

## **Appendix 3.1**

### Site Evaluation Criteria



## 3.1 Site Evaluation

### 3.1.1 Background

#### 3.1.1.1 Introduction

Between December 1999 and December 2000, a search was conducted on behalf of Indaver for suitable locations in County Cork for a proposed waste-to-energy facility, which would include the thermal treatment of hazardous waste. The current site in Ringaskiddy was identified during that search and purchased by Indaver. Indaver proposes to develop the Ringaskiddy Resource Recovery Centre on this site. The 1999 – 2000 site selection exercise is described below.

The current status of the areas in County Cork considered as part of the 1999 – 2000 site selection exercise is reviewed to determine if these areas would provide a suitable site for the proposed Resource Recovery Centre now.

Land at Kilbarry, on the north-western outskirts of Cork City, is zoned industrial and is designated as a Strategic Employment Area. Under Objective ZU 3-7 of the Cork County Development Plan 2014, a site in this Strategic Employment Area would be open for consideration for large scale waste treatment facilities including waste-to-energy recovery. The suitability of the land at Kilbarry for the proposed Resource Recovery Centre is reviewed.

## 3.2 1999 - 2000 Site Selection Exercise

Between December 1999 and December 2000, a search was conducted on behalf of Indaver for suitable locations in County Cork for a proposed waste-to-energy facility, which would include the thermal treatment of hazardous waste. The current site in Ringaskiddy was identified during that search and purchased by Indaver. Indaver proposes to develop the Ringaskiddy Resource Recovery Centre on this site.

The 1999 -2000 site selection exercise undertaken for Indaver is described below. This text is from Section 2.6 of the Indaver Ringaskiddy Waste Management Facility EIS, 2001.

### “2.6 Site Selection Process

#### 2.6.1 Introduction

In December 1999 Indaver Ireland appointed an engineering consultancy firm, to carry out a site selection process for locating a hazardous waste incinerator facility within Ireland. The need for this incinerator had been indicated by the Environmental Protection Agency (EPA) in their proposed National Hazardous Waste Management Plan (Draft Document - August 1999 and subsequently published in July 2001).

Between December 1999 and December 2000 a thorough search was conducted of all available lands that complied with the defined Site Selection Criteria. Initially, a preliminary investigation was carried out on twenty-four sites. Four of these sites were short-listed for a more detailed investigation. Of the four short-

listed sites, two were then selected as preferred. One of the two preferred sites (identified in early 2000) became available through the public auctioning of the land in November 2000.

This section of the EIS discusses the complete site selection process that was undertaken and how the two preferred sites were identified.

### 2.6.2 Site Selection Criteria

Two documents were used as a basis for establishing some of the selection criteria for this project. The documents are:

- *"Site Selection for New Hazardous Waste Management Facilities" published by the World Health Organisation (WHO).*
- *"Technical Guidelines on Incineration on Land" – Basle Convention.*

A list of the main criteria used in the initial investigation of each potential site is provided below. The first requirement that needed to be met was that the land was zoned for industry or had an option for industry. Lands that did not meet these criteria were not considered for the development.

Following the initial screening process, the four preferred sites were subjected to a more detailed investigation. During this investigation more detailed criteria were considered to identify the most suitable site(s). These criteria are discussed separately in Section 2.6.7 below.

### 2.6.3 Initial Site Selection Criteria

#### Location within Ireland

As previously mentioned the EPA has highlighted the necessity for Ireland to have its own hazardous waste management facilities rather than using facilities abroad. Based on this requirement Indaver Ireland set about investigating the possibility of providing a hazardous waste incinerator to treat most of the hazardous waste generated within Ireland.

The EPA report highlighted that industries located in County Cork generate approximately 60% of the hazardous waste produced in Ireland. Most of this waste is generated by the pharmaceutical industry located in the Cork Harbour region.

On this basis, Indaver Ireland specified that the site selection process be confined to the Co. Cork area only.

#### Industrial Zoned Land

As the proposed facility is considered to be an industrial development it was specified by Indaver Ireland to investigate only available industrial zoned land in County Cork.

Cork County Council's 1996 County Development Plan (CDP) and the 1999 Variations to the 1996 CDP were used to identify all suitable industrial zoned lands. This CDP is currently being reviewed but the revised plan will not be issued until sometime in 2002.

#### WHO Guidelines and Basle Convention

As mentioned previously these two sets of guidelines were consulted during the site selection process. While some of the screening methods outlined in each document were used in the preliminary investigation of each potential site, the main selection criteria were utilised during the detailed investigation of the four preferred sites. These detailed criteria are discussed separately in Section 2.6.7 below.

### Sensitive Locations

In the current site selection process, all sensitive locations (i.e. schools and hospitals) were identified on maps and distances between the proposed sites and these locations were established. Indaver Ireland specified a preference that there be a distance of at least 500m between a site boundary and any such sensitive locations. This distance restriction was included as one of the criteria in the site selection process.

### Road Network

Because of the anticipated volumes of traffic travelling to and from the proposed facility it was considered necessary to include the requirement that the site should be located as close as possible to the main road network, thereby minimising the impact on traffic.

### Utility Services

To operate a hazardous waste incinerator there are a number of utility services required. Each one is discussed separately below.

- *Power Supply*

The site, if possible, should be located near a main ESB power supply (38, 110 or 220 kV supply line) – preferably with a substation close by. Because the facility will be a waste to energy plant there will be excess electricity generated (approx. 14 MW, with both phases operational), which will need to be exported to the national grid. The main method of exporting this electricity would to connect into an ESB substation – therefore the requirement to be near an existing substation.

- *Gas Supply*

While it is not essential for the development to be located near a natural gas pipeline (on-site gas storage could be utilised) it is preferable, purely from an operational viewpoint. The gas main servicing Ringaskiddy is a high pressure gas main.

- *Water Supply*

The development will require approximately 16 m<sup>3</sup>/hr water supply. While it is preferable to be close to an existing water supply main, it might also be possible to utilise groundwater if available.

- *Effluent Discharge*

Indaver Ireland has indicated that it is not completely necessary to require an effluent discharge point for the development as it is possible to reuse most of the wastewater generated on-site in the incineration process. Sanitary effluent would still need to be disposed of either through a small on-site treatment plant and associated percolation area or a nearby sewer system.

Sanitary effluent will be generated from approximately 57 people on-site, with both phases operational.

All of the above requirements for the ancillary services were considered throughout the site selection process.

#### Visual Amenities, Natural Heritage Areas, Special Areas of Conservation

Under European and Irish Regulations there are a number of areas which have been designated as requiring protection against development. Where possible, development should be excluded from these areas or measures taken to minimise the risk / impact the development may have on an area.

Even though it is unlikely for Cork County Council to have sited industrial zoned lands in these areas some further research was carried out, where necessary, to ensure that since the publication of the CDP (1996) no new sensitive areas were identified close to or within the zoned land.

The CDP has highlighted areas where the visual impact may be of concern particularly along main tourist routes. These areas have also been considered throughout the site selection process.

#### Site Area

The size of the site required was specified as being between 5 – 8 hectares.

#### 2.6.4 Site Selection Process

As stated previously the site selection process began in December 1999 and was completed when the preferred site was purchased by Indaver Ireland in December 2000. Over that period of time the process was carried out in two separate phases.

Because of the major industrial development in the lower Cork Harbour area the initial site selection process (phase 1) concentrated on available land in this area. The CDP was reviewed to identify suitable locations in this area. Refer to Figures 2.5 and 2.6.

As the phase 1 process was coming to an end it was decided to broaden the search to all of County Cork (phase 2). This search commenced in April 2000. All of the phase 2 sites were located close to Cork's major towns. Refer to Figure 2.7.

The results of each phase of site selection are provided below.

