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Technical Appendix 6.4: Shadow Habitat Regulations Appraisal

Subtitle/Site/Project Title

TRIO POWER Limited

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Making Sustainability Happen

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Revision Record

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Executive Summary

SLR Consulting was appointed by TRIO POWER Limited to undertake a Habitat Regulations Appraisal (HRA) for a proposed solar development site at Cossans, west of Forfar in Angus.

The Site lies within 0.2 km of the River Tay Special Area of Conservation which is designated for various lamprey species, otter *Lutra lutra* and Atlantic salmon *Salmo salar*. The Site also lies within 5 km of the River South Esk, designated for Atlantic salmon and freshwater pearl mussel (*Margaritifera margaritifera*) and within 20 km of the Firth of Tay and Eden Estuary Special Protected Area (SPA) / Ramsar and the Loch of Lintrathen SPA / Ramsar, both of which have pink-footed goose (*Anser brachyrhynchus*) and/or Icelandic greylag goose (*Anser anser*) as qualifying interests. The Loch of Kinnordy SPA /Ramsar is located within 20 km of the Site and supports whooper swan *Cygnus cygnus* and greylag goose as qualifying interests. Due to the long foraging range of these geese and swan species there is potential connectivity between the Site and these SPAs. During consultation, NatureScot requested an assessment of the potential for impacts of the Proposed Development on the SPA populations. An Habitat Regulations Appraisal (HRA) Stage 1 Screening exercise was completed to consider the potential for disturbance to and/or displacement of foraging geese. This identified the requirement for a Stage 2 Appropriate Assessment, which has been completed within this document.

The HRA was informed by the desk study results as NatureScot did not require any wintering bird surveys be undertaken. A generic desk study identified a total of five bird species within 2 km of the Site boundary.

The Stages of the HRA process are mirrored to help inform the competent authority; Stage 1: screening for Likely Significant Effects (LSE), and Stage 2: Appropriate Assessment (AA) where it is assessed whether there are to be adverse impacts on the integrity of a Natura site. In summary, the Shadow HRA was taken through Stage 1 and Stage 2 of the HRA process and it was concluded that, due to the assumed presence of grey-lag geese, whooper swan and pink-footed geese within the Site, as per the consultation with NatureScot, there was potential for LSE on both Loch of Lintrathen SPA and Loch of Kinnordy SPA populations in the absence of mitigation. However, provided appropriate mitigation measures are adopted during the construction phase of the Proposed Development (as detailed within this report), it is considered that there will be **no likely significant effect** on integrity, having regard to the conservation objectives of the non-breeding grey-lag geese, whooper swan and pink-footed geese features of the both Loch of Lintrathen SPA and Loch of Kinnordy SPA, from any pressures associated with disturbance / displacement. No pressure pathways considered to present LSE to the qualifying features of the River South Esk SAC or the Firth of Tay and Eden Estuary SPA / Ramsar were identified.

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Acronyms and Abbreviations

AA	Appropriate Assessment
BESS	Battery Energy Storage System
CEMP	Construction Environmental Management Plan
CJEU	Court of Justice of the European Union
cSACs	Candidate SACs
EC	European Commission
EcIA	Ecological Impact Assessment
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
EPS	European Protected Species
ha	Hectares
HRA	Habitat Regulations Appraisal
LBAP	Local Biodiversity Action Plan
LSE	Likely significant effects
NESBRC	North East Scotland Biological Records Centre
OPP	Otter Protection Plan
PEA	Preliminary Ecological Appraisal
PPP	Pollution Prevention Plan
pSPAs	Potential Special Protection Areas
SAC	Special Area of Conservation
SBL	Scottish Biodiversity List
SPAs	Special Protection Areas
UKHab	UKHabitat classification
Zol	Zone of influence

1.0 Introduction

1.1 Background

- 1.1.1 SLR Consulting Limited (SLR) has undertaken a Habitat Regulations Appraisal (HRA) for a proposed solar and Battery Energy Storage System (BESS) (the Proposed Development) at Cossans, west of Forfar in Angus (hereafter referred to as the 'Site'). The Site has central Ordnance Survey Grid Reference of NO 40042 49608.
- 1.1.2 The work was undertaken in support of a planning application for the Proposed Development to assess the potential impacts on qualifying species of nearby Special Protection Areas (SPAs), Special Area of Conservation (SAC) and Ramsars. NatureScot did not require wintering bird surveys, therefore none were undertaken (please see Section 3.0 Consultation).
- 1.1.3 The purpose of this document is to assess the potential for likely significant effects (LSE) to European designated sites as a result of the Proposed Development, through a Stage 1 screening assessment. Where LSE are identified a Stage 2 Appropriate Assessment (AA), has been undertaken where required (see **Section 5.0** for a description of HRA stages).

1.2 Site Description

1.2.1 The Site is approximately 87 hectares (ha) in size and lies approximately 1.6 km west of Forfar. The Site sits within an area of lowland farmland and the wider area comprises arable and pasture fields, with blocks of woodland and small farm steadings. A stretch of the River Tay lies within 150 m to the south of the Site. The Site itself comprises a mix of arable and pasture fields. A series of drainage ditches pass along field boundaries and mature trees and a small block of woodland lies along the access track (refer to **Figure 6.3** in Volume 2a of the Environmental Impact Assessment (EIA) Report).

1.3 Development Proposal

1.3.1 The report has been undertaken in support of a Section 36 Application for the Proposed Development which is described within **Chapter 3: Proposed Development Description** in Volume 1 of the EIA Report.

2.0 Purpose of the Report

- 2.1.1 This report serves to identify any aspects of the Proposed Development that may lead to likely significant effects upon any sites afforded protection under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended in Scotland) (the Habitats Regulations). Such sites are referred to as European Sites, which is a collective term that describes SACs, candidate SACs (cSACs), Special Protection Areas (SPAs), potential Special Protection Areas (pSPAs) and Ramsars. Where the absence of likely significant effects on European Sites cannot be concluded from the Stage 1 screening assessment, further assessment has been undertaken to provide the information to inform the competent authority's determination of the need for Appropriate Assessment, and to serve as the basis of that assessment. This information is referred to as a Stage 2 AA.
- 2.1.2 The Proposed Development is located 0.18 km from River Tay SAC; 3.94 km from River South Esk SAC; 5.2 km from Loch of Kinnordy SPA and Ramsar; 11.80 km from Loch of Lintrathen SPA and Ramsar and 19.22 km from Firth of Tay and Eden Estuary SPA and Ramsar; all of which are also considered within the screening stage of this report. Information on the process and criteria used to determine which European sites are included within the HRA process are detailed in **Section 5.0** of this report.
- 2.1.3 The Stage 2 AA within this report provides evidence of examination of adverse effects on the integrity of European sites, to provide the competent authority with all relevant information required to inform the AA, where deemed necessary.

3.0 Consultation

- 3.1.1 On completion of a Preliminary Ecological Appraisal (PEA) by ITPEnergised (ITPEnergised, 2024) (now SLR) in September 2024 it was noted that the Site and surrounding area being primarily arable and improved grassland fields may provide suitable foraging habitat for a number of migratory wintering bird species, such as geese and swans. Given the relative proximity of the Site and connectivity to the Firth of Tay and Eden Estuary SPA and Ramsar, Loch of Kinnordy SPA and Ramsar and Loch of Lintrathen SPA and Ramsar which are all designated primarily for wintering birds, consultation was undertaken with NatureScot with regards to the need to undertake a wintering bird survey at the site.
- 3.1.2 On receiving the site location and scope of works, NatureScot outlined the following by email on 6th September 2024.

"... you have identified, the proposal is within the foraging range of greylag geese and whooper swan from Loch of Lintrathen SPA as well as greylag and pink-footed geese from Loch of Kinnordy SPA. The proposal site contains suitable foraging habitat for these species. Surveys will only be required if you are trying to demonstrate that the site in not currently used by these species for foraging. If you work on the assumption that the site is utilised by birds for foraging and will be lost to them for the lifespan of the proposal, surveys will not be required. On this basis, if we are formally consulted by the planning authority on this proposal, we are likely to advise them that there will be a likely significant effect on the above species due to disturbance and loss of foraging habitat. However, due to the scale of the proposal and the total area of foraging habitat available to the birds, the proposal will not adversely affect the integrity of the species as qualifying features of the SPAs."

3.1.3 This consultation response has informed the requirement for the scope of the HRA. No consultation was undertaken in regard to the River Tay SAC or River South Esk SAC, but both have been included within the assessment due to proximity to the Site.

