

SECTION 3 : HUMAN BEINGS

3.1 INTRODUCTION

This section of the Environmental Impact Statement addresses the impact on the human environment of the quarry backfilling and construction and demolition (C&D) waste recovery activities at the facility operated by Roadstone Dublin Limited at Fassaroe, Bray, Co. Wicklow. This Environmental Impact Statement is prepared in support of an application by Roadstone Dublin Ltd. for a waste licence to provide for backfilling and restoration of the existing quarry void and continuation of established C&D waste recovery activities.

In undertaking this study, regard has been had to the requirements of the EPA publication 'Guidelines on the Information to be contained in Environmental Impact Statement' for waste facilities, and includes, but is not limited to consideration of the economic activities, existing amenities and sensitive receptors in the vicinity of the site.

3.2 RECEIVING ENVIRONMENT

3.2.1 Outline of Baseline Study and Methodology

The baseline study of the area, with regard to human beings, involved study of the Census Report (1996, 2002 and 2006) information for Bray Town and its Environs, Live Register Statistics from the Irish National Organization of the Unemployed and other local information sources.

The townland of Fassaroe in which the waste recovery facility is located lies within the District Electoral Division (DED) of Kilmacanoge in County Wicklow. However, this study will concentrate on Bray and its Environs, as Fassaroe is only 1.5 km west of Bray Town and it is considered that the growth and development of Bray Town has had, and will continue to have, a more significant impact on the future residential and working population of the Fassaroe area.

A survey of existing residential housing in the Fassaroe area was undertaken as part of this study. Ordnance Survey maps and aerial photography were also examined. Local knowledge of recent and potential future housing developments was also tapped to establish the local housing pattern.

3.2.2 Site Context

The existing inert waste recovery facility operated by Roadstone Dublin Ltd. is located in centre of Fassaroe townland, Co. Wicklow approximately 1.5 km west of Bray and 2km north east from Enniskerry Village, Co. Wicklow. The waste recovery facility is located in close proximity to an established aggregate processing and storage facility and a concrete batching plant, both operated by Roadstone Dublin Ltd. at the application site.

A number of isolated residences located in the area immediately surrounding the waste recovery facility and the Roadstone Dublin landholding are identified in Figure 3.1. A waste recovery and transfer facility operated by Greenstar is located at Fassaroe Lane, to the north east of the application site.

The existing inert C&D waste recovery facility is accessed via the Fassaroe Junction on the N11 National Primary Road. Traffic turning off the N11 runs for a short distance over the local road network, travelling initially westwards and then turning south on a public road (Kilbride Road) until it comes to a small roundabout junction with Fassaroe Avenue, a private road, leading to the entrance to Roadstone Dublin's landholding.

A small number of existing residences occur in close proximity to the waste recovery facility. The nearest sensitive locations are located immediately north of the application site, along Berryfield Lane. Other sensitive residential locations are located along the Fassaroe Avenue, to the east and south of the site. There has been limited new residential development immediately within the local area.

3.2.3 Demography

The existing waste recovery facility operated by Roadstone Dublin at Fassaroe is located within the District Electoral Division (DED) of Kilmacanoge in County Wicklow in which some 6,610 people reside. The area of South Kilmacanoge is not considered in future developments plans for Bray Town, as the potential development lands are considered too remote and distant from the existing town. This area is also disadvantaged by a lack of public transport servicing the area (existing and/or planned) and the severance effects of the N11 National Primary Road.

Bray Town is designated by the Regional Planning Guidelines for Greater Dublin Area 2004-2016 as a Metropolitan Consolidation Town within the Metropolitan Area of Dublin and forms a Primary Development Cluster. The future growth of Bray Town will most likely be accommodated in the Bray environs, which includes the townland of Fassaroe. Wicklow County Development Plan provides for the zoning of approximately 125 hectares of land at Fassaroe for employment, residential and leisure related uses. Bray Environs Local Area Plan 2009-2015 proposes interactive land-use zoning for Fassaroe, including the lands within the application site. An extract from the Bray Environs Local Area Plan showing the proposed land-use zoning map for Fassaroe is provided in Figure 3.2

The demographic trends for the Bray Town and its Environs over the past ten years, shown in Tables 3.1a and 3.1b below, illustrate a moderate increase in population in that time, most of it in the four year period between 2002 and 2006. Note that the Bray environs area includes an area of Co. Wicklow outside the administrative area of Bray Town Council and part of the adjoining administrative area of Dun-Laoghaire Rathdown.

