
FENWICK SOLAR FARM

Fenwick Solar Farm
EN010152

Environmental Statement

Volume III Appendix 8-9: Riparian Mammal Report
Document Reference: EN010152/APP/6.3

Regulation 5(2)(a)

Infrastructure Planning (Applications: Prescribed Forms and Procedure)
Regulations 2009

October 2024
Revision Number: 00

Revision History

Revision Number	Date	Details
00	October 2024	DCO application

Prepared for:
Fenwick Solar Project Limited

Prepared by:
AECOM Limited

© 2024 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Limited (“AECOM”) for sole use of our client (the “Client”) in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Table of Contents

Executive Summary	1
1. Introduction	3
1.1 Background	3
1.2 The Scheme	3
1.3 The Order Limits	3
1.4 Aims and Objectives	4
2. Relevant Legislation, Policy and Guidance	5
2.1 Relevant Legislation	5
2.2 Protected Species Licencing	5
2.3 Priority Species	6
2.4 Local Biodiversity Action Plan	7
3. Methods	8
3.1 Characterising the Baseline	8
3.2 Desk Study	8
3.3 Field Survey	8
3.4 Biodiversity Importance	11
3.5 Assumptions and Limitations	12
4. Results	13
4.1 Desk Study	13
4.2 Field Survey	13
5. Evaluation	32
5.1 Water Vole and Otter	32
5.2 American Mink	33
5.3 Avoidance and Mitigation	33
6. Conclusions	35
7. References	36
Annex A Figures	38

Figures

Figure 8-9-1: Otter HSA Results	38
Figure 8-9-2: Water Vole HSA Results	38
Figure 8-9-3: Riparian Mammal Desk Study Data and Field Survey Results	38

Tables

Table 1: Summary of Riparian Mammal Habitat Suitability Assessment Criteria	9
Table 2: Riparian Mammal Habitat Suitability Assessment Data	14
Table 3: Riparian Mammal Survey Data	28

Executive Summary

- ES1 This Riparian Mammal Survey Report for Fenwick Solar Farm (hereafter referred to as 'the Scheme'), prepared by AECOM Limited, assesses the ecological constraints related to riparian mammals within the Order Limits in Fenwick, Doncaster. This report forms a technical appendix to **Environmental Statement (ES) Volume I Chapter 8: Ecology [EN010152/APP/6.1]**. The primary aim is to identify the presence or likely absence of riparian mammals within the Order Limits, identify any mitigation requirements and ensure compliance with relevant guidelines.
- ES2 Surveys of riparian mammals were undertaken to determine the presence or absence of Water Vole (*Arvicola amphibius*), Otter (*Lutra lutra*) and American Mink (*Neovison vison*) within the Order limits and identify potential impacts of the Scheme on riparian mammals.
- ES3 A habitat suitability assessment was undertaken on nineteen watercourses within the Order limits. Following this, eight watercourses were scoped in for further Water Vole and Otter surveys. Two surveys were conducted during the Water Vole breeding season, one in June 2024 (on the 24, 25 and 26 June 2024) and one in September 2024 (on the 16, 17 and 18 September 2024). During these surveys, any evidence of riparian mammal presence was recorded.
- ES4 Water Vole and Otter evidence and potential habitat features were found on five watercourses within the Order limits. Evidence of American Mink presence was found on two watercourses within the Order limits.
- ES5 The River Went, Engine Drain and Thorpe Marsh Engine Drain may support otter and water vole, and are to be avoided as part of the Scheme. The River Went will be avoided and protected and Engine Drain and Thorpe Marsh Engine Drain will be crossed by Horizontal Direct Drilling (HDD).
- ES6 Otter field signs were located at D29/30 and a suitable feature for otter was identified at D15 (North). As such, follow up visits of these watercourses should be undertaken prior to construction to determine updated presence/absence of otter.
- ES7 Where suitable watercourses for Water Vole and Otter are to be impacted by the Scheme, RAMS will be employed as part of any planned works.
- ES8 The crossing of seven watercourses across the Order limits but only three of them are deemed as suitable for Water Vole and/or Otter (Engine Drain, Thorpe Marsh Engine Drain, and the Wrancarr Drain). Therefore, Reasonable Avoidance Measures (RAMS) will be employed as part of any planned works planned on these three watercourses. This is specified within the **Framework Construction Environmental Management Plan (CEMP) [EN010152/APP/7.7]** and will be detailed within a detailed CEMP following grant of the Development Consent Order (DCO).
- ES9 It is assumed that adverse impacts to the other twelve watercourses within the Order limits will be avoided by either:
- a. The use of directional drilling for the Grid Connection Cables; or

- b. Through the avoidance of watercourses and woodland adjacent to these watercourses by establishing appropriate buffers (i.e. no less than 10 m from the centre-line of the watercourse or 15 m from the woodland edge).

1. Introduction

1.1 Background

- 1.1.1 This report has been prepared by AECOM on behalf of Fenwick Solar Project Limited (hereafter referred to as the 'Applicant') to determine the status of riparian mammals within the Order Limits in Fenwick, Doncaster, as shown on Figure 8-9-1 in Annex A. This report forms a technical appendix to accompany **Environmental Statement (ES) Volume I Chapter 8: Ecology [EN010152/APP/6.1]**.
- 1.1.2 The approach applied when undertaking this assessment accords with the Guidelines for Ecological Impact Assessment published by the Chartered Institute of Ecology and Environmental Management (CIEEM) (Ref. 1). This report addresses relevant wildlife legislation and planning policy, as summarised in Section 2 of this report, and is consistent with the requirements of British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development (Ref. 2).

