Environmental Impact Assessment Report

Waste Recovery Facility

Unit 518B, Grants Crescent, Greenogue Business Park, Rathcoole, Co. Dublin

Thorntons Recycling

Non-Technical Summary

SWECO

Revision history

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1. Introduction

1.1 Introduction

Padraig Thornton Waste Disposal Limited t/a Thorntons Recycling (hereinafter referred to as Thorntons Recyling) has recently purchased the Skiptrans Waste Management and Recycling business which includes the option to purchase the site of the existing waste recovery facility in Unit 518B, Greenogue Business Park, Rathcoole, Co. Dublin. The existing facility has consent to operate under a waste facility permit from South Dublin County Council (ref. no. WFP-DS-11-0002-06, issued May 2021).

Thorntons Recycling is proposing to optimise the use of the existing facility by:

- Constructing a new waste handling building;
- Simplification of waste pre-treatment process carried out onsite;
- Increasing the waste management capacity of the site from 5,000 tonnes per annum to 20,000 tonnes per annum.

There are two existing buildings on the site which will be used as part of the proposed development. The nature of the waste activities at the site of the proposed development will remain largely unchanged from those previously undertaken comprising the pre-treatment (i.e. sorting, segregation and bulking) of non-hazardous bulky waste streams from commercial, industrial and domestic sources (including construction and demolition waste) prior to transport offsite for further treatment.

The location of the proposed development is outlined in Figures 1 and 2.

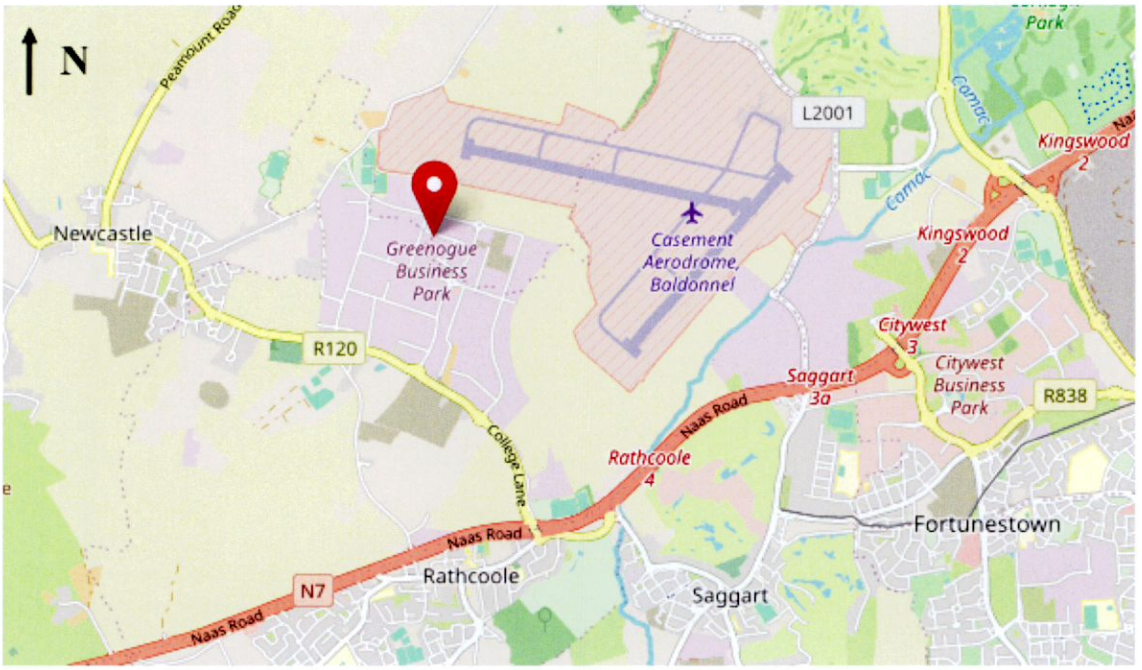

Figure 1: Site Location

Figure 2: Site Location – Aerial Map

1.2 What is a Non-Technical Summary?

This is the Non-Technical Summary of the Environmental Impact Assessment Report (EIAR) for the proposed development. This document summarises, in non-technical language, the EIAR; including the likely significant effects identified, the mitigation and monitoring measures proposed as well as any residual effects arising from the proposed development that have been identified. The EIAR has been prepared to accompany the planning application for the proposed development to South Dublin County Council (SDCC).

For the purpose of the environmental impact assessment (EIA), Thorntons Recycling is the 'developer/applicant' for the proposed development and South Dublin County Council is the 'competent authority' that will undertake the EIA and decide whether to grant consent for the proposed development. A Stage 1 Appropriate Assessment Screening Report has also been prepared and submitted as part of the planning application.

2. Need for the Development

2.1 Need for the Project

The existing waste recovery facility at Unit 518B is currently permitted for the annual intake of 5,000 tonnes of waste. Further to a previous grant of planning permission now expired (South Dublin County Council planning ref. SD15A/0074), the permitted annual waste intake of the existing facility was temporarily increased to 16,000 tonnes for a period of five years (February 2016-February 2021).

