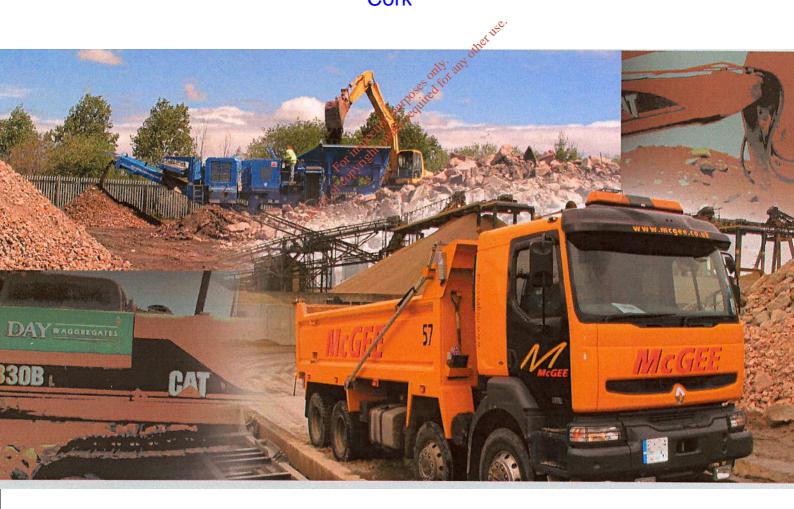
ENVIRONMENTAL IMPACT STATEMENT

Non-Technical Summary

For the Proposed Construction Demolition & Excavation Waste Recovery Facility

Wallingstown & Inchera
Little Island
Cork







NON TECHNICAL SUMMARY

1.0 INTRODUCTION

Golder Associates Ireland (Golder) has been retained by Thornbush Holdings Ltd. (Thornbush), to submit a planning application to Cork County Council (CCC) for a proposed development comprising a Construction Demolition & Excavation Waste Recovery Facility (C,D&E Facility), located in the townlands of Wallingstown and Inchera, Little Island, Co. Cork. The proposed C,D&E Facility will be designed and operated to accept, handle and process up to 300,000 tonnes of mainly clean/inert construction, demolition and excavation wastes per annum (C,D&E wastes).

The site location is shown on Figure NTS/01 attached.

1.1 Overview of the Proposed Development

The CD&E Facility is located on a ca. 2.2 ha site (the 'Application Site') in the northwestern corner of a ca. 29 hectare brownfield site that includes waste lagoons (the Thornbush Site). Development of the Thornbush Site was undertaken by Mitsui Denman and involved the construction of large artificial lagoons to facilitate the management of waste material from its adjacent industrial plant. The proposed CD&E Facility, if granted planning permission, will ensure compliance with existing Planning and Licensing consents for the former Mitsui Denman electrolytic plant at Wallingstown Little Island. The Planning Permission (PP) (Planning Ref: 1466/73) for the development by Mitsui Denman Ireland, which was granted in 1973, set conditions for environmental control and restoration of the site. In 1999 the Environmental Protection Agency (EPA) granted an Integrated Pollution Prevention Control (IPPC) Licence (Reference No P0 389-01) to Mitsui Denman for the facility with requirements for a residuals waste management plan and restoration of the IPPC licensed site which includes the Application Site. In 2007 the EPA agreed to a revision to the IPPC licence site boundary so that the original plant site is now excluded from the lands now falling within the IPPC Licence No. P0389-01 site boundary. The purpose of the proposed CD&E Facility is to provide the necessary engineering materials to cap the existing waste lagoons and restore the lands lying within the current IPPC site boundary to comply with conditions of the existing planning permission and the IPPC licence.

The proposed site layout is shown in Figure NTS/02 attached.

1.2 Site Selection and Alternative Locations

Principal criteria for suitable site selection for location of a C,D&E waste recovery operation include proximity to major communication corridors, transport network, availability of land, land zoning, location of site in relation to environmental sensitive areas and proximity to potential outlets for recovered/recycled products. The Application Site fulfils all such criteria:

Proximity to National Primary and Secondary routes;

NTS 2

A.1

- Established industrial zoned site:
- Waste recovery requirement to cap existing lagoons;
- Close proximity to the lagoons requiring restoration site;
- Proximity to sources of C,D&E waste material;
- Greater than 500m from the nearest residential receptors; and
- Suitable infrastructure serving the site.