1.2 The Scheme

- 1.2.1 The proposed Scheme includes three locations (collectively referred to as the 'Order limits'):
- a. The land located east of Fenwick and immediately south of the River Went (hereafter referred to as the 'Solar PV Site');
 - b. The land between the Solar PV Site and the existing compound for Thorpe Marsh Substation (hereafter referred to as the 'Grid Connection Corridor'); and
 - c. The land located within the existing compound for Thorpe Marsh Substation (hereafter referred to as the 'Existing National Grid Thorpe Marsh Substation').
- 1.2.2 The Scheme comprises the installation of Solar PV Panels, On-Site Cables, Cables, associated Battery Energy Storage System (BESS) Area, an On-Site Substation, a cable or line drop connecting the On-Site Substation to the Existing National Grid Thorpe Marsh Substation Grid Connection Line Drop, and other supporting infrastructure including fencing, access tracks, drainage, and biodiversity and landscaping enhancements.

1.3 The Order Limits

The Solar PV Site

- 1.3.1 The Solar PV Site is located near the village of Fenwick, approximately 12 kilometres (km) north of Doncaster. It is approximately 407 hectares (ha) in size, centred on the approximate National Grid Reference (NGR) SE 60549 16313. The Solar PV Site comprises arable and pasture fields with small patches of broadleaved woodlands. The River Went delineates the northern boundary and two large drains run through the eastern part of the Solar PV Site (Fenwick Common Drain and Fleet Drain).

The Grid Connection Corridor

- 1.3.2 The Grid Connection Corridor is approximately 95 ha in size and 6.3 km in length, stretching from NGR SE 60264 14924 to the Existing National Grid Thorpe Marsh Substation at NGR SE 60605 10009. The Grid Connection Corridor comprises arable and modified grassland with patches of woodland and Thorpe Marsh Drain crossing at Thorpe in Baline.

The Existing National Grid Thorpe Marsh Substation

- 1.3.3 The Existing National Grid Thorpe Marsh Substation is approximately 6 ha in size and centred on the approximate NGR SE 60537 09736. It comprises existing substation infrastructure and Open Mosaic Habitat on previously developed land. This area is bound by a railway line to the north and a series of waterbodies and woodland which is part of Thorpe Marsh Nature Reserve to the south and west.
- 1.3.4 The Order limits also includes a section of highway at the junction of the A19 and Station Road in the town of Askern to allow for abnormal indivisible load (AIL) vehicle access and escort. As the works would be limited to temporary traffic signal and banksman control for the period of AIL delivery, no impacts on riparian mammals will occur, and therefore this area is not assessed further.

1.4 Aims and Objectives

- 1.4.1 The aim of this report is to determine the presence of riparian mammals within the Survey Area (see Section 3.1).
- 1.4.2 The objectives, therefore, are to:
- a. Review existing ecological data to identify any records of riparian mammals occurring within the Study Area (see Section 3.1); and
 - b. Undertake a habitat suitability assessment (HSA) and riparian mammal surveys to determine the presence or absence of riparian mammals within the Survey Area (see Section 3.1).
- 1.4.3 Combined, this is used to:
- a. Determine the biodiversity importance of the Order limits for riparian mammals; and
 - b. Identify the potential impacts of the Scheme on riparian mammals and any required mitigation.

2. Relevant Legislation, Policy and Guidance

2.1 Relevant Legislation

2.1.1 Water Vole (*Arvicola amphibius*) and Otter (*Lutra lutra*) are both fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (WCA) (Ref. 3). They are afforded protection under Section 9 Part 9 (1), (2), (4) and (5) of the WCA, making it an offence to:

- a. Intentionally kill, injure or take these species;
- b. Possess or control live or dead individuals of these species or their derivatives;
- c. Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for their shelter or protection;
- d. Intentionally or recklessly disturb these species whilst occupying a structure or place of shelter used for that purpose;
- e. Sell these species or offer or expose for sale or transport for sale; and
- f. Publish or cause to be published any advertisement which conveys the buying or selling of these species.

2.1.2 Otter is also classified under the Habitats Directive (92/43/EEC) (Ref. 4) as a species requiring strict protection in Europe. In the UK, this is enabled by The Conservation of Habitats and Species Regulations 2017 (as amended) (Habitats Regulations) (Ref. 5). Otter is also included in the following international legislation/conventions:

- a. Appendix II and IV of the Habitats Directive, Appendix II of the Bern Convention (Ref. 6) and Appendix I of Convention on International Trade in Endangered Species (CITES) (Ref. 7); and
- b. Globally threatened on the International Union for Conservation of Nature (IUCN) Red Data List (Ref. 8).

2.1.3 American Mink (*Neovison vison*) is an invasive non-native species (INNS) and is listed under Schedule 9 of the WCA (Ref. 3), making it an offence for this species to be released, or to allow it to escape.

2.2 Protected Species Licencing

Water Vole

2.2.1 For Water Vole, a licence is required from Natural England where development works have the potential to disturb, damage or destroy their places of shelter (burrows); stop Water Voles from accessing places they use for shelter or protection; kill or injure them; or to take, move, possess or control them.

2.2.2 Development and other construction activities may be licensed by Natural England under 'reasons of overriding public interest'. Such works should be carried out under a Mitigation Licence, issued by Natural England. This licence requires demonstration of a conservation benefit for Water Vole and this benefit can be achieved by delivering a net gain in the amount of habitat available to the Water Vole population. This is typically achieved through

habitat creation, improving existing habitat and significantly improving linkages between Water Vole colonies.