Thorntons Recycling has reviewed the current and projected future demand for its waste skip hire services and the management of this waste stream. Increased capacity for the handling of waste is required and the Unit 518B facility has been identified as a suitable location to serve this requirement, subject to the development of additional facilities at the site which forms part of the current application for planning permission. A total annual intake of 20,000 tonnes is proposed as part of the proposed development.

Future Waste Projections

In December 2020, the three Regional Waste Management Planning Offices jointly published an updated Soil and Stone Recovery / Disposal Capacity Report[1] based on 2018 data for waste collected nationally. The first issue of this capacity report was published in 2016. While mainly focused on the capacity for the recovery and disposal of soil and stone, the updated report also documented key data with respect to waste concrete and other construction and demolition (C&D) waste generation on a national scale.

The report of 2020 published by the Regional Waste Management Planning Offices shows the growth in C&D waste generation which has occurred nationally since the publication of the Eastern Midlands Region Waste Management Plan, with significant annual increases each year between 2013-2019. This report also includes projections for sustained annual increases in national C&D waste generation between 2020 and 2029, allowing for both low and high growth scenarios. By 2029, annual C&D waste generation in Ireland is projected to reach between 8.5-10.1 million tonnes (1.2-1.4 million tonnes excluding soil waste) as indicated in Figure 2.1.

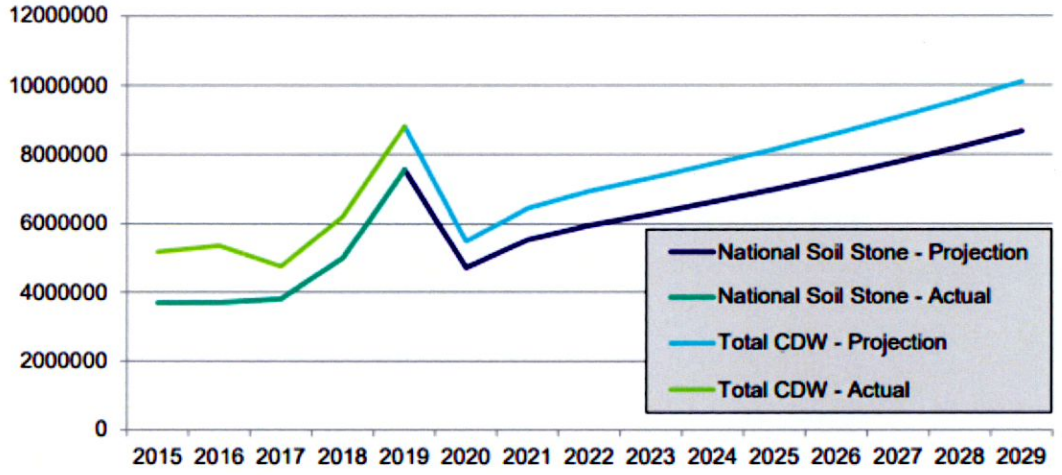

Figure 3: Actual and Projected National C&D Waste Quantities including Soil and Stone

The trend over recent years of increasing C&D waste generation (excluding the impact of COVID-19) and the projected annual increases envisaged by the report of the Regional Waste Management Planning Offices is consistent with the overall growth in demand for waste collection and recycling services experienced by Thorntons Recycling.

Separate to C&D waste, similar trends showing annual increases in waste generation generally are also evident from Environmental Protection Agency waste statistics. In 2019 and prior to the onset of the

[1] http://emwr.ie/wp-content/uploads/2022/02/National-C-D-Report-Dec-2020.pdf, accessed 27 June 2022

COVID-19 pandemic in Ireland, 1.57 million tonnes of household waste[2] was collected nationally representing an increase of approx. 0.15 million tonnes (~10.6%) over the annual total recorded in 2010 (1.42 million tonnes). Annual increases in household waste collection have been reported by the Environmental Protection Agency for every year between 2015 and 2020.

Overall, the above trends and projections highlight the need for increased waste management capacity notwithstanding measures planned to reduce waste generation consistent with the waste hierarchy and circular economy principles. As noted in the Eastern Midlands Region Waste Management Plan 2015 - 2021 (Section 16.4.1), *"pre-treatment capacities are typically the first destination for wastes and are vital in extracting and generating high-quality outputs for onward treatment"*.

The proposed development supports enhanced capacity at the Thorntons Greenogue site for the pre-treatment of waste by way of sorting and bulking, providing for maximum segregation of waste and preparing sorted materials for recycling insofar as possible.

2.2 Alternatives Considered

The following alternative options to the proposed development have been evaluated by Thorntons Recycling:

- Continue existing operations at permitted waste intake of 5,000 tonnes per annum ('do-nothing' scenario);
- Resume prior level of temporary operations (16,000 tonnes per annum);
- Alternative location;
- Alternative processing methods.

Following a review of these alternatives, it was concluded that the proposed development at the existing site would be the best solution to maintain and improve the waste management services provided by Thorntons Recycling.

[2] https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/household/, accessed 28 June 2022

3. Description of the Proposed Scheme

3.1 Site Location and Layout

The site of the proposed development is Unit 518B within the Greenogue Business Park, located approximately 14.5 km southwest of Dublin City centre, 2 km north of Rathcoole and 2 km east of Newcastle. Unit 518B is a 0.26 ha site located to the north of the Greenogue Business Park surrounded by neighbouring light industrial and commercial premises which forms part of a larger business area with the adjacent Aerodrome Business Park.

