

Ecological Impact Assessment

Carhookeal Sports Grounds

Mallow

Co. Cork

Report prepared for Cork County Council

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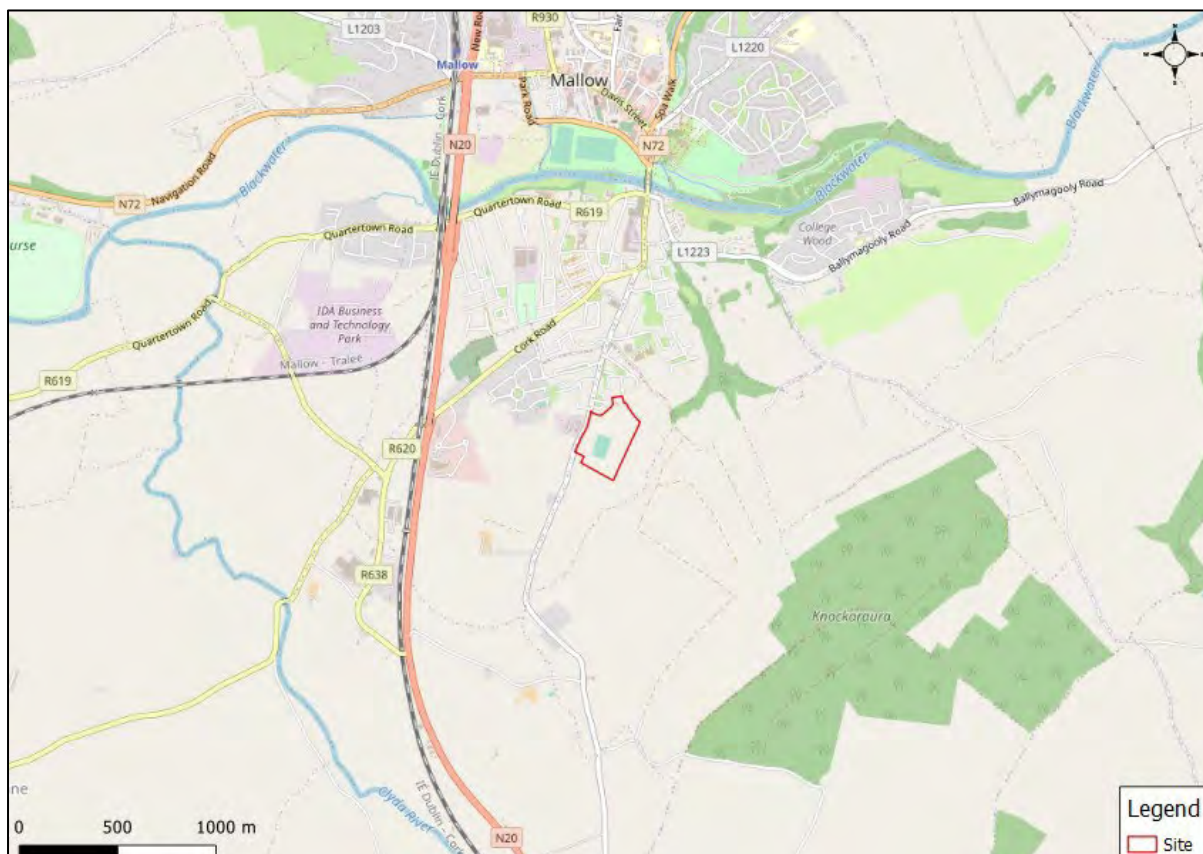
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1 Introduction

Greenleaf Ecology was commissioned by Cork County Council to undertake an Ecological Impact Assessment (EclA) of the proposed development of sports facilities at Carhookeal, Mallow, Co. Cork. The site is located to the south of Mallow, as illustrated in Figure 1-1.

Figure 1-1: Site Location Map



The purpose of this EclA is to:

- Establish baseline ecological data for the proposed development site;
- Determine the ecological value of the identified ecological features;
- Identify, describe and assess the likely significant effects of the proposed development on ecological features; and
- Propose effective mitigation measures to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on ecological features.

1.1 Statement of Competence

This ecological impact assessment was carried out by Karen Banks, MCIEEM. Karen is an ecologist with Greenleaf Ecology and has 16 years' experience in the field of ecological assessment. Karen has extensive experience in the production of Ecological Impact Assessments (EclA) including those for transport infrastructure, small to large scale housing and mixed-use developments, flood alleviation schemes and wind farms. Karen is an experienced and licenced bat surveyor and has conducted bat survey and assessment for numerous projects, including bridge repair and replacement works, domestic dwelling repair and demolition works and large-scale energy and infrastructure projects.

1.2 Description of Proposed Project

The aim of this project is to develop publicly owned Community Sports Grounds on the 19.3acre site at Carhookeal, Mallow. The facilities for the community and sporting clubs at this site are to include:

- Construction of a 400m eight lane athletic track, enclosing a grass pitch area suitable for track and field sports
- Development of a grass soccer pitch
- Development of an AstroTurf pitch (3Nr 30m x 50m pitches)
- Development of a rugby union size pitch
- Construction of 2 Nr Tennis Courts
- Provision of car parks – total spaces for 157 car spaces and 4 bus park spaces
- Development of an outer perimeter walking pathway
- Erection of new entrance gates
- Associated soft landscaping of the site including further native hedge planting, biodiversity planting and tree planting
- Associated groundworks including drainage, stormwater connections, watermain connections and electrical ducting

1.2.1 Surface Water

Surface water arising from the existing grass pitches percolates to grassland and drains towards a shallow drain/ditch at the east of the site. It is proposed that the new grass pitches and track will continue to percolate off to grassland and will drain to vegetated swales at the east of the site. The track level will direct water off to the inner grass area, while the astro pitch will have a drainage system under the pitch surface and be directed to grass areas within the site to naturally percolate.

The roadside car park areas will be constructed at the existing car park area and surface water will percolate to grassland as per the existing system. In the new proposed lower area car park the surface water will pass through a bypass interceptor before discharging to the storm water sewer.

1.2.2 Foul Water Network

There will be no foul water requirements as part of this planning application.

1.2.3 Lighting

LED floodlighting is proposed about the Running Track and Astroturf Pitch. It is envisaged that these will only be used in the winter months when running clubs/football clubs are using the facilities for training etc. They will be operated and controlled to ensure that they are only operated when required and will not be operating beyond the opening hours of the site (or during the night) or when not in use.

Pedestrian and site lighting will operate on a photocell and will not be used beyond the facility opening hours.

Beyond the car parking areas, it is proposed to use fully shielded/cowled walkway lighting bollards. This has an asymmetrical shielded light distribution. The light from these luminaires is directed downwards and fully shielded above the horizontal. The highest degree of illuminance is achieved in the immediate vicinity of the luminaire. Luminaires with a high level of visual comfort for the uniform illumination of footpaths and surfaces with maximum glare suppression.

