

Appropriate Assessment Stage 1: Screening

Green Playground Development, Longwood, Co. Meath



Document Details

Client: Meath County Council

Project Title: Appropriate Assessment Screening Report

Document Title: Longwood Green Playground

Prepared by: Flynn Furney Environmental Consultants Ltd

Rev	Status	Date	Author(s)	Approved by
01	Draft	29/10/2024	ID	BF



Contents

1	Intro	duction	4
	1.1.	Relevant Legislation and Overall Screening Methodology	4
	1.2.	Reference Documents	7
	1.3.	Statement of Authority	8
2	Desc	ription of Proposed Development	8
	2.1	Desk Study	9
	2.2	Data Used to Carry Out the Assessment	9
	2.3	SPR Model	10
	2.4	Field Surveys	10
3	Resu	ılts	10
	3.1	Desk Study	10
	3.1.1	Surface Water	10
	3.1.2	Groundwater	11
	3.1.3	Invasive Species Records	11
	4.2.	Field Study Results	11
	3.1.4	Habitat Assessment	11
	3.1.5	Mustelids	11
5.	. Iden	ification of the European Sites within the Likely Zone of Impact	12
	5.1.	Works And Site Characteristics and Risks to the Environment	12
	3.2	Designated Sites within the Zone of Influence	14
4	Asse	ssment Criteria	17
	4.1	Is the Project necessary for the Management of the Designated Site(s)?	17
	4.2	Possible Direct, Indirect or Secondary Impacts	17
	4.3	6.3. Cumulative and In-Combination Impacts	17
	4.4	Conclusion	17
R	eferenc	es	18
Α	ppendix	A: Site Photos	20



1 Introduction

Flynn Furney Environmental Consultants have been appointed to provide the information necessary to allow the competent authority to conduct an Article 6(3) Screening for Appropriate Assessment.

The proposed development is located in Longwood, Co. Meath. The proposed scheme will involve the construction of a 484m² playground within the existing Green in Longwood, Co. Meath.

Screening for Appropriate Assessment is required under Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive). This Appropriate Assessment Screening Report has been prepared in accordance with the European Commission's Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (EC, 2021) and Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC, 2018) as well as the Department of the Environment's Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DoEHLG, 2010).

1.1. Relevant Legislation and Overall Screening Methodology

The methodology for this screening statement is set out in a document prepared for the Environment DG of the European Commission entitled 'Assessment of plans and projects significantly affecting Natura2000 sites: Methodological guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC' (European Commission, 2019, amended 2021). This report and any contributory fieldwork were carried out in accordance with guidelines given by the Department of Environment, Heritage and Local Government (2009, amended 2010).

The process is given in Articles 6(3) and 6(4) of the Habitats Directive and is commonly referred to as 'Appropriate Assessments' (which in fact refers to Stage 2 in the sequence under the Habitats Directive Article 6 assessment). Article 6 of the Habitats Directive sets out provisions which govern the conservation and management of Natura 2000 sites. Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect Natura 2000 sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment:

"Any plan or project not directly connected with or necessary to the management of the (Natura2000) site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned



and, if appropriate, after having obtained the opinion of the general public."

Article 6(4) of the same directive states:

"If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of the Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."

It is the responsibility of the proponent of the plan or project to provide the relevant information (ecological surveys, research, analysis etc.) for submission to the 'competent national authority'. Having satisfied itself that the information is complete and objective, the competent authority will use this information to screen the project, i.e. to determine if an AA is required and to carry out the AA, if one is deemed necessary. The competent authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned. The appropriate assessment process has four stages. Each stage determines whether a further stage in the process is required. If, for example, the conclusions at the end of Stage One are that there will be no significant impacts on the Natura 2000 site, there is no requirement to proceed further. The four stages are:

- 1. Screening to determine if an appropriate assessment is required
- 2. Appropriate assessment
- 3. Consideration of alternative solutions
- 4. Imperative Reasons of Overriding Public Interest/Derogation

Table 1: The stages of AA.

