

CONTENTS

INTRODUCTION 4

Site Description.....4

Details of the Proposed Development.....4

Purpose of this Chapter4

Evidence of Technical Competence and Experience.....5

Relevant Legislation and Policy.....5

Legislation.....5

National, Regional and Local Policy6

METHODS 6

Scope6

Study Area7

BASELINE DATA COLLECTION 7

Assessment Approach.....8

Important Ecological Features.....8

Determining Importance.....9

IMPACT ASSESSMENT 9

Significant Effects.....10

Cumulative Effects10

Avoidance, Mitigation, Compensation and Enhancement.....11

Limitations11

Desk Study11

Field Survey(s).....12

BASELINE ECOLOGICAL CONDITIONS 12

Identification of the Zone of Influence12

Sites Designated for Nature Conservation.....13

Habitats.....13

Birds16

Mammals17

Other mammals.....17

Aquatic Species.....17



Invasive Species	18
Summary of Important Ecological Features.....	18
ASSESSMENT OF EFFECTS AND MITIGATION MEASURES	19
Do Nothing Impact.....	19
Potential Impacts and Effects	19
Habitats.....	19
Cumulative Effects.....	22
Cumulative assessment of all elements of the project for their overall impact.....	22
Cumulative assessment of all elements of the project with the existing operations at the Site	24
Cumulative assessment of all elements of the project with other existing, consented or planned projects	24
SUMMARY OF EFFECTS	25
CONSIDERATION OF FINDINGS.....	26
REFERENCES	27
FIGURES	28
APPENDIX	29

TABLES

Table 5-1 Summary details of the baseline data collection	7
Table 5-2 Summary of Consultations Undertaken	8
Table 5-3 Designated Ecological Sites of Relevance.....	13
Table 5-4 Rare and/or Protected Spices Previously Recorded in Grid Squares	15
Table 5-3 Summary of Important Ecological Features Subject to Detailed Assessment.....	18

FIGURES

Figure 5-1 Habitat Map.....	28
Figure 5-2 Sites Designated for Nature Conservation	28

APPENDIX

Appendix 5-1- Relevant Legislation and Planning Policy..... 29

Appendix 5-2- Detailed Methodology 29

Appendix 5-3 - Natura Impact Statement 29



INTRODUCTION

- 5.1 This Biodiversity chapter forms part of the EIAR prepared for Medite Europe DAC for the Direct Boiler Replacement at Medite’s manufacturing plant in Redmondstown, Clonmel, Co. Tipperary.

Site Description

- 5.2 The proposed development site (“the Site”) is located within a well-established facility which manufactures environmentally produced, sustainable timber panel boards, specifically, medium-density fibreboard (MDF) by Medite Europe DAC. The Site is located at Redmondstown, Co. Tipperary, approximately 4 km east of the centre of Clonmel, and within the Planning Authority of Tipperary County Council at approximate Irish Transverse Mercator coordinates 623945, 624141.

Details of the Proposed Development

- 5.3 The proposed development will replace all three existing aging thermal energy systems serving both of Medite’s two production lines, specifically;
- the two-wood biomass fired boilers (18MW each) serving Production Line 1.
 - the wood biomass fired Thermal Fluid Heater (19MW) serving Production Line 2.
- 5.4 The Proposed Development will also provide the thermal energy currently provided by the natural gas-fired Thermal Fluid Heater (TFH) (6MW) serving Production Line 1, which will be retained for backup purposes.
- 5.5 These systems will be replaced with 2 new renewable energy plants. These renewable energy plants will have rated thermal input capacity of up to 60 MW for the system serving Production Line 1 and 30 MW for the system serving Production Line 2. There will be no increase in current process water usage.
- 5.6 The proposed development will be located on three development areas within the confines of the existing Medite site. Development Area 1 will accommodate the fuel reception, screening, loading, storage and conveying equipment and will be located at the western side of the Site. Development Areas 2 and 3 will accommodate the Line 1 and Line 2 energy plants, respectively. These will be located to the south and east of development area 1, respectively. A full description of the proposed development is detailed within Volume 2 Chapter 2 Project Description of this EIAR.

Purpose of this Chapter

- 5.7 The proposed development site (“the Site”) is located within a well-established facility which manufactures environmentally produced, sustainable timber panel boards, specifically, medium-density fibreboard (MDF) by Medite Europe DAC. The Site is located at Redmondstown, Co. Tipperary, approximately 4 km east of the centre of Clonmel, and within the Planning Authority of Tipperary County Council at approximate Irish Transverse Mercator coordinates 623945, 624141.
- 5.8 This Biodiversity chapter forms part of the EIAR that will be submitted with the planning application to assist the competent authority, in this case Tipperary County Council, to carry out an Environmental Impact Assessment (EIA) of the proposed development.
- 5.9 The aim of this Chapter is to:

- Describe the baseline data collection and assessment methodologies used,
- Summarise the baseline ecological conditions,
- Identify and describe all likely significant effects on biodiversity,
- Set out the mitigation and/ or compensation measures if required, x
- Provide an assessment of the significance of any residual effects in relation to the effects on biodiversity,
- To identify potential enhancement measures and how these will/ could be delivered, and
- Set out the requirements for post-construction monitoring (if required).

Evidence of Technical Competence and Experience

5.10 Aisling Kinsella prepared this Chapter and Richard Arnold carried out the technical review of this Chapter.

5.11 Aisling Kinsella BSc (Hons) MSc – Senior Field Ecologist

- Aisling is a Senior Field Ecologist with SLR and holds a BSc in Zoology from University College Cork and an MSc in Wildlife Management and Conservation from University College Dublin. Aisling has three years' experience in ecological consultancy. Her experience to date has included a range of survey types (bird, mammal, habitat etc.), project management and the preparation of numerous reports including ornithological, ecological impact assessment, appropriate assessment screening and Natura Impact Statements for a range of different projects and plans including the N22 Baile Bhuirne to Macroom Bypass and Cloghan Wind Farm.

5.12 Richard Arnold BSc (Hons) MRes – Technical Director

- Richard has over 25 years of experience as a professional ecological consultant. Richard holds a BSc in Ecology from University of East Anglia and a Msc in Environmental Science from Lancaster University. This experience includes work on some of the largest development projects in the UK and Ireland, as well as some work in the Middle East. Richard has worked on projects in most development sectors and consequently has in depth knowledge of biodiversity legislation and planning guidance relating to nature conservation. Richard has worked on a variety of projects including the N6 Galway City Ring Road, Seven Hills Wind Farm Phases I and II.

Relevant Legislation and Policy

Legislation

5.13 The following legislation is relevant to this Chapter;

- The EIA Directive (2011/92/EU as amended by Directive 2014/52/EU);
- The Habitats Directive (92/43/EEC);
- The Birds Directive (2009/147/EC);
- European Communities (Birds and Natural Habitats) Regulations 2011;
- The Wildlife Acts 1976 to 2021;
- The Flora (Protection) Order 2022;
- The Planning and Development Act 2000; and
- The Planning and Development Regulations 2001.