Thornbush previously sought planning permission for a similar facility in 2005, through its subsidiary company Recycled Aggregates Ltd, planning permission (Planning Ref: 05/5616) to develop and operate a C,D&E Waste Recovery Facility ilands, adjacent and to the south east of, the existing waste lagoons at Wallingstown, to provide recovered inert C,D&E materials to cap the waste lagoons. This planning application was unsuccessful. Thornbush have sought to facilitate the concerns of the Planting Authority and revise, in agreement with the EPA, the restoration plan for the wastern agons. A key concern of the Planning Authority was the location for the proposed C,D&Facility. The planning authority determined that, subject to the decision of An Borch Pleanála to refuse planning permission for other developments in the northern part of the former Mitsui Denman Site (Planning Ref. 05/7800), the lands to the north could be considered further as a possible alternative site for the proposed C,D&E Facility within the context of the overall Mitsui Denman site. Furthermore the Planning Authority sought further information regarding the suitability of locating the proposed C,D&E Facility within the current boundary of the IPPC licensed site.

The lands associated with the previous planning applications (Planning Ref: 05/7800 and Planning Ref: 05/5616) are no longer in the ownership or control of Thornbush and are subject to separate planning applications of which Thornbush are not party to. Thornbush cannot therefore propose either site as alternative site locations for the proposed C,D&E Facility.

Need for the Facility 1.3

There are a limited number of major acceptors of C,D&E waste in the Cork region. While two quarry restoration projects will require C,D&E material in the short-term, it is considered that a medium-term acceptor of C,D&E waste such as this proposed Facility will enable Cork County Council to fulfil its waste recovery objectives.

It is difficult to predict the quantity of C,D&E waste that will arise in the Cork region in the coming years, as the quantity arising varies enormously from year to year according to the scale and type of development taking place in the area. While up to date figures of C&D waste generation specifically for the Cork area are not available, it has been estimated previously (2001-2002) that 500,000 tonnes are likely to be generated in the Cork region. Given that this estimate was made prior to the construction boom, and considering the current 'post-boom' climate, it is likely that such a figure could be anticipated to be generated in the coming years. This can be justified based on the projected population growth within the Cork Area Strategic Plan region, objectives for development in this region set out in the County Development Plans, and government commitments to development in the region such as the National Spatial Strategy and the Atlantic Gateways Initiative. A 10-year life has been estimated for the proposed development to account for the potential cyclical or sporadic nature of obtaining suitable material.

1.4 Structure of the EIS

The EIS is presented in two volumes. Volume 1 of the EIS is made up of 14 no. sections including this section (1.0 - Introduction), with tables within each section, and figures and appendices at the end of each section where relevant. The Non Technical Summary appears at the front of Volume 1. Volume 2 is composed of anumber of appendix reports.

2.0 DESCRIPTION OF PROPOSED DEVELOPMENT

The purpose of the proposed Facility is to generate a high quality product which can be used for the restoration of the waste lagoons and other areas within the current IPPC site boundary. Granular capping material will be required. The final products must conform to approved engineering standards in order for it to be is useful for restoration purposes and also it must conform to environmental legislative standards for inert fill.

The materials to be processed at the proposed C,D&E Facility will be sourced from wastes generated by construction, demolition and excavation projects in the greater Cork area. All incoming material will undergo rigorous control procedures to ensure that it can produce a high quality product using simple separation and screening processes. The intention is to accept predominantly clean inert C,D&E wastes that contain a low percentage of un-useable material in regard to the restoration of the Thornbush Site.

Thornbush intend to establish contact with major building and infrastructural developers around Cork in order to source suitable, easily processed C,D&E wastes. Thornbush will also approach Cork County Council and Cork City Council in order to be listed as an approved site for the acceptance of inert materials on Cork County and City Local Authority contracts.

It is anticipated that C,D&E waste from such sources will provide the majority of incoming waste into the Facility and thus ensure that a high quality material will be accepted.

Incoming material from other sources will be subject to more rigorous investigation prior to acceptance. The intention is to not to accept mixed C&,D waste streams having a large proportion of non-inert materials that would require intensive sorting and separating processes. Waste acceptance and approval procedures are outlined the main body of the EIS and its Appendices,

The functional design components of a typical C,D&E waste recovery/processing facility are:

- Acceptance and Receipt: selection and receipt of C,D&E materials and direction to specific stockpile areas;
- Primary Sorting: for primary sorting of incoming C,D&E materials to be processed. Bulk C,D&E waste removed from the C,D&E material stream at this stage;
- Crushing and Screening: for processing of the sorted inert C,D&E materials into final fill product(s); and
- Finished Product Stockpiling: of the product of various grades
- Loading and Removal: to areas within the IPPC Site Licence No. P0389-01

The proposed C,D&E Facility in Little Island will be a temporary development only and in operation for the lifetime of the restoration works (estimated to be a ten year period) on the waste disposal lagoons created by Mitsus Denman during the operation of its facility. The design and layout of infrastructure and plant for the proposed C,D&E Facility were selected with the temporary nature and the five functional components in mind.

