

Figure 5.9 Proposed Natural Heritage Areas

5.3.2.3 South Dublin

The list of proposed NHA's are presented in the following table. It is the objective of the Council to protect those areas designated as such.

Table 5.6: pNHA's and SAC's in South Dublin

Site Name	Interest type
Liffey Valley	Ecological
Grand Canal	Ecological
Dodder Valley	Ecological
Lugmore Glen	Ecological
Slade of Saggart and Crooksling Glen	Ecological
Glenasmole Valley *	Ecological

Source: South Dublin Draft Development Plan (1998)

* This is also a proposed Special Area of Conservation (SAC).

All pNHA's, as listed above, are regarded as exclusionary to the development of Thermal Treatment facilities and have been identified on Figure 5.9.

5.3.2.4 Fingal

The Fingal County Development Plan orders the protection and conservation of SAC's and SPA's. The pNHA's include both SAC's and SPA's. There was not a list of pNHA's and SAC's available in the Fingal County Development Plan, these areas are mapped on Figure 5.9. The pNHA's include the Bog of the Ring, Skerries Island, Loughshinny Coast, Rogerstown Estuary, Lambay Island, Malahide Estuary, Ireland's Eye, Howth Head, and the Liffey Valley amongst others.

5.3.3 Areas of Archaeological Interest

A list of Sites and Monuments of archaeological importance has been obtained through the National Monument section of the Office of Public Works (OPW) known as the Sites and Monument Records (SMR). This list has recently been updated to include a number of additional sites, although a number of sites have also been delisted. The revised list though not yet published, may be consulted in the OPW. All sites of archaeological importance in the Dublin Region are shown on Figure 5.10.

5.3.4 Airports

Guidelines relating to development near airports is provided by the Irish Aviation Authority (IAA) and the International Civic Aviation Organisation. When contacted, the Irish Civil Aviation Authority did not have guidelines regarding siting of Thermal Treatment Plants. The following three airports restrict development within the Dublin Region:

- Dublin Airport
- Casement (Baldonnel) Aerodrome, Co. Dublin – Military Aerodrome
- Weston Aerodrome, Co. Dublin – Privately operated

The Dublin County Development Plan (1993) created a horizontal height restriction of 45m within 4.8km radius of Dublin Airport thus preventing the development of a thermal treatment facility in that zone. The Plan also created restrictions on development within 6.8km radius of the airport. These restrictions apply particularly along the centre line of the runways and the proposed new runways and would not necessarily restrict development of a Thermal Treatment facility.

The South Dublin County Development Plan (1998) stipulates a 4km radius restriction on height, dependant on location, for the Baldonnel Airfield. These same restrictions apply to the Weston Aerodrome.

5.3.4.1 Dublin City

Parts of Dublin City are excluded as it comes within both the 4.8km and 6.8km exclusionary zones of Dublin Airport and its flight paths. The exclusionary area includes much of North Dublin City stretching from Finglas in the west to Darndale in the east. The exclusionary area is shown on Figure 5.11.

5.3.4.2 Dun Laoghaire-Rathdown

There are no airport exclusionary areas within the Dun Laoghaire-Rathdown area.

5.3.4.3 Fingal

Most of the southern section of Fingal County is excluded as it comes within both the 4.8km and 6.8km exclusionary zones of Dublin Airport and its flight paths. The exclusionary area is shown on Figure 5.11.

5.3.4.4 South Dublin

The South Dublin area comes within the 4km exclusionary zones of both the Casement (Baldonnel) Aerodrome and the Weston Aerodrome. The relevant zones around these two airports results in the exclusion of much of north-west South Dublin as shown on Figure 5.11.

5.5 CONCLUSION AND RECOMMENDATION FROM THE PRELIMINARY ASSESSMENT

The results of the preliminary assessment excluding the Group 1 criteria are as follows:

- The City and County Development Plans eliminate developed areas and areas designated for development as well as areas with Amenity Value. Amenity areas being in the East along the coast of the Fingal Area and in the southern sections of South Dublin and Dun Laoghaire/Rathdown
- Proposed Natural Heritage Areas. Of the three major areas, two are situated on the coast on either side of Dublin Harbour and one in the southern part of South Dublin and Dun Laoghaire/Rathdown. There are also three smaller areas at Dalkey, Howth and Baldoyle
- Areas of archaeology listed on the new National Sites and Monuments Records are excluded.
- Airport: Height Restriction within a 4.8km range for Dublin Airport and 4.0 for the Baldonnell and Western Aerodromes.

