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Making Sustainability Happen

INTRODUCTION

Background

- 3.1 This Chapter of the Environmental Impact Assessment Report (EIAR) addresses the topic of Alternatives in relation to the proposed establishment and operation of a materials recovery / recycling facility and inert landfill on a site of 32.6 hectares at Ballinclare Quarry, Kilbride, Co. Wicklow which comprises three key elements
 - a soil washing plant to win aggregate from imported soil and stone;
 - a construction and demolition (C&D) waste recycling facility to produce aggregate from construction and demolition waste (principally concrete); and
 - an engineered (i.e. lined) landfill to facilitate backfilling and restoration of the existing quarry void with inert waste (principally soil and stone).
- 3.2 The planning application site, hereafter referred to as the application site or the site, is located approximately 2.5km to the north-west of the small settlement of Kilbride and c. 2.5 km south of the village of Glenealy. The larger settlements of Rathdrum and Wicklow town are located 5.5 km to the west and 6 km to the north-east, respectively. The M11 motorway runs in a north-south direction c. 400 m to the east of the site.
- 3.3 The application site comprises a large disused quarry void, a former processing area in the south-eastern corner of the site and a concrete paved area to the west of the site access road, some areas of grassland and scrub (within which settlement ponds are located) as well as substantial tree belts surrounding the site.
- 3.4 The proposed development at Ballinclare Quarry provides for the provides for the importation, re-use, recovery and/or disposal of a range of inert wastes generated by construction and development projects in Counties Wicklow, Dublin and Wexford as well as the re-use of excess, non-waste by-product materials (principally uncontaminated soil and stone).
- 3.5 The proposed soil wash plant will be set up and operated at the former concrete / asphalt production yard in the south-eastern corner of the application site. This plant will principally recover sand and gravel and recycled (secondary) aggregates from more granular soil intake and claybound C&D materials. Aggregates will be won from imported non-waste by-product as well as from inert waste materials.
- 3.6 The proposed construction and demolition (C&D) waste recovery facility will be set up and operated across the existing paved area to the west of the existing site access road. The principal wastes to be recycled at this facility will include concrete (ready-mixed, reinforced, blocks and/or pavement slabs), bricks and bituminous mixtures (hardened asphalt returns and road planings).
- 3.7 All aggregates from waste will be of construction grade and will comply with an engineering specification and the End of Waste criteria for recycled aggregates recently published by the EPA.
- 3.8 It is proposed to backfill the existing quarry to original / surrounding ground level by importing and placing inert waste, principally soil and stone, in a lined landfill facility and in so doing, re-establish the original landform which existed prior to quarrying. The landfilling and restoration activities will be undertaken on an ongoing, progressive basis and on completion, the final landform will be restored to a native woodland habitat.
- 3.9 As part of the proposed development, suitable uncontaminated, undisturbed, natural soil waste and/or soil by-product (i.e. non-waste) which conforms to an engineering specification will be imported for re-use in the construction of the basal and side clay liners required for the inert landfill.



- 3.10 Some uncontaminated topsoil waste and/or topsoil by-product will also be imported for use in the final restoration of the backfilled landform. Topsoil will be temporarily stockpiled at the landfill facility as required, pending its re-use as cover material.
- 3.11 The proposed maximum intake rate of soil and stone (waste and by-product) for aggregate processing / recovery / recycling and landfilling / disposal is 550,000 tonnes per annum. The maximum rate of C&D waste recovery is 50,000 tonnes per annum. At a maximum combined intake rate of 600,000 tonnes per annum, activities will generate an average of approximately 9 to 10 HGV return trips per hour every working day.
- 3.12 The development proposal provides for the routing of all traffic to and from the proposed development along the L1157 Local Road. It also includes provision for a comprehensive road improvement scheme along the entire length of the L1157 leading up to the application site, including road widening to 6.0m everywhere along its length, with road strengthening and repair overlay and road markings where required.
- 3.13 Under the routing proposal, the majority of the HGVs travelling to the proposed development from Dublin and North Wicklow will use the M11 Motorway, exiting at Junction 18 and joining the R772 Regional Road southbound. After travelling south for approximately 4km, traffic heading for the facility will turn right, off the R772, and onto the L1157 at the ghost island junction beside the Junction 18 Café and Green Angel Skincare premises at Kilbride. The access junction to the quarry and proposed development is located along the L1157, approximately 2km north-west of the R772 junction.
- 3.14 It is estimated that only a minor proportion of HGV traffic will arrive from the direction of Arklow and North Wexford. This traffic will use the M11 Motorway, exiting at Junction 19 to turn onto the R772 Regional Road at Jack Whites Pub. It will then travel north for approximately 5km, turn left off the R772 and onto the L1157, and continue thereafter up to the quarry and proposed development.
- 3.15 The proposed haul route requires all HGV traffic departing the proposed facility to turn left and follow the upgraded L1157 back to the junction with the R772 Regional Road, and from there continue toward the national motorway network.
- 3.16 The development and operation of an inert lined landfill to facilitate the backfilling and restoration of the quarry means that the development will be classified as an inert waste disposal facility and as such, in addition to planning permission, it will also require a waste licence from the Environmental Protection Agency (EPA).
- 3.17 Further details on the proposed development (site infrastructure, operations, environmental management systems, and controls etc.) are provided in Chapter 2 of this EIAR.