5.14 The details of these are summarised in **Appendix 5-1** of this Chapter.

National, Regional and Local Policy

- 5.15 The aim of Project Ireland 2040 is the “safeguarding of Ireland’s abundant natural and environmental resources through the sustainable management of water, waste and other environmental resources”.
- 5.16 The Regional Spatial and Economic Strategy for the Southern Region has the guiding principles for no net contribution to biodiversity losses or deterioration, the protection, improvement and sustainable management of water resources, to ensure the long-term management of land, support clean air policies that reduce the impact of air pollution on the environment and public health and achieving transition to a competitive, low carbon, climate-resilient economy that is cognisant of environmental impacts.
- 5.17 The local planning policies relevant to ecology have been extracted from the Tipperary County Development Plan 2022-2028, the Regional Spatial & Economic Strategy for the Southern Region, the Clonmel and Environs Development Plan 2013¹, the Draft Clonmel Local Area Plan (LAP) 2024-2030 and Project Ireland 2040 and have been placed in **Appendix 5-1** of this Chapter.
- 5.18 The policies in “Chapter 11 – Environment and Natural Assets” of the county development plan and the policies in “Chapter 7 – Recognising our Local Heritage” of the Draft LAP are concerned with the protection and/or enhancement of the ecology of County Tipperary. In broad terms these policies aim to ensure correct measures are put in place to identify and protect natural heritage and important environmental features within County Tipperary.

METHODS

- 5.19 A summary of the methods used to carry out the surveys of the Site, to evaluate the ecological value and to prepare the chapter are outlined in this section and the detailed methods can be found in **Appendix 5-2**.

Scope

- 5.20 The scope of this Chapter is to describe the baseline ecological conditions within the Site and the potential effects that could arise from the proposed development. The scope of the report also includes determining the zone of influence of the development and if important ecological features could be significantly affected. Important ecological features include sites designated for nature conservation, protected habitats and species, as well as habitats and species identified as of particular importance for conservation of biodiversity. An assessment of the effects of the proposed development works on identified important features will be carried out and mitigation measures will be recommended where required.

¹ Due to expire this year and will be replaced by the Draft Local Area Plan (LAP) once it has been adopted. As such, this Chapter has been aligned with both the Development Plan and Draft LAP.

Study Area

5.21 The study area for the desk study and field surveys were identified through considering the nature of the project, the size and location of the project and the ecological features likely, or known, to be present. The study area for surveys conducted to inform this Chapter consisted of the development area (as defined by the red line boundary) and the part of the Anner River stretching from EPA station RS16A021000 to EPA station RS16A021100. The proposed native woodland planting area to the north of the site which will compensate for the trees being removed in Development Area 2 was not field-surveyed, however, it has been surveyed through ariel and on-site photos.

BASELINE DATA COLLECTION

5.22 The baseline data collection consisted of a desk study, habitat surveys, bat surveys and aquatic surveys. Summary details of the baseline data collection is provided in Table 5-1 below and the detailed methods can be found in **Appendix 5-1**. Inland Fisheries Ireland and National Parks and Wildlife Services were consulted regarding the Project, and National Parks and Wildlife Services requested that a bat survey be undertaken on Site.

Table 5-1
Summary details of the baseline data collection

Desk Study	Habitat Surveys	Bat Surveys	Aquatic Surveys
<p>Collated existing ecological information on the Site using the following resources:</p> <ul style="list-style-type: none"> • National Parks and Wildlife Service (NPWS) • National Biodiversity Data Centre (NBDC) • Environmental Protection Agency (EPA) Maps • Tipperary County Council planning search facilities • BirdWatch Ireland • Other Chapters of this EIAR 	<p>The Site was visited on 1st February 2022 and 12th July 2022. The objective of these site visits was to describe the baseline ecology and to determine its ecological value.</p> <p>A preliminary ground-level bat roost assessment was carried out as part of the habitat surveys.</p>	<p>Bat activity surveys were conducted on 15th and 16th September 2022.</p>	<p>Q-sampling was undertaken at n=5 riverine sites on the Lower River Anner between Clonwalsh and Anner Bridge upstream of the River Suir confluence. The surveys were repeated during two periods on the 4th April and 5th August 2022.</p>

**Table 5-2
Summary of Consultations Undertaken**

Consultee	Summary of Comments	SLR Response
NPWS	Bat emergence surveys on trees from meetings	Bat surveys were undertaken see Appendix 5-2
Bat Conservation Ireland	Ensure that all bat surveys undertaken meet bat survey and bat mitigation guidelines.	Collins, J. (ed.) (2016). <i>Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)</i> . The Bat Conservation Trust, London methodology used to complete bat surveys and propose mitigation measures in Section 5.22
Tipperary County Council	As there is a number of waterbodies near to the site and the impact of the development on waterfowl and other avifauna to be examined in the context of potential collision risk. Impacts on biodiversity from emissions to air to be considered.	Potential impacts on avifauna and collision risks were assessed, see Section 5.22 "Potential impacts and effects"
IFI	The river adjacent to the site currently has Q3/4 status and they do not want to see any deterioration in that which would be in line with the good ecological status objective of the WFD.	Addressed in Section 5.22 also see Chapter 7 Water

Assessment Approach

5.23 The ecological evaluation and impact assessment approach used in this Chapter is based on Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland ("CIEEM guidelines") (CIEEM, 2018; Updated April 2022).

Important Ecological Features

5.24 Ecological features can be important for a variety of reasons. Importance may relate, for example, to the quality or extent of the site or habitats therein; habitat and/ or species rarity; the extent to which such habitats and/ or species are threatened throughout their range, or to their rate of decline.

Determining Importance

- 5.25 The importance of an ecological feature should be considered within a defined geographical context. The following frame of reference has been used in this case, relying on known/ published accounts of distribution and rarity where available, and professional experience:
- International (European);
 - National (Ireland);
 - Regional (Munster);
 - County (Tipperary)
 - Townland (Redmondstown);
 - Local (intermediate area between Site and Townland); and
 - Site (area within the Study Area).
- 5.26 The above frame of reference is applied to the ecological features identified during the desk study and surveys to inform this Chapter.
- 5.27 In assigning a level of value to the population of a species, it is necessary to consider its distribution and status, including a consideration of trends based on available historical records. Examples of relevant lists and criteria include: species of European conservation importance (as listed on Annexes II, IV and V of the Habitats Directive or Annex 1 of the Birds Directive), species protected under the Wildlife Acts 1976 - 2021 and the BoCCI4.
- 5.28 The approach to impact assessment, as set out in CIEEM guidelines, only requires that ecological features (habitats, species, ecosystems and their functions/processes), that are considered to be important and potentially affected by the proposed development are carried forward to detailed assessment. It is not necessary to carry out detailed assessment of receptors that are sufficiently widespread, unthreatened and resilient to impacts from the proposed development and will remain viable and sustainable.
- 5.29 For the purposes of this Chapter ecological features of Local importance or greater and/or subject to legal or policy protection have been subject to detailed assessment. Effects on other ecological features are considered unlikely to be significant in legal or policy terms.