4.0 Legislation, Policy and Guidance

4.1 Legislation

- 4.1.1 Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora ("The Habitats Directive") provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species through the establishment and conservation of an EU-wide network of sites. This network is known as Natura 2000 and is a European ecological network of special areas of importance for nature conservation, composed of sites hosting rare and vulnerable habitats and species. This network is designed to enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored to a favourable conservation status in their natural range.
- 4.1.2 The UK has designated a number of sites of nature conservation importance which form part of a network of Natura 2000 Sites. Natura 2000 Sites relating to birds as qualifying features comprise Special Protection Areas (SPAs), while other non-avian species and habitats are designated through Special Areas of Conservation (SACs). In addition, as clarified within Policy 4(c) in National Planning Framework 4 (Scottish Government, 2023), wetlands of international importance designated under the Ramsar Convention (Ramsar site wetlands) are also treated as 'European sites' and are therefore also considered in HRAs.
- 4.1.3 The procedures that must be followed when considering developments affecting Natura 2000 Sites are set out in Article 6 of the Habitats Directive. In Scotland, this process is implemented through the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) ("The Habitats Regulations").
- 4.1.4 Habitats Directive Article 6(3) sets out the decision-making tests for plans and projects likely to have a significant effect on or to adversely affect the integrity of European sites (Annex 1.1). Article 6(3) establishes the requirement for AA:

"Any plan or project not directly connected with or necessary to the management of the [Natura 2000] 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 the light of the conclusions of the assessment of the implications 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."

4.1.5 Both EU and national guidance exists in relation to Member States fulfilling their requirements under the EU Habitats Directive, with particular reference to Article 6(3) and 6(4) of that Directive. The methodology followed in this report to inform the Article 6 assessments has had regard to the following guidance and legislation:

Guidance

- 4.1.6 Listed below is the appropriate guidance which has been reviewed to inform this assessment:
 - Scottish Natural Heritage (now NatureScot) (2018). Natura sites and the Habitats Regulations: How to consider proposals affecting SACs and SPAs in Scotland. The essential quick guide.
 - Scottish Natural Heritage (now NatureScot) (2016). Assessing connectivity with Special Protection Areas (SPAs).



Legislation

- 4.1.7 Listed below is the appropriate legislation which has been reviewed to inform this assessment:
 - Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (also known as the 'Habitats Directive').
 - Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds, codified version (also known as the 'Birds Directive').
 - The European Communities (Birds and Natural Habitats) Regulations 2011 to 2015.

4.2 Evidence of Technical Competence and Experience

- 4.2.1 This shadow HRA report has been completed by Sarah Richardson ACIEEM BSc (Hons), MSc, Senior Ecologist with SLR Consulting. Sarah has over eight years' experience within ecological consultancy, and is a competent and experienced terrestrial ecologist, with knowledge in ecological design and environmental impact assessment (EIA / Ecological Impact Assessment (EcIA)). Sarah has completed a number of HRA assessments within the UK.
- 4.2.2 The report has been subject to review and approval in accordance with SLR company procedures by Dr Andrea Wilcockson, BSc, MSc, PHD, CEnv, MCIEEM, a Technical Director with SLR's Ecology & Biodiversity team who has over twenty-one years' experience in ecological consultancy. Andrea specialises in terrestrial and aquatic ecological assessment of Proposed Development projects. Her experience has included preparing and overseeing Habitats Regulations Assessments for multiple projects, throughout the UK.

5.0 Methods

5.1 General Approach

5.1.1 The methodology used in this report is based on Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended in Scotland), NatureScot guidance and European Commission (EC) Guidance on the application of the Habitats Directive. The 2021 EC guidance describes a series of stages and steps which should be completed when carrying out the assessment and these are followed here with minor modifications. The assessment applies only to European sites (SPAs, SACs and Ramsars) by law. More specifically, it only applies to the qualifying interest features of such sites, i.e. the features which are the reason that the site was designated.

5.2 Assessment Methodology

5.2.1 It is incumbent on any public body (referred to as a competent authority within the Habitats Regulations) to carry out an HRA where they are proposing to carry out a project, implement a plan or authorise another party to carry out a plan or project on, adjacent to or within the zone of influence of a Natura 2000 site. Competent authorities are required to record the process undertaken, ensuring that there will be no significant adverse effects on the integrity of any Natura 2000 site (referred to as 'European sites', hereafter) as a result of a plan or project whether alone or in combination with other plans or projects.

Defining Zone of Influence

5.2.2 The Habitats Regulations are applicable to the proposal to create a solar farm and BESS on the Site, as European sites (SPAs, Ramsar sites) are present within its wider zone of influence (ZoI). The ZoI has been identified as 5 km from the Site boundary, based on professional judgement and the nature of the project being small scale, with only low-level activities proposed on Site following the construction phase. In addition, any SPAs or Ramsar with goose as qualifying features within 20 km of the Site, have been considered for this assessment as these species are known to forage up to these distances (refer to **Figure 6.2 a** and **b** in Volume 2a of the EIA Report).

5.3 Stage One Screening

Process Outline

- 5.3.1 Stage One is a screening assessment, the purpose of which is to determine whether a plan or project requires more detailed assessment. There are two principal tests:
 - The first test considers whether the plan or project is needed for the management of a European site for the purpose of maintaining or restoring its conservation interest. Any such plans or projects can usually be screened out of further assessment.
 - The second test considers whether the plan or project, without specific mitigation measures, would be likely to have a significant effect on any European site. This requires consideration of the project on its own and in combination with other plans or projects.
- 5.3.2 A project can only be screened out of further assessment if it is certain (beyond reasonable scientific doubt) that there would be no significant effects on any European site without mitigation designed specifically to address potential impacts on the qualifying interest of such sites. The process is also used to determine which European Sites should be included in the later stages of the assessment.

- 5.3.3 The HRA screening stage has been characterised by the 2021 EC guidance as a four-step process. These steps are:
 - **Step 1:** Ascertain whether the project or plan is directly connected with, or necessary to, the management of the European site;
 - Step 2: Describe the plan or project and its impact factors;
 - Step 3: Identify which European sites may be affected by the plan or project; and
 - **Step 4:** Assess whether likely significant effects can be ruled out in view of the site's conservation objectives.
- 5.3.4 When each of these steps has been worked through there are two potential outcomes:
 - 1) One or more likely significant effects on designated features of European sites are identified, or there is uncertainty about the absence of likely significant effects, and the project requires an Appropriate Assessment (Stage 2); or
 - 2) There is an absence of likely significant effects on designated features of European sites as there is no pathway by which such effects could occur and therefore there is no requirement for an Appropriate Assessment. This is also known as 'screening out' the need for further assessment.
- 5.3.5 The person applying for permission for a plan or project must provide sufficient information to the competent authority, where there are likely significant effects on European sites; to enable the competent authority to assess whether an Appropriate Assessment is required.

Identification of the European sites that could be affected by a project

- 5.3.6 there is the potential, on a precautionary basis, for a likely significant effect to be identified for the project alone and / or in combination with other plans and projects.
- 5.3.7 Key to determining which European sites are included within this consideration is an understanding of the activities associated with a project, the geographical scale over which changes due to the different activities may be detectable and the types of receptors (in other words designated features) susceptible to them. Through the use of this activity change effect concept, it is possible to identify potential European sites (and their qualifying features) that may be subject to likely significant effects.
- 5.3.8 The 'zone of influence' for a project is the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. This is likely to extend beyond the project Site, for example where there are ecological or hydrological links beyond the Site boundaries. The zone of influence will vary for different ecological features depending on their sensitivity to an environmental change.

Identifying in combination effects and other plans or projects for inclusion

- 5.3.9 Effects on European sites may result from a Proposed Development alone and / or in combination with other plans or projects; these potential cumulative effects are described as 'in combination effects' in the Habitats Regulations.
- 5.3.10 The identification of plans and projects to include within the in-combination assessment follows the same methodology as that outlined in **Section 5.3.6 5.3.8** for the identification of European sites relevant to a project. Key to the inclusion of other plans and projects within the assessment are the spatial and temporal overlaps that may occur due to the scale of potential changes (for example overlaps in the zones of disturbance caused by simultaneous construction activity) or the areas over which potential receptors may travel (for example a bird may pass through several areas where development is proposed when moving between roosting and feeding grounds in or between designated sites).

5.3.11 Following the identification of plans and projects, an initial screening is then undertaken to filter out minor proposals (for example extensions to existing dwellings, minor street works, changes of use etc.) with no potential to cause likely significant effects in combination and those with no potential to overlap with a project due to differing timescales. Those that are to be included within the in-combination assessment are then considered with regard to the identified potential effects. The list of plans and projects identified has also been used to inform Stage 2 of the HRA process.