There are two existing buildings on the site (Building A and Building B). The new building (Building C) will be located to the southern end of Unit 518B. The proposed site overview is shown in Figure 4.

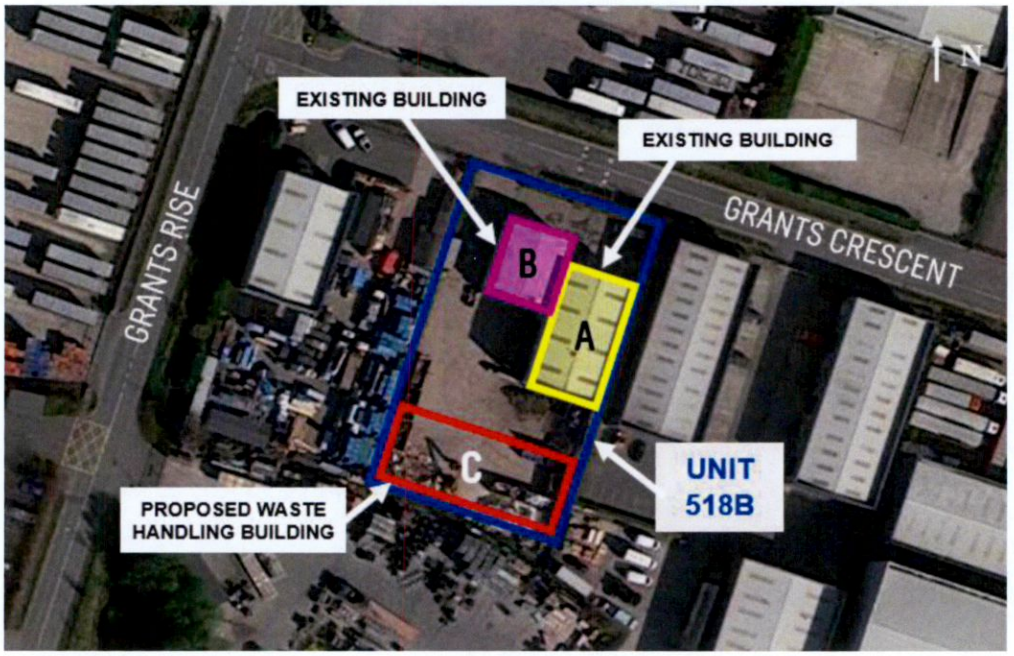

Figure 4: Site Overview

Other existing infrastructure on-site includes:

- A weighbridge and weighbridge cabin are located on the western side of the site (opposite Building B), providing for the weighing of incoming and outgoing waste loads;
- Hardstand/yard area covering the majority of the site with the exception of perimeter landscaping strips along the site boundary;
- Existing car parking area;
- Secure gates at the existing entrance to the facility and palisade fencing surrounding the site;
- Surface water management system and existing connection to storm/surface water sewer;
- Kitchen/canteen/welfare facilities (Building A) and associated connection to foul sewer;
- Connection to public mains water supply.

3.2 Overview of the Proposed Development

The new building ('Building C') proposed for construction on the site comprises of a single storey building with gross floor area of approx. 561 m^2, to be located to the south (rear) of the site, behind the existing buildings A and B. The new building will be approx. 35 m in length and approx. 16.5 m deep, with a max. roof ridge height of 12 m to provide a clear internal height of 10 m.

The building will be a simple steel portal framed structure. The existing concrete yard surface will be retained as the floor of the new building. Minimal excavations will be required to establish foundations and extend underground services, including drainage.

Proposed ancillary works will include:

- Reconfiguration of onsite car parking to reflect the new site layout and minor upgrades for electronic car charging, bicycle parking and disabled driver parking facilities. A total of 5 no. car parking spaces will be provided in addition to new bicycle parking for a total of 12 no. bicycles;
- Installation of a rainwater harvesting system to store and collect rainwater runoff from the new roof on 'Building C'.
- Elevational treatment works, including cladding and signage, are proposed for the existing Building B to enhance the visual appearance of the overall facility from the public roadway;
- Enhancement of existing site landscaping.

3.3 Operations

The key changes in the use of the overall site and onsite operations relate to:

- Increase in annual waste intake from 5,000 to 20,000 tonnes per annum.
- Increase in size of typical skip used for incoming waste loads (average load 3 tonnes / skip) compared to the smaller skip size utilised by the previous operator of the existing facility (average load 2.1 tonnes / skip). The use of larger skips will result in fewer daily vehicle movements per day associated with waste acceptance at the site when compared to previous operations.
- Simplification of waste pre-treatment process carried out by way of a pure 'bulking' operation with a gross pick of certain waste items, including the appropriate segregation of waste streams. The sorted waste streams will be held in the internal halls of the existing and proposed buildings prior to their consignment offsite for final treatment. Waste processing equipment will be limited to a single waste handler and a loading shovel. Previous operations involved the use of additional mechanical sorting equipment including a hopper, trommel and screen which are not required for the proposed waste sorting and bulking operations.

