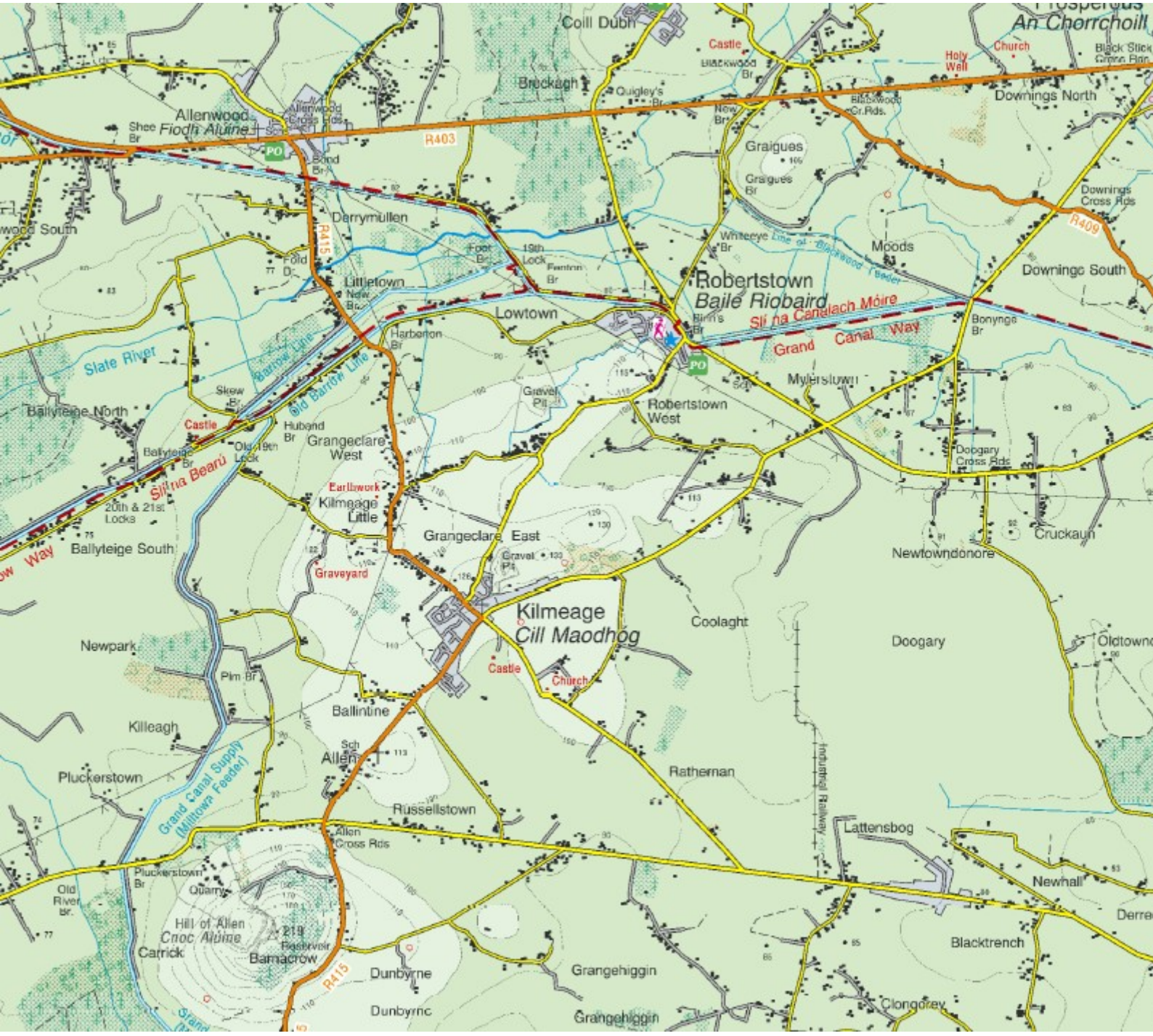
CHAPTER 15
MATERIAL ASSETS



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CHAPTER 15: Material Assets

Introduction

15.1 The purpose of this chapter is to evaluate the potential impact of the proposed development on Material Assets.

15.2 Material assets of natural origin and the existing quality of natural resources such as land, soil & geology, water, air and landscape are discussed in depth in the Chapters 7, 8, 10 and 12 of the ER. Material assets of human origin such as roads and traffic, archaeological /architectural heritage and flood protection are discussed in Chapters 13, 14 and 8.

15.3 The material assets of human origin that are included in this assessment comprise:

- Land Use.
- Property.
- Transport Network.
- Recreational Facilities & Amenities.
- Public Utilities.

15.4 The material assets of natural origin that are included in this assessment comprise:

- Land Resources.
- Geological Resources.
- Natural Resources.
- Raw Materials.

15.5 This Chapter considers the effects on material assets and not the people using the assets. People along with issues and impacts are discussed in Chapter 5 (Population and Human Health).

15.6 The objectives of the proposed development when in operation, is to efficiently extract high-quality sand and gravel resources to meet the demands of the construction industry, ensuring a stable supply of raw materials for infrastructure and development projects and to implement state-of-the-art soil recovery processes that will facilitate the recycling and reprocessing of topsoil, subsoil, and other soil types, contributing to the circular economy and reducing the need for virgin material extraction.

