

INTEGRATED WASTE MANAGEMENT FACILITY AT HOLLYWOOD CIRCULAR ECONOMY CAMPUS

Environmental Impact Assessment Report Volume I: Non-Technical
Summary



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1 INTRODUCTION

Integrated Materials Solutions Limited Partnership (IMS) is the owner of the proposed development site, which is located at Hollywood Great, Nag's Head, Naul, Co. Dublin. The site is located approximately 3km west of the Junction 5 (Balbriggan South) of the M1 motorway and approximately 14km north of Dublin Airport. The site location is shown in **Figure 1-1** with the red line boundary showing the extent of the application (circa 54.4 hectares).

The site was a former shale and limestone quarry which operated until 2007 and is now licensed by the Environmental Protection Agency (EPA) as an engineered landfill for the purpose of infilling and restoration of the quarry to natural ground levels. Under the terms of the current planning permission (F19A/0077) and the Waste Licence (Ref. W0129-02), only waste which meets the criteria for inert landfill as set out in the Landfill Directive (Directive 1999/31/EC) may be landfilled at the site. The current cap on the waste volumes accepted at the site is 500,000 tonnes per annum both by the existing planning consent and the Waste Licence.

In addition to the landfilling operation, IMS undertakes a number of other consented circular economy activities on site to generate secondary aggregates for the construction sector. This includes an 'end of waste'¹ operation for the reuse of crushed concrete and an aggregate recovery operation to facilitate the reuse of aggregates in the construction sector.

IMS is now seeking consent to develop a Circular Economy (CE) Campus and an integrated waste management facility at the Hollywood site which will service national waste management requirements and assist in providing a self-sufficient waste management solution for the State. The proposal will enhance and expand the established waste and recovery operations at the Hollywood site in line with circular economy principals and the waste hierarchy. The proposal consists of permission for a 25-year lifetime of operation with waste intake capped at a rate of 500,000 tonnes per annum as per the existing operation. The proposed CE Campus includes a number of proposed changes as follows:

- Broader waste acceptance types to include non-biodegradable non-hazardous and inert wastes generated by a range of sectors (construction, commercial, industrial and waste processing);
- Expanded waste treatment activities including:
 - Development and re-profiling of the landfill void to accommodate specially engineered landfill cells for non-hazardous wastes in addition to the existing engineered inert cells;
 - Enhancement of the existing aggregate recovery processing on site including upgrading the aggregate recovery operations which produces low carbon, recovered sands and aggregates from various granular wastes by removing residues and other trace contaminants and separating the resulting aggregates into various size fractions;
 - Manufacture of secondary materials including enhanced soils and low-energy bound materials (e.g. concrete);
 - Additional waste recovery activities including soil/concrete batching and blending;
- Repurposing of an existing structure on site as a testing laboratory unit for the research, development and testing of recovered materials;
- A leachate management system including a leachate collection system and a storage tank prior to tankering off site for treatment at a suitably licensed WWTP with provision for a future on-site leachate treatment facility;
- Surface water management infrastructure for the landfill to capture, attenuate and treat storm water prior to discharge;
- A mobile enclosure for the maturation of Incinerator Bottom Ash (IBA);

¹ Under Article 28 of the European Waste Framework Directive 2008/98/EC (Waste Framework Directive) and regulated by the EPA. Link: <https://www.epa.ie/publications/compliance--enforcement/waste/end-of-waste-criteria-recycled-aggregates.php>

- An internal un-paved road network serving the deposition areas from the reception area which will be modified throughout the development phasing;
- Relocation of the existing artificial Peregrine Falcon nesting box to a proposed elevated pole-mounted location to the south west of the site; and
- Restoration of the site to natural ground levels.

This Environmental Impact Assessment Report (EIAR) identifies, describes and assesses the direct and indirect significant effects of this proposed development on the environmental factors listed in the EIA legislation.

This report serves as a summary of the entire Environmental Impact Assessment Report and has been prepared in conjunction with various European, Irish and Local legislation, policy and guidelines. The primary documents however are the EU Directive 2011/92/EU as amended by Directive 2014/52/EU and Draft Revised Guidelines on the Information to be contained in Environmental Impact Statements (EPA, 2017).

This EIAR has been prepared to support two applications for consent for the proposed development including:

- An application for planning permission to An Bord Pleanála (ABP) under the provisions of Section 37E of Planning and Development (Strategic Infrastructure) Act 2006 for a strategic infrastructure development (ABP Case Reference PL06F.304428); and
- The current operations are licenced by the EPA as Waste Licence (Register W0129-02) for infilling with construction and demolition wastes which meet the waste acceptance criteria as set out in the Waste Licence and the Landfill Directive. The proposed development will require a review of the existing licence to account for the revisions to the waste streams accepted and the new site infrastructure and an Industrial Emission (IE) Licence review application will be lodged to the EPA (Register W0129-04).

This EIAR has been prepared to support these twin applications for the planning consent application to ABP and environmental licensing application to the EPA.

1.1 Site Location

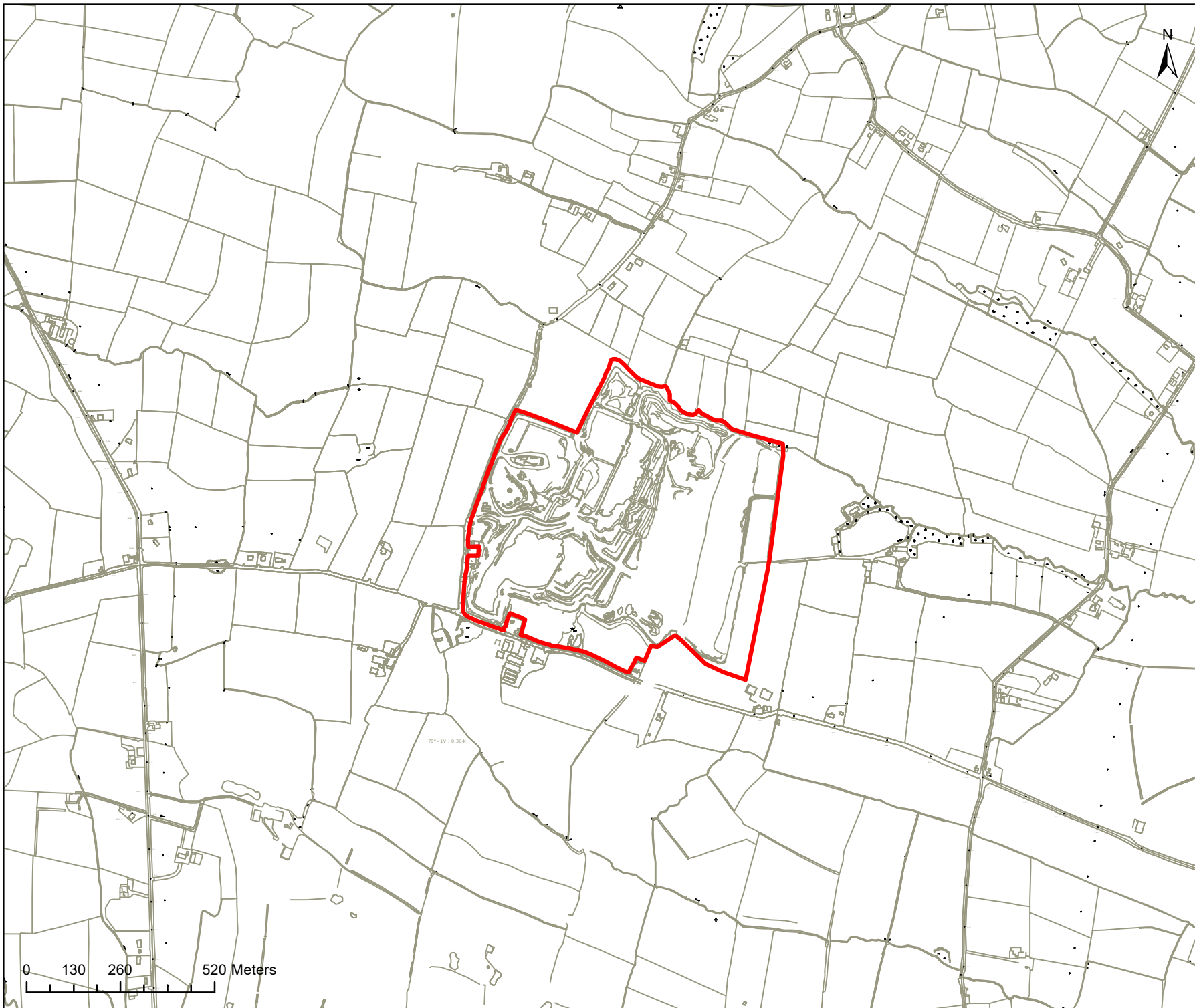
The site is located in Hollywood Great, Nag's Head, Naul, Co. Dublin (Irish Transverse Mercator Easting: 715736, Northing: 758036), approximately 3km west of the M1 and approximately 14km north of Dublin Airport. The site location is shown in **Figure 1-1**. The site is accessed via the LP-1090 local road which bounds the west of the site and the LP-1080 local road (also known as Sallowood View and the Nevitt Road) which bounds the south of the site and links the R108 with the R132.

The site was a former quarry which operated until 2007 and is now a licensed landfill site. IMS ownership of the site expands to 54.4 hectares with the current EPA Waste Licence covering an area of 39.8 hectares.

The land use in the vicinity of the site is typically agricultural with the surrounding fields employed for a mixture of pasture and tillage uses. In addition, a small number of commercial operations are also located within the area.

The human environment in the area consists mainly of residential properties located along the local roads including the LP-1090 (west), LP-1080 (south), Tooman Road (east) and Rowans Road (north). The nearest residential property to the site is the bungalow located at the southern site boundary along the LP-1080 to the east of the junction with the LP-1090 and this property is in the ownership of IMS.

Under the Fingal Development Plan 2017-2023, the area around the site is zoned as HA 'High Amenity' to protect and enhance high amenity areas. Furthermore, the entirety of the LP-1080 along the southern boundary of the site and a section of the LP-1090 along the western boundary are designated to preserve the view highlighting the sensitivity of the landscape in the area.