- 2.2.3 Minor works may also be undertaken under the supervision of an ecologist registered to use a Natural England Water Vole Class Licence. This approach does not require a specific development licence for Water Vole and would permit the displacement of Water Vole through vegetation removal from areas of bankside habitat not exceeding 50 metres (m). There are seasonal constraints applied to the displacement works, with initial vegetation removal (and thus displacement of Water Vole) only permitted during the period 15 February to 15 April and 15 September to 31 October inclusive.

Otter

- 2.2.4 Any operations that may impact upon Otters or their places of rest or shelter may require a Natural England European Protected Species (EPS) Mitigation Licence.
- 2.2.5 An EPS Mitigation Licence is required where development/and or construction activity will impact Otter through:
- a. capturing, killing, disturbing or injury;
 - b. damaging or destroying their breeding/resting place; or
 - c. obstructing access to their resting/sheltering place.
- 2.2.6 In the first instance impacts to Otter should be avoided through considerate construction practices (e.g. minimising work to daylight hours) and through the implementation of 'buffer zones' from known places of shelter. Where breeding holts are affected, the buffer zone would need to be 200m, but for other shelters this can be reduced to 30m.
- 2.2.7 Where such buffer zones cannot be implemented it is likely that the works will require a licence from Natural England.
- 2.2.8 The licence will stipulate how Otter will benefit from mitigation measures, habitat creation, habitat management and habitat maintenance.

2.3 Priority Species

- 2.3.1 In addition to the above legislation, Water Vole and Otter are listed as being Species of Principal Importance (SPI) for conservation in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (Ref. 9). These species are of material consideration during the planning process.
- 2.3.2 The NERC list of SPI is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act (Ref. 9) (in this context, the Secretary of State). Under Section 40, every public authority (e.g. a local authority or local planning authority) must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity, including restoring or enhancing a population or a habitat.
- 2.3.3 The UK Biodiversity Action Plan (UKBAP) (Ref. 10) was launched in 1994 and established a framework and criteria for identifying species (and habitat

types) of conservation concern. From this list, action plans for priority species of conservation concern were published. The UKBAP was subsequently succeeded by the UK Post-2010 Biodiversity Framework (July 2012) (Ref. 11), and then again by the UK Biodiversity Framework 2024 (Ref. 12). This latest Framework has been published in response to the Kunming-Montreal Global Biodiversity Framework (Ref. 13), which was agreed at the Fifteen Conference of the Parties (COP15) in December 2022 and is relevant in the context of Section 40 of the NERC Act (Ref. 9). These species are identified as those of conservation concern due to their rarity or a declining population trend.

2.4 Local Biodiversity Action Plan

- 2.4.1 The Scheme is located within the county of South Yorkshire. Formerly, the Doncaster Biodiversity Action Plan (BAP) (Ref. 14) provided context to inform identification of threatened or uncommon species of local relevance, alongside priorities for conservation and enhancement targeted at a local level in South Yorkshire. However, under the Environment Act 2021 (Ref. 15), BAPs are being replaced by Local Nature Recovery Strategies (LNRSs), which are a system of spatial strategies for nature which will support delivery of biodiversity net gain (BNG) and provide more focussed action for nature recovery. Whilst this is still being developed for South Yorkshire and with no specific habitat or species plans currently in place, this report references those species formerly included on the Doncaster BAP.
- 2.4.2 Water Vole and Otter are both included as a local priority species on the Doncaster BAP.

3. Methods

3.1 Characterising the Baseline

- 3.1.1 Within this report, the following terminology is used when referring to the geographic areas within which assessments were made:
- a. Study Area – the area within the Order limits and a 2 km radius which was subject to collection of background information e.g. collation of desk study records to supplement the findings of the survey work;
 - b. Zone of Influence (Zol) – the area over which riparian mammals may be affected by the Scheme which, using the criteria below and proportionate to the Scheme's impacts, is likely to be up to 200 m around the Order limits (including upstream and downstream effects). Through review of likely impacts of the Scheme and results of the desk study, the scope of field surveys was then defined; and
 - c. Survey Area – the area within which survey work was undertaken. This was, the Order limits plus up to 50 m and 200 m upstream/downstream of watercourses (i.e. rivers, drains) for Water Vole and Otter, respectively, and within 5 m and 100 m of waterbodies (i.e. ponds) and adjacent to watercourses (where suitable habitat exists) for Water Vole and Otter holts respectively.
- 3.1.2 The Zol is based on:
- a. The nature of the Scheme (a solar farm scheme), proposed activities and the potential for effects at all phases of development (construction, operation and maintenance, and decommissioning);
 - b. The nature of the land use (predominantly arable) and habitats in the vicinity (majority being arable), the number of water courses and water bodies, their connectivity within and outside of the Order limits and how they may be used by riparian mammals;
 - c. The presence of riparian mammals in the wider area, based on the location of the Order limits and desk study data; and
 - d. The habits, behaviours and preferences of riparian mammals and whether these could be affected both spatially and temporally.

3.2 Desk Study

- 3.2.1 A desk study was undertaken in 2023 as part of the Preliminary Ecological Appraisal (PEA) published in Spring 2024 (Ref. 16). Records of riparian mammals were obtained through Doncaster Local Records Centre (DLRC). Only records of riparian mammals up to ten years from the data request date (February and November 2023) were considered within the assessment, as any records older than ten years are unlikely to be still representative of presence in the local area.