IMPACT ASSESSMENT

- 5.30 The impact assessment process involves the following steps:
- identifying and characterising potential impacts;
 - assessment of significance of effects in light of the impacts identified;
 - incorporating measures to avoid and mitigate (reduce) these impacts;
 - assessing the significance of any residual effects after mitigation;
 - identifying appropriate compensation measures to offset significant residual effects (if required); and
 - identifying opportunities for ecological enhancement.
- 5.31 When describing impacts, reference has been made to the following characteristics, as appropriate:

- Positive or negative;
- Extent;
- Magnitude;
- Duration;
- Timing;
- Frequency; and
- Reversibility

5.32 The impact assessment process considers both direct and indirect effects. Direct ecological effects are changes that are directly attributable to a defined action, e.g. the physical loss of habitat occupied by a species during the construction process. Indirect ecological effects are attributable to an action, but which affect ecological resources through effects on an intermediary ecosystem, process or feature, e.g. the creation of roads which cause hydrological changes, which, in the absence of mitigation, could lead to the drying out of wet grassland.

5.33 Consideration of conservation status is important for evaluating the effects on individual habitats and species and assessing their significance:

- Habitats – conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area; and
- Species – conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.

Significant Effects

5.34 The concept of ecological significance is addressed in paragraphs 5.24 through to 5.28 of CIEEM guidelines.

'Significance is a concept related to the weight that should be attached to effects when decisions are made. For the purpose of EclA, under the EIA Regulations, a significant effect is simply one that is sufficiently important to require assessment and reporting so that the decision-maker is adequately informed as to the environmental consequences of permitting the project.'

5.35 Effects can be considered significant at a wide range of scales from International to Site specific, and the scale of significance of an effect may or may not be the same as the geographic context in which the feature is considered important.

5.36 The nature of the identified impacts on each assessed feature is characterised. This is considered, along with available research, professional judgement about the sensitivity of the feature affected, and professional judgement about how the impact is likely to affect the site, habitat, or population's structure and continued function. Where it is concluded that an effect would be likely to reduce the importance of an assessed feature, it is described as significant.

Cumulative Effects

5.37 Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. The approach to assessing cumulative effects is three-fold:

1. All elements of the proposed development are cumulatively assessed for their overall impact.

2. All elements of the proposed development are cumulatively assessed with the existing operations at the Site.
3. All elements of the proposed development are cumulatively assessed with other existing, consented or planned projects.

5.38 Other projects that should be considered when establishing cumulative effects are:

- proposals for which consent has been applied but which are awaiting determination;
- projects which have been granted consent, but which have not yet been started or which have been started but are not yet completed (i.e. under construction);
- proposals which have been refused permission, but which are subject to appeal, and the appeal is undetermined;
- constructed developments whose full environmental effects are not yet felt and therefore cannot be accounted for in the baseline; or
- development specifically referenced in a National Policy Statement, a National Plan or Local Plan.

Avoidance, Mitigation, Compensation and Enhancement

5.39 When seeking mitigation or compensation solutions, efforts should be consistent with the geographical scale at which an effect is significant. For example, mitigation and compensation for effects on a species population significant at a county scale should ensure no net loss of the population at a county scale. The relative geographical scale at which the effect is significant will have a bearing on the required outcome which must be achieved.

5.40 Where potentially significant effects have been identified, the mitigation hierarchy has been applied, as recommended in the CIEEM Guidelines. The mitigation hierarchy sets out a sequential approach beginning with the avoidance of impacts where possible, the application of mitigation measures to minimise unavoidable effects and then compensation for any remaining effects. Once avoidance and mitigation measures have been applied residual effects are then identified along with any necessary compensation measures, and incorporation of opportunities for enhancement.

5.41 It is important to clearly differentiate between avoidance mitigation, compensation and enhancement and these terms are defined here as follows:

- Avoidance is used where an impact has been avoided, e.g. through changes in scheme design;
- Mitigation is used to refer to measures to reduce or remedy likely significant effects in situ;
- Compensation describes measures taken to offset residual effects, i.e. where mitigation in situ is not possible; and
- Enhancement is the provision of new benefits for biodiversity that are additional to those provided as part of mitigation or compensation measures, although they can be complementary.

Limitations

Desk Study

5.42 Desk study data is unlikely to be exhaustive, especially in respect of species, and is intended mainly to set a context for the study. It is therefore possible that important habitats or protected species not identified during the data search do in fact occur within the vicinity of the site. Interpretation of maps and aerial photography has been carried out using recent imagery, but it has not been

possible to verify the accuracy of any statements relating to land use and habitat context outside of the field study area.

Field Survey(s)

- 5.43 The site visits missed the optimum months for woodland ground flora (April & May).
- 5.44 While the compensation area was not field surveyed, it is very unlikely that any important ecological features have been missed due to the highly modified and species-poor nature of the arable cropland.
- 5.45 While the last Site visit was conducted on 16th September 2022, 16 months from the time this Chapter is being written, the data collected is not considered to be out of date, as it is still within the recommended timeframe (i.e. 12-18 months) for the criteria set out by CIEEM (2019)².

BASELINE ECOLOGICAL CONDITIONS

- 5.46 This section sets out the baseline ecological conditions at the Site using the findings of the desk study and surveys.

Identification of the Zone of Influence

- 5.47 The zone of influence for the proposed development is determined by the nature and scale of the proposed works, the level and type of the resulting air and dust emissions and the distance between the plant and known sensitive ecological features. These features may include sites designated for nature conservation; European sites, Natural Heritage Areas, National Parks, Nature Reserves, Wildfowl Sanctuaries and Ramsar Sites. In lieu of any domestic guidance, the UK Environment Agency's Air Emissions Risk Analysis (AERA) guidance³ has been used to inform the zone of influence with regard to sensitive ecological receptors. The AERA guidance states the following ecological sites need to be considered:
 - International designated sites within 10km of the application site; and
 - National and local designated sites within 2km of the application site.
- 5.48 Following application of these distance thresholds, Table 5-3 provides details of the designated sites considered within this Chapter.

² [Advice-Note.pdf \(cieem.net\)](#)

³ [Air emissions risk assessment for your environmental permit - GOV.UK \(www.gov.uk\)](#) (last accessed January 2023)

Table 5-3
Designated Ecological Sites of Relevance

Site Name	Distance from Site
Lower River Suir SAC 002137	60m west
Comeragh Mountains SAC 000688	9.1km south
Nier Valley Woodlands SAC 001952	9.9km south

Sites Designated for Nature Conservation

- 5.49 Therefore, there are three European sites located within the zone of influence. The Anner River, c.80m west of the Site, forms part of the Lower River Suir SAC. The Comeragh Mountains SAC is located c.9.9km south of the Site and the Nier Valley Woodlands SAC is located c.9.1km south of the Site, refer to **Figure 5-2** for locations of Sites Designated for Nature Conservation. There are no other sites designated for nature conservation within the zone of influence.
- 5.50 The likelihood of significant effects on any European site as a result of the proposed works at the Site are considered in the Natura Impact Statement accompanying this planning application, also included in **Appendix 5-3**. The Natura Impact Statement (NIS) concluded that the proposed development, either individually or in combination with other plans or projects, will not have an adverse effect, directly or indirectly, on the integrity of any European sites. Therefore, European sites are scoped out and excluded from any further consideration in this Chapter.