#### 2.6.5 Phase 1 - Site Selection Process

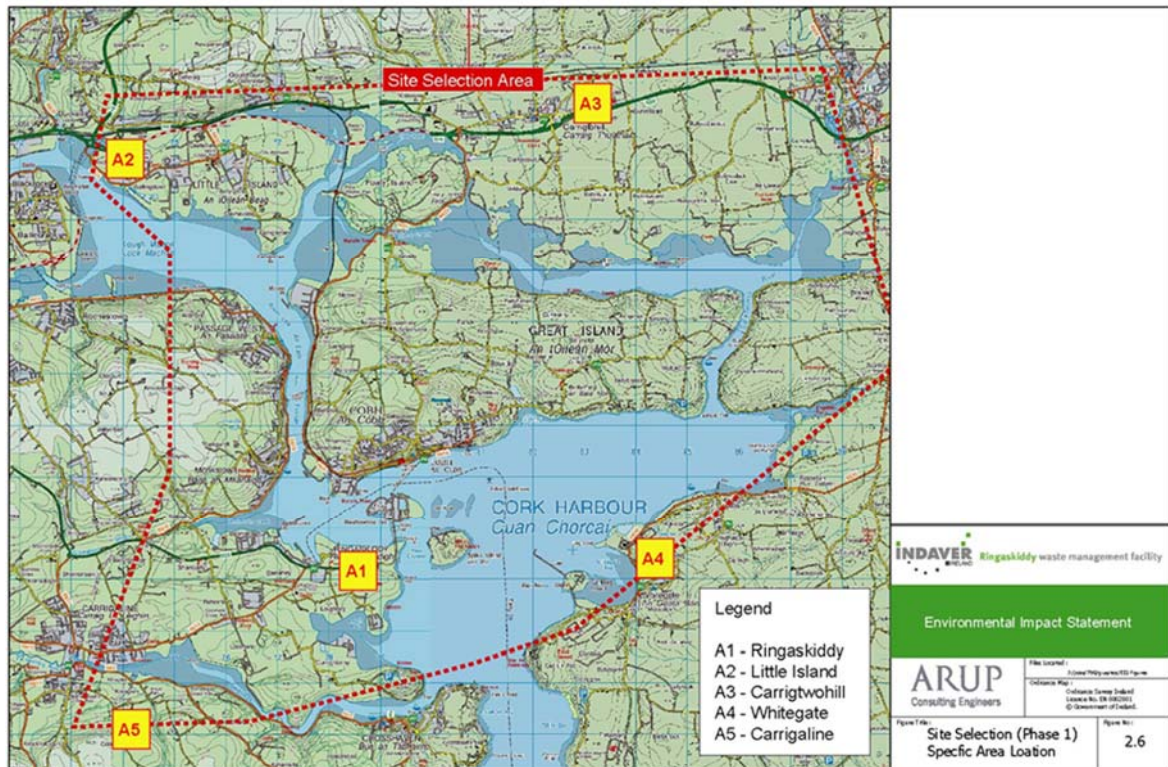
Little Island and Ringaskiddy contain most of the pharmaceutical companies in the Cork area. Indaver Ireland requested that the initial site search be concentrated within the Cork Harbour area so as to minimise the transport requirements and make best use of the existing road infrastructure in the area. Figure 2.5 identifies the total search area for phase 1. Figure 2.6 identifies the various industrial locations as outlined in Table 2.8 below.

Ref. No.	Site Location	Site Description	Ownership
Area 1 (A1)	Ringaskiddy	All industrial zoned land currently undeveloped.	IDA, private owners, & private company owners.
Area 2 (A2)	Little Island	All industrial zoned land currently undeveloped.	Private owners.
Area 3 (A3)	Carrigtwohill	All industrial zoned land currently undeveloped.	IDA & private owners.
Area 4 (A4)	Whitegate	All industrial zoned land currently undeveloped.	Private owners.
Area 5 (A5)	Carrigaline	Industrial park on the Crosshaven Road.	Cork County Council

More than 50% of the available land in Ringaskiddy is owned by the Industrial Development Authority (IDA). Indaver Ireland approached the IDA to determine whether they would be in a position to make land available for this project. The IDA responded that they were not in a position to provide any land to Indaver Ireland. As such, all IDA owned land in County Cork was excluded from the remainder of the site selection process.







The remainder of the available land in Ringaskiddy is mainly in private ownership. Figure 2.8a and Photo 2.8b identifies four areas in Ringaskiddy that were considered to be suitable for development from the initial investigations. These are discussed in more detail in Section 2.6.7 below.



## **Area 2 – Little Island**

Little Island can be considered in the context of two separate industrial areas with the western side mostly occupied by medium sized heavy industries (i.e pharmaceutical, food and mineral companies) and the eastern side mainly consisting of light industrial activities.

A review of the CDP showed that there isn't sufficient land available in the western side of Little Island to accommodate the proposed development. The CDP identifies some land on the north east side of Little Island as being suitable for industrial development. However, this land is very visible from the new roadway (N 25) and due to the scenic nature of this road it was concluded that this land should not be investigated further.

Therefore, Little Island was not included as an area suitable for further investigation for the development.

## **Area 3 – Carrigtwohill**

Carrigtwohill was investigated because of the existing industrial activities in the area and the available land zoned for industrial use. Due to the IDA ownership of the main industrial estate the available land in this estate was not investigated any further. The CDP identified land to the east of Carrigtwohill for a large stand-alone industry. Cork County Council's planning department were contacted to discuss the extent of this zoning and from these discussions it was concluded that this land would not be suitable for the proposed development – the main reason being the number of jobs that would be created would not be sufficient to meet the Council requirements.

Following initial investigations it was concluded that there was no land available in Carrigtwohill suitable for the development.

## **Area 4 – Whitegate**

Because of the large industries already located in Whitegate it was considered that this area would be suitable for the proposed development. The CDP has identified land in Whitegate for long term industrial use following the utilisation of serviced lands at both Little Island and Ringaskiddy. Initial investigations were carried out on this land to determine ownership, road access and nearby services etc. The ESB owned part of the industrial zoned land and it was established that this land was not for sale.

The remainder of the land lies on the hill behind the ESB power plant and associated substation. However, there are currently a number of 220 kV pylons traversing this land bank. Because of the way-leave requirement for these pylons some of the land was deemed unavailable for development.

As well as the existing pylons, the ESB is proposing a new line of pylons to bring electricity from Whitegate to Ringaskiddy. The proposed route for this new line of pylons cuts through the industrial zoned land making more of the land sterile to development. While there is no final decision regarding the erection of these pylons (currently subject to public debate) it was decided that the current ESB proposal ruled out the possibility of investigating this land any further.

Whitegate Oil Refinery was approached to discuss the possibility of selling some of their land bank to Indaver Ireland. This proved unsuccessful.

As the ESB pylons sterilise a lot of the industrial-zoned land bank, a decision was made by Indaver Ireland not to investigate the Whitegate area any further.

### **Area 5 – Carrigaline**

The CDP identifies some land suitable for industrial use on the Crosshaven road, east of the town centre. This land is owned by Cork County Council and part of it is currently developed for light industries. The land bank on the very eastern side of this industrial zone was considered to be a possible option for the development. However, upon further investigation it was concluded that it was not suitable. The main reason being that Cork County Council's Planning Department had indicated a preference for using the remaining land as a Technology / Business Park.

Since the decision was made not to explore this option any further, it has been announced that the land that was being investigated by Indaver Ireland has been sold to Pepsi Cola for a new manufacturing facility.

### **Summary of Phase 1 Site Selection Process**

From the initial decision to investigate areas close to Cork Harbour it was concluded that Ringaskiddy provided the best option for a possible site. All the other areas investigated did not provide any suitable land banks that would be available for development of this project in the short term.

### **Phase 2-Site Selection Process**

Even though the initial site selection process indicated that the Ringaskiddy area seemed to be the most suitable option for the development, Indaver Ireland requested that other areas (not previously searched) be investigated in the County Cork area. A full review of the CDP was carried out and a list of industrially zoned land outside of the Cork Harbour area was prepared. The list of sites visited and preliminarily investigated for their potential is provided below. Comments on each site are also provided.

### **List of Sites**

- *Ballincollig*
- *Macroom*
- *Mallow*
- *Mitchelstown*
- *Charleville*

**Figure 2.7 identifies the site locations within County Cork.**

### Ballincollig

The main advantage of a site located on either the western or southern side of Ballincollig would be its proximity to the proposed Ballincollig bypass, the construction of which is due to start later this year. The CDP identifies land to the west of Ballincollig town as being available for industrial/quarry use. However, when investigated further it was found that this land is already in use by JA Woods and that it was being completely utilised.

Following the initial investigation it was decided that Ballincollig should not be included as a possible site location.

### Macroom

On the Cork side of Macroom, the CDP identified agricultural land with an industrial use option. This land is located behind the IDA owned land and General Instrument – an electronics manufacturing company. It is very close to the main Cork – Macroom road and it is considered likely that a small section of roadway would need to be upgraded and widened. Also located close by is the Nutricia Dairy plant. This plant has two very tall boiler stacks which can be seen from the Cork – Macroom road.

However, because of the lack of other large industries in the area and the proximity of the site to the Lee Valley (tourist amenity) and the distance from waste producers, Indaver Ireland specified that this site be excluded from further consideration.

## **Mallow**

The CDP identifies an industrial zoned site in Quaterstown located to the south of Mallow town. According to the CDP this site has been earmarked for a large scale industry or a food processing industrial park. However, it has been stated that this zoning is not likely to be implementable until the water supply situation in Mallow improves. It also states that the site is to be retained for major new industrial investment and should not be compromised by piecemeal development.

The site is located between the Cork – Dublin and Mallow – Tralee railway lines. The north-east part of the site would have been the best location for the development as it could have been integrated well with the surrounding landscape.

