



Greater Dublin Drainage Project Addendum

**Environmental Impact Assessment Report Addendum:
Volume 3A Part A of 6**

Chapter 20A Waste

Uisce Éireann

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20. Waste

20.1 Introduction

As detailed in Chapter 1A (Introduction) in Volume 2A Part A of this Environmental Impact Assessment Report (EIAR) Addendum, we have reviewed Chapter 20 (Waste) in Volume 3 Part A of the EIAR submitted with the original 2018 planning application, in the light of:

- Changes to the baseline environment;
- The requirement for updated surveys; and
- Changes to the law, policy, industry standards and guidance in the intervening period.

Table 20.1 includes a summary of the project elements which were incorporated into the planning design for the Greater Dublin Drainage Project (hereafter referred to as the Proposed Project) following direction at the Oral Hearing in 2019 and the subsequent planning conditions applied to the 2018 planning application submission. A full description is included in Chapter 4A (Description of the Proposed Project) in Volume 2A Part A of the EIAR Addendum. The remaining elements of the Proposed Project included in the 2018 planning application remain unchanged.

Table 20.1: Updated Proposed Project Elements

Updated Element	Outline Description of Updated Element
Ultraviolet (UV) Treatment	<ul style="list-style-type: none"> • UV Treatment is to be included in the treatment process at the proposed wastewater treatment plant (WwTP) in the northern section of the WwTP site. • The UV treatment system will be designed for the expected flows at the plant and will be installed on the final effluent line. UV treatment will be in operation 24 hours a day, 365 days a year. • The UV system will consist of a minimum of three and a maximum of four treatment units located below or partially below ground level with an above-ground Motor Control Centre (MCC) (in a kiosk) along with minor maintenance and control equipment (e.g. shut-off button, frame for supporting, retracting and cleaning of UV lamps etc.).
River Mayne Culvert Extension	<ul style="list-style-type: none"> • Extension of the River Mayne Culvert on the proposed access road to the WwTP by 4m (from 21m to 25m) to cater for the full width of the future north south link road.

This Addendum Chapter should be read in conjunction with Chapter 20 (Waste) in Volume 3 Part A of the EIAR submitted with the original 2018 planning application.

Please note that the updated waste impact assessment of the proposed Regional Biosolids Storage Facility (RBSF) is addressed in Section 7A in Volume 4A Part A, and Appendix 7A in Volume 4A Part B of this EIAR Addendum, respectively.

20.2 Methodology

20.2.1 Legislation, Policy and Best Practice Guidelines

This Section of Chapter 20 (Waste) in Volume 3 Part A of the EIAR submitted with the original 2018 planning application was reviewed in order to determine if there have been any updates to the legislation and / or guidance governing the assessment of waste in the intervening period.

The following sections outline the updates and changes to the information presented in this Section of the EIAR in the 2018 planning application.

20.2.1.1 S.I. No. 323/2020 - European Union (Waste Directive) Regulations 2020

Since the 2018 planning application, S.I. No. 323/2020 - European Union (Waste Directive) Regulations 2020 (hereafter referred to as the 2020 Waste Regulations) was adopted into Irish law in September 2020. The 2020 Waste Regulations and S.I. No. 126/2011 - European Communities (Waste Directive) Regulations 2011 shall

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be construed together as one and may be collectively cited as the Waste Regulations 2011-2020 in this Addendum Chapter.

The purposes for which the Waste Regulations 2011-2020 are made include the purpose of giving effect to provisions of Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (as amended) (hereafter referred to as the Waste Directive) and partial effect to Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC (Batteries Directive), Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of life vehicles (ELV Directive), Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE) (WEEE Directive), European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste (Packaging Directive) and Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste (Landfill Directive). The Waste Regulations 2011-2020 set out additional measures to protect the environment and human health by preventing or reducing the generation of waste, the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use, which are crucial for the transition to a circular economy and long-term competitiveness.

Relevant changes for the Proposed Project, as a result of the updated 2020 Waste Regulations, are:

- Regulation 31 of S.I. No. 126/2011 - European Communities (Waste Directive) Regulations 2011 was replaced and now includes for the following in the 2020 Waste Regulations:

'31. (1) (d) The Minister, the Agency or the local authorities shall, in carrying out their respective functions under the Act of 1996, take measures to promote selective demolition in order to enable removal and safe handling of hazardous substances and facilitate re-use and high-quality recycling by selective removal of materials, and to ensure the establishment of sorting systems for construction and demolition waste at least for wood, mineral fractions (concrete, bricks, tiles and ceramics, stones), metal, glass, plastic and plaster.'

'31. (2) In order to comply with the objectives of the Waste Directive, and move to a European circular economy with a high level of resource efficiency, the Minister, the Agency or the local authorities shall, in carrying out their respective functions under the Act of 1996, shall take the necessary measures designed to achieve the following targets.'

'(b) by 2020, the preparing for re-use, recycling and other material recovery, including backfilling operations using waste to substitute other materials, of non-hazardous construction and demolition waste excluding naturally occurring material defined in category 17 05 04 in the list of waste shall be increased to a minimum of 70 % by weight.'

20.2.1.2 Eastern-Midlands Region Waste Management Plan

The most recent regional waste management plan for the Greater Dublin Area (GDA) was developed by the Eastern Midlands Waste Regional Office (EMWRO) and is the Eastern-Midlands Region Waste Management Plan 2015 – 2021 (referred to as the EMRWMP) (EMWRO 2015) and published in 2015. This was the version considered in the assessment completed for Chapter 20 (Waste) in Volume 3 Part A of the EIAR submitted in the original 2018 planning application. Instead of separate regional plans, the next revision will now be a National Waste Management Plan for a Circular Economy, a draft of which was published for statutory consultation in May 2023.

20.2.1.3 Draft National Waste Management Plan for a Circular Economy

The Regional Waste Management Planning Offices (RWMPO), under the auspices of the County and City Management Association National Oversight Group, have co-ordinated the preparation of the first National Waste Management Plan for a Circular Economy (Draft) (hereafter referred to as the Draft Plan) (RWMPO 2023). The Draft Plan sets out a framework for the prevention and management of waste in Ireland for the period 2023 to 2029.

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The ambition of the Draft Plan is 0% total waste growth per person over the life of the Draft Plan, once adopted, with an emphasis on non-household wastes including waste from commercial activities and the construction and demolition (C&D) sector. The latter point of emphasis being of particular importance to the Proposed Project.

As with recent guidance and legislative changes, the Draft Plan reflects that Ireland is moving away from the traditional linear 'take-make-use-dispose' model towards a 'circular economy' regenerative growth model where resources are reused or recycled as much as possible, and the generation of waste is minimised.

The Draft Plan is underpinned with a comprehensive series of targets, policies, actions and a suite of key deliverables, a number of which are of direct relevance to the Proposed Project. Each of these Plan provisions has been devised to support achievement of the Plan ambition, respond to current and future challenges, and support the transition to a more circular economy with reduced climate impact.

A Strategic Environment Assessment (SEA) is also being carried out on behalf of the local authorities with an Environmental Report having been prepared which assesses, at a strategic level, the likely significant environmental impacts of implementing the Draft Plan. An Appropriate Assessment under Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive) has also been undertaken to ascertain if the Draft Plan could significantly impact on any site designated for conservation as part of the Natura 2000 network, and a Natura Impact Statement has also been prepared.