Habitats

- 5.51 The habitats recorded during the habitat surveys are shown on **Figure 5.1**. The habitats are discussed in detail below and their ecological importance evaluated. The habitats discussed in detail relate solely to Development Area 2 and the proposed area for compensatory native woodland planting. Development Area 1 and 3 are classed as BL3 – Buildings and artificial surfaces, hold no ecological value as they are highly artificial with no flora present and were not deemed to hold any potential roost features (PRFs) for bats during the site visits. They are therefore not considered further in this Chapter.
- 5.52 A large portion of the Site is classed as ED2 - Spoil and Bare Ground. This habitat will not be affected during construction/ operation as it is highly artificial and modified with very little flora present. Any flora that is present consists of common and widespread ruderal species only. This habitat is therefore not considered further in this Chapter as it holds no ecological value.
- 5.53 There is a small area in the southeast of the Site classed as FL8 – Other Artificial Lakes and Ponds. This habitat is not considered to hold any ecological value given its location in a highly industrialised and disturbed site and the fact that it is completely fenced off i.e. creating a barrier to fauna (such as otter) that might otherwise utilise it. There were no birds utilising it at the times of the site visits and it is highly unlikely that they would, given it’s relatively small and enclosed nature, the lack of foraging value that it would hold (i.e. no fish or aquatic plants present) and the proximity of the Anner River; a large, less disturbed, aquatic habitat that holds foraging and roosting value for birds. It is also not considered to be of value to amphibians given its highly disturbed nature – it is a water

storage area prone to regular extraction to be used for on-site activities. Therefore, this habitat is not considered further in this Chapter.

- 5.54 None of the habitats within the Site hold any designations for nature conservation.

WD1 – Broadleaved Woodland

- 5.55 The majority of Development Area 2 comprises a 0.42 ha plantation of broadleaved trees. The canopy extends to > 5 m and is dominated by non-native sycamore *Acer spp.* Other tree species present include ash *Fraxinus excelsior*, sweet chestnut *Castanea sativa*, elder *Sambucus nigra* and English oak *Quercus robur*. The ground floor is dominated by ivy *Hedera helix*. Other species here include lords and ladies *Arum maculatum*, nettle *Urtica dioica*, hart's tongue fern *Asplenium scolopendrium*, herb Robert *Geranium robertianum*, figwort *Scrophularia spp.* and soft shield fern *Polystichum setiferum*.
- 5.56 Policy 11-4 (a) of the Tipperary County Development Plan 2022-2028 aims to
 Conserve, protect and enhance areas of local biodiversity value, habitats, ecosystems and ecological corridors, in both urban and rural areas, including rivers, lakes, streams and ponds, peatland and other wetland habitats, woodlands, hedgerows, tree lines, veteran trees, natural and semi-natural grasslands in accordance with the objectives of the National Biodiversity Plan (DCHG 2017) and any review thereof.
- 5.57 This habitat is assessed as important at the Local level to comply with Policy 11-4 (a) and for the fact that there are native species present which could afford, albeit limited, foraging, breeding and resting opportunities for fauna. It will therefore be carried forward for further assessment.

WS1 – Scrub

- 5.58 The periphery of Development Area 2, surrounding the woodland, comprises of scrub dominated by bramble *Rubus fruticosus agg.* Other plant species present here include willow *Salix spp.*, hedge bindweed *Calystegia sepium*, rosebay willowherb *Chamerion angustifolium*, spear thistle *Cirsium vulgare*, redshank *Persicaria maculosa*, pendulous sedge *Carex pendula*, ragwort *Senecio jacobaea* and cleavers *Galium aparine*. Multiple stands of the non-native, invasive butterfly bush *Buddleja davidii* was also recorded here, at the southern edge.
- 5.59 Scrub is common and abundant throughout Ireland; and coupled with the dominance of non-native species, this habitat is considered to be important at the Site level only and will therefore not be carried forward for further assessment.

BC1 – Arable Crops and WL1 – Hedgerows

- 5.60 An area to the north of the Site has been proposed as a native woodland planting area, to compensate for the 0.42ha of trees being removed in Development Area 2. This area currently consists of arable crop fields which are bounded by hedgerows. Arable crop fields are a highly modified, intensely managed, species-poor habitat and is therefore assessed as important at the Site level only and will not be carried forward for further assessment. Hedgerows are an important ecological corridor and are therefore assessed as important at the Local level, to comply with Policy 11-4 (a) above. Hedgerows will be carried forward for further assessment.

Species

- 5.61 The NBDC database was searched for records of rare and/or protected species from the 1 km grid squares S2324, S2424, S2323 and S2423 within which the Site is located. Only records for the past 10 years are considered within this Chapter as older records are unlikely to still be relevant given their age and the changes in land management that has occurred in the intervening period. The records returned are presented in **Table 5-4** below.
- 5.62 The absence of recent (within 10 years) records of species from the NBDC database does not necessarily imply that a species does not occur within the search area, rather that it has not formally been recorded as present within the last 10 years.

Table 5-4
Rare and/or Protected Species Previously Recorded in Grid Squares S2324, S2424, S2323 and S2423

Species recorded	Grid Square	Date of last record	No. of records	Protected / Conservation Status	Source dataset /
Common Kingfisher <i>Alcedo atthis</i>	S2323	03/10/2016	1	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	NBDC Birds of Ireland
Barn Swallow <i>Hirundo rustica</i>	S2423	19/06/2016	1	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	NBDC Birds of Ireland
Little Egret <i>Egretta garzetta</i>	S2423	19/08/2017	2	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species	NBDC Birds of Ireland
Mute Swan <i>Cygnus olor</i>	S2423	15/10/2016	1	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List	NBDC Birds of Ireland
European Otter <i>Lutra lutra</i>	S2323; S2423	19/08/2017	2	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts	NBDC Mammals of Ireland 2016-2025

<p>Mallard <i>Anas platyrhynchos</i></p>	<p>S2323; S2423</p>	<p>19/08/2017</p>	<p>1</p>	<p>Protected Species: Wildlife Acts Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section I Bird Species Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List</p>	<p>NBDC Birds of Ireland</p>
---	-------------------------	-------------------	----------	---	----------------------------------

Birds

Woodland and Urban Birds

- 5.63 The birds seen or heard during the habitat surveys were noted and the habitats present were evaluated for their ability to support bird species. The species recorded during the site visits does not provide an exhaustive list but rather an indication of the bird assemblage of the Site.
- 5.64 All the birds recorded within the Site were common and widespread species. All of the birds recorded during the site visit were green listed species and none are considered as Qualifying Interests (QI) for any European site within 25 km of the Site. The species present at the Site during the survey is as follows: European robin *Erithacus rubecula*, blue tit *Cyanistes caeruleus*, rook *Corvus frugilegus*, jackdaw *Coloeus monedula*, hooded crow *Corvus cornix* and common wood pigeon *Columba palumbus*. The Site offers some potential for nesting birds within the broadleaved woodland, although no evidence of nesting birds was observed during the survey.
- 5.65 Barn swallow was found to be present within the 1 km grid squares within which the Site lies. They are likely to be using the agricultural lands surrounding the Site for both breeding and foraging. No evidence of breeding swallow within the Site boundary was observed during the habitat surveys.
- 5.66 Birds and their nests are protected by the Wildlife Acts 1976 (as amended). Woodland and urban birds are evaluated as important at the Local level and are therefore being carried forward for further assessment.