15.7 The objective of the assessment is to ensure that the material assets are used in a sustainable manner, so that they will be available for future generations, after the development of the project.

Professional Competence

15.8 This chapter and the associated assessment has been completed by Irene Curran who is a chartered town planning consultant (MRTPI) with over 20 years' experience. Irene's qualifications are as follows:

- BSc Environmental Science (Honours) – University of Limerick – 1997.
- MSc Town and Country Planning (Distinction) – Queens University Belfast – 2000.

- Dip Field Ecology - University College Cork – 2014.

15.9 Irene's post qualification experience includes work as both a Planning Officer and as a Planning Consultant, where she worked on large scale Environmental Impact Assessments (EIA) and Natura Impact Statements (NIS). Irene also worked as a Conservation Officer with the Royal Society for the Protection of Birds (RSPB) where she was focused on appraising EIAs and NISs for planning applications that related to European Sites designated in the south of England. Irene has extensive knowledge of national, regional and local guidance, plans and frameworks.

Legislative and Policy Context

Relevant Legislation

15.10 The European Union Directive 85/337/EC required that certain private and public projects which are likely to have significant resultant environmental impacts are subject to a formalised Environmental Impact Assessment prior to their consent. This Directive was subsequently amended by the EU through three amendments: 97/11/EC, 2003/4/EC and 2009/31/EC and then codified in Directive 2011/92/EU. Subsequently, on 16 April 2014, Directive 2011/92/EU was amended by Directive 2014/52/EU. Directive 2011/92/EU, as amended by Directive 2014/52/EU, will be hereafter referred to as the 'EIA Directive'.

15.11 Article 3 of the EIA Directive sets out the factors that should be identified, described and assessed in terms of direct and indirect significant effects of a project. Material assets are included as one of these factors. Annex IV of the EIA Directive sets down the minimum information to be supplied in an EIAR and also makes specific reference to material assets as a factor that should be described if it is likely to be significantly affected by the project.

15.12 The 2014/52/EU Directive was transposed into Irish law through European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (SI No. 296 of 2018) which amended the Planning and Development Act, 2000, and the Planning and Development Regulations, 2001.

Relevant Policy & Guidelines

15.13 There is no specific Irish guidance for the assessment of material assets in the context of EIA. The 2015 EPA *Advice Notes for Preparing Environmental Impact Statements* defined Material Assets as "*resources that are valued and that are intrinsic to specific* places". The EPA *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (2022), discuss material assets as follows:

> "*In Directive 2011/92/EU this factor included architectural and archaeological heritage. Directive 2014/52/EU includes those heritage aspects as components of cultural heritage. Material assets can now be taken to mean built services and infrastructure. Traffic is included because in effect traffic consumes transport infrastructure. Sealing of agricultural land and effects on mining or quarrying potential come under the factors of land and soils.*"

15.14 The EPA Guidelines (2022) lists three broad headings under which Material Assets should be evaluated. These are set out below, with the "typical topics" associated with those headings:

- Roads & Traffic – Construction Phase, Operational Phase, Unplanned Events (i.e. Accidents).

- Built Services – Electricity, Telecommunications, Gas, Water Supply Infrastructure, Sewerage.
- Waste Management – Construction Waste, Operational Waste.

15.15 The 2017 EC Environmental Impact Assessment of Projects – Guidance on the Preparation of the Environmental Impact Assessment Report, includes a review checklist, of which 2.13 and 3.14 relate to Material Assets:

2.13. Have any material assets in that area that may be affected by the Project been described? (including buildings, other structures, mineral resources, water resources).

3.14. Have the direct, primary effects on material assets and depletion of natural resources (e.g. fossil fuels, minerals) been described?

Assessment Methodology and Significance Criteria

15.16 The effects of the proposed development on the Material Assets are assessed in compliance with the EIAR Guidelines as outlined in Chapter 2 (EIA Report Methodology).

Study Area

15.17 The site is within the Municipal District of Clane-Maynooth. The site is situated in the Clane Local Electoral Area (LEA) and within Kilmeague South Electoral Division, with the following Electoral Divisions (ED's) within a 5km radius of the application site, these Electoral Divisions have been selected as the study area, unless stated otherwise in this chapter:

- Rathernan
- Kilmeague North
- Robertstown
- Oldconnell
- Carragh
- Donore

Sources of Information

15.18 A desk-top study of the proposed development site and the surrounding study area was undertaken in June 2023. The desktop study included consultation with publicly available environmental and planning datasets:

- Environmental Protection Agency database (https://gis.epa.ie/EPAMaps/)
- Geological Survey of Ireland database (www.dcenr.maps.arcgis.com)

- Ordnance Survey Ireland (https://store.osi.ie/ & http://map.geohive.ie/mapviewer.html)
- Catchments website (https://www.catchments.ie/maps/)
- Kildare County Council Planning database (http://webgeo.kildarecoco.ie/planningenquiry)
- Property Registration Authority (PRA) land registry services (https://www.landdirect.ie/)

15.19 A walkover survey of the application site was undertaken in November 2023 to verify the findings of the desk study and to obtain an understanding of the site and the wider study area.

