

Habitat Regulation Assessment (HRA)

1.0 Introduction

The proposal described below has the potential to adversely affect designated wildlife site of international importance. The likelihood and significance of these potential effects must be investigated.

This is a record of the Habitats Regulation Assessment for the erection of an additional 16,000 Bird Free Range Poultry Shed (for Egg Production) and Associated Hard Standing and Feed Bins at the Land Adjoining Lower Fenemere Farm, Myddlewood, Myddle Shropshire.

In accordance with Government policy, the assessment is being made in relation to a site listed under the 1971 Ramsar convention. Hence regulations 73 to 76 of the Conservation of Habitats and Species Regulations 2010, in accordance with the EC Habitats Directive (Council Directive 92/43/EEC) apply and this HRA must be made before the council, as the 'competent authority' under the Regulations can grant planning permission.

Date of completion for the HRA screening matrix:

17th January 2018

HRA completed by:

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2.0 Stage 1 – Screening

This stage of the process aims to identify the likely impacts of a project upon a European site, either alone or in combination with other plans and projects, and to consider whether or not the impacts are likely to be significant.

2.1 Summary Table 1: Details of project

Name of plan or project	Erection of an additional 16,000 Bird Free Range Poultry Shed (for Egg Production) and Associated Hard Standing and Feed Bins at Lower Fenemere Farm.
Name and description of Natura 2000 sites	<p>Midland Meres and Mosses (Ramsar phase 1)</p> <p>Phase 1 of the Ramsar designation covers 513.25ha and is entirely co-incident with the following 16 Sites of Special Scientific Interest (SSSI). Fenemere SSSI is within 5km to the current proposal.</p> <p>Reasons for designation</p> <ul style="list-style-type: none">• Criterion 1a. A particularly good example of a natural or

	<p>near natural wetland, characteristic of this biogeographical region, The site comprises the full range of habitats from open water to raised bog.</p> <ul style="list-style-type: none"> • Criterion 2a. Supports a number of rare species of plants associated with wetlands. The site contains the nationally scarce six-stamened waterwort <i>Elatine hexandra</i>, needle spike-rush <i>Eleocharis acicularis</i>, cowbane <i>Cicuta virosa</i>, marsh fern <i>Thelypteris palustris</i> and elongated sedge <i>Carex elongate</i>. • Criterion 2a. Contains an assemblage of invertebrates, including the following rare wetland species. 3 species considered to be endangered in Britain, the caddis fly <i>Hagenella clathrata</i>, the fly <i>Limnophila fasciata</i> and the spider <i>Cararita limnaea</i>. Other wetland Red Data Book species are; the beetles <i>Lathrobium rufipenne</i> and <i>Donacia aquatica</i>, the flies <i>Prionocera pubescens</i> and <i>Gonomyia abbreviata</i> and the spider <i>Sitticus floricola</i>. <p>Fenemere</p> <p>Fenemere Midland Meres and Mosses Ramsar Phase 1 (16.34ha) is a particularly rich and interesting mere with eutrophic water. Fenemere is also important for its rich aquatic invertebrate fauna. It is included within the Ramsar Phase for its open water, swamp, fen, wet pasture and Carr habitats with the species <i>Cicuta virosa</i> and <i>Thelypteris palustris</i></p> <p>Conservation objectives of all EU designated sites</p> <p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats • The structure and function (including typical species) of qualifying natural habitats, and • The supporting processes on which qualifying natural habitats rely.
Description of the plan or project	<p>Erection of 16,000 Bird Free Range Poultry Shed (for Egg Production) and Associated Hard Standing and Feed Bins.</p> <p>The following potential effect pathways have been identified:</p> <p>1. Ammonia Emissions;</p> <p>Assessment of ammonia impacts on nature conservation sites must be undertaken in relation to both the direct effects of air pollution and indirect impacts from acid deposition (acidification) or nutrient nitrogen deposition (eutrophication).</p>
Is the project or plan directly connected with or necessary to	No