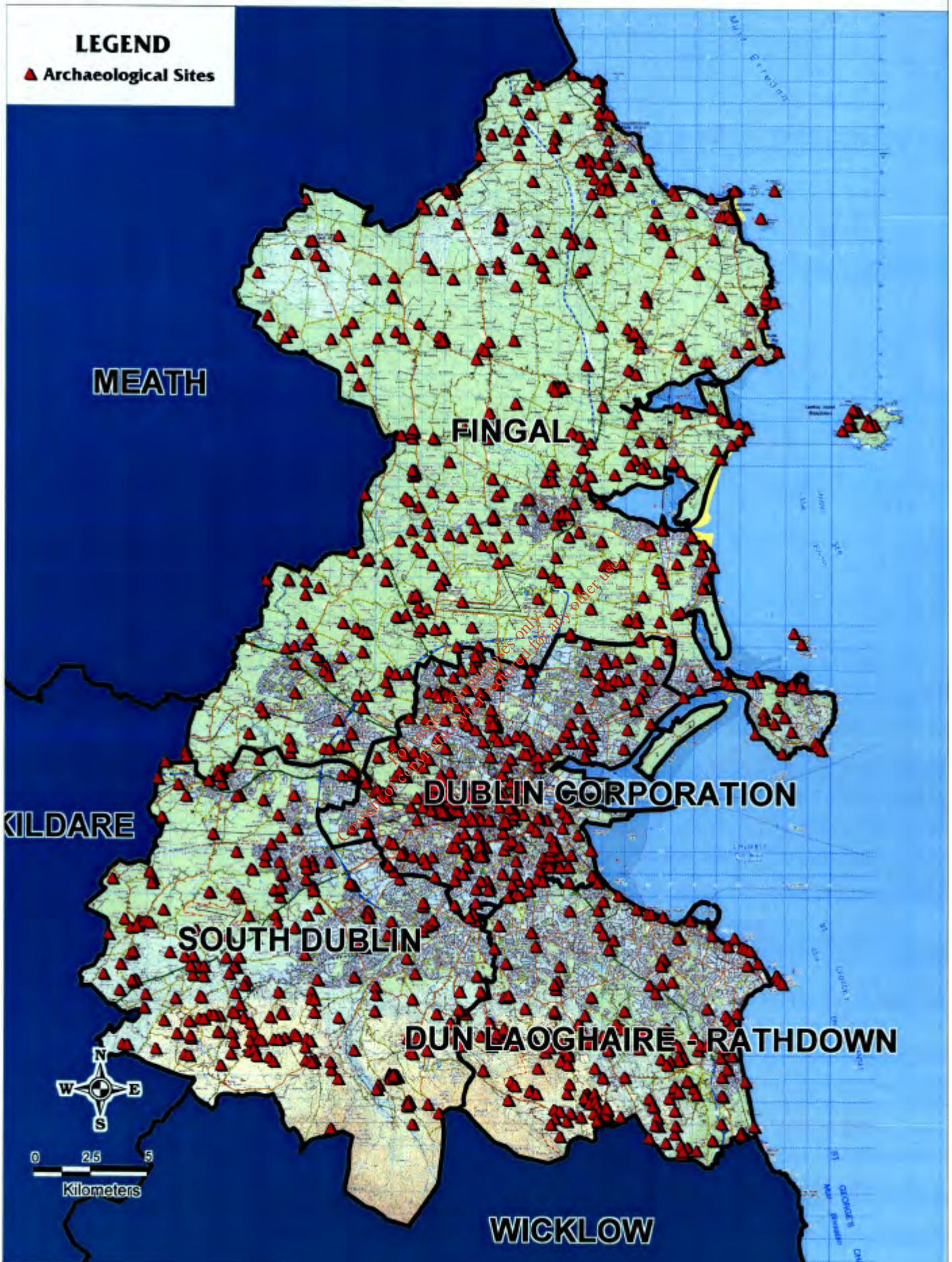


Figure 5.10 Areas of Archaeological Interest

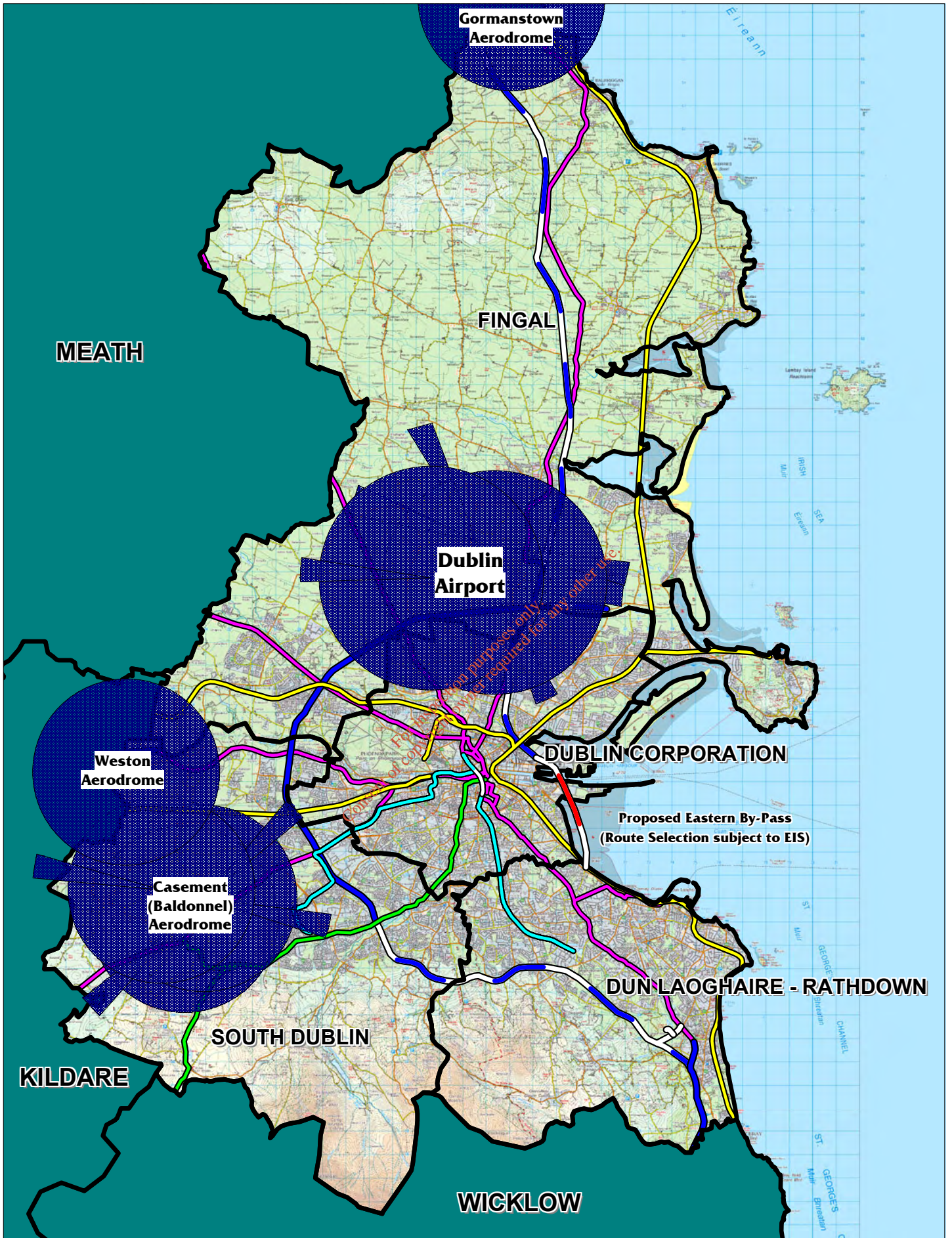


Figure 5.11

**Dublin Thermal Treatment
Airport Exclusionary Areas**

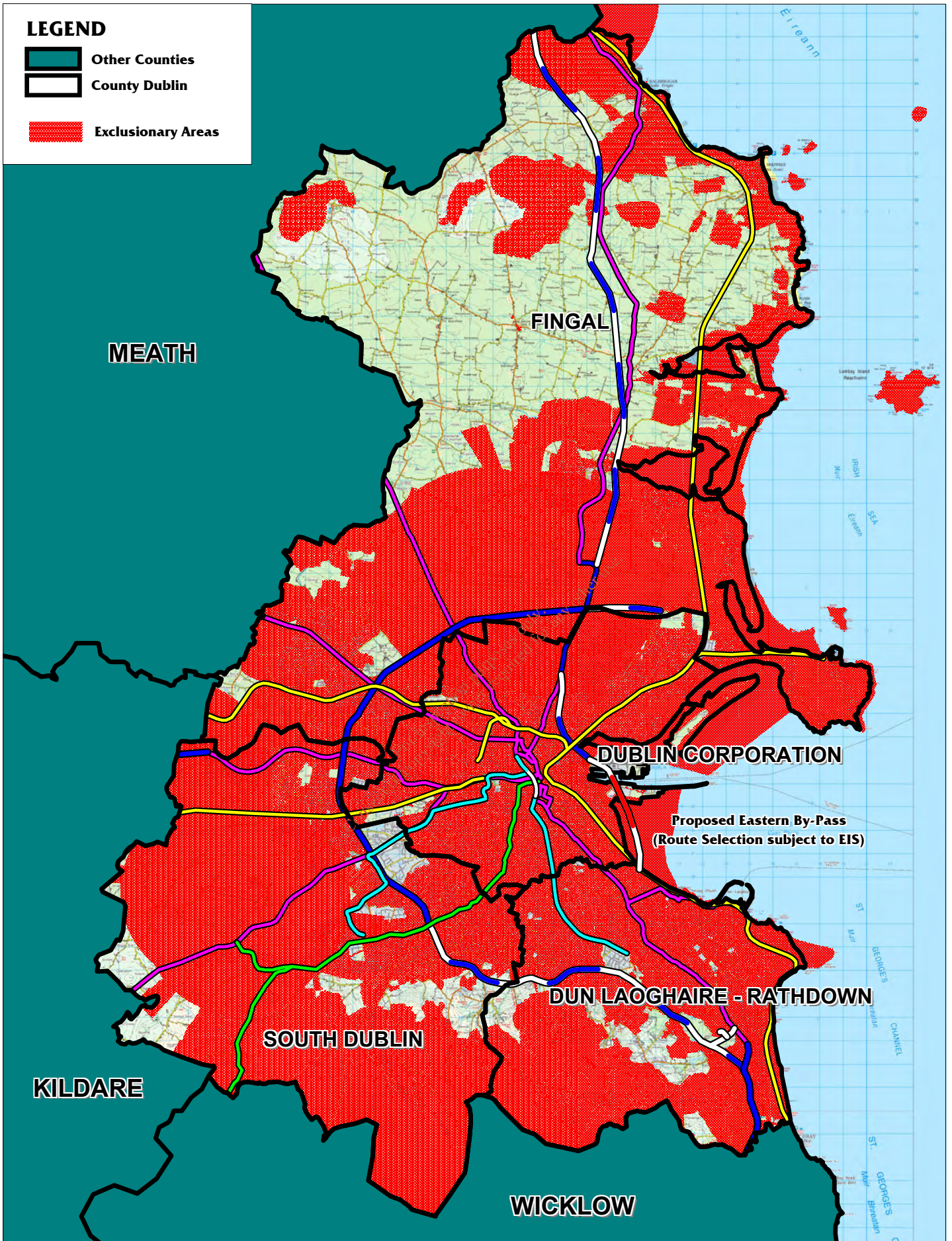


Figure 5.12 Combined Exclusionary Areas

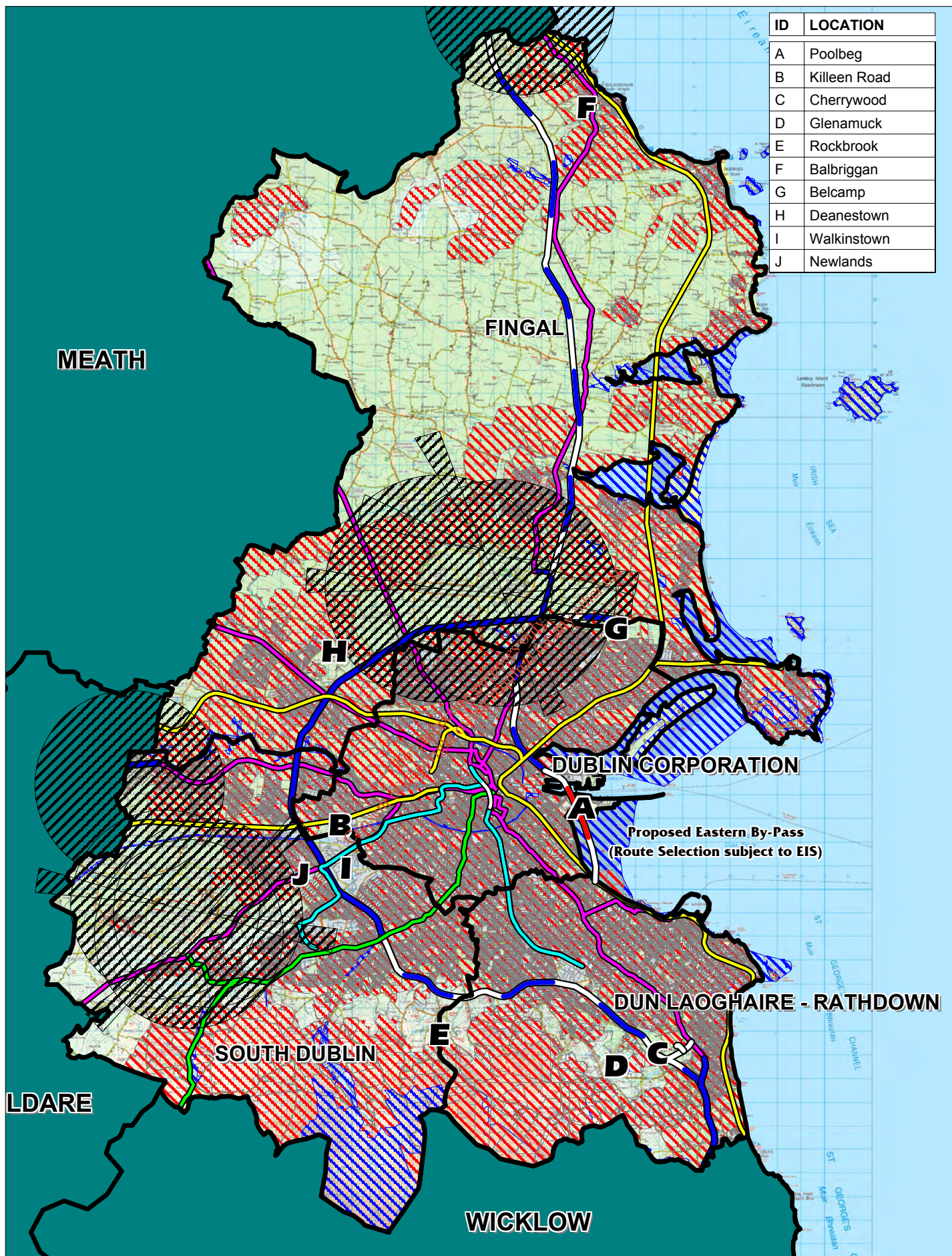


Figure 5.13 Dublin Thermal Treatment Shortlisted Sites

Figure 5.12 illustrates the combined exclusionary areas for all four local authority areas.

It should be noted that archaeological features do not necessarily exclude the area in question, this depends upon the archaeological importance of the site. During the siting process the "value" of the archaeological features will be assessed.

5.6 SELECTION OF POTENTIAL SITES FOR SHORTLISTING

5.6.1 Areas Suitable for the Development of Thermal Treatment

Having taken account of the Group 1 exclusionary factors, ten areas were identified as potential sites. These sites were visited and a preliminary assessment was carried out of their suitability for development as a thermal treatment facility. The sites are listed by local authority below.

Dublin Corporation:

- A. The Poolbeg Peninsula in the Dublin Docklands area
- B. The former Semperit factory off Killeen Road

Dun Laoghaire/Rathdown:

- C. The Cherrywood area of Loughlinstown
- D. Agriculturally zoned area of Glenamuck
- E. The Tibbradden section of Rockbrook

Fingal:

- F. Industrial area west of Balbriggan
- G. The Belcamp Area west of the Malahide Road
- H. Agriculturally zoned land in Deanestown

South Dublin:

- I. Vacant sites in the Walkinstown Industrial Park
- J. Vacant industrial site in Newlands

These sites are identified on Figure 5.13.

6. SHORTLISTING OF SITES

6.1 SHORTLISTING PROCEDURE

6.1.1 Criteria for Preliminary Assessment

The preliminary assessment of the above stated shortlist of 10 sites was conducted by assessing each site according to the following siting criteria:

- Proximity to Waste Centre
- Road Access
- Traffic
- End-Market Use Possibilities
- Site Size and Current Land Use
- Proximity to Residential Areas

The criteria are discussed in more detail below:

6.1.2.1 Proximity to Waste Centre

One of the baseline factors in choosing preferred areas for thermal treatment facilities is the proximity of the site to the origin of waste. The majority of waste in Dublin is generated within the Dublin Corporation administrative area. The proximity principle adopts the notion that waste should be treated or disposed of close to its source of generation but with proper regard to protection of the environment. Sites in or relatively close to Dublin Corporation area would therefore be considered more favourable in terms of proximity to waste generation.

6.1.2.2 Road Access

The transportation of waste is a significant issue for a several reasons. The accessibility of the plant can affect the operational cost of the transfer. The transport of waste is often perceived by the public to be undertaken in a less competent and professional manner than the transport of other materials.

6.1.2.3 Traffic

The impact from traffic is always a serious concern to the local community in the siting of any waste treatment facility. Traffic impacts can include noise, vibration, dust, air emissions, visual intrusion and the potential for accidents. The perceived impact will depend on the number of dwellings the traffic passes and the relative increase in traffic on a particular road. It will also depend on the quality of the road along which the traffic must pass as a poor road will result in a greater perceived (and real) impact in terms of the intrusion on the local inhabitants and also in terms of the potential to generate accidents. In addition to the impacts on local inhabitants, traffic affects the general environment by causing adverse air quality and traffic congestion/disruption to other road users.