Legend

Site Boundary

Client
Integrated Materials Solutions (IMS) Limited Partnership

IMS Hollywood 2022 Update

Title

**Figure 1-1:
 Site Location**

RPS West Pier
 Business Campus, T +353 (0) 1 4882900
 Dun Laoghaire, E ireland@rpsgroup.com
 Co Dublin, Ireland. W rpsgroup.com/ireland

Issue Details

File Identifier:
 MDR1492A-RPS-00-XX-DR-Z-AG-0006

Status:	Rev:	Model File Identifier:
S0	P01	

Drawn:	MV	Date:	15/09/2022
Checked:	SA	Scale:	1:14,000 @A4

Approved:	PC	Projection:	ITM
NOTE:			

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1.2 Consultation

In May 2019, IMS commenced the pre-application consultation process with An Bord Pleanála (ABP) as part of which IMS sought advice regarding the proposed application, the procedures for making the application and the considerations relating to proper planning and sustainable development and the environment. IMS also consulted on the scoping of the application and the following matters were raised by ABP, all of which have been addressed in the application:

- **Policy & Need:** ABP requested that the policy context and need for the project should be clearly set out in the application. In a general sense, the Board reiterated the need for as much clarity as possible on matters such as the planning history of the site and previous waste licences.
- The Board's representatives also advised on the need to be clear with regard to the matter of asbestos and where this requirement is listed in the *National Hazardous Waste Management Plan 2014-2020*. Following ongoing engagement with the community, IMS has agreed to remove this waste stream from the proposal and no asbestos (or any hazardous waste) is included in this application.
- **Planning History:** Historical chronology for various planning applications and waste licences should be made clear.
- **Duration of permission:** it is important to distinguish between the duration of the planning permission being sought (i.e. 5 to 10 years) and the lifetime of operations (i.e. 25 years). The proposal consists of a 10 year permission for a 25-year lifetime of operation.
- **EIA/AA:** The Board advised that the EIAR for the planning application and that for the EPA licence application should be the same. This is confirmed and this EIAR has been prepared for this dual purpose.
- **Hydrogeology:** Having regard to the history of the site, ABP considers that the potential impact on hydrogeology and protection of ground water resources will be a significant issue in the consideration of an application for development. The EPA's reasons for refusing the previous waste licence application must be addressed.
- **Biodiversity:** The board underlines the importance of addressing fully the impacts on the Peregrine Falcon, supported by surveys and scientific information. Any potential relationship with the conservation objectives of the Rogerstown Estuary SPA should be explored in detail in order to support the omission of the species from the NIS.
- **Traffic and transportation:** It was noted that this planning matter was of particular concern to Fingal County Council during the planning history of the site.
- **Cultural heritage:** It was noted that the surrounding area is one rich in cultural heritage but this does not affect the subject site.
- **Landscape and visual impact:** ABP suggested that it might be useful to reflect the intermittent period when the quarry is being in-filled and cross-sections would be useful.

On the 8th of January 2020, IMS held a consultation meeting with the planning authority at the Fingal County Council offices in Swords, Co. Dublin. The planning authority agreed with the initial views of ABP on the application scoping and also proposed the following elements, all of which have been addressed in the application:

- **Traffic** - The planning authority recommended that an updated baseline traffic survey is undertaken to reflect the current traffic volumes relative to the previous survey in May 2018. This survey has been commissioned in May 2022 and the results of same have been employed in the impact assessment prepared.
- **Community Fund** – The planning authority suggested that IMS provides a consideration of a community fund as part of the application. The purpose of such a fund is to provide financial assistance to community organisations in the area to fund environmental, recreational and community projects as part of a wider mitigation regime.

A pre-application consultation meeting was held with the EPA Waste Licensing Team on the 11th April 2019 at the EPA offices in Wexford. In advance of the meeting, IMS prepared a series of consultation responses for the EPA to inform the meeting. During the meeting the scope and nature of the Industrial Emissions

Licence application were discussed and the EPA advised of additional specific requirements such as the EIAR and NIS.

The consultation process also consisted of communicating with other statutory and non-statutory organisations and other competent parties. The primary objective of involving these organisations and parties at an early stage in the EIA process is to aid in the scoping of and the content of the EIAR. A summary of the key issues noted by the principle responses of substance are set out in **Table 1-1**, along with a note as to how these items are addressed in the EIAR.

Table 1-1 Summary of Principle Responses to the EIA Scoping Request

Consultee	Key Issues Identified in Response	How Addressed in EIAR
Department of Communications, Climate Action and Environment – Geological Survey of Ireland	<p>The following points were raised by GSI in consultation:</p> <ul style="list-style-type: none"> The proposed site is a County Geological Site (CGS). In December 2019, Geological Survey Ireland carried out fieldwork within Nag’s Head Quarry to record and document the geology prior to infilling. With the current plan, there are no further envisaged impacts on the integrity of current CGSs by the proposed development. The Groundwater Data Viewer indicates an aquifer classed as a ‘Locally Important Aquifer - Bedrock which is Generally Moderately Productive’ underlies the proposed development. The Groundwater Vulnerability map indicates the range of groundwater vulnerabilities within the area covered is variable. Recommend use of the Groundwater Viewer to identify areas of High to Extreme Vulnerability and ‘Rock at or near surface’ in the assessments, as any groundwater-surface water interactions that might occur would be greatest in these areas. Geological Survey Ireland maintains online datasets of bedrock and subsoils geological mapping that are reliable and accessible. 	Addressed in the Soils, Geology and Hydrogeology Chapter
Department of Culture, Heritage and the Gaeltacht - Development Application Unit (DAU)	<p>The following points were raised by the DAU in consultation:</p> <ul style="list-style-type: none"> Reference to the application of Directive 2014/52/EU into Irish planning law and the associated guidelines to be applied in EIA. The development site is a known peregrine site. The EIA should assess impacts and include mitigation to avoid impacting on the breeding site of the falcons. Guidance provided on the scope of the Biodiversity impact assessment including baseline surveys and the National Biodiversity Data Centre. Reference should be made to the National Biodiversity Action Plan 2017-2021 and any relevant County Biodiversity Plan, as well as the All Ireland Pollinator Plan 2015-2020. The EIAR should also address the issue of invasive alien plant and animal species. Need to consider cumulative impacts. The need for a project specific Construction Environmental Management Plan (CEMP). 	Addressed in the Biodiversity Chapter
Transport Infrastructure Ireland	<p>TII have noted the following in the consultation response:</p> <ul style="list-style-type: none"> The EIAR should identify the methods/techniques for any works traversing/in proximity to the national road network. Consultations should be had with the relevant local authority/national roads design office with regard to locations of existing and future road schemes. Clearly identify the proposed haul routes and capacity of these routes to accommodate the traffic. Carry out a traffic impact assessment in line with the relevant TII guidelines relevant to the proposed thresholds. Use TII standards for any Road Safety Audit or Road Safety Impact Assessment. Use TII guidelines for ant road design or construction proposed. Have regard to TII Guidelines on Air and Noise within the EIAR. The EIA should have due consideration for previous EIA undertaken in the area. 	Addressed in the Transport, Air and Noise Chapters
Inland Fisheries Ireland	<p>IFI noted the following in consultation:</p> <ul style="list-style-type: none"> Development is located in the catchment of the Ballough/ Corduff system. The Corduff River system is salmonid and supports a significant local 	Addressed in the Water and Biodiversity Chapters

population of both resident Brown trout and migratory Sea trout (both *Salmo trutta*).

- EIAR should address the potentially highly polluting nature of the wastewaters generated at this facility and highlight the need for implementation of comprehensive leachate and surface water management measures in order to safeguard the ecological integrity of local surface and ground waters.
- The accumulative effects from the development along with other planned development in the catchment should also be examined and discussed in the EIAR.
- An Invasive Species and Biosecurity Plan should be included to treat and manage identified invasive species onsite.

Health Service Executive	<p>The following points were raised by the HSE in consultation:</p> <ul style="list-style-type: none"> • Reference to the following documents to be considered when preparing the EIAR: <i>Guidelines on the information to be contained in EIA (2002)</i>; <i>Advice Notes on Current Practice in the preparation of EIS (2003)</i>; <i>Guidelines for Planning Authorities and An Bord Pleanala on carrying out EIA.</i>; EU publication <i>Environmental Impact Assessment of Project Guidance on the preparation of the Environmental Impact Assessment Report</i>, EU, 2017; Reference to the application of Directive 2014/52/EU into Irish planning law and the associated guidelines to be applied in EIA. • The HSE will consider the methodology used for assessing the likely significant impacts and the evaluation criteria used in assessing the significance of the impact. <p>Consultation</p> <ul style="list-style-type: none"> • The need for public consultation. • Accurate information should be obtained regarding the location of sensitive receptors. • EIAR should contain proposals for keeping stakeholders informed and any measures to be employed during the construction and operation phase for dealing with enquiries and/or complaints from members of the public. <p>Protection of Surface and Ground Water</p> <ul style="list-style-type: none"> • HSE raised concerns regarding the protection of the underlying aquifer. • Baseline water quality of aquifer and a proposed monitoring programme to verify no direct emissions. • Reference should be made to GSI's Groundwater Protection Scheme and to the location of any private drinking water sources within a 1km distance. • All surface and groundwater mitigation measures should be clearly identified. • Details of fuel and chemical storage and proposed bunding measures with provision of inspection and monitoring of bunding structures. • Surface water to be used for activities such as wheel-washing and dust suppression. <p>Emissions to air, including noise and vibration:</p> <ul style="list-style-type: none"> • Establish baseline air quality at nearest sensitive receptors by means of background air quality monitoring. • CEMP to include dust minimisation and suppression measures. <p>Noise and Vibration</p> <ul style="list-style-type: none"> • Assessment of existing noise environment and predicted noise and vibration levels from construction and operations. • Noise assessment should include an evaluation of the likely significant impacts at sensitive receptors against a recognised standard for health protection – the HSE consider the predicted change in the noise environment to be the most relevant aspect and not an evaluation against an absolute noise exposure level. <p>Staff Welfare Facilities</p> <ul style="list-style-type: none"> • Reference to the requirements of S.I. No. 278/2007 EC (Drinking Water) Regulations. • Non-public supply must be verified through sampling program. • Foul wastewater including Population Equivalent calculations to be included. 	Addressed in the Hydrology, Hydrogeology, Air and Noise Chapters
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2 BACKGROUND AND NEED FOR THE DEVELOPMENT

The need for the proposed development is derived from the urgent demand for capacity to treat construction, demolition and other wastes in the Greater Dublin Area. The abundant supply of available capacity for this range of wastes to be treated at the Hollywood site can help ease the capacity crisis. In addition, the development will further ease material supply chain issues through the delivery of a secondary raw material product for the construction sector as promoted by circular economy principles. The demand drivers for the development are threefold and include the following:

- The need for urgent additional capacity for construction wastes to meet the projected growth in the construction sector as set out in the Ireland 2040 - National Development Plan 2021–2030 (including targeted development on brownfield lands and major infrastructure projects such as MetroLink which cites reliance on the proposed development in the Rail Order Application) and the National Planning Framework (including targets for residential development in brownfield areas as required under the Housing for All Plan);
- The development of additional capacity to support the secondary raw materials market for the construction sector in line with circular economy policy; and
- The need for additional capacity to treat incinerator bottom ash (IBA) to meet the existing and projected demand for this waste fraction.