the management of the site (provide details)?	
Are there any other projects or plans that together with the project or plan being assessed could affect the site (provide details)?	<p>N/A</p> <p><i>Assessing Projects Under the Habitats Directive, Guidance for Competent Authorities (David Tyldesley & Associates, September 2011) states;</i></p> <p><i>'In-combination Assessment;</i></p> <p><i>In checking for the need for an appropriate assessment it may be concluded that the project could affect the site in some way, but that alone these effects are unlikely to be significant. In such cases the competent authority should check whether significant effects would be likely if the project was combined with other plans or projects. An in-combination assessment is required in order to comply with the Habitats Regulations, and should include any other plans or projects that have been checked for the need for an appropriate assessment and where the following applies:</i></p> <p><i>1a) It has been concluded that the other plan or project may affect the site, but the effects are not significant on their own. A number of plans or projects with effects that individually have been determined to be insignificant may still result in a significant effect on the site if all effects on the site are combined.</i></p> <p><i>1b) It has been concluded that the other plan or project may have a significant effect alone and where measures have consequently been included to reduce the effect to a level where it is no longer considered to be significant when the plan or project is considered alone, but where the measure applied will not remove the effect completely. Such residual effects could still contribute to a significant effect when considered in-combination with other effects.</i></p> <p><i>An in-combination assessment does not need to include any other plans or projects that have been checked for the need for an appropriate assessment and where the following applies:</i></p> <p><i>2a) It has been concluded that the other plan or project will not have any effect at all on the site, and thus it cannot have an effect either alone or in-combination.</i></p> <p><i>2b) It has been concluded that the plan or project may have an effect on the site and the necessary measures have been put in place to completely remove the likelihood of any effects (that is, avoidance measures are integral to the project).</i></p> <p>The applicant has proposed necessary mitigation measures to remove the Process Contribution impacts from this proposal on Fenemere Ramsar SSSI. No effect on Fenemere Ramsar has been identified, no in-combination assessment is required.</p>

2.2 Description of the project

The proposal is for 16,000 bird places at Lower Fenemere Farm.

2.3 Consultations

Natural England should be consulted on this proposed Habitat Regulation Assessment Matrix.

2.4 Current baseline

Please refer to SC Ecology comments attached to this HRA titled LowerFenemere(12) 17 01961SS, dated 17th January 2017.

2.5 Initial screening for likelihood of significant effects on European Sites.

Natura 2000 and SSSI Designations

SC Ecology has followed NRW Step 1 'Distance Screen' (Guidance GN020) to establish which Natura 2000 and SSSI designations should be considered by Shropshire Council when determining a planning application.

There is 1 SSSI and 1 Ramsar site within 5km of this proposal – Fenemere Ramsar/SSSI.

Table 2 – Initial screening for likelihood of significant Effects

Please Refer to supporting planning document;

- A report on the modelling of the dispersion and deposition of Ammonia prepared by Steve Smith (AS Modelling & Data Ltd, January 2018).
- Natural Resource Wales (NRW) guidance note 20 (NRW GN020) dated October 2017

There is 1 SSSI and 1 Ramsar site within 5km of this proposal – Fenemere Ramsar/SSSI.

A report on the modelling of the dispersion and deposition of ammonia has been prepared by Steve Smith (AS Modelling & Data Ltd, January 2018) in support of this proposal. The predicted maximum annual mean ammonia concentration and nitrogen deposition has been modelled at 6 receptors on Fenemere Ramsar/SSSI. The results are detailed below;

Receptor Number at Fenemere	Grid Ref	Process Contribution (PC) as a % of the Critical Level	Process Contribution (PC) as a % of the Critical Load
1	344774, 322799	0.9	1.4
2	344822, 322911	1.1	1.6
3	344555, 322773	0.6	1.0
4	344585, 323096	0.7	1.1
5	344288, 322721	0.4	0.7
6	344404, 323053	0.5	0.8

The detailed screening has shown that the Process Contribution (PC) from this proposal will be over the '1% significance' threshold used by NRW in GN020.

It should be noted that a 1% threshold does not mean anything under the 1% is 'de-minimis' and screens out of the

Habitat Regulations Assessment Process. As highlighted through the Wealden Judgement, a number of sites under a 1% significance threshold could, in-combination with other plans and projects, be significant. Therefore each site should be considered on a case by case basis.

SC Ecology is aware of other plans and projects within 5km of the Natura Site which could act in-combination with the current planning proposal. The background level at Fenemere Ramsar/SSSI are already significantly over their Critical Level and Critical Load threshold.

2.6 Summary of Stage 1 screening

SC Ecology has concluded that the project may have a likely significant effect on the site in the absence of mitigation measures.