The primary aim of the proposed lighting scheme is to eliminate or at least minimise the effects of artificial lighting on bats, for example by using LED lights (with no UV component), avoiding light spill

by using cowls and directional fittings, and by using an appropriate warm (2,700-3,000k) colour temperature.

2 Methodology

2.1 Relevant Planning Policy and Legislation

This report has been prepared with regards to the following legislation, policy documents and guidelines as relevant:

- CIEEM (2017) Guidelines for Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester;
- 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;
- DoEHLG (2010) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government;
- European Communities (2000) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission;
- European Commission Notice Brussels C (2021) 6913 final 'Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (EC, 2021);
- EC (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. European Commission;
- EC (2013) Interpretation Manual of European Union Habitats. Version EUR 28. European Commission;
- EPA (2017) Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports. Environmental Protection Agency;
- EPA (2003), Advice Notes on current practice in the preparation of Environmental Impact Statements. Environmental Protection Agency;
- Fossitt, J., 2000. A Guide to Habitats in Ireland. The Heritage Council, Kilkenny;
- HA (2001) DMRB Volume 10 Section 4 Part 4 - Ha 81/99 - Nature Conservation Advice In Relation To Otters. The Highways Agency;
- National Parks and Wildlife Service (NPWS) (2019) The Status of EU Protected Habitats and Species in Ireland. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht;
- NRA (2009) Guidelines for the Assessment of Ecological Impacts of National Road Schemes Rev. 2. National Roads Authority;
- NRA (2008) NRA Guidelines on Ecological Surveying Techniques for Protected Flora and Fauna on National Road Schemes). National Roads Authority; and
- NRA Environmental Assessment and Construction Guidelines (both adopted and draft versions)

Studies were also carried out in accordance with the following legislation:-

- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) and Directive 2009/147/EC (codified version of Directive (79/409/EEC as amended (Birds Directive)) – transposed into Irish law as European Communities (Birds and Natural Habitats) Regulations 2011;

- European Communities (Environmental Impact Assessment) Regulations, 1989 to 2006;
- European Communities (Environmental Liability) Regulations, 2008 (S.I. No. 547 of 2008);
- European Communities (Quality of Salmonid Waters) Regulations, 1988 (S.I. No. 84 of 1988);
- Flora Protection Order, 2015;
- Planning and Development Act (as amended);
- Water Framework Directive (2000/60/EC); and
- Wildlife Acts.

2.2 Study Area and Zone of Influence

Determination of this project's Zone of Influence (Zoi) was achieved by assessing all elements of the proposed project against the ecological features within the project footprint, in addition to all ecological receptors that could be connected to and subsequently impacted by the project through impact pathways. To this end, the Zoi extends outside of the proposed sports facility footprint to include ecological features connected to the project through proximity and connectivity through features such as watercourses. Following consideration of the characteristics of the proposed works, as described in Section 1.2, the Zoi for significant effects to fauna is considered to extend no more than 150m from the proposed development to take account of disturbance during construction.

2.3 Desk Study

The sources of published material that were consulted as part of the desk study for the purposes of the ecological appraisal are as follows:-

- Review of the National Parks & Wildlife Service (NPWS) natural heritage database for designated areas of ecological interest and sites of nature conservation importance within the proposed site and its environs;
- Review of Ordnance Survey maps and ortho-photography;
- Review of the National Biodiversity Data Centre (NBDC) database for records of rare and protected species within a 0.5km radius of the proposed site, including:
 - Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur) as identified in the EU Habitats Directive;
 - The presence of species of flora and fauna as identified and strictly protected under the European Communities (Birds and Natural Habitats) Regulations, 2011; and
 - Species of fauna and flora which are protected under the Wildlife Acts 'Protected species and natural habitats' as defined in the Environmental Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008;
- Review of NBDC database for records of bats within a 4km radius of the site;
- Review of the Cork County Development Plan (2022);
- 1:50,000 Ordnance Survey (OS) Map; Discovery Series; and
- Environmental Protection Agency mapping (<http://gis.epa.ie/Envision>).

2.4 Field Survey

A walkover survey of the proposed site was carried out by ecologist Ms Karen Banks on 10th October 2022. Areas highlighted during the desktop assessment were investigated further, and a habitat survey was carried out. Habitats on site were classified in accordance with the Heritage Council publication 'A Guide to Habitats in Ireland' (Fossitt, 2000). The classification is a standard scheme for identifying, describing and classifying wildlife habitats in Ireland. The classification is hierarchical and operates at three levels, using codes to differentiate habitats based on the plant species present. Species recorded in this report are given both their Latin and common names, following the nomenclature as given in the 'New flora of the British Isles' (Stace, 2010).

A survey for invasive species was conducted during the habitat and botanical survey undertaken on 10th October 2022. This survey included the identification and mapping of Invasive Alien Plant Species (IAPS). This survey was conducted in accordance with the NRA publication "*Guidelines for the Management of Noxious Weeds and Non- Native Invasive Plant Species on National Roads*".

The site walkover conducted on 10th October 2022 included an assessment of the presence, or likely presence, of protected species. The survey was conducted in accordance with the standard protected species survey guidelines contained in the National Roads Authority publication 'Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes' (2008). The survey was conducted for areas of habitat that might support protected mammals in addition to recording any field signs, such as well-used pathways, droppings, places of shelter and features or areas likely to be of particular value as foraging resources. Any badger setts present were recorded during the site walkover, along with potential pine marten den sites. In addition, the suitability of the habitat for pygmy shrew, hedgehog, Irish stoat, pine marten, amphibians and invertebrates were recorded. Following the results of the site walkover targeted mammal surveys were undertaken as detailed in Sections 2.4.1 to 2.4.2 below.

2.4.1 Badger Survey

A badger survey was conducted within the proposed site on the 10th October 2022. The badger survey was conducted in accordance with Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes (NRA, 2009).

Field signs of badger activity are characteristic and sometimes quite obvious and can include tufts of hair caught on barbed wire fences and scrub, conspicuous badger paths, footprints, small excavated pits or latrines in which droppings are deposited, scratch marks on trees, and snuffle holes, which are small scrapes where badgers have searched for insects and plant tubers (NRA, 2009).

Notes were made on signs of other mammals in order to deduce the likelihood of faint tracks and/or feeding signs belonging to badgers. The objectives of the badger survey were to:

- Confirm whether or not badger setts occur within the area surveyed.
- Confirm where possible the status of any setts identified in survey.
- Describe field signs of badger activity.

2.4.2 Bat Survey

A bat survey of the proposed site was undertaken on 10th October 2022 in accordance with the following guidelines:-

- Bat Conservation Ireland, (2010). *Guidance notes for Planners, Engineers, Architects, and Developers*;
- Collins, J. (ed.) (2016). *Bat Surveys for Professional ecologists: Good Practice Guidelines (3rd ed.)*. The Bat Conservation Trust, London; and

- Marnell, F., Kelleher, C. & Mullen, E. (2022) *Bat mitigation guidelines for Ireland v2*. Irish Wildlife Manuals, No. 134. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.