The major traffic impacts related to the siting of a thermal treatment facility will occur along the route from the point of the waste generation to the treatment facility. Each potential site will have a number of possible routes from the source of waste. In reality the most likely route will be that which is the quickest for the waste to be transported. This is in turn a function of the distance along a particular route combined with the quality of the road along that route such as the quality and road designation, national or regional etc. will affect the speed at which the waste transportation vehicle can travel.

The most likely route to be used by waste hauliers to the site has been assessed in terms of distance and the type of roads along the route. Although some sites may have longer haul distances, their proximity to the M50 or other major roads minimises their traffic related impacts by taking traffic away from residential areas. Thus, the routes have then been assessed relative to the other sites and a suitable rating allocated.

6.1.2.4 End-Market Use Possibilities

The end market possibilities have been discussed in detail in the “Feasibility Study for Thermal Treatment of Waste for the Dublin Region.” Each of the potential thermal treatment technologies produce a variety of output products which require to differing degrees, a market to make the technology economically viable. Waste combustion produces energy in the form of electric power and/or heat, which can be supplied to industry, district heating or to drying of different materials such as sludge. The metals reclaimed can be sold to the scrap metal market while clinker can be used as aggregate for road construction following further limited processing.

Gasification also produces a low calorific gas which can also be used in kilns or combusted directly for power/heat generation. Pyrolysis produces a gas which is suitable for kilns, power/heat generation while the char residue has potential use as a fuel for kilns also or for the production of activated carbon for wastewater and flue gas treatment. Potential consumers of these products would be local industry, district heating companies, power plants, cement companies and possibly waste water treatment plants.

6.1.2.5 Site Size and Current Land Use

Ideally the area selected should be vacant land and of sufficient size to meet the requirements of and infrastructure required by a thermal treatment facility. The land use factor also takes into account the general impact on the area in terms of loss of open space or other use which in turn is reflected in the quality of the land and its current land use.

6.1.2.6 Proximity to Residential Areas

While there are no documented adverse impacts from living near to a thermal treatment facility the public perception may be otherwise. There is also concern in the public mind as to how the proximity to such a facility would impact on property value. None of the areas selected have residential zoning as it was considered inappropriate given the scale of the facility. However, there may be some benefits to a community close to the facility such as district heating capacity, employment generation with benefit to local community, reduction in waste transport for local industry and increase in house purchases due to increased demand. In terms of evaluation of suitable areas, those situated close to residential areas scored lower.

6.2 PRELIMINARY ASSESSMENT

A matrix of the ten potential sites was created in order to perform a qualitative evaluation of the individual site suitability. Through this process the 5 most suitable sites for development of a thermal treatment facility were attained. Below is a brief summary table of the criteria assessment on the sites, more detail of each individual site is located in Appendix A.

Table 6.1 Brief Description of 10 Shortlisted Sites

Site	Description	Relative Suitability
Site A Poolbeg	Located in Dublin Corporation, thermal treatment is considered a permissible use in the Development Plan zoning. The proximity to waste centre is very good and although currently just satisfactory, road access is set to improve in line with timescale for development of thermal plant. Traffic in the area is heavy at times, however industrial nature of the area is suitable for trucks coming to/going from facility. There are many options for end market use in the vicinity of the site and there are no residential dwellings within 1km.	More Suitable
Site B Killeen Road	Located in Dublin Corporation, thermal treatment is considered a permissible use in the Development Plan zoning. The proximity to waste centre is good and there is opportunity for end market use in the area. The local road network linking the site to the N7 is not sufficient for use by industrial vehicles. The site is a large factory adjacent to the rail line and located within 250m of the southwestern portion of Ballyfermot which is primarily residential.	Less Suitable
Site C Cherrywood	Located in Dun Laoghaire-Rathdown., Industry-Special is considered permitted in principle in the Development Plan Zoning. The proximity to waste centre at the site is fair in relation to other assessed locations. There is excellent possibility for end-market use as a science and technology park is currently under development adjacent to the site. The proposed extension of the M50 adjacent to the site will provide good road access. Currently the site is vacant and there are no residential dwellings within 500 meters of the site.	More Suitable
Site D Glenamuck	Located in Dun Laoghaire-Rathdown. Industry – Special is considered open for consideration under the agriculture zoning of this site. The proximity to waste centre of gravity is poor as the site is located at the southern end of the region close to the Dublin Mountains. The site provides easy access to the M50 however vehicles must pass through residential village en route. There are no possible end users located in the vicinity of the site. Currently the site is a rolling field in an agricultural area with moderately dispersed residential dwellings.	Less Suitable

Site	Description	Relative Suitability
Site E Tibradden	Located in Dun Laoghaire-Rathdown. Industry – Special is considered open for consideration under the agricultural zoning. The proximity to waste centre of gravity is poor as the site is located beyond the urban fringe of the county. The site provides easy access to the M50 however vehicles must pass through residential neighbourhood en route. There are no likely end users located in the vicinity of the site. Located in a predominately agricultural area with moderately dispersed residential dwellings	Less Suitable
Site F Balbriggan	Located in Fingal, thermal treatment is considered Open for Consideration under the Development Plan zoning for the site. The proximity to waste centre of gravity is poor as the site is located in the northern section of Fingal, far removed from the urban areas in the southern portion of County Dublin. Although road access to the site is good, vehicle traffic would have a long distance to travel which is not optimal for waste transportation. Located in a high-tech business park there are potential end users for energy. The site lies within 250m of a major residential area.	Less Suitable
Site G Belcamp	Located in Fingal, thermal treatment is considered Open for Consideration under the Development Plan zoning for the site. Proximity to waste centre and road access are good however, trucks would have to travel across city centre which is not optimal. The land is currently open space and there is a possibility for end market use. The site is in very close proximity to residential areas of Clare Hall and Darndale.	Less Suitable
Site H Deanestown	Located in Fingal, thermal treatment is considered Open for Consideration under the Development Plan zoning for the site. Located in fair proximity to the waste centre of gravity there are several potential end users located in business/commercial estates near the site. Although the M50 is located close to the site, travel through Blanchardstown village occurs en route. Although there are no major residential areas within 250m of the site there is a hospital located to the south of the area.	Less Suitable