The Draft Plan has followed a Statutory Consultation Phase which ran from 3 May 2023 until 5 July 2023 with written submissions / observations requested in relation to the Draft Plan and the associated Environmental Report and Natura Impact Statement.

Specifically in relation to the Proposed Project, the Draft Plan recognises the expected strong projected growth in the construction sector in Ireland in the short to medium-term, with the generation of construction wastes predicted to continue to grow over the Plan period.

The need for significant intervention in the C&D sector, with materials which have a high circular potential, is well established. The Draft Plan emphasises that it is imperative that the planned interventions on by-products, end-of waste and best practice are implemented without delay. The by-product measure has the greatest potential to curb waste generation within the sector if suitably implemented and widely adopted by the sector.

Within the Draft Plan, Policy TP8.3 seeks to promote and implement the Environmental Protection Agency (EPA) Best Practice Guidelines for the preparation of resource & waste management plans for construction & demolition projects (hereafter referred to as the EPA C&D Guidelines) (EPA 2021a). This is noted as best practice which can aid in the prevention of C&D wastes.

The trend in the Draft Plan shows total C&D waste gradually rising from 2023 to 2029 as the impact of the interventions stabilises and the sector grows from 2023. By 2029, total C&D waste generation is expected to rise to 8 million tonnes which is similar to existing levels, in line with the ambition for 0% waste growth despite the growth in the sector.

In relation to soil and stone, the Draft Plan outlines that in 2019, approximately 10 million tonnes of soil and stone was generated with one quarter managed as a by-product and three quarters managed as waste.

With the effect of the national decision on soil and stone waste and by-products, it is considered that 50% of soil and stone will be managed as a by-product when national decisions are implemented, and this fraction will rise by 10% per annum up to 2029.

Within Volume I of the Draft Plan, it is highlighted that, based on the 2020 National Report on C&D Waste, there is significant capacity remaining at consented Soil Recovery Facilities (SRFs) and the pending national Article 27 decision on greenfield soil and stone should reduce demand for this capacity. The National Report recommends that better geographical spread of licensed facilities is required as currently 80% of available capacity is located in the Eastern-Midlands Region. Policy TP14.3 within the Draft Plan defines the need to

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monitor SRF capacity to ensure adequate and appropriate authorisations are in place, in each region, to satisfy the need for soil recovery capacity.

Key Deliverables – C&D Waste:

In relation to C&D Waste, the Draft Plan outlines some key deliverables, which are relevant to the Proposed Project, as follows:

Key Deliverable 7: National Decision – Article 27

'The EPA have committed to a national decision on Article 27 which will unlock the potential for a reduction in significant amounts of waste annually.'

Key Deliverable 8: National Decision – Article 28

'The EPA have committed to a national decision on Article 28 which will unlock the potential for a reduction in significant amounts of crushed aggregate waste annually.'

Key Deliverable 9: C&D Best Practice Guidelines

'The LAS is committed to the roll out and promotion of the EPA best practice guidelines for C&D projects.'

Key Deliverable 15: Soil Recovery

'The LAS will plan for a better distribution of soil recovery facilities (non-hazardous, greenfield) nationally to respond to the outcomes of national decisions.'

National Target 1B – Construction Materials

As noted previously, the Draft Plan places an emphasis on the construction sector and specifically sets out National Target 1B for construction materials. This is of particular relevance to the Proposed Project, given the potential for surplus material arising during construction.

It is noted in the Draft Plan that construction waste accounted for 60% (8.8 million tonnes) of all waste generated in Ireland in 2019. The consumption of raw materials by the construction sector can be reduced by the use of secondary materials and the Draft Plan supports the provision of secondary materials through a range of interventions.

The Draft Plan includes a consumption-related target for construction waste and materials, and Focus Area 8 'Construction and Demolition' in Chapter 6, sets out the targeted policy base to enable a step change in the sector to facilitate waste prevention and support circular secondary materials.

Because of the potential impact of the planned interventions on the prevention of construction waste, a higher target is applied than that presented for municipal waste, and a 2% reduction per annum is proposed for total C&D waste. Specifically, the Draft Plan notes that the target will be achieved through national decisions on Article 27 (By-product) and Article 28 (End of Waste) and the implementation and enforcement of best practice on construction sites.

Focus Area 8 'Construction and Demolition Waste'

The purpose of Focus Area 8 is to support national decisions for C&D waste and promote the EPA C&D Guidelines (EPA 2021a). The following sets out the Targeted Policies and Priority Actions (Responsibility) which will be taken into consideration for the Proposed Project:

- **TP8.1** *Prioritise waste prevention and circularity in the construction and demolition sector to reduce the resources that need to be captured as waste.*

- **PA8.1 (LAS)** *Implement Green Public Procurement criteria on all local authority construction and demolition projects and promote its wider use within the sector.*
- **TP8.2** *Identify and promote the growth of secondary material markets, including the elimination of barriers to the development of these markets, within the construction and demolition sector.*
- **PA8.2 (LAS)** *Pilot the preparation of Resource & Waste Management Plans for construction and demolition projects at selected local authority developments.*
- **TP8.3** *Incorporation of the EPA Best Practice Guidelines for the preparation of Resource & Waste Management Plans for Construction & Demolition Projects and NWPS Soil & Spoil Action Plan, and monitoring by local authorities of the application of these requirements.*
- **PA8.3 (EPA/LAS)** *Develop and deliver training, with the EPA, to support national decisions on Article 27 byproducts for road planings and greenfield soil and stone; and support the implementation of a national decision on Article 28 end-of-waste for aggregates, which includes crushed concrete and prioritise the use of materials arising from national end-of-waste or by-product decisions.*
- **TP8.4** *Identify and promote materials with a low embodied carbon and high circular potential to maximise use in the construction sector.*
- **PA8.4 (LAS)** *Incorporate the requirement for Construction and Demolition Resource & Waste Management Plans in land use policy in County/City Development Plans.*
- **TP8.5** *Pursue and support a targeted levy on virgin materials to encourage the use of secondary raw materials.*
- **PA8.5 (LAS)** *Explore the potential to segregate waste streams in mixed waste skips to minimise contamination and maximise reuse, recycling and circularity on construction sites and provide guidance to the sector.*
- **PA8.6 (LAS)** *Allocate available resources, and identify any additional resources required, to consistently monitor construction and demolition sites to assess compliance with the project Resource & Waste Management Plan and apply appropriate enforcement measures to ensure compliance.*

Summary

The first National Waste Management Plan for a Circular Economy, currently available in draft form, sets out a framework for the prevention and management of waste in Ireland for the period 2023 to 2029. The ambition of the Draft Plan is 0% total waste growth per person over the life of the Plan, once adopted, with an emphasis on the C&D sector amongst others. The relevant targets, key deliverables policies and actions have been taken into consideration for the Proposed Project and any relevant changes that are made in the Final Plan, once adopted, will also be considered in due course. However, it is considered that the overall tenet of the Plan, whereby we move towards a 'circular economy' regenerative growth model where resources are reused or recycled as much as possible, and the generation of waste is minimised, will not change.

