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ECOLOGICAL IMPACT ASSESSMENT FOR A PROPOSED DEVELOPMENT AT SLADE, SAGGART, CO. DUBLIN (HURLEY SITE)

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1. Introduction

1.1 Background

This Ecological Impact Assessment (EcIA) addresses the potential ecological impacts of a proposed development that may occur in the future on the biodiversity and ecological integrity of a site at Slade, Saggart, Co. Dublin. It followed on from a Request for Further Information made by South Dublin County Council with regards this proposed development (Planning Reference No: SD21A/0171).

It follows a standard approach based upon the description of the existing baseline conditions within the development site. An evaluation of the likely habitats and species currently present within the proposed development site is also given, along with the identification of the potential ecological impacts arising from the proposed development. An assessment of the likely significance of the identified impacts on valued ecological receptors (VERs), both within and close to the development site is also made. Where a significant negative impact has been identified, then suitable remedial mitigation measures are provided in order to prevent, reduce or offset the impact.

1.2 Location and Setting

The application site is approximately 5.3ha and it is located in a semi-rural area in the townland of Saggart and on the south-western outskirts of Saggart village, approximately 800m south-west of the village centre. The site will be accessed via an existing entrance along the eastern site boundary and this is just off the Castle Road. The site is just west of the construction site of the new Saggart Irish Water Reservoir. The site is bounded to the south-east by Castle Road and to the north by the Millbrook Manor Nursing Home and agricultural land and to the west by domestic sites and agricultural land. A site location map is shown in Figure 1.

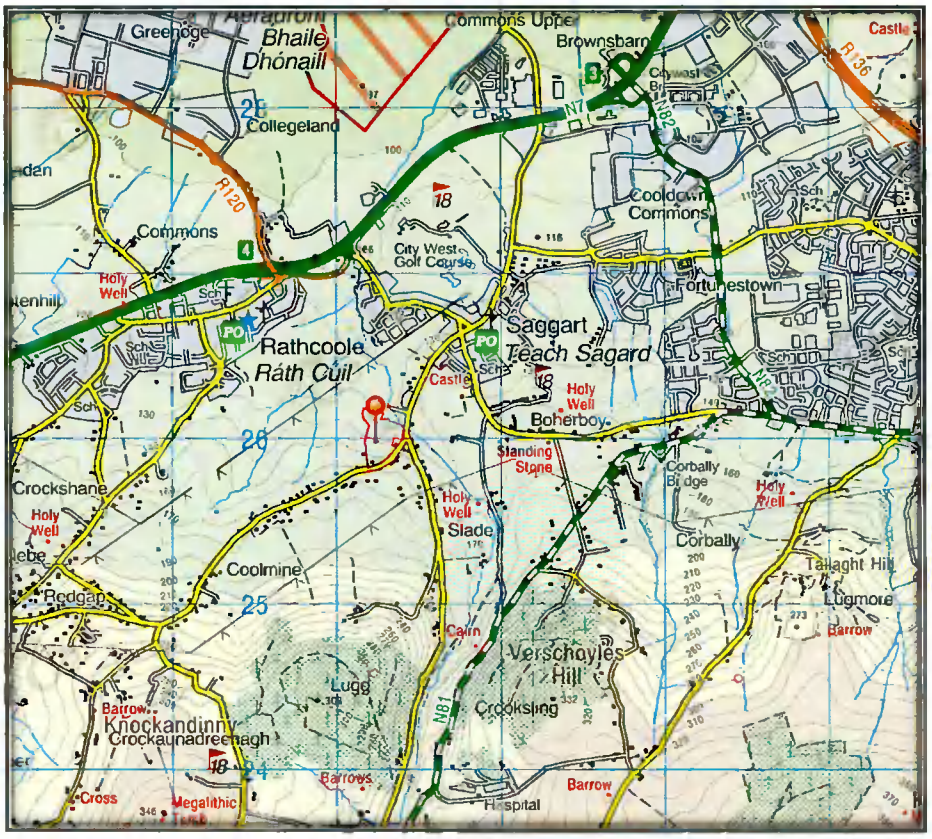

Figure 1 – Map Showing the Location of the Site (Pinned)

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1.3 Legislative and Policy Context

1.3.1 Legislative Context

The Irish Wildlife Act 1976 (and its amendment of 2000) provides protection to most wild birds and animals. Interference with such species can only occur under licence. Under the act it is an offence to "wilfully interfere with or destroy the breeding place or resting place of any protected wild animal". The basic designation for wildlife is the Natural Heritage Area (NHA). This is an area considered important for the habitats present or which holds species of plants and animals whose habitat needs protection. Under the Wildlife Amendment Act (2000) NHAs are legally protected from damage. NHAs are not part of the Natura 2000 network and so the Appropriate Assessment process does not apply to them.

The Flora Protection Order 1999 provides statutory protection in Ireland to a number of rare plant species from being wilfully cut, picked, uprooted or damaged. It is also illegal under this order to alter, damage or interfere with their habitats.

The Birds Directive (Council Directive2009/147/EC) recognises that certain species of birds should be subject to special conservation measures concerning their habitats. The Directive requires that Member States take measures to classify the most suitable areas as Special Protection Areas (SPAs) for the conversation of bird species listed in Annex 1

of the Directive. SPAs are selected for bird species (listed in Annex I of the Birds Directive), that are regularly occurring populations of migratory bird species and the SPA areas are of international importance for these migratory birds.

The EU Habitats Directive (92/43/EEC) requires that Member States designate and ensure that particular protection is given to sites (Special Areas of Conservation) which are made up of or support particular habitats and species listed in annexes to this Directive.

The Water Framework Directive (WFD) (2000/60/EC), which came into force in December 2000, establishes a framework for community action in the field of water policy. The overall sim of the WFD is the eventual achievement of good status in all waterbodies. The WFD was transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003). The WFD rationalises and updates existing legislation and provides for water management on the basis of River Basin Districts (RBDs). RBDs are essentially administrative areas for coordinated water management and are comprised of multiple river basins (or catchments), with cross-border basins (i.e. those covering the territory of more than one Member State) assigned to an international RBD. Ireland is now within the 2nd cycle of the WFD (2015 – 2021), where previous RBDs were merged into one national RBD. This cycle will also facilitate a greater input of communities at the local catchment level.

1.3.2 Planning Policies

National

Nationally, the Government's commitment to sustainable development is set out in a number of documents including the National Planning Framework and the National Development Plan 2018 – 2027.