Wetland birds

- 5.67 The desk study also showed records of four rare or protected wetland bird species present within the 1 km grid squares within which the Site lies. Four of these species (kingfisher, little egret, mute swan and mallard) are associated with wetland habitats and are likely to be using the River Anner. They are highly unlikely to be using the Site given the lack of foraging, roosting or breeding habitat suitability.
- 5.68 Birds and their nests are protected by the Wildlife Acts 1976 (as amended). Wetland birds are evaluated as important at the Local level and are therefore being carried forward for further assessment.

Mammals

Bats

- 5.69 A preliminary ground level roost assessment was carried out as part of the habitat surveys within the Site boundary. The aim of this was to determine the actual or potential presence of bats and assess the need for further surveys and/or mitigation.
- 5.70 Two trees on the southern edge of Development Area 2 (approx. ITM co-ordinates 623841, 623946) were noted as having low-moderate bat roosting potential, both Ash trees with light-moderate ivy cover. Dusk emergence and dawn e-entry surveys were conducted, and calls were recorded using BatLoggers. No bats were observed entering or leaving PRFs. Bats were observed commuting along the conifer plantation on the southern periphery of the Site, which is located outside of the Development Area. Bat call analysis identified both common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus*. A suspected soprano pipistrelle was observed foraging consistently above the gas tank located at approx. ITM 623858, 623945. The yard is well-lit at night and this bat appeared to be foraging on the moths attracted to the lights.
- 5.71 Bats are protected under the Wildlife Act 1976 and Annex IV of the EU Habitats Directive (92/43/EEC). The bats at the Site are evaluated as important at the Local level and are therefore being carried forward for further assessment.

Other mammals

- 5.72 No signs of badger *Meles meles*, red squirrel *Sciurus vulgaris* or pine marten *Martes martes* were observed. Evidence of fallow deer *Dama dama* was noted in the periphery of the area in the form of footprints. It is likely they are crossing through the site or at least foraging at the edge of the broadleaved woodland. Given the abundance of suitable foraging habitat for deer in the lands surrounding the Site, this area is not considered to be of significant importance for deer.
- 5.73 Mammals, other than bats, can be scoped out of this Chapter and will not be carried forward for further assessment.

Aquatic Species

- 5.74 Aquatic surveys were undertaken at the River Anner, directly opposite the entrance to the Medite facility at ITM coordinates 624321 624094. The channel supported occasional *Ranunculus* sp. (c. 10% cover) with hemlock water-dropwort and branched bur-reed locally in the margins. The liverwort species *Pellia endiviifolia* was recorded as occasional with frequent *Marchantia polymorpha* subsp. *montivagans*. The moss species *Fontanlais antipyretica* was also frequent on boulder with occasional *Leptodyctium riparium*. The exposed boulders on the river margins supported occasional *Fissidens* sp. moss. The macrophyte and bryophyte community shared links with the Annex I habitat, 'Water courses of plain to montane levels, with submerged or floating vegetation of *Ranunculion fluitantis* and Callitriche-Batrachion (low water level during Summer) or aquatic mosses'. The filamentous green algae species *Cladophora glomerata* was present at low cover i.e. <5% during August increasing from the 1% cover recorded during April 2022.
- 5.75 The riparian areas supported mature alder, grey willow with occasional ash and frequent cherry laurel (*Prunus laurocerasus*), the latter being an invasive non-native species. The bordering land uses were of improved grassland (GA1) and mature mixed broadleaved woodland (WD1). The channel was considered a good spawning area for salmonids and lamprey species given the

presence of well sorted gravels in pool tailings (upstream of the survey area). It also offered very good nursery habitat at the sampling location (swift flowing broken glide). Holding habitat was good upstream of the survey site in the deep pool habitat.

- 5.76 The River Anner and the species it supports are evaluated as important at the European level as it forms part of the Lower River Suir SAC. The NIS accompanying this application, also included as **Appendix 5-3**, concluded that the project will not have adverse effects on the integrity of the European site. Therefore, the River Anner and the qualifying interest habitats and species it supports, as well as habitats and species beyond the boundaries of the SAC which support qualifying interests, will not be carried forward for further assessment in this Chapter.

Invasive Species

- 5.77 No invasive species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011, (as amended) were recorded within the Site. However, multiple stands of butterfly bush were recorded along the south-eastern and southern edge of Development Area 2. This is considered a medium impact invasive species⁴. *Prunus laurocerasus* was also recorded outside the development. During vegetation removal, care needs to be taken so as not to facilitate the spread of this species. Recommended measures include removing the inflorescences before removal of the entire plant (“deadheading”), roots to be removed entirely and safely dispose of any plant material completely.

Summary of Important Ecological Features

- 5.78 **Table 5-5** summarises all important ecological features for which detailed assessment is required. The geographical scale of importance for the ecological features within the Site are summarised along with their legal status and a rationale, where appropriate, for not carrying forward any features for detailed assessment.

Table 5-5
Summary of Important Ecological Features Subject to Detailed Assessment

Ecological Feature	Scale of importance	Comments on Legal Status and/or Importance
Woodland and urban birds	Local	All bird species are protected under the Wildlife Act 1976
Wetland birds	Local	All bird species are protected under the Wildlife Act 1976
Bats	Local	Bats are protected under the Wildlife Act 1976 and Annex IV of the EU Habitats Directive (92/43/EEC)

⁴ [Ireland's invasive species - Invasives.ie](https://www.invasives.ie/) (last accessed 17 August 2022)

ASSESSMENT OF EFFECTS AND MITIGATION MEASURES

- 5.79 This section sets out the potential impacts and their effects on important ecological features. The information available from the desk study and fieldwork has been used to identify impacts and the significant effects including positive, negative, direct, indirect and cumulative effects.
- 5.80 The potential effects resulting from the proposed development and proposed mitigation measures are discussed in the following sections.

Do Nothing Impact

- 5.81 In the absence of the proposed development, it is likely that the proposed development site will remain in its current state and the habitats and species assemblage will not change.

Potential Impacts and Effects

Habitats

Potential Impacts

- 5.82 Within Development Area 2, approximately 0.42ha of broadleaved woodland is required to be removed in advance of ground preparation works. As this habitat is evaluated as important at the local level, the loss of this habitat, in the absence of mitigation measures, will result in likely significant effects to the local ecology of the Site.
- 5.83 Within the area proposed for compensatory native tree planting, the crop fields are bounded by hedgerows. The hedgerow habitat is evaluated as important at the Local level and the loss or fragmentation of this habitat will result in likely significant effects to the local ecology.