Year	Bray Town	Bray Environs	Total	Fassaroe
1996	25,252	2,671	27,923	149
2002	26,244	4,707	30,951	156
Change 1996-2002	3.9%	76.2%	10.8%	4.7%

Source: Census of Population 1996, 2002, C.S.O.

Year	Bray Town	Bray Suburbs and Environs (Wicklow only)	Total
2002	26,244	1,758	28,002
2006	27,047	1,773	28,814
Change 2002-2006	3.0%	0.8%	2.2%

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

Tables 3.1a and 3.1b : Recent Population Trends

Although the recorded population for Bray Town in 2006 had increased by 3.0% on the 2002 level, the population in the environs area within County Wicklow recorded a much smaller increase of 0.8% in the same period. The Bray Town Development Plan projects a population for the Town Council Area up to 30,000 by 2010/2011 and 31,000 by 2016. The Wicklow County Development Plan projects a population for the combined town and environs area in County Wicklow of 32,012 by 2010/2011 and 35,000 by 2016. In conjunction with the local and regional trend in population growth, there will be an associated increase in demand for housing. Given its location in north County Wicklow, Fassaroe falls within the Dublin “commuter belt” and, as a consequence, this area has a higher predicted population growth than the county of Wicklow as a whole.

The age profile at local and national level is indicated in Table 3.2 below. In all age groups, the population of Bray Town follows the average age pattern of the State as a whole. A high proportion (32%) of the local population is adults in the traditional household formation age category, in the 25-44 age group. This group is made up mostly with young people working or studying or working-age parents. The second highest proportion of the population comprises people in the 44-65 age group, which comprises mostly older adults, including working parents.

	Total	0-14	15-24	25-44	45-65	65&
Greater Dublin	1,045,769	187,078	171,625	358,533	215,815	112,718
		18.0%	16.0%	34.0%	21.0%	11.0%
Wicklow	126,194	27,137	17,767	40,331	28,442	12,517
		22.0%	14.0%	32.0%	22.0%	10.0%
Bray Town	31,901	6,409	4,952	10,328	7,042	3,170
		20.0%	16.0%	32.0%	22.0%	10.0%
State	4,239,848	864,449	632,732	1,345,873	928,868	467,926
		20.0%	15.0%	32.0%	22.0%	11.0%

Source: Census 2006

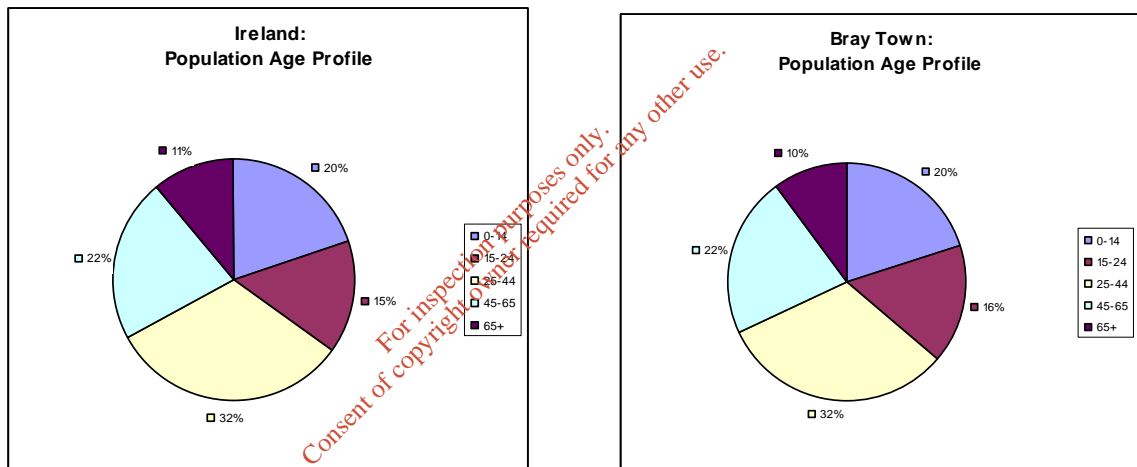


Table 3.2: Age Profile

3.2.4 Employment

Travel figures from Census 2006 indicates that over 56% working population from Bray Town travel in excess of 10 kilometers to work and over 70% travel 5 kilometers or more. Statistics indicate that a significant proportion of the working age population of Bray Town do not work in the town. Figures from the 2006 Census show that 26% of workers in Wicklow travel more than 25 kilometers to work, compared with 15.6% of workers nationally. While 10.5% of workers nationally spend more than 1 hour travelling to and from work, this figure is 18.5% in Wicklow. Planned / proposed residential and commercial development in the Bray Environs is likely to provide the necessary physical and social infrastructure to consolidate the urban area around Bray and reduce need for commuting in the future.