Identification and Description of Potential Effects

15.20 The characteristics of the proposed development were considered and the changes occurring as a result of aspects of the construction, operation and restoration of the proposed development were identified. The impact of these effects on material assets (beneficial and adverse) were consequently identified and assessed.

15.21 The criteria used to describe the predicted effects are adapted from Table 3.4 of the EPA Guidelines (EPA, 2022), which is reproduced at Figure 2.4 in Chapter 2 of this EIAR.

Significance of Effects

15.22 The assessment process evaluates how the proposed development impacts on baseline environmental and social factors and considers whether the effects that are associated with positive or negative outcome for the material assets of natural and human origin. The significance of an effect is informed by the description of the effects.

15.23 Table 15.1 below provides the significance criteria that were used to determine the significance of an effect on material assets excluding materials and waste (based on Table 3.4 of the EPA Guidelines (EPA, 2022)).

Table 15.1: Significance criteria

Description of Significance of Effects		
Significance	Imperceptible	An effect capable of measurement but without significant consequences.
	Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
	Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.

	Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
	Significant Effects	An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment.
	Very Significant	An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment.
	Profound	An effect which obliterates sensitive characteristics.

15.24 For the significance of effects associated with materials and waste, in addition to the EPA EIAR Guidelines (EPA 2022), the IEMA Guide to: Materials and Waste in Environmental Impact Assessment (IEMA 2020) (hereafter referred to as the IEMA Guidance) was used. Table 15.2 sets out a sensitivity value, Table 15.3 sets out a magnitude value and Table 15.4 evaluates the significance based on these values.

Table 15.2: Significance criteria – Materials (IEMA 2020)

Value	Description On balance, the key materials required for construction of a development….
Very High	Are known to be insufficient in terms of production, supply and / or stock; and / or Comprise no sustainable features and benefits compared to industry-standard materials*.
High	Are forecast (through trend analysis and other information) to suffer from some potential issues regarding supply and stock; and / or Are available comprising some sustainable features and benefits compared to industry-standard materials*.
Medium	Are forecast (through trend analysis and other information) to suffer from some potential issues regarding supply and stock; and / or Are available comprising some sustainable features and benefits compared to industry-standard materials*.
Low	Are forecast (through trend analysis and other information) to be generally free from known issues regarding supply and stock; and / or Are available comprising a high proportion of sustainable features and benefits compared to industry-standard materials*.
Negligible	Are forecast (through trend analysis and other information) to be free from known issues regarding supply and stock; and / or Are available comprising a very high proportion of sustainable features and benefits compared to industry-standard materials*.
*Subject to supporting evidence, sustainable features and benefits could include, for example, materials or products that: comprise reused, secondary or recycled content (including excavated and other arisings); support the drive to a circular economy; or in some other way reduce lifetime environmental impacts.	

Table 15.3: Magnitude criteria – Materials (IEMA 2020)

Value	Description The assessment is made by determining whether through a development, the consumption of…
Major	…one or more materials is >10% by volume of the regional* baseline availability
Moderate	…one or more materials is between 6-10% by volume of the regional* baseline availability
Minor	…one or more materials is between 1-5% by volume of the regional* baseline availability
Negligible	…no individual material type is equal to or greater than 1% by volume of the regional* baseline availability
No change	…no materials are required
* or where justified, national.	

Table 15.4: Determining Significance – Materials (IEMA 2020)

		Magnitude of Impact				
		No Change	Negligible	Minor	Moderate	Major
Sensitivity (or Value) of Receptor	Very High	Neutral	Slight	Moderate or Large	Large or Ver Large	Very Large
	High	Neutral	Slight	Slight or Moderate	Moderate or Large	Large or Very Large
	Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large
	Low	Neutral	Neutral or Slight	Neutral or Slight	Slight	Slight or Moderate
	Negligible	Neutral	Neutral	Neutral or Slight	Neutral or Slight	Slight

Baseline Conditions – Material Assets of Human Origin

Land Use

15.25 The site is located in the townland of Coolaght, Kilmeague, Co. Kildare, situated approximately 900m northeast of the centre of Kilmeague village. The site is 8.8km north of Newbridge and 11km northwest of Naas (see Planning Drawing 1).

15.26 The surrounding landscape is rural in character, though is clearly presented as an active, working landscape consisting of a mix of agriculture (comprising a mix of pasture and arable land), bog (predominately cut-over), forestry (conifer plantations) and with several examples of quarries and sand and gravel pits and in the wider area, the nearest of which is situated 440m west of the site at Kilmeague village.

15.27 Residences within the general area are typically centred around the villages of Kilmeague, Robertstown and Allen, though there are also examples of one-off rural houses and ribbon development along the local road network. The nearest properties to the site are situated

on the southern site boundary. The nearest property to the north is situated approximately 400m distant in Grangeclare East. Currently, the site is physically and visually separated from the properties in Kilmeague village by a wooded area immediately to the west.

15.28 There are no water features in the vicinity of the site. The nearest water course is the Grand Canal, which flows in an east-west direction through Robertsown, approximately 1.3km northeast of the site. The River Liffey flows through Newbridge and is fed by a number of streams to the south of the application site, the closest of which is IE_EA_09L011050, which is approximately 1.7km to the southwest.

