitments within the Strategic Action Plan is to publish a Healthy Cities and Counties Strategic Development Plan.
- 4.26 The Healthy Ireland Framework is delivered within each local authority area through the Local Community Development Committee (LCDC), which also has the responsibility for creating a Local Economic and Community Plan every six years. In Laois, the health programme is supported by a dedicated Healthy Ireland Co-ordinator who works with community groups and organisations in Laois to focus on social (non-medical) factors influencing health of people within the County.

Laois County Council Planning Policy

- 4.27 Chapter 5 of the Laois County Council (LCC) County Development Plan (CDP) 2021-2027 (abbreviated in this EIAR to LCDP) sets out policy objectives and development management standards to assist delivery of the Healthy Laois programme and general social cohesion through promotion and provision of adequate access to facilities and resources for community development and social inclusion. Chapter 6 of the LCDP contains the policies in relation to economic development and job provision. Section 2.10.2 of the LCDP acknowledges the role of adequate employment in achieving healthy communities, stating that "A healthy area is considered to be one where the jobs ratio is around 70%".
- 4.28 In relation to quarrying, the LCDP recognises that the aggregate and concrete products industry contribute to the development of the national, regional and local economies for the benefit of the community and the creation of employment opportunities. Quarry outputs are required as essential building materials in the social and economic development process including the provision of housing and infrastructure.
- 4.29 It is acknowledged that well managed and designed quarry sites minimise environmental effects and that there is potential for habitat creation through the restoration of quarry sites following the cessation of operations.
- 4.30 **Policy Objective RL 14** sets out the Council's intention to:
- "Support in principle the expansion of the aggregates and concrete products industry which offers opportunity for employment and economic development generally subject to environmental, traffic and planning considerations and ensure that any plan or project associated with extractive industry is subject to Appropriate assessment screening in compliance with the Habitats Directive and subsequent assessment as required, applicants for planning permission shall have regard to the GSI-ICF Quarrying Guidelines."*

- 4.31 **Policy Objective RL 16** sets out the Council's intention to:

"To support the necessary role of the extractive industries in the delivery of building materials for infrastructural and other development and to recognize the need to develop extractive industries for the benefit of society and the economy."

- 4.32 Enterprise **Development Management Standard DM RL 3 'Mining and Aggregates'** requires:

"Applications for new development for aggregate extraction, processing and associated processes, shall

1) identify existing public rights of way and walking routes which may be impacted on or are adjacent to the development site. They shall be kept free from development as a Rights of Way/Walking Route

2) ensure the protection, conservation, preservation and safeguarding of recorded monuments and areas in their vicinity, World Heritage Sites (including Tentative Sites), NHA's, Euro Sites, Nature Reserves, scenic views and prospects archaeological sites and features, natural heritage, natural environment, features of natural beauty or interest and prescribed sites, geological sites and areas of geological/geomorphological or historic interest and areas of high scenic amenity from inappropriate development that might be detrimental to them.

3) minimise adverse effect on the environment and visual and natural amenities to the greatest possible extent must be carried out during all life cycle stages, whether in respect of new quarries or extensions to existing ones and development will be prohibited if the quality of the environment or landscape, particularly sensitive landscape, is adversely affected or there is a reduction of the visual amenity of areas of high amenity.

4) be landscaped either by the retention of existing vegetation or by screening to minimise the detracting from the visual quality of the landscape.

5) Require that development proposals on or in proximity to a quarry site should investigate the nature and extent of the risks associated with the development together with appropriate mitigation."

Receiving Environment

Study Area

- 4.33 The study area relates to the vicinity of the application site and to those dwellings in the vicinity of the application site and has been defined as a c. 1 km buffer radius from the application site boundary as shown on **Figure 4-2**, which identifies residential and other community receptors within this zone. Although population and human health effects would not expect to be experienced at a 1 km distance from the development, the radius has been selected to facilitate a conservative assessment and to ensure that a range of community services and facilities representative of the local area were included.

Baseline Study Methodology

- 4.34 The baseline study comprises a desk-top review of online and published resources, information provided by the applicant and information contained in the other chapters of this EIAR. A review of existing residential housing and sensitive receptors in the vicinity of the application site was undertaken. Ordnance Survey maps and aerial photography were also examined.

Sources of Information

4.35 Baseline information was obtained from the following sources:

- Myplan.ie (<http://myplan.ie/index.html>);
- Historic Environment Viewer (<http://webgis.archaeology.ie/historicenvironment/>);
- Laois County Development Plan 2021-2027;
- The environmental topic chapters of this EIAR;
- OSi Maps;
- Aerial Photographs;
- Live Register statistics; and
- CSO SAP map data.

RECEIVED: 20/09/2024

Site Location

4.36 The application site is located within the townlands of Mounthall and Cummer, Camross, Co. Laois, approximately 3 km north of Camross village, 9 km northwest of Mountrath and 18 km west of Portlaoise, refer to EIAR **Figure 1-1**. The application site and the overall site are located within undulating rural agricultural landscape.