Determining Likely Significant Effects

- 5.3.12 The HRA screening process uses the threshold of likely significant effects to determine whether effects on European sites should be the subject of further assessment. The Habitats Regulations do not define the term likely significant effect. However, in the Waddenzee case (Case C-127/02) the European Court of Justice found that a likely significant effect exists if it cannot be excluded on the basis of objective information that the plan or project will have significant effects on the conservation objectives of the site concerned, whether alone or in combination with any other project. The Advocate General's opinion of the Sweetman case (Case C-258/11) further clarifies the position by noting that for a conclusion of a likely significant effect to be made "there is no need to establish such an effect...it is merely necessary to determine that there may be such an effect".
- 5.3.13 Under the Habitats Regulations an effect is likely if:
 - 1) it cannot be excluded, in that it is capable of having an effect, on the basis of objective information; and
 - it is likely to undermine the site's conservation objectives, after all aspects of the plan or project have been considered alone and in combination with other plans and projects.
- 5.3.14 A precautionary approach has been taken to the screening process (Stage 1). Only those designated features and European sites where it can be demonstrated that there is no likelihood of a significant effect occurring (based on the criteria and approach outlined above) have been screened out. This screening assessment does not consider any mitigation measures that are necessary to reduce or avoid likely significant effects on European sites. This follows the judgement of the Court of Justice of the European Union (CJEU) where it was concluded that the need for measures to avoid or reduce harmful effects presupposes that there is a likely significant effect, and consequently consideration at Stage 2 is required.
- 5.3.15 Within the screening assessment, each potential effect is considered using information from surveys undertaken to inform the HRA process (including the HRA process for the Section 36 application and the first stage of Ground Investigation works), published literature (where available), other available baseline data, the project design and professional judgement (informed by CIEEM, 2018). Where a potential effect has been identified but no likely significant effect is predicted the evidence and reason for reaching this conclusion is provided.

5.4 Stage Two: Appropriate Assessment

5.4.1 Stage Two is a more detailed assessment, known as an Appropriate Assessment due to the terminology in the legislation. This essentially repeats the second test of the screening assessment but in more detail and considering mitigation measures before reaching a conclusion. At this stage, the test is whether the project or plan will have an adverse effect on the integrity of any European site. This must be considered in the light of the conservation objectives for the qualifying interest features. Any effect which is found to undermine the conservation objectives is considered an adverse effect on the integrity of the site, and vice versa.

- 5.4.2 The steps involved in the HRA Stage Two: Appropriate Assessment, as defined in the 2021 EC guidance, are summarised below:
 - **Step 1:** Collect information on the project and on the European sites concerned;
 - **Step 2:** Assess the implications of the plan or project in view of the site's conservation objectives, individually or in combination with other plans or projects. This step involves:
 - Part 1: identifying the conservation objectives of the European sites affected by the plan or project;
 - Part 2: identifying and assessing the impacts of the plan or project against the site's conservation objectives; and
 - Part 3: considering cumulative effects with other plans or projects.
 - Step 3: Ascertain the effects of the plan or project on the integrity of the European site; and
 - **Step 4:** Mitigation Measures. This step involves providing a detailed description of mitigation measures, an assessment of the effectiveness of these measures, monitoring where required, and an assessment of effects after the mitigation has been applied.

5.5 Baseline Data Collection

- 5.5.1 The ecological desk study was carried out using a range of publicly available information sources to provide an understanding of the ecological context of the Study Area.
- 5.5.2 In terms of statutory nature conservation designations, the desk study identified any European designations within 5 km of the Site (extended to 20 km for SPA or Ramsars with goose features).
- 5.5.3 Existing records for protected or otherwise notable species (e.g. Scottish Biodiversity List (SBL) / Local Biodiversity Action Plan (LBAP) priority species) were identified with a 2 km distance of the centre point of the Site. Only records from the last 10 years were considered relevant to the study.
- 5.5.4 The local biological records centre, North East Scotland Biological Records Centre (NESBReC), was approached for records. Additional data sources consulted included the following online databases:
 - NBN Atlas (NBN Atlas, 2024);
 - NatureScot SiteLink (NatureScot, 2024);
 - Scotland's Environment Web (SEPA, 2015); and
 - Ancient Woodland Inventory (Scotland) (Scottish Natural Heritage, 2018).

Site Surveys

- 5.5.5 To support this HRA (and the EIA process for the Proposed Development), baseline surveys were undertaken in 2024, as listed below, with full survey methodologies and results provided in the associated reports:
 - Extended Habitat survey conducted in June 2024. The survey was undertaken of the Site and 50 m buffer from the red line boundary and included a UKHabitat classification (UKHab) survey and assessment of suitability for protected species.
 - Protected species survey was conducted between April and October 2024 covering the Site (and up to 250 m from the Site depending on species buffers); comprising bat,



badger, beaver, otter, water vole, pine marten, red squirrel and great crested newt using best practice methodologies. An otter and beaver monitoring survey was also completed in December 2024.

5.6 European Site Identification

- 5.6.1 All European sites within a potential Zol were identified based on the nature of the project and professional judgment.
- 5.6.2 A total of eight European designations are present within the search area, including three SPAs, two SACs and three Ramsar sites (shown in **Figures 6.2a** and **6.2b** in Volume 2a of the EIA Report) and described in **Tables 1, 2, 3** and **4**). They are the following:
 - River Tay SAC;
 - River South Esk SAC,
 - Loch of Kinordy SPA/Ramsar;
 - Loch of Lintrathen SPA/Ramsar; and
 - Firth of Tay and Eden Estuary SPA/Ramsar.

River Tay SAC

5.6.3 **Table 1** details the features of the River Tay SAC.

т	able	1.	River	Tav	SAC
L	able	•••	LIVEI	Tay	SAC

River Tay SAC		
Distance & direction from Site	0.18 km south	
Size	9461.63 ha	
Grid reference	NN 818 481	
Component SSSI	N/A	
General description	The River Tay is important for its Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i> for which the area is considered to support a significant presence. Sea lamprey <i>Petromyzon marinus</i> for which the area is considered to support a significant presence. River lamprey <i>Lampetra fluviatilis</i> for which the area is considered to support a significant presence. Brook lamprey <i>Lampetra planeri</i> for which the area is considered to support a significant presence. Atlantic salmon <i>Salmo salar</i> for which this is considered to be one of the best areas in the United Kingdom. Otter <i>Lutra lutra</i> for which the area is considered to support a significant presence (JNCC, 2015).	
Qualifying features	Qualifying Interests for which the site is designated:	
(Article 4.1 and 4.2 Directive 79/409/EEC	Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:	
and Ramsar Chiena)	 3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea 	
	Annex II species that are a primary reason for selection of this site:	
	1106 Atlantic salmon	
	Annex II species present as a qualifying feature, but not a primary reason for site selection	
	1095 Sea lamprey	

	River Tay SAC
	1096 Brook lamprey
	1099 River lamprey
	• 1355 Otter
Published Conservation Objectives	To ensure that the qualifying feature of the River Tay SAC is in favourable condition and makes an appropriate contribution to achieving favourable conservation status.
	To ensure that the integrity of the River Tay is maintained by meeting objectives 2a, 2b and 2c for the qualifying feature.
	Maintain the extent and distribution of clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels within the site;
	Maintain the structure, function and supporting processes of clear- water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels; and
	• Maintain the distribution and viability of typical species of clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels.
	To ensure that the integrity of the River Tay is maintained by meeting objectives 2a, 2b and 2c for each qualifying feature.
	 Maintain the population of the lamprey species' as viable components of the site;
	• Maintain the distribution of the lamprey species' throughout the site;
	 Maintain the habitats supporting the lamprey species' within the site, and availability of food;
	• Maintain the population of Atlantic salmon, including range of genetic types, as a viable component of the site;
	Maintain the distribution of Atlantic salmon throughout the site;
	 Maintain the habitats supporting Atlantic salmon within the site and availability of food;
	Maintain the population of otter as a viable component of the site;
	Maintain the distribution of otter throughout the site; and
	Maintain the habitats supporting otter within the site and availability of food.
Negative pressures	Various including water management, water quality, development, invasive species, agricultural operations, extraction, game and fisher management and recreation/disturbance (SEPA, 2024).

River South Esk SAC

5.6.4 **Table 2** details the features of the River South Esk SAC.

Table 2: River South Esk SAC

River South Esk SAC		
Distance & direction from Site	3.94 km north east	
Size	471.85 ha	
Grid reference	NO 450 567	
Component SSSI	N/A	

	River South Esk SAC	
General description	The River South Esk site is floodplain, lowland, valley and upland area with a designation for Atlantic salmon and freshwater pearl muscles.	
Qualifying features (Article 4.2 Directive 79/409/EEC and Ramsar Criteria)	 Annex II species that are a primary reason for selection of this site: 1029 Freshwater pearl mussel 1106 Atlantic salmon 	
Published Conservation Objectives	 The Conservation Objectives of the River South Esk SAC are as follows: "To ensure that the qualifying features of the River South Esk SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status; and To ensure that the integrity of the River South Esk SAC is restored by meeting objectives for each qualifying feature: 	
	 Restore the population of freshwater pearl mussel as a viable component of the site 	
	 Restore the distribution of Atlantic salmon and freshwater pearl mussel throughout the site 	
	 Restore the habitats supporting Atlantic salmon and freshwater pearl mussel within the site and availability of food 	
	 Restore the distribution and viability of freshwater pearl mussel host species and their supporting habitats 	
	 Restore the population of Atlantic salmon, including range of genetic types, as a viable component of the site 	
Negative pressures	Various including agricultural operations, water management and water quality (SEPA, 2024).	