Scope of Work / EIA Scoping

3.18 In relation to consideration of alternatives the DoHPLG (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment state:

"4.12 The Directive requires that information provided by the developer in an EIAR shall include a description of the reasonable alternatives studied by the developer. These are reasonable alternatives which are relevant to the project and its specific characteristics. The developer must include the main reasons for the option chosen taking into account the effects of the project on the environment.

4.13 Reasonable alternatives may relate to matters such as project design, technology, location, size and scale. The type of alternatives will depend on the nature of the project proposed and the characteristics of the receiving environment. For example, some projects may be site specific so consideration of alternatives may not be relevant."



Consultations / Consultees

3.19 No consultations were undertaken specifically for the purposes of preparing this Chapter of the EIA, it is informed by informal discussions held between Kilsaran, SLR and feedback provided by officials from the Eastern Midlands Regional Waste Management Office in response to pre-planning briefing submission provided to it in July 2024.

Contributors / Author(s)

3.20 This Chapter of the EIAR was prepared by Derek Luby (BE MSc. DIC MIEI), a civil engineer and Technical Director with SLR Consulting Ireland. Derek is a technical, planning and environmental advisor on minerals and waste development. He has previously been responsible for the scoping, preparation and submission of numerous EIAs for development of soil recovery / C&D waste recovery facilities.

Difficulties Encountered

3.21 No limitation or difficulties were encountered in the preparation of this Chapter of the EIAR.

NEED FOR THE DEVELOPMENT

- 3.22 Kilsaran's principal business interest is in quarrying, production of aggregate and construction fill and manufacture of building materials and products. In recent years, it has made beneficial use of excess soil and stone waste generated by construction activity to backfill and restore a number of its larger worked-out pits and quarries under the EPA waste licencing regime.
- 3.23 At the present time, Kilsaran operates an EPA licensed inert soil recovery facility at a former hard rock quarry at Kilmessan in Co. Meath (Waste Licence Ref. No W0296-01) and at a former sand and gravel pit at Halverstown in Co. Kildare (Waste Licence Ref. No. W0300-01).
- 3.24 The former hard rock quarry at Ballinclare has been identified as a suitable site for the proposed development of a construction materials recovery / recycling facility and inert landfill which will provide for the intake and management of inert wastes generated by construction and development activity, both in the local area and across the wider Greater Dublin Area.
- 3.25 The application site is considered to be particularly suited for such development given its proximity to the M11 Motorway and R772 Regional Road (the former N11 National Primary Road) and in view of former / permitted traffic levels across the local road network (generated by extraction / materials production activities at the quarry). It is further considered that the pre-existing land-use, development history and existing on-site infrastructure also create a strong precedent in favour of the proposed development.
- 3.26 The opportunity to re-use / recover / recycle both inert soil and stone and inert C&D waste and to achieve beneficial outcomes by
 - (i) producing construction grade aggregates from new sources and
 - (ii) substantially backfilling and restoring a former quarry to its former landform at the application site

arises as a result of a significant increase in the volume of such materials being generated by increased levels of construction and development activity in recent years across the Greater Dublin Area, particularly across South Dubin and much of east County Wicklow. The increased volume of activity has generated increased demand for waste outlets which can accept inert soil and stone waste both for recovery / recycling and for disposal purposes.



Waste Policy

Eastern Midland Regional Waste Management Plan (2015-2021)