Bray Town and its Environs lie within the "Greater Dublin Metropolitan Area" therefore many of the jobs are located and are affected by the employment situation in the Greater Dublin Area. According to December 2008 Live Register statistics from the Irish National Organization of the Unemployed, there were 12,461 persons on the Live Register for County Wicklow and 67,505 persons in County Dublin.

A breakdown of the industry in which those at work are employed is provided in Table 3.3. below. Employment by industry in Bray Town and its Environs follows a national pattern, with the highest participation in the clerical and government workers sector, professional sector and sales sector. The level of participations in other sectors of employment is either in line with the national average or slightly lower.

	State		Bray Town		Wicklow		Greater Dublin	
Agriculture	88,414	4%	30	0.2%	2,007	3%	842	0.1%
Manufacturing	245,234	12%	1,358	8%	6,506	10%	43,413	7.9%
Building and Construction	183,429	9%	1,134	7%	5,435	9%	31,751	6%
Clerical / Government	365,670	18%	3,441	22%	12,299	20%	120,557	22%
Communication/Transport	114,919	5%	774	4.8%	2,916	5%	32,698	6%
Sales	284,164	14%	2,487	16%	8,687	14.0	86,668	16%
Professional	342,414	16%	2,927	18%	10,323	17%	100,704	19%
Service	224,964	11%	1,849	12%	6,516	11%	55,464	10%
Other	230,918	11%	1,939	12%	7,138	11%	72,272	13%

Source: Census 2006

Table 3.3 : Employment by Industry

3.2.5 Economic Activities

There are three principle types of economic activity prevalent in the Fassaroe area:

1. Agriculture
2. Industry
3. Leisure Industry

1. Agriculture

The lands within Roadstone Dublin's landholding, immediately to the east of the application site and beyond the northern boundaries of its landholding are typically used for crop growing. The lands to the west and south of the application site typically comprise agricultural grassland.

2. Industry

There has been active and ongoing extraction of sand and gravel in the Fassaroe area for over 40 years. It is a long established activity in the area and has provided employment over many years. The application site was a former sand and gravel quarry operated by Roadstone Dublin Limited, which ceased production in the mid-1990's.

The existing C&D waste recovery facility operated by Roadstone Dublin Limited at Fassaroe is located at the northern end of its landholding. Existing aggregate processing and related value added activities are located in the centre of Roadstone Dublin's landholding. The principal aggregate processing activity is the washing and screening of imported sand and gravel, while the principal value added activity is the production of readymix concrete. A retail shop selling paving stone direct to the public is also located at the entrance to the Fassaroe landholding, at the western end of Fassaroe Avenue.

Greenstar Limited operates a materials recovery and transfer facility for household, commercial, C&D waste beyond the north-eastern boundary of Roadstone Dublin's landholding (Waste Licence Ref No. W053-01).

Immediately north-west of Roadstone Dublin's landholding, a number of telecom transsission towers and an electricity sub-station are located along Berryfield Avenue

With Bray Town located just 1.5 km to the east, the wider area beyond the application site has a thriving business community, reinforced by a selection of office / industrial parks close by at Southern Cross Business Park, Killarney Road Business Park, Bray Industrial Estate, Old Court Industrial Estate, Cedar Industrial Park, Pinewood Close Industrial Estate, Beechwood Close Industrial Estate and Ardee Court.

While no detailed survey has been undertaken, it is likely that a large proportion of local residents are employed outside of the local area, within the Greater Dublin Area, and across all sectors of industry.

3 Leisure Industry

Fassaroe lies within a designated area of Outstanding Natural Beauty with Bray Town, Ireland's longest established seaside town. Enniskerry, a small picturesque village, the Powerscourt Estate and natural amenity sites in the area are key attractions for the local tourist industry which is largely based on day-trips out of Dublin. There are a small number of guesthouses, hotels and similar facilities around Enniskerry, with more servicing Bray town with its established tourist attractions.