Loch of Kinnordy SPA & Ramsar

5.6.5 **Table 3** details the features of the Loch of Kinnordy SPA and Ramsar.

Table 3: Loch of Kinnordy SPA & Ramsar

Loch of Kinnordy SPA/Ramsar		
Distance & direction from Site	5.2 km north west	
Size	85.14 ha	
Grid reference	NO 361 539	
Component SSSI	Loch of Kinnordy SSSI	
General description	The Loch of Kinnordy Ramsar site is a eutrophic loch with associated wetlands in Angus, eastern Scotland.	
Qualifying features (Article 4.2 Directive 79/409/EEC and	Loch of Kinnordy SPA qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory species greylag goose and pink-footed goose.	
Ramsar Criteria)	Loch of Kinnordy Ramsar site also qualifies under Ramsar Criterion 6 by regularly supporting 1% or more of the individuals in a population of waterbirds greylag goose and pink-footed goose.	
Published Conservation Objectives	The Conservation Objectives of the Loch of Kinnordy SPA are as follows:	

	Loch of Kinnordy SPA/Ramsar	
	 "To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and 	
	• To ensure for the qualifying species that the following are maintained in the long term:	
	• Population of the species as a viable component of the site	
	 Distribution of the species within site 	
	 Distribution and extent of habitats supporting the species 	
	 Structure, function and supporting processes of habitats supporting the species 	
	 No significant disturbance of the species." 	
Negative pressures	Various including agricultural operations, water management and water quality (SEPA, 2024).	

Loch of Lintrathen SPA & Ramsar

5.6.6 **Table 4** details the features of the Loch of Lintrathen SPA and Ramsar.

Table 4: Loch of Lintrathen SPA & Ramsar

	Loch of Lintrathen SPA/Ramsar
Distance & direction from Site	11.80 km north west
Size	186.27 ha
Grid reference	NO 278 550
Component SSSI	Loch of Lintrathen SSSI
General description	Loch of Lintrathen is located in the Angus Region of South East Scotland.
Qualifying features (Article 4.2	The SPA qualifies under Article 4.2 by regularly supporting, in winter, internationally important numbers of the Icelandic population of greylag geese.
Directive 79/409/EEC and Ramsar Criteria)	Loch of Lintrathen is also of importance for its assemblage of wintering birds typical of open water and associated wetlands. These include:
	Whooper swan Cygnus cygnus (an Annex I species);
	• Wigeon Anas Penelope;
	• Teal Anas crecca;
	Mallard Anas platyrhynchos; and
	Goosander Mergus merganser.
Published Conservation Objectives	The Conservation Objectives of the Loch of Lintrathen SPA are as follows:
	"To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and
	To ensure for the qualifying species that the following are maintained in the long term:
	 Population of the species as a viable component of the site
	 Distribution of the species within site

Loch of Lintrathen SPA/Ramsar		
	0	Distribution and extent of habitats supporting the species
	0	Structure, function and supporting processes of habitats supporting the species
	0	No significant disturbance of the species."
Negative pressures	Other form Condition of	s of pollution and changes in biotic conditions (JNCC, 2022). currently unfavourable.

Firth of Tay and Eden Estuary SPA & Ramsar

5.6.7 **Table 5** details the features of the Firth of Tay and Eden Estuary SPA and Ramsar.

Table 5: Firth of Tay and Eden Estuary SPA & Ramsar

Firth of Tay and Eden Estuary SPA/Ramsar		
Distance & direction from Site	19.22 km south	
Size	6947.62 ha	
Grid reference	NO 295 247	
Component SSSI	Inner Tay Estuary SSSI	
	Monifieth Bay SSSI	
	Barry Links SSSI	
	Tayport and Eden Estuary SSSI	
General description	The Firth of Tay and Eden Estuary SPA/Ramsar is a complex of estuarine and coastal habitats in eastern Scotland from the mouth of the River Earn in the inner Firth of Tay, east to Barry more saline, there are areas of saltmarsh, a relatively scarce habitat in eastern Scotland (NatureScot, 2000).	
Qualifying features (Article 4.1 and 4.2 Directive 79/409/EEC and Ramsar Criteria)	The Firth of Tay and Eden Estuary SPA qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory species: greylag goose and pink-footed goose.	
	The Firth of Tay and Eden Estuary SPA also qualifies under Article 4.2 by regularly supporting in excess of 20,000 individual waterfowl, including nationally important populations of the following species: greylag goose.	
	Firth of Tay and Eden Estuary Ramsar site qualifies under Ramsar Criterion 2 by supporting:	
	Marsh harrier, and	
	Little tern.	
	Firth of Tay and Eden Estuary Ramsar site further qualifies under Ramsar Criterion 5 by regularly supporting waterbirds in numbers of 20,000 individuals or more.	
	Firth of Tay and Eden Estuary Ramsar site qualifies under Ramsar Criterion 2 by supporting:	
	Marsh harrier, and	
	Little tern.	
	Firth of Tay and Eden Estuary Ramsar site further qualifies under Ramsar Criterion 5 by regularly supporting waterbirds in numbers of 20,000 individuals or more.	

	Firth of Tay and Eden Estuary SPA/Ramsar
	The site also qualifies under Ramsar Criterion 4 by supporting the following waterbird species at a critical stage in their life cycles:
	• Velvet scoter (730 individuals, 24% of the GB population).
	Cormorant (230 individuals, 2% of the GB population).
	Shelduck (1,200 individuals, 2% of the GB population).
	• Eider (13,800 individuals, 18% of the GB population).
	• Common scoter (3,100 individuals, 9% of the GB population).
	Black-tailed godwit (150 individuals, 2% of the GB population).
	Goldeneye (230 individuals, 1% of the GB population).
	• Red-breasted merganser (470 individuals, 5% of the GB population).
	Goosander (220 individuals, 2% of the GB population).
	• Oystercatcher (5,100 individuals, 1% of the GB population).
	Grey plover (920 individuals, 2% of the GB population).
	Sanderling (220 individuals, 1% of the GB population).
	Dunlin (5,200 individuals, 1% of the GB population), and
	Long-tailed duck (560 individuals, 2% of the GB population).
	Bar-tailed godwit, redshank, greylag goose and pink-footed goose, are also components of the waterbird assemblage.
	Firth of Tay and Eden Estuary Ramsar site also qualifies under Ramsar Criterion 6 by regularly supporting 1% or more of the individuals in a population of waterbirds (1990/91 to 1994/95):
	 Bar-tailed godwit (a winter peak mean of 2,400 individuals, 2% of the Western European biogeographic population).
	 Redshank (a winter peak mean of 1,800 individuals, 1% of the Eastern Atlantic biogeographic population).
	 Greylag goose (a winter peak mean of 1,200 individuals, 1% of the Iceland/UK/Ireland biogeographic population), and
	 Pink-footed goose (a winter peak mean of 2,800 individuals, 1% of the Eastern Greenland/Iceland/UK biogeographic population.
Published Conservation	The Conservation Objectives of the Firth of Tay and Eden Estuary SPA are as follows:
Objectives	 "To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and
	 To ensure for the qualifying species that the following are maintained in the long term:
	\circ Population of the species as a viable component of the site
	 Distribution of the species within site
	 Distribution and extent of habitats supporting the species
	 Structure, function and supporting processes of habitats supporting the species
	 No significant disturbance of the species."

Firth of Tay and Eden Estuary SPA/Ramsar		
Negative	Various including recreation/disturbance, natural event, climate change,	
pressures	invasive species and water management (SEPA, 2024).	

5.7 Stage 1 – Screening for Likely Effects

- 5.7.1 At this stage assessment as to whether likely significant effects on the relevant European sites can be ruled out is undertaken. This must be done in the view of the Conservation Objectives for the identified European Sites. Information relating to species presence and the potential for indirect impacts is also included.
- 5.7.2 At the screening stage, 'a likely effect' is one which cannot be excluded (or ruled out) without further assessment or mitigation, and a 'significant effect' is one which could undermine the conservation objectives of one of the qualifying interest features.
- 5.7.3 The primary purpose of this stage is to determine whether the project requires a Stage 2 Appropriate Assessment, and which European sites should be considered at Stage 2. Stage 1 can also be used to screen out those aspects of the project that can be considered not likely to have an effect, as well as those qualifying features of European sites that are not likely to be affected from the exposure to a potential impact and / or pathway. If significant effects cannot be excluded because further assessment is required or the effects will require mitigation, the next stage of HRA will be required: Stage 2: Appropriate Assessment.