A detailed site layout plan is shown in Figure NTS/02 attached.

3.0 TRAFFIC

The Application Site is bounded to the north by the R623. No access currently exists onto the R623 from the site at this location. As part of the development it is proposed to construct an access from the site directly onto the R623. Little Island and the R623 can be accessed from the N25 by one of two interchanges, to the west the Dunkettle Interchange and from the east the Little Island Interchange Two scenarios have been assessed:

- Scenario A: 100% to/from the R623 West; and
- Scenario B: 80/20 directional split West/East.

The traffic assessment indicates that the development of the C,D&E Facility will not have a negligible impact on the existing road network due to the low volumes of the traffic to be generated by the proposed development. The numerical assessment of the junction capacity

using a computer programme called PICADY indicates that the existing junction will continue to operate within capacity for each of the Assessment Years for all scenarios assessed. The priority junction formed by the proposed access to the Application Site with the adjacent R623 Regional Road will be capable of accommodating the generated traffic in both the opening and assessment years. In addition, an assessment of the proposed access including traffic flows from the possible future planned adjacent development, the priority junction formed will continue to operate within capacity over the proposed lifespan of the proposed Facility.

While the assessment indicates the link capacity and the access junction capacity will operate within capacity for both Scenario A and B, Scenario A is recommended in order to avoid routing HGV's through Little Island Village. It is therefore recommended that an Operational Traffic Management Plan be developed to encourage heavy vehicles to travel to/from the site via the Dunkettle Interchange.

4.0 HUMANS

Impacts on human beings are considered with respect to population, local land-use and infrastructure, local economic activity, amenities and health and safety. Due to the current industrialised nature of the area, it is considered that the proposed development of a C,D&E Facility at the Application Site will not have a significant impact on the population trends of the area. The proposed development will result in a shift in land use from a disused site to a waste recovery facility in the short and meanum term. While specific longer term land use of the site cannot be speculated on at this stage, the Application Site and surrounding lands within the IPPC site boundary are to be restored with the aim of providing a platform for future industrial and enterprise development in keeping with County Development Plan objectives for the area. The application Site is not located in the immediate vicinity of a hospital, hotel or school. The nearest residential area and school is over 700m away. Impacts relating to traffic, air quality and noise at this location are dealt with in Sections 3, 9 and 10 respectively.

The proposed Facility will provide the necessary materials for the restoration of a brownfield site located in a high profile position on the edge of Lough Mahon. As such, the development allows for the possible positive impact on the surrounding landscape viewed by visitors to Cork Harbour in the medium term. It is considered that impacts will be minor for walkers using the nearby public pathway given that appropriate mitigation measures will be applied and ongoing monitoring will ensure that the proposed facility operates within the terms of its waste licence.

The Application Site is not within a designated scenic landscape (Cork County Development Plan, 2003-2009). Therefore the Application Site will have a neutral impact on scenic landscapes and routes in the area as identified in the Cork County Development Plan. (Further dealt with in Section 11).

To reduce the risk of health and safety impacts, the proposed Facility will have an appointed Health and Safety Manager who will be responsible for implementing the on-site Health and Safety Plan. Required Health and Safety standards will be maintained by training and sign posting of safety information on site. Hazardous materials will not be stored on-site. Only diesel fuel, oil and waste will be stored on site, both of which will be stored securely. The site does not fall under the SEVESO Directives (96/82/EC; 2003/105/EC).

5.0 FLORA AND FAUNA

A detailed baseline ecological survey of the Thornbush Site, inclusive of the Application Site, was undertaken in February 2008, details of which are given in Section 5 of the EIS. Following on from this an assessment was carried out on the impact of the proposed development on flora and fauna.

The habitats present on the site are not listed under Annex I of the EU Habitats Directive (92/43/EEC). The scrub and trees edging the northern boundary of the Application Site were planted for screening and contain exotic species with some Gorse naturally colonising in places. These habitats no doubt provide some refuge, feeding area, corridors for the movement of animals and birds as well as the dispersal of plant species, however, for the most part are not considered significant or valuable habitate for wildlife, with the exception of the small area of 'recolonising ground'. This habitate may contain the scarce species Yellow bartsia (*Parentucellia viscosa*), which is considered of nature interest, although it has no legal protection. This will be examined during the flowering period of 2008 in consultation with NPWS.