20.2.1.4 Fingal Development Plan 2023 - 2029

Fingal County Council's (FCC's) policies and objectives are outlined in the Fingal Development Plan 2023 – 2029 (hereafter referred to as the FDP) (FCC 2023), which is underpinned by a strategic vision intended to guide the sustainable future growth of Fingal. The Elected Members adopted the FDP on 22 February 2023. In accordance with the provisions of the Planning and Development Act 2000 (as amended), the adopted FDP came into effect on 5 April 2023. At the core of the vision is healthy placemaking, building cohesive and sustainable communities, where the cultural, natural and built environment is protected. A sustainable future for Fingal will be based on the interdependence of the themes of economic growth, social progress and environmental quality, with the aim of increasing Fingal's self-reliance and resilience. The FDP sets out a number of policies and objectives to promote a waste prevention and minimisation programme in line with the principles of sustainable development, including those described below which are relevant to the Proposed Project.

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Policies

'Policy CAP10 Climate Mitigation Actions in the Built Environment' aims to:

'Promote low carbon development within the County which will seek to reduce carbon dioxide emissions and which will meet the highest feasible environmental standards during construction and occupation.'

New development should generally demonstrate / provide for a number of measures, including in relation to waste, minimising the generation of site and construction waste and maximising reuse or recycling.

'Policy CAP24 Circular Economy' aims to:

'Support the shift towards the circular economy approach as set out in the National Waste Policy for 2020-2025.'

'Policy CAP25 Waste Management Plans for Construction and Demolition Projects' aims to:

'Have regard to existing Best Practice Guidance on Waste Management Plans for Construction and Demolition Projects as well as any future updates to these Guidelines in order to ensure the consistent application of planning requirements.'

'Policy IUP20 Implementation Of Existing Waste Management Policy' aims to:

'Support the implementation of existing waste management policy and promote education and awareness on all issues associated with waste management, both at industry and community level, including the promotion of waste reduction by encouraging reuse, recycling and recovery of waste. Fingal County Council will continue to promote and support the objectives of the Eastern and Midlands Region Waste Management Plan 2015-2021, or such plans as may be updated.'

'Policy IUP21 Environmental Policy, Legislation and Guidance' aims to:

'Have regard to European Union, National and Regional waste and related environmental policy, legislation, guidance and codes of practice to improve management of material resources and wastes.'

'Policy IUP22 Transition From A Waste Economy Towards A Green Circular Economy' aims to:

'Support the principles of transition from a waste economy towards a green circular economy and implement good waste management and best practices to enable Fingal to become self-sufficient in terms of resource and waste management and to enhance employment and increase the value recovery and recirculation of resources.'

'Policy IUP24 Recycling / Re-Use' aims to:

'Promote and encourage the establishment of re-use, recycling and repair activities to prevent and minimise waste generation and disposal, in accordance with the Eastern Midlands Region Waste Management Plan 2015 -2021 (or any subsequent plan).'

Objectives

'Objective IUO28 Eastern Midlands Region Waste Management Plan' aims to:

'Implement the provisions of the Eastern Midlands Region Waste Management Plan 2015 -2021 or any subsequent Waste Management Plan applicable within the lifetime of the Development Plan. All prospective developments in the County will be expected to take account of the provisions of the Regional Waste Management Plan and adhere to the requirements of that Plan.'

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'Objective IUO29 Sustainable Waste Recovery And Disposal' aims to:

'Provide for, promote and facilitate high quality sustainable waste recovery and disposal infrastructure/technology in keeping with the EU waste hierarchy, national legislation and regional waste management policy to adequately cater for Fingal's growing population.'

'Objective IUO30 Hazardous Waste' aims to:

'Adhere to the recommendations of the National Hazardous Waste Management Plan 2014-2020 and any subsequent plan, and to co-operate with the EPA and other agencies in the planning, organisation and supervision of the disposal of hazardous waste streams, including hazardous waste identified during construction and demolition projects. To continue to promote the use of clean technology and minimisation of hazardous waste production in all development within the County.'

'Objective DMSO240 Construction and Demolition Waste Management Plan' states that there will be a requirement that *'...Construction and Demolition Waste Management Plans be submitted as part of any planning application for projects in excess of...'* set thresholds including civil engineering projects in excess of 500m³ (cubic metres) of waste materials used for development of works on the site.

'Objective DMSO241 Guidance for Construction and Demolition Waste Management Plans' sets out the detail to be included in the C&D Waste Management Plans.

20.2.1.5 Circular Economy Action Plan for a Cleaner and More Competitive Europe

Since the 2018 planning application, the European Commission adopted the Circular Economy Action Plan for a Cleaner and More Competitive Europe (hereafter referred to as the Circular Economy Action Plan) in March 2020 as part of the European Green Deal (European Commission 2020). The Circular Economy Action Plan announces initiatives along the entire lifecycle of products and introduces legislative and non-legislative measures targeting seven key product value chains. One of these value chains is construction and buildings. In the Circular Economy Action Plan, it states that the construction sector is responsible for 35% of the European Union's (EU's) total waste generation and an estimated 5% to 12% of total national greenhouse gas emissions. Two of the circularity principles promoted by the Circular Economy Action Plan pertain to C&D waste and excavated soils as follows (European Commission 2020):

- *'considering a revision of material recovery targets set in EU legislation for construction and demolition waste and its material-specific fractions'; and*
- *'promoting initiatives to reduce soil sealing, rehabilitate abandoned or contaminated brownfields and increase the safe, sustainable and circular use of excavated soils'.*

20.2.1.6 A Waste Action Plan for a Circular Economy

Since the 2018 planning application, a new national waste policy, entitled A Waste Action Plan for a Circular Economy – Ireland's National Waste Policy 2020 – 2025 (hereafter referred to as the Waste Action Plan), was issued by the Department of Communications, Climate Action and Environment (DCCAE) in September 2020 (DCCAE 2020). The Waste Action Plan outlines Ireland's updated goals, actions and policies to be implemented from 2020 to 2025. The new Waste Action Plan is structured around the framework provided in the EU's second Circular Economy Action Plan launched in March 2020 (European Commission 2020). The policy is intended to move Ireland toward a circular economy shifting away from waste disposal, favouring circularity and sustainability by identifying and maximising the value of material through improved design, durability, repair and recycling. The Waste Action Plan sets out the following:

- Project Ireland 2040 sets out the Member State's development goals over the next 20 years which allows for the opportunity to forecast large, specific waste streams with a focus on preventing or efficiently managing the waste from these areas;
- Prevention of soil arisings which are a significant financial burden on the sector is to progress by placing value on the used material where possible. There is a strong focus on Article 27 of the 2020 Waste Regulations and the end-of-waste decision-making process. These processes are to be streamlined, and detailed guidance will be developed for specific problematic materials;

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- The use of recycled construction materials will be incentivised (potentially by introducing a levy on virgin aggregates);
- The Waste Action Plan looks to make national end-of-waste decisions for specific C&D waste streams at the earliest possible stage;
- The Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (Department of the Environment, Heritage and Local Government 2006) will be revised to improve the preparation of waste management plans for C&D waste projects; and
- Regional waste planning and associated policy actions are currently implemented through the three regional waste management plans.