River Tay SAC		
Land take within European site	None – the Proposed Development lies outside the SAC boundary.	
Fragmentation of European site habitat	None – the Proposed Development lies outside SAC boundary.	
Increased mortality of key species	None – the small scale of the Proposed Development and the pollution prevention controls means mortality of qualifying fish species is considered to be very unlikely.	
	Given the nature of the works, mortality of otter is also considered very unlikely.	
Disturbance and displacement to key species/deterioration of habitats	During construction the noise disturbance has the potential to disturb otter present in the immediate surrounds. As such, the site has been screened in for further assessment.	
Damage or deterioration of supporting habitats, outside European site	The Site comprises similar habitats (wet ditches and other water courses) to those found within the SAC and given the proximity of the Site it is considered that construction could impact on supporting habitats.	
Atmospheric pollution/air quality	None – the Proposed Development is unlikely to result in significant increases in atmospheric pollution to the SAC due to the relatively small scale of the project, along with the nature of the Proposed Development which will result in no long-term emissions and only short-term generation of construction dust which is likely to be localised.	
Changes to soil chemistry	None – the Proposed Development is unlikely to result in significant changes to the soil chemistry of the SAC due to the relatively small scale of the project and no overlap with the SAC.	

Table 6: River Tay SAC - Screening for Likely Significant Effects

River Tay SAC		
Hydrological regime change	None – the Proposed Development is unlikely to result in significant changes to the hydrological regime of the SAC due to the relatively small scale of the project.	
Pollution of surface/ground water	None – the Proposed Development is unlikely to result in significant pollution of surface/ground water of the SAC due to the relatively small scale of the project and the implementation of pollution prevention controls.	

Outcome of Screening (Proposed Development alone) – River Tay SAC

5.7.4 It is considered that there is potential for likely significant effects to River Tay SAC as a result of potential disturbance of otter, Atlantic salmon and river, brook and sea lamprey. These impacts have the potential to affect the conservation objectives of the SAC and so this European site is therefore screened in to be taken forward for Appropriate Assessment.

Table 7: River South Esk SAC - Screening for Likely Significant Effects

River South Esk SAC		
Land take within European site	None – the Proposed Development lies outside SPA/Ramsar boundary.	
Fragmentation of European site habitat	None – the Proposed Development lies outside SPA/Ramsar boundary.	
Increased mortality of key species	None – the small scale of the Proposed Development and distance from Site, in addition to the Site being in a different catchment to this SAC, no mortality of key species is anticipated.	
Disturbance and displacement to key species/deterioration of habitats	None – at over 3 km distance with no direct hydrological connectivity due to the SAC being located within a different catchment to the Site, there are not considered to be any impacts to key species or deterioration of habitats.	
Damage or deterioration of supporting habitats, outside European site	None – at over 3 km distance with no direct hydrological connectivity due to the SAC being located within a different catchment to the Site, there are not considered to be any impacts to supporting habitats.	
Atmospheric pollution/air quality	None – the Proposed Development is unlikely to result in significant increases in atmospheric pollution to the SAC due to the relatively small scale of the project, distance to the SAC and along with the nature of the Proposed Development which will result in no long-term emissions and only short-term generation of construction dust which is likely to be localised.	
Changes to soil chemistry	None – the Proposed Development is unlikely to result in significant changes to the soil chemistry of the SAC due to the relatively small scale of the project and no overlap with the SAC.	
Hydrological regime change	None – no direct hydrological connectivity due to the SAC being located within a different catchment to the Site.	
Pollution of surface/ground water	None – no direct hydrological connectivity due to the SAC being located within a different catchment to the Site.	

Outcome of Screening (Proposed Development alone) – River South Esk SAC

5.7.5 No likely significant effects on River South Esk SAC have been identified through the screening stage. This European site is therefore screened out of the assessment and will not be considered further in this report.



Loch of Kinnordy SPA/Ramsar		
Land take within European site	None – the Proposed Development lies outside SPA/Ramsar boundary.	
Fragmentation of European site habitat	None – the Proposed Development lies outside SPA/Ramsar boundary.	
Increased mortality of key species	None – the small scale of the Proposed Development means mortality of qualifying bird species is considered to be very low.	
Disturbance and displacement to key species/deterioration of habitats	As the NS consultation assumes the presence of qualifying species for the site, there is a potential to disturb and displace qualifying species from the Site and immediate surrounds during construction through noise disturbance.	
	Once completed the solar farm will cover much of the land area of the Site meaning the majority of habitats within the Site are no longer available for use for foraging and roosting birds leading to displacement. As such, this pressure pathway has been screened in for further assessment.	
Damage or deterioration of supporting habitats, outside European site	None – at over 5 km distance there are not considered to be any impacts of supporting habitats.	
Atmospheric pollution/air quality	None – the Proposed Development is unlikely to result in significant increases in atmospheric pollution to the SPA/Ramsar due to the relatively small scale of the project and distance to the off-site SPA/Ramsar, along with the nature of the Proposed Development which will result in no long-term emissions and only short-term generation of construction dust which is likely to be localised.	
Changes to soil chemistry	None – the Proposed Development is unlikely to result in significant changes to the soil chemistry of the SPA/Ramsar due to the relatively small scale of the project and no overlap with the SPA/Ramsar.	
Hydrological regime change	None – the Proposed Development is unlikely to result in significant changes to the hydrological regime of the SPA/Ramsar due to the relatively small scale of the project and distance to the off-site SPA/Ramsar.	
Pollution of surface/ground water	None – the Proposed Development is unlikely to result in significant pollution of surface/ground water of the SPA/Ramsar due to the relatively small scale of the project and distance to the off-site SPA/Ramsar.	

Table 8: Loch of Kinnordy SPA / Ramsar - Screening for Likely Significant Effects

Outcome of Screening (Proposed Development alone) – Loch of Kinnordy SPA / Ramsar

5.7.6 It is considered that there is potential for likely significant effects to Loch of Kinnordy SPA/Ramsar as a result of potential disturbance and displacement of greylag goose and pinkfooted goose. These impacts have the potential to affect the conservation objectives of the SPA and so this European site is therefore screened in to be taken forward for Appropriate Assessment.

Loch of Lintrathen SPA/Ramsar		
Land take within European site	None – the Proposed Development lies outside SPA/Ramsar boundary.	
Fragmentation of European site habitat	None – the Proposed Development lies outside SPA/Ramsar boundary.	
Increased mortality of key species	None – the small scale of the Proposed Development means mortality of qualifying bird species is considered to be very low.	
Disturbance and displacement to key species/deterioration of habitats	As the NS consultation assumes the presence of qualifying species for the site, there is a potential to disturb and displace qualifying species from the Site and immediate surrounds during construction through noise disturbance.	
	Once completed the solar farm will cover much of the land area of the site meaning the majority of habitats within the site are no longer available for use for foraging and roosting birds leading to displacement. As such, the site has been screened in for further assessment.	
Damage or deterioration of supporting habitats, outside European site	None – at over 10 km distance there are not considered to be any impacts of supporting habitats.	
Atmospheric pollution/air quality	None – the Proposed Development is unlikely to result in significant increases in atmospheric pollution to the SPA/Ramsar due to the relatively small scale of the project and distance to the off-site SPA/Ramsar, along with the nature of the Proposed Development which will result in no long-term emissions and only short-term generation of construction dust which is likely to be localised.	
Changes to soil chemistry	None – the Proposed Development is unlikely to result in significant changes to the soil chemistry of the SPA/Ramsar due to the relatively small scale of the project and no overlap with the SPA/Ramsar.	
Hydrological regime change	None – the Proposed Development is unlikely to result in significant changes to the hydrological regime of the SPA/Ramsar due to the relatively small scale of the project and distance to the off-site SPA/Ramsar.	
Pollution of surface/ground water	None – the Proposed Development is unlikely to result in significant pollution of surface/ground water of the SPA/Ramsar due to the relatively small scale of the project and distance to the off-site SPA/Ramsar	

Table 9: Loch of Lintrathen SPA / Ramsar - Screening for Likely Significant Effects

Outcome of Screening (Proposed Development alone) - Loch of Lintrathen SPA / Ramsar

5.7.7 It is considered that there is potential for likely significant effects to Loch of Lintrathen SPA/Ramsar as a result of potential disturbance and displacement of greylag goose and whooper swan. These impacts have the potential to affect the conservation objectives of the SPA and so this European site is therefore screened in to be taken forward for Appropriate Assessment.