3.0 HRA Stage 2 Detailed analysis of further information and Appropriate Assessment

The applicant has proposed to mitigate for the Process Contribution of 16,000 birds. The detail of the mitigation is set out below and is calculated to reduce N input to Fenemere Ramsar/SSSI by more than the predicted Process Contribution.

Data gathering

SC Ecology has run SCAIL modelling to calculate the Process Contribution of Nitrogen Deposition for the 16,000 bird unit on Fenemere Ramsar & SSSI (17th January 2017). Please note SCAIL Modelling is known to be a precautionary screening model.

SC Ecology SCAIL Model inputs are as follows;

Project Details

Project Notes

Project Run Mode Conservative Met Realistic Met

Location Details

Select Country

Installation Details

Installation

Installation Name

Installation Location Landranger x,y

Source Details

Source

Source Pig Poultry Cattle User defined emissions

New or Existing Source

Source Name

Source Location
345502,322780 Landranger x,y

Source Type

Type

Details

Livestock Number

Housing Floor Area m²

Naturally Vented

Building Height m

Fan Location

No. of Fans (optional)

Fan Diameter m

Fan Flowrate m³/s

Total emissions :

Pollutant	Source Emissions	Running total of all emission sources	Units
NH ₃ :	1280	1280	(kg)
PM ₁₀ :	528	528	(kg)
Odour:	706406400	706406400	(kOU)

SC Ecology SCAIL Model Results for Fenemere Ramsar & SSSI (Please note Met Site data is automatically selected by SCAIL);

Results

[Scail Home](#) | [User Guide](#) | [SCAIL-Agriculture Report](#) | [SEPA/EA/NIEA/EPA Contact Details](#) | [Online Tutorial](#)