It is noted that a reduction in the number of employees onsite is foreseen from a previous maximum of 9 no. staff (previous operator of facility) to 2 no. This arises due to the centralised nature of several functions within the Thorntons Recycling business including company management, central administration, logistics and Environment, Health & Safety. The number of visitors expected to the site per day, including employees of Thorntons Recycling based at other locations, is estimated to be a maximum of three.

The sources and main types of waste to be accepted at the site will remain the same as were previously accepted at the facility. The main types of waste to be accepted include those arising from commercial, industrial and domestic sources, including C&D waste.

The facility currently holds a Waste Facility Permit (WFP-DS-11-0002-06) issued by South Dublin County Council in 2021. In the event of grant of planning permission, an application for a review of the Waste Facility Permit will be submitted to South Dublin County Council.

3.4 Construction Works

The duration of construction works for the proposed development will be approximately 8 weeks with anticipated commencement in Q4 of 2022 and completion in Q1 2023. The following are some of the key aspects of the construction phase:

- The proposed core construction on-site working hours will be from 8.00 a.m. to 7.00 p.m. Monday to Friday, and from 8.00 a.m. to 4.00 p.m. on Saturdays;
- All construction staff facilities will be provided on-site and construction staff will not, typically, depart from site during their working day. Access to the existing onsite office, kitchen and toilet facilities will be made available for use by the construction personnel;
- Access/egress will be provided via the existing site entrance;
- The existing Building B on-site will be provided to the construction contractor for use as a store and compound for the duration of the construction works;
- All construction parking will be accommodated within the existing site boundary;
- Construction of the new waste handling building will involve the erection of a steel portal framed structure;
- The existing yard slab will be retained as the floor for the new building. Foundation works will be confined to limited excavation in the area of the building perimeter;
- Limited shallow excavation works will also be required for the reconfiguration of the surface water drainage system to include the relocation of an existing drain and the installation of new surface water drains to collect the roof runoff;
- On completion of the foundations and drainage works, the yard and floor area excavated will be reinstated. This will be followed by the build-up of the concrete push walls and erection of the steel structure and roof installation works;
- There will be limited internal works, mainly comprising electrical cable installation for lighting and power for the new building;
- Cladding and elevational treatment works for the existing Building B;
- Minor civil works including the reconfiguration of the existing parking surfaces, installation of bicycle parking and enhancement of the site boundary landscaping will complete the construction phase.

A contractor will be appointed by Thorntons Recycling for the construction phase of the project.

A Construction Environmental Management Plan (CEMP) has been prepared to define the site environmental controls to be implemented during the construction phase. In addition, a Construction Traffic Management Plan (CTMP) has also been prepared for the management of construction related traffic to and from the site. Subject to grant of planning permission, both the CEMP and CTMP will be finalised by the contractor in advance of the commencement of construction works.

4. Planning & Policy

The review of strategic, statutory and non-statutory plans demonstrates that there is a supportive and consistent policy framework in place for the proposed development.

4.1.1 Planning Policy

The proposed development is located in an area zoned for 'Enterprise and Employment' (EE). Recycling facilities are listed as permitted in principle in this zone.

4.1.2 National Waste Policy

The following national policy documents set the objectives to move waste away from landfill/disposal up the waste management hierarchy to prevention, reuse and recovery:

- Department of the Environment and Local Government (1998) 'Waste Management - Changing Our Ways' – A Policy Statement;
- Department of the Environment and Local Government (2002) Preventing and Recycling Waste – Delivering Change – A Policy Statement;
- Department of the Environment, Heritage and Local Government (2004) Waste Management - Taking Stock and Moving Forward;
- Department of the Environment, Heritage and Local Government (2006) National Strategy on Biodegradable Waste Management; and
- Department of the Environment, Heritage and Local Government (2012) A Resource Opportunity - Waste Management Policy in Ireland.

The most recent policy document by the Department of the Environment, Climate and Communications "*A Waste Action Plan for a Circular Economy - Ireland's National Waste Policy 2020-2025*" was issued in September 2020 and sets ambitious targets to transition Ireland towards a circular economy through sustainable resource and waste management.

4.1.3 Regional Waste Policy

Regional waste management policy is detailed in the Eastern-Midlands Region Waste Management Plan (EMRWMP) 2015-2021, produced by Dublin City Council on behalf of all local authorities in the Eastern and Midlands Region. This plan established a number of mandatory targets over the plan period including targets for preparing for reuse and recycling of various waste streams. Table 1 details the targets relevant to the proposed development.