2.4.2.1 Preliminary Roost Assessment

Trees

The trees within the proposed site were surveyed in conjunction with the site walkover for potential roost sites and signs of bats. A detailed inspection of the exterior of trees was undertaken to look for features that bats could use for roosting (Potential Roost Features, or PRFs) from ground level. The aim of the survey was to determine the actual or potential presence of bats and the need for further survey and/or mitigation.

A detailed inspection of each tree within the site was undertaken. The inspection was carried out in daylight hours from ground level, and information was compiled about the tree, PRFs and evidence of bats. All trees supporting PRFs were numbered and marked on a map and a description of each PRF observed was recorded. PRFs that may be used by bats include:

- Rot holes;
- Hazard beams;
- Other horizontal or vertical cracks or splits (e.g. frost cracks) in stems or branches;
- Lifting bark;
- Knotholes arising from naturally shed branches or branches previously pruned back to the branch collar;
- Man-made holes (e.g. flush cuts) or cavities created by branches tearing out from parent stems;
- Cankers in which cavities have developed;
- Other hollows or cavities;
- Double leaders forming compression forks with included bark and potential cavities;
- Gaps between overlapping stems or branches;
- Partially detached ivy with stem diameters in excess of 50mm; and
- Bat or bird boxes.

Signs of a bat roost (excluding the actual presence of bats), include:

- Bat droppings in, around or below a PRF;
- Odour emanating from a PRF;
- Audible squeaking at dusk or in warm weather; and
- Staining below the PRF.

It should be noted that bats or bat droppings are the only conclusive evidence of a roost and many roosts have no external signs. In the current survey, potential roost sites were viewed by a bat specialist working from ground level. Trees were categorised according to the highest suitability PRF present.

The criteria for categorisation of suitability for bats is described further in Table 2-1.

Table 2-1: Suitability of Habitats for Bats

Suitability	Description	
	Roosting Habitats	Commuting and Foraging Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).</p> <p>A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.</p>	<p>Habitat that could be used by small numbers of commuting bats such as gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.</p> <p>Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.</p>
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only- the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</p>
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	<p>Continuous, high quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.</p> <p>Site is close to and connected to known roosts.</p>

2.5 Impact Assessment Criteria

The information gathered from desk study and survey has been used to make an ecological impact assessment (EcIA) of the proposed development upon the identified ecological features. The EcIA has been undertaken following the methodology set out in CIEEM (2018). EcIA is based upon a source-pathway-receptor model, where the source is defined as the individual elements of the proposed development that have the potential to affect identified ecological features. The pathway is defined as the means or route by which a source can affect the ecological features. An ecological feature is defined as the species, habitat or ecologically functioning unit of natural heritage importance. Each element can exist independently however an effect is created where there is a linkage between the source, pathway and feature.

A significant effect is defined in CIEEM (2018) as:

“an effect that either supports or undermines biodiversity conservation objectives for ‘important ecological features’.... or for biodiversity in general”.

Further, BS 42020:2013 states that if an effect is sufficiently important to be given weight in the planning balance or to warrant the imposition of a planning condition, e.g. to provide or guarantee necessary mitigation measures, it is likely to be “significant” in that context at the level under consideration. The converse is also true: insignificant effects would not warrant a refusal of permission or the imposition of conditions.

The geographical reference used for ecological valuation follows NRA (2009) *Guidelines for the Assessment of Ecological Impacts of National Road Schemes Rev. 2.*, as detailed in Appendix A.

2.6 Survey Constraints

The habitat and botanical survey was undertaken outside of the optimal survey season. However, the survey was undertaken by a botanist (Ms. Karen Banks) that is experienced in vegetative surveys. It is considered that sufficient plants were identified to species level to enable a confident classification of the habitats present on site.

The bird survey was undertaken outside of the breeding bird season. Based on an assessment of the suitability of the habitats present at the proposed site, and using the precautionary principle, it is assumed that birds utilise the treelines and hedgerows at the site for nesting.

3 Receiving Environment

3.1 Designated Sites

A review of European designated sites within a 5km radius of the proposed site was undertaken (www.npws.ie). Special Areas of Conservation (SACs) are sites of international importance due to the presence of Annex I habitats and / or Annex II species listed under the EU Habitats Directive. Special Protection Areas (SPAs) are designated for birds based on the presence of internationally significant populations of listed bird species.

A review of nationally designated sites was also undertaken. Natural Heritage Areas (NHAs) are sites deemed to be of national ecological importance and are afforded protection under the Wildlife Acts. The proposed Natural Heritage Areas (pNHA) have not been statutorily proposed or designated; however they do have some protection under agri-environmental farm planning schemes such as Rural Environment Protection Scheme (REPS 3 and 4) and Agri Environmental Options Scheme (AEOS), Forest Service requirement for NPWS approval for afforestation grants in pNHA lands and recognition of the value of pNHAs by Planning and Licensing Authorities.

There is one European site within 5km of the proposed site. A review of nationally designated sites indicates that there is no Natural Heritage Area or proposed Natural Heritage Areas within 5km of the proposed development. A list of European sites within 5km of the proposed site is presented in Table 3-1. European Sites are illustrated in Figure 3-1.

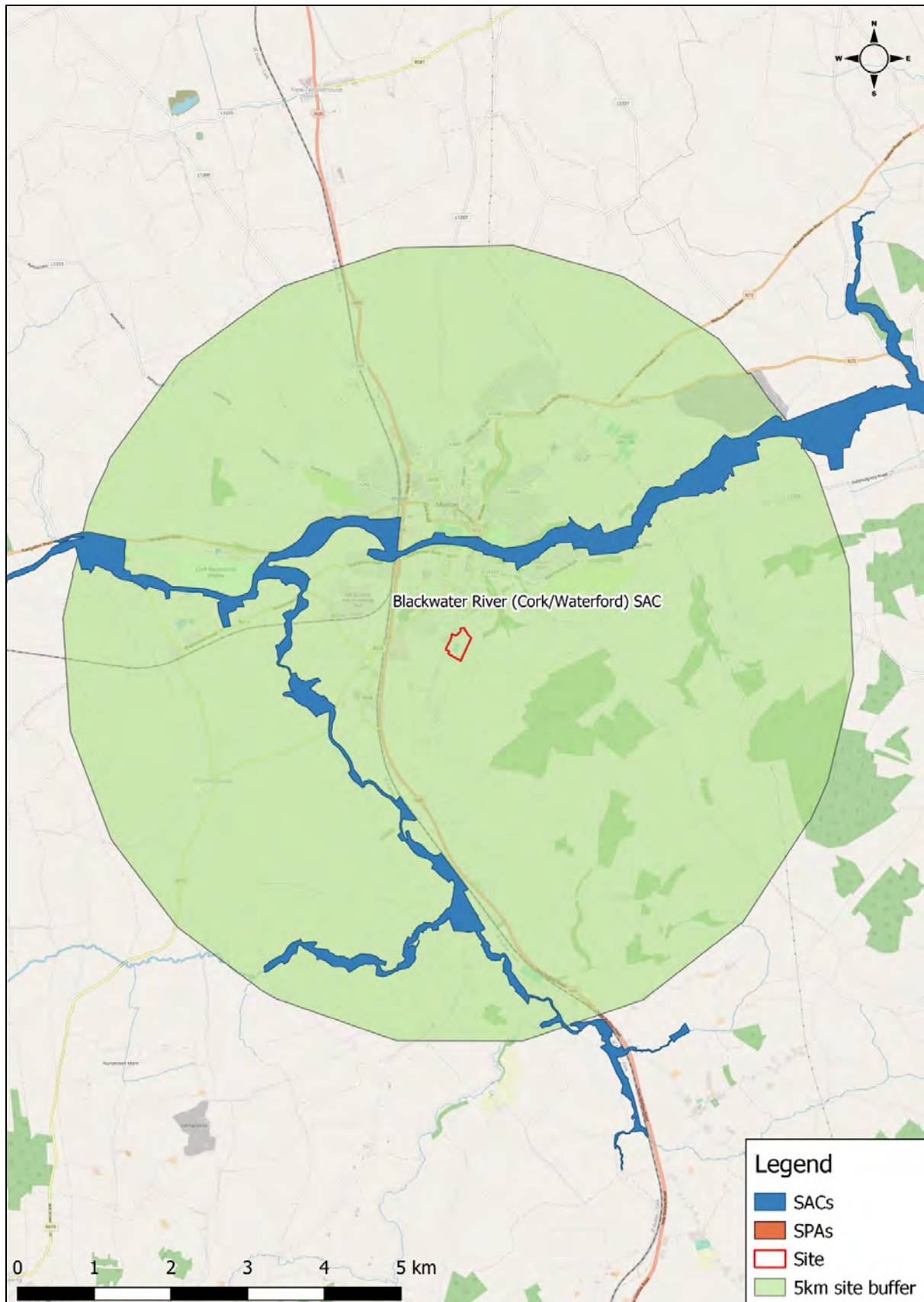
Table 3-1: International Sites within 5km of the Proposed Development