This chapter of the EIAR sets out the rationale for the drivers for the principle waste streams proposed coupled with an outline of the capacity of the site to accommodate these drivers.

This chapter presents the details of the increasing trend and projected growth in the generation of construction and demolition wastes nationally based on projected construction trends. These recorded and projected growths illustrate that total construction and demolition wastes will increase nationally to circa 12.65 million tonnes by 2030. These increased generation rates will increase the demand for intake capacity in the region and hence there is a strong demand for suitably licensed C&D waste facilities in the medium term.

The current and projected increase in construction waste streams (including brownfield soils comprising non-hazardous soils and inert soils) is driving the need for development of greater capacity and diversity for treatment of these streams to meet the demands of the National Development Plan, National Planning Framework and the policies in the draft National Waste Management Plan for a Circular Economy. The Hollywood site is ideally placed with a significant capacity to allow for maximising the circular potential of a greater diversity of waste streams and to facilitate more sustainable treatment at this site. The proposed development seeks to maximise this capacity and diversify the waste streams accepted at the site to meet this projected demand.

The scale of the capacity at the proposed development site is considerable and would make a significant contribution to resolving the capacity issues identified above. Furthermore, the scale of the facility would designate the proposed development as 'nationally important infrastructure' under the policy base expected under the new National Waste Management Plan (to be published for consultation in January 2023) and is essential to maintain a functioning waste market within the State.

The proposed development seeks to accept wastes but to maximise the circular potential of these materials and to generate secondary raw materials (through measures including aggregate recovery and concrete end of waste) for reuse in the sector. The proposed development will be the first such circular economy campus developed within the State to respond to the policy direction for construction waste.

The proposed development will provide essential capacity for non-hazardous incinerator bottom ash to cater for the planned growth in thermal treatment within the State.

In short, the continuation and diversification of the current operations at the site is essential to provide suitably licenced capacity for wastes from the projected construction increases proposed in the short term.

3 LEGISLATION AND POLICY

This purpose of this section is to consider the proposed development having regard to potential impacts that to the relevant planning policy context concerned. This section therefore considers national, regional and local land use and transport planning and development policy which guides the proposed extended operation at the site. The following policy and guidance documents were considered:

- National Planning Framework;
- National Development Plan 2018 – 2027;
- Regional Planning Guidelines 2010 – 2022;
- Fingal Development Plan 2017 – 2023;
- The European Green Deal and the Circular Economy Action Plan;
- European Waste Framework Directive and revised Waste Framework Directive;
- The Landfill Directive;
- The Industrial Emissions Directive;
- Climate Action Plan 2021;
- Waste Action Plan for a Circular Economy 2020;
- Whole of Government Circular Economy Strategy;
- Eastern Region Waste Management Plan 2015 – 2021 and the evolving policy base of the new National Waste Plan; and
- The National Hazardous Waste Management Plan 2021-2027.

The proposed development is supported by the principles of national, regional and county level policy. In this regard, it will serve a need which is identified at high level policy and in a location which will not give rise to any conflict with local or county level statutory planning provisions.

4 ALTERNATIVES

This chapter sets out the context in which the main reasonable alternatives were considered for the proposed development and an indication of the main reasons for the final project chosen, taking into account the effects on the environment. It outlines the main operational alternatives considered to meet the identified need set out in Chapter 2 of the Environmental Impact Assessment Report. The alternatives considered are listed below:

- Alternative Locations;
- Alternative Layouts;
- Alternative Designs;
- Alternative Size and Scale;
- Alternative Processes; and
- Alternative Mitigation.

4.1 Location

The proposed development is for the continued infilling and restoration of an existing quarry in line with the current planning permission and the Environmental Protection Agency licence. As such, there is little scope for assessing alternative locations for the proposed operation. The proposed development has the same landownership and licence footprint as the previous application. Therefore, the preferred location provides the most suitable location for the proposed development as it utilises existing conditions.

4.2 Site Layout

The assessment of alternative site layouts is included in this EIAR to consider how different elements of the proposed development may be arranged on site and what environmental and design implications will arise with these alternative layouts. Development of the site will occur within the landownership boundary and in direct control of IMS. The site ownership has sufficient area available to maintain a buffer zone around the sites perimeter.

As the void space is fixed and the changes to site infrastructure (entrance, admin building, weighbridges, etc.) have been permitted under F19A/0077, there is limited scope for alternative layouts of the proposed development. The principal options to be assessed under this heading relates to the proposed layout of landfill cells across the site and the locations of inert and non-hazardous and hazardous (if any) cells within the final layouts.

Alternatives cell layouts considered the 2011 permitted cell layout versus the alternative proposed cell layout. The proposed development cell layout addresses the EPA concerns by altering the cell layout and eliminating the hazardous waste fractions thereby eliminating the risk of input of hazardous substances into groundwater. As such, this alternative cell layout has been adopted relative to the layout presented in the 2011 consented operation.

4.3 Site Design

Consideration was given to alternative technology for landfill cell lining, capping, etc. However, the design criteria for landfill cells are clearly set out in Annex I of the Landfill Directive and supplemented with the EPA Landfill Site Design Manual. As a consequence, there is limited capacity for alternative cell design characteristics at the proposed development.

4.4 Size and Scale

Consideration was given to the size of the operation. The 500,000 tonnes per annum rate was selected as the preferred alternative as it is considered to be the most suitable regarding the remaining area of the void space to be filled in a 25 year timeframe.

4.5 Processes

Consideration was given to additional processes at the site. The cessation, quarrying and Article 27 alternatives may be easily discounted based on the potential for adverse environmental impact with limited options for regulation and mitigation. Both the Do-Nothing and the diversified operation have limited environmental impact as both will be fully regulated by the EPA.

The Do-Nothing operation has a lower potential impact to soils/geology and water through the infilling with inert material only. However, the diversified operation has the greater material asset impact through the contribution to the self-sufficiency to the State in the management of a wider range of waste streams in the GDA including non-hazardous soils from brownfield development and IBA. As such, the diversified operation is the preferred operational scenario.

4.6 Alternative Mitigation

The main potential for adverse environmental impact from the proposed development relates to the potential for the waste body to generate leachate. Leachate is a generic term given to water that has come into contact with landfilled waste materials, and in doing so has dissolved contaminants from the waste. These contaminants may include organic and inorganic compounds and elements, many of which will have been released by biological degradation of the wastes. The nature of the leachate is dictated by the nature of the wastes deposited at a site. The following three alternatives have been considered in this analysis:

- Storage and tankering of leachate off site for treatment;
- Transport of leachate by pipeline off site for treatment; and
- On-site treatment of leachate.

For the above reasons, there is a significant risk associated with any discharge of on-site treated leachate to the stream and a potential for adverse impact on biodiversity and water quality. These risks are largely negated by off-site treatment as the process of tankering off-site reduces the environmental impact of the proposed development on the aquatic environment. While there is some potential additional traffic impact, it is considered that overall the tankering alternative provides the lowest environmental impact of the alternatives considered. The pipeline offers a poor material asset impact through the need for additional lands, wayleaves, etc. to construct and maintain a pipeline through the land between the site and the

treatment plant. On-site treatment offers advantages for reduced transport impacts and this has been included as a medium to long term option at the site.

4.7 Summary

Having regard to the reasonable alternatives considered in relation to the current proposal, the preferred project alternative on which this EIAR is based includes the following:

- The Diversify Waste Operations scenario whereby the facility will operate under the conditions of a revised Industrial Licence W0129-04, accepting a more diverse mix of inert and non-hazardous wastes with a revised suite of infrastructure;
- The cell layouts with the inert cells located to the south western end of the site, where the limestones of the Loughshinny Formation are more vulnerable and this low risk waste will have no adverse impact;
- All cell design undertaken in line with the Annex I of the Landfill Directive 99/31/EC;
- Maintaining the existing waste acceptance limit (500,000 tonnes per annum); and
- Tankering leachate off-site to an EPA approved waste water treatment plant is the preferred leachate management option but with provision for future on-site treatment under agreement with the EPA.

This scenario may cause some long term potential negative issues (i.e. hydrogeology, traffic, noise and dust) that may be suitably mitigated, however, the complete restoration will result in long term positive impacts to health, biodiversity, land and soil, water, air quality, noise, traffic and landscape. The complete restoration of the site is considered to represent a viable option, in terms of location, availability, existing markets, technical characteristics and manageable environmental impact.

5 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

5.1 Existing Operations

5.1.1 Site Layout

The site was a former quarry which operated from circa 1940 until 2007 and is now a licensed engineered landfill site which commenced in 1988. IMS ownership of the site expands to 54.4 hectares (area within the red line boundary in **Figure 5-1**) with the current EPA Waste Licence covering an area of 39.8 hectares (dashed red line). The proposed development will require the review of the existing Waste Licence (W0129-02) to be replaced by a new Industrial Emission Licence (W0129-04). As part of this licence revision, it is proposed to align the land ownership and licence boundaries.