According to the CDP, Cork Co. Co. has a preference for a food type industry for this site and for this reason it was considered that the site was unsuitable.

## **Mitchelstown**

To the west of Mitchelstown the CDP identifies agricultural land with an option for an industry. This site slopes away to the north and overlooks the existing Dairygold facility. The CDP states that this land should be available for a substantial additional production unit (probably, but not necessarily in the food industry).

At some stage in the future it is intended to bypass the town and the CDP shows one route option which is on the western side of the town. A link from this road could be provided to access the western part of the town.

This site also had the potential to be investigated further (particularly as it is close to the main road networks from Dublin, Cork and Limerick - the three main areas where hazardous waste is generated). However, as with the Mallow site the main issue is the type of industry (food related) the County Council would prefer to be located in the town and for this reason the site was not investigated further.

## **Charleville**

While a number of sites were identified in the CDP, one particular site showed some potential during the initial investigations. This site is located on "Station Road" to the north of the railway station. It is currently agricultural land with an option for a medium/large standalone industry.

There is an existing industrial estate situated on this road with a number of light industries located in it. There is also some housing along the side of the road. However, this is being severely restricted to maintain its predominantly rural character and to protect its long term potential for industry / commercial uses.

Because of the relatively flat topography around Charleville town any significant buildings on this site would be seen both from the railway line and the Cork – Limerick road. It may be difficult to integrate the proposed development into the surrounding landscape.

It was considered that the proposed development is not a medium/large standalone industry due to the number of potential jobs (57 No.) that would be created and therefore this site was not considered any further.

## Summary of Phase 2

The main purpose of phase 2 was to review all industrial zoned land in the County Cork area (excluding Cork Harbour – phase 1) that was situated close to primary roads. While the main sites reviewed have been discussed above, a number of other locations were also considered (i.e. Youghal, Buttevant, Saleen, Blarney, Glanmire etc.). Preliminary investigations into these locations showed them not to be suitable, primarily in the context of the CDP and therefore were not included in the main phase 2 investigation.

While some of the sites investigated in phase 2 showed some potential for a detailed site analysis it was considered that none of them could be considered as a serious alternative to potential sites in the Ringaskiddy area.

The main issue that concerned the consultants and Indaver Ireland was how both the County Council and An Bord Pleanála would view the locations of the sites when there were alternatives available in an existing highly industrialised area, and in which a significant quantity of the hazardous waste is generated.

Following the completion of the phase 2 investigations it was decided to proceed with a more detailed evaluation of potential sites in Ringaskiddy.

### 2.6.7 Review of Four Selected Sites in Ringaskiddy

With the prerequisite of investigating industrial zoned lands only it was clear from early in the investigations that the most suitable options would be in an area with existing industries. As previously discussed, of all the existing industrial areas in Cork Harbour, the Ringaskiddy area represented the best option for siting the proposed facility.

Some of the advantages and disadvantages in choosing Ringaskiddy as the location for the waste management facility are provided below.

#### Advantages of Ringaskiddy

- *an existing highly industrialised area with considerable land availability for further industrialisation*
- *two existing pharmaceutical companies in the Ringaskiddy area already have incineration facilities on-site, which are licensed by the EPA*
- *highly skilled workforce available close by*
- *located on a good road network*
- *served area (electricity, gas, water, effluent discharge)*
- *close to the main sources of hazardous waste generated in Ireland.*

#### Disadvantages of Ringaskiddy

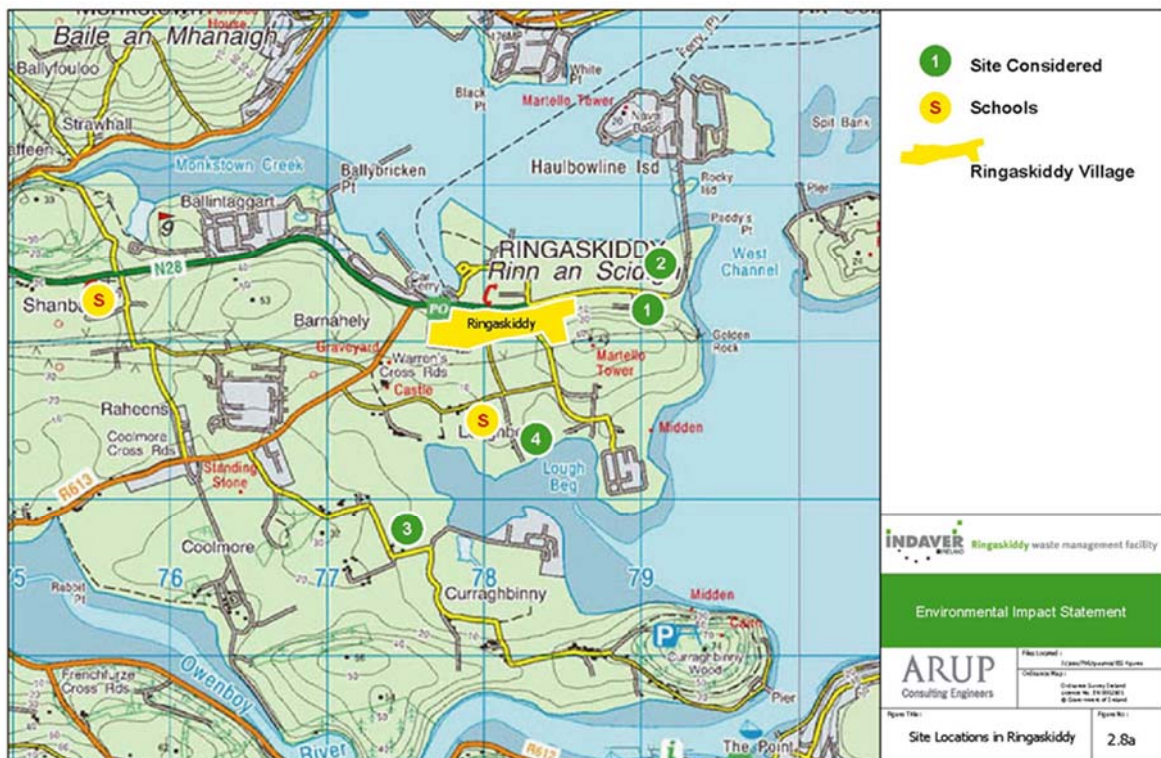
- *part of the industrial land is currently only accessible via Ringaskiddy village*
- *Ringaskiddy village is located in the middle of the industrialised area – small housing developments on the outskirts of the village are located relatively close to the industrial land*
- *schools located close to Ringaskiddy village*
- *existing high traffic volumes at peak times*
- *close to Currabinny Woods and Cork Harbour (amenity areas)*

Over a period of six months various locations in Ringaskiddy were investigated and during this time four separate potential sites were identified. Figure 2.8a and Figure 2.8b show these locations.

The locations were as follows:

1. **Site 1:** Irish Ispat Ltd. owned land surrounding the Hammond Lane metal recycling company.
2. **Site 2:** Irish Ispat Ltd. owned land – reclaimed land on the left hand side of the road between the entrance into Irish Ispat Ltd. and the bridge over to Rocky Island.
3. **Site 3:** Privately owned land to the left-hand side of the road at the entrance to GlaxoSmithKline.
4. **Site 4:** Privately owned land to the right-hand side of the road between Ringaskiddy village and Pfizer, LoughBeg.

Figures 2.9a and 2.9b identify sensitive locations in Ringaskiddy and their proximity to the four sites. Tables 2.9 and 2.10 below identifies the various criteria used in the evaluation of the four sites.











**Table 2.9 Comparison of Sites (Technical Aspects)**

<b>Criteria</b>	<b>Site 1 Irish Ispat Land surrounding Hammond Lane.</b>	<b>Site 2 Irish Ispat – Reclaimed Land</b>	<b>Site 3 Site next to GlaxoSmithKline Entrance</b>	<b>Site 4 Site near to Pfizer LoughBeg</b>	<b>Preferred location with regard to set criteria.</b>
Land Ownership	Irish Ispat Ltd.	Irish Ispat Ltd	One private owner.	Several private owners.	Either of Sites 1-3, because of single ownership.
Availability of Land	Land was put up for Auction in late 2000.	As for Site 1.	Owner was approached but was unwilling to sell.	Owners not approached.	Sites 1 & 3 due to their availability on the market place
Approximate Site Area.	30 acres	12 acres	40 acres	10 acres	Sites 1-3, as Site 4 may be too confined.
Land Zoning	Substantial proportion of the land is zoned industrial.	Zoned Industrial.	Part of the southern end of the site was not zoned – remainder of site, industrial.	Zoned Industrial	No preference as all land zoned industrial apart from a small section of Site 3.
Land Description	Poor agricultural land – parts rented to farmer for grazing. About 30% of the land is sloping or on top of a hill.	Reclaimed land – unsuitable for agricultural use.	Good agricultural land – one large field. Slopes down towards the shore of LoughBeg.	Agricultural land made up of many small fields.	Sites 1 & 3 – the slopes on these sites could be used to cater for the waste collection hall.
Land Accessibility	Currently this site is only accessible via Ringaskiddy village.	As for Site 1.	Traffic can turn off just before Ringaskiddy village.	As for Site 1.	Site 3, as traffic can avoid Ringaskiddy village. However, if plans for a bypass of Ringaskiddy village go ahead then access to the other sites will be improved.