3.2.6 Existing Amenities

The Fassaroe area is predominantly rural in nature. It has no churches or schools or retail outlets (with the possible exception of Roadstone's own retail shop). There is also no service industry in the area. The principal community organisation in the area is the local Enniskerry FC Football Club which plays on a pitch located on the northern side of Berryfield Lane. There are a wide variety of recreational, social, community and sport facilities in Bray, which also serve the residential community in Fassaroe. Facilities include rugby, soccer, G.A.A, hockey, golf, swimming and sailing.

The area of North Wicklow in which the development lies is rich in natural amenity value. This is reflected in the designation of large areas in and around the site as an 'Area of Outstanding Natural Beauty'. North Wicklow's combination of "*granite peaks, wide valleys and leaks*" makes it an attractive destination for visitors. Its close proximity to Dublin means it is ideally situated to benefit from the "day-tripper" and stay-over visitor markets. Attractions within the vicinity of the application site include:

- (i) Enniskerry Village, situated 2km west of Fassaroe on the Glencullen River, in the foothills of the Wicklow Mountains. With nearby Powerscourt Estate the village has extremely active tourist markets. Powerscourt Estate, comprising a large house and extensive formal gardens, is located near the town and is a popular visitor attraction. Extensive formal gardens form the grounds of an 18th century Palladian house, designed by Richard Cassels, which was destroyed by fire in 1974, and only recently restored in 1996. Powerscourt Waterfall in the grounds of the estate, at 121m, is the highest waterfall in Ireland.
- (ii) Bray Town located 1.5 km east of Fassaroe, is Ireland's longest established seaside town and has traditionally had a thriving tourism trade. Attractions in the immediate vicinity of the town include fifteen 18-hole golf courses, a tennis club, a sailing club and horse riding. Other attractions in Bray include the Mermaid Arts Centre on Main Street, and the aquarium on Strand Road. Bray has a safe beach of sand and shingle to walk on, which is over 1.6km (1 mile) long, fronted by a spacious Esplanade. The scene is dominated by Bray Head, which rises steeply (241m/790 ft) above the sea, affording views of mountains and sea.

There are also a number of Special Areas of Conservation (SACs) in close proximity to the site. These ecological sites are prime wildlife conservation areas and are considered to be important at a European as well as at a national level. The nearest SACs to the site are the woodland at Ballyman Glen, approximately 600m north of the site (at its nearest point), and Knocksink Wood, approximately 2km west of the application site. The Dargle River Valley, approximately 1km south-east and south of the site and Powerscourt Woodland, approximately 1.5km south-west of the application site (at its nearest point) are both designated as proposed NHAs. The Dargle Glen is also identified in the Wicklow County Development Plan as an area to be considered for a Special Amenity Area Order.

3.2.7 Sensitive Receptors

At the present time, the principal sensitive receptors in the vicinity of the application site comprise 18 private residences immediately beyond the application site (within 250m of the perimeter). These properties are identified on Figure 3.1. Other residential properties located at a greater distance beyond the application site (up to 500m) are also identified on Figure 3.1.

3.3 IMPACT OF THE SCHEME

The proposed waste recovery facility at Fassaroe will require ongoing / continued importation of inert soil and stones and C&D waste from construction sites across South County Dublin and North Wicklow. The imported soil and stones will be used to backfill the quarry void, while the processed C&D wastes will be either sold and exported off-site or used in the construction of internal haul roads across the Fassaroe site.

The duration of the quarry backfilling works is likely to be of the order of 1 to 7 years, depending on the rate of infilling. The location and intensity of associated environmental impacts will vary over time, according as the active backfilling area moves across the site over that period.

Ultimately, all of the effects of a development on the environment impinge upon human beings. Direct effects relate to matters such as water and air quality, noise, and changes to landscape character. Indirect effects relate to such matters as flora and fauna.

The impact of the proposed waste recovery facility on human beings is addressed in the following sub-sections by means of an appraisal of the effects of the development on the environment in general, of which human beings are an integral part.

3.3.1 Short-Term Impacts

The impacts on human beings will arise mainly through environmental factors that are detailed in other sections of this EIS, most notably noise and air quality (including dust). While there will be negligible or no impact on much of the local residential housing identified on Figure 3.1, there may be some minor, limited impact at the 9 residences closest to the application site when the active backfilling and restoration works are being undertaken at the northern end of the facility.