Figure 5-1 also shows the location of the key permitted infrastructure on the site (under FA19A/0077) which is currently undergoing detailed design prior to construction including the following:

- A facility entrance on the LP-1080 local road which bounds the south of the site. This is to replace the former entrance at the western boundary of the site which will be maintained as a secondary and emergency access;
- An eight-metre-wide internal access road from the entrance to the main site reception area including wheel wastes, weighbridges and car parking;
- An administration building adjacent to the access road;
- An internal un-paved road network serving the site from the reception area; and
- A designated hardstanding yard with associated drainage infrastructure and ancillary structures located on the former quarry floor to the south of the site.

In addition to the above fixed infrastructure, there are a number of mobile and phased operations undertaken around the site including the processing of concrete (End of Waste operation) and the phased infilling of cells around the site.

5.1.2 End of Waste Operations

In addition to the licensed landfilling of wastes at the site, IMS also have consent from the EPA to recover concrete as a by-product and this operation is currently undertaken at the Hollywood site. This operation is currently undertaken at the Hollywood site using mobile plant which can be moved around the site but is currently located on top of the engineered cap installed on Cell 5. This mobile plant consists of a concrete crusher that breaks down the concrete slabs as well as screeners which separate the aggregate into various fractions and removes incidental contaminants such as clay, timber, plastic etc. to generate a usable aggregate by-product that may be exported for use on engineering works as granular fill, sub-base, etc.

5.1.3 Aggregate Recovery

Under permission F19A/0077, IMS also undertakes an aggregate recovery operation on site which consists of a series of mobile screening, crushing and segregation/cleaning units designed to reduce and separate the feed material in size to produce a range of sizes of the waste material. The crusher and screeners are fed coarse material by a front loader/excavator which then separate the materials. The output material is then fed onto a conveyor towards the sizing screener.

5.1.4 Plant and Operations

The primary activity carried out on site is the recovery of the former quarry via deposition of waste into engineered landfill cells. Only waste which meets the criteria for inert landfill as set out in the Landfill Directive may be accepted, and is subject to strict Waste Acceptance Procedures approved by the EPA and contained in the site's Environmental Management System.

The restoration work is completed on a phased basis through the construction of suitably lined landfill cells. The design and construction of the landfill cells have been in accordance with the EPA's Manual on Landfill Site Design and the Waste Licence.

The facility operates Monday to Friday (0700–1900) and Saturdays (0700–1700). Waste is only accepted at the facility between the hours of 0800–1800, Monday to Friday and between the hours of 0700–1600 on Saturdays.

5.1.5 Waste Acceptance Procedure

Waste Acceptance Procedures are outlined as follows and are a requirement under Schedule A.3 of the Waste Licence. IMS operates a more rigorous waste acceptance regime to that specified in the licence to ensure maximum traceability and protection on the environment.

- Level 1 Basic Characterisation Testing - Level 1 testing constitutes through determination of the short and long-term behavioural properties of the waste (laboratory testing);
- Level 2 '1 in 100' Compliance Testing - Level 2 testing constitutes periodical testing (every 1 in 100 loads) of a select set of parameters identified by Level 1 basic characterisation, to further verify the level 1 laboratory results; and
- Level 3 On-Site Verification Testing - Level 3 on-site verification may consist of visual and odour inspection at the site before and after unloading at the site.

5.1.6 Cell Liner

The mineral clay employed on site as the liner is known as blue clay (which is sourced from glacial till on site) has a permeability which exceeds the requirements of the licence and is approved by the EPA.

5.1.7 Waste Intake

The waste acceptance as per EPA licence W0129-02 is a maximum of 500,000 tonnes per annum of inert construction and demolition waste and inert dredging spoils. Note that the site limit of 500,000 tonnes excludes the inert mineral extraction wastes arising from quarrying activities at the site and materials imported for engineering, capping or landscaping purposes.

5.1.8 Employees

There are eight full time employees at the IMS site. A dedicated Facility Manager, an Assistant Facility Manager and an office team which has responsibility for operating the weighbridge, and additional office and data management duties including directing and controlling incoming vehicles to waste deposition areas. There are also a small number of part-time cleaning staff and subcontractors. Truck drivers who pass through the site, are not employed by IMS.

5.1.9 Utilities

Mains water is pumped onto the site for drinking water purposes. Water is also used on site for controlling dust and mud nuisance at the site. This water is collected rainwater, used in the sprinkler system and water bowsers. The wheel wash is in operation and road sweepers are employed daily on access roads as required depending on weather and site activity level. Electricity is used on site for heating, lighting and electronic equipment.

5.1.10 Environmental Management System (EMS)

As a requirement of the Waste Licence, the facility has an Environmental Management System (EMS) at the site. The site EMS is independently accredited by NSAI to ISO 14001 Environmental Management and integrates environmental issues within the existing management and operating systems, thus enabling IMS to conduct activities while ensuring the associated environmental considerations are managed. Amongst other elements, the EMS contains guidance procedures on *Environmental aspects* including fuel and leachate spills.

5.1.11 Environmental Monitoring

Under the terms of the Waste Licence, IMS are required to carry out a series of environmental monitoring regimes under Schedule C which are subject to the limits expressed in Schedule B as follows:

- Ambient dust;
- Surface water (discharge locations and ambient locations);
- Groundwater;
- Leachate; and
- Noise.

5.2 Do-Nothing Scenario

The 'Do-Nothing' option refers to a scenario whereby the facility would continue the existing permitted operation up to the expiration of the existing planning permission (F19A/0077). At that point all infilling, restoration and related works at the site would cease and the site would be secured and vacated by the staff.

The current EPA Waste Licence would be subsequently surrendered on agreement with the EPA and the site left in a satisfactory state and free from any residual risk from fuels, chemicals, etc.

The EIA Regulations require a description of the relevant aspects of the current state of the environment (baseline scenario) as well as and an outline of the likely evolution thereof without the development. In this EIAR this scenario is referred to as the 'Do-Nothing' Scenario and the evolution of the baseline in the absence of the proposed development is addressed in each of the relevant environmental disciplines presented in this EIAR.

5.3 Proposed Development

5.3.1 Project Description

The proposed development includes for an enhanced aggregate recovery operation at the site to meet the demand for secondary aggregates in line with European and National Circular Economy policy. The primary focus of the site will move from disposal to recovery with any suitable materials undergoing processing to

extract any recoverable materials (e.g. aggregates and sand) prior to disposal. The recovery process can treat a range of suitable non-hazardous wastes including construction and demolition materials, waste processing fines, glass processing fines, street sweeping residues and dredging spoil. Waste already deposited on site could also be processed and aggregates and sand recovered leaving the silt to be landfilled on site.

In addition, the enhancements include accepting a more diverse mix of waste streams to meet the demands of a number of business sectors including construction, industrial, commercial and waste processing. The proposed development will assist in providing a self-sufficiency waste management solution for the State. The proposal is to retain the existing inert waste operation at the site and supplement this with a broader mix of wastes including non-biodegradable non-hazardous wastes. The mix of wastes has been selected based on two key factors; the national capacity requirements for specific materials (e.g. non-hazardous non-inert waste landfill capacity) and the Hollywood site's environmental setting.

The proposed non-hazardous waste streams will require development of engineered cells that differ from the existing inert engineered cells and meet the requirements of the Landfill Directive (Directive 1999/31/EC). This includes mandatory performance requirements for base liners, capping, leachate management, etc. that must be developed in line with the EPA landfill design requirements. The proposed non-hazardous waste streams include contaminated soil and stone from construction, other construction wastes, incinerator bottom ash and stabilised fines.

One of the non-hazardous waste streams proposed for landfilling (incinerator bottom ash) will require a level of treatment prior to the infilling of this material into the proposed cells. Bottom ash is generated when the non-combustible fraction of municipal solid waste charged to the furnace in waste to energy plants forms a residue (ash). Prior to landfilling, ash must be matured to make the material suitable for infilling and this process is proposed in line with best practice.

The only new waste activities proposed at the site are the maturation of incinerator bottom ash and the enhancement of the existing aggregate recovery unit to allow for the further removal of residues and other trace contaminants from processed waste aggregates.

The proposal consists of a 10-year permission for a 25-year lifetime of operation to develop engineered landfill cells on the site to landfill this mixture of non-hazardous and inert wastes at a rate of 500,000 tonnes per annum as per the existing operation.

The site operating hours, location, environmental monitoring and the general operation will remain unchanged under the proposed development. The proposed development will operate subject to requirements of any Industrial Emission Licence (Reference W0129-04), if granted by the EPA, to replace the existing Waste Licence, which governs all associated enforcement and regulation from when operations commence.

The proposed development sought under this application comprises the following:

- Broader waste acceptance types to include non-biodegradable non-hazardous and inert wastes generated by a range of sectors (construction, commercial, industrial and waste processing);
- Expanded waste treatment activities including:
 - Development and re-profiling of the landfill void to accommodate specially engineered landfill cells for non-hazardous wastes in addition to the existing engineered inert cells;
 - Enhancement of the existing aggregate recovery processing on site including upgrading the aggregate recovery operations which produces low carbon, recovered sands and aggregates from various granular wastes by removing residues and other trace contaminants and separating the resulting aggregates into various size fractions;
 - Manufacture of secondary materials including enhanced soils and low-energy bound materials (e.g. concrete);
 - Additional waste recovery activities including soil/concrete batching and blending;
- Repurposing of an existing structure on site as a testing laboratory unit for the research, development and testing of recovered materials;
- A leachate management system including a leachate collection system and a storage tank prior to tankering off site for treatment at a suitably licensed WWTP with provision for a future on-site leachate treatment facility;

- Surface water management infrastructure for the landfill to capture, attenuate and treat storm water prior to discharge;
- A mobile enclosure for the maturation of Incinerator Bottom Ash (IBA);
- An internal un-paved road network serving the deposition areas from the reception area which will be modified throughout the development phasing;
- Relocation of the existing artificial Peregrine Falcon nesting box to a proposed elevated pole-mounted location to the south west of the site; and
- Restoration of the site to natural ground levels.

Each of the above elements is presented in **Figure 5-2**

5.3.2 Construction Phase

There is limited construction required on site and this is restricted to a number of new structures and features including the leachate holding tanks and the surface water attenuation pond. The construction phase of the proposed development will be undertaken simultaneously with the ongoing infilling operation at the site. Both phases will run concurrently to allow for the complete restoration in the 25-year timeframe sought under this application. The construction phase is estimated at circa 12 to 18 months.