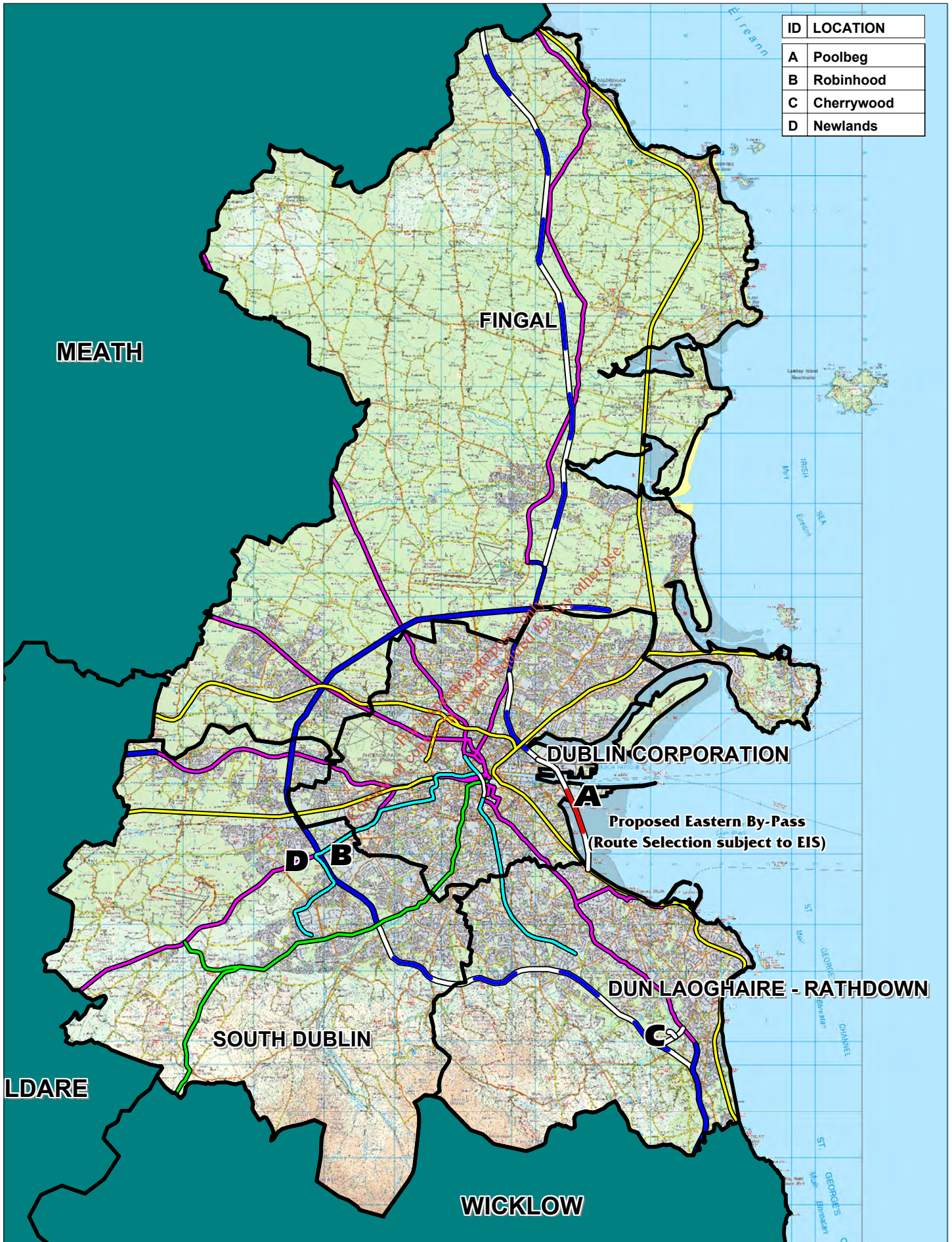


Figure 6.1 Dublin Thermal Treatment Final Shortlist of Sites

Site	Description	Relative Suitability
Site I Walkinstown	Located in South Dublin, Industry – Special is considered ‘permitted in principle’ under the Development Plan zoning for the site. The site is in good proximity to the waste centre of gravity and provides easy access to the M50. Located within an industrial estate, there are several potential end users in proximity of the site. Traffic in the area is a mix of industrial/commuter and is not extremely heavy. Currently there are three potential sites which are all open fields within the Industrial Estate. Although there are moderately dispersed residential dwellings throughout the Estate the area is mostly removed from residential dwellings.	More Suitable
Site J Newlands	Located in South Dublin, Industry – Special is considered ‘permitted in principle’ under the Development Plan zoning for the site. Located along the N7 in close proximity to the M50, the site provides good road access. Traffic in the area is often heavy with a mix of Industrial and commercial vehicles. There may be potential for end market use, however there is none adjacent to the site. The site is an industrial zoned area surrounded by residential development.	More Suitable

6.3 FOUR SHORTLISTED SITES

The four sites (figure 6.1) which ranked as ‘More Suitable’ in the preliminary analysis were then subject to a much more detailed assessment of the above criteria as well as general planning and environmental issues surrounding the site. The results of this assessment are detailed below.