Regional

The Regional Spatial and Economic Strategy for the Eastern and Midlands Regional Assembly (2018) provides a planning framework covering Dublin and its surrounding counties for the period 2010-2022. These guidelines contain a number of policies relevant to ecology and nature conservation. These guidelines are summarised in Table 1.

Reference	Objective / Policy
RPO 7.16	Support the implementation of the Habitats Directives in achieving an improvement in the conservation status of protected species and habitats in the Region and to ensure alignment between the core objectives of the EU Birds and Habitats Directives and local authority development plans.
RPO 7.17	Facilitate cross boundary co-ordination between local authorities and the relevant agencies in the Region to provide clear governance arrangements and coordination mechanisms to support the development of ecological networks and enhanced connectivity between protected sites whilst also addressing the need for management of alien invasive species and the conservation of native species.
RPO 7.21	Local authorities shall promote an Ecosystem Services Approach49 in the preparation of statutory land use plans.
RPO 7.22	Local authority development plan and local area plans, shall identify, protect, enhance, provide and manage Green Infrastructure in an integrated and coherent manner and should also have regard to the required targets in relation to the conservation of European sites, other nature conservation sites, ecological networks, and protected species.
RPO 7.23	Support the further development of Green Infrastructure policies and coordinate the mapping of strategic Green Infrastructure in the Region.

Table 1 – Regional Policies Relevant to Ecology and Nature Conservation

Local

Planning policy at the local level is provided by the South Dublin County Development Plan 2016–2022. This plan contains a number of objectives and policies relevant to ecology, biodiversity and nature conservation. Some of the relevant measures for nature conservation that are outlined in these plans are summarised in Table 2.

Reference	Objective / Policy
G2 Objective 1	To reduce fragmentation of the Green Infrastructure network and strengthen ecological links between urban areas, Natura 2000 sites, proposed Natural Heritage Areas, parks and open spaces and the wider regional Green Infrastructure network.
G2 Objective 2	To protect and enhance the biodiversity value and ecological function of the Green Infrastructure network.
G6 Objective 1	To protect and enhance existing ecological features including tree stands, woodlands, hedgerows and watercourses in all new

	developments as an essential part of the design process.
G6 Objective 2	To require new developments to provide links into the wider Green Infrastructure network, in particular where similar features exist on adjoining sites.
G6 Objective 3	To require multifunctional open space provision within all new developments that includes provision for ecology and sustainable water management.
HCL12 Objective 1	To prevent development that would adversely affect the integrity of any Natura 2000 site located within and immediately adjacent to the County and promote favourable conservation status of habitats and protected species including those listed under the Birds Directive, the Wildlife Acts and the Habitats Directive.
HCL13 Objective 1	To ensure that any proposal for development within or adjacent to a proposed Natural Heritage Area (pNHA) is designed and sited to minimise its impact on the biodiversity, ecological, geological and landscape value of the pNHA particularly plant and animal species listed under the Wildlife Acts and the Habitats and Birds Directive including their habitats.

Table 2 – Local Policies Relevant to Ecology and Nature Conservation

Biodiversity and Heritage Plans

Ireland's National Biodiversity Plan identifies actions that need to be taken in order to understand and protect biodiversity in Ireland. It states that biodiversity and ecosystems in Ireland should be conserved and restored, to deliver benefits that are essential to all sectors of society and that Ireland should contribute to the efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally.

2. Methodology

2.1 Statement of Competency

The site survey and EclA report was carried out by Noreen McLoughlin. Noreen is the owner and main ecologist at Whitehill Environmental. Noreen holds a BA (Hons) in Natural Science (Mod) Zoology and an MSc in freshwater ecology (TCD, Dublin). She has been a full member of the CIEEM (Chartered Institute of Ecology and Environmental Management) for over 16 years. Noreen has over 17 years as a professional ecologist in Ireland and in that time has completed many Ecological Impact Assessments and Appropriate Assessments for various developments.

2.2 Study Area

The study area encompasses all the land within the area defined in the plan submitted for planning consent, i.e., the proposed application site. In addition, important ecological habitats and receptors within the zone of influence (15km) of the proposed development were also studied.

2.3 Desk Based Studies and Consultation

The desk study involved the examination of aerial photographs, current and historical maps and plans and drawings of the site. In addition, information was collated on designated nature sites within a 15km radius of the proposed site and on protected and rare species within the 1km square of the site.

The following websites were used to access information and data:

- National Parks and Wildlife Service - aerial photographs and maps of designated sites, information on habitats and species within these sites and information on protected plant or animal species; conservation objectives, site synopses and standard data forms for relevant designated sites.
- Environmental Protection Agency (EPA)- Information pertaining to water quality, geology and licensed facilities within the area.
- National Biodiversity Data Centre (NBDC) – Information pertaining to protected plant and animal species within the study area.
- Rowan Engineering Consultants / Coffey Construction Ltd – Details of the proposed plan, including site plans and specifications etc.
- South Dublin County Council – Information on planning history in the area for consideration of cumulative impacts and effects. Information on the Planning File, including the FI Request.

2.4 Field Based Studies

Whitehill Environmental carried out a visit to the site of the proposed development in Slade on January 18th 2022. The site was surveyed in accordance with the Heritage Council's *Habitat Survey Guidelines* (Smith et al., 2010) and the Institute of Environmental Assessment's *Guidelines for Baselines Ecological Assessment* (IEA, 1995). Habitats within the application site were classified in accordance to Level 3 of *A Guide to Habitats in Ireland* (Fossit, 2000). These habitats are denoted in the text along with their habitat code, e.g., the habitat code for improved agricultural grassland is GA1. A species list was compiled and target notes were made.

During the surveys any bird and mammal activity was also noted.

2.5 Seasonal Constraints

The survey was carried out in late winter and this time is generally considered unsuitable for the assessment of habitats. However, given the paucity of habitats on the site, this was not considered to be a significant constraint in this instance. The survey was conducted outside of the optimal bird breeding season, whilst signs of mammals are usually most obvious in winter when vegetation has died back.

2.6 Assessment Methodology

2.6.1 Evaluation of Ecological Features

The methodologies used to determine the value of ecological resources, to characterise the impacts of the proposed scheme, and to assess the significance of impacts and any residual effects are described below. This approach is in accordance with EPA guidance and the CIEEM's (Chartered Institute of Ecology and Environmental Management) guidelines.