20.2.1.7 Whole of Government Circular Economy Strategy 2022 - 2023

Since the submission of the 2018 planning application, the Department of Environment, Climate and Communications has launched Ireland's first Whole of Government Circular Economy Strategy 2022 – 2023 - Living More, Using Less (hereafter referred to as the Circular Economy Strategy) (Government of Ireland 2021).

The Circular Economy Strategy will address a policy gap that exists in Ireland's national policy framework. It sets out a vision for Ireland's transition to circularity; explaining the concept of the circular economy, describing what initiatives are already happening, what opportunities are available and how Government will drive the changes required.

The Circular Economy Strategy will:

- Demonstrate public sector leadership, using policy tools such as green public procurement as well as supporting circular economy practices across the entire public sector;
- Develop and implement an education and awareness campaign – for individuals, households, communities, and the public and private sectors;
- Identify priority sectors for the development of sectoral circular economy roadmaps;
- Convene a consultative advisory group, from amongst stakeholders, to input into policy development and implementation; and
- Establish an interdepartmental working group to oversee the integration of circular economy policies and practices across public policy.

Subsequent iterations of the Circular Economy Strategy will include more detailed measures and sectoral roadmaps for priority areas including construction. Measures, including targets, for these sectors will be developed in consultation with stakeholders across public and private sectors, as well as environmental, community and social enterprise representatives.

In relation to the C&D sector, the Circular Economy Strategy sets out that greater resource efficiency and resource reuse could avoid the need for millions of tonnes of virgin raw materials per annum, as well as reducing the carbon intensity of our built environment. The development of the next iteration of the Circular Economy Strategy should support and enhance existing circular initiatives on the part of the sector, for example through the work of the EPA's reorganised Circular Economy Programme (EPA 2021b). Reducing the volume and associated costs of C&D waste could also contribute to greater affordability, particularly in relation to the high-density residential sector.

Annex 4 of the Circular Economy Strategy sets out a preliminary outline of actions for inclusion in 'Sectoral Circular Economy Roadmaps'. In relation to the construction sector, potential actions include an increased use of C&D waste as a secondary construction material and the increased use in off site design and manufacture.

20.2.1.8 The Circular Economy and Miscellaneous Provisions Act 2022

Since the submission of the 2018 planning application, Number 26 of 2022 - Circular Economy and Miscellaneous Provisions Act 2022 (hereafter referred to as the Circular Economy Act) has been signed into

law in July 2022. The Circular Economy Act underpins Ireland's shift from a 'take-make-waste' linear model to a more sustainable pattern of production and consumption that retains the value of resources in our economy for as long as possible, and that will significantly reduce our greenhouse gas emissions. The Circular Economy Act builds on the Government's commitment to achieving a circular economy, as set out in the Waste Action Plan (DCCAE 2020) and the Circular Economy Strategy (Government of Ireland 2021). The Circular Economy Act now places that Strategy on a statutory footing, putting the reuse of resources and reduced consumption at the heart of the Irish economy.

The Circular Economy Act:

- Defines the Circular Economy for the first time in Irish domestic law;
- Incentivises the use of reusable and recyclable alternatives to a range of wasteful single-use disposable packaging and other items;
- Re-designates the existing Environment Fund as a Circular Economy Fund, which will remain ring-fenced to provide support for environmental and circular economy projects;
- Introduces a mandatory segregation and incentivised charging regime for commercial waste, similar to what exists for the household market. This will increase waste separation and support increased recycling rates;
- Provides for the general data protection regulation (GDPR) compliant use of a range of technologies, such as closed-circuit television (CCTV) for waste enforcement purposes. This will support efforts to tackle illegal dumping and littering, while protecting the privacy rights of citizens;
- Places the Circular Economy Strategy and National Food Loss Prevention Roadmap on a statutory footing, establishing a legal requirement for governments to develop and periodically update these two policies;
- Streamlines the national processes for End-of-Waste and By-Products decisions, tackling the delays which can be encountered by industry, and supporting the availability of recycled secondary raw materials in the Irish market; and
- Consolidates the Government's policy of keeping fossil fuels in the ground by introducing prohibitions on exploration for and extraction of coal, lignite and oil shale.

In relation to the construction sector, the Circular Economy Act ensures that we have a fit-for-purpose regulatory system in place to allow hundreds of thousands of tonnes of material to be safely and sustainably reused as secondary raw materials, which is of particular relevance to the Proposed Project.

20.2.1.9 The Circular Economy Programme 2021 - 2027

Ireland's The Circular Economy Programme 2021 – 2027 (hereafter referred to as the Circular Economy Programme) (EPA 2021b) is the driving force for Ireland's move to a circular economy. The vision for the Circular Economy Programme, which is led by the EPA, is an Ireland where the circular economy ensures that everyone (businesses, citizens and the public sector) uses less resources and prevents waste to achieve sustainable economic growth.

The Circular Economy Programme is based on a four-pillar structure (Advocacy, Insights, Data & Coordination; Innovation & Demonstration; Delivering through Partnerships; and Regulatory Framework for Circularity), with a focus for 2021 to 2027 on seven priority areas, as articulated in national waste policy documents and the European Green Deal, including construction and buildings. Annual work programmes will reflect the programme activities and priorities for a given year.

Potential future initiatives could include supporting demonstrators of best practice for C&D site waste management. These initiatives will be timebound and based on an open sharing of learnings.

20.2.1.10 Article 27 By Product Notifications

An integral part of the Waste Action Plan (DCCAE 2020) is the prevention of waste and the promotion of reuse. This is also reflected in the Draft National Waste Management Plan for a Circular Economy (RWMPO 2023).

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This can be facilitated through Article 27 of the 2020 Waste Regulations, which allows an economic operator to decide, under certain circumstances, that a material is a by-product and not a waste. In such circumstances, C&D materials are not discarded as a waste, and as such, can be used on development projects as a by-product. The process under Article 27 requires an economic operator to notify the EPA of its decision. The EPA may then determine to agree with the economic operator's decision, or alternatively, may determine that the notified material is waste, following consultation with the economic operator and the relevant local authority. Article 27 applies to all economic sectors but is particularly relevant for the construction sector which handles large volumes of natural resources, such as soil and stone.

20.2.1.11 Best Practice Guidelines for Construction and Demolition Waste

The EPA published updated EPA C&D Guidelines in 2021 (EPA 2021a) and these updated guidelines are also taken into consideration in this Addendum Chapter. These updated EPA C&D Guidelines provide a practical common approach to the prevention and management of C&D wastes and resources in projects, from design through to construction and deconstruction. It is expected that implementation of the guidelines will help Ireland prevent C&D wastes, encourage reuse of materials where possible, and thereafter sustainably reduce and recover waste materials.

The updated EPA C&D Guidelines provide an update to the former 2006 Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (Department of the Environment, Heritage and Local Government 2006), which were considered in the original 2018 planning application. The need to prepare resource and waste management plans is also recognised in the Draft National Waste Management Plan for a Circular Economy (RWMPO 2023).