None of the bird species observed during the terrestrial bird surveys (2005 and 2008) are listed on Annex I of the Bird's Directive. One species (Lapwing) observed by Lewis (2005) are Red Listed (high conservation concern) within Birds of Conservation Concern in Ireland (Newton *et al.*, 1999) but would be regarded as a temporary visitor to the site.

During the low-tide survey no Annex I species were observed in those sections close to the Application Site) The high-tide survey indicates that the shoreline edging the wider Thornbush Site is not an important roosting area for birds however it does form an integral part of Cork Harbour SPA.

The three mammal species that occur on Application Site are Fox, Rabbit and Rat. None of these species are considered of conservation value and will readily inhabit adjacent habitats. The impact of the proposed development is considered neutral with respect to these species.

The diversity of invertebrates within the wider Thornbush Site was considered moderately good by Lewis (2005), the habitats noted as most favourable for invertebrates occur outside of the Application Site and include the dry grassland habitats, south-facing margins of scrub and woodland habitat. Given the limited area of suitable habitat available within the Application Site, it is classified as E (Low value, locally important) for invertebrates.

The intertidal area of Lough Mahon, that lies adjacent to the Application Site, is part of Cork Harbour SPA. It is rated as A (Internationally important). Disturbance of estuarine birds will be temporary during the construction phase and the impact is considered minor. is Spoil and bare ground provide a poor environment for foraging by birds and mammals, but pose some risk to any fauna that probe the surface of the waste material in search of prey items. The local ranger (NPWS) should be consulted regarding further action or mitigation to be taken with respect to the potential presence of Yellow bartsia in the area.

No mammal species recorded using the site is likely to be significantly impacted by the loss of habitat or disturbance. The predicted impacts are minor negative. Other Annex I mammal species including otter and bats occur in the wider environment but are not likely to be impacted by the proposed development.

6.0 SOILS AND GEOLOGY

The topography of the Thornbush Site is mainly flat but dips slightly to the south. The elevation of the Application Site is between approximately 4 and 7 metres above Ordnance Datum. Within the Thornbush Site to the south of the Application Site soils are dominated by estuarine silts and clays with interbedded gravels representing former shingle beach levels. Within the Application Site the overburden is this and where present consists primarily of sands and gravels.

Owing to the historical activities on-site the overburden has been disturbed and supplemented with waste ground (NB: Teagasc Soil Classification, 2001 classifies soils on the Application Site as being made ground). Borehole ecords indicate that in the Application Site and within the adjacent Thornbush Site made ground averaging 5m thickness overlies silty gravel and gravelly clay to a depth of ca. 7.50m. The ground conditions in this northern area of the Thornbush Site have been described as comprising a crust of drier soft to firm made ground ca. 1 to 2m deep followed by 3 to 7m of soft made ground and reclamation fill, underlain by 3to 5m of natural sand and gravel, followed by rock. The groundwater level was previously recorded as being between 1m and 2.3m above Ordnance Datum.

The Bedrock Geology Sheet 25 prepared by the Geological Survey of Ireland was consulted in conjunction with the accompanying document "Geology of South Cork" which indicates that the bedrock underlying the Application Site is Carboniferous in age (290-350 million years old). Borehole logs from the Application Site tend to agree with the regional mapping, indicating that the northwestern portion of the site is underlain by the Cork Red marble formation and the south and east portions of the site are underlain by the Waulsortian Limestones.

As indicated above, the Application Site shall be used for a waste recovery facility for inert wastes. The potential impacts posed to the natural geological environment at the Site include the following:

- The removal of surplus overburden materials;
- Oil and fuel spills during refuelling and maintenance of site vehicles;
- Maintenance of mobile units; and
- Releases from foul sewer and toilet facilities.

Any impact to the soils during the construction, filling and operational phases would be minimal as all the material to be excavated at the Application Site would be reused to land raise in other zones of the site. Therefore the impact to the natural ground underneath will be minimal. The rehabilitation of the Application Site and adjoining IPPC Licensed lands will result in a positive impact.

Regarding the operational activities at the Application Site, mitigation measures will be put in place to ensure that there are no deleterious impacts on soils, overburden or bedrock.