2.8. The site itself is broadly triangular in shape comprised of mixed (predominately deciduous) woodland that was planted between 2002 and 2004. The planting date and composition of which is set out below (refer also to Appendix 2.2):

- 2002 – 7.71 ha: Ash (2.32ha); Sycamore (2.32ha); Oak (1.55ha); Scots Pine (1.52ha).
- 2004 – 8.88ha: Ash (4.13ha); Sycamore (2.29ha); Beech (0.97ha); Sika Spruce (0.53ha); European Larch (0.44ha); Japanese Larch (0.26ha); biodiversity (0.26ha).

15.29 Levels within the site rise from approximately 100m above OD (Ordnance Datum) in the south to 127m OD in the north-west. Beyond the site the landscape comprises a line of low hills that form part of the Chair of Kildare which interrupt the continuity of the Kildare plains. High points in the surrounding landscape include 219m OD at the Hill of Allen, 223m OD at Grange Hill and 233m OD at Dunmurry Hill to the southwest of the application site.

Property

15.30 Joseph Logan is the owner of the site on which the proposed development will be located.

Transport Network

15.31 Access to the site is provided from the L7081 local road, which joins the R415 at a t-junction in the village of Kilmeague, 1.3km southwest of the site. In the vicinity of the site, the L7081 comprises a two lane road with an 80km/hr speed limit.

15.32 Public transportation in the area is relatively limited, however Bus Eireann operates the following bus services:

- 120B - Dublin – Newbridge – 3 buses daily each way – stopping in Kilmeague.
- 120F - Connolly Station - Newbridge - 1 bus daily each way stopping In Kilmeague
- 821 - Newbridge - Sallins - 6 buses daily each way - stopping In Kilmeague

15.33 Additional buses are available from Naas, predominately serving Sallins and Dublin. Irish rail provide services from Newbridge to Dublin Heuston with connections to other destinations from Kildare, Portalington and Athlone.

Recreational Facilities & Amenities

15.34 Tourist and amenities in the vicinity of the site include, but are not limited to:

- Barrow Way – long distance walking trail – 1.35km north-east of site.
- Travellers Rest – Lowtown (via Canal) loop walk – 0.52km north of site.
- Robertstown – Sallins point to point trail – 1.35km north-east of site.
- Hill of Allen – out & back trail - 3.7km south-west of site.

- Irish National Stud & Gardens – 13.4km south-east of site.
- The Curragh Racecourse – 10km south-east of site.
- Lullymore Heritage and Discovery Park – 8.16km west
- Kildare Village Outlet Centre - 13km south-east of site.
- Wicklow Mountains National Park – 25km south-east of site.

15.35 Other recreational and community facilities and amenities are available in the towns of Newbridge, Sallins, Naas and Kildare. These include GAA clubs, shops, health centres, community halls and churches.

Public Utilities

Electricity Network

15.36 The are no existing public utilities running through the proposed development site. The existing dwellings located to the south of the application site (one occupied and one unoccupied) are connected to the electricity grid via an overhead line

Water Supply

15.37 The proposed site is not located inside any mapped Public Water Supply (PWS) or National Federation Group Water Scheme (NFGWS) groundwater protection zones.

Wastewater Supply

15.38 No wastewater collection infrastructure has been identified crossing the application.

Communications Infrastructure

15.39 Communications infrastructure comprise local network wires, cables, poles and masts for the provision of telephone, internet, mobile phone, television and radio services. Communications infrastructure is present throughout the study area.

15.40 An existing 24 metre high telecommunications support structure with antennas, equipment container and associated equipment are located on the northern part of the site within a fenced compound.

Baseline Conditions – Material Assets of Natural Origin

Land Resources

15.41 The application site comprises woodland use. As stated above, the surrounding area comprises a mix of agricultural land, cut-over bog and/or extractive industry related development.

15.42 There are 5 EU designated sites located within a 15km radius of the application site. The sites are listed below.

- Ballynafagh Lake SAC – 2.41km north-east.
- Mouds Bog SAC – 3.37km south.
- Ballynafagh Bog SAC – 4.01km north-east.

- Pollardstown Fen SAC – 6.52km south.
- The Long Derries, Edenderry SAC – 12.2km west northwest.

15.43 There are 2 Natural Heritage Areas (NHAs) and 8 proposed Natural Heritage Areas (pNHAs) located within a 15km radius of application site. The sites are listed below:

- Grand Canal pNHA
- Ballynafagh Bog pNHA
- Hodgestown Bog NHA
- Mouds Bog pNHA
- Donadea Wood pNHA
- Carbury Bog NHA
- The Long Derries, Edenderry pNHA
- Curragh (Kildare) pNHA

15.44 The nearest section of the Wicklow Mountains National Park is 25km to the south-east.

Geological Resources

15.45 According to the Geological Survey of Ireland (GSI) Spatial Resources, there are no geological heritage sites on the application site, the nearest site is at the Hill of Allen, approximately 3.6km south-west of the application site.

15.46 The GSI Aggregate Potential Mapping highlights the areas as having high potential for "*granular aggregate potential*".

Natural Resources

Woodland

15.47 As stated above, the site is currently planted with a mix of trees including both native and non-native deciduous and conifer trees.