Table 1: EMRWMP Mandatory Targets related to Proposed Development

Waste Stream	Preparing for reuse and recycling target rate	Timeline
Paper, glass, metal and plastics of the household stream and/or similar wastes	50%	2020
Construction & demolition wastes (excluding soil and stones)	70%	2020

4.1.4 Local Waste Policy

The SDCC Development Plan 2016-2022 sets out the following objectives for waste management:

- ***IE5 Objective 1:*** *"To support the implementation of the Eastern–Midlands Region Waste Management Plan 2015-2021 by adhering to overarching performance targets, policies and policy actions."*
- ***IE5 Objective 3:*** *"To encourage the transition from a waste management economy to a green circular economy to enhance employment and increase the value recovery and recirculation of resources."*
- ***IE5 Objective 4:*** *"To provide, promote and facilitate high quality sustainable waste recovery and disposal infrastructure/technology in keeping with the EU waste hierarchy and to adequately cater for a growing residential population and business sector."*

The SDCC Development Plan 2022-2028 (made in June 2022, effective from August 2022) sets out the following objectives for waste management:

- ***IE6 Objective 2:*** *"To support the implementation of the Eastern Midlands Region Waste Management Plan 2015-2021 or as amended by adhering to overarching performance targets, policies and policy actions."*
- ***IE6 Objective 3:*** *"To provide for, promote and facilitate high quality sustainable waste recovery and disposal infrastructure/technology in keeping with the EU waste hierarchy and to adequately cater for a growing residential population and business sector."*
- ***IE6 Objective 9:*** *"To support the development of indigenous capacity for the treatment of non-hazardous and hazardous wastes where technically, economically and environmentally practicable subject to the relevant environmental protection criteria for the planning and development of such activities being applied."*

5. Environmental Topics

The next sections of this non-technical summary summarise the assessments of the effects on the environment of the proposed development.

5.1 Traffic and Transportation

The site is located on Grants Crescent, one of a series of internal access roads within the Greenogue Business Park. The Greenogue Business Park is accessible from the R120 regional road with a short distance of approximately 730 m to the National Primary Road - N7 (Junction 4) from the roundabout junction of Jordanstown Road and the R120.

The site is strategically located for access to the Greater Dublin area, with the N7 connecting to the orbital M50 motorway. The R120 is a regional road connecting with the R835 at Lucan to the N7 at Rathcoole. It forms the primary access to the Greenogue Business Park from the south.

Traffic surveys conducted at five locations on the surrounding road network indicate that the highest traffic volumes occur between 07:45 and 08:45. Traffic modelling for future scenarios (i.e. when the facility is operational with an annual waste intake of 20,000 tonnes) indicates that although a number of the junctions are expected to exceed capacity in the future, this is due to background growth on the road network, rather than any trips generated by the proposed development.

During the construction phase of the proposed development, traffic generation is predicted to generate 20 private vehicles per day and four construction traffic movements (heavy and light good vehicles). Therefore traffic volumes associated with the construction phase will not result in a significant impact on the local road network.

The key mitigation measures to be adopted during construction include:

- The preparation of a detailed Construction Traffic Management Plan, as submitted with the planning application, to be updated by the appointed contractor prior to the commencement of the construction works;
- The staggering of the start time for construction works from 07:00-07:30 or after the peak hour identified (07:45-08:45) to minimise the impact of construction traffic on the local road network.

Operationally, Thorntons Recycling proposes to increase the size of the skips used for waste management to improve the overall efficiency of operations. This is expected to lead to a slight reduction in heavy good vehicle movements to site, from the existing baseline of 66 (33 arrivals and 33 departures) weekday movements, to 56 (28 arrivals and 28 departures).

The key mitigation measures to be adopted during operations include:

- All shift start times will be outside the peak hour (07:45-08:45);
- Where possible, waste delivery times will be scheduled to avoid peak periods;
- New dedicated bicycle parking will be provided (noting that the existing facility has a shower facility for employees) to encourage alternative forms of travel;
- Two of the parking spaces will be equipped for electric car charging;
- The visibility splay at the entrance will be maintained and kept free of all obstacles that may cause a visual obstruction.

Following the implementation of mitigation measures, no significant residual effects on traffic and transportation are predicted as a result of the proposed development.

5.2 Biodiversity

The majority of the existing site consists of buildings and hardstand. Thin strips of recolonised bare ground habitat (previously landscaped areas) are present along the perimeter of the site and consist of a mixture of low level species including grasses, brambles, dandelions, nettle and Hogweed. The perimeter of the site, in particular to the front (north) and side (west), has sections of hedgerow made up of two commonly

planted non-native garden hedge species: cherry laurel and griselinia. All of the identified habitats are of local (site level) importance only.

The site is not located in, or adjacent to, any areas designated for the conservation of habitats or species.

There were no amphibians, birds, bats or other mammals recorded during the site survey.

To enhance the biodiversity of the site, the existing non-native hedgerow species along the front of the site will be supplemented with the planting of native species. This will increase the ability of these hedgerows to support nesting birds and native pollinators and would represent a significant increase in biodiversity value on the site.

Following the implementation of mitigation measures, no significant residual effects on biodiversity are predicted as a result of the proposed development.

5.3 Land, Soils, Geology and Hydrogeology

Geology refers to the materials that make up the Earth, the natural features and structures on Earth and the processes which act on them. Hydrogeology is the distribution and movement of water in the soil and rock below the ground.

The site of the proposed development was undeveloped, agricultural land prior to the expansion of the Greenogue Business Park (Phase 5) in the mid-2000s. It is underlain by a locally important aquifer, with the groundwater body described as having 'Good' water quality status. An aquifer is an underground layer of permeable water-bearing rock, fractures in the rock, or soil. While this aquifer is classified as 'extremely vulnerable' to pollution and pressures, the existing hardstand within the site will be maintained. This will minimise the potential for effects on the aquifer/groundwater.