Criteria	Site 1 Irish Ispat Land surrounding Hammond Lane.	Site 2 Irish Ispat – Reclaimed Land	Site 3 Site next to GlaxoSmithKline Entrance	Site 4 Site near to Pfizer LoughBeg	Preferred location with regard to set criteria.
Site Accessibility & Road Upgrade Requirements.	Located on road between Ringaskiddy village and Haulbowline Island. Possibly some strengthening of road required. No additional access road required.	As for Site 1.	Located on the road to Currabinny Woods. Some road strengthening may be required. No access road required.	Located next to Ringaskiddy to Pfizer LoughBeg road. Small access road (<100m) would be required.	Sites 1, 2 & 3 – Least amount of road works required.
Electricity Supply & Substation Availability	38 & 220kV supply next to site. Sub-station at Hammond Lane may be used but a further investigation by the ESB required.	Close to ESB supply as stated for Site 1.	20kV power lines crossing the site. Will probably need to connect into substation opposite Novartis (700m).	Will probably need to connect into substation opposite Novartis (1.45km)	-
Natural Gas Supply	Bord Gáis gas main located on-site.	Bord Gáis gas main located next to site.	Bord Gáis gas main located next to site.	Bord Gáis gas main located next to site.	-
Water Supply	Large water main on roadway next to site with plenty of spare capacity.	As for Site 1.	Water main goes through the site. May need to be upgraded.	Water main next to the site. May need to be upgraded.	Sites 1 & 2 – no upgrade requirements.
Foul Sewer	The nearest foul sewer is located in front of Rock Farm House – close to site boundary.	The nearest foul sewer is located in front of Rock Farm House – 450m away.	The nearest foul sewer is located on the roadway outside of Novartis – would need to be pumped to this sewer – 700m away.	The nearest foul sewer is located on the roadway next to the site – Effluent would need to be pumped to this sewer – 30m away.	-
Note: Currently there is no separate treatment on the foul sewers entering Cork Harbour. A study, commissioned by Cork Co. Co. is investigating the possibility of constructing a separate treatment system to cater for Ringaskiddy, Carrigaline, Monkstown and possibly Passage.					

Criteria	Site 1 Irish Ispat Land surrounding Hammond Lane.	Site 2 Irish Ispat – Reclaimed Land	Site 3 Site next to GlaxoSmithKline Entrance	Site 4 Site near to Pfizer LoughBeg	Preferred location with regard to set criteria.
Emergency Response	All sites are within the Cork Emergency Response Plan area. The closest fire station is in Carrigaline (10 minutes) with back-up provided by Cork City (20 minutes). The nearest hospitals are in Cork City (20 minutes).				
Site Geology, Hydrology, Hydrogeology	Groundwater beneath the site is affected by seawater influences. Some flooding, due to closeness of bedrock, can occur during the Winter months. Soil is suitable for construction of the proposed development.	As the land has been reclaimed it is likely that piling would be required for construction purposes. Underlying groundwater affected by seawater ingress. Parts of the site get flooded during the winter months.	Some bedrock outcrops. Underlying groundwater may be affected by seawater ingress. With the slope of the land it is not prone to flooding. Soil is suitable for construction.	Very wet ground in the Winter months indicating poor drainage and possibly bedrock close to the surface. It is likely that underlying groundwater is affected by seawater ingress. Piling may be required for this site.	Sites 1 & 3.
Historical Soil Contamination	Soil and groundwater analysis have shown the site to be uncontaminated.	No sampling was carried out on this site but as the land has been reclaimed and some storage of material has been carried out on it by Irish Ispat it may be possible for some contamination to be present.	This land has always been in agricultural use so soil contamination (apart from agricultural fertilisers) is unlikely.	As for Site 3.	Sites 1, 3 & 4.

**Table 2.10 Comparison of Sites (Social Aspects)**

<b>Criteria</b>	<b>Site 1 Irish Ispat Land surrounding Hammond Lane.</b>	<b>Site 2 Irish Ispat – Reclaimed Land</b>	<b>Site 3 Site next to GlaxoSmithKline Entrance</b>	<b>Site 4 Site near to Pfizer LoughBeg</b>	<b>Best location with regard to set criteria.</b>
Distance to Ringaskiddy Village from site boundary.	Ringaskiddy Village (Old Church) – 250m.	Ringaskiddy Village (Old Church) – 750m.	Ringaskiddy Village (Old Church) – 1.1km.	Ringaskiddy Village (Old Church) – 700m.	Site 3 – greatest distance away.
Distance to closest sensitive location from site boundary.	Ringaskiddy Schools – 850m.	Ringaskiddy Schools – 1.5km.	Ringaskiddy Schools – 450m.	Ringaskiddy Schools – 500m.	Site 2 – greatest distance away.
Distance to nearest house from site boundary.	50m.	420m.	10m.	10m.	Site 2 – greatest distance away.
Estimate of no. of houses within 500 ft of the site boundary (WHO guidelines) (1)	15 No. due to the construction of a new housing estate next to the western site boundary. Negative Rating However, the main part of the development on Site 1 will be on the eastern side of the site more than 150m (500ft) from the nearest houses.	There are no houses within 500 ft of the site boundary. Positive Rating	7 houses. Neutral Rating	2 houses Positive Rating	Sites 2 & 4.
Primary Wind Direction	South Westerly – towards Spike Island.	South Westerly – towards Spike Island.	South Westerly – towards east end of Ringaskiddy village.	South Westerly – towards Spike Island.	-
Potential Visual Impact	Because of the topography between Ringaskiddy village and	This site has a direct line of site to Ringaskiddy village.	While the development would be very visible from	As for Site 3.	Sites 1, 3 & 4.

Criteria	Site 1 Irish Ispat Land surrounding Hammond Lane.	Site 2 Irish Ispat – Reclaimed Land	Site 3 Site next to GlaxoSmithKline Entrance	Site 4 Site near to Pfizer LoughBeg	Best location with regard to set criteria.
	<p>the site it is likely that only some parts of Ringaskiddy village will have a small view of the development.</p> <p>The site will be very visible from the main road and will be partly visible from high ground in Cobh (1km away).</p> <p>The stack may have some impact on the view of Martello Tower (on top of the hill).</p> <p>This site will also be very visible from the harbour, however there are a number of other facilities located on the coastline.</p>	<p>It will be difficult to screen the development entirely unless the undeveloped land between Ringaskiddy village and the site is developed by other parties.</p>	<p>the road and other view points it should be noted that there are two other existing facilities on the shores of LoughBeg.</p> <p>This site will be visible from the harbour, however there are a number of other facilities located on the coastline.</p>		
Amenity Areas	Next to the Cork Harbour coastline where people walk and fish from the rocks.	Next to the Cork Harbour coastline where people walk and fish from the rocks.	Close to Currabinny Woods – a popular area for walks.	Close to Currabinny Woods – site would be visible from this area.	Currabinny Woods is a more popular destination for walkers so Sites 1 & 2 may have slightly less impact on the surrounding amenities.
Habitat Areas	<p>Monkstown Creek and LoughBeg are protected areas for wildlife.</p> <p>Distance from sites:</p>	<p>Distance from sites:</p> <p>LoughBeg: 1 km</p> <p>Monkstown Creek: 2km</p>	<p>Distance from sites:</p> <p>LoughBeg: On the shoreline</p>	<p>Distance from sites:</p> <p>LoughBeg: On the shoreline</p>	<p>Site 2.</p> <p>It should be noted that GlaxoSmithKline and Pfizer LoughBeg both operate facilities on the shores of</p>

Criteria	Site 1 Irish Ispat Land surrounding Hammond Lane.	Site 2 Irish Ispat – Reclaimed Land	Site 3 Site next to GlaxoSmithKline Entrance	Site 4 Site near to Pfizer LoughBeg	Best location with regard to set criteria.
	LoughBeg: 650m Monkstown Creek: 1.6km		Monkstown Creek: 2km	Monkstown Creek: 2.1km	LoughBeg. GlaxoSmithKline also has a wildlife bird sanctuary as part of its site. This is monitored by the Irish Wildlife Conservancy (IWC).