Stage 1: Screening for AA

The aim of screening is to assess firstly if the plan or project is directly connected with or necessary to the management of the Designated Site(s); or in view of best scientific knowledge, if the plan or project, individually or in combination with other plans or projects, is likely to have a significant effect on a Designated Site. This is done by examining the proposed plan or project and the conservation objectives of any Designated Sites that might potentially be affected. If screening determines that there is potential for significant effects or there is uncertainty regarding the significance of effects then it will be recommended that the plan or project is brought forward to the next stage of the AA process.



Stage 2: Appropriate Assessment

The aim of stage 2 of the AA process is to identify any adverse impacts that the plan or project might have on the integrity of relevant Designated Sites. As part of the assessment, a key consideration is 'in combination' effects with other plans or projects. Where adverse impacts are identified, mitigation measures can be proposed that would avoid, reduce or remedy any such negative impacts and the plan or project should then be amended accordingly, thereby avoiding the need to progress to Stage 3.

Stage 3: Assessment of Alternative Solutions

If it is not possible during Stage 2 of the AA process to conclude that there will be no adverse effects on site integrity, Stage 3 of the process must be undertaken which is to objectively assess whether alternative solutions exist by which the objectives of the plan or project can be achieved. Explicitly, this means alternative solutions that do not have adverse impacts on the integrity of a Designated Site. It should also be noted that EU guidance on this stage of the process states that, 'other assessment criteria, such as economic criteria, cannot be seen as overruling ecological criteria' (EC, 2002). In other words, if alternative solutions exist that do not have adverse impacts on Designated Sites; they should be adopted regardless of economic considerations. This stage of the AA process should result in the identification of the least damaging options for the plan or project.

Stage 4: Imperative Reasons of Overriding Public Interest (IROPI)/Derogation

This stage of the AA process is undertaken when it has been determined that a plan or project will have adverse effects on the integrity of a Designated Site, but that no alternatives exist. At this stage of the AA process, it is the characteristics of the plan or project itself that will determine whether or not the competent authority can allow it to progress. This is the determination of 'overriding public interest'. It is important to note that in the case of Designated Sites that include in their qualifying features 'priority' habitats or species, as defined in Annex I and II of the Directive, the demonstration of 'overriding public interest' is not sufficient and it must be demonstrated that the plan or project is necessary for 'human health or safety considerations'. Where plans or projects meet these criteria, they can be allowed, provided adequate compensatory measures are proposed. Stage 4 of the process defines and describes these compensation measures.

1.1.1.1 Appropriate Assessment Screening Report

This report provides stage one: screening for appropriate assessment. It aims to establish whether a plan or project is likely to have any significant effects on any Natura 2000 sites. The study is based on a preliminary impact assessment using both publicly available data and data collected during site visits and



ecological surveys. This is followed by a determination of whether there is a risk that the effects identified could significantly impact any Natura 2000 sites, and if so, an AA is required. The need to apply the precautionary principle in making any key decisions in relation to the tests of AA has been confirmed by the European Court of Justice case law. Therefore, where significant effects are likely, possible or uncertain at the screening stage, AA will be required.

1.2. Reference Documents

The following relevant documents were considered in preparation of this report.

Table 2: Reference Documents.

Name / Number	Description
Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities	National guidance on Appropriate Assessment for planning authorities. Department of Environment, Heritage and Local Government, (2010 revision)
Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities	Circulars issued by the Department of Environment, Heritage and Local Government with guidance relating to Appropriate Assessment. Circular NPWS 1/10 & PSSP 2/10 (2010)
Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC	The guidance within this document provides a non-mandatory methodology for carrying out assessments required under Articles 6(3) and (4) of the Habitats Directive European Commission Environment Directorate-General, (2001 and updates April 2015 and September 2021).
Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC	Publication to the Member States with an interpretation of certain concepts in Article 6 of the Habitats Directive. EC Environment Directorate-General (2018)
Communication from the Commission on the precautionary principle.	Publication relating to the use of the precautionary principle. European Commission (2000)



Name / Number	Description
Appropriate Assessment Screening for Development Management. Practice Note PN01.	Publication from the Office of the Planning Regulator relating to screening for Appropriate Assessment. OPR (March 2021)

1.3. Statement of Authority

Field assessment surveys were undertaken by Ian Douglas (B.Sc., MSc) of Flynn Furney Environmental Consultants in August 2024. This report has been reviewed by Ian Douglas (B.Sc., M.Sc.).