The following additional mitigation measures will be implemented for land, soils, geology and hydrogeology as part of the construction phase:

- The Construction Environment Management Plan that has been prepared as part of this application will be updated by the appointed Contractor prior to commencement of construction;
- While contaminated land is not expected and excavation will be minimal, all materials will be visually examined for signs of contamination. If contaminated material is found, it will be sent offsite for appropriate recovery or disposal using a suitably authorised waste contractor;
- A risk assessment will be carried out for wet concrete works;
- All concrete pours will take place within the designated area and runoff into the ground will be prevented;
- Washing of concrete truck(s) will take place offsite;
- Fuels and other construction materials will be placed in a bund;
- Plant machinery will be routinely inspected and maintained and kept on hardstanding area when not in use;
- Spills kits will be maintained on-site.

There are no emissions to ground/groundwater associated with the operation of the existing facility or future operations on completion of the proposed development. There have been no historical incidents identified with potential for contamination of soil or groundwater. With the implementation of appropriate mitigation measures and monitoring, no residual effects of significance on land, soils, geology or hydrogeology are predicted as a result of the proposed development.

5.4 Water and Hydrology

Hydrology is concerned with the movement, distribution and management of water. An assessment was undertaken to identify the likely effects of the proposed development on surface water, water quality and the existing hydrological environment. The vulnerability of the proposed development to flooding, and the effect of the proposed development on flood risk outside the site boundary, was also assessed.

A Flood Risk Assessment was undertaken which included a review of available flood records. The proposed development is rated as a 'less vulnerable' development by the Flood Management Guidelines under the Category 'Commercial/Industrial' and would therefore be classed as appropriate development within a Flood Zone B (a moderate flood hazard area).

The Baldonnel watercourse runs to the south of the site and west of the adjacent Unit 518A. It flows in a northerly direction to meet the Griffeen River, a tributary of the River Liffey. The Griffeen River continues northwards to meet the River Liffey at Lucan, approximately 8.5 km downstream of the proposed development site. The Environmental Protection Agency samples surface water bodies in Ireland and publishes water quality data. The Griffeen River currently has a 'moderate' waterbody status assigned to it.

Surface water/stormwater is collected from the site via the public storm water sewer system and is sufficient to service the proposed development (including a 20% allowance for increase due to climate change). There will be no increase in foul effluent (wastewater from toilets, shower, sinks) as a result of the proposed development and the site will continue to be served by the existing connection to the public foul sewer.

The potential effects on water and hydrology during the construction phase of the proposed development include the potential for the release of sediment or pollutants to surface water. This would result in a temporary significant negative effect. To mitigate this potential risk, the following measures will be implemented during construction, in line with best practice and routine maintenance:

- Materials brought on site will be suitably covered where there is a risk of wind-blown sediments escaping from imported or exported material;
- Parking of vehicles will be limited to a designated area;
- Any fuels or oils stored on site will be bunded;
- Any stockpiled material will be covered;
- Construction personnel will use the existing sanitary facilities on site;
- Construction works will be suspended in an extreme flood event.

Potential effects on water and hydrology during the operational phase of the proposed development will result solely from an accidental spill or low level inundation of the new building during an extreme flood event (1:1000 years with climate change). The proposed development will however not impede access to any surface water bodies, floodplains or flood protection facilities. Monitoring of the surface water discharge will continue to be monitored as required by the existing waste facility permit.

Following the implementation of mitigation measures identified, no significant residual effects on water or the hydrological environment are predicted as a result of the proposed development.

5.5 Noise and Vibration

An assessment of the noise and vibration effects arising from the proposed development on the existing environment was carried out. The baseline noise environment was assessed by conducting a noise survey at locations onsite and at the nearest noise sensitive locations (residential dwellings).

Construction noise was assessed using the guidance provided in the appropriate British Standard Code of Practice for Noise and Vibration Control on Construction and Open Sites. Outputs from the appraisal indicate that the highest noise levels will be generated during the excavation and foundation stage of the new building with the following control and mitigation measures to be implemented:

- Using 'silenced' plant and equipment;
- Switching off engines where vehicles are standing for a significant period of time;
- Fitting of acoustic enclosures to suppress noisy equipment as appropriate;
- Operating plant at low speeds and incorporating of automatic low speed idling;
- Selecting electrically driven equipment in preference to internal combustion powered, hydraulic power in preference to pneumatic and wheeled in lieu of tracked plant;
- Properly maintaining all plant (greased, blown silencers replaced, saws kept sharpened, teeth set and blades flat, worn bearings replaced, etc.);
- Considering the use of temporary screening or enclosures for static noisy plant to reduce noise emissions as appropriate;

- Certifying plant to meet any relevant standards; and

For any proposed construction works to be undertaken outside of the permitted working day, particularly at night, prior consent would be sought from South Dublin County Council.

With regard to the operational phase, a detailed assessment of the noise effects from additional vehicle traffic along the surrounding roads and site operations including skip deliveries, loading/unloading of waste material and sorting has been undertaken. The predicted effect is deemed to be imperceptible.