**Note 1:** One of the site screening issues discussed in the WHO guidelines is as follows:

A negative rating for the site if there are more than 15 dwelling units within 500 ft. (150m) of the proposed site boundary,

a neutral rating if there are 5-15 dwelling units within 500 ft. (150m), or

a positive rating if there are fewer than 5 units within the 500 ft. (150m)



### 2.6.8 Conclusions on the Four Sites

It should be stated that all four sites had advantages and disadvantages to them. No one site met all the set criteria.

Following the detailed investigation of the four sites it was considered that only two sites should be considered for possible acquisition. These were Sites 1 and 4.

Site 2 was discounted for the following main reasons:

- *would be very visible from Ringaskiddy village*
- *is reclaimed land and has a history of on-site storage activities. There is therefore the potential for the land being contaminated and difficult to develop*
- *site was the smaller of the two Irish ISPAT owned sites.*

Site 4 was discounted for the following main reasons:

- *the logistical problems that would be encountered in getting permission from the various land owners to sell their land*
- *separate site access road is required*
- *access through IDA owned land may not be possible*
- *land may be difficult to develop*
- *part of site is within 500m of the Ringaskiddy school.*

#### Site 3

Before Site 1 became available on the market, Indaver Ireland undertook a topographical survey of Site 3 to assess its suitability. Following agreement about its suitability an approach was made to the land owner regarding the possibility of purchasing the site. The land owner declined to make the site available for sale.

#### Site 1

*Irish Ispat had been contacted as far back as January 2000 regarding the availability of this land. At that time they were not interested in selling. However, in the second half of that year they put both Sites 1 and 2 up for auction. Indaver Ireland undertook a site topographical survey of the site as well as a preliminary site investigation study to determine its suitability for the development.*

*Following these initial investigations Indaver Ireland made a bid for Site 1, which they eventually bought in December 2000.*

### 3.3 Current status of the sites considered in 1999 – 2000

The 1999 – 2000 study examined five areas around Cork Harbour and identified industrial-zoned land. The current status of these areas of land is addressed below.

#### **Ringaskiddy**

Four sites in Ringaskiddy were considered in the 1999 – 2000 site selection process. Refer to Figure 2.8b above. Site 2, which is located on the northern side of the L2545 road adjacent to the National Maritime College of Ireland, is now the site of the Beaufort Laboratory and the proposed IMERC campus and is no longer available. Site 3 is a large site in Curraghbinny, which was in single ownership in 1999 - 2000, and site 4 is a site in Loughbeg, which was in multiple ownership in 1999-2000. Both sites are zoned for industrial use and neither site has been developed.

Site 4 was discounted in 1999-2000 due to the difficulties associated with acquiring land in multiple ownership, the requirement for a new access road, site development difficulties and because part of the site was within 500m of the Ringaskiddy National School. These reasons for concluding that site 4 was and is unsuitable remain valid. Sites 1 and 3 were preferred in 1999-2000. Site 3 was in private ownership in 1999-2000 and was not for sale. Site 3 is now part of the Ringaskiddy Loughbeg site which is currently marketed by IDA Ireland as part of its portfolio of strategic sites. Consequently site 3 is not available. Site 1 was available for purchase and was purchased by Indaver. It is the site for the current proposal.

#### **Little Island**

The large area of industrial zoned land in the northern eastern part of Little Island, considered in 1999-2000, remains undeveloped. In 1999-2000 the site was dismissed as unsuitable due to its high visibility from the N25 road and the scenic nature of the N25. While roadside vegetation has matured in the intervening years, large buildings on the site would be very visible from the N25. Thus the reasons for considering the site unsuitable remain the same.

#### **Carrigtwohill**

The large area of industrial zoned land to the east of the town, considered in 1999-2000, was the intended site for the Amgen project. Earthworks were undertaken and a site entrance from the N25 was constructed in the mid-2000s and then the project stopped. The zoning objective for the site – a strategic site for large standalone industry – has not changed. In 1999-2000 the site was dismissed as unsuitable because the number of jobs, which would be created by the Indaver waste management facility, would not be sufficient to meet the Council's requirements. The proposed Ringaskiddy Resource Recovery Centre is unlikely to be considered a large standalone industry and it will not generate substantially more jobs. Thus the reasons for considering the site unsuitable remain the same.

#### **Whitegate**

The industrial zoned land identified in the 1999-2000 study, which lies on a hill to the east of the Aghada power stations and substation, remains undeveloped. The land is traversed by 220kV overhead electricity transmission lines. In 1999-2000, there was the possibility that additional 220kV power lines would cross the land. The land was considered unsuitable, in the site selection study, due to the existing power lines and the uncertainty regarding the routing of the additional power lines.

The additional power lines were routed underwater across the Harbour, away from the land. The County Development Plan 2014 objective ED 1-3 identifies the Whitegate area as the National Energy Hub and as the preferred location for energy developments. The Midleton Local Area Plan 2011, section 5.4.12, has an objective for small to medium scale energy related uses for the land identified in Whitegate. The Local Area Plan in section 5.4.9 notes that the site is accessed by a narrow country road which would need to be upgraded. It is probable that there is a site in the Whitegate lands, which is sufficiently large for the resource recovery centre and which is not affected by the overhead power lines. The energy related use of the resource recovery centre would be compatible with the current zoning objectives. However, Whitegate is much further than Ringaskiddy from Cork City and from the main sources of hazardous waste. Ringaskiddy is a preferable location for this reason.

The industrial zoned land to the south east of the refinery, in the 1999-2000 study and which was owned by the refinery in 1999 - 2000, has been developed.

### **Carrigaline**

The industrial zoned land identified in the 1999-2000 study, which was located to the east of Carrigaline, has been developed.

In 1999 – 2000, having considered areas around the Harbour, the search was widened to examine industrial zoned land in Ballincollig, Macroom, Mallow, Mitchelstown and Charleville.

### **Ballincollig**

The industrial zoned land in Ballincollig was dismissed as unsuitable in 1999 – 2000 on the basis that the land of interest had been developed as a quarry.

### **Macroom**

A site with industrial use zoning was identified on the southern side of Macroom, to the west of the N22 Cork – Macroom road. The site was considered unsuitable due to the lack of other large industry in the area, proximity to the Lee Valley tourist amenity area and the distance from waste producers. The site remains undeveloped and the reasons for considering the site unsuitable remain the same.

## **Mallow**

Industrial zoned land in Quarterstown, on the southern side of Mallow was considered in the 1999-2000 study. At that time the zoning objective for the site was large scale industry or a food processing industrial park. The site was considered unsuitable because the Council had a preference for food related industry. In the current Mallow Local Area Plan a 20 hectare site at Quarterstown has a zoning objective for industrial and/or warehousing and distribution development. An adjacent 46 hectare site has a zoning objective for distribution and small scale industry. Both sites are undeveloped. Apart from the milk processing plant, there is no large scale industry in Mallow. However, Mallow is much further than Ringaskiddy from Cork City and from the main sources of hazardous waste. Ringaskiddy is a preferable location for this reason.

## **Mitchelstown**

Agricultural land, with an option for industry, on the western side of Mitchelstown was considered in the 1999-2000 study. The land was adjacent to the Dairygold plant. At that time, the site was considered unsuitable because the Council had a preference for food related industry. With the completion of the M8 and the R639 bypass, the road network around Mitchelstown has substantially improved since 1999-2000. The site considered in the 1999-2000 study remains undeveloped. Lands to the west of the town are designated for industrial use in the Fermoy Local Area Plan 2011, section 2.4. Two sites have a specific objective for food related industry. A 23 hectare site has a zoning objective for industry. In section 2.4.12 of the Fermoy Local Area Plan 2011, Mitchelstown's reliance on food-related business is noted and diversification is recommended. Consequently, it is presumed that Cork County Council would be open to considering a non-food related industry for the sites. However, Mitchelstown is much further than Ringaskiddy from Cork City and from the main sources of hazardous waste and, as set out above, Ringaskiddy is a preferable location for this reason.

## **Charleville**

The lands in Charleville, identified in 1999 – 2000, are now zoned for business estate development and the specific objective of the only industrial zoned land in the town is for industrial estate development. These zonings would not be suitable for the resource recovery centre.

Charleville is much further than Ringaskiddy from Cork City and from the main sources of hazardous waste and, as set out above, Ringaskiddy is a preferable location for this reason also.

## **Conclusion**

The conclusion of the review in 2015 of the areas in County Cork, considered in the original site selection study, is that Ringaskiddy is the preferred location for the Resource Recovery Centre.

## 3.4 Kilbarry Site

Land at Kilbarry, on the north-western outskirts of Cork City, is zoned industrial and is designated as a Strategic Employment Area. Under Objective ZU 3-7 of the Cork County Development Plan 2014, a site in this Strategic Employment Area would be open for consideration for large scale waste treatment facilities including waste-to-energy recovery.