Table 10: Firth of Tay and Eden Estuary SPA and Ramsar - Screening for Likely Significant Effects

Firth of Tay and Eden Estuary SPA/Ramsar	
Land take within European site	None – the Proposed Development lies outside SPA/Ramsar boundary.

Firth of Tay and Eden Estuary SPA/Ramsar		
Fragmentation of European site habitat	None – the Proposed Development lies outside SPA/Ramsar boundary.	
Increased mortality of key species	None – the small scale of the Proposed Development means mortality of qualifying bird species is considered to be very low.	
Disturbance and displacement to key species/deterioration of habitats	During construction the noise disturbance has the potential to disturb and displace qualifying species from the site and immediate surrounds. Once completed the solar farm will cover much of the land area of the site meaning the majority of habitats within the site are no longer available for use for foraging and roosting birds leading to displacement.	
	The desk study identified no recent records of greylag geese within the site or within the surrounding area.	
	Due to a lack of records during surveys and the distance of the site to the SPA (over 15 km) it is considered there will be no disturbance or displacement of key species.	
Damage or deterioration of supporting habitats, outside European site	None – at over 15 km distance there are not considered to be any impacts of supporting habitats.	
Atmospheric pollution/air quality	None – the Proposed Development is unlikely to result in significant increases in atmospheric pollution to the SPA/Ramsar due to the relatively small scale of the project and distance to the off-site SPA/Ramsar, along with the nature of the Proposed Development which will result in no long-term emissions and only short-term generation of construction dust which is likely to be localised.	
Changes to soil chemistry	None – the Proposed Development is unlikely to result in significant changes to the soil chemistry of the SPA/Ramsar due to the relatively small scale of the project and no overlap with the SPA/Ramsar.	
Hydrological regime change	None – the Proposed Development is unlikely to result in significant changes to the hydrological regime of the SPA/Ramsar due to the relatively small scale of the project and distance to the off-site SPA/Ramsar.	
Pollution of surface/ground water	None – the Proposed Development is unlikely to result in significant pollution of surface/ground water of the SPA/Ramsar due to the relatively small scale of the project and distance to the off-site SPA/Ramsar.	

Outcome of Screening (Proposed Development alone) - Firth of Tay and Eden Estuary SPA and Ramsar

- 5.7.8 No likely significant effects on Firth of Tay and Eden Estuary SPA and Ramsar have been identified through the screening stage. These European sites are therefore screened out of the assessment and will not be considered further in this report.
- 5.7.9 Stage 1 highlighted that likely significant effects cannot yet be ruled out without further assessment and / or mitigation. Therefore, Stage 2 Appropriate Assessment is required for the European sites and qualifying interests listed in **Table 11** below.

European site	Outcome of Stage 1 Assessment	Taken Forward in Assessment
River Tay SAC	Likely significant effects identified for otter and Atlantic salmon	Yes
River South Esk SAC	Likely significant effects identified for Atlantic salmon	No
Loch of Kinnordy SPA/Ramsar	Likely significant effects identified for greylag goose and pink-footed goose	Yes
Loch of Lintrathen SPA/Ramsar	Likely significant effects identified for greylag goose and whooper swan	Yes
Firth of Tay and Eden Estuary SPA/Ramsar	No likely significant effects identified	No

5.8 Stage 2 – Appropriate Assessment

River Tay SAC

5.8.1 The screening stage identified the potential to result in likely significant effects on the SAC, namely disturbance and displacement of otter, Atlantic salmon and river, brook and sea lamprey species, and so River Tay was screened in for further assessment. The further assessment is detailed in the sections below.

Disturbance and Displacement to Key Species / species/deterioration of habitats

- 5.8.2 The River Tay SAC is located 0.18 km south of the Proposed Development, at the closest point. The screening stage has identified the potential for disturbance and displacement to key SAC species, through increased noise and vibration during the construction phase. The current baseline levels of noise on site are considered relatively low, with dominant noise sources recorded in the local area being from farming activities. The Proposed Development will result in an increase in noise levels above baseline conditions during the construction phase and to a lesser extent, the operational phase.
- 5.8.3 There is potential for disturbance to any otter that may be within or nearby the Site due to otter confirmed as active within the Study Area (i.e. within and 250 m of the Site boundary) (refer to **Confidential Technical Appendix 6.2: Protected Species Report** in Volume 4 of the EIA Report for details). It is, however, acknowledged that potentially significant disturbance is likely to be limited to the construction phase activities, which should take approximately 5 months, specifically only certain short-term phases of construction, with the operational phase less likely to result in an increase to the baseline background noise levels; thus, reducing long-term impacts.
- 5.8.4 Construction and operational-related noise impacts have been considered within **Chapter 9** of the EIA Report. The assessment considers three dwellings adjacent to the Site boundary as "noise sensitive receptors", with no predicted noise level anticipated more than 23 dB above baseline conditions, resulting in all three receptors experiencing a low impact that is not considered significant. (refer to **Chapter 9: Noise** in Volume 1 of the EIA Report for full details).
- 5.8.5 There is also potential for habitat degradation and disturbance to species to the fish species, namely Atlantic salmon and river, brook and sea lamprey. The site is connected to the River Tay SAC through ditches and waterways and is within 0.2 km of the site. There is a potential for habitat degradation through surface runoff pollution from the site during the construction phase.

5.8.6 The potential for disturbance to key species is discussed below.

Otter

Disturbance

- 5.8.7 As shown in the Protected Species Report (**Confidential Technical Appendix 6.2**), an otter natal den, non-breeding hold, and sprainting were recorded within 250 m of the Site during baseline surveys (ITPEnergised, 2024b). The watercourse and ditches on Site are known to support otter, with the presence of a natal holt and resting site confirmed within the wider Study Area. The Ballindarg burn is likely used by otter for commuting and foraging, and the adjacent woodlands may be used for denning.
- 5.8.8 A natal holt supporting a bitch and cubs is located 190 m from the Site boundary (OTT3 in the Protected Species Report (ITPEnergised 2024b)), although the distance to any Proposed Development infrastructure has been increased to 200 m through design mitigation to avoid disturbance. A non-breeding holt/resting place is located 58 m from any proposed infrastructure/required construction works (OTT1 in the Protected Species Report (ITPEnergised 2024b)).
- 5.8.9 As active breeding and non-breeding holts are present within 200 m of the site works there is a risk of disturbance, particularly during the construction phase, as a result of the Proposed Development.
- 5.8.10 There is potential for disturbance to any otter that may be nearby, within the surrounding area due to otter holts being recorded within close proximity to the Site. As the construction period is likely to extend across five months. It is, however, acknowledged that potentially significant disturbance is likely to be limited to the construction phase activities, with the operational phase less likely to result in significant pollution increases; thus, reducing long-term impacts.

Habitat loss

5.8.11 The ditches and woodland habitats within the site and surrounding areas have potential to support commuting otter, the Proposed Development will not encroach or remove any of these habitats as it will be contained within the existing grassland habitats. Therefore, there will be no loss of habitat for otter.

Damage or deterioration of supporting habitats, outside European site

5.8.12 The screening stage has identified the potential for damage or deterioration of supporting habitats outside the SAC, through increased pollution during the construction phase. The current baseline levels of pollution on site are low, with dominant runoff sources recorded in the local area being from farming activities. In the absence of adequate mitigation, construction of the Proposed Development has the potential to result in an increase in surface run off pollution levels above baseline conditions, however not during the operational phase.

Aquatic species

Disturbance

- 5.8.13 The Site supports watercourses and ditches which connect directly to the River Tay SAC. The watercourses on Site have limited potential to support aquatic species such as Atlantic salmon and river, brook and sea lamprey. They do however connect to the River Tay SAC which does have watercourses which support these species.
- 5.8.14 The River Tay SAC is within 0.2 km south of the Site. There is a potential for LSE to the aquatic qualifying features resulting from surface run off pollution entering the connected watercourses within and adjacent to the Site during the construction phase of the Proposed Development.



5.8.15 Habitat loss

5.8.16 The watercourses and ditches within the Site and surrounding areas have potential to support commuting Atlantic salmon and river, brook and sea lamprey, the Proposed Development will have limited impact on these habitats as it will be contained within the grassland and a Construction Environmental Management Plan with pollution prevention control measures will be implemented. Therefore, there will be no loss of habitat for the aquatic designated species.

Overall Assessment

5.8.17 The Proposed Development has the potential to disturb and displace otter, Atlantic salmon and river, brook and sea lamprey through noise and surface run off, however with mitigation in place, the disturbance to these species is reduced considerably. In reality the individuals will not be lost to the SAC population as any disturbance will mean they simply relocate to other sections of land and watercourses in the local and wider area, with suitable habitat present in all directions from the Site. Provided appropriate mitigation measures are adopted (as detailed below), it is considered that there is no likely significant effect on integrity, having regard to the conservation objectives of the otter and aquatic features of the River Tay SAC, from any pressures associated with disturbance / displacement.