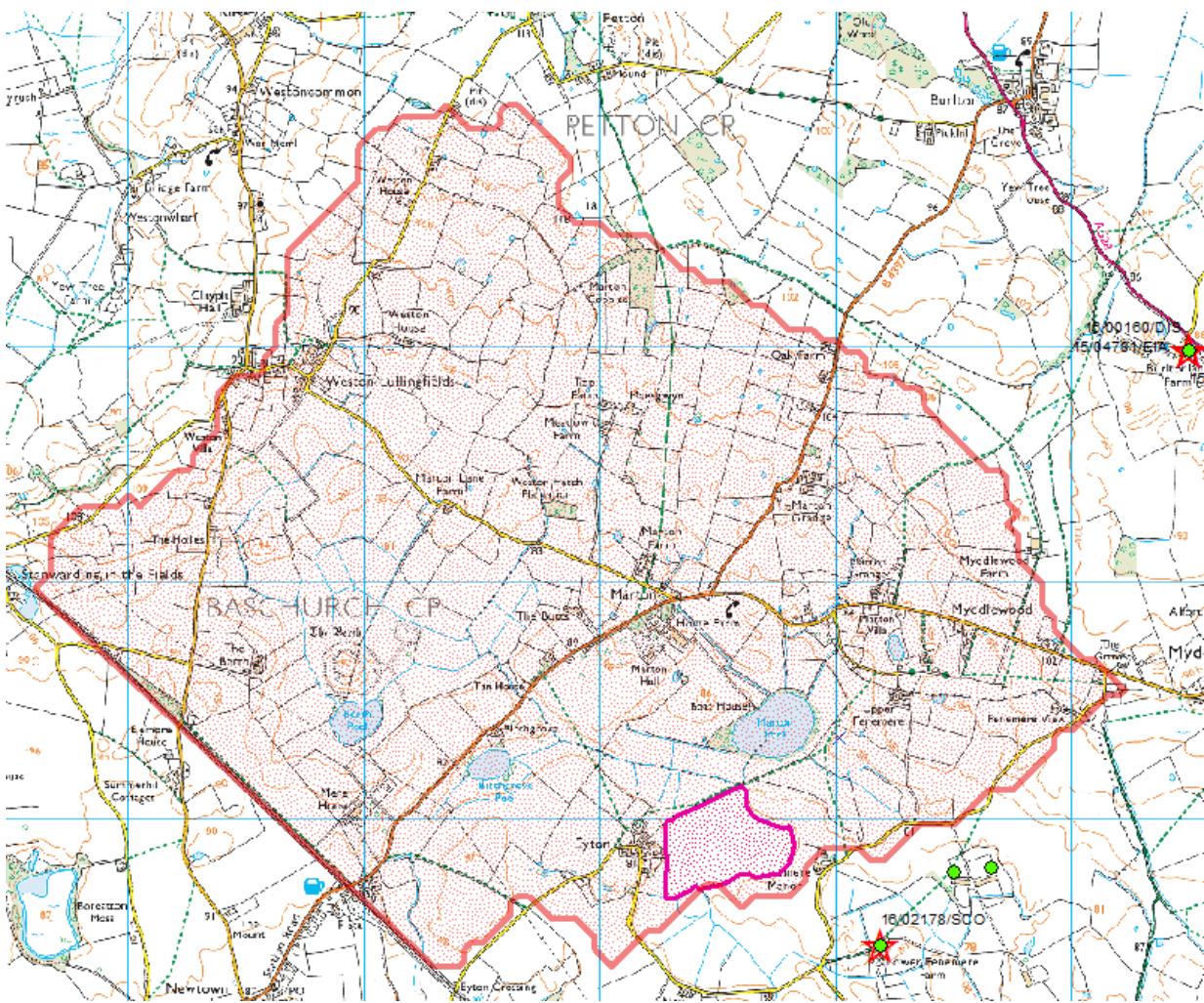
Content Specific Help Text

Site Information Fenemere (SSSI) ▾ ?															
Region: England															
Site Name: Fenemere															
Site Code: 2083															
Designation Status: SSSI															
Distance from Installation (m): 703															
Receptor Type: Habitat															
Grid Reference: 344809.8,322900.6															
Met Site: CROS															
Run Mode: Conservative															
PM_{10} Percentile: Average															
Installation Information ?															
No.	Name	No. of sources	No. of new sources	PM_{10} (t/a)	NH_3 (t/a)	Odour (kOu/a)	Conc NH_3 ($\mu g/m^3$)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM_{10} ($\mu g/m^3$)	Conc Odour (Ou/m ³)				
1	Lower Fenemere	1	1	-	1.3	-	0.09	0.67	0.045	-	-				
Total Depositions/Concentrations and Exceedances ?															
Concentrations/Depositions and Critical Loads/Levels			NH_3 ($\mu g/m^3$)	N Dep. (kg N/ha/yr)		Acid Dep. (kEq H+/ha/yr)		PM_{10} ($\mu g/m^3$)	Odour (Ou/m ³)						
Process Contribution (PC) at receptor edge			0.09	0.70		0.047		-	-						
Background concentration at receptor edge ?			3.05	40.04		3.06 (N:2.86 S:0.20)		-	-						
Predicted Environmental Concentration/Deposition (PEC) ?			3.14	40.74		3.11		-	-						
Environmental Assessment Level or Critical Load / Level ?			Lower: 1 Upper: 3 ?	5.0		maxN: 1.05 maxS: 0.91 minN: 0.14 Broad-leaved, mixed and yew woodland		-	-						
ALTERNATIVE CRITICAL LOAD INFO															
USE OWN THRESHOLDS?															
% of relevant standard PC ?			Lower: 9% Upper: 3%	14%		5%		-	-						
% of relevant standard PEC ?			Lower: 314% Upper: 105%	815%		296%		-	-						
EXCEEDANCE ?			Lower: 2.14 Upper: 0.14	35.74		2.06		-	-						
Project Notes															
Lower Fenemere															

The SCAIL model shows that the Process Contribution at Fenemere Ramsar/SSSI will be approximately 0.70 kg/N/ha/yr. Fenemere Ramsar/SSSI is 16.37 Hectares, therefore the proposal will deposit approximately **11.46kg/yr** Nitrogen on the area of Fenemere Ramsar/SSSI itself.

Fenemere Catchment

SC Ecology has taken into account the Fenemere Catchment, as Nitrogen deposited in these areas could drain into Fenemere. (Red is Fenemere Catchment, Pink is Fenemere Ramsar & SSSI boundary).