Site Name and Code	Qualifying Interests	Distance from Proposed Development ¹	Connectivity
Blackwater River (Cork/Waterford) (Site Code: 002170)	<p>Annex I Habitats</p> <p>Estuaries [1130]</p> <p>Mudflats and sandflats not covered by seawater at low tide [1140]</p> <p>Perennial vegetation of stony banks [1220]</p> <p>Salicornia and other annuals colonising mud and sand [1310]</p> <p>Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330]</p> <p>Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]</p> <p>Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260]</p> <p>Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]</p> <p>Annex II Species</p>	1.1km	There is no direct connectivity via surface water. However, the site slopes towards a tributary of the Blackwater River, (the ForestBear Stream) which is located c.140m to the east of the site.

¹ Distance measured "as the crow flies"

Site Name and Code	Qualifying Interests	Distance from Proposed Development ¹	Connectivity
	<p><i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029]</p> <p><i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092]</p> <p><i>Petromyzon marinus</i> (Sea Lamprey) [1095]</p> <p><i>Lampetra planeri</i> (Brook Lamprey) [1096]</p> <p><i>Lampetra fluviatilis</i> (River Lamprey) [1099]</p> <p><i>Alosa fallax fallax</i> (Twaiite Shad) [1103]</p> <p><i>Salmo salar</i> (Salmon) [1106]</p> <p><i>Lutra lutra</i> (Otter) [1355]</p> <p><i>Trichomanes speciosum</i> (Killarney Fern) [1421]</p>		

Figure 3-1: European Sites within 2km of the Proposed Site



3.2 Terrestrial Ecology

A description of the habitats recorded at the proposed site is presented below.

3.2.1 Habitats

The proposed site predominantly comprises a disused sports pitch that has not been managed regularly in recent years and, as such, most closely corresponds to species poor dry meadows and grassy verges (GS2) habitat. Species present within the grassland were limited to Rough Meadow-grass (*Poa trivialis*), Common Bent (*Agrostis capillaris*), Timothy (*Phleum pratense*) and the forbs Creeping Buttercup (*Ranunculus repens*), Broad-leaved Dock (*R. obtusifolius*), Common Sorrel (*R. acetosa*) and Creeping Thistle (*Cirsium arvense*) (Plate 3-1).

Plate 3-1: Species poor dry meadow grassland at the proposed site



Occasional wet depressions in the topography occur to the north of the site; these areas support Greater Bird's-foot-trefoil (*Lotus pedunculatus*), Meadow Vetchling (*Lathyrus pratensis*) and Meadowsweet (*Filipendula ulmaria*), however, these species are rare components of the sward. Scrub is developing on the grassland to the north of the site, with species including Willow (*Salix cinerea*), Bramble (*Rubus fruticosus*) and occasional Ash (*Fraxinus excelsior*), Scot's Pine (*Pinus sylvestris*) and Oak (*Quercus* spp) (Plate 3-2).

Plate 3-2: Grassland and scrub at the north of the site



At the northernmost point of the site is a small group of mature trees comprising Oak (*Quercus robur*) Large-leaved Lime (*Tilia platyphyllos*) and Sitka Spruce (*Picea sitchensis*) (Plate 3-3).

Plate 3-3: Small group of mature trees at the northern site boundary



Recolonising bare ground (ED3) is present at the west of the site, with species present including Perennial Rye-grass (*Lolium perenne*), Red Clover (*Trifolium pratensis*), Ribwort Plantain (*Plantago lanceolata*), Dandelion (*Taraxacum* agg.) and Autumn Hawkbit (*Leontodon autumnalis*) (Plate 3-4).

Plate 3-4: Recolonising bare ground



Willow and Gorse (*Ulex europaeus*) scrub (WS1) is present on sloping ground towards the west of the site (Plate 3-5), adjacent to the re-colonising bare ground.

The proposed site is fenced on the northern and eastern boundaries. Hawthorn (*Crataegus monogyna*) has been planted on a slope on the outside of the fence for the length of the fence on the eastern and northern boundary. The southern and western boundaries are bound by a treeline (WL2) comprising Willow, Oak, Hazel (*Corylus avellana*), Lime, Beech (*Fagus sylvatica*), Scot's Pine, Ash, Hawthorn and Blackthorn (*Prunus spinosa*) (Plate 3-5).

Plate 3-5: Recolonising bare ground, scrub and treeline on the western site boundary



A habitat map of the proposed site is illustrated in Figure 3-2.

Figure 3-2: Habitats recorded at the proposed site



3.2.2 Species

This section describes the species that have been recorded historically within 0.5km of the proposed site, results from site surveys and the potential for the proposed site to support protected species. Species records extracted from the NBDC database are included in Appendix B.

3.2.2.1 Amphibians and Reptiles

The NBDC holds records of common frog from the 10km OS grid square within which the site is located (W59). No evidence of amphibians was recorded during the site survey. There are no areas of standing water or active drainage ditches present within the proposed site; the habitats within the proposed site are not suitable to support breeding amphibians.