Site and Surroundings

- 4.37 The existing pit and access road from the L10317 local road is situated within the northeastern part of the application site. Sand and gravel is not currently being extracted from the site, and there are no structures or fixed plant or ancillary facilities at the site such as processing plant, office/staff welfare facilities, weighbridge and wheelwash. The remainder of the application site is currently in agricultural grazing use.
- 4.38 The extension lands are undulating, and ground levels are variable from c. 205m AOD adjacent to the existing pit to the north, falling south-eastwards to c. 195m AOD, before rising to 205m AOD and again falling away to c. 180m AOD in the southeast corner of the site.
- 4.39 The extension lands are bisected internally with native hedgerows, gorse and bramble scrub and some immature broadleaved woodland mixed with gorse scrub. There is a small pond (c. 20m in diameter) located along the eastern site boundary, which will be retained.
- 4.40 Two medium 10KV/20KV overhead powerline routes bisect the application site which provide power to the local residences and farms. One line runs NW to SE and the other runs NE to SW and they intersect near the centre of the extension extraction area. There are currently 5 no. electricity poles located within the proposed extension area that will require relocation.
- 4.41 The local road L10317 runs along the northeastern site boundary, and the L1031 local road bounds the site to the south. There is an area of forestry adjoining the site to the southwest and the Slieve Bloom SPA bounds it to the north. There is also a drainage channel along the southern edge of the application site, flowing east for c. 150m alongside the L1031 local road before it enters the Killeen stream.
- 4.42 The lands surrounding the application site predominantly comprise agricultural fields and forestry lands. There are isolated private residential property and agriculture farms located throughout the surrounding rural landscape, predominantly along the local road network. There are c. 21 residences located within 500m of the application boundary, with a further c. 29 residences between 500m and 1 km. These are shown in **Figure 4-2**.

Population

4.43 The review of population is based on the electoral division of Arderin, in which the application site is located. The change in population from 2016 to 2022, as per Census 2022³ for the electoral division, the county and the state are outlined in **Table 4-2**.

Table 4-2: Population Trends 2016 - 2022

	2016	2022	% Change
Arderin ED	279	292	4.7%
County Laois	84,698	91,877	8.5%
Ireland	4,757,976	5,149,139	8.2%

4.44 The census results indicate that the population has increased in the Arderin Electoral Division, albeit at a lower rate than that observed at the county and national level.

Employment

4.45 **Table 4-3** below provides a breakdown of employment status in the latest Census period of 2022 within the ED, County and State.

4.46 The proportion of residents at work in the ED was higher than the proportion both at County and State level. The ED had a lower proportion of both students and retired individuals than at County and State level, but a slightly higher proportion of residents staying home to care for home/family. Both short and long-term employment rates were slightly higher in the ED than at County and State level. Overall, the available workforce in the ED was higher than at the wider level.

4.47 The closest Social Welfare Office to the application site is in Roscrea (Co. Tipperary), c. 15km southwest. Birr (Co. Offaly) and Portlaoise (Co. Laois) are c. 20km away from the site to the northwest and northeast, respectively. According to the May 2024 Live Register statistics⁴, there were 505, 1,053 and 1,626 persons on the live register at Roscrea, Birr and Portlaoise, respectively. These were comparable to the figure in May 2023 (516, 1,086 and 1,563 respectively). The figures for 2023 and 2024 were, however, substantially lower than a comparator May in 2011 during the 2011/2012 economic downturn (1,433, 2,495 and 3,998, respectively), but higher than live register numbers recorded during a strong economic period (May 2006, when figures were 475, 836 and 948, respectively).

Table 4-3: Employment Status in ED, County and State according to 2022 Census

Status	Arderin ED		Co. Laois		Ireland	
	No.	%	No.	%	No.	%
At work	125	59.5%	39,934	55.9%	2,320,297	56.1%
Looking for first regular job	1	0.5%	727	1.0%	34,526	0.8%
Short-term unemployed	5	2.4%	1,202	1.7%	70,217	1.7%
Long-term unemployed	7	3.3%	1,970	2.8%	106,059	2.6%
Student	18	8.6%	7,703	10.8%	459,275	11.1%

³ <http://census.cso.ie/sapmap/>

⁴ <http://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?Maintable=LRM07&Planguage=0>

Status	Arderin ED		Co. Laois		Ireland	
Looking after home/family	18	8.6%	5,670	7.9%	272,318	6.6%
Retired	24	11.4%	9,705	13.6%	657,790	15.9%
Unable to work due to permanent sickness or disability	10	4.8%	3,766	5.3%	189,308	4.6%
Other	2	1.0%	792	1.1%	27,062	0.7%
Total	210	100.0%	71,469	100.0%	4,136,852	100.0%

4.48 The population of Arderin compared with that within Laois County and the State is categorised by occupation as per **Table 4-4**.

4.49 The table shows that the population within the ED has a higher proportion of skilled tradespeople and process, plant and machine operatives than at the County and State level. There appears to be less reliance on professional, associate, managerial and similar employment in the local area.