6.3.1 Cherrywood

This site is located west of Loughlinstown village in the local authority area of Dun Laoghaire/Rathdown County Council. The proposed South Eastern Motorway extension of the existing M50 ring road runs adjacent to the site on its south western side. The site is approximately 19.3 acres of open space zoned by the Dun Laoghaire-Rathdown Development Plan as Objective E : To provide for industrial and related uses. Industry – Special and Industry – General are both considered ‘Permitted in Principle’ as use classes related to the zoning objective. It is important to note that development of this land is contingent on the completion of the South Eastern Motorway as it is stipulated in the plan for the area that no development may occur until the Motorway is completed.

Adjacent to the site on its southeastern boarder is the proposed Cherrywood Science and Technology Park which has already begun development. This park has immense potential to serve as an end user of energy created by the thermal treatment process. The current development plan for the Cherrywood Science and Technology Park proposes the development of a golf course on the parcel of the park adjacent to the site. The golf course could be engineered to use the end products of the plant as energy for its upkeep and daily activities.

Located in the foothills of the Dublin Mountains the development of a thermal treatment facility would be mildly intrusive on the current landscape of the area. However, the development of the Cherrywood Park and the South Eastern Motorway will add to the industrial/commercial nature of the area and thus decrease the overall impact a thermal treatment facility would have on the area. In order for vehicles to gain access to the site from the M50 they would have to travel through the Cherrywood Science and Technology Park via the developments proposed road scheme which is detailed on Figure 6.1. The Carrickmines Golf Course is located 600m west of the site. Less than 1km north of the site there is an area of forest which would provide natural screening between the site and the village of Cabinteely.

A small tributary stream from the Loughlinstown River runs 50m from the extremities of the site and 160m from the centre of the suitable area. There are Megalithic Tombs located 700m south east of the site and 800m north of the site. The Tully Church and Graveyard (Ruins) and two Crosses are located 600m north east of the site. None of these factors should influence the development of the site as a thermal treatment facility as their respective exclusion zones do not infringe on the site boundaries.

Although the site is a good distance from the above people-oriented facilities, it is in close proximity to several residential dwellings. There is only 140m between the south eastern point of the site and its closest residential homes. From the centre of the site there is 325m from this same area.

The main advantages and disadvantages of the siting a thermal treatment facility at this site are summarised in the Table 6.2. A detailed map of the site is shown in Figure 6.2.

Table 6.2: Summary of Cherrywood

Advantages	Disadvantages
Zoned industrial	Development contingent on completion of South Eastern Motorway
Adjacent to South Eastern Motorway	Plant would be intrusive on visual quality of current landscape
Strong potential for end user	Within 150m of residential neighbourhood

6.3.2 Poolbeg

This site is located in the Poolbeg Peninsula area of the Dublin Docklands, which falls under the Dublin Corporation City Development Plan. Under this Plan, all of the Docklands area is zoned under Objective Z7: to provide for the protection and creation of industrial uses, and facilitate opportunities for employment creation. An incineration plant is listed as a permissible use under this zoning objective.

The Docklands Development Authority has created a Docklands Area Master Plan, which sets specific objectives for the Docklands area. Poolbeg Peninsula is sectioned off into three different zoning objectives under the Dockland Development Authority's Master Plan. The majority of the area is zoned under objective E2 which considers Industry – Light as normally permissible but does not allow for Industry – General which a thermal treatment plant would most likely fall under. The southern docklands is divided into two zoning objectives. A strip along the southern coast is zoned under objective K which does not permit Industry – Light or Industry – General. The section between these two zones falls under objective E1 which considers Industry – Light and General as normally permissible.

This site is central in terms of proximity to the waste centre of gravity. Traffic in the Docklands area is considerable due to the large amount of industrial/ commercial activity as well as