CIEEM suggest that to ensure a consistency of approach, ecological features are valued in accordance with their geographical frame of reference, as defined below:

- International
- National (Ireland)
- Regional (East)
- County (South Dublin)
- District (Saggart)
- Local/Townland (Slade townland)

The above categories are then applied to the ecological features identified. Ecological features can be defined as:

- Designated sites (i.e., SACs, SPAs, NHAs, pNHAs, National Nature Reserves) or non-statutory locally designated sites and features.

- Non-designated sites and habitats and features of recognised biodiversity value, such as rivers and streams. The features being evaluated can be considered in the context of the site and locality and thus a more accurate assessment of the impacts in the locality can be made.

The criteria used in evaluating ecological habitats follow the NRA (2009) and CIEEM (2006). The site evaluation criteria are detailed in Table 3.

Ecological Valuation	Description
Internationally Important	• Sites designated (or qualifying for designation) as an SAC* or SPA* under the EU Habitats or Birds Directives. • Undesignated sites that fulfil criteria for designation as a European Site. • Features essential to maintaining the coherence of the Natura 2000 network. • Sites containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive. • Resident or regularly occurring populations of birds listed in Annex I of the Birds Directive and species listed in Annex II and/or Annex IV of the Habitats Directive. • Ramsar Sites, World Heritage Sites or Biosphere Reserve. • Site hosting significant species populations under the Bonn Convention or Berne Convention. • Biogenetic Reserve or European Diploma Site. • Salmonid waters.
Nationally Important	• Sites or waters designated or proposed as an NHA*or Statutory Nature Reserve. • Refuge for fauna and flora protected under the Wildlife Acts. • National Park. • Undesignated sites fulfilling criteria for designation as a NHA. • Statutory Nature Reserve. • Refuge for Fauna and Flora protected under the Wildlife Act. • Resident or regularly occurring populations (assessed to be important at the national level) of species protected under the Wildlife Acts and/or species listed on the relevant Red Data list). • Site containing viable areas of the habitat types listed in

	Annex I of the Habitats Directive.
County Importance	• Areas of Special Amenity. • Area subject to a Tree Preservation Order. • Area of High Amenity, or equivalent, designated under the County Development Plan. • Resident or regularly occurring populations (assessed to be important at the County level) of species of birds listed in Annex I of the Birds Directive, species listed in Annex II and/or IV of the Habitats Directive, species protected under the Wildlife Acts and/or species listed on the relevant Red Data list. • Site containing area(s) of the habitat types listed in Annex I of the Habitats Directive that do not fulfil criteria for valuation as of International or National Importance. • County important populations of species, or viable areas of semi-natural habitats or natural heritage features identified in the National or local BAP. • Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness or populations of species that are uncommon within the county. • Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.
Local Importance (higher value)	• Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP. • Resident or regularly occurring populations (assessed to be important at the Local level) of species of birds listed in Annex I of the Birds Directive, species listed in Annex II and/or IV of the Habitats Directive, species protected under the Wildlife Acts and/or species listed in the relevant Red Data list. • Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality. • Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.
Local Importance (lower value)	• Sites containing small areas of semi-natural habitat that are of some local importance for wildlife. • Sites of features containing non-native species that are of some importance in maintaining habitat links.

Table 3 - Conservation Evaluation (after Natura Site Evaluation Scheme, NRA, 2009).

SAC = Special Area of Conservation SPA = Special Protection Area NHA = Natural Heritage Area.

2.6.2 Assessment of Impacts

The assessment of potential ecological impacts has been carried out using guidelines published by the EPA and the CIEEM. They can be summarised as:

- The identification of the range of potential impacts which can reasonably be expected to occur should the proposed developments receive consent.
- The consideration of the systems and processes in place to avoid, reduce and mitigate the possible effects of these impacts.
- The identification of opportunities for ecological enhancement within the site.

Impacts are defined as being positive, negative or neutral. A significant impact is defined as an impact upon the integrity of a defined ecosystem and/or the conservation status of a habitat or species within a given area.

Where a potential negative impact has been identified, mitigation measures have been formulated using best practices techniques and guidance to prevent, reduce or offset the impact.

3. Development Description

In June 2021, Coffey Construction Ltd applied to South Dublin County Council for planning permission for a development on lands at Slade, Saggart, Co. Dublin. Permission is being sought here for land recontouring/infilling works on 38,000sq.m of a folio size of C.5.3 ha (allowing buffers). The volume of material to be placed on the site will be C24,000m3 with a max fill level of C.1.5m above existing levels. The estimated duration of the works will be approximately 1-2 months.

The material will be sourced from the nearby Saggart waterworks site, where Irish Water and Coffey Construction Ltd are undertaking the construction of a new reservoir. The main site has previously been granted planning permission by South Dublin County Council (Planning File Reference: 18A/0180).

An extract from the planning drawings submitted is shown in Figures 2 and 3 below.