Table 4-4: Population of Arderin ED, Co. Laois and State by Occupation

Occupation	Arderin		Co. Laois		State	
	No.	%	No.	%	No.	%
Managers, Directors and Senior Officials	8	5.8%	3,062	7.1%	192,679	7.7%
Professional Occupations	23	16.8%	6,819	15.8%	507,044	20.3%
Associate Professional and Technical Occupations	10	7.3%	4,565	10.6%	292,273	11.7%
Administrative and Secretarial Occupations	10	7.3%	3,989	9.3%	229,737	9.2%
Skilled Trades Occupations	27	19.7%	6,737	15.6%	313,921	12.6%
Caring, Leisure and Other Service Occupations	20	14.6%	3,974	9.2%	183,584	7.4%
Sales and Customer Service Occupations	6	4.4%	2,920	6.8%	154,238	6.2%
Process, Plant and Machine Operatives	13	9.5%	3,242	7.5%	172,521	6.9%
Elementary Occupations	14	10.2%	3,759	8.7%	203,532	8.2%
Not stated	6	4.4%	4,039	9.4%	247,044	9.9%
Total	137	100.0%	43,106	100.0%	2,496,573	100.0%

4.50 The population of Arderin compared with that within Laois County and the State is categorised by industry sector employment as per **Table 4-5**. From this table it can be inferred that more residents in the local area are reliant on non-office based employment

such as agriculture, forestry and fishing, building and construction and manufacturing, than at the County and State level.

Table 4-5: Persons at work in Arderin ED, Co. Laois and the State by Industry

Industry	Arderin ED		Co. Laois		State	
	No.	%	No.	%	No.	%
Agriculture, forestry and fishing	17	13.6%	2,303	5.8%	82,228	3.5%
Building and construction	15	12.0%	2,791	7.0%	134,482	5.8%
Manufacturing industries	18	14.4%	4,248	10.6%	273,102	11.8%
Commerce and trade	18	14.4%	8,976	22.5%	552,642	23.8%
Transport and communications	5	4.0%	2,823	7.1%	212,383	9.2%
Public administration	7	5.6%	3,239	8.1%	131,639	5.7%
Professional services	31	24.8%	9,957	24.9%	568,105	24.5%
Other	14	11.2%	5,597	14.0%	365,716	15.8%
Total	125	100.0%	39,934	100.0%	2,320,297	100.0%

Economic Activities including Tourism

- 4.51 The central location of Laois, between the southern region and Dublin, provides good transport connectivity and attracts a quality range of employment generating enterprises. The LCDP acknowledges that the creation and promotion of remote working hubs since Brexit and Covid has helped sustain a working population within the county.
- 4.52 The manufacturing of concrete and stone products, using locally-quarried aggregate and stone, is an acknowledged feature of the manufacturing sector in Laois, increasing the value, sustainability and importance of the commodity sector to the Laois economy. Modest growth in employment in the construction sector is anticipated as the economy improves and following the employment collapse in this sector between 2006 and 2011.
- 4.53 The rejuvenation of rural towns and villages requires that appropriate job creation can be supported in rural areas. Traditional sectors such as agriculture, tourism, extractive industries and forestry are complemented by diversification in sectors such as food, renewable energy and opportunities provided from improved digital connectivity.
- 4.54 The application site has supported typical rural employment through past agricultural use and has generated employment through previous extraction. Both of these activities have also contributed to the rural economy which is acknowledged for its importance to County Laois.
- 4.55 The area surrounding the application site is predominantly agricultural in nature. The Laois County development plan emphasises the importance of tourism to the County's economy. It states that there is an inextricable link between the Region's landscape, agriculture and tourism offer and acknowledges the desirability of integrating quality cycling, walking and hiking routes connecting strategic tourism infrastructure, towns and villages.
- 4.56 The application site is in close proximity to the Slieve Bloom Mountains, which is host to mountain bike and walking trails. A new building, which will host a café and ancillary facilities for users of the Banureagh and other local trails was granted planning permission in 2023. It will be located c. 4 km to the northeast of the application site. There are other

nature related tourism features dotted throughout the surrounding landscape within a similar radius, such as The River Delour picnic area, Lacka Forest, Laois Angling Centre and Tullibards Stud.

Community Infrastructure

- 4.57 The application site is located in a remote area, with the closest village being Camross, c. 3 km to the south. Camross is the closest social and cultural hub for those living in the area surrounding the application site. It hosts a pre-school, primary school, a church and community hall. There is a pub in the village, and the grounds of the local GAA club are located c. 2 km to the southeast.
- 4.58 A further range of services is provided in the town of Mountrath, c. 9 km southeast, with facilities including pharmacies, HSE health centre, Garda and Fire stations, secondary school, etc. The nearest general hospital is at Portlaoise, c. 18 km to the west. As is typical in rural areas, there are various enterprises, smaller community HSE and private healthcare services interspersed in the region.

Indices of Deprivation

- 4.59 Pobal is an organisation that works on behalf of Government to support communities and local agencies toward achieving social inclusion and development. The organisation produces mapping information⁵ including on deprivation indices in order to identify areas in need of social/community investment. The overall levels of deprivation have been based on census data in relation to demographic profile, social class composition and labour market situation. According to the deprivation indices based on 2022 census data, Arderin ED is categorised as marginally below average (i.e. slightly disadvantaged).