Flynn Furney Environmental Consultants have 20-plus years of experience in ecological surveying and management. We have detailed knowledge of the principles and implementation of both Irish and European environmental legislation. We have worked closely with statutory bodies including the National Parks and Wildlife Service and Waterways Ireland on habitat management and protection projects. Other expertise includes Ecological Impact Assessment, Habitat and Floral Surveys, Bird Surveying, Bat Surveying, and Fish and Waterways Surveys.

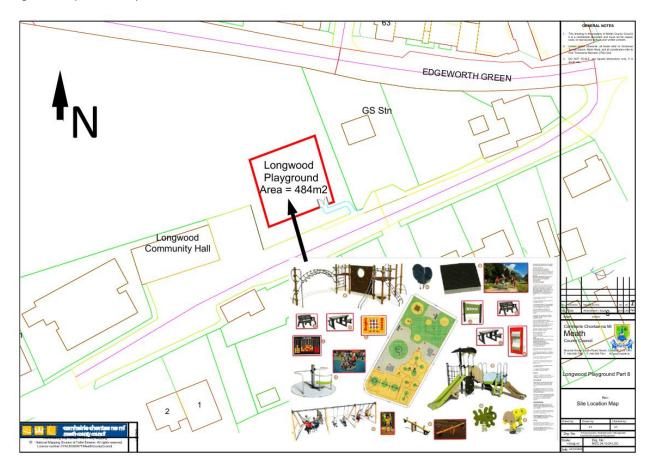
Surveys and reports were completed by Ian Douglas (MSc, BSc, H Cert. Ag) an Ecologist and Environmental Consultant with over 10 years of experience specialising in Appropriate Assessment, Ecological Impact Assessment, Habitats Surveying, Soil Science and GIS Mapping. Ian has worked on projects including large road developments, power infrastructure projects, planning and design of nature trails, constructed wetland creation and on-farm habitat development.

2 Description of Proposed Development

The proposed works are located within the Green in Longwood, Co. Meath. The proposed scheme will include the construction of a 484m² Playgorundcontaining equipment such as swings, multiplay units, spinners and springers, seesaw, play panels, wheelchair accessible roundabout and wheelchair accessible benches. The perimeter of the playground will be enclosed with a safety fence and 2 self-close gates. Associated works such as landscaping around the perimeter of the playground and pathways for pedestrian access to the playground will also be carried out.



Figure 1: Proposed site layout



2.1 Desk Study

A desktop study was carried out as part of this screening process. This included a review of available literature on the site and its immediate environs. Sources of information included the National Parks and Wildlife Service databases on protected sites and species data and from the Environmental Protection Agency on watercourses.

2.2 Data Used to Carry Out the Assessment

The following sources of data were employed:

- Environmental Protection Agency (EPA) Appropriate Assessment Tool
- EPA Maps (to identify watercourses, hydrology and Natura 2000 site boundaries)
- NPWS protected species database and online mapping
- National Biodiversity Data Centre



- Inland Fisheries Ireland
- An Bord Pleanála's online database

2.3 SPR Model

This assessment was carried out with regard to the source-pathway-receptor (SPR) approach, a standard tool in environmental assessment. The SPR concept in ecological impact assessment relates to the idea that for the risk of an impact to occur, a source is needed (e.g. a development site); an environmental receptor is present (e.g. a lake); and finally, there must be a pathway between the source and the receptor (e.g. a watercourse linking the development site to the lake). Even though there might be a risk of an impact occurring, that does not necessarily mean that it will occur, and even if it does occur, it may not be significant. Identification of a risk means that there is a possibility of ecological or environmental damage occurring, with the level and significance of the impact depending upon the nature and exposure to the risk and the characteristics of the receptor.