The assessment of operational activities has shown that mitigation measures are not required for the control or reduction of noise. All waste sorting activities will be undertaken indoors within the buildings. A noise survey will be undertaken on completion of the facility to verify that operational noise levels are in line with the predicted levels identified and comply with the relevant condition(s) of planning permission (if granted).

5.6 Air Quality and Climate

The air quality assessment is concerned with the presence of airborne pollutants in the atmosphere. To reduce the risk of poor air quality, National and European statutory bodies have set limit values for the concentrations of air pollutants in ambient air. These limit values are set for the protection of human health and biodiversity. The relevant limits are set out in the Irish Air Quality Standards Regulations.

The Environmental Protection Agency monitors and reports on air quality in Ireland. The Environmental Protection Agency has found that the background levels of the air pollutants, which would be relevant to the proposed development, are impacted by solid fuel burning and traffic related emissions. The background levels in the Dublin area (taken from Ballyfermot monitoring station) were within the limits set in the Air Quality Standards Regulations from 2019-2020.

The main potential for air quality impacts due to the proposed construction works would be dust emissions arising from excavations, material delivery and stockpiling. Several receptors, primarily neighbouring business, are located in the immediate vicinity of the site.

There will also be a temporary increase in traffic vehicles during the construction phase but given the expected volume (approximately 24 per day) and the temporary nature of the construction programme (approximately 8 weeks), the potential effect on air quality, biodiversity or human health will not be significant. The key mitigation measures to be adopted during construction include:

- The Construction Environmental Management Plan included with the planning application will be finalised by the appointed Contractor (subject to grant of planning permission);
- Truck loads will be covered when carrying material likely to generate dust;
- Excavated material will be deposited directly into a skip and covered;
- Control of vehicle speeds, speed restrictions and vehicle access;
- Sweeping of hard surface roads and yard area.
- The Construction Traffic Management Plan included with the planning application will be finalised by the appointed Contractor (subject to grant of planning permission) - this will minimise trip generation and encourage car sharing and the use of public transport, insofar as practicable;
- Materials will be handled efficiently on site to minimise the waiting time for loading and unloading, thereby reducing potential emissions;
- Engines will be turned off when machinery is not in use;
- The regular maintenance of plant and equipment will be carried out.

During the operational phase of the proposed development, there is potential for dust emissions from the unloading, handling and loading of waste. These waste operations will be carried out inside the buildings. The existing yard area will be maintained as hardstand. A 20 km/hr speed limit will apply to vehicle movements within the site. Further to these measures, no residual significant effects on air quality or climate will arise.

5.7 Population and Human Health

The likely effects of the proposed development on population and human health during the construction and operation of the proposed development were assessed. The general amenity of people living in the vicinity of the proposed development and visiting the area, access to dwellings, community facilities and commercial premises, and business, tourism and employment in the area were considered in the assessment. The effects of the proposed development on human health were examined.

The Greenogue Business Park has been characterised as an 'identifiable economic cluster' and is in an area zoned 'EE' (Enterprise & Employment). The lands surrounding the Greenogue Business Park is zoned 'RU' (Rural).

There are no residential properties within 500 m of the proposed development with a total of 40 no. residential properties within 1 km. A majority of these properties are located over 750 m from the site. The site is surrounded by numerous commercial and light industrial premises within the Greenogue and Aerodrome Business Parks. Other receptors/amenities identified within 1 km include Grian na nÓg playschool and Peamount United FC.

The construction or operational phase will not result in any negative effects in terms of land use zoning.

The construction will result in a temporary increase in employment (up to 10 no. construction personnel), which will have a temporary, positive effect. The increase in employment may also cause temporary positive secondary effects such as demand for local retail and food business.

There will be no emissions of toxic substances to the environment, which could have a negative effect on human health, during the construction and operation of the proposed development. No exceedances of air quality standards or relevant noise limits are expected. No significant effects on human health are predicted during the construction or operational phase as a result of the proposed development.

Similarly, there will be no significant effects on tourism as a result of the construction and operation of the proposed development.

Following the implementation of mitigation measures, no significant residual effects on population and human health are predicted as a result of the proposed development.

5.8 Archaeological, Architectural and Cultural Heritage

This assessment studied the likely effects on archaeological, architectural and cultural heritage from the proposed development.

No monuments with United Nations Educational, Scientific and Cultural Organisation (UNESCO) world heritage status are located either within or adjacent to the proposed development site. The nearest monument is located 43 km to the north and consists of the Brú na Bóinne site. No National Monuments in State Care / Ownership / Guardianship are located within the 5 km study area surrounding the site of the proposed development. The nearest structures are located to the east/northeast and consist of Tullys Castle and Clondalkin Tower.

Only one recorded monument is located within 1 km of the proposed development site and is situated within an area now occupied by the Aerodrome Business Park. It is located 934 m to the south-east of the proposed development site. No protected structures are located within 1 km of the proposed development site. The nearest protected structure is located 1.75 km to the west and consists of a detached three bay single storey house at Newcastle North townland. Two structures listed in the National Inventory of Architectural Heritage (NIAH) are located within the 1 km study area to the northwest.