20.2.1.12 National Hazardous Waste Management Plan 2021 -2027

Since the submission of the 2018 planning application, the EPA have published the National Hazardous Waste Management Plan 2021 – 2027 (hereafter referred to as the National Hazardous Waste Management Plan) (EPA 2021c). One of the specific recommendations is to promote best practice in the management of commercial hazardous waste streams. Specifically, it included a key action to develop training to promote awareness on identification and proper management of hazardous fractions in C&D waste by Q4 (Quarter 4) of 2022.

The National Hazardous Waste Management Plan also sets out the quantity of contaminated soil treated in Ireland (approximately 44,000 tonnes) at Irish hazardous waste treatment facilities, or treated on-site and exported (approximately 46,000 tonnes). Most of the contaminated soil is exported to Norway (38,560 tonnes). As per the National Hazardous Waste Management Plan, should any contaminated soils be encountered on the Proposed Project, these will be removed off site by authorised waste hauliers and treated at fully licensed hazardous waste treatment facilities.

20.2.1.13 National Water Resources Plan

The National Water Resources Plan – Framework Plan (Uisce Éireann 2021) sets out Uisce Éireann's 25-year plan for effective water services throughout Ireland. Technical Appendix K Residuals of the National Water Resources Plan – Framework Plan covers residuals from water treatment plants (WTPs). This document outlines Uisce Éireann's strategy for minimising and dealing with solid and water residuals which are produced as a result of water treatment operations (therefore, operational phase wastes). The National Water Resources Plan – Framework Plan informs that new WTPs may increase the quantity of residuals produced from the initial water treatment process due to their design, and sets out proposals for this to be considered and minimised at the design stage (e.g. by the inclusion of additional processes to minimise the residuals quantity). It sets out an objective for Uisce Éireann to move towards a circular economy model with a focus on productive reuse and recycling of residuals. A number of circular economy options for the potential reuse of residuals are outlined in the Technical Appendix K, namely:

- In integrated constructed wetlands or reed bed systems as a beneficial product for nutrient removal;

- In cement manufacturing as an alternative to aluminium containing raw materials such as bauxite;
- In brick manufacturing as an alternative to raw materials;
- In landfill remediation, incorporated into the material used to cover and remediate old landfill sites;
- Discharge to wastewater treatment plants (WwTPs) to improve nutrient removal and dewatering of WwTP residuals;
- Long-term storage for future usage; and
- Export while suitable outlets are being developed in Ireland.

20.2.1.14 Guidelines on the Information to be Contained in Environmental Impact Assessment Reports

The assessment of the potential effect of the Proposed Project on waste had previously been undertaken in accordance with the Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (hereafter referred to as the Draft EPA Guidelines) (EPA 2017), which had been drafted to facilitate compliance with Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (hereafter referred to as the EIA Directive). In 2022, the EPA published an updated set of Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (hereafter referred to as the updated EPA Guidelines) (EPA 2022a), which are not significantly different from the Draft EPA Guidelines and which also facilitate compliance with the EIA Directive. The updated EPA Guidelines have been considered as part of this Addendum Chapter, and given the slight degree of change from the Draft EPA Guidelines, they have been determined to have no material impact on the previous assessment completed as part of the 2018 planning application.

20.2.2 Establishing the Baseline Environment and the Proposed Project Description

The publications outlined in Section 20.2.1 which were published since the original planning application was submitted in 2018, were reviewed to establish and describe the updated baseline environment for waste management in the GDA.

As outlined in this Section of the EIAR in the 2018 planning application, waste materials will be generated during the Construction Phase and Operational Phase of the Proposed Project. Estimates for the volume of materials that will be generated during these phases are presented in this Addendum Chapter, together with an explanation of how this waste will be dealt with in the context of legislation, policy and best practice.

Estimates for the amount of excavated material generated during the Construction Phase of the Proposed Project are based on the volume of material to be excavated to lay the proposed orbital sewer route and the proposed outfall pipeline route, and to construct the proposed Abbotstown pumping station and the proposed WwTP. Table 20.1 provides a summary of the updated Proposed Project elements which were incorporated into the planning design for the Proposed Project following direction at the Oral Hearing in 2019 and the subsequent planning conditions applied to the 2018 planning application submission. A full description is included in the Chapter 4A (Description of the Proposed Project) in Volume 2A Part A of this EIAR Addendum. The remaining elements of the Proposed Project included in the 2018 planning application remain unchanged.

There will be only minor changes to the waste volumes arising as a result of the Proposed Project, when compared to the 2018 planning application (see Section 20.4.2 for updated waste volumes resulting from updates to the Proposed Project since the 2018 planning application). The majority of construction will still occur on greenfield sites and this will result in predominantly inert soil and stone material making up the bulk of the C&D waste generated. There will also be waste generated by staff and biosolids generated by the wastewater treatment process during the Operational Phase, as previously outlined in the 2018 planning application. Please note that the updated waste impact assessment of the proposed RBSF is addressed in Section 7A in Volume 4A Part A, and Appendix 7A in Volume 4A Part B of this EIAR Addendum, respectively.

20.2.3 Impact Assessment Criteria

The impact assessment criteria in the updated EPA Guidelines (EPA 2022a) remain largely unchanged from the criteria used in the previous Draft EPA Guidelines (EPA 2017). Therefore, the criteria outlined in this Section of the EIAR in the 2018 planning application remain unchanged.

20.2.4 Criteria for Selection of Mitigation Measures

There have been no changes to the criteria applied for the selection of mitigation measures, as outlined in this Section of the EIAR in the 2018 planning application.

20.3 Baseline Environment

The following sections set out the updated baseline environment and reflect recent waste statistics and developments in waste management.

20.3.1 Current Waste Disposal / Recovery Routes

Currently, the majority of C&D waste generated in Ireland is recovered or reused. Where recovery or reuse is not feasible, it is disposed of at suitably licensed facilities.

As outlined in this Section of the EIAR in the 2018 planning application, Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste (hereafter referred to as the Waste Framework Directive) required that a target of 70% recovery by weight of C&D waste generated be met by the year 2020. The latest figures published by the EPA (Ireland – Progress to EU Waste Targets – October 2022 (EPA 2022b)) state that Ireland has achieved this target. According to the latest figures, 78% of C&D waste generated in the country has been recovered.

The EPA also published the National Waste Statistics Summary Report for 2020 (EPA 2022c) in December 2022 which collates the key findings from the 2020 waste data published on the National Waste Statistics website (EPA 2023a). In 2020, some 8.2 million tonnes of C&D waste was collected by authorised waste collectors and managed in 2020, down from 8.8 million tonnes in 2019, mirroring the downward trend in construction activity in 2020. The slowdown in construction activity is attributable to the COVID-19 pandemic restrictions on the building industry in 2020. As a result, the generation of waste soil and stone, waste concrete, brick, tile and gypsum and waste bituminous mixtures decreased. Nonetheless, construction waste remained the largest waste stream in the state having increased by over 4 million tonnes and is also the fastest growing waste stream.

More recent statistics published by the EPA (EPA waste data released on 10 August 2023 or the latest reference year 2021 (EPA 2023b)) show the expected reversal of the downward trend with the quantity of C&D waste generated and collected in Ireland in 2021 increasing by 10%, to 9 million tonnes, from 8.2 million tonnes in 2020. The vast majority (96 %) of C&D waste underwent final treatment in Ireland in 2021 with only 4% exported abroad for final treatment.