Proposed Mitigation Measures

- 5.84 Compensation will be provided to ensure no residual effects on the ecology of the Site as a result of the loss of this area of woodland and to remain compliant with local policy⁵. It is proposed to plant a 0.42ha area within the northern section of the application area with a diverse native woodland mix. As this area currently consists of arable land and no hedgerows present in the area will be removed or fragmented (details of which are outlined in Chapter 13 – Landscape) there is no potential for significant adverse effects as a result of tree planting here

Significant Adverse Effects Remaining

- 5.85 With the proposed mitigation in place there will be no significant adverse effects remaining on the ecology of the Site as a result of the loss of this small section of isolated woodland habitat. This woodland is dominated by a non-native tree species and the compensatory habitat will comprise of a native mix of species, thus the ecology of the Site is likely to improve as a result of the proposed mitigation measures.

⁵ Policy 7.2 of the Draft Clonmel and Environs LAP 2024-2030

Water Quality

- 5.86 Potential impacts on water quality were assessed further in Chapter 7, however, it was determined that there would be no significant adverse effects remaining on water quality and surrounding ecological receptors as a result of the Proposed Development after the implementation of mitigation measures.

Air Quality

- 5.87 Potential impacts on air quality were assessed further in Chapter 8, however, it was determined that there would be no significant adverse effects remaining on water quality and surrounding ecological receptors as a result of the proposed development after the implementation of mitigation measures.

Woodland and Urban Birds

Potential impacts

- 5.88 As described above, the proposed development will result in the direct loss of a woodland habitat which provides opportunity for nesting and foraging woodland and urban birds, mainly passerines. This habitat does not form part of an SAC or a priority habitat nor does it offer foraging or nesting potential for priority species. However, in the absence of mitigation measures, the loss of this habitat would result in significant adverse effects on the local assemblage of woodland and urban birds.

Proposed Mitigation Measures

- 5.89 Vegetation removal should not take place within the bird nesting season, between the 1st of March and the 31st August. Compensatory habitat will be put in place to replace the 0.42 ha of broadleaved woodland.

Significant Adverse Effects Remaining

- 5.90 There will be significant adverse effects of habitat loss for nesting and foraging birds. This loss cannot be avoided or minimised. To compensate against this, new native woodland of the same size will be planted in the northern section of the Site. This will ultimately result in a biodiversity net gain, given the dominance of non-native species present in the existing woodland habitat.

Wetland Birds

Potential impacts

- 5.91 The development includes a stack of approximately 34m height. There are no Special Protected Areas (SPAs) within 25 km of the development site. However, parts of the Lower River Suir SAC have been identified as of ornithological importance to species including Greenland Whitefronted Goose, Golden Plover and Whooper Swan. Flocks of these species are generally seen at Coolfinn Marshes, near Portlaw, ca. 28 km south east of the Site as well as the saltmarshes along the SAC towards the mouth of the estuary in Co. Waterford, more than 30 km south east of the Site. Avian collisions often result when artificial light causing attraction or disorientation increases collision risk with buildings, towers and other structures. Collisions also occur independently of artificial lights

when birds fly at infrastructure that is difficult to detect (Travers, 2023). Buildings with a high proportion of glass area (i.e high reflectivity) represent such infrastructure (Loss *et al.*, 2019).

- 5.92 There are no key habitats for these species within or near the Site. Therefore, mortality effects arising as a result of the Proposed Development to wetland birds are not deemed to be significant.

Proposed Mitigation Measures

- 5.93 It is unlikely that the stack will present a major risk for bird collision due to the nature of the structure (stationary, high visibility, low reflectivity) as well as the location of vulnerable species along the SAC (i.e. 28-30+ km south east of the Site). However, by reducing the light emission at night from the stack, it will further reduce the risk of bird collision.

Significant Adverse Effects Remaining

- 5.94 There will be no significant adverse effects on wetland birds as a result of the project.

Bats

Potential impacts

- 5.95 The proposed development will result in loss of vegetation within the Site boundary. The removal of trees within this patch of woodland will not have an impact on any potential commuting corridors as it is already unconnected to the surrounding treelines and woodland habitats which will remain intact surrounding the Site. Potential Roost Features (PRFs) were identified during the habitat surveys but bats were not observed entering/ leaving these during the dusk and dawn surveys. While it cannot be concluded without doubt that there are no bats roosting in these trees, it is very unlikely that trees could be used for more than the occasional opportunistically roosting bat. The foraging corridor identified on the southern periphery of the Site along the conifer plantation will not be affected by the proposed development. The yard will also continue to be well lit, thus continuing to attract insects and subsequently bats.

Proposed Mitigation Measures

- 5.96 To prevent any harm becoming of any bat that could be potentially using the tree, a precautionary approach to the tree felling should be adopted. Soft felling of the trees identified as having PRFs is advised and should follow the methodology as outlined below;
- The trees should be soft felled using an appropriately qualified tree surgeon and in the presence of a qualified ecologist.
 - In order to ensure the optimum warning for any roosting bats that may be present, the tree will be nudged lightly two to three times with a machine bucket, with a pause of approximately 30 seconds between each nudge to allow bats to become active and leave the tree. The tree should then be sawn at the base and pushed to the ground slowly.
 - Trees will not be sawn up or mulched immediately. A period of at least 24 hours, and preferably 48 hours, will elapse prior to such operations to allow bats to escape.
 - Felling will be carried out in suitable weather conditions (i.e., dry and 7°C or higher).

Significant Adverse Effects Remaining

- 5.97 The mitigation outlined above will ensure that no bats are harmed directly during the felling of the trees with potential to host roosting/resting bats. Significant adverse effects due to habitat loss will occur to roosting and foraging bats at the Local level. This will be compensated for by the replacement planting. However, there will be a lag between felling and the establishment of the replacement woodland, so bat boxes should be used to help compensate for the loss of any roosting habitat during that period. At least six bat boxes should be erected on two or three suitable trees within the conifer plantation on the southern periphery of the Site.

Cumulative Effects

- 5.98 Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects can occur where a project results in individually insignificant impacts that, when considered in-combination with impacts of other proposed or permitted plans and projects, can result in significant effects (CIEEM, 2018).

Cumulative assessment of all elements of the project for their overall impact

- 5.99 Table 5-6 sets out all impacts that may potentially arise as a result of the project (as identified in Section 5.2), the potential for a cumulative effect, the overall impact and the proposed mitigation if required. The cumulative assessment of all elements of the project for their overall impact concludes that there is no risk of significant adverse effects.