Raw Materials & Waste

Raw Materials

15.48 The existing / historic use of the site for woodland requires very low raw material volumes. Raw materials used (e.g. fuel oil for machinery and fertiliser at the time of planting, are typical of those associated with such land-uses).

Waste

15.49 The existing / historic use of the site for woodland generates very low waste volumes.

15.50 Information on the capacity of landfill sites in County Kildare has been sourced from the following documents:

- Eastern-Midlands Region: Waste Management Plan 2015 – 2021.

- Waste Collection Benchmarking Report fort the Irish Waste Management Association.
- Construction and Demolition Waste, Soil and Stone Recovery/Disposal Capacity Update Report 2020 for all Waste Management Plans 2015-2021.

Assessment of Potential Effects – Do Nothing Scenario -

15.51 Under a do-nothing scenario, the applicant would not develop the site and it would remain in woodland use.

15.52 This scenario would result in zero emissions associated with excavation of the site for sand and gravel and subsequent infill. There would be no potential impacts associated with water, soil & geology, noise & vibration, landscape & visual or traffic and consequently there would be no potential effects on the existing natural resources, land-use or infrastructure.

15.53 However, failing to develop the site which is identified on the GSI Aggregate Potential Map as having high potential for "*granular aggregate potential",* would potentially compromise the supply of sand and gravel in County Kildare and wider region. Policy RDP8 of the County Development Plan aims to "*support and manage the appropriate future development of Kildare's natural aggregate resources in appropriate locations to ensure adequate supplies are available to meet the future needs of the county and the region in line with the principles of sustainable development and environmental management and to require operators to appropriately manage extraction sites when extraction has ceased*".

15.54 The application site is situated in a part of County Kildare that is relatively free from constraints such as nature conservation designations, in addition it is located relatively near to a number of urban centres and sources of demand.

15.55 In the absence of gravel and sand extraction, there might be a need for active management of the woodland to address ash dieback, including monitoring tree health, removing diseased trees, and possibly replanting with disease-resistant species.

Assessment of Potential Effects – Material Assets of Human Origin

15.56 The proposed development comprises the extraction of sand and gravel from an existing woodland site and the infilling of the lands using inert soil on a phased basis. The project is designed to undertake the full site clearance in the initial stage, marking the commencement of the construction phase. This will be immediately followed by the operational phase, which involves the extraction of materials from the entirety of the cleared site along with the ongoing infilling of previously extracted lands. Restoration of the lands following infill will see the site returned to woodland. The assessment of effects will address the combined impacts of these sequential stages – construction, operation, and decommissioning / restoration – recognising that the full scale of the development will commence from the outset, leading to concurrent environmental effects.

Land Use

Construction and Operational Phase

15.57 The proposed development necessitates the clearance of 12.1 hectares of woodland, which will occur entirely in the first year of the project. A planning permission duration of 20 years

is therefore sought for the extraction and processing period and a further 14 years to complete final restoration of the site.

15.58 Upon cessation of the site clearance for the proposed development, the sub-surface aggregates would be extracted using a conventional mechanical excavator. Material excavated from the working pit will be processed within the pit void.

15.59 With the entire proposed extraction area being cleared of woodland at the onset, the landscape and land-use will be substantially altered from the start, eliminating the possibility of maintaining woodland character for any portion of the project's lifetime. Consequently, while the overall effect on land-use will be significant in the long term due to the comprehensive tree felling, the post-extraction restoration efforts aim to mitigate this impact by progressive restoration, which will commence in the short term (from year 1). These effects will be "direct" and "likely", though the overall significance will be "moderate".

Decommissioning Phase

15.60 As stated above, the decommissioning phase comprises the restoration of the application site. The restoration proposals seek to replant the site as woodland, though it is proposed to introduce a more suitable native woodland mix, which has the potential to offer significant biodiversity gain at the site. The effect on land-use would however be "neutral" as the changes would not be perceptible compared to the baseline environment. The effects would have a "long-term" duration and the overall long-term significance would be "imperceptible".

Property

Construction and Operational Phase

15.61 The site of the proposed sand and gravel pit is in the ownership of the applicant therefore third party land is not required for its construction. The construction and operation of proposed development would have no effect on property ownership.

15.62 The construction and operational phases of proposed development are not predicted to have any negative effects on local property values as the area has a long association with aggregates development which provide a valuable source of direct and in-direct employment in the area, with additional trickle down benefits for the local economy.

15.63 The site is well screened and has been appropriately designed to ensure that this screening would remain in-tact. There would therefore be little to no visibility of the site from the surrounding areas, thus preserving the visual amenity and therefore the potential property values of dwellings in the area.

15.64 Chapters 10 and 11 provide additional information in respect of the potential effects on Air and Noise, which have the potential to undermine the residential amenity of neighbouring properties which could in turn affect property values. These chapters indicated that as proposed development would not involve any blasting and as processing will occur within the pit void, the associated effects would not be significant.

15.65 The effects of the construction and operational phases on property would therefore be "neutral", "medium-term", "direct" and the significance would be "slight".

Decommissioning Phase

15.66 As stated above, the decommissioning phase comprises the restoration of the application site. The restoration proposals seek to replant the site as woodland, though it is proposed to introduce a more suitable native woodland mix, which has the potential to offer significant biodiversity gain at the site. The effect on property would however be neutral as the changes would not be perceptible compared to the baseline environment. The effects would have a "long-term" duration and the overall long-term significance would be "imperceptible".