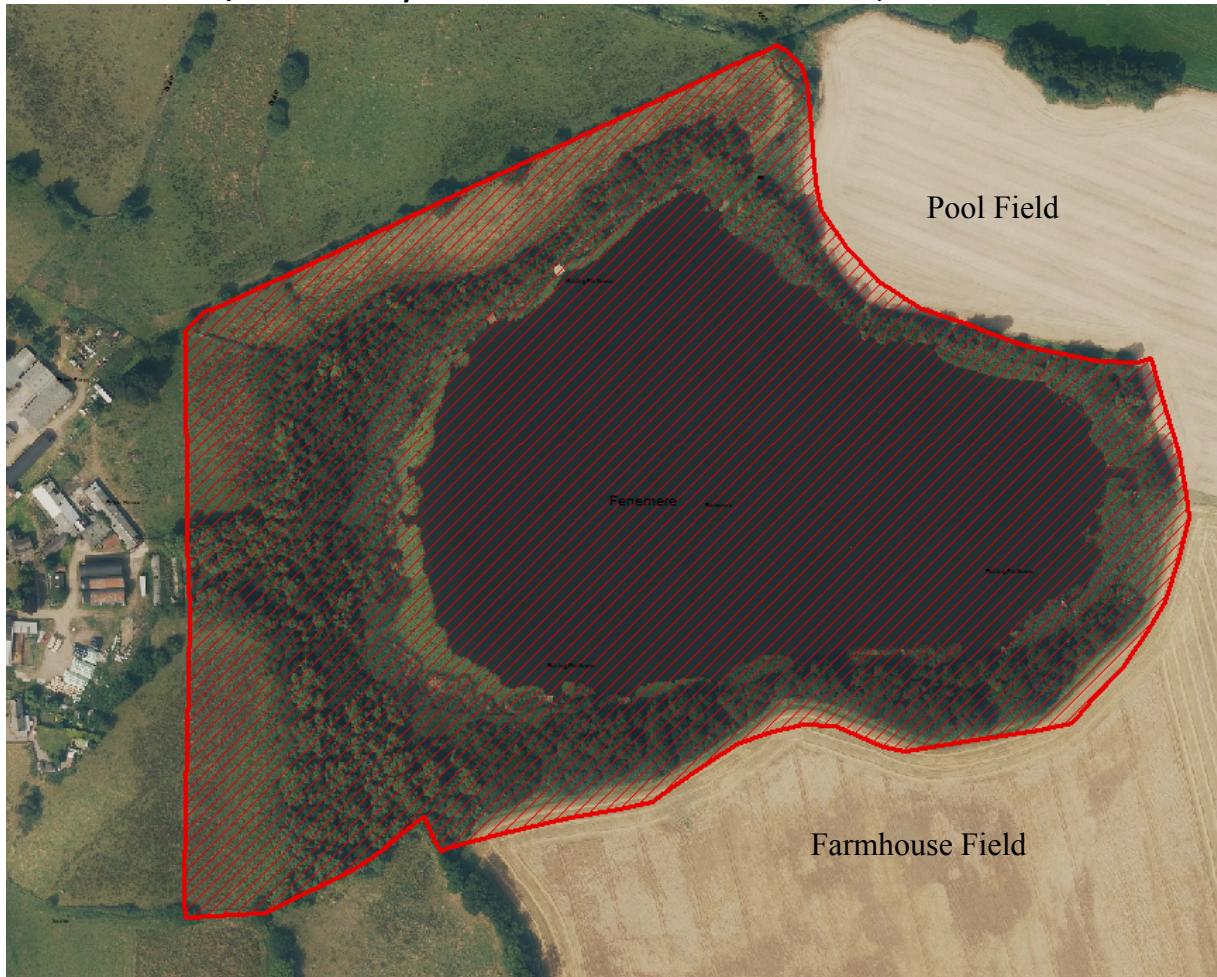
In order to ensure that Fenemere Catchment has been considered in the mitigation modelling, SC Ecology has run the SCAIL model buffering the installation by 500m, 1km, and 1.5km.

Buffer installation from	Grid Ref used in SCAIL modelling	N Dep from modelling	kg/ha/yr SCAIL	Total Area (ha) in the Ramsar Catchement, within the specified buffer	Total N kg/yr
1.5km	344001,323071	0.16		128.18	20.50
1km	344478, 322932	0.26		90.70	23.58
500m	345011,322895	0.78		19.97	15.58
			Total N/kg/yr in Ramsar Catchment	59.66	

Precautionary deposition: Fenemere Ramsar/SSSI boundary will have 11.46 kg/N/yr added, and Fenemere Catchment will have 59.66 kg/N/yr added.

Precautionary Mitigation (which includes Natural England's Ramsar Catchment) must include a reduction of N fertiliser application within the Ramsar Catchment of 71.12 kg/N/yr.