In this instance, the most relevant receptors are any relevant Natura 2000 sites with connectivity to the proposed works. These were considered during the desktop study stage of this screening assessment in order to assess the potential for significant effects upon their Qualifying Interests (QIs), Sites of Community Importance (SCIs) and Conservation Objectives (COs). This stage of the process is used to determine whether any of the Natura sites may be 'screened out'. That is, that they can be regarded as not being relevant to the process, having no potential to be significantly affected or impacted upon.

2.4 Field Surveys

The field survey was carried out in August 2024. Baseline ecological conditions were assessed. Habitats were classified according to Fossitt (2000). Where applicable, the habitat types and species usage were recorded (Smith et al., 2011; Scannell and Synnott 1987; Wyse Jackson et al., 2016). Habitats were classified, and dominant plant species were noted according to the guidelines given by the JNCC (2010) with reference to Smith et al. (2011) and Scannell and Synnott (1987).

3 Results

3.1 Desk Study

3.1.1 Surface Water

No watercourses are crossed by the proposed works sites. The Boyne is the closest river on the EPA database and is located 1.8km from the site of works.



3.1.2 Groundwater

Groundwater vulnerability is a term used to represent the natural ground characteristics that determine the ease with which infiltrating water and potential contaminants may reach groundwater in a vertical or subvertical direction. The scheme's area has a moderate groundwater vulnerability. No works at depths greater than 1m are planned.

3.1.3 Invasive Species Records

The Wildlife Acts, 1976 and 2000, contain a number of provisions relating to Invasive Non-Native Species (INNS), covering several sections and subsections of the Acts. It is prohibited, without a licence, to plant or otherwise cause to grow in a wild state, in any place in the State, any species of flora, or the flowers, roots, seeds or spores of invasive flora listed on the Third Schedule.

Articles 49 and 50 of the aforementioned Acts set out the legal implications associated with alien invasive species, and Schedule 3 (the Third Schedule) of the regulations lists non-native species subject to the restrictions of Articles 49 and 50. These articles make it an offence to plant, disperse, allow dispersal, or cause the spread of invasive species.

No Third Schedule invasive species were found during the survey site.

4.2. Field Study Results

3.1.4 Habitat Assessment

The proposed works area is located within the amenity parkland of the Green in Longwood, which conforms to **Amenity Grasslands (GA1)** with **Treelines (WL2)** of Downy Birch (*Betula pubescens*) and Lime Tree (*Tilia Cordata*). The dominant habitat type in the area surrounding the Fair Green is **Buildings and Artificial Surfaces (BL3)**, which includes private dwellings, commercial buildings, pathways and roads.

No habitats of higher than low local importance are found within or adjacent to the site of works.

3.1.5 Mustelids

Otters *Lutra lutra* and Pine Martens *Martes martes*, along with their breeding and resting places, are protected under the provisions of the Wildlife Act, 1976, as amended by the Wildlife (*Amendment*) Act, 2000. Otters have additional protection because of their inclusion in Annex II and Annex IV of the Habitats Directive; Pine Martens have additional protection under Annex V of the Habitats Directive, which is transposed into Irish law in the European Communities (*Natural Habitats*) Regulations (*S.I. 94 of 1997*), as amended.

Historical record checks of the NBDC database found no records of Otters or Pine Martens near the site



of works. Otters are one of the SCI species of the River Boyne and River Blackwater SAC, which is located 1.8km west of the site. No evidence of Otter or Pine Marten activity was observed during ground surveys of the site or its surroundings.