General Health

- 4.60 **Table 4-6** presents the results of the 2022 census in relation to the self-reported health status of Arderin ED, Laois county and State residents.

Table 4-6: Self-reported Health Status at ED, County and State level

Area	Very Good	Good	Fair	Bad	Very Bad	Not Stated
Arderin ED	65.4%	24.3%	6.8%	1.7%	0.0%	1.7%
Co. Laois	53.3%	30.4%	8.8%	1.5%	0.3%	5.6%
State	53.2%	29.7%	8.6%	1.4%	0.3%	6.7%

- 4.61 The information presented in **Table 4-6** suggests that there is no vulnerability in health terms in the local area with almost 90% of respondents classifying their health as either very good or good, which is higher than the 83.7% at County and 82.9% at State level.

Radon

- 4.62 Parts of the application site, particularly within the southern and eastern portion, are within an area mapped by the EPA⁶ as being within the '1 in 5 homes likely to have high radon levels' risk category, and within an area where legal requirements for radon testing of workplaces are in place. The central part of the site is within an area categorised as within

⁵ <https://data.pobal.ie/portal/apps/experiencebuilder/experience/?id=3b0acba7eb694ffa85340a60f81d516c>

⁶ <https://gis.epa.ie/EPAMaps/Radon?&lid=EPA:RadonRiskMapofIreland>

the 1 in 10 homes likely to have high radon levels' risk bracket, and within an area where radon testing for workplaces is recommended.

Sensitive Receptors

- 4.63 Dwellings in the vicinity of application site are generally located along the local road network. The nearest dwellings to the application site boundary are identified on **Figure 4-2**, based on a google map review. There are approximately 50 residences⁷ within c. 1 km of the application site, the closest being R3 as indicated on the Figure, located 5m to the east of the edge of the site boundary. The closest proposed extraction works will be 100m east of R3 at the nearest point.
- 4.64 R1 is 25m east of the application site, but is closest to the proposed extraction works, which will be 40m east of the receptor at the nearest point. R1 is the landowners residence.
- 4.65 In total there are 20 receptors (dwellings) identified within the 500m of the application area. The noise and dust impact assessments undertaken during this EIA process have been carried out with reference to representative properties as identified in **Figure 4-2**.
- 4.66 The baseline information presented in the preceding sections has not identified any particular sensitivities in relation to human health. The deprivation indices in the area do not highlight the area as significantly disadvantaged and self-reported health status is positive and better than the national situation. The scale of community facilities and amenities available to local residents is considered to be in proportion with their rural location. The proposed development, itself, will not introduce new communities to the local area and is not expected to create any additional demand on services.
- 4.67 A further review of **Table 4-1** in the context of the baseline population confirms that the main potential for the proposed development to cause negative impacts to human health is through the potential for noise emissions and emissions to air, land and water. These issues have been addressed in detail in their respective chapters of the EIAR and conclusions in relation to their resulting impact to human health are set out below. The proposed development has potential for a substantial positive influence on the local economy through the enabling of the application site to provide a source of direct and indirect employment. This has potential knock-on effects in terms of contributing to the overall wellbeing of the local population.

Impact Assessment

Evaluation Methodology

- 4.68 The evaluation of effects on employment, human health and amenity comprises a qualitative assessment based on the 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.
- 4.69 The location and intensity of associated environmental impacts at receptors may vary somewhat as the extraction activities move across the application site over time. The localised effects predicted are worst-case (i.e. assuming the closest proximity of extraction works for the entire operation period, even though they will generally be short-term and time-limited).

⁷ A number of residences are also categorised for commercial uses and these are generally associated with agricultural activities of the farmhouses. There are some freight related commercial buildings to the southeast

Population

- 4.70 Given the nature of the proposals which do not introduce any new communities or housing to the area, and the relatively low level of workers that will be introduced to the application site at all stages of the proposed development, it is considered that there will be negligible impacts to the population make-up.

Employment

Construction Stage Impacts

- 4.71 The planning application is for the proposed continued use and extension to the existing sand and gravel pit. No construction stage impacts on employment have been identified.

Operational Stage Impacts

- 4.72 The proposed development will provide employment for 1 direct employee plus a number of sub-contractors, hauliers and service providers. Staff will be employed for the duration of the operations (i.e. 10 years). Employment will cease on completion of extraction activities.
- 4.73 The proposed development will also indirectly support and sustain employment for hauliers servicing the construction industry, as well as providing occasional employment for sub-contractors, maintenance contractors and environmental monitoring personnel and advisors as required.
- 4.74 The employment impacts associated with the operational phase of the proposed development are therefore considered to have a medium-term, direct and minor positive effect which will not have a significant effect.

Post – Operational Stage Impacts

- 4.75 Following the permanent cessation of operations, the application site will be restored. This would result in the loss of employment at the site in the long term. Some short-term employment would be provided in relation to the restoration and maintenance works. These are considered to have a short-term, indirect and positive effect which will not have a significant effect.