3.3 Field Survey

Habitat Suitability Assessment

- 3.3.1 A walkover of the Survey Area was undertaken by a suitably experienced surveyor to undertake a habitat suitability assessment of all watercourses

and waterbodies for Water Vole and Otter. Nineteen watercourses were identified within the Survey Area (see Figure 8-9-1 and 8-9-2, Annex A). Any evidence of American Mink and Brown Rat (*Rattus norvegicus*) was also recorded during the walkover survey.

- 3.3.2 The habitat suitability assessment for Water Vole was undertaken based on 'A Method for Assessing Water Vole Habitat Suitability' (Ref. 17) and with reference to the indices presented in Table 1. For Otter, the indices presented in Table 1 were assessed based on criteria presented in 'Monitoring the Otter' (Ref. 18).

Table 1: Summary of Riparian Mammal Habitat Suitability Assessment Criteria

Otter	Water Vole
a. Proximity to the Order limits;	a. Connectivity to other watercourses;
b. Presence of barriers to dispersal and movement through the territory;	b. Extent of suitable emergent and bankside herbaceous vegetation for shelter, food and nesting material;
c. Habitats present and suitability for use by Otter (including terrestrial habitats);	c. Year-round availability of food sources;
d. Availability of food sources (such as fish);	d. Rate of water flow;
e. Adjoining land use and level of disturbance;	e. Bank profile;
f. Features of watercourse or water body (estimated depth, level of flow, width of channel);	f. Degree of shading from overhanging trees or scrub;
g. Connectivity with other areas of suitable or sub-optimal habitat; and	g. Levels of site disturbance (e.g. proximity to public rights of way, farm vehicle access tracks or road traffic);
h. Pollution.	h. Potential for the watercourse or waterbody to dry out;
	i. Suitability of bank substrates for burrowing; and
	j. Pollution and water quality.

- 3.3.3 Water Vole typically inhabit slow-moving streams, canals, ditches, dykes and rivers, feeding mostly on waterside vegetation. They are active in daylight hours and leave several indications of their presence and these signs can be used to identify the presence of Water Vole.

- 3.3.4 With reference to Table 1, the suitability of each watercourse/waterbody to support Water Vole was defined as:
- a. Suitable – Watercourses and waterbodies that were identified as being 'optimal' for Water Vole included those that were wet throughout the survey period; had sufficient year-round food sources; had steep banks suitable for burrowing and with the presence of a berm or sufficient bankside cover.
 - b. Sub-optimal – Watercourses and waterbodies that had a small number of features that could be suitable to support Water Vole.

- c. Unsuitable – Watercourse and waterbodies that were identified during the habitat suitability assessment as being dry; were heavily shaded; were in heavy agricultural use with no marginal vegetation; or where there were significant barriers to movement between the watercourse/waterbody and the Order limits, were considered as being unsuitable for Water Vole as they lack the food, cover and habitat features necessary for the species.

3.3.5 For Otter, whilst the criteria presented in Table 1 were referenced to determine the suitability of each watercourse and waterbody to support this species, it should be noted that Otter is a mobile species of riparian mammal and has a large home range (up to 32 km). Therefore, any watercourse may potentially be used by this species for commuting.

Water Vole Survey

3.3.6 The aim of the survey was to identify evidence of Water Vole activity along a bank and up to 5 m from the bank of the surveyed watercourse or waterbody. Field surveys were based on the standard methods as described by Strachan *et al.* (2011) (Ref. 19) and Dean *et al.* (2016) (Ref. 20). Field signs searched for included:

- a. Latrine sites – distinct piles of Water Vole droppings found near burrows, at the ranges of territorial boundaries and where the animals enter and leave the water;
- b. Feeding stations – areas with distinct neat piles of chewed lengths of vegetation along pathways or haul out platforms along the water's edge;
- c. Burrows – burrow entrances are typically wider than high with a diameter between 4 cm and 8 cm. Burrow entrances are generally located at the water's edge;
- d. Lawns – short, grazed areas at the entrances to burrows;
- e. Prints – identifiable prints in soft margins of the watercourse; and
- f. Runways – low tunnels that are pushed through the vegetation and often leading to burrows or feeding stations.

3.3.7 In accordance with the guidance set out in the Water Vole Mitigation Handbook (Ref. 20), one survey should be conducted in the second half of the breeding season (between July and September) and a second survey should be carried out in the first half of the breeding season (April to June).

3.3.8 Following this, surveys were carried out on 24, 25 and 26 June 2024 and 16th, 17 and 18 September 2024. All surveys were undertaken during suitable weather conditions and by experienced AECOM ecologists.

3.3.9 Any information gathered during the survey on Water Vole signs were used to calculate and estimate Water Vole population and/or activity within those specific watercourses or waterbodies.

3.3.10 It is not possible to make robust estimates of the number of Water Voles from latrine counts, but latrines do provide an indication of activity suitable for assessment of impacts and designing mitigation (Ref. 20).