In 2021, recycling was the main treatment operation for metals (100%) and for segregated wood, paper, glass and plastic (77%). For non-hazardous C&D waste other than soil and stone, Ireland achieved 85% material recovery, surpassing the 70% European target.

The compositional details of C&D waste collected in Ireland in 2020 and 2021 are outlined in Table 20.2. It was noted by the EPA that the overall composition of C&D waste changed little between 2020 and 2021. The largest waste fraction of this waste stream continues to be soil and stone, accounting for 85.1% of the waste stream, up marginally from 84.4% in 2020 (EPA 2022c). This waste stream can largely be avoided through the greater use of the by-product regulations.

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Table 20.2: Composition of C&D Waste Collected in Ireland in 2020 and 2021

C&D Waste Type	Tonnage 2020	Percent of Total 2020	Tonnage 2021	Percent of Total 2021
Soils, stones and dredging spoil	6,946,632	84.4%	7,696,287	85.1%
Concrete, brick, tile and gypsum	524,605	6.4%	608,235	6.7%
Mixed C&D waste	377,963	4.6%	362,380	4.0%
Metal	199,392	2.4%	257,558	2.8%
Bituminous mixtures	127,681	1.6%	87,343	1.0%
Segregated wood, glass and plastic	52,131	0.6%	31,946	0.4%
Total	8,228,404	100%	9,043,749	100%

The vast majority (96%) of C&D waste underwent final treatment in Ireland in 2020 and only 5% was exported abroad for final treatment.

Table 20.3 outlines the final treatment operation by C&D waste stream for 2021 (EPA 2023b).

Table 20.3: Final Treatment Operation by C&D Waste Stream in 2021

Treatment Type	Recycling (t)	Energy Recovery (t)	Backfilling (t)	Disposal (t)	Total (t)
Metal waste	272,734				272,734
Segregated wood, glass and plastic	50,348	13,918	743	407	65,417
Concrete, brick, tile and gypsum ¹	262,685	1,244	299,725	16,568	580,223
Waste Bituminous mixtures	41,150	1,505	33,449	8,527	84,631
Mixed C&D waste	398	73	88,747	34,356	123,573
Waste soils, stones and dredging spoil		34	7,251,952	450,267	7,702,253
Waste treatment residues	51,892	9,323	39,122	114,580	214,917
Total	679,208	26,098	7,713,738	624,705	9,043,749

NOTE 1: Please note that no gypsum was backfilled or landfilled

As noted previously, there was an 85% recovery of non-hazardous, non-soil and stone materials (i.e. metals, wood, paper, glass and plastic), an increase from 78% in 2020 and again surpassing the 70% target for 2020.

As outlined in the 2020 statistics, 82% of C&D waste (soil and stone) was backfilled, 8% was recycled and 10% was landfilled. In 2021, most C&D waste was also backfilled (85%), with only 8% recycled and a further 7% sent for disposal.

Backfilling refers to a recovery operation carried out at authorised facilities, where suitable waste is used for land improvement, for reclamation purposes in excavated areas or for engineering purposes in landscaping. Soil recovery facilities are typically 'worked out' quarries in the process of being restored or sites where soil and stone is imported to raise natural ground levels. The prominence of backfilling as a final treatment operation reflects the high tonnages of waste soil and stones in the C&D waste stream.

Disposal was mainly used for C&D waste treatment residues and a smaller share of mixed C&D waste and soil and stones.

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According to the Construction & Demolition Waste – Soil and Stone Recovery / Disposal Capacity - Updated Report 2020 (RWMPO 2020), there are 15 dedicated SRFs in the waste licensing system in the Eastern and Midlands Region (EMR). Capacities are concentrated on the eastern side of the EMR in Wicklow, Kildare, Meath and Fingal, principally serving construction sites in the GDA. Twelve of the facilities currently hold a valid waste licence and have been authorised by the EPA. As outlined in the Construction & Demolition Waste – Soil and Stone Recovery / Disposal Capacity - Updated Report 2020, two of the licensed sites, namely Fassaroe Waste Recovery Facility and Murphy Concrete closed in 2017 / 2018 and are listed as being inactive. There are three facilities in Fingal and five facilities in Meath. As outlined in the Draft National Waste Management Plan for a Circular Economy (RWMPO 2023), there is significant capacity remaining at consented SRFs.

The Construction & Demolition Waste – Soil and Stone Recovery / Disposal Capacity - Updated Report 2020 outlined that the licensed SRF capacities are the most significant in terms of available capacity serving the EMR. The EMR's current active and available annual licenced market capacity is 2.4 million tonnes. The Construction & Demolition Waste – Soil and Stone Recovery / Disposal Capacity - Updated Report 2020 stated that waste licence facilities in the EMR are of the scale required by the market, with six of the 10 licensed sites having an annual capacity of 300,000 tonnes or more and one facility is licenced to accept 1.5 million tonnes of soil waste each year. However, the situation is fluid, with facilities being developed. In July 2020, there were three licence applications for new facilities in the EMR and six facilities which have been granted licences but had yet to commence activity. The combined capacity of the un-commenced facilities is 1.5 million tonnes per annum. These large-scale facilities offer certainty to market operators. A healthy supply of licensed capacity for soil wastes is required to support the expected growth in construction activities in the EMR in the long-term.

The locations of active SRFs, relevant to the Proposed Project, are shown in Figure 20.1 (Location of Active Facilities in the Study Area) in Volume 5A of this EIAR Addendum. The details of these facilities are presented in Table 20.4.

Table 20.4: Licensed Capacity at SRFs in the Region

SRF Name	Waste Licence Reg. No.	Annual Authorised Intake (Tonnes)	Remaining Capacity (Tonnes) at End of 2020	Expected Closure (Year)	Status 2020
Ballinderry GCHL Limited	W0298-01	440,00	1,234,335	2026	Application
Blackhall Soil Recovery Facility (Behans Land Restoration Limited)	W0247-01	344,000	122,400	2022	Active
Calary Quarry (Roadstone Limited)	W0293-01	300,000	3,280,000	2040	Authorised - Uncommenced
Clashford Recovery Facilities Limited	W0265-01	170,000	805,200	Unknown	Authorised - Uncommenced
Fassaroe Waste Recovery Facility	W0269-01	550,000	0	2017	Inactive
GLV Bay Lane Limited	W0301-01	532,833	1,332,084	2023	Application
Huntstown Inert Waste Recovery Facility	W0277-01	1,500,000	2,555,600	2051	Active
Kieman Sand & Gravel Limited	W0262-01	167,400	938,100	2027	Active
Kildare Sand & Gravel Limited - Boherkill	W0295-01	225,000	1,500,000	2029	Authorised - Uncommenced
Kilsaran Concrete - Halwerstown	W0300-01	300,000	1,200,000	2025	Application
Kilsaran Concrete - Tullykane	W0296-01	400,000	5,600,000	2033	Authorised – Uncommenced
Milverton Waste Recovery Facility	W0272-01	400,000	1,886,795	2025	Active
Mullaghcrone Quarry (Roadstone)	W0278-01	100,000	1,800,000	Unknown	Authorised – Uncommenced

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SRF Name	Waste Licence Reg. No.	Annual Authorised Intake (Tonnes)	Remaining Capacity (Tonnes) at End of 2020	Expected Closure (Year)	Status 2020
Murphy Concrete Manufacturing Limited	W0151-01	738,000	0	2018	Inactive
N&C Enterprises Limited	W0292-01	345,000	1,500,000	2031	Authorised – Uncommenced
Total (Authorised on Paper) (t)		5,239,400	19,988,095		
Total (Active)		2,411,400	5,502,895		

There are a number of non-hazardous municipal landfill sites in the EMR which have an ongoing requirement for soil and stone material for daily cover, capping and other remediation activities at the sites. The details of these facilities are presented in Table 20.5.