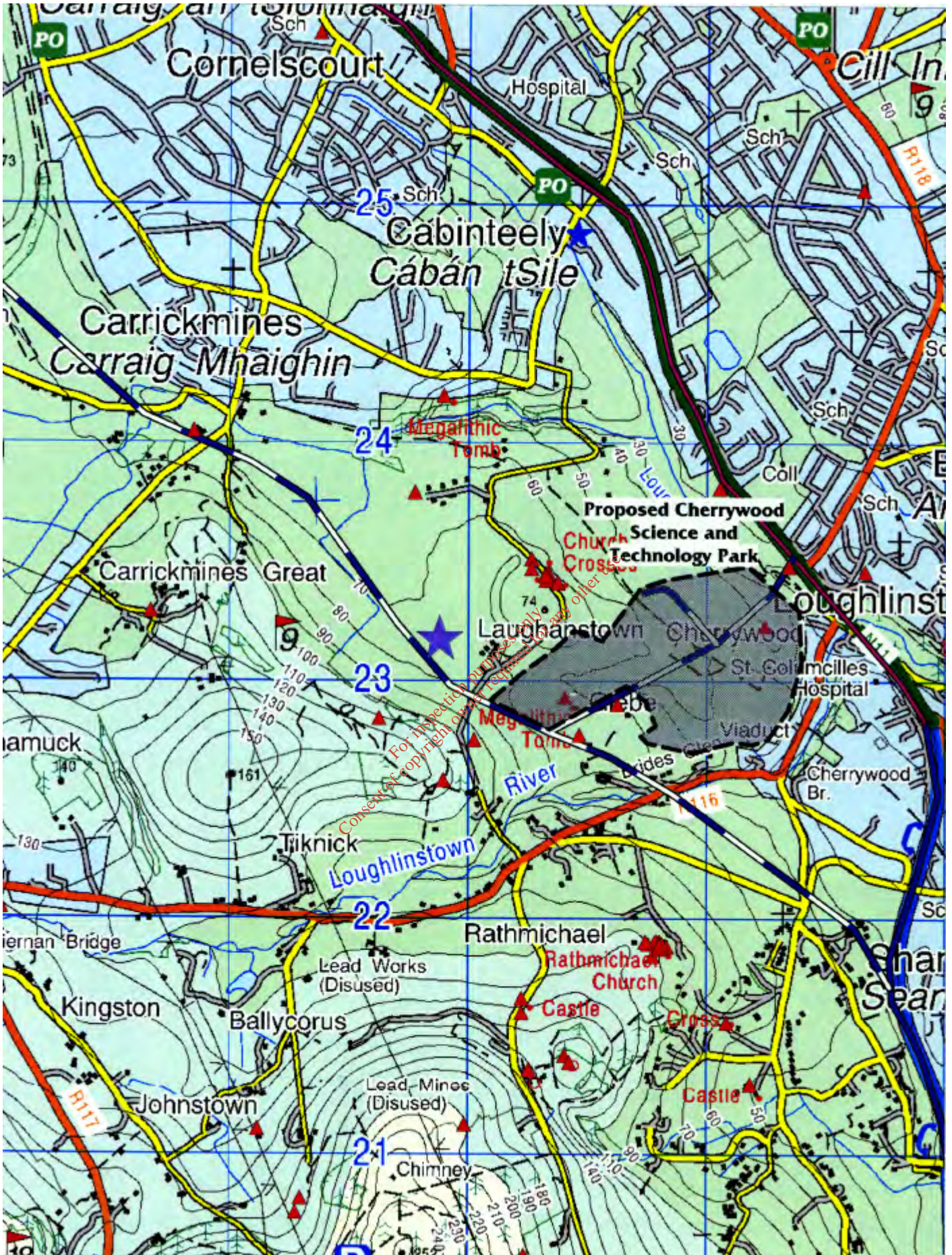


Figure 6.2 Cherrywood

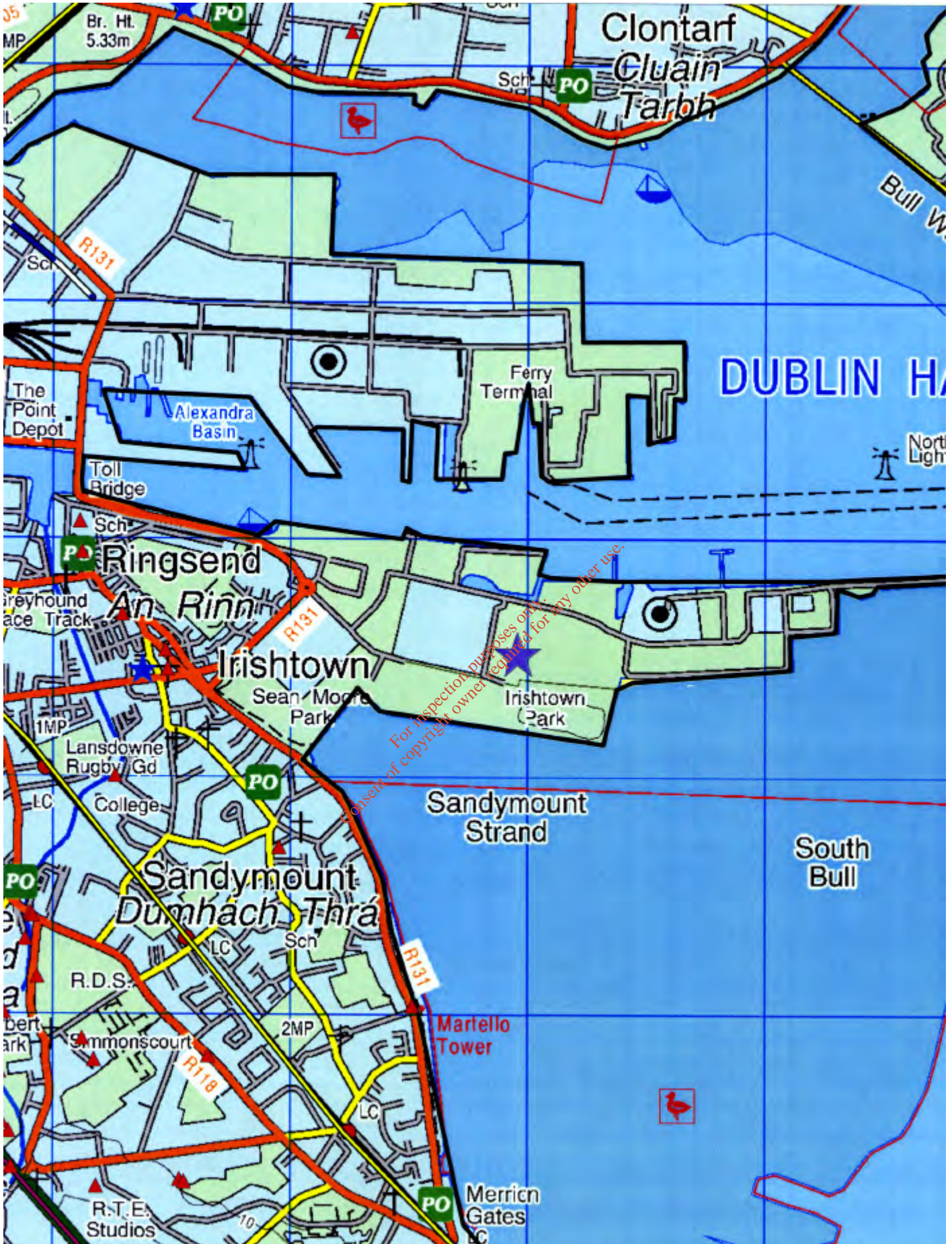


Figure 6.3 Poolbeg