Fenemere Ramsar/SSSI Boundary & Lower Fenemere Farm Field Names;



The applicant is the land owner of 'Pool Field' and 'Farmhouse Field' which are to the north east and south east of Fenemere Ramsar/SSSI. The proposed precautionary mitigation for impact on Fenemere is;

- No application of artificial fertiliser on 0.85 hectares of land. The 0.85 hectares must not already be included in the Ramsar site boundary and must currently be included in arable production.
- Restoration of 0.85 hectares of land to permanent semi natural vegetation.
- Monitoring will be via site visits, fixed point photography and/or aerial photography. The land 0.85 hectares will be marked by <900mm high posts at 20m intervals to ensure the planning condition is easily enforceable.
- *The applicant will develop a land management plan which will be submitted to the local planning authority prior to the occupation of the units by birds. (Please note the non-application of fertiliser to the area of land indicated on the plan below is required for the Habitat Regulations Assessment and for the protection and enhancement of the SSSI, the precise management of the land is not a requirement from the HRA but it is an enhancement under local planning policy).*

Field Fertiliser Application records have been provided by the applicant for the last 5 years. SC Ecology has summarised this in the table below;

	Year	Crop	Kg/N/ha/Yr
Pool Field (7.70 ha)	2016/17	Winter Wheat	220
	2015/16	Oil seed rape	220
	2014/15	HLS	50
	2013/14	Oil seed rape	220
	2012/13	Oil seed rape	220
		Average	930/5 = 183 kg/ha/N/yr
Farmhouse (16.20 ha)	2016/17	Potatoes	270
	2015/16	HLS	80
	2014/15	HLS	50
	2013/14	HLS	80
	2012/13	Wheat	80
		Average	560/5 = 112 kg/ha/N/yr

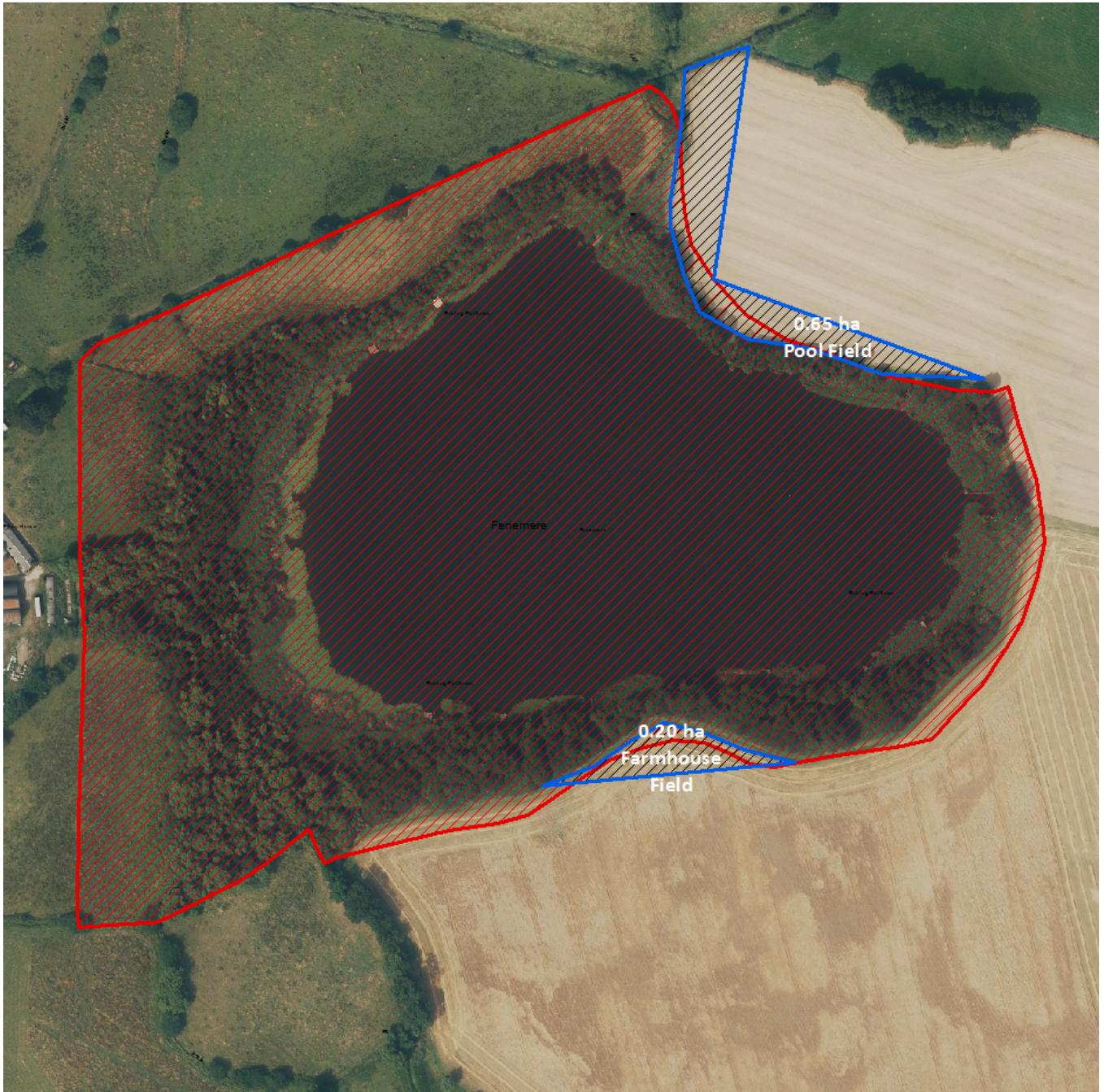
Proposed mitigation:

Area A, Pool Farm field; 0.65 hectares, from the current vegetated edge = reduction based on average N fertiliser application from the last 5 years is 118.95kg/yr of N Fertiliser application,

Area B Farmhouse Field; 0.20 hectares, from the current vegetated edge = reduction based on average N fertiliser application from the last 5 years is 22.4kg/yr of N Fertiliser.

Total mitigation & enhancement proposed at this site = removal of 141.35 kg/yr of N Fertiliser.

Area shown on site plan, with Red Ramsar Boundary;



Distance in meters from the banks of the water to the top of the mitigation buffer to ensure that the planning condition is easily enforceable;

Figure 1



Letter	Distance (m)
A	38
B	51
C	23
D	38
E	36
F	45
G	47
H	43

3.1 Further assessment of possible Emissions Impact

Based on the above mitigation & enhancement measures SC Ecology considers that there will be no effect on Fenemere Ramsar and therefore the proposal does not need to be considered in-combination with other plans or projects.

Please note: The applicant has provided detailed modelling (Steve Smith, dated January 2018). The detailed modelling does not take into consideration Natural England's Ramsar Catchment, but it does demonstrate that SCAIL modelling is precautionary at this site (i.e. detailed modelling shows that the Process Contribution is 0.25kg/ha/yr at Fenemere, and SCAIL shows 0.70kg/ha/yr). SC Ecology is therefore satisfied that what is proposed as Mitigation is sufficient, and a net gain for biodiversity.

SC Ecology has concluded that the project may have a likely significant effect on the site in the absence of mitigation measures, but the necessary measures, once put in place, will completely remove the likelihood of any effects (that is, the avoidance measures as set out above are integral to this project).

An in-combination assessment does not need to include any other plans or projects that have been checked for the need for an appropriate assessment and where the following applies:

2a) It has been concluded that the other plan or project will not have any effect at all on the site, and thus it cannot have an effect either alone or in-combination.

2b) It has been concluded that the plan or project may have an effect on the site and the necessary measures have been put in place to completely remove the likelihood of any effects (that is, avoidance measures are integral to the project)'.

No further assessment required.

3.4 Securing of mitigation measures

Habitat Regulation Assessment Conditions;

1. The development hereby permitted shall not be occupied by birds until evidence is submitted to and approved in writing by Shropshire Council to demonstrate that the area of land, buffered and provided as mitigation for impact on Fenemere Ramsar/SSSI (0.85 hectares as shown on site plan 00 REV A dated 4th December 2017), is marked out by <900mm high posts at 20m intervals.

Reason: To protect features of recognised nature conservation importance, in accordance with the Habitats & Species Regulations (2017), MD12, CS17 and section 118 of the NPPF.

2. The development hereby permitted shall not be occupied until a mitigation monitoring strategy has been submitted to, and approved in writing by, the local planning authority. The purpose of the mitigation monitoring strategy is to demonstrate; 1) that no application of artificial fertiliser is applied to 0.85 hectares of land identified on site plan 00 REV A dated 4th December 2017 for the lifetime of development, 2) the area of 0.85 hectares adjacent to Fenemere Ramsar/SSSI is managed as permanent semi natural vegetation for the lifetime of development, 3) the area of newly planted tree belt in close proximity to Marton Pool LWS (Drawing W17/2504/03 – Strategic Landscape Plan) is in place and retained for the lifetime of the development.