- 3.27 Wicklow is one of several counties in the Eastern Midland waste region of Ireland which was covered by the Eastern Midlands Region Waste Management Plan (EMRWMP, 2015-2021) which was published by Dublin City Council (the lead Local Authority for the plan) in May 2015. This plan remained in force until very recently, having only been superseded by the *National Waste Management Plan for a Circular Economy 2024 2030* in March 2024.
- 3.28 Construction and demolition waste, the bulk of which (70% to 80%) is comprised of soil and stone waste, is identified as a priority waste stream in Chapter 11 of the former EMRWMP. At the time the plan was prepared around 2014 / 2015, much C&D waste (including that such as concrete and bituminous waste) was being used for '*land improvement*' or '*reclamation*' works rather than for more beneficial backfilling and infilling purposes, and extracts from the plan referenced below should be read in that context.
- 3.29 Section 7.3 of the former EMRWMP addressed 'priority waste' streams, including construction and demolition (C&D) waste. It noted an increase in construction related activity during 2014 and emphasised the importance of ensuring that appropriate processing facilities were in place to facilitate increased reuse, recycling, and recovery of all C&D waste streams.
- 3.30 Section 11.2.2 of the former plan stated that 'given the sharp decrease in the number of operational landfills nationally, which have been a significant outlet for C&D waste in the past, alternative recovery options will be required to facilitate the recovery of C&D waste arising in future years'. The plan was however silent about who specifically should be responsible for providing alternative waste outlets / capacity or where these recovery facilities should be located.
- 3.31 The former EMRWMP highlighted that a number of pre-existing or previously authorised C&D (construction and demolition) waste recovery facilities (which included soil recovery facilities), would if re-assessed today, be considered unsuitable for backfilling / infilling activities. Section 11.2.2 of the plan stated that '*Many sites selected for infill facilities are considered marginal agricultural land and may include wetland habitats or lands subject to flooding. There is an increasing recognition of the potential ecological and biodiversity value of these wetland sites. There is also a sense that at many of these sites, the deposition of waste material rather than improvement or development of the land was the primary purpose of the activity.'*
- 3.32 The former EMRWMP addressed future waste management requirements for C&D waste and highlighted that 'Concrete, stone and other masonry-type waste can be crushed and screened as a substitute for virgin quarried stone material in a variety of engineering applications if the appropriate technical criteria have been met, e.g. road construction, access tracks for agricultural or forestry holdings'.
- 3.33 The former plan also highlighted the suitability of former extraction sites for soil / C&D waste recovery activities, noting specifically that '*Quarries also frequently require large quantities of soil material to fill voids, and for other remediation and landscaping applications.*'
- 3.34 The following policies were outlined in Section 16.4.4 of the former plan, specifically in respect of soil recovery / backfilling:
 - 'Policy E13 Future authorisations by local authorities, the EPA and An Bord Pleanála must take account of the scale and availability of existing back filling capacity'.



- 'Policy E14 The local authorities will co-ordinate the future authorisations of backfilling sites in the region to ensure balanced development serves local and regional needs with a preference for large restoration sites ahead of smaller scale sites with shorter life spans. All proposed sites for backfilling activities must comply with environmental protection criteria set out in the plan'.
- 3.35 It is noted that the proposed development at Ballinclare Quarry, and specifically the inert landfill element, fully aligns with the policy preferences of the former EMRWMP to manage excess soil and stone waste by
 - (i) using it for backfilling and restoration purposes
 - (ii) locating it at a quarry / extractive site
 - (iii) locating it at a site with a large intake capacity with longer development life span.

By these criteria, it is likely that the application site would have been among one of the more suitable locations at which to develop such a large-scale recovery / disposal facility.

Waste Action Plan for Circular Economy

- 3.36 The Government's national waste policy for the period out to 2025 titled 'A Waste Action Plan for a Circular Economy' was published in September 2020. Across all waste streams, including construction and demolition (C&D) waste, the policy document looks to:
 - shift the focus away from waste disposal and treatment (at the lowest tier of the waste hierarchy);
 - promote waste avoidance and prevention (at the highest tier of the waste hierarchy), particularly at earlier stages in the production cycle;
 - develop a circular economy where waste is re-purposed as a resource; and
 - ensure that excess or previously unwanted materials or products remain in productive use for longer.
- 3.37 The policy document identifies a number of specific challenges around the management of C&D waste in the construction and development sector which need to be addressed and overcome in the years ahead including the need to:
 - Promote waste prevention in the first instance.
 - Follow best available techniques.
 - Expand the range and use of recycled products.
 - Create a market demand for recycled products.
- 3.38 In Chapter 11, the plan references the major construction projects envisaged under Project Ireland 2040 and the huge potential they provide in terms of preventing and recycling of C&D waste and the challenge in ensuring there is capacity to manage the waste generated. The policy document specifically states that *'it is vital that there is sufficient capacity for the recovery and/or disposal of the envisaged increased construction and demolition waste*'.
- 3.39 In Chapter 13, the policy addresses the delivery of indigenous waste management capacity and in discussing challenges around this topic states:

'The primary objective here is to support the development – for environmental and economic reasons – of the adequate and appropriate treatment capacity at indigenous facilities to ensure that the full circularity and resource potential of materials is captured in Ireland. Adequate in this sense refers to volume, while appropriate here relates to where a treatment process sits in the waste hierarchy. While the move away from disposal and increased use of recovery has helped Ireland in realising our EU targets, we need to drive on and move up the waste hierarchy with reducing reliance on recovery over the medium term.'