5.3.3 Landfill Infrastructure

The proposed layout of cells at the site is shown in **Figure 5-3** and identifies the footprints of the following:

- The existing inert cells which have been largely capped and restored (Cells 1 to 5);
- The proposed inert cells (Cells 6 to 8); and
- The proposed non-hazardous cells (Cells 9 to 13).

Annex I of the Landfill Directive sets out the minimum requirements for cell liners, drainage requirements and capping for various waste streams. These requirements will be fully implemented at the site.

Based on the predicted maximum leachate generation rate from the cells and a total of seven days of storage capacity required in accordance with the EPA Landfill Operation Manual, a set of twin leachate holding tanks are proposed. All leachate generated will be pumped to these tanks for storage prior to tankering off site for treatment.

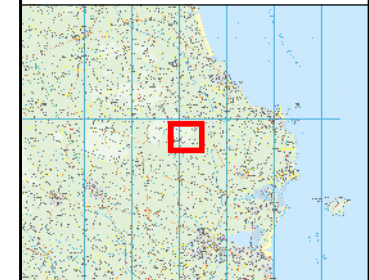
The proposed surface water drainage system for the landfill is designed to collect and transport storm water run-off from the landfill and surrounding area to drains at the periphery of the landfill for attenuation and discharge. The collection system will be a network of perimeter drains at the boundary of the landfill footprint which are designed to minimise run off entering the waste body for active cells and capture the run off from the drainage layers of the capped cells. The drains will feed a large attenuation pond to the north east of the site where storm water will be controlled and monitored prior to discharge to the stream at the north of the site at greenfield run-off rates.

As no biodegradable wastes will be accepted there is no risk of landfill gas and therefore no landfill gas infrastructure proposed.

5.3.4 Other Infrastructure

It is proposed to repurpose the existing storage building on the western perimeter of the site (adjacent to the existing site entrance) as a laboratory to facilitate on site testing of materials. The external bulk and form of the building will remain unchanged with only internal works proposed to fit out the structure with standard laboratory infrastructure such as benches, sinks, offices and specialist equipment.

The proposal also includes for the relocation of the existing artificial Peregrine Falcon nesting box installed on the cliff face in 2020 as part of the Peregrine Falcon Management Plan to a proposed elevated pole-mounted location to the south west of the site. This nest box will contain a sheltered nesting ledge and will be monitored regularly.



Client
Integrated Materials Solutions (IMS) Limited Partnership

IMS Hollywood 2022 Update

Title
Figure 5-1: Current Site Layout

RPS West Pier Business Campus, T +353 (0) 1 4882900
 Dun Laoghaire, E ireland@rpsgroup.com
 Co Dublin, Ireland. W rpsgroup.com/ireland

Issue Details

File Identifier:
 MDR1492A-RPS-00-XX-DR-Z-AG-0008

Status: S0	Rev: P01	Model File Identifier:
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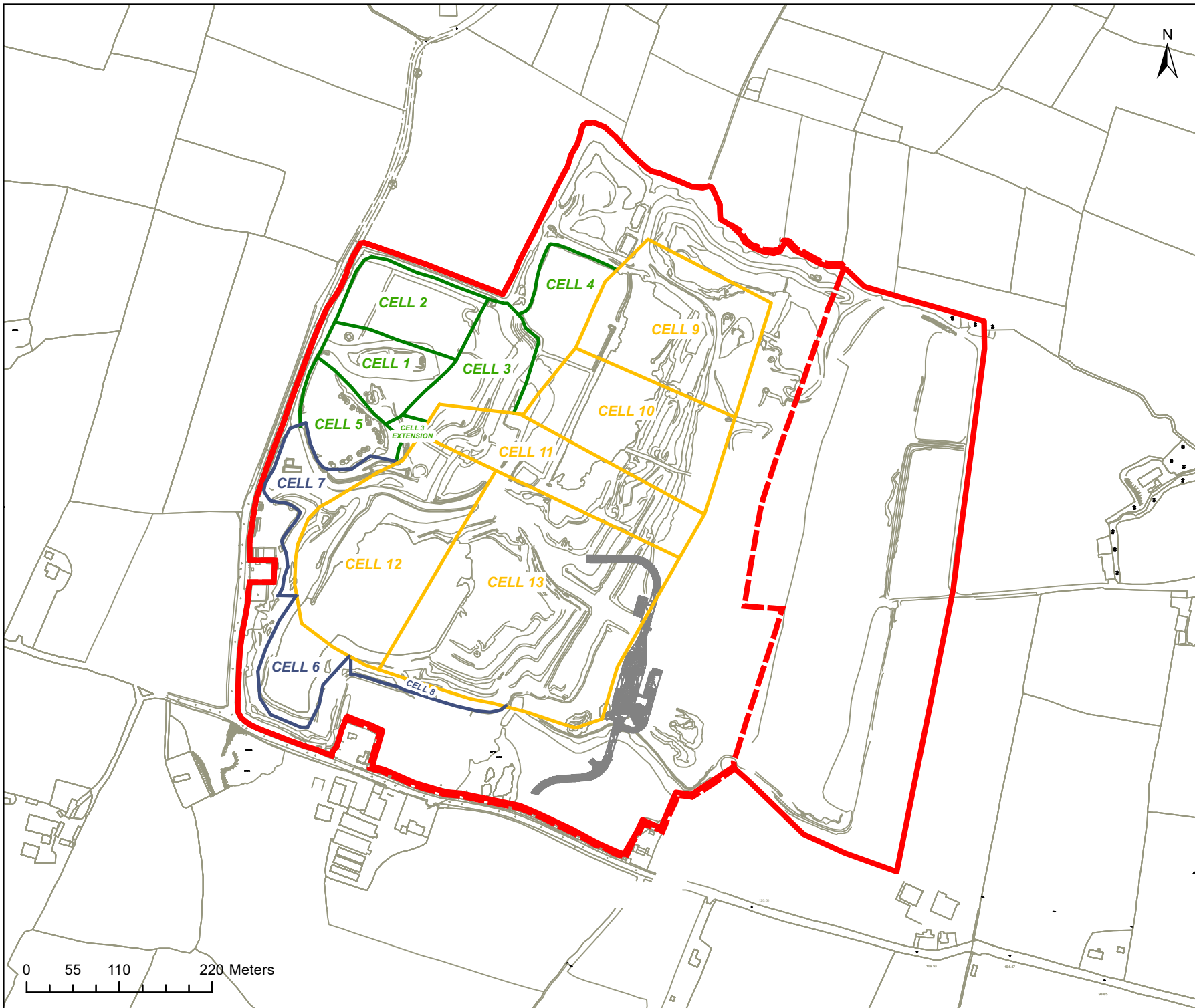
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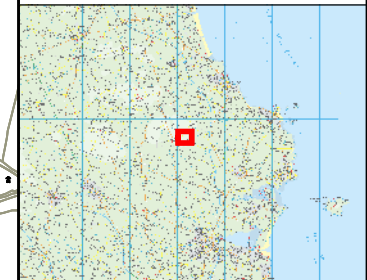
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- Legend**
-  Waste Licence Boundary
 -  Proposed Planning Boundary
 -  Existing Cell Boundaries (Indicative)
 -  Proposed Non-Hazardous Waste Cell Boundaries (Indicative)
 -  Proposed Inert Cells Boundaries (Indicative)



Client
Integrated Materials Solutions (IMS) Limited Partnership

IMS Hollywood 2022 Update

Title
**Figure 5-3:
 Proposed Cell Layout**

RPS West Pier
 Business Campus, T +353 (0) 1 4882900
 Dun Laoghaire, E ireland@rpsgroup.com
 Co Dublin, Ireland. W rpsgroup.com/ireland

Issue Details

File Identifier:
 MDR1492A-RPS-00-XX-DR-Z-AG-0012

Status: S0	Rev: P01	Model File Identifier:
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Drawn: MV	Date: 22/09/2022
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5.3.5 Project Phasing

In relation to general site infrastructure other than landfill cell development, it is proposed that all such infrastructure will be constructed and operational within 1-2 years of grant of permission and the IE Licence from the EPA. This construction phase for new infrastructure will run concurrent with the ongoing operational phase as outlined below for landfilling operations.

Since the infilling works at the site commenced on grant of the first Waste Licence in 2002, the cells have been developed and infilled in a phased basis. To date Cells 1, 2, 3 (and Cell 3 extension), 4 and Cell 5 have been fully infilled and capped in 2019. Restoration of the lands to agricultural use is complete.

Note that cell construction on Cell 6 and 7 is complete under the current planning permission and Waste Licence and infilling in Cell 6 commenced in 2020 under agreement with the EPA. The indicative phasing of the inert cell development (Cells 6, 7 and 8) indicates that these cells will be constructed, filled and capped within the first ten years of operation.

The void space proposed for non-hazardous cells is larger than for the inert cells and hence the timeframe to complete infilling is longer with a projected completion at circa the 25-year timeframe of the proposed development. The final cell to be completed will be Cell 13 which is the largest cell as this cell will sit on the side slopes of the adjacent cells and thus requires a longer infilling period.

It should be noted that the permitted hardstand is to be located in the broadly within the footprint of Cell 13. It is proposed that the hardstand will be constructed in the proposed location under the existing planning permission.

At circa 2043, Cells 6 to 12 will have been fully infilled (and in most cases restored). As noted earlier, this phasing is proposed to allow for the delivery of either of the following project completion stages:

- The planned demolition of the yard and infrastructure before infilling Cell 13 at the end of the project lifetime prior to restoration; or
- The retention of the yard and access road and the cessation of waste infilling once Cell 12 has been fully capped.

5.3.6 Risk of Major Accidents and Disasters

As part of the former and current operations there are a number of minor areas for storage and handling of fuels and chemicals as follows:

- There is a former fuel tank and mobile plant filling area located along the internal access road located on concrete hardstand. This area is no longer in use but the infrastructure remains in place;
- There is a mobile fuel bowser currently employed on site for fuelling mobile plant; and
- There are some vehicle maintenance liquids currently stored in the site workshop.