The noise and dust impacts which are likely to arise at these residential properties are associated with operational activities, specifically backfilling with soil and stones and processing of C&D waste. These impacts are likely to be only marginal and are classified as temporary, minor and negative.

The potential and predicted impacts are detailed elsewhere in this EIS (Section 6 - Water, Section 7 – Air, Section 8 – Noise, Section 10 – Landscape and Section 11 – Material Assets).

The importation of inert C&D materials via the existing local road network may have adverse implications for existing traffic levels or the safety of traffic movements along Fassaroe Avenue. This impact is considered separately in Section 12 of this EIS.

In the absence of mitigation measures, the movement of additional traffic along Fassaroe Avenue will also have a temporary minor to moderate negative impact on existing noise and dust levels, depending on the intensity of traffic movements.

The proposed restoration of the former sand and gravel quarry will have a very minor positive impact as regards existing employment levels. It is envisaged that the number of dedicated staff permanently employed at the facility will be one and possibly two, depending on the rate of backfilling and volume of C&D material being processed. Qualified contractors will be brought on site to carry out any necessary infrastructure construction works. Environmental monitoring will be undertaken by Roadstone Dublin's in-house staff or by independent consultants.

3.3.2 Long-Term Impacts

The principal long-term impact of infilling of the existing void and backfilling to former ground level will be the removal of an unsightly feature in the landscape and reinstatement of the site to its pre-extraction landform. This impact is classified as permanent, minor and positive.

At the end of the quarry backfilling operations, there will be a reduction in traffic movements over the local road network leading to and from the site, with consequent improvement of the human environment.

3.3.3 Interaction with other Environmental Receptors

As mentioned above, all environmental factors ultimately impact upon, and interact with human beings. These impacts are discussed in detail in the relevant sections of this EIS.

3.4 MITIGATION MEASURES

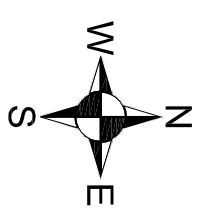
Mitigation measures to be adopted during this restoration project will relate primarily to minimising any impacts of the project on surrounding sensitive receptors. These measures are discussed elsewhere in this EIS, in the sections to which they relate.

The duration of restoration activities in the immediate vicinity of local residences will be kept to a minimum. Temporary screening berms will be provided for the duration of quarry backfilling operations at the northern boundary of the site during placement and backfilling with soil in order to minimise noise and dust impacts and reduce potential visual intrusion at the nearby residences.