- 3.40 The national waste plan also identifies that one of the key challenges for the construction industry in the years ahead is to expand the range and use of recycled products in the sector. The proposed development at Ballinclare Quarry is consistent with the stated aims of national waste policy in respect of C&D waste streams in that it
 - o promotes and supports the development of the circular economy;
 - provides the capacity required to recover and/or dispose of the increased volumes of C&D waste which will be generated by the construction sector in the future; and
 - ensures that there will be a range of waste management options available to industry stakeholders which will allow excess soil and C&D wastes to be directed to the highest tier of the waste hierarchy.
- 3.41 As well as providing an outlet for inert soil and stone waste and/or residual particulate waste which cannot otherwise be re-used or recovered, and the filter cake materials produced by the proposed on-site soil washing plant in particular, the inert landfill facility will also contribute to a minor local positive impact in facilitating the backfilling of a former quarry void and its long-term restoration to a woodland habitat.
- 3.42 As an established supplier of construction materials, Kilsaran also considers that the proposed development of C&D waste and aggregate recovery activities at Ballinclare Quarry will
 - provide it with an opportunity to establish itself in the emerging market for recycled construction products and recycled aggregates in particular;
 - be complementary to its existing aggregate business, with aggregate recovered from the soil washing plant providing it with additional (replacement) source of sand and gravel materials for use at its concrete production plants;
 - conserve natural resources and in so doing enhance the sustainability of its activities within the construction materials sector; and
 - allow it to establish its credentials as a leader and innovator in the development of a circular economy and beneficial use of construction and demolition waste.

National Waste Management Plan for a Circular Economy

- 3.43 The Waste Management Act 1996 requires Local Authorities to make a waste management plan either individually or collectively for their functional areas. The Regional Waste Management Planning Offices, under the auspices of the County and City Management Association National Oversight Group, have recently co-ordinated the preparation of a new national waste plan, titled the *National Waste Management Plan for a Circular Economy*.
- 3.44 This plan, published in March 2024, sets out a framework for the prevention and management of waste across the entire State for the period 2024 to 2030 and, in this region, supersedes the Eastern Midlands Regional Waste Management Plan 2015-2021.
- 3.45 The Circular Economy Act 2022 is supported by a wider circular policy base which establishes the framework for the national transition to a circular economy. The role of the waste and resource sector is central to this transition and the *National Waste Management Plan for a Circular Economy* (the 'Plan') provides a framework which supports this national objective and outlines a strategy to achieve it.
- 3.46 The Plan was prepared on foot of a two-year engagement and collaboration with key stakeholders and interested parties. Responsibility for key deliverables, which will drive the success of the plan has been allocated to the Local Authority Sector, the Department of the Environment, Climate and Communications and the Environmental Protection Agency.



- 3.47 Within the plan, there are a number of 'Material Stream Focus Areas'. Focus Area 8 looks at Construction and Demolition Waste and identifies prescribed policies and priority actions. These policies and actions presented include measures to mitigate consumption, improve circular systems and to promote better regulation. The stated aim of these policies set out is "*To support national decisions for C&D waste and promote EPA Best Practice Guidelines for Construction & Demolition Projects*".
- 3.48 Some of the policies set out in the plan of particular relevance for this application are:
 - **Targeted Policy 8.1** "Prioritise waste prevention and circularity in the construction and demolition sector to reduce the resources that need to be captured as waste".
 - **Targeted Policy 8.3** "Incorporation of the EPA Best Practice Guidelines for the preparation of Resource and Waste Management Plans for Construction and Demolition Projects and NWPS Soil and Spoil Action Plans and monitoring by Local Authorities of the application of these requirements."
 - **Priority Action (Responsibility) 8.3 (EPA / LAs)** "Develop and deliver training, with the EPA, to support national decisions on Article 27 by-products for road plannings 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."
 - **Targeted Policy 14.3** "Monitor Soil Recovery Facility capacity in the market to ensure adequate and appropriate authorisations are in place, in each region, to satisfy the need for soil recovery capacity."
- 3.49 It is considered that the proposed development supports the attainment of the goals and objectives identified in the *Waste Action Plan for a Circular Economy and the National Waste Management Plan for a Circular Economy 2024-2030* in respect of the construction and development sector specifically, by
 - supporting prevention of waste by providing an outlet for excess soil and stone (and other material) which is classified as (non-waste) by-product;
 - promoting better resource management and circularity whereby resources and materials are no longer discarded, but put to practical and beneficial use;
 - meeting emerging market demand for increased capacity within the circular economy as described above; and
 - providing an outlet and waste management solution for residual materials which cannot ultimately be recycled or recovered and must be disposed of. At the proposed development, this activity, although it is at the lowest tier of the waste hierarchy, will still achieve a beneficial end-use through the backfill and restoration of the former quarry void.

Regulatory Change – Brownfield Soil and Stone

- 3.50 In January 2020, the EPA published new guidance on acceptance criteria for soil and stone intake at authorised soil waste recovery facilities which do not have a basal or side liner to provide protection to surrounding groundwater aquifers. When implemented, the practical effect of the new EPA guidelines will be to impose tighter limits on the concentrations of potential contaminants in soil and stone which may be accepted for intake and recovery at existing authorised soil waste recovery facilities.
- 3.51 The EPA guidance has a particular impact on soil and stone waste generated by development and excavation activities at non-greenfield (or 'brownfield') development sites as they are more likely to exhibit some low-level impact or degradation by historical activities, resulting in the presence of low-level concentrations of potential contaminants



such as fuel / mineral oil or trace quantities of combustion products (such as polyaromatic hydrocarbons, PAH's).