7.0 WATER

The natural ground (gravel deposits) underlying the waste ground on the Application Site, confirmed by borehole logs is not considered by the Geological Survey of Ireland to be an important aquifer. The bedrock formations at Little Island (Carboniferous Limestones) are considered by the Geological Survey of Ireland (GSI) to be part of a regionally important karstified bedrock aquifer. The groundwater vulnerability at the Application Site is considered by the GSI to be Extreme (E) rock near surface or karst to Extreme (E) and High (H) (See Figure 7.2 in the EIS). Groundwater at the Application Site will reportedly naturally tend to flow, under a hydraulic head, to discharge into Lough Mahon, to the south of the Application Site. The groundwater quality in the vicinity of the Application Site is classified as being possibly at risk of not achieving good status for the Water Framework Directive by the Environmental Protection Agency.

Groundwater quality in and around the Application Site has been compromised from the historical land uses in the area, however previous reports have noted that since the cessation of production activities at the Application Site in late 2003 there has been a general improvement in groundwater quality, based on the analysis of water samples, with a reduction in heavy metal concentrations.

To prevent any contamination of groundwater from accidental fuel spills mitigation measures are proposed. The existing monitoring programme will be continued to ensure that there is no deterioration of groundwater quality.

The main potential sources of contamination to surface water shall be accidental spillage or leakage of fuels/suspended solids. There are no surface water features flowing onto or from the Application Site. A small water course is located approximately 300m north of the

Application Site. Aside from this, the most notable surface water features in Little Island are the water-filled waste lagoons located within the adjacent Thornbush Site. The lack of surface water features outside of the waste lagoons is indicative of a karst environment. Mitigation measures with respect to surface water management are detailed.

8.0 CLIMATE

The nature and scale of the proposed development is such that no significant impact is likely to be caused to the climate. The medium-term impact of the C,D&E Facility may result in minor localised changes to the microclimate but any such changes will in effect be insignificant. As the lifespan of the facility is anticipated to be 10 years, there is no potential for a longer-term impact.

There is the potential for a number of greenhouse gas emissions to atmosphere during the construction and operation of the development. Vehicles, plant etc., may give rise to CO2 and N₂O emissions. From a recent traffic survey carried out in the vicinity of the Application Site (see EIS Appendix 3) it was seen that the increases in traffic on the surrounding road network would be minimal. Due to the size and nature of the proposed development therefore, CO₂ and N₂O emissions will have a negligible impact on climate.

9.0 AIR

The impacts of the proposed C,D&E Facility on local air quality during the construction and operational phases of the proposed development are considered in the EIS. The focus of the assessment is on dust and gaseous emissions. No significant adverse odour impacts are anticipated during the construction phase as there are no odour generating activities. The facility will process waste from construction and demolition activities. The absence of any significant quantities of putrescible organic waste due to segregation by the producer will ensure that any odour impacts are minimal.

It is expected that the construction phase will last approximately 2-3 months and due to the scale of the development and controlled earth moving activities, any impact on air quality will be minor and short-lived. The nearest residential area is St. Lappin's Terrace located approximately over 700m northeast of the proposed facility. The nearest existing and proposed industrial properties are located to the north and northeast of the site respectively. The impact of the operation of the proposed development on residential air quality will be negligible.

The major potential impact on air quality during the construction of the development will be dust, particularly in drier weather conditions. The extent of any dust generation will depend on the nature of the dust (i.e. soils, sands, gravels, silts) and the extent of construction activity.

A dust minimisation plan will be prepared and implemented by the contractor during the construction phase of the project, as construction activities are likely to generate some dust emissions, particularly during site clearance and re-grading of the site.

During the operational phase, crushing and screening activity is to be located in an area surrounded by stockpiled material thereby providing shelter from prevailing winds and further minimising fugitive emissions. Dust suppression sprinklers may be installed on the crusher and screening unit if required. A wheelwash unit will be available on-site to clean down vehicles departing the site. This will prevent the transfer of material off site onto neighbouring roads.

10.0 NOISE

As the majority of the plant and equipment for this proposed development will be mobile, this phase will include the construction of a hardstanding/paved areas, drainage works and a wheel wash and installation of a weighbridge and portacabins

This will involve general construction equipment and tools such as lifting equipment, compressors, generators etc. as well as trucks and other associated equipment. Noise levels will also be temporarily increased due to construction traffic with deliveries of construction materials and machinery to and from the development site.

Therefore, due to the nature of activities indertaken on a construction site, there will be an increase in noise levels during the construction phase. However, given the distance from the proposed development to residential areas, and the short-term nature of the construction phase (2-3months), the impact will be negligible.