Transport Network

Construction and Operational Phase

15.67 Traffic associated with the construction phase of the proposed development would predominately be associated with the removal of felled trees for processing elsewhere. Upon cessation of the construction, the operation of the sand and gravel pit / soil recovery facility would generate traffic predominantly associated with staff employed at the site and transport of inert material / extracted aggregates to and from the site. Chapter 13 provides a detailed assessment of the effect of the proposed development of the existing transport network and traffic volumes.

15.68 The results of the traffic and transport assessment confirm that the development would not have a significant effect on traffic flows on the existing road network due to the background traffic volumes, the volumes of traffic being generated during the construction and operational phases and the capacity of the road network.

Decommissioning Phase

15.69 As stated above, the decommissioning phase comprises the restoration of the application site to woodland. Traffic associated with this stage would be minimal and associated with the delivery of trees to the site. The traffic impact on the road network during the Decommissioning Phase would be "imperceptible".

Recreational Facilities & Amenities

Construction and Operational Phase

15.70 The construction and operational phases of proposed development are not predicted to have any negative effect on recreational facilities and amenities identified above as the site is distant from the majority of those resources and the site itself is in private ownership and not used for recreational purposes. The site is not visible from any existing recreational resources and noise associated with the proposed development would not be heard from these any recreational facilities or tourist attractions. It is therefore predicted that the significance of the effects on recreation and amenity would be "imperceptible".

Decommissioning Phase

15.71 Restoration of the sand and gravel pit would generate similar effects on recreation and amenity as those generated during the construction and operational phase of the development as the activities undertaken would be similar.

Public Utilities

Construction and Operational Phase

15.72 The existing 24m high telecommunications mast will be relocated to a more appropriate location on site (subject to a separate planning application)_and therefore will not be affected by the proposed development.

15.73 The operations will require a water supply for welfare facilities as well as for dust suppression and wheel washing. An on site well will be used as a water supply. The potable water demand during the development is considered to be "negative", "long-term" and the significance is "not significant".

15.74 Wastewater will be created by welfare facilities. Temporary welfare facilities (for example portable toilets) will be used, which will be collected as required for offsite disposal of the wastewater to a suitably licensed facility. The potential effects associated with waste water during the Construction and Operational Phase would be a "negative" and "short-term" and the significance would be "not significant".

Decommissioning Phase

15.75 The restoration of the site would generate similar effects on public utilities as those generated during the Construction and Operational Phases of the development as the activities undertaken would be similar.

Assessment of Potential Effects – Material Assets of Natural Origin

Land Resources

Construction and Operational Phase

15.76 Chapter 6 provides a detailed assessment of the effect of the proposed development on biodiversity and Chapter 12 assesses the landscape and visual effects of the proposed development. No significant direct or indirect effects on land resources are anticipated.

Decommissioning Phase

15.77 See Chapter 6 and 12 above, no significant adverse direct or indirect effects on land resources are anticipated. The restoration proposals include the replacement of the existing tree species, which include a mix of native and non-native (including invasive) tree species, with an appropriate mix of native tree species. This would have a "slight" "positive" effect on land resources.

Geological Resources

Construction and Operational Phase

15.78 The construction of the proposed development will require the removal of topsoil and overburden which will be used on the site for construction of landscaped screening berms.

15.79 The operation of the proposed sand and gravel pit will require the removal of sand and gravel from the site which will be transported off-site and utilised for a range of purposes including as construction aggregates. The removal of the material will have a "permanent" effect on the sand and gravel resources, however as these resources are presently sub-surface, the

impact of the loss would not be perceptible given the proposed restoration of the site back to original ground levels using inert waste.

15.80 To minimise the effect of the proposed development on soil resources no oils or fuel will be stored within the sand and gravel pit. Re-fuelling of equipment will take place in designated areas wherever possible. A fuel handling protocol will be put in place to minimise the risk of fuel spills and to advice on actions in the event of spillages. The potential effects on soil is "moderate", "direct", "permanent" effect on soil and subsoils with a moderate significance.

Decommissioning Phase

15.81 The restoration of the site would help to mitigate the effects on geological resources identified above during the construction and operational phases of the proposed development. The restoration plan seeks to infill the lands with inert waste back to original ground levels and reestablish a woodland habitat on the site.

Natural Resources

Construction and Operational Phase

15.82 The proposed development will require the removal of 12.1 hectares of woodland. The trees that would be felled as part of the site clearance operation would be sold as commercial timber. The effect on these resources is "direct", "negative" and "reversible". The overall significance is "slight".

15.83 The operation of the proposed development would not result in the removal of any additional trees from the site. There is potential for dust deposition on the remaining trees which could potentially affect their photosynthetic ability. This is evaluated in chapter 6 Biodiversity.

Decommissioning Phase

15.84 The restoration of the site will require the replanting of 12.1 hectares of woodland. It is proposed to plant a mix of native species to replace the existing mix of native and non-native trees. The effect of this would therefore be "neutral" (as the change will not be perceptible) and "long-term" and the significance will be "imperceptible".