Economic Activities including Tourism

Construction & Operational Stage Impacts

- 4.76 The proposed development will contribute indirectly to supporting and sustaining both the local and regional economy through the contribution to the construction industry and providing supply of aggregates that are proven to be lacking in the region. The knock-on effect of the direct and indirect employment generated from the proposed development also can contribute to an enhanced local economy.
- 4.77 Potential effects on economically important tourism and agricultural features could arise from general disturbance or from potential environmental emissions from site activities. Potential emissions arising as a result of the proposed development relate mainly to potential nuisance from noise, dust, traffic, and visual effects. All such effects would however be limited within phases, occurring for the duration of extraction works and will effectively cease on completion and restoration activities.
- 4.78 The application site is remotely located and typical of a rural pit. It is well screened from its nearest neighbours. It is considered that, overall, the proposed development will have a

minor positive impact on the regional economy given its potential to provide aggregates that are in proven short supply within it.

Post – Operational Stage Impacts

- 4.79 Following the permanent cessation of operations, the application site will be restored to agricultural use. It is considered that there will be a negligible impact on the economy, including tourism, as a result.

Community Infrastructure

Construction, Operational Stage and Post – Operational Impacts

- 4.80 Given the size and nature of the proposals, it is not considered likely that any additional pressure will be placed on community services such as schools and health facilities.

Human Health and Health and Safety

- 4.81 Ultimately, all of the effects of a development on the environment impinge upon human beings. Direct effects relate to matters such as land, water and air quality, noise, and changes to landscape character. Indirect effects relate to such matters as flora and fauna.
- 4.82 The potential for impacts on human health has been assessed based on the technical assessments of the EIAR, which identify potential pathways for respective impacts to human receptors.

Construction & Operational Stage Impacts

- 4.83 The construction & operational stages of the development relates to the extraction of sand and gravel using industry standard techniques. These stages have the potential to generate impacts that would have effects on human health through the pathways of air, noise, and water.
- 4.84 There is relatively high radon potential within the central part of the application site. Radon gas is not considered harmful in the open air and workplace testing is required in indoor or underground locations where workers spend more than 100 hours per year⁸. The EPA (2019) Protocol for the Measurement of Radon in Homes and Workplaces focusses solely on the measurement of indoor radon concentrations and that "it should be noted that outdoor workplaces would not be expected to have elevated radon concentrations and therefore no radon measurements are required".
- 4.85 The main work at the site takes place outdoors, hence so the risk of radon in general is extremely low. However, if planning permission is granted radon testing can be organised for on-site structures, and corrective measures implemented if required.
- 4.86 Potable water will be brought to site via a bottled water supplier, hence there is no potential risk to human health from water consumption at the site.
- 4.87 As outlined in each of Chapters 6, 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 the proposed development on human health during the construction and operational phases are acceptable and not significant. On this basis, it is considered that, with implementation of the proposed mitigation measures, there would be no likely significant temporary or permanent effects on human health during either the construction or operational stages of this development. The landscape and visual assessment has

⁸ <https://www.epa.ie/environment-and-you/radon/radon-testing/#d.en.82887>

- concluded that the proposed development will not result in significant changes to landscape or views.
- 4.88 The technical assessments within the chapters above have concluded that the predicted changes in pollutants are well within statutory standards and WHO guidelines. The potential for non-threshold effects is noted and is considered to be of a very low level over the period of the proposed development, therefore the magnitude is predicted to be low. In accordance with the significance matrix proposed by the IEMA Guide to Determining Significance for Human Health in EIA, therefore, the potential for effects on human health is considered to be minor adverse (not significant). On this basis, it is considered that there would be no likely significant temporary or permanent effects on human health during the construction / operational stage following mitigation.
- 4.89 The site will be operated in line with strict industry controls for health and safety which will ensure that the potential for impacts will be negligible.

Post – Operational Stage Impacts

- 4.90 Following cessation of extraction and the final restoration of the site, any potential effects on air, noise, land and water would cease and there would be no consequent effects on human health or health and safety.

Unplanned Events

- 4.91 According to the EPA guidelines, unplanned events, such as accidents, can include “*spill from traffic accidents, floods or land-slides 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)*”.
- 4.92 In this instance, the vulnerability of the proposed development to accidents, unplanned events or natural disasters is relatively limited owing to the relatively simple nature of the development works, the established nature of the techniques, regulations and procedures to be followed, the material to be handled on site and the relatively rural location of the proposed works.
- 4.93 Unplanned events in relation to the proposed development could potentially relate to:
- Instability during the extraction process; and
 - Spills from traffic accidents.
- 4.94 The HSA Safe Quarry Guidelines to the Safety Health and Welfare at Work (Quarries) Regulations 2008 As Amended are implemented at the site and will limit the potential for unplanned events in the form of instability during extraction. The final restoration will provide for a stable landform restored to agricultural natural habitat.
- 4.95 Chapter 7 (Water) notes that accidental spillages or leaks of fuels or chemicals during site activities could happen without proper control and supervision. Appropriate mitigation measures and monitoring will continue to be implemented to ensure that there are no potential impacts on the water environment as a result of unplanned events at the site. Additionally, as the extraction will remain above the groundwater table, a migration pathway to the underlying aquifer will not be established, confining any potential spills to the site boundary.
- 4.96 The traffic and transport assessment, carried out as part of the EIAR (Chapter 14), indicates that existing road network can accommodate the proposed development. It is considered that the risk of an accident resulting in a spillage from traffic associated with the development would be no greater in relation to this development than it is for any other form of 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 very low and any such effects would be temporary.