3.2.2.2 Avifauna

A number of protected bird species have been recorded within the vicinity of the proposed site (see NBDC records, Appendix B), including the Annex I species Kingfisher, European Golden Plover, Hen Harrier, Little Egret, Merlin, Peregrine Falcon; and BoCCI² Red List species Barn Owl, Black-headed Gull, Eurasian Curlew, European Golden Plover, Herring Gull, Northern Lapwing, Northern Shoveler and Yellowhammer.

² Gilbert, G., Stanbury, A. & Lewis, L. (2021) Birds of Conservation Concern in Ireland 4: 2020–2026. Irish Birds 43, 1-22.

Seven species of bird were recorded during the site walkover undertaken on 10th October 2022: Rook, Wood Pigeon, Robin, Greenfinch, House Sparrow, Chaffinch and Wren. Of these species, House Sparrow is Amber listed on the BoCCI, the remaining species are considered to be of least conservation priority (Green listed) and comprise a range of relatively common species typically associated with the grassland habitats present within the footprint of the proposed development.

There is potential for birds to nest within the trees and scrub present within the proposed site.

3.2.2.3 Flora

There are no records of protected species of plants from the vicinity of the proposed site. No rare or protected species were recorded during the site survey.

3.2.2.4 Invasive Species

There are no records of invasive species of plant from the vicinity of the proposed site. No invasive plant species were recorded during the site survey.

3.2.2.5 Invertebrates

The Annex II species Marsh Fritillary (*Euphydryas aurinia*) has been recorded in the vicinity of the proposed site, last recorded in OS grid square W59 in 2010. No invertebrates were recorded at the proposed site during the site surveys and the habitats present at the site are not suitable to support Marsh Fritillary.

3.2.2.6 Bats

The NBDC database does not hold any records of bats from within a 0.5km radius of the proposed site. Five of the ten known Irish species of bat have been recorded within a 4km radius of the proposed site, namely pipistrelle species, soprano pipistrelle, Leisler's, brown long-eared and Daubenton's bat as shown in Table 3-2 below. There are no existing records of roosting bats from the proposed site and its environs.

Table 3-2: NBDC and NPWS bat records within a 4km radius of the proposed site

Common Name	Scientific Name	Present (Y/N)	Date of Last Record	Location of Known Roost (to 1km OS Grid Square Resolution)
Pipistrelle spp.	<i>Pipistrellus pipistrellus sensu lato</i>	Y	14/09/2007	None
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	Y	14/09/2007	None
Nathusius's Pipistrelle	<i>Pipistrellus nathusii</i>	N	N/A	N/A
Leisler's Bat	<i>Nyctalus leisleri</i>	Y	06/07/2005	None
Brown Long-eared Bat	<i>Plecotus auritus</i>	Y	13/10/2005	None
Daubenton's Bat	<i>Myotis daubentonii</i>	Y	14/09/2007	None
Whiskered Bat	<i>Myotis mystacinus</i>	N	N/A	N/A
Natterer's Bat	<i>Myotis nattereri</i>	N	N/A	N/A
Lesser Horseshoe Bat	<i>Rhinolophus hipposideros</i>	N	N/A	N/A
Brandt's Bat	<i>Myotis brandtii</i>	N	N/A	N/A

The bat landscape association model (Lundy *et al*, 2011) suggests that the proposed site is part of a landscape that is of moderate to high suitability for bats including common pipistrelle (*Pipistrellus*

pipistrellus), soprano pipistrelle (*P. pygmaeus*), brown long-eared (*Plecotus auritus*), Leisler's (*Nyctalus leisleri*), Daubenton's (*Myotis daubentonii*), natterer's (*M. nattereri*) and whiskered bat (*M. mystacinus*). The proposed site and its environs are of low suitability for Nathusius' pipistrelle (*Pipistrellus nathusii*) and is outside of the distribution range for lesser horseshoe bat (*Rhinolophus hipposideros*) (Roche *et al*, 2014).

The site comprises species poor dry meadows and grassy verges habitat, with scrub and treelines on the southern and western boundary. The treelines at the proposed provide connectivity to suitable foraging areas in the wider landscape such as woodland edge and riparian habitat along the ForestBear Stream (EPA name) to the east of the site, which flows into the Blackwater River to the north of the site. In accordance with the criteria outlined in Table 2-1, the commuting and foraging habitats at the proposed site and its environs are of moderate suitability for bats.

As noted previously, the proposed site is bound by treelines to the south and west, and a small group of mature trees is present at the north of the site (Plate 3-3). No potential roosting features (PRFs) were recorded within the trees at the proposed site, however the Oak and Lime trees at the north of the site are large mature trees which may support hidden roosting features.

3.2.2.7 Ground Mammals

The NBDC hold records of badger from 1km OS grid square W5596, last recorded in 2004. The treeline present at the south of the proposed site would provide suitable habitat for badger, however, no evidence of badger, such as droppings, mammal tracks etc. was recorded at the proposed site.

Records of fallow deer and sika deer are general records from the 10k OS grid squares that the proposed site is situated in. No evidence of these species was recorded during the site surveys, and it is unlikely that the proposed site supports these species.

3.3 Hydrology

3.3.1 Water Bodies

There are no active drainage ditches or watercourses within the proposed site. The proposed site is located within the Blackwater (Munster)_140 Sub-basin. The 2nd order ForestBear Stream (EPA name), located c.0.14km to the east of the site is a tributary of the Blackwater (Munster) River, which is located c.1.1km to the north of the site (straight line distance).

The Blackwater (Munster)_140 River Waterbodies Risk Status is 'not at risk' and is classified as being of Good status under the 2013-2018 Water Framework Directive monitoring round. Macroinvertebrate sampling for Q-value determination was conducted within the Blackwater River as part of EPA's Water Framework Directive monitoring. This nearest sampling point is located within the Blackwater River at Rly Bridge, Mallow. In 2021 (the latest available data on [EPA Maps](#)), the Q-value was 4 'Good'.

The study area overlies the Glenville Ground Waterbody (GWB).

3.4 Summary of Ecological Evaluation

Table 3-3 summarises all identified ecological features. Ecological features have been identified as being at risk of potentially significant effects via a source-pathway-receptor link. Ecological features are valued as being of local ecological importance (higher value) or above as per the criteria set out in Appendix A.