5. Identification of the European Sites within the Likely Zone of Impact

The following methodology was used to establish which European Sites are within the Likely Zone of Impact of the proposed development:

- The most recent Geographic Information System (GIS) spatial datasets for designated European sites and water catchments were acquired from the National Parks and Wildlife Service (NPWS) website (www.npws.ie) and the Environmental Protection Agency (EPA) website (www.epa.ie). These datasets were employed to discern European Sites susceptible to potential impacts from the Proposed Development.
- An investigation into the work site characteristics and the environmental risks with consideration for the potential zone of impact was carried out to determine all probable pathways and risks to site conservation.
- A source-pathway-receptor model was utilised to identify European Sites within a 15km radius of
 the development site, providing contextual information on these sites based on site-specific
 conservation objectives. The assessment also considered European Sites beyond the 15km radius,
 employing a source-pathway-receptor approach to identify potential impacts. Hydrological
 catchment mapping facilitated the evaluation of potential hydrological connectivity between the
 Proposed Development site and European Sites.
- For Special Protection Areas (SPAs), lacking specific European or Irish guidance, the 'Assessing Connectivity with Special Protection Areas (SPA)' guidance from Scottish Natural Heritage (SNH) (2016) was consulted.

All pertinent European Sites are considered, and those within the likely Zone of Impact are identified. This screening assessment evaluates the direct and indirect impacts of the Proposed Development, considering size and scale, land take, distance, resource requirements, emissions, excavation, transportation, and construction/operation duration. Site synopses and conservation objectives from the NPWS website were reviewed as of the report's preparation in July 2024

5.1. Works And Site Characteristics and Risks to the Environment

The principal risks posed by the project relate to surface water discharge from the site during the proposed works that may impact the water quality of the receiving environment, leading to likely significant effects (LSE) on any QIs or Site(s) of Community Importance (SCI) species.



Table 6: Potential Impacts, Effects and their zone of influence

Potential Impact and Effect	Description	Zone of Influence	
Construction/Installation of Infrastructure and potential QI habitat loss	The permanent loss of the habitats is present in the footprint of the development sites and access routes.	Lands within the proposed footprint of works and access routes to these developments.	
Changes in water quality and quantity/distribution resulting in habitat loss or degradation.	Reduction in the quality of retained habitat or loss of habitat from surrounding areas as a result of surface water or groundwater pollution.	Changes in surface water quality within the local water courses or surface water bodies including the rivers in proximity to the proposed development.	
Noise, dust, vibration, and/or human presence may result in disturbance.	Direct impact on species reducing their ability to forage or breed.	Assessed with 150m (upstream and downstream) for Otter holt sites. Within or adjacent to the works area for birds.	
Invasive Species	The spread of invasive species within designated sites as a result of this project.	Assessed based on the presence of invasive species stands within or surrounding the works area.	



3.2 Designated Sites within the Zone of Influence

Table 7: Identification of Designated Sites within the zone of influence.