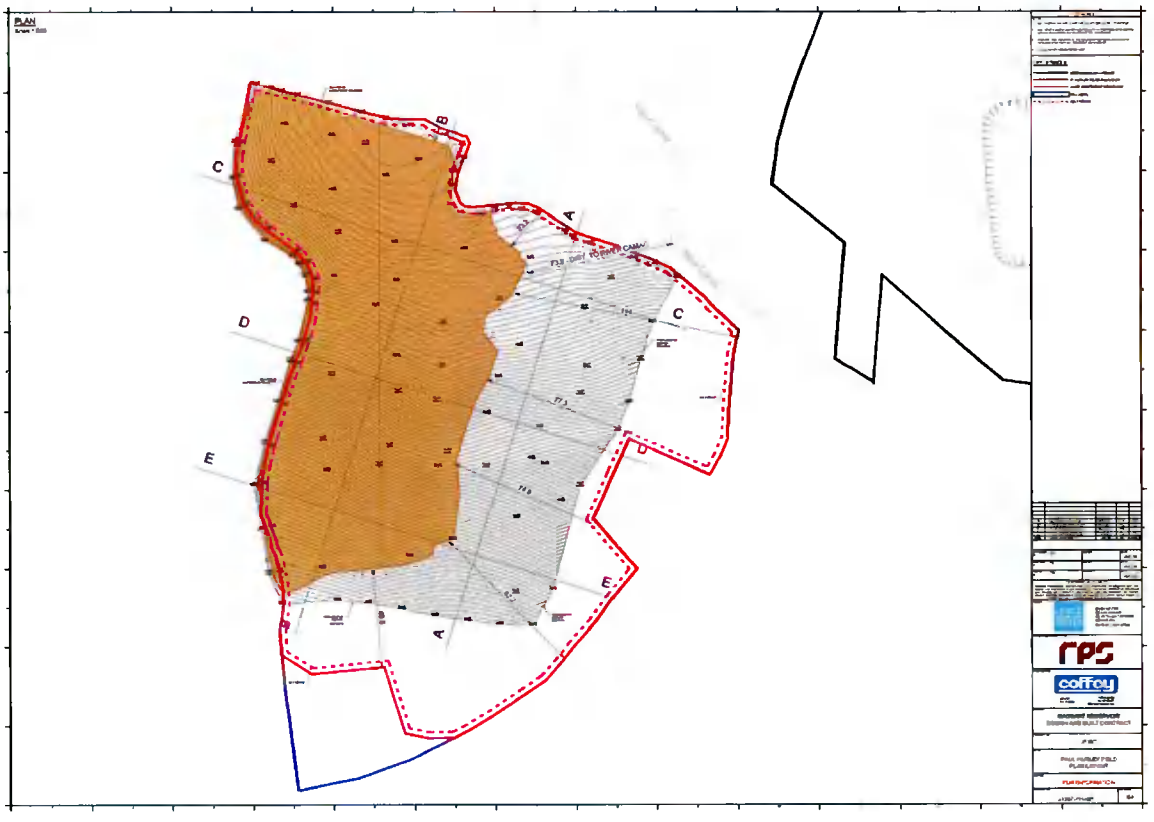

Figure 2 – An Extract from Planning Drawings Submitted. Infilling Works Confined to the Areas Highlighted in Brown Above.

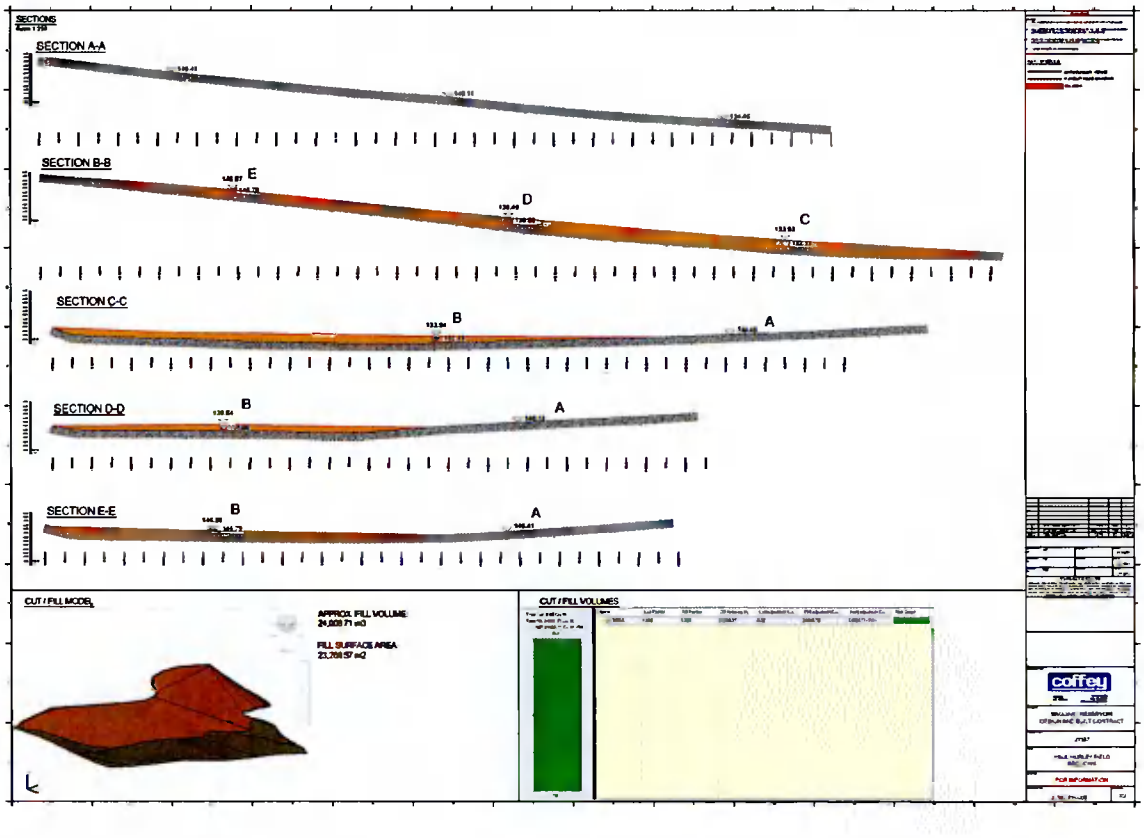

Figure 3 – An Extract from Planning Drawings Submitted showing cross sections of infill heights of material.

4. Receiving Environment

This section provides an overview of the existing ecological conditions within the site and the surrounding environment.

4.1 Land-Use Surrounding the Site

The land-use surrounding the site is predominantly agricultural and improved agricultural grassland is the dominant habitat in the lands that surround the site. Other habitats represented locally include scattered trees, hedgerows and treelines. There are a number of watercourses close to the application site, including the Camac River which flows by the north-eastern corner of the site. There are also a number of residential areas close to the site and the main habitats associated with these include buildings and artificial surfaces and amenity grasslands and gardens.

An aerial photograph of the site and its surrounding habitats is shown in Figure 3.

Figure 3 – An OSI Aerial Photograph (Outdated) of the Site (Outlined in Red) and Surrounding Habitats © Google

4.2 Designated Sites

4.2.1 Natura 2000 Sites

The proposed application site is not within nor adjacent to any site that has been designated as a Special Area of Conservation (SAC) or a Special Protection Area (SPA) under the EU Habitats or EU Birds Directive.

There are six Natura 2000 designated sites within 15km of this application site, plus four other sites that are hydrologically connected to it via the River Camac. These sites are the summarised in Table 4. The location of the application site in relation to these designated areas is shown in Figure 4 and a full synopsis of the relevant sites can be read online on the website of the National Parks and Wildlife Service (www.npws.ie). In addition, any other sites further than 15km, but potentially within its zone of influence were also considered. The zone of influence may be determined by an assessment of the connectivity between the application site and the designated areas by virtue of hydrological connectivity, atmospheric emissions, flight paths, ecological corridors etc.