Raw Materials & Waste

Construction and Operational Phase

15.85 The Construction Phase will not require the importation of construction materials for the proposed development, rather will focus on site clearance, which is evaluated above. The "waste streams" generated by the site clearance all have an identified end-use including the use of the trees for sale and the retention of the soils and overburden for provision of landscaped screening berms. The construction phase of the proposed development will therefore have a "neutral" effect on raw materials and waste, the significance of which will be "imperceptible".

15.86 Waste volumes associated with the Operational Phase of the proposed development are anticipated to be very low and significantly less than 0.1% of the available landfill capacity of

the Eastern Region. The effect of this is anticipated to be "negative" and "permanent" and the significance is likely to be "slight".

15.87 Materials such as lubrication oils and fuel oil, will be required during the Operational Phase of the proposed development. The anticipated volumes used on site are predicted to be significantly less than 1% by volume of the regional baseline availability. The magnitude of the effect will therefore be "negligible". The significance is "neutral".

15.88 The proposed development will result in the extraction of sand and gravel which is a valuable raw material for the construction industry.

15.89 The proposed soil recovery facility will provide a timely replacement for the existing soil recovery facility (EPA Licence no. W0292) located to the west of the site that is approaching its end of life – refer to Figure 15.1.

Figure 15.1- Location of existing soil recovery facility

Year	Tonnes
2018	90,898
2019	233,100
2020	216,547
2021	240,078
2022	187,627
2018-2022	968,250

Decommissioning Phase

15.90 The restoration of the proposed development will require the replanting of 12.1ha of woodland. Fertiliser will be utilsed during the re-planting process, however the volumes will be carefully managed to ensure that excessive amounts are not utilised. No other raw materials or waste will be used or generated during the rolling restoration.

Mitigation and Management

15.91 In order to control potential negative impacts during construction, operation and decommissioning (restoration), the following mitigation measures will be implemented. The measures do not represent an exhaustive list as measures are also identified in other sections of the EIAR. Mitigation measures therefore include:

- Works undertaken in accordance with industry guidelines taking account of slopes angles, stockpiling etc.
- Fuel Handling and Storage Measures as detailed at Chapter 3.
- Comprehensive verification of materials being imported to site (Chapter 3).
- Management of restored woodland planted areas.

Cumulative Effects

15.92 In the assessment of cumulative effects other permitted and proposed developments in the surrounding area have been considered where they have the potential to generate cumulative effects with the proposed development. Chapter 17 sets out the methodology for identifying those developments which have the potential to cause cumulative effects. It excluded developments that were already constructed as these are already assessed as part of the baseline. Also excluded were small scale developments that would not have the potential to cause cumulative effects. The following developments (refer to Figure 16.1) were short-listed as having the potential to result in cumulative effects:

- Plan File Ref. No. 23613 - (1) Extend the life of the existing sand and gravel pit development totalling c.23.2 hectares previously granted under planning permission 99/1200 (ABP PL09.118274) with processing that includes crushing, washing and screening, and 07/977 (ABP PL09.226718). The sand and gravel extraction will be dry working above the water table, (2) Extend the life of the proposed sand and gravel pit extension area totalling c. 30.9 hectares previously granted under planning permission 07/977 (ABP PL09.226718). The sand and gravel extraction area will be c.25.7 hectares and will consist of dry working above the water table; (3) Include for all associated services and ancillary works consisting of: (a) the existing processing plant for the purposes of crushing, washing and screening; (b) the existing office, toilet and associated waste water treatment system, canteen, weighbridge, wheelwash and site entrance; (c) the construction of new screening berms on the northern and western boundaries of the proposed extension area; (4) Restoration of most of the worked-out sand and gravel pit (c. 39.6 hectares) to its surrounding/former ground level using naturally occurring materials, principally inert soil and stone generated by construction and development activity and imported as waste under licence or as by-product (in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (as amended). Restoration of the entire site to a combination of agricultural and nature conservation areas; (5) installation of a dedicated covered waste inspection and quarantine shed and for storage of plant and machinery (c.20M length x 12m width x 7.5m height); (6) The proposed development is within an overall application area of c. 54.1 hectares and is for a total period of 25 years (the sand and gravel extraction operational period is for 22 years and the importation of materials for restoration is for 25 years). An Environmental Impact Assessment Report (EIAR)

and Natura Impact Statement (NIS) have been prepared in respect of this planning application. Part of the proposed restoration element of the development will require a waste licence from the Environmental Protection Agency.

- 211647 – For the extension to a yard and a retention application for the existing yard and manufacturing buildings/plant and all associated ancillary facilities within an existing quarry complex – approved 27/10/2022. Appealed PL09.315110
- 201409 – Upgrading of entrance, installation of site facilities for extraction and processing of sand and gravel. An Environmental Impact Assessment Report (EIAR) has been prepared in respect of this planning application. Revised by Significant Further Information which consists of updates to the EIAR and revised plans. Appeal – PL09.311677.
- 19/1138 - Development area of approximately 1.05ha, the use of a weighbridge, wheelwash, the erection of a staff office and administration building, car park area, access road and improved site entrance, concrete and readymix batching plant, block yard and associated infrastructure. The proposed site access will be from the L-1011 local road, to the north of an existing sand and gravel pit, QR45. An EIAR and Appropriate Assessment accompanies this application. Revised by significant further information consisting of; amendments/clarification to the Environmental Impact Assessment Report (EIAR). Development on site. Appealed - PL09.312162.