Otter Survey

- 3.3.11 The aim of the survey was to determine the presence or absence of Otter on watercourses and waterbodies deemed suitable for Otter, following the HSA. The method used was in accordance with guidance in the New Rivers and Wildlife Handbook (Ref. 21); the Environment Agency's Fifth Otter Survey of England 2009-2010 (Ref. 22) and Monitoring the Otter (Ref. 18).
- 3.3.12 Otter surveys can be carried out at any time of year, though the period May to September is optimal when water levels are less variable. Surveys were not undertaken following periods of heavy rain and/or high-water levels as it can obscure or remove signs of Otter and result in false negative survey results. Ideally, there should be a period of at least five days without rain before surveying. Therefore, surveys were undertaken during appropriate weather conditions for survey at the same time as the Water Vole surveys in June and September 2024.
- 3.3.13 Due to the low likelihood of making an actual observation of Otter, the survey concentrated on locating field signs indicating Otter presence or use within the Survey Area. Such field signs include:
- a. Spraints (droppings) – characteristic sweet-smelling, black tar-like (where fresh/relatively recent i.e. within a few weeks) or grey crumbly (when old) faecal deposits usually containing fish scales, bones and occasionally invertebrate exoskeleton and bird feathers;
 - b. Footprints – in good substrate typically asymmetrical and showing five toes arched around a large pad and, depending on substrate, webbing and claw marks. Poorer, generally coarser substrates do not often enable the identification of Otter footprints. Additional signs of Otter presence may occur, although without additional evidence is not usually conclusive proof of current Otter presence;
 - c. Feeding remains – feeding remains may include partially eaten fish, frogs, piles of mussel shells or crayfish remains;
 - d. Slides/haul-outs – routes into and out of the water, which are usually associated with terrestrial routes such as short cuts around meanders or along traditionally used otter paths/routes;
 - e. Couches/hovers – above ground resting places. Usually associated with cover such as dense scrub, rushes or reed, flood debris or fallen trees. Many couches are rarely used whilst others more so. Difficult to prove use without radio tracking; and
 - f. Holts – below ground resting site, usually associated with sprainting. Sometimes used with greater frequency than couches and can be important for breeding (natal holts) where other signs are usually absent. Notoriously difficult to find or prove without radio tracking.

3.4 Biodiversity Importance

- 3.4.1 An essential prerequisite step to allow ecological impact assessment of the Scheme was an evaluation of the relative biodiversity importance of the Survey Area for riparian mammals. This is necessary to set the terms of reference for the subsequent ecological impact assessment.

- 3.4.2 The method of evaluation that was utilised has been developed with reference to the CIEEM Guidelines (Ref. 1). This gives guidance on scoping and carrying out environmental assessments and places appraisal in the context of relevant policies and at a geographical scale at which feature matters (i.e. international, national, regional, county, district, local or site). Data received through desk study and field-based surveys were used to identify the importance of the species addressed in this report. Professional judgement was also applied, where necessary. Relevant published national and local guidance and criteria has been used, where available, to inform the assessment of biodiversity importance and to assist consistency in evaluation.

3.5 Assumptions and Limitations

Desk Study

- 3.5.1 The aim of the desk study was to help characterise the baseline context of the Order limits and provide valuable background information that would not be captured by site surveys alone. Information obtained during the course of the desk study was dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular species does not necessarily mean that the species does not occur in the Study Area. Likewise, the presence of records of species does not automatically mean that these still occur within the area of interest or are relevant in the context of the Order limits.

Field Survey

- 3.5.2 The Fenwick Common Drain had been recently dredged before the September surveys meaning evidence of riparian mammal presence could have been destroyed. However, no evidence was found during both the June and September surveys and the watercourse was assessed as 'sub-optimal' for Water Vole and 'unsuitable' for Otter during the HSA, suggesting that riparian mammals are likely to be absent from this watercourse. Therefore, this limitation does not present a significant restraint on the efficacy of the survey results.
- 3.5.3 There were periods of rainfall two days prior to the surveys conducted in September 2024 which could have caused evidence of Water Vole or Otter presence to be washed away, specifically scat, footprints and feeding remains. Furthermore, the vegetation along the watercourses deemed suitable (see Table 2 for the HSA results) was heavily overgrown meaning some areas along the banksides could not be thoroughly surveyed for riparian mammal evidence. This was due to health and safety risks from the over-grown vegetation. Due to this, the absence of riparian mammals cannot be fully confirmed along some of the watercourses. This limitation is discussed further in Section 5 of this report, along with recommendations on mitigating for riparian mammals.
- 3.5.4 There were no other limitations to the field surveys.

4. Results

4.1 Desk Study


- 4.1.1 Nine Water Vole records within the Study Area were returned from the data search. There were no records of Water Vole within the Order limits. Of the four records returned, three were recorded at the same location approximately 150 m southeast from the Solar PV Site in 2016 (as presented in Figure 8-9-3, Annex A). These were the closest records to the Order limits.
- 4.1.2 No records of Otter or American Mink were returned from the Study Area.
- 4.1.3 From the desk study, using maps and aerial photography, nineteen watercourses were identified within the Survey Area (as presented in Figure 8-9-1 and 8-9-2, Annex A).



4.2 Field Survey



Habitat Suitability Assessment


- 4.2.1 The HSA was undertaken on nineteen watercourses identified within the desk study for their potential to support Water Vole and Otter. This assessment was used to further refine the scope of surveys and determine whether they were suitable (i.e. scoped in for further survey) or unsuitable (i.e. scoped out of further survey) for riparian mammals (see Table 2 for results).