Site Name & Code	Distance	Features of Interest
Glenasmole Valley SAC 001209	5.4km south-east	• Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) • Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) • Petrifying springs with tufa formation (Cratoneurion)
Wicklow Mountains SAC 002122	6.3km south-east	• Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) • Natural dystrophic lakes and ponds • Northern Atlantic wet heaths with *Erica tetralix* • European dry heaths • Alpine and Boreal heaths • Calaminarian grasslands of the Violetalia calaminariae • Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) • Blanket bogs (* if active bog) • Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani • Calcareous rocky slopes with chasmophytic vegetation

		• Siliceous rocky slopes with chasmophytic vegetation • Old sessile oak woods with Ilex and Blechnum in the British Isles • *Lutra lutra* (Otter)
Wicklow Mountains SPA 004040	9.8km south-east	• Merlin (*Falco columbarius*) • Peregrine (*Falco peregrinus*)
Poulaphouca Reservoir SPA 004063	10.6km south	• Greylag goose Anser anser • Lesser black-backed gull Larus fuscus
Red Bog Kildare SAC 000397	10.1km south-west	• Transition mires and quaking bogs
Rye Water Valley/Carton SAC 001398	10.1km north	• Petrifying springs with tufa formation (Cratoneurion) • *Vertigo angustior* (Narrow-mouthed Whorl Snail) • *Vertigo moulinsiana* (Desmoulin's Whorl Snail)
South Dublin Bay SAC 000210	23km downstream	• Mudflats and sandflats not covered by seawater at low tide • Annual vegetation of drift lines • Salicornia and other annuals colonising mud and sand • Embryonic shifting dunes
South Dublin Bay and River Tolka Estuary SPA 004024	23km downstream	• Light-bellied Brent Goose (*Branta bernicla hrota)* • Oystercatcher (*Haematopus ostralegus*) • Ringed Plover (*Charadrius hiaticula*) • Grey Plover (*Pluvialis squatarola)* • Knot *(Calidris canutus)* • Sanderling *(Calidris alba)* • Dunlin *(Calidris alpina)* • Bar-tailed Godwit *(Limosa lapponica)* • Redshank *(Tringa totanus)* • Black-headed Gull *(Chroicocephalus ridibundus)* • Roseate Tern *(Sterna dougallii)* • Common Tern *(Sterna hirundo)* • Arctic Tern *(Sterna paradisaea)* • Wetland and Waterbirds
North Bull Island SPA 004006	23km downstream	• Light-bellied Brent Goose (*Branta bernicla hrota)* • Shelduck (*Tadorna tadorna*) • Teal (*Anas crecca*) • Pintail (*Anas acuta*) • Shoveler (*Anas clypeata*) • Oystercatcher (*Haematopus ostralegus)* • Golden Plover (*Pluvialis apricaria*) • Grey Plover (*Pluvialis squatarola*)

		• Knot (*Calidris canutus*) • Sanderling (*Calidris alba*) • Dunlin (*Calidris alpina*) • Black-tailed Godwit (*Limosa limosa)* • Bar-tailed Godwit (*Limosa lapponica)* • Curlew (*Numenius arquata*) • Redshank (*Tringa totanus*) • Turnstone (*Arenaria interpres*) • Black-headed Gull (*Chroicocephalus ridibundus*) • Wetland and Waterbirds
North Dublin Bay SAC 000206	23km downstream	• Mudflats and sandflats not covered by seawater at low tide • Annual vegetation of drift lines • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows (Glauco-Puccinellietalia maritimae) • Mediterranean salt meadows (*Juncetalia maritimi*) • Embryonic shifting dunes • Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) • Fixed coastal dunes with herbaceous vegetation (grey dunes) • Humid dune slacks • *Petalophyllum ralfsii* (Petalwort)

Table 4 – Natura 2000 Sites of Relevance to the Proposed Development

The generic conservation objectives of all these sites are:

1. To maintain the favourable conservation status of the qualifying interests (outlined above) of these SACs.

2. To maintain the extent, species richness and biodiversity of the entire site.

3. To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

The favourable conservation status of a habitat is achieved when:

- Its natural range and area it covers within that range is stable or increasing and the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future;

- The conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- The population dynamics data on the species concerned indicate that it is maintaining itself on a long -term basis as a viable component of its natural habitats;

- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future;
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

A Stage I Appropriate Assessment Report as required under Article 6(3) of the EU Habitats Directive has been prepared in relation to this proposed application at Slade. This Screening report has concluded that the proposed development will not have any impacts on any European designated site.

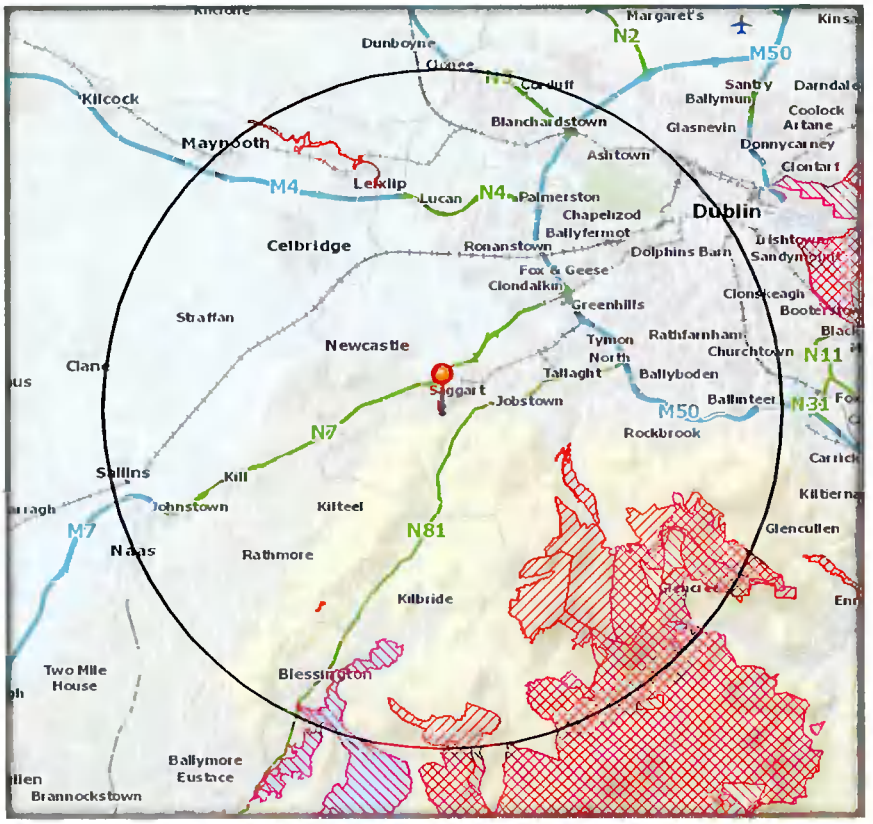

Figure 4 – The Application Site (Pinned) in relation to the Relevant Designated Sites. SACs - Red Cross Hatching, SPAs – Red Vertical Hatching

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4.2.2 Nationally Important Sites

The application site is not within nor adjacent to any nationally designated site, such as a Natural Heritage Area or a proposed Natural Heritage Area. It is within 10km of eight sites that have been designated as proposed Natural Heritage Areas. These sites are summarised in Table 5 and a map showing their location relative to the application site is shown in Figure 5.