Mitigation Measures

- 5.8.18 The following mitigation measures have been proposed to reduce the potential for LSE to qualifying features of the River Tay SAC.
 - A suitably qualified Ecological Clerk of Works (ECoW) will be appointed prior to the commencement of any construction activities. The ECoW will be present to oversee construction activities as well as providing toolbox talks to all site personnel with regards to potential presence of otter in the wider area.
 - Construction activities including movement of vehicles carried out in daytime hours only, between 07.00 and 19.00, avoiding any night-time working when otter will be commuting.
 - A Pollution Prevention Plan (PPP) will be produced and approved by NatureScot and implemented during all construction and operational phases.
 - A CEMP will be produced and approved by NatureScot and implemented ahead of construction.

5.8.19 Specifically in relation to otter, the proposed mitigation strategy includes the following:

- A protocol will be agreed according to an Otter Protection Plan (OPP), update surveys
 pre-construction, ongoing monitoring (as required), and engaging with NatureScot, it
 is considered that this will ensure no disturbance to any active natal den and, if
 required, obtain the relevant European Protected Species (EPS) licencing ahead of
 any works. There is a presumption against disturbance of a breeding site when in use.
- A no disturbance buffer to be established in relation to the natal holt OTT3. OTT3 is located approximately 190 m from the Site boundary. To maintain a 200 m no disturbance buffer for works in this area, the Proposed Development infrastructure was designed away from the Site edge. There is also an area of woodland/scrub between OTT3 and the Site boundary which acts as a screen to the Proposed Development as well.
- A standard 30 m disturbance buffer will be maintained from the non-breeding holt OTT1 and with the usual disturbance buffer for breeding holts being 200 m. If a suitable buffer cannot be maintained, a licence from NatureScot to permit disturbance will be required.

- Any changes in baseline activity determined following update survey work and monitoring will be reflected in the mitigative approach taken (as to be agreed and detailed within the OPP) to ensure no disturbance is presented to otter.
- 5.8.20 Post construction, operational impacts are considered to be negligible due to the distances involved and the nature of the Proposed Development.

Loch of Kinnordy SPA / Ramsar

5.8.21 The screening stage identified the potential to result in likely significant effects on the SPA, namely disturbance and displacement to pink-footed goose and greylag goose, and so Loch of Kinnordy SPA / Ramsar was screened in for further assessment. The further assessment is detailed in the sections below.

Disturbance and displacement to key species/deterioration of habitats

- 5.8.22 The screening stage has identified the potential for disturbance and displacement to key SPA species, through increased noise and vibration during the construction phase. The current baseline levels of noise on Site are low, with dominant noise sources recorded in the local area being from farming activities. The Proposed Development will result in an increase in noise levels above baseline conditions during the construction phase and to a lesser extent, the operational phase.
- 5.8.23 There is potential for disturbance to any SPA birds that may be roosting and foraging, within the surrounding area mostly arable and grassland fields. As the construction period is likely to extend across five months. It is, however, acknowledged that potentially significant disturbance is likely to be limited to the construction phase activities, specifically only certain short-term phases of construction, with the operational phase less likely to result in significant noise increases; thus, reducing long-term impacts. Construction and operational-related noise impacts have been considered within **Chapter 9** of the EIA Report. The assessment considers three dwellings adjacent to the Site boundary as "noise sensitive receptors", with no predicted noise level anticipated more than 23 dB above baseline conditions, resulting in all three receptors experiencing a low impact that is not considered significant. (refer to **Chapter 9** of the EIA Report for full details).
- 5.8.24 During construction and operation of the solar farm the land take required for the panels will lead to areas of roosting and foraging habitat to be permanently lost to qualifying species of the SPA meaning species will be displaced from the Site.
- 5.8.25 The potential for disturbance and displacement to key species is discussed below.

Pink-footed goose

Disturbance

- 5.8.26 Loch of Kinnordy SPA is located approximately 5 km northwest of the Site. The total number of pink-footed geese cited for the Loch of Kinnordy SPA is 3,960 individuals. The Site infrastructure is located within what is considered to be typical foraging habitat for wintering pink-footed goose. Mitchel and Hearn (2004) found that pink-footed goose are some of the most sensitive goose species to disturbance with freedom from people (particularly shooting parties) being of higher importance than proximity to primary habitats, such as shoreline (Bell, 1998). The pink-footed geese associated with the Loch of Kinnordy SPA are primarily recognised as utilising the south and south-west of Strathmore which lies c. 4 km south-east of the site.
- 5.8.27 The recommended minimum disturbance buffer required from construction activities for wintering pink-footed geese is considered to be between 200 m 600 m (Goodship and Furness, 2022). It is therefore considered that the construction of the solar farm could cause disturbance to pink-footed goose within the Site and up to these distances beyond.

5.8.28 Habitat loss

- 5.8.29 Although pink-footed goose are assumed to make use of the habitats within the Study Area, the predominant landscape use within the region consists of the same preferable (predominantly arable and agricultural) habitats and so foraging resource is considered to be plentiful with significant resource in the wider landscape.
- 5.8.30 Due to the footprint of the Proposed Development, a total of 59.5 ha of habitats which support pink-footed goose will be lost to the 3 % of the UK wintering population (NatureScot, 2025) which form the qualifying feature of the SPA/Ramsar. The overall area of the Site which may be lost to SPA pink-footed goose for foraging is a small size when considering the total area available to SPA-provenance species within the wider landscape. A tiny fraction of the pinkfooted goose population have some potential to be affected therefore the potential for likely significant effect due to habitat loss or deterioration on SPA species is unlikely.

Greylag goose

5.8.31 Disturbance

- 5.8.32 Loch of Kinnordy SPA is located approximately 5 km northwest of the site. The total number of greylag geese recorded in the citation for the Loch of Kinnordy SPA is 910 individuals. Few greylag geese (peak count of 910 birds) roost at Loch of Kinnordy SPA, approximately 1% of the UK wintering population (NatureScot, 2025). When considering documented feeding distributions of SPA-provenance greylag and pink-footed goose in Scotland (Mitchel 2012), both species are considered to actively use the area the Site lies within when including all species data (recorded 1986/87 to 2011/12), although this analysis is based on a lack of quantitative data. When the more recent data are considered (i.e. "new records" for 2007/08 to 2011/12) both species are shown to be absent from the 1 km square holding the Site. Furthermore, the author states that few birds (both greylag goose and pink-footed goose) now roost at the Loch of Kinnordy SPA and Ramsar site (Mitchel 2012). Therefore, there are correspondingly few records (Mitchel, 2012).
- 5.8.33 The proposed Site infrastructure is located within what is considered to be typical habitat for wintering greylag goose. Greylag geese generally show more tolerance towards human disturbance compared with other geese species present in the UK (Goodship and Furness, 2022).
- 5.8.34 The recommended minimum disturbance buffer required from construction activities for wintering greylag geese is considered to be between 200 m 600 m (Goodship and Furness, 2022). It is therefore considered that the construction of the solar farm could cause disturbance to greylag goose within the Site and up to 200 m beyond.

5.8.35 Habitat loss

- 5.8.36 Although greylag goose are assumed to make use of the habitats within the Study Area, the predominant landscape use within the region consists of the same preferable habitats and so foraging resource is considered to be plentiful.
- 5.8.37 A total of 59.5 ha of habitats which support qualifying species within the Site will be lost to 1% of the UK wintering population (NatureScot, 2025) due to the footprint of the Proposed Development, which includes the two main development areas. The overall area of the SPA/Ramsar which measures 85.14 ha (see **Table 3**) so even if the impacts extend beyond the permanent footprint as described the area of the SIte which may be lost to SPA species for breeding and foraging is a small size of the SPA area and to a tiny fraction of the greylag goose population. Therefore, the potential for likely significant effect due to habitat loss or deterioration on SPA species is unlikely.

Overall assessment

5.8.38 The Proposed Development has the potential to disturb and displace SPA pink-footed goose and greylag goose that are assumed to make use of the Site, as suitable habitat. In reality these will not be permanently displaced or lost to the SPA population as any disturbance will mean they simply relocate to another area of suitable habitat in the local and wider area, of which there is plenty present in all directions from the site. Provided appropriate mitigation measures are adopted (as detailed below), it is considered that there is no likely significant effect on integrity, having regard to the conservation objectives of the non-breeding pinkfooted goose feature and the non-breeding greylag goose feature of the Loch of Kinnordy SPA, from any pressures associated with disturbance / displacement.