Table 20.5: Licensed Capacity at Active Landfills for Inert C&D Waste

Landfill Facility Name	Industrial Emissions Licence Reg. No.	Licensed Limitation for Acceptance of C&D Waste at Active Sites (Tonnes Per Annum)	Status 2022
Drehid Waste Management Facility	W0201-03	No limit for inert waste where used in landfill engineering	Active
Knockharley Residual Landfill	W0146-02	25,000 construction & demolition waste 70,000 inert waste	Active
Ballynagran Residual Landfill	W0165-02	28,000 construction & demolition waste	Active

As outlined in Table 20.5, there is no limit on the volume of inert waste accepted at the Drehid Waste Management Facility where it is used in landfill engineering. According to the most recent Annual Environmental Report for the Drehid Waste Management Facility (EPA 2023c), some 312,527 tonnes of inert waste was accepted for such purposes in 2021.

There are also a number of materials recovery facilities / waste transfer stations in operation in the EMR, which are suitable for the acceptance of C&D wastes, should they be required. The locations of the facilities relevant to the Proposed Project are shown in Figure 20.1 (Location of Active Facilities in the Study Area) in Volume 5A of this EIAR Addendum. The details of these facilities are presented in Table 20.6.

Table 20.6: Licensed Capacity at Active Materials Recovery Facilities / Waste Transfer Stations

Waste Transfer Station Name	Industrial Emissions Licence Reg. No.	Licensed Limitation for Acceptance of C&D Waste at Active Sites (Tonnes Per Annum) at End of 2022	Status 2022
Starrus Eco Holdings Limited – Bray Depot, Fassaroe, Co. Wicklow	W0053-03	54,040	Active
Starrus Eco Holdings Ltd – Rathdrinagh, Beauparc, Navan	W0140-04	120,000	Active
Green Circular Economy – Crag Avenue, Clondalkin	W0205-01	30,000	Active
Thorntons Recycling Centre – Dunboyne	W0206-01	28,020	Active
Starrus Eco Holdings Ltd – Cappagh Road Finglas	W0261-02	40,000	Active
Total		272,060	

20.4 Impact of the Proposed Project – Construction Phase

20.4.1 Sources and Types of Waste

Following review of the updated Proposed Project elements, as presented in Section 20.1, there are no changes to the sources and types of wastes that will arise during the Construction Phase presented in this Section of the EIAR in the 2018 planning application. Therefore, no changes are required to this Section.

20.4.2 General Construction Waste

Following review of the updated Proposed Project elements, as presented in Section 20.1, there are no changes to the general construction waste types, as presented in this Section of the EIAR in the 2018 planning application.

There will be a marginal increase in the volume of material excavated for the inclusion of the UV treatment unit and the 4m extension to the River Mayne Culvert on the proposed access road to the WwTP. The additional excavated material will amount to an increase of approximately 290m³ (metres cubed) above the estimated 270,950m³ reported in the 2018 planning application. This material will be included in the proposed landscaping berm surrounding the proposed WwTP (subject to appropriate testing to confirm its suitability).

As with the original 2018 application, the majority of waste generated by the construction of the proposed WwTP will be topsoil, subsoil and stone waste as a result of levelling and excavation for the construction of buildings, tanks and pipework. Approximately 271,240m³ of material will be excavated during the construction of the proposed WwTP. Of this quantity, 222,690m³ will be reused in the construction of the landscaping berm around the proposed WwTP. Therefore, there will be approximately 48,550m³ of excess material arising from the construction of the proposed WwTP (unchanged from the volume reported in the 2018 planning application), as shown in Table 20.7.

Table 20.7: Surplus Materials from Construction of the Proposed WwTP

Description	Expected Excavation Volume	Volume Required for Berm	Expected Surplus Material
Proposed WwTP	271,240m ³	222,690m ³	48,550m ³

Any suitable material will be reused as backfill and for reinstatement at the site and topsoil will be reused for landscaping purposes at the site (subject to appropriate testing to confirm its suitability). Excess material will be processed in a manner that follows the waste hierarchy, as described in Section 20.4.2 of Chapter 20 (Waste) in Volume 3 Part A of the EIAR in the 2018 planning application. The preference will be to reuse the material where possible, with disposal being the least preferred option.

20.4.3 Summary of Construction Phase Impacts

As with the original 2018 application, the majority of excess material generated throughout the Proposed Project will be soil, clay and rock as a result of excavation. Where possible, materials will be reused on-site.

It is estimated that there will be approximately 220,400m³ of surplus material generated (unchanged from the volume reported in the 2018 planning application), a breakdown of which is shown in Table 20.8.

Surplus material arising will be excess excavated material where the pipe, bedding and surround are placed. It will be dealt with in accordance with the waste hierarchy and the relevant legislation. Currently, 95% of equivalent material is recovered in Ireland, and it will be a condition of the contract(s) awarded, that waste recovery or reuse will be required, wherever possible. As required in the new Waste Action Plan (DCCAE 2020), there will be a strong focus on Article 27 and the end-of-waste decision-making process throughout the Construction Phase of the Proposed Project.

As with the original 2018 application, the transportation of waste materials from the various working areas to the receiving facilities will impact on the traffic in the surrounding area. The updated potential impacts on traffic and the mitigation measures considered are outlined in more detail in Chapter 13A (Traffic and Transport) in

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Volume 3A Part A of this EIAR Addendum, which assumes the worst-case scenario, in which the waste hierarchy is not observed and all surplus material is transported off site to waste disposal / recovery facilities.

Table 20.8: Total Surplus Material Generated (Unchanged from Volumes Reported in the 2018 Planning Application)

Proposed Project Element	Expected Surplus Material
Proposed orbital sewer route	100,600m ³
Proposed Abbotstown pumping station	9,050m ³
Proposed WwTP	48,550m ³
Proposed outfall pipeline route (land based section)	49,200m ³
Proposed outfall pipeline route (marine section)	8,500m ³
Proposed North Fringe Sewer (NFS) diversion sewer	4,500m ³
Total	220,400m³

Following analysis of the current waste environment, based on the most recent waste statistics, it has been determined that there is sufficient capacity available for the recovery and disposal of the C&D waste that will be generated as a result of the Proposed Project. The total surplus volume of waste generated of approximately 220,400m³ is equivalent to approximately 474,400 tonnes. Should the worst-case scenario occur, and all inert surplus materials were sent to waste disposal / recovery facilities, there is sufficient capacity available at SRFs in the area, as shown in Table 20.4. There is also capacity available at landfill facilities and at waste transfer stations in the area, as highlighted in Table 20.5 and Table 20.6. The Drehid Waste Management Facility also has no limit on the acceptance of inert waste materials for use in landfill engineering. These facilities will be more than sufficient to accommodate the excess material. There is also the possibility of contacting nearby sites requiring fill / capping material to investigate reuse opportunities for the surplus materials in accordance with Article 27 of the 2020 Waste Regulations, subject to EPA approval.