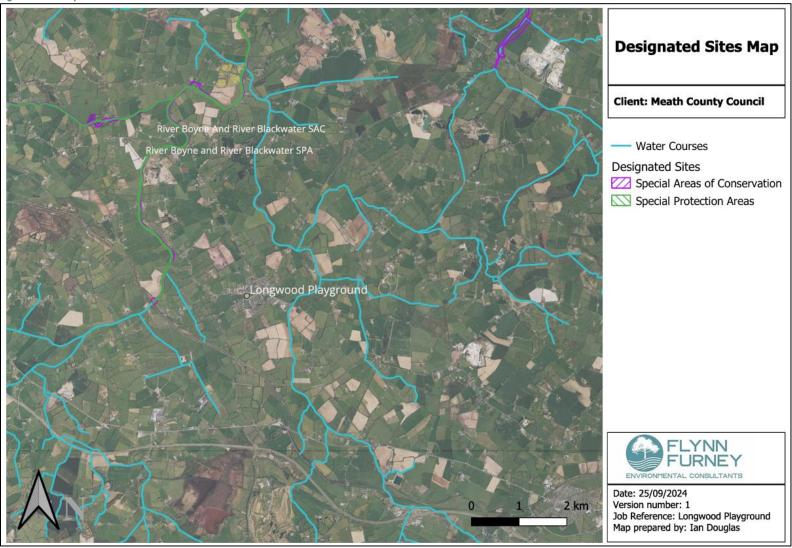
Site Name, Code and distance	Qualifying Interests	Likely Impact Determination	
distance	(* denotes a priority habitat)	Likely impact Determination	
		The proposed development is located outside this SAC's	
		boundary and has no potential for direct effects.	
River Boyne and	➤ Alkaline fens [7230]	No confere contact factories are proceed within an adjustment to	
River	Alluvial forests with Alnus glutinosa and Fraxinus	No surface water features are present within or adjacent to	
Blackwater SAC	excelsior (Alno-Padion, Alnion incanae, Salicion	the development site that could provide hydrological	
002299	albae) [91E0] Lampetra fluviatilis (River Lamprey) [1099]	connectivity between the subject site and this SAC.	
002299	> Salmo salar (Salmon) [1106]	Works occur in areas with high levels of anthropogenic	
1.8m	Lutra lutra (Otter) [1355]	disturbance, including urban roadways and amenity	
		grasslands, which could not be key ex-situ habitat areas for	
		SCI species of this SAC.	
River Boyne and		The proposed development is located outside this SPA's	
River		boundary and has no potential for direct effects.	
Blackwater SPA			
Diackwater SPA	Kingfisher (Alcedo atthis) [A229]	No surface water features are present within or adjacent to the	
004232	0 - 3 (development site that could provide hydrological connectivity	
		between the subject site and this SPA.	
1.8m		Works occur in areas with high levels of anthropogenic	
		disturbance including urban roadways and amenity grasslands	



		that could not a key ex-situ habitat areas for SCI species of this SPA.
Mount Hevey	Active raised bogs [7110]	The proposed development is located outside the boundary of this SPA, and there is no potential for direct effects.
Bog SAC	 Degraded raised bogs still capable of natural regeneration [7120] 	There are no surface water features present within or adjacent
002342	> Depressions on peat substrates of the Rhynchosporion [7150]	to the development site that could provide hydrological connectivity between the subject site and this SAC.
7km	,	



Figure 2: Nearby Natura sites.





4 Assessment Criteria

4.1 Is the Project necessary for the Management of the Designated Site(s)?

The proposed project is not necessary to or connected with the management of any Designated Sites.

4.2 Possible Direct, Indirect or Secondary Impacts

All impacts (both direct and indirect) have been assessed within this report. The author has drawn a conclusion that no significant impacts are predicted as a result of the proposed development.

4.3 6.3. Cumulative and In-Combination Impacts

A search of the Meath County Council registers was carried out on 21/10/2024. Nearby projects were considered for any in-combination or cumulative impacts. The author has made a conclusion that no cumulative or in-combination impacts upon any Natura site are predicted.

4.4 Conclusion

This report presents the information for Uisce Éireann to carry out a screening for AA. A recommendation that a stage II is not required is made, based on the findings of this assessment. It is for the relevant authority to reach one of the following conclusions:

- I. A stage II AA of the proposed development is required if it *cannot* be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will not have a significant effect on any European Designated Sites.
- II. A stage II AA of the proposed development is not required if it *can* be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will not have a significant effect on any European Designated Sites.

It is the conclusion of this report that the proposed development would not have a significant effect on European Designated Sites, and progression to a Stage II Appropriate Assessment is not required. Accordingly, having carried out the Stage 1 Appropriate Assessment Screening, the competent authority may determine that a Stage 2 Appropriate Assessment of the proposed site investigation works is not required as it can be excluded, on the basis of objective scientific information following screening under Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011, as amended, that the proposed works, individually or in combination with other plans or projects, will not have a significant effect on any European site.