Cumulative Effects – Material Assets of Human Origin

Land Use

15.93 The above planning applications predominately relate to developments that are all distant from the application site. If permitted these developments would result in the alteration of the existing land-use however, given the distance between the proposals, it is not anticipated that any cumulative effects would occur as a result of the construction or operation of these developments.

15.94 Planning Application 211647 relates to a site that is situated 1.35km to the north-west of the application site. This application has been approved by Kildare County Council; however a financial appeal is currently ongoing. The proposed development comprises an extension to an existing storage yard within a larger sand and gravel pit with a concrete production facility. The development would result in the change of use of the land; however the effect is not significant given the context within which it is set. It is therefore not anticipated that any cumulative effects would occur as a result of the construction or operation of both developments.

Property

15.95 There are no additional cumulative effects of the proposed development with other developments on property. The ownership of each of the above respective developments would not be affected by the proposed development.

Transport Network

15.96 As stated above the above planning applications predominately relate to developments that are all distant from the application site and would not utilise the same local road network. It is therefore not anticipated that any cumulative effects would occur as a result of the construction or operation of these developments.

15.97 Planning Application 211647 relates to a site that is situated 1.35km to the north-west of the application site. The proposal sought to enlarge an existing storage yard and it would therefore not have any significant effect in terms of transport. It is therefore not anticipated that any cumulative effects would occur as a result of the construction or operation of these developments.

Recreation & Amenity

15.98 No significant adverse cumulative effects on recreation and amenity are anticipated due to the construction or operation of the above developments as they are dispersed throughout the county and would not in combination have any significant effect on recreational or amenity resources. The restoration of each of the sites would however offer potential cumulative benefits for amenity and recreation.

Public Utilities

15.99 No significant cumulative effects on public utilities are anticipated due to the construction or operation of the above developments as they are dispersed throughout the county and would not either individually have any effect on existing public utilities.

Cumulative Effects – Material Assets of Natural Origin

Land Resources

15.100 See Chapter 6 and 12 above, no significant adverse cumulative effects on land resources are anticipated.

Geological Resources

15.101 Planning application 23613 relates to the extension to an existing sand and gravel pit, the operation of the proposed sand and gravel pit will require the removal of sand and gravel from the site which will be transported off-site and utilised for a range of purposes including as construction aggregates. The removal of the material will have a “permanent” effect on the sand and gravel resources, however as these resources are presently sub-surface, the impact of the loss would not be perceptible in the long term. This site is situated over 18km to the northwest of the application site. No significant adverse cumulative effect is therefore likely to occur.

Natural Resources

15.102 Given the distance between the application site and the sites identified above, it is not considered that any significant adverse cumulative effect on natural resources will occur.

Raw Materials & Waste

15.103 Each of the above identified proposals offers the potential to increase the quantities of sand and gravel available to the construction industry within County Kildare, ensuring continuity of supply. No significant adverse cumulative effect is therefore likely to occur.

15.104 Waste volumes associated with the above developments are similar to that of the proposed development, with overburden used as part of the restoration plans. No significant adverse cumulative effect is therefore likely to occur.

Residual Effects

Construction & Operational Phase

15.105 The proposed development would result in the loss of 12.1hectares of woodland from the site. This effect is “direct”, “negative” and “reversible”. The overall significance is “slight”.

15.106 The operation of the proposed development would have a “slight” “positive” residual effect nationally as it would provide 4 million tonnes of sand and gravel for use in the construction industry and capacity for disposal of c. 3.2 million tonnes of inert waste.

15.107 The operation of the proposed development would have a “negative”, “moderate”, “direct”, “permanent” effect on soil and subsoils. The restoration plan will seek to mitigate the visible effects of this loss.

Decommissioning Phase

15.108 The decommissioning of the proposed development would have a “slight” “positive” residual effect on recreation and amenity and land resources in respect of the creation of woodland habitat with an appropriate mix of native tree species which would replace the existing resource which includes non-native and invasive species.

Difficulties Encountered

15.109 No significant difficulties were encountered.

References

Environmental Impact Assessment of Projects. Guidance on the Preparation of the Environmental Impact Assessment Report (European Commission 2017).

Environmental Protection Agency (EPA) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (hereafter referred to as the EPA Guidelines) (EPA 2022).

Implementation Of Directive 2001/42 On The Assessment Of The Effects Of Certain Plans And Programmes On The Environment

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https://www.failteireland.ie/Research-Insights/Activities/visitor-numbers-to-attractions-dashboard.aspx

IEMA Guide to: Materials and Waste in Environmental Impact Assessment (IEMA 2020)

Environmental Protection Agency database (https://gis.epa.ie/EPAMaps/)

Geological Survey of Ireland database (www.dcenr.maps.arcgis.com)

Ordnance Survey Ireland (https://store.osi.ie/ & http://map.geohive.ie/mapviewer.html)

Catchments website (https://www.catchments.ie/maps/)

Mayo County Council Planning database (https://www.eplanning.ie/mayocc/searchtypes)

Property Registration Authority (PRA) land registry services (https://www.landdirect.ie)