Mitigation Measures

- 5.8.39 The following mitigation measures have been proposed to reduce the potential for LSE to qualifying features of the Loch of Kinnordy SPA and Ramsar.
 - Wherever possible the construction phase should be timed to avoid the wintering bird season (October to March inclusive).
 - Where this time period cannot be avoided a Wintering Bird Species Protection Plan will be produced and adhered to.
 - A suitably qualified ECoW will be appointed prior to the commencement of any construction activities. The ECoW will be present to oversee construction activities as well as providing toolbox talks to all site personnel with regards to potential presence of pink-footed geese.
 - Temporary boundary fencing/hoarding to be installed along the western, eastern and southern boundaries of the Site to provide a visual barrier to disturbance.
 - Construction activities including movement of vehicles carried out in day time hours only, between 07.00 and 19.00, avoiding any night-time working when birds will be roosting.
 - A CEMP will be produced and approved by NatureScot and implemented ahead of construction.

Loch of Lintrathen SPA / Ramsar

5.8.40 The screening stage identified the potential to result in likely significant effects on the SPA, namely disturbance and displacement to whooper swan and greylag goose, and so Loch of Lintrathen SPA / Ramsar was screened in for further assessment. The further assessment is detailed in the sections below.

Disturbance or Displacement through Habitat Loss of Key Species

- 5.8.41 The screening stage has identified the potential for disturbance and displacement to key SPA species, through increased noise and vibration during the construction phase. The current baseline levels of noise on site are low, with dominant noise sources recorded in the local area being from farming activities. The Proposed Development will result in an increase in noise levels above baseline conditions during the construction phase and to a lesser extent, the operational phase.
- 5.8.42 There is potential for disturbance to any SPA birds that may be roosting and foraging, within the surrounding area mostly arable and grassland fields. As the construction period is likely to extend across five months. It is, however, acknowledged that potentially significant disturbance is likely to be limited to the construction phase activities, specifically only certain short-term phases of construction, with the operational phase less likely to result in significant



noise increases; thus, reducing long-term impacts. Construction and operational-related noise impacts have been considered within **Chapter 9** of the EIA Report. The assessment considers three dwellings adjacent to the Site boundary as "noise sensitive receptors", with no predicted noise level anticipated more than 23 dB above baseline conditions, resulting in all three receptors experiencing a low impact that is not considered significant. (refer to **Chapter 9** for full details).

- 5.8.43 During construction and operation of the solar farm the land take required for the panels will lead to areas of roosting and foraging habitat to be permanently lost to qualifying species of the SPA meaning species will be displaced from the site.
- 5.8.44 The potential for disturbance and displacement to key species is discussed below.

Greylag goose

Disturbance

- 5.8.45 The proposed Site infrastructure is located within what is considered to be typical habitat for wintering greylag goose. Few greylag geese roost at Loch of Lintrathen SPA (peak average of 2,100 birds), approximately 2% of the wintering migratory UK population (NatureScot, 2025), therefore there are correspondingly few records (Mitchel, 2012). Greylag geese generally show more tolerance towards human disturbance compared with other geese species present in the UK (Goodship and Furness, 2022).
- 5.8.46 The recommended minimum disturbance buffer required from construction activities for wintering greylag geese is considered to be between 200 m 600 m (Goodship and Furness, 2022). It is therefore considered that the construction of the Proposed Development could cause disturbance to greylag goose within the Site and up to 200 m surrounding the Site. The total number of greylag geese recorded in the citation for the Loch of Lintrathen SPA is 2,100 individuals.

Habitat loss

- 5.8.47 Although greylag goose are assumed to make use of the habitats within the Study Area, the predominant landscape use within the region consists of the same preferable habitats and so foraging resource is considered to be plentiful.
- 5.8.48 A total of 59.5 ha of habitats which support qualifying species will be lost to 2% of the population (NatureScot, 2025) due to the footprint of the development, which includes the two main development areas. The overall area of the SPA/Ramsar which measures 186.27 ha (see **Table 3**) so even if the impacts extend beyond the permanent footprint as described the area which may be lost to SPA species for breeding and foraging is a small size of the SPA area and to a tiny fraction of the greylag goose population and so the potential for likely significant effect due to habitat loss or deterioration on SPA species is unlikely.

Whooper swan

Disturbance

5.8.49 The Proposed Site infrastructure is located within what is considered to be typical habitat for wintering whooper swan. The recommended minimum disturbance buffer required from construction activities for wintering whooper swan is considered to be between 200 m – 600 m (Goodship and Furness, 2022). It is therefore considered that the construction of the Proposed Development could cause disturbance to whooper swan within the Site and up to 200 m surrounding the site.

Habitat loss

- 5.8.50 Although whooper swan are assumed to make use of the habitats within the Study Area, the predominant landscape use within the region consists of the same preferable habitats and so foraging resource is considered to be plentiful.
- 5.8.51 A total of 59.5 ha of habitats which support qualifying species will be lost to the whooper swan SPA population due to the footprint of the Proposed Development, which includes the two main development areas. The overall area of the SPA/Ramsar measures 186.27 ha (See **Table 4**) so even if the impacts extend beyond the permanent footprint as described the area which may be lost to SPA species for breeding and foraging is a small size of the SPA area and to a small number of whooper swan population and so the potential for likely significant effect due to habitat loss or deterioration on SPA species is unlikely.

Overall Assessment

5.8.52 Based on the results of the survey the Proposed Development has the potential to disturb and displace greylag goose and a small number of whooper swan SPA population which are assumed to utilise the Site. In reality the 1% of individual geese and low numbers of individual swan will not be lost to the SPA population as any disturbance will mean they simply relocate to other fields in the local and wider area, with suitable habitat present in all directions from the Site. Provided appropriate mitigation measures are adopted (as detailed below), it is considered that there is no likely significant effect on integrity, having regard to the conservation objectives of the non-breeding pink-footed goose feature of the Loch of Lintrathen SPA, from any pressures associated with disturbance / displacement.

Mitigation measures

- 5.8.53 The following mitigation measures have been proposed to reduce the potential for impacts to qualifying species of the Loch of Lintrathen SPA and Ramsar.
 - Wherever possible the construction phase should be timed to avoid the wintering bird season (October to March inclusive).
 - Where this time period cannot be avoided a Wintering Bird Species Protection Plan will be produced in consultation with NatureScot.
 - A suitably qualified ECoW will be appointed prior to the commencement of any construction activities. The ECoW will be present to oversee construction activities as well as providing toolbox talks to all site personnel with regards to potential presence of pink-footed geese.
 - Temporary boundary fencing/hoarding to be installed along the western, eastern and southern boundaries of the Site to provide a visual barrier to disturbance.
 - Construction activities including movement of vehicles carried out in daytime hours only, between 07.00 and 19.00, avoiding any night-time working when birds will be roosting.
 - A CEMP will be produced and approved by NatureScot and implemented ahead of construction.

5.9 In-Combination Effects

- 5.9.1 The Appropriate Assessment has identified the potential for significant effects of the Proposed Development on qualifying interests of European sites (in the absence of mitigation measures) and will be considered in-combination with other similar scale projects.
- 5.9.2 The Angus Council planning portal map (Angus Council, 2025) was reviewed for similar scale developments within 5 km of the Site. No similar scale developments that considered HRA

were identified within 5 km of the Site. Therefore, there is likely to be no in-combination effects on qualifying interests of these European sites.

5.10 Outcome of Appropriate Assessment

5.10.1 With the mitigation implemented, it is concluded that the Proposed Development is unlikely to have a significant adverse effect on the River Tay SAC, Loch of Kinnordy SPA / Ramsar, Loch of Lintrathen SPA/ Ramsar and Firth of Tay and Eden Estuary SPA / Ramsar, along with their qualifying species and supporting habitats. The zone of influence of the project is limited, and an in-combination significant effect is unlikely to occur. Thus, the conservation objectives of the European site are concluded to be maintained throughout this project and the Proposed Development is not likely to constitute a threat to the integrity of any of the above European sites.

6.0 Conclusion

- 6.1.1 Based on the information provided in this report, it is anticipated that the competent authority, under Regulation 63 of the Conservation of Habitats and Species Regulations 2017, will conclude that the Proposed Development has the potential to result in likely significant effects on European sites, in the absence of mitigation.
- 6.1.2 The competent authority must therefore undertake an Appropriate Assessment of the implications of the Proposed Development on the qualifying features of these sites, in light of their published conservation objectives.
- 6.1.3 Subject to implementation of mitigation measures detailed herein (i.e. timing of works to avoid wintering bird season wherever possible, toolbox talks and ECoW, implementation of a CEMP), it is anticipated that the Appropriate Assessment will conclude the Proposed Development will have no likely significant adverse effect on the integrity of any European sites, alone or in combination with other plans or projects.
- 6.1.4 Through submission of this report, it is considered that BLC have discharged their duty under Regulation 63(2) to, "*provide such information as the competent authority may reasonably require for the purposes of the assessment*".

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