Table 2: Riparian Mammal Habitat Suitability Assessment Data

Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Summary Description of Suitability	Unsuitable/Sub-optimal/Suitable	Photograph
D1/Fleet Drain	<ul style="list-style-type: none"> a. Connected to other watercourses (D29/30 Fenwick Common Drain); b. Bankside vegetation comprised tall grasses and weeds, shrubs and a hedgerow running along the western edge; c. In-channel vegetation comprised tall grasses and weeds; d. No year-round food source; e. Dry with wet patches in June 2024 (water depth varied between 4 cm to 40 cm), with static flow and moderate water quality; f. Steep (>45°), earth banks suitable for burrowing; g. No shading by bankside vegetation; and h. Some disturbance – no signs of management but adjacent to agricultural activity. 	Unsuitable for Water Vole and Otter	


Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Summary Description of Suitability	Unsuitable/Sub-optimal/Suitable	Photograph
D9	<ul style="list-style-type: none"> a. Connected to another watercourse (D13); b. Bankside vegetation comprised tall grasses and weeds and a hedgerow running along the western edge; c. In-channel vegetation comprised tall grasses and weeds; d. No year-round food source; e. Dry with wet patches in June 2024 (water depth ~2 cm), with static flow and moderate water quality; f. Steep (>45°), silt banks suitable for burrowing; g. 50% shaded by bankside vegetation; and h. Some disturbance – no signs of management but adjacent to agricultural activity. 	Unsuitable for Water Vole and Otter	
D12	<ul style="list-style-type: none"> a. Connected to another watercourse (River Went); b. Bankside vegetation comprised tall grasses and weeds, several trees and a hedgerow running along the eastern edge; c. In-channel vegetation comprised tall grasses and weeds and some trees growing across the watercourse; d. No year-round food source; e. Dry in June 2024; f. Shallow (<45°), earth banks unsuitable for burrowing; g. 90% shaded by bankside vegetation; and 	Unsuitable for Water Vole and Otter	

Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Summary Description of Suitability	Unsuitable/Sub-optimal/Suitable	Photograph
	<p>h. Some disturbance – no signs of management but adjacent to agricultural activity.</p>		
D13	<p>i. Connected to another watercourse (D9); j. Bankside vegetation comprised tall grasses and weeds and a hedgerow running along the northern edge; k. In-channel vegetation comprised tall grasses and weeds; l. No year-round food source; m. Dry with wet patches in June 2024 (water depth ~2 cm), with static flow and moderate water quality; n. Steep (>45°), silt banks suitable for burrowing; o. 50% shaded by bankside vegetation; and p. Some disturbance – no signs of management but adjacent to agricultural activity.</p>	<p>Unsuitable for Water Vole and Otter</p>	
D15 North	<p>a. Connected to another watercourse (River Went); b. Bankside vegetation comprised tall grasses and weeds, several trees and a hedgerow running along the western edge; c. In-channel vegetation comprised grasses, weeds and some trees growing across the watercourse; d. No year-round food source; e. Dry in June 2024; f. Shallow (<45°), earth banks unsuitable for burrowing;</p>	<p>Unsuitable for Water Vole, sub-optimal for Otter (due to good terrestrial habitat)</p>	

Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Summary Description of Suitability	Unsuitable/Sub-optimal/Suitable	Photograph
	<ul style="list-style-type: none"> g. 100% shaded by bankside vegetation; and h. Some disturbance – no signs of management but adjacent to agricultural activity. 		
D15 South	<ul style="list-style-type: none"> a. Not connected to other watercourses; b. Bankside vegetation comprised tall grasses and weeds, several trees and a hedgerow running along the western edge; c. In-channel vegetation comprised grasses, weeds and some trees growing across the watercourse; d. No year-round food source; e. Dry in June 2024; f. Shallow (<45°), earth banks unsuitable for burrowing; g. 50% shaded by bankside vegetation; and h. Some disturbance – no signs of management but adjacent to agricultural activity. 	Unsuitable for Water Vole and Otter	

Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Summary Description of Suitability	Unsuitable/Sub-optimal/Suitable	Photograph
D29/30 (west section) ¹	<ul style="list-style-type: none">a. Connected to another watercourse (D1/Fleet Drain);b. Bankside vegetation comprised tall grasses and weeds, several trees and a hedgerow running along the western edge;c. In-channel vegetation was minimal;d. No year-round food source;e. Wet in June 2024 (water depth <0.5 m), with static flow and moderate water quality;f. Shallow (<45°), earth banks unsuitable for burrowing;g. 90% shaded by bankside vegetation; andh. Some disturbance – no signs of management but adjacent to agricultural activity.	Unsuitable for Water Vole and Otter	

¹ D29/30 was split into an east and west section due to the dramatic difference in habitat suitability between the sections. It is still considered one watercourse.

Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Summary Description of Suitability	Unsuitable/Sub-optimal/Suitable	Photograph
D29/30 (east section) ²	<ul style="list-style-type: none">a. Connected to other watercourses (D1/Fleet Drain and River Went);b. Bankside vegetation comprised tall grasses and weeds, several trees and the watercourse ran through a woodland patch;c. In-channel vegetation comprised tall grasses and weeds and some trees growing across the watercourse;d. Year-round food source;e. Wet in June 2024 (water depth >0.5 m), with static flow and moderate water quality;f. Shallow (<45°), earth banks unsuitable for burrowing;g. 30% shaded by bankside vegetation; andh. Some disturbance – no signs of management but adjacent to agricultural activity.	Sub-optimal for Water Vole and Otter	

² D29/30 was split into an east and west section due to the dramatic difference in habitat suitability between the sections. It is still considered one watercourse.