Kilbarry was not included in the 1999/2000 site selection process. However, in the light of Objective ZU 3-7, a review was undertaken in 2015 of Kilbarry as a potential site for the Resource recovery Centre.

IDA Ireland owns the Kilbarry Business and Technology Park, a 55 hectare site at Kilbarry. The park accommodates light industrial units and offices. There are unused, serviced sites in the park. IDA land is reserved for incoming foreign direct investment and is not available for purchase for infrastructure. While there are light industrial units in other industrial estates adjacent to the N20, to the west of the Kilbarry area, there are no major industries, which might be potential heat or steam users in the future. The road network serving the Kilbarry is very poor. The access roads from the N20, the nearest national primary route, are narrow and poorly aligned. If the Cork Northern Ring Road were to proceed, it would improve the road network in the area. However, there is no published timeframe for this road to proceed to the planning stage.

Due to the poor road network and lack of other large industries in the area, Kilbarry is not considered a suitable site for the Resource Recovery Centre.

## 3.5 Literature Review of Guidelines on Site Selection for Waste-To-Energy Facilities

### 3.5.1 Introduction

The Ringaskiddy site was evaluated with respect to the environmental protection criteria specified in the Southern Region Waste Management Plan 2015-2021 in section 3.2.9.1 of the main body of the EIS. In this section, Irish and international guidance, on the criteria to be used in the selection and/or the evaluation of the suitability of sites for waste to energy facilities for hazardous and/or non-hazardous waste, is considered.

. From the criteria suggested in the guidance documents consulted, a list of site technical evaluation criteria was compiled and the suitability of the Indaver site was evaluated with respect to this list.

### 3.5.2 National and regional documents

The national and regional documents listed below were consulted to determine if they contained guidance on the criteria to be used in the selection and/or the evaluation of the suitability of sites for waste to energy facilities for hazardous and/or non-hazardous waste.

- National Hazardous Waste Management Plan 2014 to 2020 (EPA 2014).

- National Waste Report 2012 EPA (2014)
- Southern Region Waste Management Plan 2015 - 2021 – (Southern Region Waste Management Office (May 2015)

#### National Hazardous Waste Management Plan 2014 to 2020 (EPA 2014)

The 2014 National Hazardous Waste Management Plan [NHWMP] is a revision of the second plan which was published in 2008. The 2014 plan does not include criteria for site selection. However, Table 28 of the NHWMP plan ('Environmental targets and indicators') includes targets to be achieved during the lifetime of the plan. Two of the targets have relevance to the siting of hazardous waste facilities.

The first of these targets is "Minimise distance travelled by hazardous waste". The indicator, to be used to determine the extent the plan is achieving this target, is "tonne-kilometres travelled by road and sea". This target implies that waste facilities for hazardous waste should be located close to the source of generation of the waste.

The second target is "Avoid loss or damage to designated sites from siting of hazardous waste facilities". The indicator is "Area of designated sites used by or proposed for development of hazardous waste facilities". This target implies that waste facilities for hazardous waste should not be located on designated sites.

#### **National Waste Report 2012 EPA (2014)**

This is a report on waste generation and management for the year 2012. It addresses both municipal and hazardous waste and landfill and incineration. It does not include criteria for site selection.

#### **Southern Region Waste Management Plan 2015 - 2021 – (Southern Region Waste Management Office (May 2015)**

The plan contains environmental protection criteria which are addressed in **Section 3.2.9.1** of the main volume of this EIS.

### **3.5.2.1 International documents**

A number of international documents on waste facilities planning were consulted. The guidance on the selection and/or the evaluation of the suitability of sites, given in these documents, is summarised below.

#### **1. UK Department for Communities and Local Government *National Planning Policy for Waste 2014***

This document explains the UK Government's aim to work towards a more sustainable and efficient approach to resource use and management. The document addresses general waste management, including municipal waste. It does not refer to hazardous waste. The document lists the criteria, with respect to which waste planning authorities should assess the suitability of sites and/or new areas for new and enhanced waste management facilities ('Identifying suitable sites and areas', Page 5). The criteria are as follows:

- *the extent to which the site or area will support the other policies set out in this document;*

- *physical and environmental constraints on development, including existing and proposed neighbouring land uses, and having regard to the factors in Appendix B to the appropriate level of detail needed to prepare the Local Plan;*
- *the capacity of existing and potential transport infrastructure to support the sustainable movement of waste, and products arising from resource recovery, seeking when practicable and beneficial to use modes other than road transport; and*
- *the cumulative impact of existing and proposed waste disposal facilities on the well-being of the local community, including any significant adverse impacts on environmental quality, social cohesion and inclusion or economic potential.*

## **2. UK Department for Environment, Food and Rural Affairs Designing Waste Facilities (DEFRA 2008)**

This document aims to promote better understanding of the importance of design in the waste sector and to help drive improved standards. The document states that it “specifically considers high level design issues associated with waste facilities that require new planning permissions and that these could be facilities that collect, recycle, transfer, treat or recover energy from waste”. Design issues associated with landfill sites are not considered in the document.

The document states that site selection is a core part of the process for delivering a new waste facility.

The document states that with regard to sites considered, they should have regard to how facility design will fit with site setting, neighbours and other appropriate selection criteria, including environmental constraints. It states that the publication ‘*Planning Policy Statement 10: Planning for Sustainable Waste Management (2005)*’ states that

*“planning authorities should identify sites and areas in their development plan documents that are suitable for new or enhanced waste management facilities that will meet the waste management needs of their areas. Elements that need to be evaluated include the relationship with waste arisings, the site area required, site availability and site context.*

Good site selection is fundamental and many design considerations stem from this core decision.

Waste management facilities need to be located sensitively. They need to consider the reaction of the local community and various environmental considerations such as ecological designations. Environmental constraints may inform the site selection process, or have a big influence on the design solution, particularly on key elements such as layout, orientation and even the height of certain structures.”

In their consideration of the environmental performance of proposed development, taking particular account of the climate the development is likely to experience over its expected lifetime, planning authorities should expect new development to:

- *comply with adopted DPD (Development Plan Document) policies on local requirements for decentralised energy supply and for sustainable buildings, unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable*
- *take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption, including maximising cooling and avoiding solar gain in the summer; and,*



*overall, be planned so as to minimise carbon dioxide emissions through giving careful consideration to how all aspects of development form, together with the proposed density and mix of development, support opportunities for decentralised and renewable or low-carbon energy supply*

- *deliver a high quality local environment*
- *provide public and private open space as appropriate so that it offers accessible choice of shade and shelter, recognising the opportunities for flood storage, wildlife and people provided by multifunctional green spaces*
- *give priority to the use of sustainable drainage systems, paying attention to the potential contribution to be gained to water harvesting from impermeable surfaces and encourage layouts that accommodate waste water recycling*
- *provide for sustainable waste management*
- *create and secure opportunities for sustainable transport in line with PPG13 including through:*
  - *the preparation and submission of travel plans providing for safe and attractive walking and cycling opportunities including, where appropriate, secure cycle parking and changing facilities*
  - *an appropriate approach to the provision and management of car parking.'*

*(Planning Policy Statement: Planning and Climate Change Supplement to Planning Policy Statement 1 (2007) paragraph 42)."*

The DEFRA 2008 document also states the following:

*"As well as the strategic and practical decisions around site selection, there are also design and environmental considerations that need to influence the choice. The relevant issues vary greatly with scale and specific operational requirements but, as with all types of development, waste management facilities need to be located sensitively. They need to consider the reaction of the local community and various environmental considerations such as ecological designations. Environmental constraints may inform the site selection process, or have a big influence on the design solution, particularly on key elements such as layout, orientation and even the height of certain structures.*

*The approach to site selection may vary. There is no prescriptive approach to this but methodologies should have a number of common themes in terms of selection criteria. It is important that the strategies and plans set out clear objectives in terms of design quality and requirements."*

### **3. Waste Policy Guidance: WM13 and WM15 Site Selection Criteria (Joint Merseyside and Halton Waste Local Plan – July 2013)**

Published in 2013, this document provides additional guidance on the site selection assessment criteria which are provided in policies WM13: Planning Applications for New Waste Management Facilities on Unallocated Sites and WM15: Landfill on Unallocated Sites.

The guidance lists the following criteria which should be considered when selecting a site. These criteria are for waste facilities in general.