A breakdown of the updated excavated materials (marginal increase of 290m³ at the proposed WwTP from the volume reported in the 2018 planning application) and surplus materials (unchanged from the volume reported in the 2018 planning application as the additional 290m³ will be used in the landscape berm) arising from the Proposed Project is provided in Table 20.9.

Table 20.9: Breakdown of Excavated Materials and Surplus Materials Arising from the Proposed Project

	Proposed Orbital Sewer Route (Blanch. to Proposed WwTP)	Proposed Abbotstown Pumping Station	Proposed WwTP	Proposed Outfall Pipeline Route (Land Based Section)	Proposed Outfall Pipeline Route (Marine Section) – Tunnel	Proposed Outfall Pipeline Route (Marine Section) – Subsea	Proposed NFS Diversion Sewer	Total
Quantity of excavated material (m ³)	251,500	9,050	271,240 (+290)	123,000	17,000	688,625	11,250	1,371,665
Quantity of surplus excavated material (m ³)	100,600	9,050	48,550	49,200	8,500	-	4,500	220,400
Quantity of topsoil stripped for reuse – 0.3m over 40m construction width (m ³)	181,810	1,180	88,100	64,550	-	-	7,200	342,840

20.4.4 Predicted Impacts

Following a review of the updated Proposed Project elements, as presented in Section 20.1, given the marginal increase in the volume of material excavated at the proposed WwTP, which will be reused in the landscape berm (subject to appropriate testing to confirm its suitability), and the current availability of waste recovery / disposal facilities, there are no changes to this Section of the EIAR since the 2018 planning application.

Additionally, the changes in legislation, policy and best practice detailed in Section 20.2.1 do not necessitate any change in the assessment. As with the original 2018 planning application, the majority of excess material generated throughout the Proposed Project will be soil, clay and rock as a result of excavation. Where possible, as was previously proposed in the EIAR in the 2018 application, these materials will be reused on-site. This is entirely in keeping with new policy requirements which seek to minimise the volume of waste being generated and that materials should be reused where possible.

Surplus material arising, namely the excess excavated material, will be dealt with in accordance with the waste hierarchy and the relevant legislation. Currently, 95% of equivalent material is recovered in Ireland, and as previously proposed in the EIAR in the 2018 planning application, it will be a condition of the contract(s) awarded that waste recovery or reuse will be required, wherever possible. As required in the new Waste Action Plan (DCCAIE 2020) and in the Draft National Waste Management Plan for a Circular Economy (RWMPO 2023), there will be a strong focus on Article 27 and the end-of-waste decision-making process throughout the Construction Phase of the Proposed Project.

The use of Article 27 had previously been provided for in the 2018 planning application which included for *'the possibility of contacting nearby sites requiring fill/capping material to investigate reuse opportunities for the surplus materials in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011), subject to EPA approval'*.

As previously noted, the updated waste impact assessment of the proposed RBSF is addressed in Section 7A in Volume 4A Part A, and Appendix 7A in Volume 4A Part B of this EIAR Addendum, respectively.

20.5 Impact of the Proposed Project – Operational Phase

20.5.1 Sources of Waste

Since the submission of the 2018 planning application, the only additional source of waste during the Operational Phase of the Proposed Project will be from the general operation of the UV treatment unit at the proposed WwTP. The only operations associated with UV treatment are periodic cleaning of the lamps and replacement of the lamps. The cleaning operation would not generate any appreciable volume of waste. In terms of replacement, lamps would typically be replaced anywhere from 6,000 to 12,000 hours, but most commonly at 9,000 hours. The mercury element of the lamps is small and can be removed as hazardous waste, allowing the quartz lamp to be recycled as a non-hazardous waste, in the same way as fluorescent bulbs.

There are no other additional changes to the information presented in this Section of the EIAR in the 2018 planning application.

20.5.2 Predicted Impacts

Following a review of the updated Proposed Project elements, as presented in Section 20.1, the operation of the UV treatment unit would be the only additional source of Operational Phase waste. However, this will be minor in the overall context of waste generated. There are therefore no changes to this Section of the EIAR since the 2018 planning application.

20.6 Mitigation Measures

The updates to the Proposed Project elements were assessed and deemed not to result in any materially additional impacts, above those identified in the original Chapter 20 (Waste) included in Volume 3 Part A of the EIAR in the 2018 planning application. As such, aside from the requirements in the new Waste Action Plan (DCCAIE 2020) and the Draft National Waste Management Plan (RWMPO 2023) for a strong focus on Article 27 and the end-of-waste decision-making process throughout the Construction Phase of the Proposed Project, there are no further requirements to update the mitigation measures presented in this Section of the EIAR in the 2018 planning application as a result of the changes in legislation, policy and best practice. Therefore,

there are no further changes to the information presented in this Section of the EIAR in the 2018 planning application.

20.7 Residual Impacts

The updates to the Proposed Project elements were assessed and deemed not to result in any additional impacts, above those identified in the original Chapter 20 (Waste) included in Volume 3 Part A of the EIAR in the 2018 planning application. The residual impacts therefore remain, as presented in the original Chapter 20 (Waste) in Volume 3 Part A of the EIAR in the 2018 planning application. As a result, there are no changes to the information presented in this Section of the EIAR in the 2018 planning application.

20.8 Difficulties Encountered in Compiling Required Information

No difficulties were encountered when compiling information for this Addendum Chapter.

20.9 Conclusion

This Addendum Chapter has considered all updates to elements of the Proposed Project, updates to the baseline environment, and updates to legislation, policy and best practice guidelines since the 2018 planning application submission.

As with the original 2018 application, the excess material will be reused on-site where possible, which is entirely in keeping with new policy requirements which seek to minimise the volume of waste being generated and that materials should be reused where possible. Surplus material arising, namely the excess excavated material, will be dealt with in accordance with the waste hierarchy and the relevant legislation, and as previously proposed in the 2018 planning application, it will be a condition of the contract(s) awarded that waste recovery or reuse will be required, wherever possible. As required in the new Waste Action Plan (DCCA 2020), there will be a strong focus on Article 27 and the end-of-waste decision-making process throughout the Construction Phase of the Proposed Project which was a process previously included for in the 2018 planning application. The above measures are also reflective of the ambitions, targets and policies set out in the first National Waste Management Plan for a Circular Economy (RWMPO 2023), a draft of which was published for consultation in May 2023. Following consideration, there are no changes to the assessment of waste as a result of any of the updates discussed in this Addendum Chapter.

20.10 References

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Uisce Éireann (2021). National Water Resources Plan – Framework Plan

Directives and Legislation

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste

Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of life vehicles

Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (as amended)

Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment

Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment

Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste

S.I. No. 126/2011 - European Communities (Waste Directive) Regulations 2011

S.I. No. 323/2020 – European Union (Waste Directive) Regulations 2020

Number 26 of 2022 - Circular Economy and Miscellaneous Provisions Act 2022

Planning and Development Act 2000 (as amended)