The four key vulnerabilities that may potentially impact the proposed development include the following:

- Proximity to Seveso (COMAH) establishments;
- Site Subject to Flood Risk;
- Site Subject to extreme weather events;
- Road traffic accidents and disruption to operations; and
- Future Development.

5.4 Site Restoration

The overall purpose of the proposed development is to allow for the infill of the former quarry to facilitate the full restoration of the site to natural levels. After completion of the infilling the site will be capped and landscaped to allow for the site to be restored for future agricultural use. This restoration will be sympathetic to the surrounding land uses and the designation of the area as 'High Amenity' and the protected views along the local road network. This application seeks to further refine the final contour levels and to this end a final contour layout of the fully restored site is presented in **Figure 5-4**.

5.5 Other Relevant Projects

A review of other relevant operations in the area has been undertaken to determine the potential for cumulative impacts with the proposed development. These existing operations are outlined in the following sections of this report and the relevant cumulative impact assessed in the various environmental discipline chapters.

- Proposed Fingal Landfill 1.4km south east of the site (not operational);
- Gaelectric solar farm 4km south of the Hollywood site (in planning);
- Kilsaran Concrete sand and gravel extraction, circa 4.5km north west of the Hollywood site (in planning);
- Clashford Recovery Facilities restoration of the quarry through the recovery of waste soil and stones a circa 4km north west of the Hollywood site (operational); and
- Committed development in the area with potential for cumulative environmental impact. Applications bound the site or are located along the LP-1080 haul route, these are small scale residential or agricultural with limited potential for cumulative impact.

6 POPULATION

This purpose of this section is to consider the proposed development having regard to potential impacts that relate to human population. The section considers the proposed land use relative to recent trends in relation to population, employment, economic performance, amenity and the community.

The predicted baseline is defined as the receiving environment prior to the realisation of the operation of the proposed development. For the purpose of this assessment current trends in population and economic growth are expected to continue with additional referencing to the most up to date CSO data.

The construction phase of the proposed development is restricted to the installation of the leachate holding tanks and the surface water attenuation pond. In this regard, there is no potential for impact to the wider population during the construction phase of the proposed development (which will run concurrent with the operation phase). The proposed development does not include residential element and will not result in a change in the permanent population of the area.

The proposed construction phase will generate temporary employment directly on-site albeit for a low number of persons. Some of this employment may be specialist for the required tasks while other requirements will be standard construction techniques. This employment will likely be sourced from the wider Dublin area and the short term nature and low demand will result in a negligible impact on employment in the local area.

The proposed operation phase will proceed over an approximate 25-year period and will generate operational employment directly on-site. It is envisaged that the 25-year operational phase will continue to employ the existing full-time staff currently employed on site. It will also benefit support industries such as hauliers who may be indirectly employed to service the site operations. There will also be a need to bring in specialist workers (e.g. for cell construction) on a regular basis that may increase this working population at times. Specialists are only likely to stay for shorter periods depending on the nature of the work. The employment of this workforce will have a beneficial impact on services within the local area. The phased nature of the proposed development therefore is considered to have the potential for long-term, slight beneficial impact on the economy and employment of the local and wider area.

The following local impacts during the construction and operational phases of the proposed development have the potential to affect the local residential community:

- Additional vehicular traffic; and
- Additional potential for nuisance (e.g. noise, dirt and dust generation).

Existing traffic at the site has planning and licensing consent to accept 500,000 tonnes per annum and this limit will be retained for the operation phase. Much of the materials required for construction of the pond and leachate area will be site won with minimal need for importation other than specialist materials. In this regard, the potential for community impact from construction traffic over the existing permitted operational traffic is negligible.

Potential impacts in respect of noise etc. are examined further in the respective sections of this EIAR and are not considered to be significant given that the nearest property to the works is circa 350 metres away (from the proposed pond) and similar distance from the proposed leachate area.

Pedestrians and cyclists on the existing road network surrounding the site may be potentially impacted by road traffic. As noted above, there is minimal need for importation of materials for the construction stage and no change in operational traffic and hence any amenity impact is negligible over the baseline.

Due to the fact that the end result will be an infilled quarry as opposed to an operational quarry, the overall amenity value of the restoration will be enhanced for the local community. The restored site will add to the amenity value in the area through the improvement of the landscape and enhance the scenic routes to the south and west.

7 HUMAN HEALTH

As per the amended EIA Directive and EIA Regulations, this chapter considers the potential impacts upon local communities and their health and provides a proportionate evaluation as to the magnitude and significance of any likely health impact on local communities directly attributable to the proposed development. Where appropriate, the appraisal builds upon and complements the wider environmental

mitigation set to protect health, to reduce and remedy any significant adverse effects on local population and their health.

The results of the 2016 and 2022 Census have been collated to identify the broader health baseline for the State, Dublin and the Fingal area. The main aspects with the potential to influence local communities and their health, comprises activities that extend beyond the site boundary, namely:

- Construction and Operation Phase potential changes in vehicular nature, number and haul routes with potential for impact on other traffic on the route, vulnerable road users and properties along the route;
- Operation Phase potential fugitive emissions (noise and dust generation and resuspension); and
- Operation Phase potential impacts to drinking water supplies through groundwater impact.

During the operation phase of the development there will be no significant change in the traffic volumes at the site as the annual capacity will remain unchanged. However, the introduction of the new permitted site entrance on the LP-1080 will improve the alignments, layout and sight lines of the site traffic. As a consequence, the road safety aspects of traffic on the local road network will improve.

Noise from industrial or waste operations can cause annoyance and disturbance to people at work or during leisure activities. Based on the low impact of the existing operation, the absence of night time operations, the similarity for the proposed development and the significant level of regulation imposed by the EPA through the licence, there is no predicted change in the baseline noise at the site. Furthermore, the nature of the proposed development is not considered to be of a magnitude, duration or timing to give rise to any significant adverse impact on health from operational noise (i.e. sleep, cognitive function, hypertension).

The potential for dusts (such as general silicon/carbon based dusts from soil and stone or metals from ash) associated with the proposed development have been considered in detail in Chapter 11 of the EIAR on Air Quality. Existing dust management practices and procedures will continue for the proposed operation which will ensure that general dusts are affectively managed through the operation phase of the development with no significant adverse impact on human health predicted. The ash maturation building is a potential source of metal dust but the indoor nature of this operation, the good working practices and the distance to nearest residential properties, indicates that there is no significant adverse impact for human health as a result of this operation.

The Source Protection Area for the Bog of the Ring collection of groundwater wells to the north east of the site lies approximately 1km from the site with the actual wells used for drinking water circa 2.5 km north east of the site and more 80m lower than groundwater levels on the site. The Bog of the Ring water supply scheme is operated by abstraction of groundwater from four production boreholes. The wellfield supplies up to 4,000 m³/day to Balbriggan and surrounding area. Assuming an average daily domestic consumption of 250L/d/household the abstraction rate could supply well in excess up to 10,000 domestic households. Any potential for ground contamination at the site presents a potential risk to human health through drinking water contamination for these homes.

Chapter 9 of the EIAR on Soils, Geology and Hydrogeology and associated information in Volume IV of this EIAR, provides detailed analysis that illustrates that there is no hydrogeological pathway between the site and the drinking water supply at the Bog of the Ring. The significant evidence base demonstrates that the Hollywood site is situated in groundwater catchment area that is separated from the Bog of the Ring wellfield by a groundwater divide located approximately beneath the Knockbrack Hill high ground. In short, there is no pathway for contamination from the site to the Bog of the Ring wellfield.

As such, any potential for groundwater impact at the site would not result in any adverse impact to the drinking water from the Bog of the Ring wellfield. Therefore the operation of the proposed development will not result in any significant adverse health impact on the residents served by the Bog of the Ring wellfield.

8 BIODIVERSITY

This chapter considers and assesses the effects of the proposed development on the ecological environment. Potential environmental impacts are assessed and mitigation measures are recommended where appropriate.

The proposed development site is located within the Nanny-Delvin Catchment, adjacent to the Ballough Stream, which flows along the northern boundary of the site. The Ballough Stream is a small tributary stream that rises at a small upstream distance of the site and enters the Rogerstown Estuary circa 9km downstream.

The study area lies on two groundwater bodies: Lusk-Bog of the Ring and Hynestown. Most of the Lusk-Bog of the Ring groundwater body lies within a locally important aquifer, generally productive but there are smaller areas of karstified aquifer.

There are three European designated sites, ten nationally designed sites and one Ramsar site located within 15km of the proposed development with the Rogerstown Estuary the common designation. The site is directly connected to the Rogerstown Estuary through the stream to the north of the site which meets the estuary 9km downstream. With the proposed sediment control plan during construction and operation, any impact to the stream and the downstream designated sites may be mitigated.

The bulk of the existing site is located within habitats of lower importance such as improved agricultural grassland, spoil and bare ground, recolonising bare ground and scrub.

In terms of species, evidence of several bird species were recorded during the ecological surveys undertaken at the site. Of the species identified, the Peregrine falcon is the bird species with higher conservationist concern. A Peregrine falcon was observed overflying the study area and roosting locations have been identified from faecal and scrapping markings on the cliffs located at the south-western study area's boundary. Infilling works associated with the proposed development have the potential to disturb Peregrine falcon in the area. In order to maintain the habitat for the falcon, a Peregrine Falcon Management Plan was prepared in 2019 for the site which is currently being implemented on site and will continue to operate through the proposed development. In 2019, the project ornithologists recommended the installation and development of an alternate suitable nesting site at higher elevations on this north east facing cliff face. This alternate nesting site was installed in February 2020 in advance of the breeding season and has been monitored regularly.

A secondary artificial nesting box will be installed as part of this application in an elevated pole to the south west of the site. This secondary location will be outside of the quarry void. The artificial nests and other management measures are subject to annual breeding surveys and reporting which are undertaken by a suitably qualified ornithologist. In addition, there will be ongoing consultation with the NPWS and the local biodiversity officer.

While the infilling operations at the Hollywood landfill will, invariably, remove two ponds potentially used by amphibians as habitat (one at the centre of the study area and one at the south-western corner), the two settlement ponds in the northern zone will remain unaffected. These settlement ponds are the areas showing the highest suitability to harbour amphibian populations.