Table 5-6
Cumulative assessment of all elements of the project for their overall impact

Potential Impacts Identified	Loss of broadleaved woodland	Loss of nesting bird habitat	Wetland bird collision risk	Harm to bats	Loss of bat roosting habitat
<i>Loss of broadleaved woodland</i>		Loss of nesting bird habitat is a direct result of the loss of broadleaved woodland, therefore no potential for cumulative effects. Both will be compensated for by the provision of new, native woodland.	No potential for cumulative effects.	The potential for harm to bats is a direct result of the loss of broadleaved woodland, therefore no potential for cumulative effects. Harm to bats will be mitigated by the soft felling of trees during the removal of the woodland.	Loss of bat roosting habitat is a direct result of the loss of broadleaved woodland, therefore no potential for cumulative effects. Loss of roosting habitat will be mitigated by the erection of bat boxes.
<i>Loss of nesting bird habitat</i>	Addressed above	-	No potential for cumulative effects.	No potential for cumulative effects.	No potential for cumulative effects.
<i>Wetland bird collision risk</i>	Addressed above	Addressed above	-	No potential for cumulative effects.	No potential for cumulative effects.
<i>Harm to bats</i>	Addressed above	Addressed above	Addressed above	-	The potential for harm to bats is a direct result of the removal of potential bat roosting habitat, therefore no potential for cumulative effects. This will be mitigated by the soft felling of trees.

Cumulative assessment of all elements of the project with the existing operations at the Site

- 5.100 The potential impacts identified as a result of the project will not be compounded by existing operations at the Site. Existing operations at the Site do not include the loss or removal of woodland habitat and therefore do not result in loss of bird nesting habitat or loss of bat roosting habitat. While existing operations do present some opportunity for harm to bats, through the presence of artificial lighting, the bat surveys conducted at the Site found evidence that this encouraged the presence of bats (by attracting insects) as opposed to discouraging bats or displacing them. There are currently no structures within the Site which may increase the risk to wetland birds through collision or any habitats within the Site which support wetland birds. The cumulative assessment of all elements of the project with the existing operations at the Site concludes that there is no risk for significant adverse effects.

Cumulative assessment of all elements of the project with other existing, consented or planned projects

- 5.101 A search of the Tipperary County Council and Waterford City and County Council online planning register has been undertaken in order to identify any other planned development in the vicinity of the application site that, with the proposed development, may have the potential to cause additional impacts other than those predicted for these proposals alone. **Appendix 1-5** contains the details of proposals within a 10km radius of the site which have been granted planning permission in the last five years.
- 5.102 The search found that there only three major planned developments, which required EIAR, within the vicinity of the application site. These include a wind farm ca. 2 km northwest of the Site, a pharmaceutical pilot plant ca. 9.5 km east of the Site and a hydro-electric scheme ca. 7 km south east of the Site. The only pathway for cumulative effects arising between this project and the three listed is through water due to the difference in the nature of the projects, the localised nature of the potential impacts identified for this project and the distance between this project and the wind farm. The only ecological feature connecting all sites is the River Suir – the wind farm is located upstream of the Site and the pharmaceutical plant and hydro-electric scheme are located downstream of the Site. There will be no cumulative effects on wetland bird collision risk between this project and the wind farm because there are no appreciable effects from Medite predicted. Chapter 7 of this EIAR found that there will be no significant cumulative effects arising through water based on a review of the identified projects and developments within 10 km of the Site.
- 5.103 Developments in the surrounding townlands that have been granted planning permission in the last five years are restricted to single house extensions or farm building developments and none have the potential to give rise to any significant adverse cumulative impacts on the local environment.
- 5.104 There is no pathway for the development to act cumulatively with other projects to result in adverse cumulative effects. Cumulative significant effects are, therefore, not considered likely.

SUMMARY OF EFFECTS

Table 5-5
Summary of Potential Impacts, Proposed Mitigation and Residual Effects

Ecological Feature	Impacts	Proposed Mitigation / Compensation	Means of Delivering Mitigation	Residual Effects
Broadleaved woodland	Loss of habitat potentially important at a Local level	<ul style="list-style-type: none"> Planting an area equivalent in size within the northern section of the application area with a diverse native woodland mix 	Ecologist, landscape Architect, and Applicant	Not significant
Woodland and urban birds	Loss of potential nesting habitat	<ul style="list-style-type: none"> Removal of vegetation to be conducted outside of the bird breeding season Provision of compensatory woodland habitat will create new opportunity for breeding birds 	Landscaper and Applicant	Not significant
Wetland birds	Collision strike	<ul style="list-style-type: none"> Appropriate design of stack to ensure reduced risk of avian collision (i.e stationary, high visibility, low reflectivity), 	Applicant	Not significant
Bats	Loss of PRFs	<ul style="list-style-type: none"> Soft-felling of trees with PRFs Erecting bat boxes nearby New woodland will eventually provide foraging / roosting opportunities 	Ecologist and Applicant	Not significant

CONSIDERATION OF FINDINGS

- 5.105 The proposed development at the Site within the existing Medite facility, Redmondstown, Clonmel, Co. Tipperary could result in significant adverse effects in the absence of mitigation measures. Mitigation measures have been identified and proposed for all potential impacts on ecology and biodiversity likely to arise as a result of the proposed development. Once these measures have been applied, there will be no significant adverse effects on ecology and biodiversity as a result of the proposed development. There will be no adverse significant effects on Natural Heritage or biodiversity, designated sites and habitats, water and air quality or additional environmental noise as a result of the proposed development. It is recommended that the mitigation measures be incorporated into the CEMP and implemented on-site by the contractor which is made a condition of planning permission if granted permission.
- 5.106 Provided that the proposed development is undertaken in accordance with the proposed design and best practice that is described within this Chapter, and other Chapters of this EIAR, significant adverse effects on ecology and biodiversity are not anticipated. As such, the proposed development is in line with environmental and biodiversity planning policy.