- 3.52 Prior to the introduction of the EPA Guidelines, and in the absence of any other reference criteria, the established practice in Ireland was to classify many of these soils as inert by screening contaminant concentrations against the inert waste acceptance criteria set out in Council Decision 2003/33/EC. As these criteria allow waste materials with low level concentrations of metals and organic contaminants from non-greenfield sites to be classified inert, soil and stone from many non-greenfield sites had, until then, been deemed in practice to be acceptable for recovery at unlined soil recovery facilities.
- 3.53 With the implementation and roll-out of the new EPA acceptance criteria at soil recovery facilities in recent years, significant volumes of soil and stone waste which have been slightly impacted by prior land use and/or historical activity can no longer be accepted for intake at unlined soil recovery facilities and need to be diverted instead to alternative recovery options (where available) or for disposal at inert lined landfill facilities authorised to accept soil and stone / C&D waste with contaminant concentrations up to the inert waste acceptance limits set by Council Decision 2003/33/EC.
- 3.54 With the expected increase in the re-development of brownfield site in coming years as a result of urban regeneration and the drive to increase residential densities in urban areas, Kilsaran expects that an increased proportion of soil and stone waste generated by construction activities at non-greenfield sites across the Greater Dublin Area will in future need to be diverted to alternative recovery options or for disposal at inert lined landfill facilities and has prepared this proposal in anticipation of an increased demand for such capacity emerging over the next few years.
- 3.55 Although a 2020 report on soil waste recovery / disposal capacity across the Eastern Midland Waste Region indicated that there appeared to be sufficient soil waste recovery capacity available in the Eastern Midlands Waste Management Region, it did not undertake any detailed assessment as to the likely volume of soil and stone which would need to be diverted to alternative recovery options or for disposal inert landfill facilities as a consequence of the EPA guidance on waste acceptance criteria at soil recovery facilities which had only just been published around that time.
- 3.56 The 2020 report indicates that in the latest year for which data is available (2018), a total of 2,789,010 tonnes of soil and stone was accepted and recovered at authorised (i.e. licensed, permitted and registered) soil waste recovery facilities. Although available waste statistics do not differentiate between the proportion of soil and stone waste originating from greenfield and non-greenfield sites, it is considered likely that a high proportion of this waste stream is generated at non-greenfield development sites across the region and that a significant proportion of it needs to be diverted to alternative recovery options or for disposal at inert landfill facilities in view of the more onerous waste intake restrictions which are now applied at unlined soil waste recovery facilities.
- 3.57 This view is supported by the conclusions set out at the end of the 2020 report which noted that 'there is an increasing demand for inert landfill capacity as construction and development at brownfield sites in urban centres increases'.
- 3.58 At the present time, there are only two active inert landfills currently operating in the Eastern Midland Waste Management Region;
 - one operated by Integrated Materials Solutions (IMS) at Hollywood Great, the Naul in North Dublin (Waste Licence Ref W0129-03)
 - another operated by Walshestown Restoration Ltd near Punchestown, Naas, Co. Kildare (Waste Licence Ref. W024-01).



- 3.59 It is notable, that while there are inert landfill facilities to the north and west of Dublin city and the Greater Dublin Area (GDA), there are currently none located to the south of the city. As well as meeting expected future demand arising from diversion of soil and stone from brownfield site development away from soil recovery facilities (due to more onerous intake criteria), it is envisaged that the inert landfill at Ballinclare Quarry will also accommodate expected future growth in demand for disposal capacity rising from increased construction and development activity across southside Dublin and southern parts of the Greater Dublin / Mid-Eastern region.
- 3.60 In view of the limited availability of soil waste recovery capacity to the south of Dublin, Kilsaran also envisages that the proposed development will likely also accept soil and stone waste generated within its catchment area which would otherwise be acceptable at soil recovery facilities. Much of this intake is likely to be processed at the soil washing plant to win construction grade aggregates, though a portion of this intake is likely to be too clayey and may therefore be placed at the inert landfill facility and/or used for general backfilling of the former quarry void instead.