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FIGURES

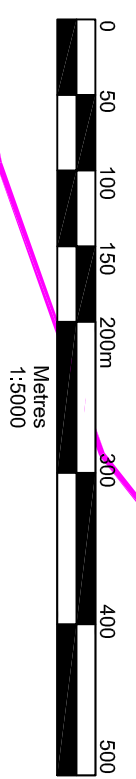
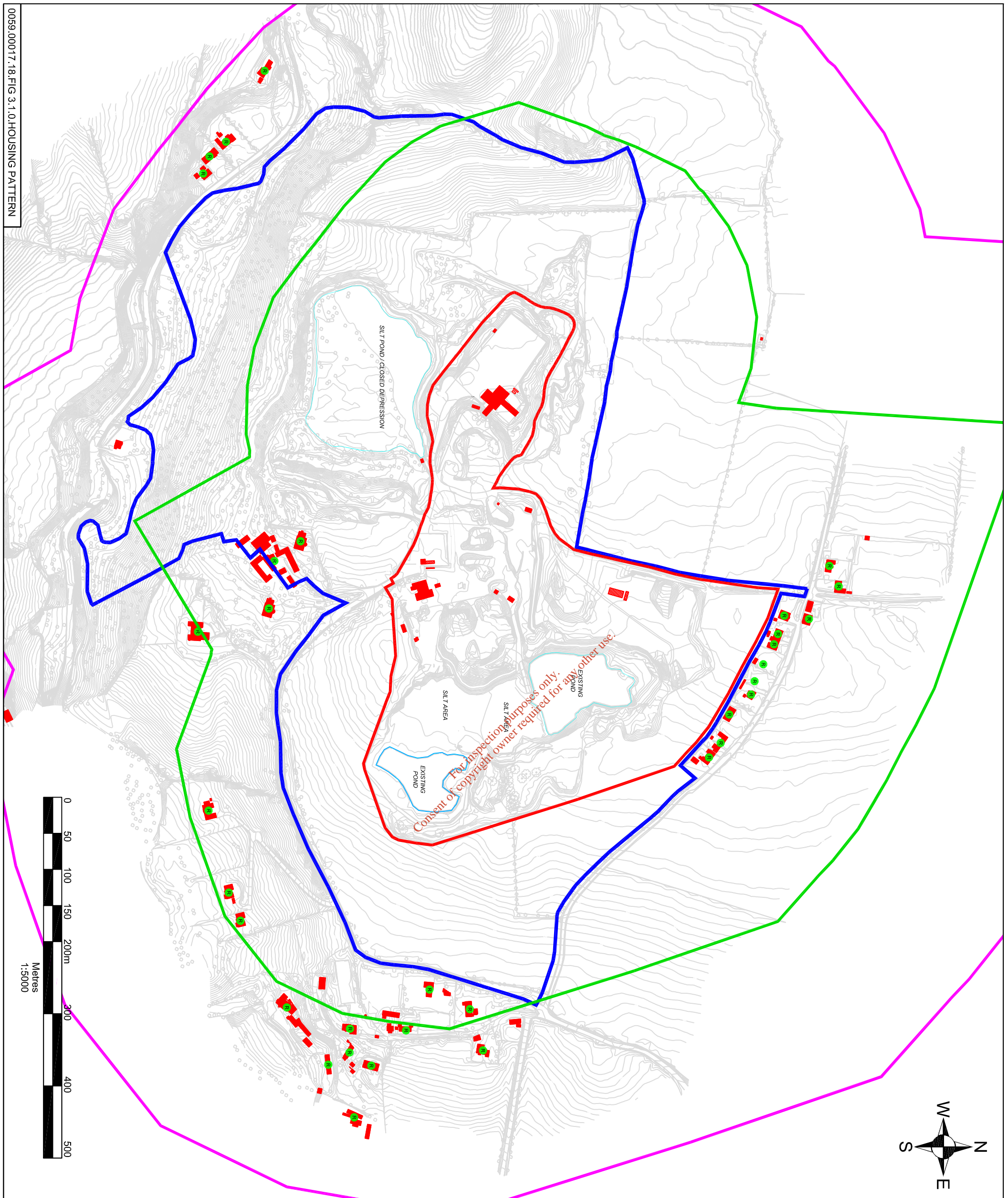
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- NOTES**
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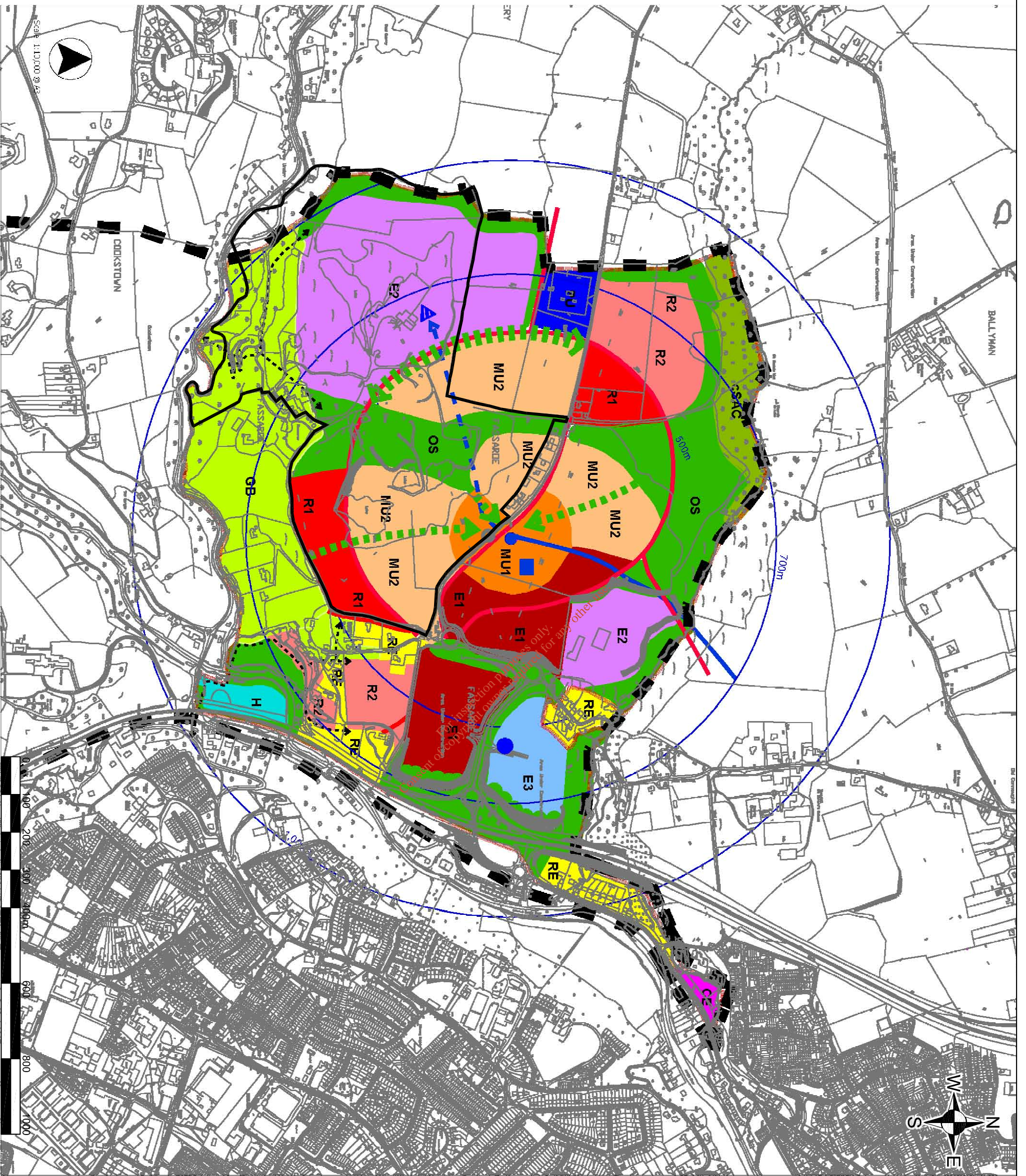
LEGEND