Table 3-3: Ecological Features within the proposed site and it's receiving environment

Site/ Habitat/ Species	Ecological Value ³	Ecological Feature
European Site	International. No connectivity.	No
Natural Heritage Area	National. No connectivity.	No
Dry meadows and grassy verges and scrub (GS2/ WS1)	Local importance (lower value). The grassland at the proposed site is species poor and is of low botanical importance but does provide some limited habitat for fauna and avifauna.	No
Scrub (WS1)	Local importance (lower value). The Gorse and Willow scrub of low floristic value but does some limited habitat for fauna and avifauna.	No
Re-colonising bare ground (ED3)	Local importance (lower value). This habitat is species poor and is of low botanical importance.	No
Treeline (WL2)	Local importance (higher value). This habitat provides potential foraging and shelter for avifauna and a commuting and foraging areas for bats.	Yes
Amphibians & Reptiles	No evidence of amphibians or reptiles was recorded within the site. The habitats at the proposed site are unsuitable to support amphibians or reptiles.	No
Avifauna	Avifauna as they occur within the proposed site are considered to be of local importance (higher value)	Yes
Bats	The proposed site provides foraging and commuting habitat for bats. Bats, as they occur/potentially occur at the site, are considered to be of local Importance (higher value)	Yes
Ground mammals	No evidence of protected species of ground mammal was recorded at the site.	No

³ In accordance with NRA (2009) Guidelines for the Assessment of Ecological Impacts of National Road Schemes Rev. 2. National Roads Authority

4 Potential Effects of the Proposed Development

This section identifies in detail the potential impact of the proposed development on habitats and species of conservation value (i.e. ecological features as identified in Table 3-3) that have been identified as present, or that have the potential to be present, at its receiving environment.

4.1 Construction Phase

The ecological features that, in the absence of mitigation, may potentially be impacted by the construction phase of the proposed development and the significance of these effects are set out in the following sections.

4.1.1 Designated Sites

Connectivity between the proposed project and European and nationally designated sites has been reviewed. Connectivity is identified via the potential source-pathway-receptor model which identifies the potential impact pathways such as land, air, hydrological, hydrogeological pathways etc. which may support direct or indirect connectivity of the proposed works to European sites and/or their qualifying features. There is no direct surface water connectivity between the proposed site and any European or nationally designated site. However, the site slopes towards a tributary of the Blackwater River. In view of the nature, scale and location of the proposed project and the presence of a 140m vegetated buffer between the proposed site and the tributary of the Blackwater River, the report to inform Screening for Appropriate Assessment submitted with the planning application (Greenleaf Ecology, 2022) concluded that the proposed Carhookeal Sports Ground, Mallow, Co. Cork, either alone or in-combination with other plans and/or projects, does not have the potential to significantly affect any European site, in light of their conservation objectives.

4.1.2 Habitats

4.1.2.1 Treelines

No works are proposed to the treelines present at the southern and western site boundary: there will be no effects on treelines as a result of the proposed works.

4.1.3 Species

4.1.3.1 Avifauna

Breeding birds are protected under the Wildlife Acts 1976- 2012. It is an offence to disturb birds while on their nest, or to wilfully take, remove, destroy, injure or mutilate their eggs or nests.

The proposed development will require the removal of scrub that has developed on the disused existing pitch and grassland to the north of the site that may potentially support breeding birds of local conservation interest. If the scrub removal is not timed appropriately, nests containing eggs or young chicks could be destroyed. This would result in a negative impact on birds, which would be significant at a local level. In the absence of mitigation this would be a permanent and irreversible impact.

Indirect effects on birds associated with the proposed development may include potential disturbance during the construction works, which would be significant at a local level. In the absence of mitigation this impact would be temporary and reversible.

4.1.3.2 Bats

Loss of Roosting Habitat

The mature trees at the north of the site are considered to support low suitability for roosting bats. No works are proposed to these trees, therefore the proposed development will not result in the loss of any potential/actual bat roosts.

Loss of Foraging Habitat

The site supports potential foraging habitat for bats along the treelines at the south and west of the site, and to a lesser extent, the scrub that has encroached on the grassland. There will be no loss of treelines during the construction phase. The loss of scrub during construction would potentially result in a minor long-term adverse effect on bats at the local geographical scale.

Lighting

Studies have found that Leisler's bat and pipistrelle bats can congregate around white mercury street lights and white metal halide lamps feeding on the insects attracted to the light. However, bat species that have been shown to opportunistically forage in lit conditions have subsequently been recorded being impacted by artificial lighting. In cities, for example, common pipistrelles have been recorded avoiding gaps that are well lit, thereby creating a barrier effect.⁴ If directed at woodland habitats (e.g. treelines) present at the proposed site, the use of temporary lighting during the construction phase may cause disturbance to bats commuting through or feeding at the proposed site. In the absence of mitigation, disturbance of bats due to construction phase lighting would have short-term significant adverse impact at the local geographic scale.

4.1.3.3 *Invasive Species*

No invasive alien plant species were recorded within the proposed site. Therefore, the proposed development is not likely to result in the spread of invasive plant species.

4.2 Operational Phase

This section details the principle potential effects of the proposed development during the operational phase, in the absence of mitigation.

4.2.1 Designated Sites

No significant adverse effects on designated sites are anticipated during the operational phase.

4.2.2 Habitats

4.2.2.1 *Treelines*

No significant adverse effects on treelines are anticipated during the operational phase.

4.2.3 Fauna

4.2.3.1 *Avifauna*

No significant adverse effects on avifauna are anticipated during the operational phase.

4.2.3.2 *Bats*

The proposed site supports potential bat foraging habitat along linear woodland habitats at the site boundary. The proposed lighting during the operational phase will result in an increase in light levels at the site. As noted in Section 4.1.3.2, lighting can affect foraging bats and can create a barrier to commuting bats.

However, the proposed lighting will be directed at the pitches and the proposed design will avoid light spill on to woodland habitat present at the site boundary. It is further proposed to utilise bollard lighting for the walking track. In view of the above factors, it is expected that lighting of the proposed

⁴ Bat Conservation Trust and Institute of Lighting Professionals (2018) Guidance Note 08/18: Bats and artificial lighting in the UK. ILP, Rugby

site during the operational phase is likely to result in a minor adverse effect on the local population of bats in the long-term.

5 Mitigation

A comprehensive construction method statement shall be prepared by the contractor and reviewed and approved by the relevant statutory authorities e.g. Cork County Council, as necessary before any works take place. This will be informed by the specific mitigation measures detailed in Table 5-1 and the guidance documents and best practice guidelines listed below:

- H. Masters-Williams et al (2001) Control of water pollution from construction sites. Guidance for consultants and contractors (C532). CIRIA;
- Murnane et al (2002) Control of Water Pollution from Construction Sites- Guide to Good Practice (SP156). CIRIA.

5.1 Construction Phase

The following mitigation measures outlined in Table 5-1 shall be implemented in full by the appointed contractor.

Table 5-1: Table of construction phase mitigation measures

Objective(s)	Measure	Details of Mitigation
Treelines	Timing of works	No tree or scrub clearance will occur during the bird breeding season from 1st March to 31st August.
Control of pollutants	Best practice during construction (pollutant control measures)	The proposed works shall be undertaken in accordance with the following good practice guidelines: <ul style="list-style-type: none"> ▪ H. Masters-Williams et al (2001) Control of water pollution from construction sites. Guidance for consultants and contractors (C532). CIRIA; ▪ Murnane et al (2002) Control of Water Pollution from Construction Sites- Guide to Good Practice (SP156). CIRIA.
Birds	Timing of works	No clearance of treelines, scrub or other removal of vegetation on site shall occur during the bird breeding season from 1st March to 31st August.
Birds	Landscaping	The loss of potential nesting habitat in scrub at the north of the site will be compensated for by the hawthorn that has been planted along the eastern and northern boundaries, which will provide potential nesting bird habitat as it matures.
Bats	Appropriate use of lighting	Where construction lighting is required, lighting shall be directed away from all treeline and other woodland habitats to be retained. Directional lighting (i.e. lighting which only shines on the proposed project and not nearby countryside) shall be used to prevent overspill. This will be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only.
Invasive species	Best practice (invasive plant species)	No Third Schedule or High Impact invasive plant species were observed at the proposed site. However, a pre-construction survey of the site shall be carried out as a precautionary measure as invasive species may have colonised the area in the time since the original site visit. For any material entering the site, the supplier shall provide an assurance that it is free of invasive species.