Cumulative / Synergistic Impacts

- 4.97 A search of the Laois County Council and An Bord Pleanála's online planning search facilities was undertaken to identify any potential cumulative projects that have been or may be granted within the last five years in the vicinity of the proposed development.
- 4.98 Apart from small-scale agricultural and domestic projects only one project of interest has been noted within a 5 km boundary of the application site. This is the National Mountain Bike Trail Head Building consisting of a café, bike hire facility, toilets and car park at Baunreagh, Co. Laois (P. Ref. 22740), c. 4 km northeast of the site. The proposed access for construction works is via an existing service / forestry road off the R440 road, therefore there is not considered to be a potential conflict with the proposed development during construction of the visitor centre.
- 4.99 In line with requirements of Inland Fisheries Ireland raised during consultation, the hydrological impact assessment has considered the potential impact of proposed projects within the wider catchment area (see Chapter 7). Of note for the population and human health assessment is the number of wastewater treatment improvement works proposed in the wider area, which is indicative of a general move towards human service infrastructure enhancement.

Transboundary Impacts

- 4.100 By virtue of its location the application site is a significant distance from any international boundaries. It is not anticipated that the impacts of the proposed development would have any transboundary effects on population and human health.

Interaction with Other Impacts

- 4.101 The effects of the proposed development on population and human health and the interaction with other environmental topics is covered in the relevant EIAR chapters i.e. Chapter 7 – Water; Chapter 8 (Air Quality), Chapter 10 (Noise), Chapter 11 (Material Assets) and Chapter 13 (Landscape).

‘Do-nothing Scenario’

- 4.102 If planning permission is not approved for the proposed development, the existing pit would continue to remain in situ and the underlying mineral reserves within the extension area would not be used in accordance with identified needs in the region. The opportunity to ultimately restore the land to agricultural use would also not be carried out.
- 4.103 A ‘do-nothing scenario’ would result in the loss of opportunity to obtain economically important aggregate reserves in line with the objectives of the LCDP and identified scarcity in the region.

Mitigation Measures

- 4.104 Mitigation measures to be adopted during the extraction and restoration activities will aim to minimise any impacts of the project on surrounding sensitive receptors (primarily those associated with noise, dust and traffic). These measures are discussed in the following chapters of this EIAR:
- Chapter 6 - Land, Soil and Geology

- Chapter 7 - Water (Hydrology and Hydrogeology)
- Chapter 8 - Air Quality
- Chapter 10 - Noise
- Chapter 11 - Material Assets
- Chapter 13 - Landscape
- Chapter 14 - Traffic

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- 4.105 As will be seen from a review of the relevant EIAR Chapters, these mitigation measures include, but are not limited to, the following:
- the use of a mobile water bowsers and potential automated sprinkler systems (if required) to suppress dust during dry weather and as required;
 - wheelwash operation to prevent the deposition of dust on the public road;
 - activities only being undertaken during specified working hours;
 - maintaining plant and managing works activities to ensure compliance with specified noise emission levels;
 - the retention, maintenance (and strengthening) of existing boundary hedgerows, vegetation and screening berms to provide acoustic, dust and visual screening;
 - the refuelling of plant and machinery over designated hardstanding area; and
 - implementation of a site environmental management system.
- 4.106 Radon testing can be undertaken at on-site structures and, should elevated radon gas levels be detected, remedial measures such as enhanced ventilation or installation of a radon sump can be implemented in agreement with an EPA registered radon tester.
- 4.107 In addition, to the proposed mitigation measures, it is anticipated that impacts associated with the proposed works could be controlled by further conditions attached to any planning permission granted by the Planning Authority in due course.

Residual Impact Assessment

- 4.108 With implementation of the management & mitigation measures detailed above there will be no residual impacts on population and human health at any stage of the development.

Monitoring

- 4.109 As outlined in Chapters 7, 8 and 10 of this EIAR, monitoring in relation to the proposed development will be undertaken in respect of groundwater/ surface water, air, and noise. Refer to the relevant Chapters of this EIAR for full details of the monitoring programmes that will be implemented at the application site for the duration of the works.
- 4.110 Environmental monitoring locations shall be reviewed and revised where and as/when necessary. All environmental monitoring results will be submitted to Laois County Council in accordance with their requirements, for review and record purposes.

References

- Central Statistics Office (2022) Census Data 2016 and 2022.