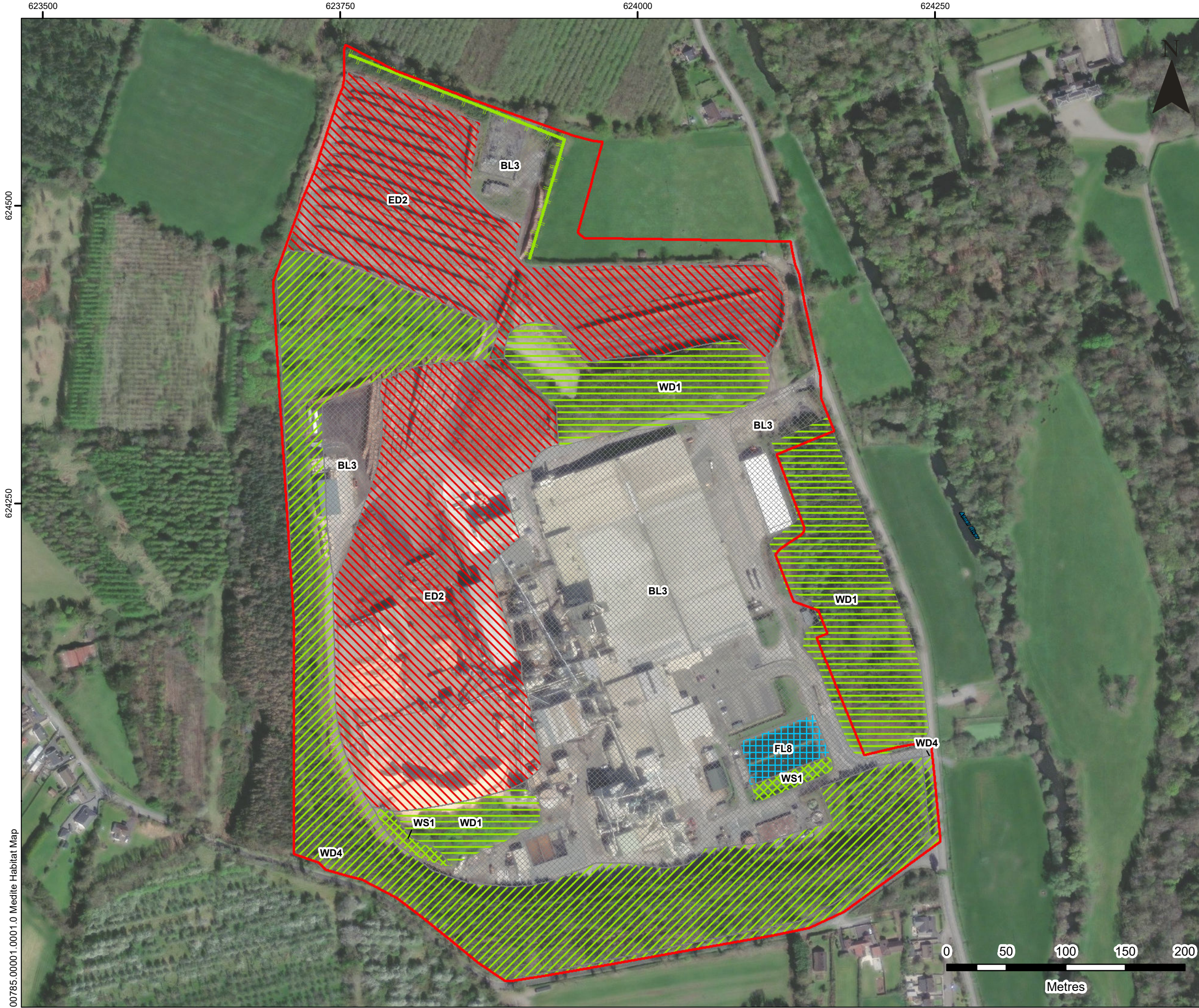
REFERENCES

- BoCCI (2020) Birds of conservation concern in Ireland 2014-2019, providing information on the red and amber species lists. [Online] Available at: <https://birdwatchireland.ie/birds-of-conservation-concern-in-ireland-2014-2019/>
- CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, London.
- European Commission (2018). Managing European Sites: The Provisions of Article 6 of the 'Habitats Directive' 92/43/EEC.
- European Union Birds Directive (2009) Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version).
- European Union Habitats Directive, (1992). Council Directives 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.
- Fossitt, J.A. (2000). *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny
- IAQM (2016). *Guidance on the Assessment of Mineral Dust Impacts for Planning*. Institute of Air Quality Management.
- IAQM (2020). *A guide to the assessment of air quality impacts on designated nature conservation sites*. Institute of Air Quality Management.
- Kettunen, M, Terry, A., Tucker, G. & Jones A. (2007) *Guidance on the maintenance of landscape features of major importance for wild flora and fauna - Guidance on the implementation of Article 3 of the Birds Directive (79/409/EEC) and Article 10 of the Habitats Directive (92/43/EEC)*. Institute for European Environmental Policy (IEEP), Brussels, 114 pp. & Annexes.
- Loss SR, Lao S, Eckles JW, Anderson AW, Blair RB, Turner RJ (2019) Factors influencing bird-building collisions in the downtown area of a major North American city. *PLoS ONE* 14(11): e0224164. <https://doi.org/10.1371/journal.pone.0224164>
- Reid, N., Dingerkus, S.K., Stone, R.E., Pietravalle, S., Kelly, R., Buckley, J., Beebee, T.J.C. & Wilkinson, J.W. (2013). *National Frog Survey of Ireland 2010/11*. Irish Wildlife Manuals, No. 58. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.
- Travers, M. S. Chapter 14 – Reducing collisions with structures. *Conservation of Marine Birds* 379-401: <https://doi.org/10.1016/B978-0-323-88539-3.00004-2>
- Triturus Environmental Ltd. (2022) *Medite Biological Water Quality Report, River Anner, Clonmel, Co. Tipperary*.

FIGURES

Figure 5-1
Habitat Map

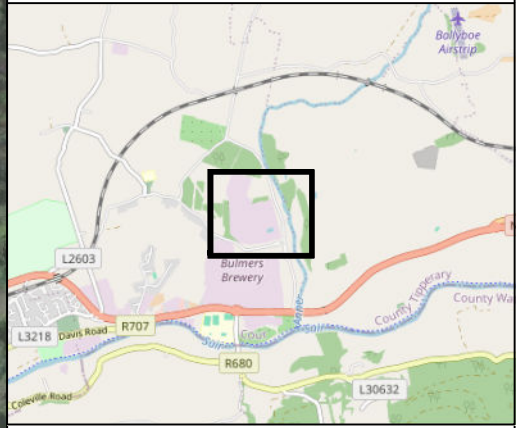
Figure 5-2
Sites Designated for Nature Conservation



LEGEND

Habitat (Fossitt Code)

	WL2 - Treeline
	BL3 - Buildings and Artificial Surfaces
	ED2 - Spoil and Bare Ground
	FL8 - Other Artificial Lakes and Ponds
	WD1 - Mixed Broadleaved Woodland
	WD4 - Conifer Plantation
	WS1 - Scrub



7 DUNDRUM BUSINESS PARK
 WINDY ARBOUR
 DUBLIN, D14 N2Y7
 IRELAND
 T: +353 (0)1 296 4667
 www.slrconsulting.com

MEDITE EUROPE DAC
 PROPOSED ENERGY PROJECT AT THE
 MEDITE FACILITY, REDMONDSTOWN,
 CLONMEL, CO. TIPPERARY

**FOSSIT CLASSIFICATION
 HABITAT MAP**

FIGURE 5-1

Scale 1:3,000 @ A3 Date DECEMBER 2023

00785.00001.0001.0 Medite Habitat Map

623500

623750

624000

624250

624500

624250

217500

225000

232500

130000

120000

00785.00001.0002.0 Natura 2000 Sites with 10 km Buffer



LEGEND



Site Boundary



Site Boundary 10 km Buffer



Special Area of Conservation (SAC)



7 DUNDUM BUSINESS PARK
 WINDY ARBOUR
 DUBLIN, D14 N2Y7
 IRELAND
 T: +353 (0)1 296 4667
 www.slrconsulting.com

MEDITE EUROPE DAC
 PROPOSED ENERGY PROJECT AT THE
 MEDITE FACILITY, REDMONDSTOWN,
 CLONMEL, CO. TIPPERARY

DESIGNATIONS PLAN

FIGURE 5-2



Scale 1:80,000 @ A3

Date DECEMBER 2023

APPENDIX

Appendix 5-1- Relevant Legislation and Planning Policy

Appendix 5-2- Detailed Methodology

Appendix 5-3 - Natura Impact Statement

(Refer to EIAR Volume 3 for Appendices)