The impacts of noise emissions during the operational phase will generally be within the confines of the Application Site with aggregate stockpiles providing significant acoustic screening from operating machinery. The crushing and screening activity is to be located in an enclosed area surrounded by stockpiled material thereby providing shelter from prevailing winds and further minimising noise emissions.

During daytime hours all three operational noise sources will contribute to the total noise emissions from the development. The noise impacts of the proposed operation are not considered to be significant, and with residential areas at a distance of >700m from the Application Site the impact on residential areas is considered negligible.

11.0 LANDSCAPE

The proposed development represents a temporary development that is potentially visually intrusive with negative perceptions. However, it is an essential requirement both to implement the restoration requirement of the Thornbush Site and the long term redevelopment of that site to a beneficial after-use, enhancing its waterfront location. The Application Site

benefits from the presence of substantial existing screen vegetation along its northern and western boundaries and the presence of bunding to the south. In addition, views of the development will be heavily restricted from the inner harbour area to the south of the Site due to the presence of the bund that defines the southern and western boundaries of the wider Thornbush Site. Distance has a significant diminishing effect from opposite shoreline locations. The proposed development should, therefore, be an acceptable development for the lifetime envisaged.

With respect to assessment of visual impacts, all viewpoints experience a low or negligible impact in the short and long term. These results generally reflect the extent to which the proposed development is visually contained by existing boundary screening. In addition, distance has a significant diminishing effect in views from the southern shoreline of Lough Mahon.

Mitigation would consist of appropriate fast growing vegetation planted on the proposed berms in the north of the Application Site.

12.0 MATERIAL ASSETS

Material assets comprise the physical resources in the environment, which may be of human or natural origin. The material assets that have been identified within the Application Site and in the surrounding landscape include natural resources, land resource, road network, public utilities, architectural and archaeological heritage and scenic routes. Issues concerning the road network, architectural/archaeological heritage and scenic routes are addressed in Sections 3 (Traffic), 11 (Landscape) and 13 (Archaeology and Cultural Heritage).

The proposed Facility will have a positive impact with regard to natural resources by providing an outlet for CD&E waste in the Cork City area. The proposed development is in keeping with Cork Waste Management Policies as outlined in the Cork City and Cork County Waste Management Plans (2004) which aim to reduce the amount of waste sent to landfill and recycle/re-use as much as possible. The proposed development will create a Facility that will allow recovery of C,D&E waste materials for restoration purposes.

Ultimately it is the vision of the Applicant to create a restored platform for future development of the Thornbush Site. The proposed development will therefore have a positive impact in terms of land use by providing materials for restoration of the Application Site and adjoining lands lying within the IPPC licence boundary, in a planned, orderly fashion, for 'beneficial afteruse'.

13.0 ARCHAEOLOGY AND CULTURAL HERITAGE

No archaeological monuments are located on the Application Site. One recorded monument (RMP CO075-052) is located within the Study Area. The monument is located in the portion of the site proposed for infilling and is situated c. 370m to the east of the Application Site.

The monument was fully archaeologically excavated and removed from the site at the time of its discovery in the 1970s and therefore will not be directly or indirectly impacted by the development proposals. Those recorded monuments located outside the proposed development site but within approximately 1km of the development boundary are also unlikely to be directly affected by the current proposals.

The potential for impacts on previously unrecorded archaeological remains which may exist within the Application Site is also low due to the former extensive groundworks which took place originally on the site for the construction of the lagoons.

Potential visual impact on the recorded monument within the Study Area by the proposed development is negated by the fact that no above-ground remains of the monument now exist. The distance of the recorded monuments located outside the site boundary and the industrial nature of the immediate environs also mitigates against such an impact.

14.0 INTERACTIONS

In examining the interactions of the potential impacts for this development one must investigate the combined physical, environmental, visual and socio-economic impact of the development on the receiving environment. The following Table illustrates the interaction of impacts assessed for this project.

	Traffic	Humans	Flora & Fauna	Soils & Geology	Water	Air	Noise	Landscape	Material Assets	Archaeolog y
Traffic				FOLAL						
Human Environment	х			entol						
Flora & Fauna			C	Up						
Soils & Geology										_
Water			x	x						
Air	х	х	х			1				1
Noise	х	х	х							
Landscape		х		х						1
Material Assets	х	Х								_
Archaeology		х							х	

The development of the proposed Facility is not likely to lead to significant adverse impacts on the region, considering the scale of the development in the context of the wider industrial area.

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