Regulatory Change - National By-product Criteria

- 3.61 In July 2024, the EPA published national by-product criteria (BP-N002/2024)¹, in respect of greenfield soil and stone from undeveloped land, destined for use at another development with granted planning permission or exemption, as an alternative more efficient system to the single case notification system.
- 3.62 This decision establishes a legal framework whereby excess soil and stone from greenfield development sites can be more readily managed outside of the waste management regime by being classified as (non-waste) by-product. The roll-out, adoption and application of these by-product criteria by stakeholders in the construction and development sector will:
 - significantly reduce the volume of material which is generated and managed as waste across the country.
 - ensure that these materials can be more readily re-used for productive purposes (as they will not be tainted or labelled as 'waste' and will be free of the regulatory burden which would otherwise arise were they managed as waste).
 - promote the most favourable option or outcome in the waste hierarchy (i.e. prevention of waste); and
 - promote circularity and the development of the circular economy, in line with public policy which aims to ensure that resources and materials are no longer discarded but put to best practical and beneficial use.
- 3.63 The Circular Economy (Waste Recovery Levy) Regulations (S.I. 441 of 2024) aims to further boost and promote the avoidance of waste and enhance circularity within the construction and development sector by applying a levy (of €10/tonne) to the recovery of soil / C&D wastes from September 2026. Over the immediate short-term, the introduction of this levy is likely to promote increased generation / classification of excess soils (and selected other C&D materials) as non-waste by-product and generate a sharp increase in demand for outlets to accept and manage these materials as by-products.
- 3.64 In view of these recent policy and regulatory developments, it is considered that both the proposed soil washing plant and the requirement for natural soil lining materials at the proposed inert landfill at Ballinclare Quarry will be able to address an imminent need for



¹ EPA National By-Product Criteria : Reference Number: BP-N002/2024 of the 02^{nd} of July 2024 establishing detailed criteria on the application of the conditions of Regulation 27(1)(a) – (d) when making the decision that greenfield soil and stone can be regarded as a by-product under Regulation 27 of the European Union (Waste Directive) Regulations 2011 – 2020.

additional outlets and increased intake capacity for soil (non-waste) by-product generated by construction and development activities at greenfield sites.

Regulatory Change – End of Waste Criteria

- 3.65 The publication by the EPA of a set of nationally applicable End of Waste criteria² in respect of recycled aggregates in October 2023 provided greater end-user certainty and confidence around the status and permitted uses of aggregates recovered by the treatment and/or processing of several prescribed wastes, the bulk of which are generated by construction and demolition (C&D) activities.
- 3.66 As with by-product criteria, the publication End of Waste criteria will promote and drive circularity and the development of the circular economy and ensure that C&D wastes are no longer discarded but re-used and upcycled for higher value uses and applications than they may have been heretofore (in the absence of any definitive regulations or regulatory framework).
- 3.67 The proposed development at Ballinclare Quarry, and specifically the soil washing and C&D waste recovery activities, will provide the additional capacity required to meet the expected increase in demand for such outlets and facilities which will be generated by the recent policy and regulatory change outlined above.

Conclusion

3.68 It is therefore concluded in light of the above that the proposed development of a materials recovery / recycling and inert landfill facility at Ballinclare Quarry is not only justified on the basis of recent policy and regulatory developments promoting circularity and the emergence and development of the circular economy in the construction and development sector in Ireland. Not only is it justified, it is also a necessity to ensure that the policy can be effectively implemented and excess materials (whether managed as waste or by-product) can be directed to the highest tier on the waste hierarchy.

ALTERNATIVE LOCATIONS

- 3.69 It should also be recognised that inert soil and stone / C&D waste recovery / recycling / or disposal typically accept and handle large volume of relatively low value wastes and that transportation and haulage costs account for a significant proportion of overall costs to waste generators, in this instance construction contractors and/or site developers. There is therefore a strategic and commercial value and benefit to locating inert waste management facilities in close proximity both to the markets they serve and to high quality national and/or regional road networks.
- 3.70 From an environmental perspective, proximity to markets also means that there are reduced carbon emissions associated with road haulage of construction and demolition waste to disposal and/or recovery facilities. This accords with the general principles of sustainable development.
- 3.71 In identifying alternative locations for the proposed development, the ability to manage, or provide an outlet for, excess soils from brownfield sites which cannot be readily re-used for engineering purposes or otherwise recovered or recycled is a key consideration. The only option for management of these soils is to dispose of them at an inert landfill facility and for this reason, the provision of such a facility is deemed to be a key requirement when offering an integrated materials / waste management (or 'one-stop- shop') solution to prospective customers in the construction and development sector.



 $^{^2}$ EPA National End-of-Waste Decision EoW-N001/2023 of 12th September 2023 establishing criteria determining when recycled aggregate ceases to be waste under Regulation 28 of the European Union (Waste Directive) Regulations 2011 – 2020

- 3.72 At the current time, much of the soil generated by construction activity in the Greater Dublin Area comprises Black Boulder Clay which if it cannot be re-used for engineering purposes on other development projects, is often too clayey to process for recycled aggregate. At the present time, in this part of the Greater Dublin Area, some of this material is accepted at the nearby landfill facility in Ballynagran, where much of it is used for soil cover or other engineering purposes. More of these materials / wastes are sent to outlets further afield, including soil recovery outlets in Co. Wexford.
- 3.73 Ballynagran landfill will cease waste intake in 2026 and as such, an alternative landfill outlet will be required for such materials / waste after that time. The proposed development seeks to address this requirement by incorporating a landfill element as part of the overall material / waste management offering. This clearly influences (and limits) the alternative options which may be considered when locating the proposed development and the options considered below should be considered in this context.