- Environmental Protection Agency (2022) 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports'.
- Laois County Council (2021) Laois County Development Plan 2021-2027.
- Planning and Development Act, 2000 (as amended).
- Planning and Development Regulations, 2001 (as amended).

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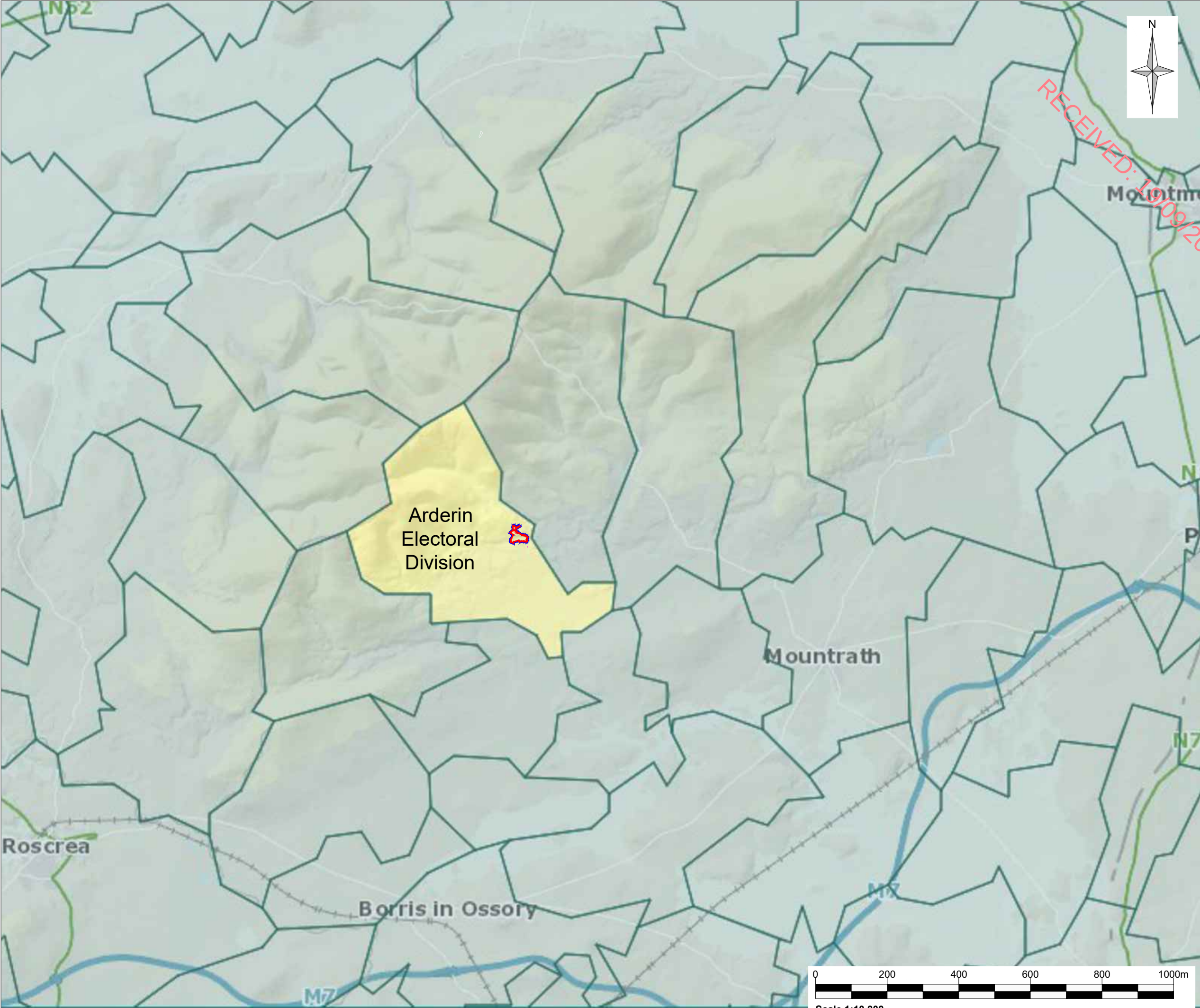
Figures

Figure 4-1: Electoral Divisions Map

Figure 4-2: Receptor Location Map

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S:\SLR Projects\00594 Lagan Materials Ltd\065036 Mounthall SAG Pit Development\EIAR\Volume-2 EIAR Report Figs Appendix\04 Population and Human Health\Divys CAD\Wing\00584.065036 EIAR Fig 4-1 Electoral Divisions.dwg



Notes:

1. Extract from CSO Census Local Statistics Interactive Mapping (www.visual.cso.ie)

Legend:

Planning Application Area (c.12.2 Hectares)

Applicants Land Interest Area (c.12.4 Hectares)
under lease agreement from landowner