		<p>If invasive species are found onsite an invasive species management plan shall be drawn up. It shall be ensured that all site users are aware of the invasive species management plan and treatment methodologies. This can be achieved through “toolbox talks “before works begin on the site.</p>
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5.2 Operational Phase

5.2.1 Habitats

No significant effects on habitats have been identified during the operational phase, therefore no specific mitigation measures are required.

5.2.2 Species

No significant effects on species have been identified during the operational phase, therefore no specific mitigation measures are required.

However, it is recommended that best practice in lighting design is adhered to during the operational phase as follows:

The protection of dark refuges is essential for bats, particularly in urban and suburban areas. Careful design of the lighting will be important to ensure that the sports grounds do not create barriers for bats commuting and foraging at the site, while maintaining health and safety requirements for human use. This is particularly important for bat foraging/commuting habitat within, and at the edge of, treeline habitats at the site.

The following general principles, which accord with the relevant verified measures set out in the BCT Lighting Guidelines (BCT, 2018), shall be implemented:

- Lighting design will be flexible and be able to fully take into account the presence of protected species. Therefore, appropriate lighting shall be used within the proposed development and adjacent areas with more sensitive lighting regimes deployed in wildlife sensitive areas.
- Dark buffer zones will be used to separate habitats or features from lighting by forming a dark perimeter around them. This shall be used for habitat features noted as foraging areas for bats (i.e. treelines).
- Buffer zones will be used to protect dark buffer zones and rely on ensuring light levels (levels of illuminance measured in lux) within a certain distance of a feature do not exceed certain defined limits. The buffer zone can be further subdivided into zones of increasing illuminance limit radiating away from the feature or habitat that requires to be protected.

Luminaire design is extremely important to achieve an appropriate lighting regime. Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following will be considered when choosing luminaires. This is taken from the most recent BCT Lighting Guidelines (BCT, 2018).

- All luminaires used will lack UV/IR elements to reduce impact.
- LED luminaires will be used due to the fact that they are highly directional, lower intensity, good colour rendition and dimming capability.
- A warm white or red spectrum (<2700 Kelvins is recommended to reduce the blue light component of the LED spectrum).
- Luminaires shall feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.

- The use of specialist bollard or low-level downward directional luminaires shall be used in bat sensitive areas to retain darkness above.
- Column heights will be carefully considered to minimise light spill. The shortest column height allowed shall be used where possible.
- Only luminaires with an upward light ratio of 0% and with good optical control will be used.
- Luminaires will always be mounted on the horizontal, i.e. no upward tilt.

As noted in Section 1.2.3, it is envisaged that flood lighting will only be used in the winter months when running clubs/football clubs are using the facilities for training etc. They will be operated and controlled to ensure that they are only operated when required and will not be operating beyond the opening hours of the site (or during the night) or when not in use. Pedestrian and site lighting will operate on a photocell and will not be used beyond the facility opening hours. It is proposed to use fully shielded/cowled walkway lighting bollards beyond the car parking areas.

5.3 Residual Effects

The proposed development will require the removal of scrub that has developed on grassland to the north of the site and the periphery of the disused sports pitch. The loss of habitat provided by scrub for species such as birds and foraging bats will be compensated for as the Hawthorn planted on the eastern and northern site boundary matures.

There will be an increase in lighting at the proposed site, however, the lighting design will avoid light spill onto valuable bat foraging and commuting habitat at the site boundary. As such, the lighting during the operational phase is expected to result in a minor, but not significant, adverse effect on bats that commute to the site to forage.

No significant adverse residual effects are expected as a result of the proposed Carhookeal Sports Ground, Mallow.

6 Enhancement

6.1 Landscaping

It is recommended that the sports ground is managed in accordance with the Pollinator Friendly Management of Sports Clubs Guidelines (available at [Sports Clubs » All-Ireland Pollinator Plan \(pollinators.ie\)](https://www.pollinators.ie/)).

The following options are recommended:

- a) The establishment of Hawthorn planted on the eastern and northern site boundary shall be checked and failing plants shall be replaced as required.
- b) Scrub present on the sloping ground to the west of the site is retained.
- c) Manage hedgerows at the site boundary for biodiversity by allowing hedgerow species to flower. Where possible, cut hedgerows on a minimum 3-year cycle. Where hedgerows must be cut for road safety, allow the inside to flower. Hedges managed for pollinators should ideally be cut between November and January.
- d) Manage off-pitch grass for pollinators:
 - i. Create short-flowering meadows between the pitches by mowing every 4-6 weeks. If possible, don't mow until mid-April. Cuttings should be removed.
 - ii. Manage the grassland adjacent to the walking track as a long-flowering meadow. Cut annually in September and remove cuttings. Cutting paths through the middle or keeping a short border at the edge will demonstrate that these meadows are being managed and allow club members and walkers to enjoy the resource.
- e) Avoid/ minimise the use of herbicide by strimming around fencing, goals, lights etc. The base of trees and hedgerows shall not be sprayed.

The management of the proposed site in accordance with the above options enhance biodiversity within the site and will act in support of the following County Development Plan (CDP) Objectives:

BE15-5 (a): *Protect biodiversity and support the principle of biodiversity net gain on land and property owned and managed by Cork County Council;*

Objective BE15-5 (b): *Support the implementation of positive conservation management on lands and property which are owned or managed by Cork County Council;*

Objective BE15-5 (e): *Where possible, develop and implement Pollinator Plans and/or Biodiversity Action Plans for lands managed by Cork County Council in accordance with the National Biodiversity Action Plan (and any future National Biodiversity Action Plan which may be adopted during the lifetime of this Plan) and the All-Ireland Pollinator Plan; and*

Objective BE15-5 (g): *The Council will incorporate primarily native planting into new landscaping schemes within its own developments.*

Further, the management of hedgerows for wildlife, the retention of treelines and scrub within the site and the establishment of native shrub species on the eastern site boundary will act in support of the following CDP Objective:

GI14-3 (a) *Require all new development and redevelopment proposals to contribute to the protection, management and enhancement of the existing green and blue infrastructure of the local area in terms of the design, layout and landscaping of development proposals.*

7 Conclusion

Provided that the mitigation measures provided in Section 5 are effectively implemented, no significant negative ecological effects as a result of the proposed Carhookeal Sports Ground, Mallow, Co. Cork are expected.