Site Name	Distance from Proposed Development	Connectivity
Slade of Saggart and Crooksling Glen pNHA 000211	1km south	Upstream along the Camac River
Lugmore Glen pNHA 001212	2.9km east	None
Glenasmole Valley pNHA 001209	5.4km south-east	
Dodder Valley pNHA 000991	6.3 km east	None
Grand Canal pNHA 002104	6km north	None
Kilteel Wood pNHA 001394	6.3km south-west	None
Liffey Valley pNHA 000128	8.8km north	None
Red Bog pNHA 000397	9.7km south-west	None

Table 5 – Nationally Important Sites within 10km of the Proposed Development

Figure 5 – The Proposed Application Site at Slade (Pinned) in Relation to proposed Natural Heritage Areas (Blue Cross Hatching)

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4.3 Habitats and Flora

4.3.1 Rare and Protected Plant Species

An examination of the website of the National Parks and Wildlife, the National Biodiversity Data Centre and the Online Atlas of Vascular Plants for Ireland revealed that no species protected under the Flora Protection Order occurs within the 1km square (O0326, O0325), Zone of Influence or the townland (Slade) of the proposed application site. No species listed as protected under this order were observed on the day of the survey.

4.3.2 Non-Native Invasive Species

No invasive plant species listed in the Third Schedule of the Birds and Habitats Regulations (2011) were recorded from the study area.

4.3.3 Habitats within the Study Area

No part of the site lies within any area that is designated for nature conservation purposes. The footprint of the infilling works will take place on lands of low biodiversity value. The application site consists of one large field with undulating contours. The dominant habitat present within the site is improved agricultural grassland GA1, which is currently being used for grazing. Where they exist, the natural site boundaries consist of hedgerows.

The habitats within the site are described in greater detail below and a habitat map of the site is presented in Figure 6.

Grassland Habitats

The grassland habitat within the application site is intensively managed and has been classed as *Improved Agricultural Grassland* GA1. The sward is of low biodiversity value. It is dominated by agricultural grasses including meadow grass *Poa* sp. and rye grass *Lolium* sp. Occasional herbaceous species noted included mouse ear *Cerastium fontanum* and creeping buttercup *Ranunculus repens*. No wetland indicator plants were noted from within any part of the site.

Evaluation – The grassland habitats within the site are highly modified and are of no ecological value.

Field Boundaries

The boundaries of the site are mostly defined by well flailed hedgerows (WL1). There are no mature trees on site. The dominant species noted in the hedgerows was hawthorn *Crataegus monogyna*. Elder *Sambucus nigra* and ivy *Hedera helix* were also common.

Sections of hedgerow along the northern site boundary (adjacent to the nursing home) have recently been removed in order to facilitate ongoing construction works at the nursing home site.

Evaluation – The current management regime of the hedgerows around the site is resulting in a hedgerow of low biodiversity value.

Watercourses

The Camac River skirts the north-eastern perimeter of the site briefly for approximately 60m. However, it does not lie along the perimeter of the site - it is approximately 7m from the site boundary. There is a hawthorn / bramble hedgerow along the perimeter of the site closest to the river, and a grassy verge type habitat along the banks of the Camac River in this area. The Camac River flows through the grounds of the Millbrook Nursing Home, where sections of it have been channelised.

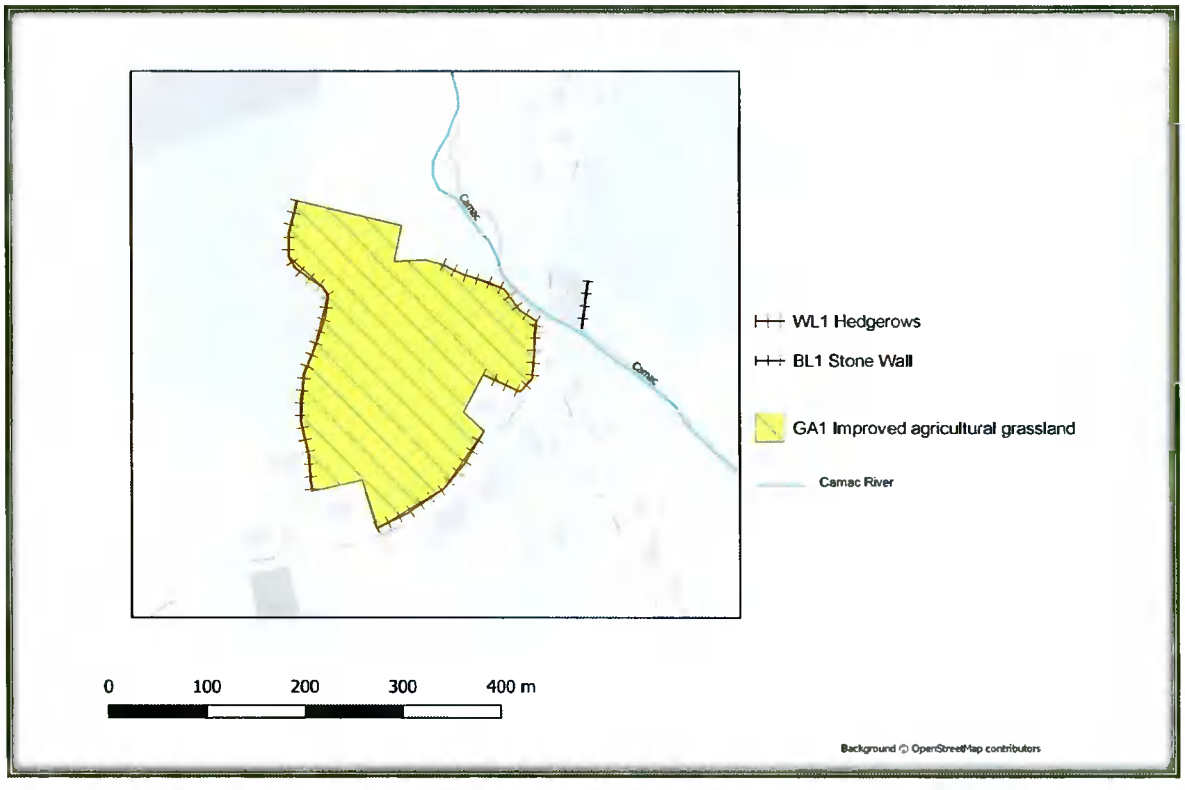

Figure 6 – Map of the Main Habitats within the Application Site

4.4 Fauna

4.4.1 Protected Mammals

Previous Records

Records from the National Biodiversity Data Centre reveal the presence of the following protected mammals from within the 10km square (O02) of this proposed application site:

- Brown Long-eared Bat (*Plecotus auritus*)*
- Daubenton's Bat (*Myotis daubentonii*)
- Eurasian Badger (*Meles meles*)
- Eurasian Pygmy Shrew (*Sorex minutus*)
- Eurasian Red Squirrel (*Sciurus vulgaris*)
- European Otter (*Lutra lutra*)
- Fallow Deer (*Dama dama*)
- Irish Hare (*Lepus timidus subsp. hibernicus*)
- Irish Stoat (*Mustela erminea subsp. hibernica*)
- Lesser Noctule (*Nyctalus leisleri*)
- Natterer's Bat (*Myotis nattereri*)
- Pine Marten (*Martes martes*)
- Pipistrelle (*Pipistrellus pipistrellus sensu lato*)*
- Red Deer (*Cervus elaphus*)
- Sika Deer (*Cervus nippon*)
- Soprano Pipistrelle (*Pipistrellus pygmaeus*)*
- West European Hedgehog (*Erinaceus europaeus*)*

All these species are protected under the Irish Wildlife Acts. In addition, the otter *Lutra lutra* is protected under Annex II of the European Habitats Directive. The species with an asterisk indicate that records are held for these species from the relevant 1km squares of this site.

During the field survey no evidence of usage of the site by protected mammal species was noted. There are no badger setts on site and no evidence of the use of the site by badgers. Badgers are known to use lands to the east of this application site, i.e., the lands surrounding the reservoir construction site.

There are no buildings or mature trees on site suitable for roosting bats, however bats are likely to forage or commute over the area in summer months.

The Camac River flows 7m north of the site and this river corridor is known to support otters. During the early stages of the ecological surveys for the proposed reservoir (which lies to the east and upstream of this current application site) in 2017, the only evidence of otter usage was a single spraint found in the Camac River at a bridge on the Slade Road adjacent to the Millbrook Manor Nursing Home. No evidence of holts were identified along the Camac River at this point or along accessible sections of the Millrace Stream, which is a tributary of the Camac River which lies to the east of the reservoir site. It is highly likely that otter use the Camac River for resting, breeding and commuting.

Where the Camac River flows through the nursing home, it has been channelised and recent works have involved the clearing off all vegetation along the eastern banks of the river to facilitate construction works. This makes the Camac River at this point as sub-optimal for the use by the otter.

4.4.2 Birds

A limited range of common passerine birds associated with agricultural areas were noted within or outside the application site. Species observed / heard within or flying over the site included:

- Blackbird *Turdus merula*
- Magpie *Pica pica*
- Pigeon *Columba palumbus*
- Robin *Erithacus rubecula*
- Starling *Sturnus vulgaris*

This site survey was carried out outside the optimal breeding season for birds so bird activity would be naturally lower. Overall, the management of the hedgerows on the site offer little opportunity for nesting or perching birds. There are also a lot of construction works locally arising from the works on the nursing home and reservoir site, and this is likely to deter birds from the area.

4.4.3 Amphibians, Reptiles and Invertebrates

There are limited habitats within the application site suitable for amphibians and reptiles.

During the summer months, a range of common butterflies, diurnal moths and bumble bees are likely to occur.

4.5 Aquatic Environment

4.5.1 Water Features and Quality

The application site is located within the Liffey and Dublin Bay Hydrometric Area and Catchment, the Liffey Sub Catchment and the Camac Sub-Basin. The Camac River rises in the foothills of the Wicklow Mountains. It flows 7m from the north-eastern corner of the application site, along the boundary and through the grounds of the Millbrook Manor Nursing Home. This river flows through the southern suburbs of Dublin city. It is channelized and culverted for much of its journey though Dublin city and suburbs. It flows into the River Liffey near Heuston Station.

The EPA have defined the ecological status of the Camac River as varying from good to moderate status at points close to the application site. Upstream of the bridge at Castle Road, status is generally good. However, the EPA note that this deteriorates to moderate downstream of the bridge at Castle Road. Further downstream again, ecological status deteriorates to poor. Under the requirements of the Water Framework Directive, all waterbodies must achieve good status.

As part of the ecological reports that were prepared for the construction of the reservoir, a survey of the ecological status of the Camac River at points upstream of the application was undertaken by RPS in 2018. Using biological water indices (the Q value) it was determined that the Q value of the Camac River at points upstream of the application site varied from a Q4 (i.e., good status) to Q3 (poor status).

In June 2021, kick samples from the Camac River at points upstream of the proposed infill site were analysed by Whitehill Environmental. A Q3-4 (moderate status) was noted from lands upstream of the application site, whilst Q4s (good status) were obtained from the Camac at the Castle Road Bridge.

5. Potential Impacts

5.1 Introduction

5.1.1 Significant Effects

The information gathered as part of the desk study and field survey for this proposed application has been used to make an Ecological Impact Assessment (EcIA). This EcIA has been undertaken following the latest guidelines set out by CIEEM (2018) and the EPA.

The identification of potential impacts and the assessment of their significance typically requires the identification of the type and magnitude of the impacts. For example, will the impacts be short term or long term, direct, indirect or cumulative and will they occur during construction or operation. This section will establish whether ecological impacts of the proposed development at Slade are likely to occur and whether or not they are significant. These potential impacts will be examined with respect to the ecological receptors identified in the previous section.

The emphasis in EcIA is on "significant" effects, rather than all ecological effects (CIEEM, 2018). For the purpose of EcIA, a "significant effect" is an effect that either supports or undermines biodiversity conservation objectives for important ecological features for biodiversity in general. Conservation objectives may be specific (e.g., for a designated site) or broad (e.g., national / local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local.

A significant effect is an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project. In broad terms, significant effects encompass impacts on structures and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution). (CIEEM, 2018).

5.2 Impacts upon Designated Sites

5.2.1 Natura 2000 Sites

The site at Slade is within 15km of six sites designated under the Natura 2000 network. There is no ecological connectivity between the application site and these six sites and significant effects upon these sites will not arise.