References

CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal 2nd Edition. The Chartered Institute of Ecology and Environmental Management, Winchester.

Chartered Institute of Ecology and Environmental Management (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland.

Collins, J. ed. (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust. London. ISBN – 13 978-1-87-2745-96-1

Curtis, T.G.F. and MacGough, H.N., (1988). The Irish Red Data Book. Wildlife Service Ireland.

Cutts, N., Phelps, A. & Burdon, D. (2009). Construction and Waterfowl: Defining Sensitivity, Response, Impacts and Guidance. Report to Huber INCA—Institute of Estuarine and Coastal Studies, University of Hull.

EPA (2015a). The EPA's Advice Notes on Preparing Environmental Impact Statements Draft.

EPA (2015b). The EPA's Draft Revised Guidelines on Information to be Contained in Environmental Impact Statements.

EPA (2024). EPA river quality surveys: biological, Hydrometric Area: 07 - Boyne

European Commission (2007). Interpretation manual of European Union habitats – EUR27.

Fossitt, J.A. (2000). A Guide to Habitats in Ireland. The Heritage Council, Kilkenny.

Gilbert, G, Stanbury, A and Lewis L (2021). Birds of Conservation Concern in Ireland 2020-2026. *Irish Birds*, **9: pp.** 523—544.

Hemingway, C. & Spencer, J. (2013). The Waterbird Disturbance Mitigation Toolkit. Produced by the Institute of Estuarine & Coastal Studies (IECS) University of Hull.

Inland Fisheries Ireland (2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters. Available online at https://www.fisheriesireland.ie/documents/624-guidelines-on

Invasive Species Ireland (2012). Horticulture Code of Good Practice To Prevent the Introduction and Spread of Invasive Non-native Species. Written by John Kelly March 2012. Available online at EnviroCentre Report (invasivespeciesireland.com) [Accessed 21/03/2022].

Invasive Species Ireland (2008). Best Practice Management Guidelines: Giant Hogweed Heracleum



mantegazzianum.

Joint Nature Conservation Committee (JNCC) (2010). Handbook for Phase 1 Habitat Survey – a technique for environmental audit. Joint Nature Conservation Committee, Peterborough (UK).

Kelly, J., O'Flynn, C., and Maguire, C. (2013). Risk analysis and prioritisation for invasive and nonnative species in Ireland and Northern Ireland. A report prepared for the Northern Ireland Environment Agency and National Parks and Wildlife Service as part of Invasive Species Ireland

King, J.L., Marnell, F., Kingston, N., Rosell, R., Boylan, P., Caffrey, J.M., FitzPatrick, Ú., Gargan, P.G., Kelly, F.L., O'Grady, M.F., Poole, R., Roche, W.K. & Cassidy, D. (2011). Ireland Red List No. 5: Amphibians, Reptiles & Freshwater Fish. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

Lysaght, L. and Marnell, F. (Eds) (2016). *Atlas of Mammals in Ireland 2010 – 2015*, National Biodiversity Data Centre, Waterford.

Murphy, M. (2024). L6837 Kilmainhamwood Footpath Works, Site Layout Map. Meath County Council.

National Roads Authority (2009). Guidelines For The Assessment Of Ecological Impacts Of National Road Schemes. NRA, Dublin.

NRA (2009) Guidelines for Assessment of Ecological Impacts of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland) Dublin.

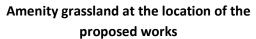
Smith, G. F., O'Donoghue, P., O'Hora, K., & Delaney, E. (2011). *Best Practice Guidance for Habitat Survey and Mapping*. The Heritage Council, Kilkenny.

Wyse Jackson, M., FitzPatrick, Ú., Cole, E., Jebb, M., McFerran, D., Sheehy Skeffington, M. & Wright, M. (2016). Ireland Red List No. 10: Vascular Plants. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, Dublin, Ireland



Appendix A: Site Photos







Treeline on the northeast side of Fair Green
Park