There is potential for other invasive species to be introduced or become established during the proposed development. Machinery, equipment and material (including soil) which may be transported onto the site for construction could lead to the introduction of invasive species to the site with potential to displace natural biodiversity. As a consequence, a series of good practice mitigation is proposed and with the successful implementation of same there are no predicted adverse impacts associated with invasive species.

9 SOILS, GEOLOGY AND HYDROGEOLOGY

An assessment of the significance effects that the construction and operational activities associated with the proposed development will have on geology, soils and hydrogeology has been undertaken. This assessment has used the criteria and approach outlined in *Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes* (NRA, 2009).

Extensive investigations have been undertaken on the site with regards to its hydrogeology and hydrogeological setting. Geology on the site has been shown to be dominated by intensively fractured and faulted Namurian strata (commonly dark, thinly bedded mudstone, shale and sandstone) and the underlying limestone of the Loughshinny Formation. The Namurian strata and Loughshinny Formation are designated a Poor Aquifer and Locally Important Aquifer respectively by the GSI, that support private small abstraction in the vicinity of the landfill. Groundwater has been identified in these geological units has been shown to flow to the east or south-east, towards surface water course in those directions.

The Bog of the Ring public water supply wellfield is located approximately 3km to the northwest of the landfill. This important abstraction draws groundwater principally from the Loughshinny Formation, although surface gravels do contribute to its productivity. The detailed baseline monitoring robustly proves the presence of a groundwater divide between the landfill and the Bog of the Ring. As such construction and operational effects associated with the proposed development are considered likely to have imperceptible effects on the Bog of the Ring.

Short-term, localised effects associated with the construction phase shall be mitigated and managed through the strategies / protocols to be implemented through the site Environmental Management System. These include:

- A Pollution Control and Prevention Plan;
- A Surface Water Management Plan;
- Emergency Response Procedures; and
- Contamination Discovery Strategy.

The delivery of these plans shall ensure that the risk of contamination of soils, surface waters and groundwater or the discovery thereof will be minimised, avoided and/or managed during the proposed extended construction phase.

The potential effects on soils, geology and hydrogeology that could result from the operational phase include:

- Impact on groundwater quality during active infilling through the infiltration of runoff and/or leachate collecting within the waste mass within active cells as a consequence of the time duration extension of active filling. This could result in an increased risk to groundwater dependent receptors (e.g. groundwater users, wetlands or surface water bodies) as compared to existing licensed operations; and
- Increase duration in risk of localised effect compared to the current licensed operation on the quality of soil and potentially groundwater through the accidental release of polluting materials, most notably fuels, and oils associated with areas of parking, vehicular movements around the site and/or refuelling activities.

There is no potential for direct adverse impact from leachate treatment on surface water from the proposed development. The lining, capping and leachate management systems are design in line with the legislation and best practice to ensure leachate is actively managed and removed from the site as required. In this regard, there is no significant adverse impact predicted to groundwater from leachate management at the site.

The mitigation for the potential impact resulting from leachate from the landfill will be mitigated in the design of the proposed development. Cells will be capped and lined in conjunction with the minimum requirements of the Landfill Directive (Directive 1999/31/EC). Leachate will be collected and managed in accordance with the future industrial emissions licence. Therefore, there is no predicted significant impacts to the underlying aquifers and off-site private groundwater users.

The hydraulic connectivity to the Bog of the Ring water supply and wetland is assessed in the hydrogeological assessment. The assessment found that the Hollywood landfill is situated in a different groundwater catchment area than the Bog of the Ring wellfield. Notwithstanding this physical separation, sufficient hydrogeological evidence has been gathered to strongly support the conclusion that the two sites are also hydraulically separated. Therefore, there is not a pathway to the Bog of the Ring, breaking the Source-Pathway-Receptor linkage and meaning no potential for adverse impact.

10 WATER

This chapter of the EIAR presents baseline information on the local hydrology and assesses the likely significant effects of the proposed development on the receiving water environment. The site is located in the Nanny-Devlin River Catchment. The regional river drainage in this catchment resembles a parallel to dendritic pattern flowing towards the east coast.

The topography of the site varies with a topographic high in the west of the site at the site entrance to a low at the river in the north east. The proposed development will restore the south west of the site to the highest point and the rest of the site will shallowly decline concentrically away from this point, predominantly towards the east. The lowest proposed level is in the north east of the site approaching the stream. The storm water runoff from the hardstanding area around the current entrance yard, weighbridge and site offices is diverted into a silt settlement tank and oil interceptor at the north western part of the site. The discharge from the settlement tank flows into a ditch which runs parallel to the local road west of the site and flows towards the Ballough Stream which flows adjacent to the northern site boundary.

The water table lies below the base of the quarry void and rainwater infiltrates to the ground. Some rainwater is also collected in bowsers and sprinklers systems and used for controlling dust nuisance on site as required.

A review of all available data is concluded that site is an appropriate development within this area, and there are no flooding or surface water management issues related to the site.

The results of local water sampling show elevated levels of suspended solids recorded commonly observed in downgradient surface water monitoring point SW2. For each suspended solid exceedance, the Annual Environmental Reports state that these likely to be unrelated to the operation of the facility and instead are associated with silt/run-off from streams bed/banks, and/or adjacent agricultural activities.

The key construction works which have potential for temporary impact on the hydrology environment during construction are summarised below:

- Excavation for the attenuation pond and leachate management area and associated infrastructure; and
- Other construction activities will include site storage of cement and concrete materials, oils, fuels and other construction chemicals.

The potential impacts of construction in relation to the hydrological environments are described and assessed and a series of best practice mitigation measures is specified. Implementing the mitigation measures during the construction phase would result in a short term, direct, negative, imperceptible effect on the Ballough Stream's quality.

The operational activities which will have a potential direct impact on the water environment during operation and post-closure are summarised below:

- Direct sedimentation risk to the Ballough Stream from works in the north of the site;
- Surface water run-off from the wider landfill area from both the capped cells and the constructed and lined cells that are yet to commence waste intake;
- Leachate derived from surface water run-off from the active cells within landfill area;
- Surface water run-off from the IBA maturation area;
- In relation to flood risk, the site is located at a highpoint in the river sub catchment (the level of the site itself varies from approximately 92mAOD to 148mAOD). The site is therefore significantly elevated in relation to adjacent watercourses, even allowing for any potential increase in flood levels which may arise due to the potential impacts of climate change;
- Upon final restoration (post-closure), surface water management systems will ensure adequate storm water attenuation will allow the site to mimic greenfield runoff conditions to the stream. As such there will be no increase in local flood impact; and
- Management of stormwater runoff from the landfill section of the site with perimeter drains will be diverted to the proposed attenuation pond to the north east of the landfill with discharge to the stream to the north of the site.

These impacts have been identified at design stage and have been designed out of the project through good practice storm water management systems including collection, attenuation and treatment systems prior to any discharge. The residual impact on the hydrology during operations is considered to have a long term (25 years), negative, imperceptible effect, i.e. an effect capable of measurement but without significant consequences on water quality of the Ballough Stream or the surrounding surface water network.

11 AIR QUALITY AND CLIMATE

This section assesses the impacts to air quality associated with the proposed development. It should be read in conjunction with the site layout plans and characteristics of the project.

As the site is located with air quality Zone D (Rural Ireland), baseline air quality has been determined from the data available from the EPA monitoring Zone D network to determine compliance with relevant ambient air legislation. The site is bounded to the north by the Ballough Stream, the remaining boundaries are made up of agricultural land employed for a mixture of pasture and tillage uses. There are various sensitive receptors (houses, commercial operations) located in the area and these receptors vary in distance from the proposed development. These receptors may experience a change in air quality and the extent of these

changes in air quality is identified in this assessment. The nearest sensitive residential receptors to the proposed development are the residential dwellings on the LP-1080 (south), LP-1090 (west), Tooman Road (east) and Rowans Road (north).

Current monitoring on dust deposition will continue at four locations (six-monthly) under the licence to assess potential impacts of the operations and IMS will be required to maintain levels below the recommended guideline. Where the dust levels are measured above these limits, the dust minimisation plan will require revision.

The potential for dust to be emitted depends on the type of activity being carried out in conjunction with environmental factors including levels of rainfall, wind speeds and wind direction. The potential for impact from dust depends on the distance to potentially sensitive locations and whether the wind can carry the dust to these locations. A dust minimisation plan will be implemented during operations.

Dust impact from the proposed development is predicted to continue to be 'negligible' during the combined short term construction phase and long term (25 years) operation phase. Post restoration, the operational sources of pollution (i.e. dust and traffic) would be eliminated and there would cease to be any potential impact to air quality for this phase.

The potential for the generation and dispersion of metal dusts is dependent on the nature of the wastes being infilled, the activities being undertaken and the weather conditions at the time of infilling. In much the same way as general dusts, dispersion of metal dusts can be actively controlled at source by good working practices. Ash is the primary source of potential metal dust at the proposed development. The risk of dust generation from the ash operation is low and the scale of the ash operation is moderate. This distance between the enclosed maturation area and the nearest sensitive residential receptor is over 500 metres so the potential for adverse impact is negligible.

Road traffic from the proposed development can impact directly on local air quality and any sensitive receptors that are located adjacent to the local road networks may experience the impacts to local air quality. The results of modelling indicate that all levels of pollutants along the haul route are predicted to remain within the limits for the protection of human health and the WHO guidelines along the proposed haul route even with the full traffic impacts of the site. While the levels remain below the relevant limits these increases and air quality impact from this traffic are classed as negligible relative to baseline.

The proposed development is to continue infilling a more diverse mix of wastes at the site at the same rate as the current operations, therefore, the proposed development will not have additional significant impacts on the microclimate or local climate of the area. Rainfall, wind speeds and wind direction will not significantly influence environmental impacts as no odours, gases or harmful leachates will be generated at the proposed development.

In terms of emissions, the ongoing on-site energy/electricity use coupled with the associated road transport will result in a permanent slight adverse impact on a scale similar to the existing operation.

If natural extreme weather conditions do occur during operation times, IMS will take the appropriate methods to ensure safety of all people associated with the site. If a major weather event was to occur the site will be shut down and be re-opened when it is safe to recommence operations.