Development at Greenfield Site

- 3.74 The proposed establishment of a materials recovery / recycling facility and inert landfill at Ballinclare Quarry offers clear environmental and economic advantages relative to any potential greenfield site location across the southern part of the Greater Dublin Area / Mid-Eastern Region (e.g. within an existing natural depression or benched into an existing natural slope).
- 3.75 The proposed backfilling and restoration of the former quarry void at the application site through the development and operation of a lined inert landfill facility and the importation and disposal of inert soil and stone waste, is a logical, progressive evolution from past extractive activities and is also compatible with previously permitted quarry development.
- 3.76 As was the case with the former quarry development, the proposed development will entail handling, processing and transport of construction materials while the activities at the inert landfill activities will essentially comprise handling, placement and transport of naturally occurring geological materials.
- 3.77 The development of an inert landfill at an alternative, greenfield site would not offer any potential for a long-term beneficial outcome, similar to that which will ultimately arise at the application site. On completion, the proposed landfill will substantially reinstate the original (pre-development) landform at the site and restore it to it a native woodland habitat.
- 3.78 Although they may differ slightly, the potential environmental impacts associated with the proposed material recovery / recycling and disposal activities at the application site will essentially be similar in nature to those associated with the past extraction of rock and production of concrete and asphalt at the quarry (specifically in respect of potential dust and noise emissions, potential impacts on surface water / groundwater and traffic related impacts). Likewise, the mitigation measures and environmental controls which will be used to reduce and eliminate these impacts are broadly similar to the best practice measures used in the extractive sector.
- 3.79 Any development of a facility to re-use / recycle / recovery / dispose of excess materials (whether managed as waste or by-product) generated by construction and development activities at a greenfield site would also necessitate significant upfront site development works and associated costs. Given the compatibility with past quarry activities and the fact that much of the necessary site infrastructure is already in place and can continue in service of the proposed development, it will extend the life of pre-existing development, minimise waste, conserve resources and reduce establishment costs. As such, the proposed development will be more in keeping with the principles of sustainable



development and related public policy objectives in respect of the circular economy than the alternative of development at a greenfield site.

3.80 It is considered that the proposed development and operation of materials recovery / recycling facility and inert landfill at Ballinclare Quarry is, subject to implementation of best environmental management practices and compliance with appropriate planning and waste licensing controls more appropriate, more sustainable, less likely to generate significant environmental impacts and less likely to give rise to nuisance complaints than would otherwise be the case were a similar facility located at any alternative 'greenfield' (i.e., previously undeveloped) site location across the Greater Dublin Area.

Development at Alternative Quarry Location

- 3.81 The National Waste Management Plan for a Circular Economy, in Appendix 9, addressing siting of Waste Management Facilities, notes that C&D waste facilities require mechanical processing equipment and machinery to process mixed streams of bulky wastes resulting from construction activities. The plan states that preferred locations for such facilities include closed landfill sites (or sites where previous waste activities occurred) and active / closed / inactive quarries, pits and mines which offer advantages in terms of screening, existing infrastructure and distance from neighbours.
- 3.82 In the overall planning context, given its long-term beneficial impact in restoring a previously disturbed landform to its original ground profile and the reduced short-to-medium term impacts over its operational life, it is considered that the development and operation of a material recovery / recycling facility and inert landfill at a former quarry site is clearly preferable to an alternative 'greenfield' site.
- 3.83 As the former quarry at Ballinclare is located above a poor aquifer which is indicated to be generally unproductive except in local zones (PI), it is amongst one of the most appropriate locations at which an inert landfill facility can be sited as it much less likely than other alternative quarry locations to have any impact on potential groundwater supplies or any connected watercourses or natural habitats.
- 3.84 As previously noted, the application site at Ballinclare Quarry is well served by the existing road access, is strategically located close to the national road network and has a history of comparable traffic generation / local road use associated with previous extractive activities.
- 3.85 The application site around the former quarry is also of a size and scale (particularly with respect to available land and landfill void capacity) to support the considerable capital investment required to establish and operate a materials recovery / recycling facility and an inert landfill facility.
- 3.86 At the present time, having regard to the criteria and policy objectives set out in the former EMRWMP particularly around the suitability of former quarry sites for development of soil and stone / C&D waste recovery facilities, it is considered that there are unlikely to be many other (if any) equally strategically located inactive quarry sites of comparable size and capacity located across the southern part of the Greater Dublin Area AND within (or above) a poor aquifer.

Development at Former Landfill / Mine Sites

- 3.87 Although there are a number of closed landfill facilities in County Wicklow (at Ballymurtagh and Rampere) and former mine workings (at Avoca), these are located in the south-western part of the County and at a greater distance from source sites for soil / C&D wastes generated in and around Dublin City that that at Ballinclare Quarry.
- 3.88 Another factor which mitigates against the siting of the proposed development at these locations is that there is also an existing materials recovery / recycling / landfill facility



located closer to Dublin along the existing N81 corridor which serves this part of Co. Wicklow (at Walshestown in Co. Kildare) and this renders this option less commercially viable or attractive.