Further, with the implementation of the enhancement recommendations provided in Section 6 of this report, the proposed development will protect the existing ecological assets at the proposed site and will manage and develop green infrastructure resources including hedgerows, treelines and off-pitch wildflower meadows.

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Appendix A: Geographic Reference for Ecological Assessment

Ecological Valuation
<p>International Importance:</p> <p>'European Site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation.</p> <p>Proposed Special Protection Area (pSPA).</p> <p>Site that fulfils the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended).</p> <p>Features essential to maintaining the coherence of the Natura 2000 Network.</p> <p>Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive.</p> <p>Resident or regularly occurring populations (assessed to be important at the national level) of the following:</p> <p>Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or</p> <p>Species of animal and plants listed in Annex II and/or IV of the Habitats Directive.</p> <p>Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971).</p> <p>World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972).</p> <p>Biosphere Reserve (UNESCO Man & the Biosphere Programme).</p> <p>Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979).</p> <p>Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979).</p> <p>Biogenetic Reserve under the Council of Europe.</p> <p>European Diploma Site under the Council of Europe.</p> <p>Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).</p>
<p>National Importance:</p> <p>Site designated or proposed as a Natural Heritage Area (NHA).</p> <p>Statutory Nature Reserve.</p> <p>Refuge for Fauna and Flora protected under the Wildlife Acts.</p> <p>National Park.</p> <p>Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park.</p> <p>Resident or regularly occurring populations (assessed to be important at the national level) of the following:</p> <p>Species protected under the Wildlife Acts; and/or</p> <p>Species listed on the relevant Red Data list.</p> <p>Site containing 'viable areas' of the habitat types listed in Annex I of the Habitats Directive.</p>
<p>County Importance:</p> <p>Area of Special Amenity.</p> <p>Area subject to a Tree Preservation Order.</p> <p>Area of High Amenity, or equivalent, designated under the County Development Plan.</p> <p>Resident or regularly occurring populations (assessed to be important at the County level) of the following:</p> <p>Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;</p> <p>Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;</p> <p>Species protected under the Wildlife Acts; and/or</p> <p>Species listed on the relevant Red Data list.</p> <p>Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance.</p> <p>County important populations of species or viable areas of semi-natural habitats or natural heritage features identified in the National or Local BAP, if this has been prepared.</p> <p>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.</p> <p>Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.</p>

Local Importance (higher value):

Locally important populations of Priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared;

Resident or regularly occurring populations (assessed to be important at the Local level) of the following:

Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;

Species of animal and plants 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.

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 or features containing non-native species that are of some importance in maintaining habitat links.

Appendix B: NBDC Records

NBDC Species Records from within 500m of the Proposed Sports Grounds Development

Species name	Date of last record	Designation
Common Frog (<i>Rana temporaria</i>)	31/12/1994	Annex V, Wildlife Acts
Barn Owl (<i>Tyto alba</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Red List
Barn Swallow (<i>Hirundo rustica</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Black-headed Gull (<i>Larus ridibundus</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Red List
Black-tailed Godwit (<i>Limosa limosa</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Common Coot (<i>Fulica atra</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Common Greenshank (<i>Tringa nebularia</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Common Kestrel (<i>Falco tinnunculus</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Common Kingfisher (<i>Alcedo atthis</i>)	31/12/2011	Wildlife Acts, Annex I Bird Species, Birds of Conservation Concern - Amber List
Common Linnet (<i>Carduelis cannabina</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Common Pheasant (<i>Phasianus colchicus</i>)	31/12/2011	Wildlife Acts
Common Pochard (<i>Aythya ferina</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Common Shelduck (<i>Tadorna tadorna</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Common Snipe (<i>Gallinago gallinago</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Common Starling (<i>Sturnus vulgaris</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Common Swift (<i>Apus apus</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Common Wood Pigeon (<i>Columba palumbus</i>)	31/12/2011	Wildlife Acts
Eurasian Curlew (<i>Numenius arquata</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Red List
Eurasian Teal (<i>Anas crecca</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Eurasian Wigeon (<i>Anas penelope</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Eurasian Woodcock (<i>Scolopax rusticola</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
European Golden Plover (<i>Pluvialis apricaria</i>)	31/12/2011	Wildlife Acts, Annex I Bird Species, Birds of Conservation Concern - Red List
Gadwall (<i>Anas strepera</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Great Cormorant (<i>Phalacrocorax carbo</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Hen Harrier (<i>Circus cyaneus</i>)	31/12/2011	Wildlife Acts, Annex I Bird Species, Birds of Conservation Concern - Amber List
Herring Gull (<i>Larus argentatus</i>)	29/02/1984	Wildlife Acts, Birds of Conservation Concern - Red List
House Martin (<i>Delichon urbicum</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
House Sparrow (<i>Passer domesticus</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List

Lesser Black-backed Gull (<i>Larus fuscus</i>)	29/02/1984	Wildlife Acts, Birds of Conservation Concern - Amber List
Little Egret (<i>Egretta garzetta</i>)	31/12/2011	Wildlife Acts, Annex I Bird Species
Little Grebe (<i>Tachybaptus ruficollis</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Mallard (<i>Anas platyrhynchos</i>)	31/12/2011	Wildlife Acts
Merlin (<i>Falco columbarius</i>)	31/12/2011	Wildlife Acts, Annex I Bird Species, Birds of Conservation Concern - Amber List
Mew Gull (<i>Larus canus</i>)	29/02/1984	Wildlife Acts, Birds of Conservation Concern - Amber List
Mute Swan (<i>Cygnus olor</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Northern Goshawk (<i>Accipiter gentilis</i>)	25/05/1991	Wildlife Acts, Birds of Conservation Concern - Amber List
Northern Lapwing (<i>Vanellus vanellus</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Red List
Northern Shoveler (<i>Anas clypeata</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Red List
Peregrine Falcon (<i>Falco peregrinus</i>)	31/12/2011	Wildlife Acts, Annex I Bird Species
Rock Pigeon (<i>Columba livia</i>)	31/12/2011	Wildlife Acts
Sand Martin (<i>Riparia riparia</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Sky Lark (<i>Alauda arvensis</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Spotted Flycatcher (<i>Muscicapa striata</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Stock Pigeon (<i>Columba oenas</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Tufted Duck (<i>Aythya fuligula</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Amber List
Yellowhammer (<i>Emberiza citrinella</i>)	31/12/2011	Wildlife Acts, Birds of Conservation Concern - Red List
Marsh Fritillary (<i>Euphydryas aurinia</i>)	31/12/2010	Annex II
Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>)	26/07/2006	Annex II, Wildlife Acts
Eurasian Badger (<i>Meles meles</i>)	31/12/2004	Wildlife Acts
Fallow Deer (<i>Dama dama</i>)	31/12/2008	High Impact Invasive Species, Invasive Species Regulation S.I. 477 (Ireland), Wildlife Acts
Sika Deer (<i>Cervus nippon</i>)	31/12/2008	High Impact Invasive Species, Invasive Species Regulation S.I. 477 (Ireland), Wildlife Acts