12 NOISE AND VIBRATION

This section assesses the likely potential significant effects of noise and vibration associated with reference to key sensitive receptors in proximity to the proposed development. A desktop study was undertaken to review the existing site layout and aerial mapping of the surrounding environment to determine the context of the proposal under consideration and the surrounding environment in which it is located.

The road network around the proposed development is predominantly composed of local roads (L-roads) including the LP-1090 to the west and the LP-1080 to the south that connects the R108 to the R132 and subsequently the M1 motorway that links to Dublin City Centre. The Local and Regional roads serve HGVs entering and leaving the M1 for the operations in Hollywood, which may give rise to increased noise levels.

The main sources of noise noted during the annual surveys were from road traffic along the local road network, occasional overhead aircraft noise and rustling foliage. The annual noise reports indicate that site operations at the landfill were not subjectively audible at any of the monitoring locations.

During the combined construction and operation stage (which will run in parallel) there are two main sources of potential noise impact:

- Noise impact from site operations and mobile plant operating on the site both at the cell infilling and the proposed construction works; and
- Traffic noise impact along the proposed haul routes to be employed for the duration of the works.

The results of the assessment of site operations show that the resultant noise values using the proposed plant and machinery would be below the daytime noise limit listed in the existing Waste Licence and which will be applied in the revised IE Licence. As such, the combined proposed development will not have an adverse impact on the noise climate in the vicinity of the site and will comply with the requirements of the revised IE licence.

Traffic data has been used to assess the change in noise climate associated with the proposed development relative to baseline. Based on the predictions, the changes in noise levels can be categorised as imperceptible to slight at these properties relative to baseline. The operational traffic associated with the proposed development scheme is therefore not expected to give rise to significant noise nuisance in the area.

Mitigation measures are proposed in order to reduce noise levels from plant and machinery at the site during operation, as well as from HGVs travelling on the LP-1080. The IE Licence will require an annual noise monitoring survey to be undertaken to demonstrate that the site remains in compliance with the limits specified in the licence.

13 TRAFFIC AND TRANSPORTATION

This chapter will assess the traffic and transportation aspects of the existing development in order to establish the impact of the proposed development on the operational capacity of the local road network.

The site is located in Hollywood Great, Nag's Head, Naul, Co. Dublin, approximately 3km west of the M1 and approximately 14.5km north of Dublin Airport. The site is currently accessed via the LP-1090 local road which bounds the west of the site. The LP-1080 local road bounds the south of the site and links the R108, R122 with the R132.

Traffic surveys were undertaken on the LP-1080 local road in January/February 2020, where two-way traffic flows and speeds were recorded on the LP-1080 over a week long period. The results indicate that the annual average daily traffic on the road in 2020 is 1,003 vehicles per day. This survey was repeated in May 2022 which indicated average daily traffic volumes of 1,150 vehicles per day.

The existing operation at the site is licenced to accept up to 500,000 tonnes per annum of waste for infilling the former quarry. The weighbridge records provided the total volumes of trucks that are currently accessing the site. During the baseline survey period the site was operating at full capacity, which equates to circa 120 HGV deliveries per day. This corresponds to a total daily movement of circa 240 trucks generated onto the local road network. This capacity site traffic is included in the baseline assessment recorded in January/February 2020 and used to amend the 2022 baseline.

As the proposed development will retain the 500,000 tonnes per annum limit, the additional impact over the baseline levels will be negligible.

The only additional traffic predicted relates to leachate tankering off site which equates to an additional four trucks to the site per day as a maximum (total of 8 movements on the LP-1080). These additional leachate movements represent less than 1% of the current traffic on the roads and are predicted to have a negligible impact on the road network.

No monitoring is proposed as environmental mitigation. During the operation stage, all traffic delivering material to the site is fully logged on site and a record of all waste deliveries maintained as a requirement of the IE Licence.

With the proposed mitigation measures implemented there are no predicted significant residual impacts for traffic and transportation.

14 MATERIAL ASSETS

This chapter of the EIAR examines the material assets of human and natural origin within the vicinity of the site which could be impacted as a result of the proposed development.

The study area for material assets has been defined with reference to the area in which there is potential for direct and indirect impact on natural and human material assets as a result of the proposed development. The assessment focused on a 3km area surrounding the site, which takes into account the land and roadways west of the M1 motorway that may be impacted by associated traffic. Other notable material assets that lie beyond this area such as nearest clustered settlements have also been considered.

The material assets chapter identifies potential impacts to land use and property, utilities, roads and traffic, air traffic and waste management.

Overall, any impacts of the proposed development on land use and property in the vicinity will be temporary to medium-term in duration and not significant. During the operational phase there will be no change to traffic volumes accessing the site. Completion of the infilling and restoration of the site will result in the cessation of traffic volumes associated with these operations.

No impacts as a result of activities at the site are foreseen in relation to air traffic safety in the area. There is no DAA flight path located directly overhead. The site will not be accepting municipal waste and so there will be no potential for bird strike as no biodegradable waste will be present on site.

Mitigation measures will be carried out on site to minimise dust nuisance arising from outside activities. Traffic and noise management mitigation measures will be carried out to minimise impact on material assets. No mitigation measures are considered necessary in respect of utilities or waste during the construction phase and the operation of the facility.

No monitoring or reinstatement measures are recommended for material assets beyond the requirements for monitoring that will be stipulated in the IE licence.

There are no predicted significant residual ongoing impacts on material assets during the construction, operational and post-restoration phases.

15 CULTURAL HERITAGE

The cultural heritage chapter provides an archaeological, architectural and cultural heritage background with respect to the proposed development. The objective of the report is to assess the impact of the proposed development on the receiving environment and to propose ameliorative measures to safeguard any monuments, features, finds of antiquity or features of architectural or cultural heritage merit.

Fingal has a rich and well-documented historical and archaeological heritage, the latter stretching back to prehistoric times. This part of north County Dublin has a wide range of recorded archaeological monuments, and recent archaeological excavations have provided evidence for a long chronology of settlement from the prehistoric period through to post-medieval times. The River Delvin and its tributaries water this landscape with the river offering an important routeway inland from the coast, while the hills and valleys would have attracted significant human activity from the prehistoric period onwards.

There are no recorded archaeological monuments located within the proposed development site. The nearest are a mound and a medieval church and graveyard, both in Hollywood Great townland, c. 70m west and southwest respectively. There are no stray finds recorded to Hollywood Great or Tooman townlands in the topographical files of the National Museum of Ireland. There will be no negative impacts on the recorded church and graveyard, nor on the recorded mound. Neither is negatively affected by the existing operations. Both are well-screened from the existing site and will not be impacted by the proposed development.

No potential negative impacts were identified in relation to architectural heritage (no cultural or industrial heritage sites were identified). The proposed site boundary follows that of the existing IMS lands or otherwise lies within it (on the east side). The operational phase of the development will have no impact on the cultural heritage environment of the area.

All physical archaeological, architectural and cultural heritage impact issues will be resolved at the pre-construction stage of the development and therefore no potential impacts are envisioned at the operation stage of the development. There will be no requirement for monitoring post-construction. No residual impacts were identified in relation to cultural heritage.

16 LANDSCAPE AND VISUAL ASSESSMENT

This chapter of the EIAR presents the assessment of landscape and visual impact for the proposed development and seeks to establish and analyse baseline conditions, assess significant impacts, propose mitigation and assess acceptability.

The existing site is elevated on low hills that are noticeable from across the surrounding lower lying and generally very gently undulating landscape. Agriculture is the dominant land use with medium to large fields of pastoral and arable use with field boundaries well defined by strong hedgerows and hedgerows with trees that provide a sense of enclosure but due to the elevated nature of the landscape immediately surrounding the proposed site and proximity to low lying ground to the east where hedgerows permit there are long distance views available.

The most recognisable features at the site when viewed from the surrounding landscape are two tall communication masts that are not within the site of the proposed development but adjacent to the site.

Ground level views of the site from surrounding areas are restricted by the location of the majority of activities within the quarry and due to intervening strong topography to the north, west and south of the site. However due to the existing topographical characteristics of the site being located on a hill the operations (particularly when the infilling reaches original surface levels) will have potential to be visible to the wider surrounding landscape to the east, south east and north east. The location of the majority of operations within a former quarry void also significantly offsets the visibility of activities on site during the lifetime of the infilling operation until finished levels have been achieved.

Although the proposed development is located within this highly sensitive landscape the site is with the existing quarry that is a feature of the local landscape at Naul. The proposed development will not noticeably alter the local topography in views from the south and east until the final restoration stage as the activities associated with the landfill facility will be located within the quarry. There are no views from the west and views from the north are limited to a narrow area. The construction/operational stage activities will be locally prominent with frequent traffic movements and machinery on site. However, such activities are similar to those found locally currently due to the presence of the existing landfill operations at the site of the proposed development.

Mitigation measures shall be incorporated in the construction/operational phase for landscape to protect visual impacts of the site, including wheelwash facilities, storage compounds of a maximum height and ensuring existing landscape framework remains dominant by cleaning up of debris, protecting or reinforcing existing boundary vegetation. Restoration phase mitigation includes hedgerow and tree planting, removal of all site infrastructure and equipment and restoration and reinstatement of the levels and topography to a maximum height.

Within the wider landscape the proposal will continue to blend with the existing agricultural landscape around the site with a moderate to major beneficial permanent residual landscape character impact. The creation of new hedgerows and pastoral fields on the site will restore the quarry site to its former appearance in this highly sensitive landscape.

17 INTERACTIONS

Table 17-1 identifies the interactions and cumulative impacts which could result as identified in the EIAR if no mitigation measures are put in place for any impacts identified. The table illustrates that impacts resulting from one aspect of the environment can have a direct effect on other elements of the environment.

Table 17-1 Interaction of Impacts

	Population	Human Health	Biodiversity	Soil, Geology and Hydrogeology	Water	Air Quality and Climate	Noise and Vibration	Traffic and Transportation	Material Assets	Cultural Heritage	Landscape and Visual Assessment
Population		X						X	X	X	X
Human Health				X	X	X	X	X			
Biodiversity				X	X	X					X
Soil, Geology and Hydrogeology					X						
Water											
Air Quality and Climate								X			
Noise and Vibration								X			
Traffic and Transportation									X		
Material Assets											
Cultural Heritage											
Landscape and Visual Assessment											