	Applicant's Land Interest (c. 65.1 ha)
	Waste Licence Application Area (c. 21.4 ha)
	Track
	250m Offset from Application Site
	500m Offset from Application Site
	Location of Residences
	Building



0059.00017.18.FIG 3.1.0.HOUSING PATTERN

 ROADSTONE DUBLIN LTD. FORTUNESTOWN TALLAGHT DUBLIN 24	 SLR CONSULTING IRELAND 7 DUNDRUM BUSINESS PARK WINDY ARBOUR DUBLIN 14 T: +353-1-2964667 F: +353-1-2964676 www.slrconsulting.com
ROADSTONE DUBLIN LTD. WASTE LICENCE APPLICATION FASSAROE WASTE RECOVERY FACILITY FASSAROE, BRAY, CO.WICKLOW HOUSING PATTERN	
FIGURE 3.1	
Scale 1:5,000 @ A3	Date APRIL 2009



LEGEND

- Study Area
- RE Existing Residential
- R1 New Residential
- R2 High Density
- R3 Medium to Low Density
- MU1 Low Density
- MU2 Predominantly Commercial
- MU3 Mixed Use 2
- CE Predominantly Residential/Office
- E1 Existing Commercial
- E2 Employment 1
- E3 High Density Employment
- E4 Industry/ Business Park
- E5 Employment 3
- GB Greenbelt
- OS Open Space
- PU Public Utility
- T Tourism
- H Hotel
- CSAC Candidate Special Area of Conservation
- LUAS Masterplan Area
- LUAS Linear Open Space
- Proposed New Road Network
- Footpath
- Potential Location for Park & Ride
- Potential Location for LUAS Stop and Stabling
- Potential Location for Fire Station
- Landscape Buffer Zone

Applicant's Land Interest (c. 65.1 ha)

roadstone
 ROADSTONE DUBLIN LTD.
 FORTUNE TOWN
 TALLAGHT
 DUBLIN 24

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ROADSTONE DUBLIN LTD.
 WASTE LICENCE APPLICATION
 FASSAROE WASTE RECOVERY FACILITY
 FASSAROE, BRAY, CO. WICKLOW

PROPOSED LAND USE ZONING
 BRAY DRAFT ENVIRONS
 LOCAL AREA PLAN 2009 - 2015

FIGURE 3.2