The River Camac is a tributary of the Liffey and consequently there is potential connectivity to the European sites associated with Dublin Bay, i.e., the South Dublin Bay SAC, the South Dublin Bay and River Tolka Estuary SPA, the North Bull Island SPA and

North Dublin Bay SAC. There are sites at a minimum distance of 23km downstream of the proposed infill site. Having regard to this significant distance, it is considered that significant effects upon these European sites will not arise and there are no mitigation measures necessary to specifically address potential effects that may occur on these sites.

An AA screening report for the proposed development has been submitted and this concluded that significant effects upon the European sites of Dublin Bay will not arise.

5.2.2 Natural Heritage Areas

The site is also within 10km of eight sites designated as Natural Heritage Areas (NHAs and pNHAs). The closest of these is the Slade of Saggart/Crooksling Glen pNHA. This is 1km south and upstream of the site and therefore significant effects upon this pNHA will not arise.

5.3 Impacts Upon Non-Designated Habitats

5.3.1 Development Phase

Should the proposed infilling development at Slade be allowed to proceed then the following impacts are likely to occur during all phases of the proposed development.

- **Habitat loss and fragmentation** – The plan allows for the infilling and re-contouring of the existing field, therefore the grassland habitat in this field will be temporary lost. Upon completion of the works, the soil will be levelled and reseeded to recreate the agricultural grassland habitat. The loss and recreation of this habitat will not have any significant ecological impacts.

  All remaining hedgerows within the site will remain and a 10m buffer along the hedgerows has been included as part of the plan.

  There will be no loss or disturbance to any of the riparian habitats along the Camac River. All infilling works will take place over 70m from the Camac River.

- **Disturbance to local wildlife** – During the works, local populations of birds and mammals may be disturbed by the increase in noise from traffic and human activity. However, given the existing habitats on the site, along with the current level of noise that exists from ongoing works, this impact will not be significant.

- **Pollution** – The application site is 7m from the Camac River. However, the infilling works will be mid-site, approximately 70m from the Camac River. Having regard to this significant distance, it can be concluded that pollution of the Camac River will not arise.

5.3.2 Cumulative Impacts

Cumulative impacts or effects are changes in the environment that result from numerous human-induced, small-scale alterations. Cumulative impacts can be thought of as occurring through two main pathways: first; through persistent additions or losses of the same materials or resource, and second,-through the compounding effects as a result of the coming together of two or more effects (Bowers-Marriott, 1997).

A search of the planning portal of Dublin County Council for other applications in the Saggart/Slade area revealed a number of recent developments of various scales and sizes. These developments will have no cumulative impacts on the biodiversity of the surrounding areas when considered in combination with this current application. Coffey Construction have also applied for planning permission for the infilling of a separate site across the road from this current site. An AA screening report and an EcIA for this site has been prepared. The current application will have no cumulative effects upon local ecological receptors when considered in-combination with the other infilling site to the east.

6. Mitigation Measures

The proposed infilling works at Slade will not lead to any significant effects upon any local high value ecological receptors and therefore detailed mitigation measures are not needed in this instance. Nonetheless, the following measures should be incorporated during the proposed infilling works.

During Infilling Works

- All infilling works must be confined to the development site only and should adhere to all standard best practice measures. Work areas should be kept to the minimum area required to carry out the proposed works and the area should be clearly marked out in advance of the proposed works. These measures must be undertaken from initial site works until the completion of all works on site.

- The 10m buffer zone along the existing hedgerows should be marked out and fenced off prior to the commencement of works. There should be no storage of soil or machinery in this buffer zone.

- There must be no disturbance to any riparian habitats along the banks of the Camac River.

- All chemicals, fuels, oils, greases and hydraulic fluids should be stored outside of this site and away from any watercourse in bunded compounds.

- There must be no re-fuelling on site.

- All soil materials shoudld be visually inspected for signs of potential contamination. Should any contamination be identified, the relevant soils will be stored separately, sampled and disposed of by a licensed waste contractor (as required).

Post Infilling Works

- The existing hedgerows around the site should be managed for the benefit of wildlife. Traditional methods of laying the hedgerow should be considered rather than the straight flailing of the top. An occasional shrub should be allowed grow to provide suitable nesting habitats for birds, whilst it will increase the supply of berries for foraging birds.

- Any landscaping at the end of the infilling works should involve the planting of native Irish species that are indigenous to the site. Suitable species would hawthorn, willow and alder. The characteristics of newly planted hedgerows should mimic those in the surrounding area. Invasive species must not be used. Herbicides should be avoided

during all phases of the construction and operation as these chemicals can have detrimental impacts upon local populations of pollinators.

- Bare soil should be seeded as soon as possible with grass seed.

- The remaining perimeters of the site should be managed at a low intensity level post infilling. They should not be cleared of vegetation, sprayed with herbicide or re-seeded. This will allow for the protection of mammals and water quality post infilling. Cutting of the grass once a year in late summer will promote biodiversity and the growth of flowering herbaceous plants. This will be of benefit to local pollinating insects.

7. Residual Impacts

With the recommended mitigation measures, it can be concluded that the proposed development at Slade will have a residual neutral impact upon the biodiversity of the local area.

Appendix I – Species List

Common Name	Scientific Name
Annual meadow-grass	*Poa annua*
Ash	*Fraxinus excelsior*
Bindweed	*Calystegia sepium*
Bramble	*Rubus fruticosus agg.*
Broadleaved Dock	*Rumex obtusifolius*
Chickweed	*Stellaria media*
Cleavers	*Galium aparine*
Cock's-foot	*Dactylis glomerata*
Creeping buttercup	*Ranunculus repens*
Dandelion	*Taraxacum officinale*
Elder	*Sambucus nigra*
Hawthorn	*Crategus monogyna*
Herb Robert	*Geranium robertianum*
Ivy	*Hedera helix*
Meadow grass	*Poa sp.*
Mouse ear	*Cerastium fontanum*
Nettle	*Urtica dioica*
Perennial rye-grass	*Lolium perenne*
Red clover	Trifolium pratense
White clover	*Trifolium repens*

APPENDIX II – Photographs

Hedgerow Boundary Close to the Camac (North-Eastern Perimeter)

Hedgerow Boundary along Perimeter with Nursing Home

Area where Hedgerow has been Removed

View from Field Towards Nursing Home

Hedgerow along Western Boundary

Looking North over the Field

View of Camac River from Castle Bridge

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