Development on Zoned Urban Lands

- 3.89 Another option in locating the proposed development is to locate it, or at least the materials recovery and recycling elements of it (i.e. the soil washing plant and C&D waste recovery facility) on appropriately zoned lands within or on the fringe of built-up urban areas across the Greater Dublin Area. In considering this option, a brief review was undertaken of the current County Development Plans for Wicklow, Dun-Laoghaire Rathdown and South Dublin, the summary findings of which are outlined and discussed below.
- 3.90 The current Wicklow County Development Plan does not provide any specific land use zoning maps or tables and instead restricts these to detailed Local Area Plans (LAPs) produced for local towns and villages. Of the LAPs reviewed for three larger towns, Bray, Wicklow Town – Rathnew (Draft) and Arklow, none include any land zoning which would explicitly accommodate a material recovery / recycling facility of the scale envisaged at Ballinclare Quarry.
- 3.91 Section 13.9.4 of the South Dublin CDP states that waste disposal and recovery facilities should not be located with the M50 and will then only be permitted where they **do not detract** from the land zoning objective and are at a scale appropriate to their surrounding environment and adjoining amenities. Although the land-use zoning tables within the CDP indicate that recycling facilities would be either be *permitted in principle* or are *open for consideration* across several different land zonings (including residential), it is inferred that this refers to bring banks and other similar infrastructure rather than C&D waste recovery or disposal facilities of the nature and scale of that proposed at Ballinclare Quarry. It is concluded that for the most part, given the likely proximity to, and density of, existing or planned future development, a materials recovery / recycling facility of the scale envisaged at Ballinclare Quarry would struggle to demonstrate that it does not detract from the land zoning objective and as such, would most likely fail to secure planning permission.
- 3.92 Similar to the South Dublin CDP, the Dun-Laoghaire Rathdown CDP states in Section 12.9.7 that waste management infrastructure and refuse transfer stations (which within the plan is taken to include materials recovery and recycling facilities) will only be permitted where they **do not detract** from the land zoning objective and are at a scale appropriate to their surrounding environment and adjoining amenities. The land-use zoning tables within the CDP indicate that recycling facilities would be *permitted in principle* on lands zoned for economic development and employment or for warehousing and are open consideration at a number of others. As in South Dublin, it is concluded that for the most part, a development of the scale envisaged at Ballinclare Quarry would struggle to demonstrate that it does not detract from the land zoning objective and as such, would most likely fail to secure planning permission.
- 3.93 Of the above-mentioned development plans, only that for Dun Laoghaire Rathdown CDP includes any specific provision (or land zoning) for the siting or location of a landfill facility. The CDP indicates that a refuse landfill / tip is *open for consideration* on lands which are zoned for economic development and employment, albeit subject to the proviso that it does not detract from surrounding amenities.
- 3.94 The other aspect which must be considered when evaluating this alternative is the likely land acquisition and establishment costs which would be associated with it. By virtue of its location and proximity to existing services and utilities, zoned land is expensive to acquire. Given that the size and scale of the proposed development would also require a



large stand-off distance of between 50m and 75m (at a minimum) to be provided on all sides to reduce and mitigate potential environmental impacts at surrounding receptors to an acceptable level, this would further increase the site acquisition and set up cost to a degree which would render the development unfeasible and unviable at such locations.

3.95 Another potential effect which should be considered with this option is the potential repellent effect the proposed development would have on other prospective purchasers and/or users of adjoining lands. Concerns around these issues would likely mean that a speculative land developer would be averse to offering or selling any of its zoned lands for a land use of this nature (however necessary it may be).

Do Nothing Alternative

- 3.96 If no future works or development is undertaken within the application site, the existing landform and quarry void would remain in its current disturbed state. The existing quarry floor and side slopes would continue to revegetate naturally, albeit very slowly in the absence of any soil or nutrients.
- 3.97 In the absence of any development, it is unlikely that the lands would ever be restored to any long-term beneficial land-use and that there would be a continued risk that surface activities could have a potential adverse impact on any underlying groundwater.
- 3.98 With the cessation of dewatering activities, groundwater levels would recharge and the quarry void fill with surface water and/or groundwater which may contain elevated levels of arsenic arising from surrounding natural rock / groundwater (as it did prior to being dewatered). There is also a risk that, unless otherwise managed, water levels in the quarry void could rise to a point where it runs-off over ground in an uncontrolled manner to the Kilmacurragh Stream at the south-eastern corner of the quarry.
- 3.99 In the absence of any inert landfill facility to the south of Dublin, or across the southern part of the GDA / Mid-Eastern Region, any inert wastes generated by construction and demolition activities requiring disposal at lined landfill facilities would need to be hauled over a greater distance to more distant facilities located to the north or west of the city. This in turn would give rise to increased fuel consumption and greater air / carbon emissions, result in less efficient use of resources (HGV's / drivers) and incur additional construction and development costs than would otherwise be the case.