No direct effects will occur to UNESCO designated sites, National Monuments in State Care, Recorded Monuments, Protected Structures or NIAH sites since all are located a significant distance away from the site of the proposed development and all construction activities will be within the site boundary. No mitigation measures are required in this regard. Since the proposed development is located on a developed site with the site devoid of topsoil, the sub-surface archaeological potential is considered to be low to negligible.

Potential impacts on the visual amenity of a site or area and the significance of same is dependent on a number of factors including the sensitivity of the location or 'receptor' and the scale or magnitude of the proposed development. The overall landscape will not be altered as a result of the proposed development. No impacts on setting will occur since the nearest monument is located at a significant remove from the site of the proposed development. Furthermore, the nearest monument has no remaining physical surface trace. No mitigation measures are therefore required or proposed.

5.9 Material Assets

There will be relatively low use of fuel, electricity, natural gas and potable water during the construction phase. Resources consumed will mainly include use of fuels for construction related machinery, electricity to light the construction site and power tools.

For the construction phase the main focus will be on the management of waste and resources. On-site segregation of all waste materials will take place. It will be a priority to source materials from locations close to the site, where possible, in order to reduce transport distances. The predicted quantities of resources that will be consumed during construction are typical for a construction project of this scale.

A Construction Environmental Management Plan has been prepared and is included as part of the planning application, including measures for waste management consistent with EPA guidelines for the management of construction and demolition waste. Subject to grant of planning permission, this Construction Environmental Management Plan will be finalised prior to construction by the appointed contractor for the construction phase.

With its existing network of licensed and permitted waste management facilities, Thorntons Recycling is positioned to directly manage all waste streams associated with the construction phase of the proposed development and maximise recycling rates.

New lighting installed to serve the proposed waste handling building will be energy-efficient using low energy LEDs or lighting of similar efficiency.

A revised waste facility permit will be required for the operation of the proposed development and an application will be submitted to SDCC. All waste management operations at the site will be carried out in accordance with the conditions of the latest waste facility permit for the facility.

Following the implementation of mitigation measures, no significant residual effects on material assets are predicted as a result of the proposed development.

5.10 Landscape and Visual Impact

The landscape character of the existing site can be broadly described as comprising of a built environment with natural elements beyond the boundary of the Greenogue Business Park. The majority of the existing site comprises hardstanding with the exception of narrow strips of hedgerow on the northern boundary and smaller unmanaged strips along the eastern and western boundaries. The site is generally flat, sloping from a low point close to the site entrance, to a high point of close to the southern site boundary.

While the proposed new waste handling building is located to the rear of the site and immediately adjacent to other buildings of a similar scale and height, its construction and associated infrastructure will have a slight negative effect on the immediate landscape. The intermittent but temporary introduction of prominent tall features such as a crane (if required) for the erection of the new building (steel frame) will have some temporary visual effects on the visual amenity of both nearby and (to a lesser degree) more remote sensitive receptors.

Additional temporary visual effects will be caused as a result of construction vehicle movements to and from the site and for general construction operations. During the construction phase some temporary lighting may be required to ensure safe working particularly during winter months. The visual effects are considered to be slight, negative and temporary in nature.

The proposal to increase waste operations will not impact on the landscape and visual environment. A positive effect arising from the proposed development will be the slight reduction in operational traffic in

addition to the streamlining of recovery operations to ensure that all waste is handled internally within the buildings, eliminating previous practices of the temporary storage of waste externally within the existing yard area.

The proposed new building will be constructed of similar materials and in a style compatible with the existing buildings on-site and the neighbouring properties. The height of the building will be slightly higher than adjacent and neighbouring buildings, however the building will be afforded a significant setback from the nearest external roadway (Grants Crescent).

Following the implementation of mitigation measures, no significant residual effects on material assets are predicted as a result of the proposed development.

6. Interactions and Cumulative Effects

Having completed the EIAR in accordance with the requirements of the Environmental Impact Assessment Directives 2011/92/EU and 2014/52/EU, it can be concluded that there is no potential for significant cumulative effects to arise due to the cumulation of multiple non-significant effects associated with the proposed development or effects associated with other approved or existing developments in the vicinity of the site. There are no other approved development projects within the site of the proposed development.

Due to the nature of the waste operations, the design of the new building and mitigation measures in place for both the construction and operational phases of the proposed development, there is no potential for multiple non-significant effects to lead to cumulative significant effects. In addition, there are no negative cumulative effects arising due to the mitigation measures proposed in the Environmental Impact Assessment Report.

In order to effectively manage all potential environmental impacts during the construction phase, a Construction Environmental Management Plan (CEMP) and Construction Traffic Management Plan (CTMP) have been prepared in support of the planning application. The CEMP sets out the responsibilities, environmental standards and requirements for the duration of the construction phase of the proposed development. This includes the necessary environmental controls and mitigation measures to prevent/mitigate and potential impact on the environment. Measures for the management of construction and demolition (C&D) waste arising are also included in the CEMP. The CTMP sets out the measures for the management and control of traffic during the construction phase.

Based on the implementation of the CEMP and CTMP and all mitigation measures included in the EIAR, there are no significant residual effects foreseen. The potential for cumulative effects as a result of emissions during the operational phase of the proposed development has been assessed. No significant effects are considered likely to occur.