The content of the strategy shall include the following;

- a) Aims and objectives of monitoring to match the stated purpose.
- b) Identification of adequate baseline conditions prior to the start of the development.
- c) Appropriate success criteria and targets against which the effectiveness of the various conservation measures being monitored can be judged.
- d) Methods of gathering and analysing
- e) Locations and monitoring
- f) Timing and duration of monitoring
- g) Responsible persons and lines of communications

A report describing the results of monitoring shall be submitted to the local planning authority at intervals identified in the strategy. The report shall also set out (where the results of the monitoring show that conservation aims and objectives are not being met) how contingencies and/or remedial action will be identified, agreed with the local planning authority and then implemented so that the development still delivers the fully functioning biodiversity objectives of the originally approved scheme. The monitoring strategy will be implemented in accordance with the approved details.

Reason: To protect features of recognised nature conservation importance, in accordance with the Habitats & Species Regulations (2017), MD12, CS17 and section 118 of the NPPF.

Planning conditions;

3. The development hereby permitted shall not be occupied until a landscaping plan has been submitted to and approved in writing by the Local Planning Authority. The plan shall include:

- a) Planting plans, creation of wildlife habitats and features and ecological enhancements
- b) Written specifications (including cultivation and other operations associated with plant, grass and wildlife habitat establishment);
- c) Schedules of plants, noting species (including scientific names), planting sizes and proposed numbers/densities where appropriate;
- d) Native species used are to be of local provenance (Shropshire or surrounding counties);
- e) Details of trees and hedgerows to be retained and measures to protect these from damage during and after construction works;
- f) Implementation timetables.

The plan shall be carried out as approved, unless otherwise approved in writing by the Local Planning Authority.

Reason: To protect features of recognised nature conservation importance, in accordance with the Habitats & Species Regulations (2017), MD12, CS17 and

section 118 of the NPPF.

4. A Habitat Management plan shall be submitted to, and approved in writing by, the local planning authority prior occupation of the development. The content of the Habitat Management Plan shall include the following.
 - a) Description and evaluation of the features to be managed;
 - b) Ecological trends and constraints on site that may influence management;
 - c) Aims and objectives of management;
 - d) Appropriate management options for achieving aims and objectives;
 - e) Prescriptions for management actions;
 - f) Preparation of a works schedule (including an annual work plan and the means by which the plan will be rolled forward annually);
 - g) Personnel responsible for implementation of the plan;
 - h) Detailed monitoring scheme with defined indicators to be used to demonstrate achievement of the appropriate habitat quality;
 - i) Possible remedial/contingency measures triggered by monitoring’;
 - j) The financial and legal means through which the plan will be implemented.

The plan shall be carried out as approved, unless otherwise approved in writing by the Local Planning Authority.

Reason: To protect and enhance features of recognised nature conservation importance, in accordance with MD12, CS17 and section 118 of the NPPF.

4.0 Summary of re-screening including counteracting measures

Table 4 – Summary of HRA conclusions

EU Site (Ramsar)	Effect pathway	HRA conclusion	Natural England agree: Y/N
Fenemere	Ammonia Emissions; Assessment of ammonia must be undertaken in relation to both the direct effects of air pollution and indirect impacts from acid deposition (acidification) or nutrient nitrogen deposition (eutrophication).	No effect	

5.0 Final conclusions

In view of the above, and according to the details submitted with this application (please refer to word document titled ‘LowerFenemere(12)17 01961SS), Shropshire Council can conclude that the proposed development will not adversely affect the integrity of the European Designated Site Fenemere either alone or in combination with other projects through Ammonia Emissions.

The Significance test

The proposed works in application No 17/01961/EIA SC Ecology has concluded that the project may have a likely significant effect on the site in the absence of mitigation measures, but the necessary measures, once put in place, will completely remove the likelihood of any effects (that is, the avoidance measures as set out in the conditions above are integral to this project).

The Integrity test

Based on the proposed mitigation measures, secured through enforceable planning conditions, SC Ecology conclude that there will be no likely adverse effect on the integrity of Fenemere SSSI & Ramsar from planning application 17/01961/EIA.

Conclusions

Shropshire Council can legally grant planning permission.