Rev	Amendments	Date	By	Chk	Auth
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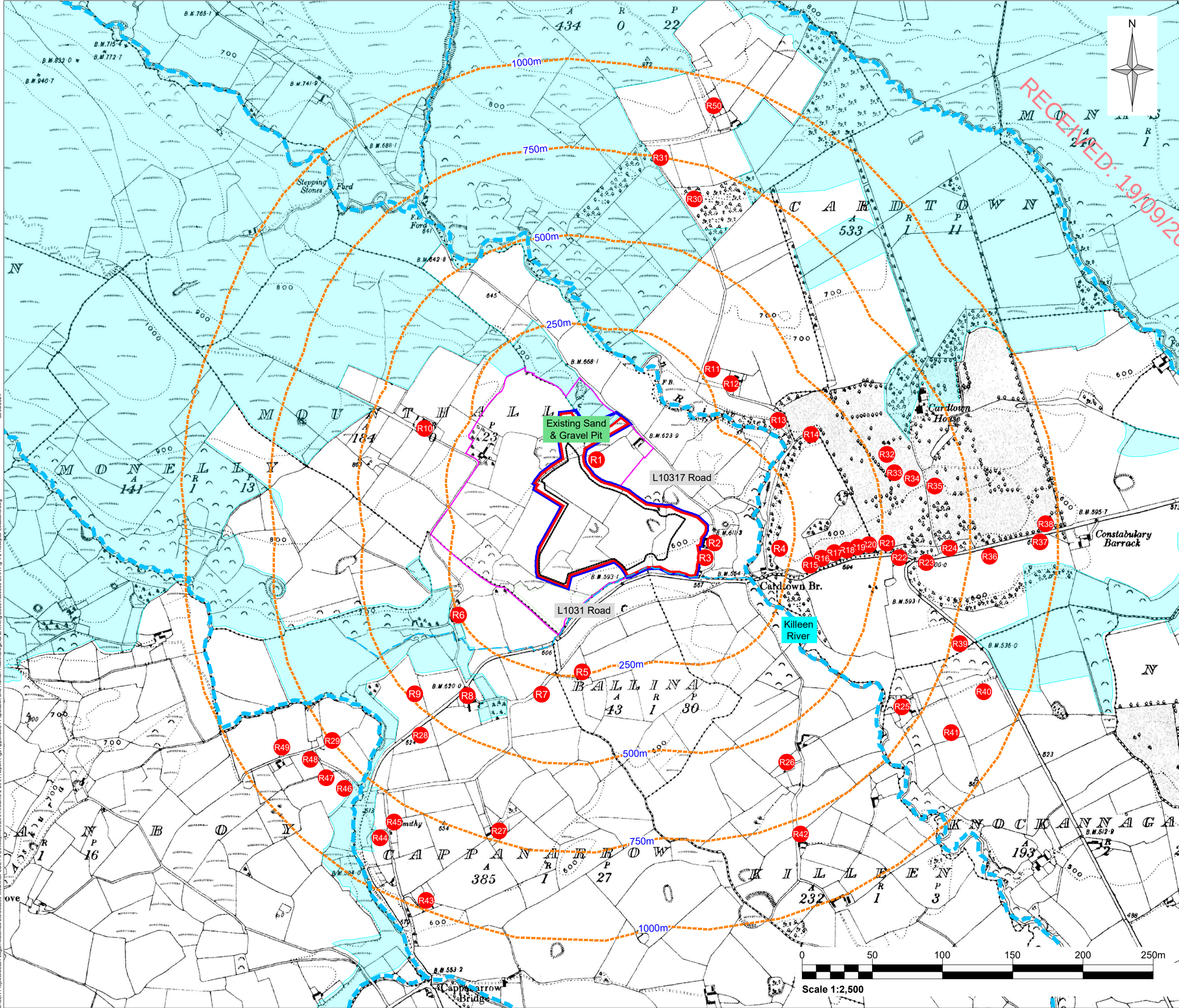
Project
Sand and Gravel Pit Development at
Mounthall, Camross, Co. Laois

Figure Title
Electoral Divisions Map
(Site Located within Arderin ED)

Scale 1:10,000 @ A3		SLR Project No. 00584.065036	
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Date 01/24	Date 01/24	Date 09/24	Date 09/24

Figure Number
Figure 4-1

Rev.
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Notes:

1. Extract from Ordnance Survey 5,000 scale mapping - sheet numbers 3880, 3881, 3937, 3938 and 6" Raster Mapping - sheet numbers LS010, LS011, OY040

Legend:

- Landowner Boundary (c.32.1 Hectares)
Third party landowner's land interest
- Planning Application Area (c.12.2 Hectares)
- Applicants Land Interest Area (c.12.4 Hectares)
under lease agreement from landowner
- Proposed S&G Extraction Area (c.8 Hectares)
- Special Protection Area (SPA)
Sieve Bloom SPA
- Distance Off-Sets from Planning Application Boundary
250m, 500m, 750m and 1km
- Residential Property Locations
Residences numbered within 1km of Application Boundary
- Watercourse

Rev	Amendments	Date	By	Chk	Auth



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Figure Title
Receptor Location Map

Scale 1:2,500	@ A3	SLR Project No. 00584.065036
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Designed SMcD	Drawn SMcD	Checked LH	Authorised LH
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Figure Number Figure 4-2	Rev. 0
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