- Listed buildings
- Registered parks and gardens
- SACs
- SPAs
- Ramsar sites

- National nature reserves
- Site of special scientific interest
- World heritage site
- Schools
- Residential areas
- Hospitals
- Food processing plants
- Nitrate vulnerable zones
- Prime agricultural land
- Controlled surface waters
- Greenbelt
- Indicative flood plain
- Groundwater source protection zone
- Ancient woodland
- Local nature reserve
- Local biological and geological sites
- Conservation areas
- Air quality management areas
- Green and open public space
- Public rights of way (e.g. footpaths)
- Notifiable hazard zone (COMAH)
- Aerodrome safeguarding zone
- Major road junction
- Previously developed land
- Large energy customer zone
- Current landfill
- Industrial areas
- Proximity to railway sidings
- Proximity to canals or docks
- Access to public transport (rail, bus stops)
- Proximity to unemployment areas
- Proximity to strategic routes
- Other operating waste site
- Proximity to waste arisings (town centres)
- Current mineral extraction site
- Former landfill
- Former mineral extraction site.

## 3.6 Summary of Criteria

The environmental protection and site evaluation criteria, and sources from which they come, are listed in Table A3.1 below.

**Table A3.1 Summary of National, Regional, and International Criteria for Site Selection, and Source Documents**

En	Criteria (refer to Section 3.2.6.2 for further detail)	NHWMP <sup>1</sup>	NWP <sup>2</sup>	SDRWMP <sup>3</sup>	NPPfW <sup>4</sup>	DWF <sup>5</sup>	WPG WM13 & WM15 <sup>6</sup>
1	Land zoning/land use/development plan policy compliance/ Industrial areas				√		√
2	Stationary populations/ proximity to Local communities/residential areas/ Urbanisation surrounding areas					√	√
3	Road network/traffic/major road junction/proximity to strategic routes/ sustainable movement of waste			√	√	√	√
4	Utility services						
5	Landscape & visual amenities/NHAs, cSAC, SPAs, Ramsar sites, statutory nature reserve/areas protected for geology, heritage or cultural value			√	√	√	√
6	Site area/ site adequate for activity proposed						√
7	Residue disposal					√	
8	Maximise energy efficiency/ proximity of potential energy users/ markets for steam/energy/large energy customer zone				√		√
9	Physical environmental constraints				√		
10	Cumulative impact of waste disposal facilities on community wellbeing				√		
11	Reaction of local community/social acceptability/public participation/ favourable social consensus					√	
12	Listed buildings/registered parks & gardens/ food processing plants/nitrate vulnerable zones/prime agricultural land/controlled surface water/ greenbelt/ green & open public space/ Ancient woodland				√		√
13	Flood plain/flood risk			√	√		√

En	Criteria (refer to Section 3.2.6.2 for further detail)	NHWMP <sup>1</sup>	NWP <sup>2</sup>	SDRWMP <sup>3</sup>	NPPfW <sup>4</sup>	DWF <sup>5</sup>	WPG WM13 & WM15 <sup>6</sup>
14	Groundwater source protection						√
15	Air quality management area/emissions				√		√
16	Public rights of way						√
17	Notifiable hazard zone (COMAH)						√
18	Aerodrome safeguarding zone						√
19	Previously developed land						√
20	Current landfill/ Former Landfill /existing closed/unopened landfills could be used as alternative sites			√			√
21	Proximity to railway sidings/proximity to canals or docks						√
25	Access to public transport (rail, bus stops)						√
23	Proximity to unemployment areas						√
24	Other operating waste sites/ sites that can integrate differing aspects of waste processing			√			√
25	Current mineral extraction site/ former mineral extraction site						√
26	Site hydrology (surface water), geology, hydrogeology/ avoid unsuitable areas/ karst/land instability			√			
27	BAT (including appropriate selection of site)			√			
28	AA Screening/AA			√			
29	Prevent spread of invasive alien species			√			
30	Min distance from watercourses (10 – 15m)			√			
31	Riparian buffer zones minimum 15m			√			
32	SuDS			√			
33	Proximity of sensitive receptors in relation to odours, vermin and birds, noise light and vibration , and litter				√		

En	Criteria (refer to Section 3.2.6.2 for further detail)	NHWMP <sup>1</sup>	NWP <sup>2</sup>	SDRWMP <sup>3</sup>	NPPfW <sup>4</sup>	DWF <sup>5</sup>	WPG WM13 & WM15 <sup>6</sup>
34	Minimise distance travelled by hazardous waste/ proximity to waste arisings (town centres)	√					√

1 National Hazardous Waste Management Plan 2014 – 2020 (EPA 2014)

2 National Waste Report 2012 (EPA 2014)

3. Southern Draft Regional Waste Management Plan 2015 (Southern Region Waste Management Office 2014)

4 National Planning Policy for Waste 2014 (UK Department for Communities and Local Government 2014)

5. Designing Waste Facilities (UK DEFRA 2008)

6. Waste Policy Guidance: WM13 and WM15 Site Selection Criteria (Joint Merseyside and Halton Waste Local Plan – July 2013)

## 3.7 2015 Site Suitability Evaluation

### 3.7.1 Assessment Criteria

Having reviewed the above documents and the criteria used in the 1999 - 2000 site selection, an updated list of site suitability evaluation criteria was adopted for this review.

The criteria used in the Arup 2015 review were as follows:

1. **Land zoning/land use/development plan policy compliance** – the site must be zoned or have an option to be zoned for industry,
2. **Stationary populations** – proximity to schools, hospitals, prisons (preferably more than 500m from the site, proximity to local communities and residential areas,
3. **Candidate Special Areas of Conservation, Special Protection Areas, Natural Heritage Areas** – avoid designated sites,
4. **Designated landscape, visual amenities, cultural and heritage assets, area of geological value** – avoid these features
5. **Avoid flood risk areas**
6. **Geological and hydrogeological conditions** – must be suitable,
7. **Road network/major road junction/proximity to strategic routes** – located close to main roads,
8. **Brownfield sites** - preferred
9. **Other operating waste sites** – where synergies exist
10. **Markets for steam/energy generated** – where feasible, sites which have a use for the energy or steam generated are preferred,
11. **Neighbouring land uses**– avoid incompatible land uses,
12. **Site area** – 5 to 8 hectares required,
13. **Proximity and ease of access for emergency service**
14. **Utility services** - availability of sufficient supplies of electrical power, natural gas, water and effluent discharge,
15. **Impacts on existing and potential economic activities,**
16. **Proximity to waste arisings, minimise distance travelled by hazardous waste,**

The site suitability was evaluated with respect to the above criteria.

#### 3.7.1.1 2015 Suitability Evaluation

The suitability of the Ringaskiddy site for the proposed Ringaskiddy resource recovery facility was assessed in the context of the selection criteria listed in **Section 1.4**. The recent or proposed changes and developments in the Ringaskiddy area, outlined in Chapter 3 of the main volume of the EIS, were



considered in the assessment. Where relevant, reference is made to these recent or proposed changes and developments in the text below.

### 1. Land zoning/land use/County Development Plan policy compliance

In the *Carrigaline Local Area Plan 2011*, the zoning for the site is 'Industrial' and in Section 2.2.1 of the *Carrigaline Local Area Plan 2011*, Ringaskiddy is included as 'a strategic employment centre'.

With regard to land uses appropriate to the different zonings, Section 1.6.12 of the Carrigaline Local Area Plan states that:

*Industry' will include manufacturing, repairs, warehousing and distribution development including waste management activities but excluding landfill or incineration. Land zoned for 'industry' may be made the subject of a long-term reservation for large-scale or standalone industry as part of the strategic supply of land for these specialist developments.*

#### Cork County Development Plan 2014

In the Cork County Development Plan 2014, Objective ZU 3-7 Appropriate Uses, the following text, which was inserted by Ministerial Direction, supersedes the Carrigaline Local Area Plan.

*(b) The provision of strategic large scale waste treatment facilities including waste to energy recovery facilities will be considered in 'Industrial Areas' designated as Strategic Employment Areas in the local area plans subject to the requirements of, National policy future Regional Waste Management Plans and the objectives set out in local area plans.*

### 2. Stationary populations – schools, hospitals, prisons (preferably > 500m from the site)

There is a primary school at Loughbeg, to the southwest of Ringaskiddy Village. The school is at a distance of approximately 1km from the proposed site. The National Maritime College of Ireland is directly to the north of and within 500m of the site. However, this is a third level, non-residential college, and the population is not considered to be 'stationary'. There are no prisons or hospitals in the vicinity of the site. The Irish Naval Service base on Haulbowline Island has residential accommodation. Haulbowline Island is located approximately 1km from the Indaver site. Any possible future residential accommodation on Spike Island would be located more than 500m from the Indaver site.

### 3. Candidate Special Areas of Conservation, Special Protection Areas, Natural Heritage Areas, – avoid designated sites

The site upon which the development is proposed to be located is not designated as a candidate special area of conservation [cSAC], a special protection area [SPA], a natural heritage area [NHA] or a proposed natural heritage area [pNHA]. The nearest designated sites (refer to **Chapter 12** of the main volume of the EIS) are the Lough Beg pNHA, the nearest point of which is located approximately 300m to the south of the site, and the Cork Harbour SPAea, the nearest point of which is located approximately 500m to the south of the site.

#### **4. Designated landscape, visual amenities, cultural and heritage assets, area of geological value – avoid these features**

Objective ZU 3-7 of the Cork County Development Plan 2014 specifies that the provision of large scale waste treatment facilities including waste to energy recovery will be open to consideration in industrial areas which are designated as Strategic Employment Areas. The Strategic Employment Areas in County Cork are Kilbarry, Little Island, Whitegate and Ringaskiddy. All of these areas are also designated in the Cork County Development Plan as high value landscapes. Refer to Section 13.6 of the plan. The plan recognises that landscapes are dynamic and continuously evolving. The objectives of the plan, with respect to high value landscapes, do not attempt to prevent new uses or changes but to manage the change. The plan specifies that large scale developments within high value landscapes need to be undertaken with considerable care.

Thus, to comply with the land use objectives of the Cork County Development Plan, it is unavoidable that the proposed Indaver facility is located in a high value landscape area. The visual and landscape impact of the proposed Indaver development has been assessed by a suitably qualified practitioner and appropriate mitigation has been proposed.

The R610 road from Passage West to Shanbally, the N28 road from Shanbally village to Ringaskiddy village, and the L2545 road, from the village to the car park which is adjacent to the northeastern corner of the Indaver site, are designated in the Cork County Development Plan as scenic route S54. The views from this route, which are identified for protection, are the views of the Harbour. Refer to Section 13.7 of Volume 1 and Chapter 5 of Volume 2 of the Cork County Development Plan. The plan makes clear that the designation as a scenic route is not intended to be a prohibition of development along the route but that development should not hinder or obstruct the specific views and prospects from the route, which are identified in the plan, and that development should be designed and located to minimise their impact. A development on the Indaver site will not hinder or obstruct the views of the harbour from the N28 or L2545.

There are no protected geological heritage or cultural heritage features on the Indaver site. The nearest geological heritage feature is Golden Rock, on the foreshore approximately 200m southeast of the site. The nearest cultural heritage feature is the Martello Tower, which is located approximately 70m south of the site boundary, to the southwest of the areas of the site which it is proposed to develop.

#### **5. Avoid flood risk areas**

A flood risk assessment of the site has been undertaken. The risk to the site of fluvial flooding, that is flooding caused by a river, is extremely low, as there are no rivers nearby. A very small part of the site is at risk from pluvial flooding, that is flooding caused by rainfall generated overland flow. This area is to the west of the Hammond Lane entrance, and located between the Hammond Lane premises and the L2545 road. Parts of this area of the site are below the level of the adjacent road. The surface

water drainage in the L2545 road is inadequate and the road floods following prolonged heavy rain. Rainwater collected on the road is discharged into the adjacent low-lying part of the site by forming drains in the site boundary. This low-lying area is below the 1 in 200 year high tide level and is at risk of tidal flooding. However this area is approximately 300m from the shoreline, at the nearest point, and the intervening ground is above the 1 in 200 year high tide level. In the part of the site to the east of Hammond Lane only a very narrow strip adjacent to the road boundary is below the 1 in 200 year high tide level and the intervening ground between this area and the shoreline is above the 1 in 200 year high tide level. Most of the site is well above the 1 in 200 year high tide level and well above the level of the L2545 road.

**6. Geological and hydrogeological conditions – must be suitable**

The geological and hydrogeological conditions of the site are suitable for the type of development proposed.

**7. Road network/major road junction/proximity to strategic routes – located close to main roads**

The Ringaskiddy area is served by the N28 national primary route. The L2545 road, which forms the site's northern boundary, connects to the N28 approximately 400m from the site's western boundary. Apart from the Ringaskiddy commuter rush hour, the existing N28 has adequate capacity to accommodate the traffic which will be generated by the proposed development. The proposed upgrade to the N28 will further improve the access to the site, and allow the traffic to and from the facility to bypass Ringaskiddy Village.

**8. Brownfield sites - preferred**

The site is not a brownfield site.

**9. Other operating waste sites – where synergies exist**

The site is adjacent to the Hammond Lane premises. Hammond Lane is engaged in ferrous metal recycling, primarily for end-of-life vehicles. This as a waste recovery activity. The Indaver facility will be able to treat certain waste streams from the Hammond Lane activity and the recovered ferrous metals from Indaver would be suitable for recycling by Hammond Lane.

**10. Markets for steam/energy generated – where feasible, sites which have a use for the energy or steam generated are preferred**

Steam generated in the waste to energy plant will be used to generate electricity on site, which will be supplied to the National Grid. The large pharmaceutical plants in Ringaskiddy have a requirement for steam and/or hot water and there is the potential to supply these plants with steam or hot water. Whilst it is envisaged that, ultimately, the Indaver development will be in a position to supply steam and/or hot water to other facilities, the application for permission before the Board does not comprise development for the supply of steam or hot water to other facilities.

**11. Neighbouring land uses – avoid incompatible land uses**

There are no incompatible land uses, which might adversely affect the operation of the facility or which the facility might adversely affect, close to the site.

**12. Site Area – 5 to 8 hectares.**

The area site is more than 8 hectares.

**13. Proximity and ease of access for emergency services**

There is direct access to the site for the emergency services via the N28 national primary route and L2545 road.

**14. Utility services – availability of sufficient supplies of electrical power, natural gas, water and effluent disposal**

The Ringaskiddy area is well serviced by electrical power, natural gas and water supplies and effluent disposal, all of which are adequate to support the proposed development at the site. The proposed development will require significant quantities of water and there are adequate supplies available at the site. The proposed development will not use gas and will not generate process effluent. It is proposed that sanitary effluent will be disposed of either through a small on-site treatment plant and associated percolation area. When the new Shanbally sewage treatment plant is operational, sewage from the plant will be directed to it.

**15. Impacts on existing and potential economic activities**

The proposed development would have a positive impact on existing and potential economic activities in the Southern Waste Region as it will offer producers of residual hazardous and municipal solid waste an alternative to the requirement to export the waste and to have it treated at facilities in Europe. This will benefit both the waste producers and the wider area by increasing the competition in residual waste management.

The proposed development will not displace any existing economic activity and there are no mineral resources on or under the site.

The site is approximately 800m from Spike Island and approximately 1km from Haulbowline Island, at the closest point to each. The former East Tip on Haulbowline is proposed to be remediated and developed as a public park and amenity area. No plans have been published for the site of the steelworks plant on Haulbowline but it will be included in the master plan for the Haulbowline Island, which is being developed by Cork County Council. The Spike Island master plan proposes that the Island be developed as a tourist and amenity destination. The proposed Indaver development is likely to have a visual impact on any future amenity developments on Spike and Haulbowline Islands.

**16. Proximity to waste arisings (town centres), minimise distance travelled by hazardous waste**

The site is located close to the sources of hazardous waste generation. The site is located close to the largest population centre in the southern waste region, which is also the largest population centre outside the

eastern waste region. The eastern waste region, with the completion of the Poolbeg waste to energy plant, will have adequately capacity for the thermal treatment of waste arising in that region. Thus the site is located close to the next largest source of municipal solid waste arisings.

### **3.7.1.2 Conclusion of the 2015 suitability evaluation**

The Indaver site meets the revised criteria, apart from not being a brownfield site. It is concluded that the site is suitable for the proposed development.

## 3.8 References

- Arup (2001) *Indaver Ringaskiddy Waste Management Facility EIS*
- Cork County Council (2014) *County Development Plan 2014*
- Cork County Council (2015) *Carrigaline Electoral Area Local Area Plan 2011 Second Edition January 2015*
- Cork County Council (2015) *Fermoy Electoral Area Local Area Plan 2011 Second Edition January 2015*
- Cork County Council (2015) *Kanturk Electoral Area Local Area Plan 2011 Second Edition January 2015*
- Cork County Council (2015) *Macroom Electoral Area Local Area Plan 2011 Second Edition January 2015*
- Cork County Council (2015) *Mallow Electoral Area Local Area Plan 2011 Second Edition January 2015*
- Cork County Council (2015) *Midleton Electoral Area Local Area Plan 2011 Second Edition January 2015*
- EPA (2014) *National Hazardous Waste Management Plan 2014 to 2020*
- EPA (2014) *National Waste Report 2012*
- Department for Communities and Local Government (UK) (2014) *National Planning Policy for Waste*
- Department for Environment, Food and Rural Affairs (UK) (DEFRA 2008) *Designing Waste Facilities*
- Halton, Knowsley, Liverpool, Sefton, St Helens and Wirral Councils (2013) *Waste Policy Guidance: WM13 and WM15 Site Selection Criteria (Joint Merseyside and Halton Waste Local Plan – July 2013)*
- <http://www.idaireland.com/how-we-help/property/ringaskiddy-cork/> accessed August 2015