**Watercourse
Reference (see
Figure 8-9-1 and 8-9-
2)**

Summary Description of Suitability

**Unsuitable/Sub-
optimal/Suitable**

Photograph

D55

- a. Connected to another watercourse (Fenwick Common Drain);
- b. Bankside vegetation comprised tall grasses and weeds, several trees and a hedgerow running along the western edge;
- c. In-channel vegetation comprised grasses and weeds;
- d. No year-round food source;
- e. Dry in June 2024;
- f. Shallow (<45°), earth banks unsuitable for burrowing;
- g. 90% shaded by bankside vegetation; and
- h. Some disturbance – no signs of management but adjacent to agricultural activity.

Unsuitable for
Water Vole and
Otter



**Watercourse
Reference (see
Figure 8-9-1 and 8-9-
2)**

Summary Description of Suitability

**Unsuitable/Sub-
optimal/Suitable**



Photograph


Engine Drain


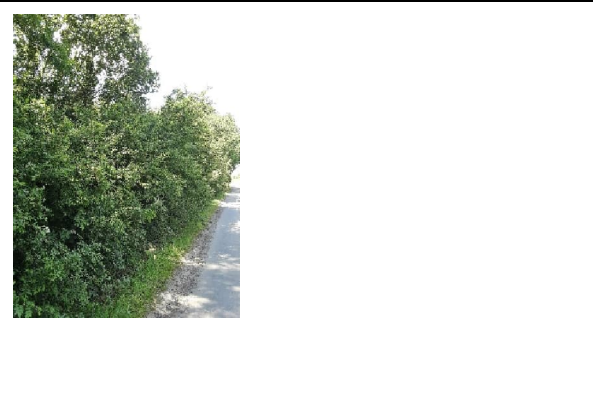
- a. Connected to other watercourses (off-site);
- b. Bankside vegetation comprised tall grasses and weeds and occasional shrubs;
- c. In-channel vegetation comprised tussocky grasses and reeds;
- d. No year-round food source;
- e. Wet in June 2024 (water depth <0.5 m) with static flow and moderate water quality;
- f. Steep (>45°), silt banks suitable for burrowing;
- g. 20% shaded by bankside vegetation; and
- h. Some disturbance – no signs of management but adjacent to agricultural activity.


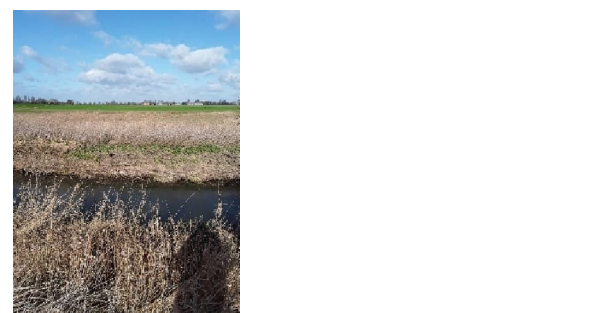
Suitable for
Water Vole and
Otter






Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Summary Description of Suitability	Unsuitable/Sub-optimal/Suitable	Photograph
Fenwick Common Drain	<ul style="list-style-type: none"> a. Connected to other watercourses (D1/Fleet Drain and D55); b. Bankside vegetation comprised closely mown grasses and weeds, several trees and a hedgerow running along the northern edge; c. No in-channel vegetation d. No year-round food source; e. Wet in June 2024 (water depth <0.3 m) with static flow and moderate water quality; f. Steep (>45°), earth banks suitable for burrowing; g. No shading by bankside vegetation; and h. Heavy disturbance – recently dredged and adjacent to agricultural activity. 	Sub-optimal for Water Vole and unsuitable for Otter	
Forstead Lane Drain	<ul style="list-style-type: none"> a. Connected to other watercourses (off-site); b. Bankside vegetation comprised tall grasses and weeds, trees and a defunct hedgerow running along the northern edge; c. In-channel vegetation was limited; d. Year-round food source; e. Wet in June 2024 (water depth 1 m), with static flow and poor water quality (human debris and run-off); f. Steep (>45°), earth banks suitable for burrowing; g. 50% shaded by bankside vegetation; and 	Suitable for Water Vole and Otter	

Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Summary Description of Suitability	Unsuitable/Sub-optimal/Suitable	Photograph
Hawkehouse Green Dike	<p>h. Moderate disturbance – adjacent to minor road and agricultural activity.</p> <hr/> <p>a. Connected to other watercourses (off-site); b. Bankside vegetation comprised tall grasses and weeds, trees and a hedgerow running along the northern edge; c. In-channel vegetation comprised tall grasses and weeds; d. No year-round food source; e. Dry in June 2024; f. Steep (>45°), earth banks suitable for burrowing; g. 95% shaded by bankside vegetation; and h. Some disturbance – no signs of management but adjacent to agricultural activity.</p>	Unsuitable for Water Vole and Otter	

Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Summary Description of Suitability	Unsuitable/Sub-optimal/Suitable	Photograph
Mill Dike	<ul style="list-style-type: none"> a. Connected to other watercourses (Wrancarr Drain and off-site); b. Bankside vegetation comprised tall grasses and weeds, trees and a hedgerow running along the southern edge; c. In-channel vegetation comprised tall grasses and weeds; d. No year-round food source; e. Dry in June 2024; f. Shallow (<45°), earth banks unsuitable for burrowing; g. 90% shaded by bankside vegetation; and h. Some disturbance – no signs of management but adjacent to agricultural activity. 	Unsuitable for Water Vole and Otter	
Moss Little Common Drain	<ul style="list-style-type: none"> a. Connected to other watercourses (off-site); b. Bankside vegetation comprised bramble, tall grasses and trees; c. No in-channel vegetation d. No year-round food source; e. Dry in June 2024; f. Steep (>45°), earth banks suitable for burrowing; g. 100% shaded by bankside vegetation; and h. Heavy disturbance – adjacent to a minor road and agricultural activity. 	Unsuitable for Water Vole and Otter	

Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Summary Description of Suitability	Unsuitable/Sub-optimal/Suitable	Photograph
Moss Road and London Hill Drain	<ul style="list-style-type: none"> a. Connected to other watercourses (off-site); b. Bankside vegetation comprised tall grasses and weeds and some shrubs; c. In-channel vegetation comprised tall grasses and weeds; d. Year-round food source?; e. Dry in June 2024? f. Steep (>45°), earth banks suitable for burrowing; g. 10% shaded by bankside vegetation; and h. Some disturbance – no signs of management but there is one farm road that crosses the river within the survey area. 	Unsuitable for Water Vole and Otter	
River Went	<ul style="list-style-type: none"> a. Connected to other watercourses (D12, D15 North, D29/30 and off-site); b. Bankside vegetation comprised reedbeds, scattered trees and a woodland patch; c. In-channel vegetation comprised tall grasses and reeds; d. Year-round food source; e. Wet in June 2024 (water depth ~1.5 m), with sluggish flow and good water quality; f. Steep (>45°), earth banks suitable for burrowing; g. 20% shaded by bankside vegetation; and 	Unsuitable for Water Vole, suitable for Otter	

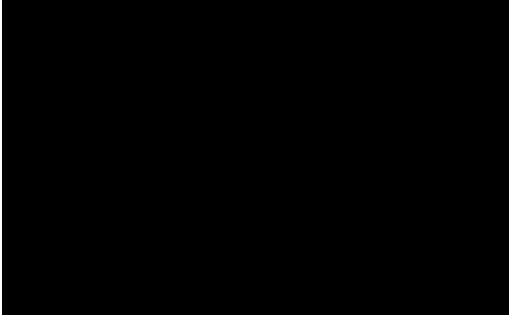
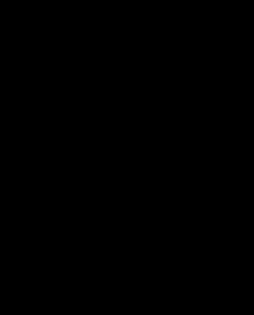
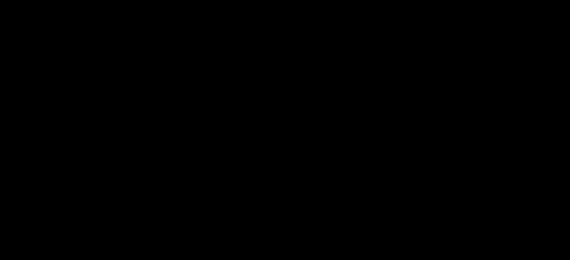
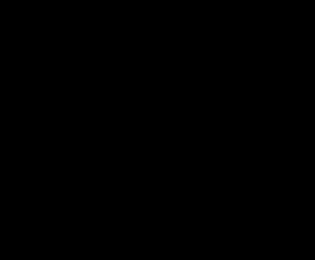
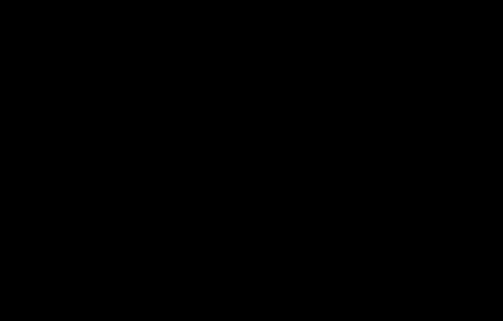
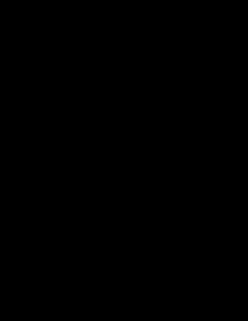
Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Summary Description of Suitability	Unsuitable/Sub-optimal/Suitable	Photograph
	<ul style="list-style-type: none"> h. Some disturbance – no signs of management but there is one farm road that crosses the river within the survey area. 		
Thorpe Marsh Engine Drain	<ul style="list-style-type: none"> a. Connected to other watercourses (off-site); b. Bankside vegetation comprised tall grasses and weeds and a hedgerow running along the northern edge; c. In-channel vegetation comprised tall grasses and weeds; d. Year-round food source; e. Wet in June 2024 (water depth is >2 m), with static flow and moderate water quality; f. Steep (>45°), earth banks suitable for burrowing; g. No shading by bankside vegetation; and h. Some disturbance – no signs of management but adjacent to agricultural activity. 	Suitable for Water Vole and Otter	
Wrancarr Drain	<ul style="list-style-type: none"> a. Connected to other watercourses (Mill Dike and off-site); b. Bankside vegetation comprised tall grasses, reeds and some scrub; c. In-channel vegetation comprised tall grasses and reeds; d. Year-round food source; e. Wet in June 2024 (water depth 1.5 m), with static flow and good water quality; 	Suitable for Water Vole and Otter	


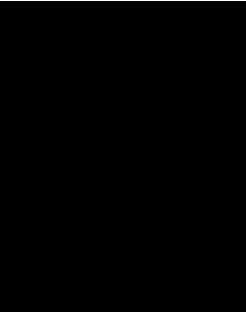
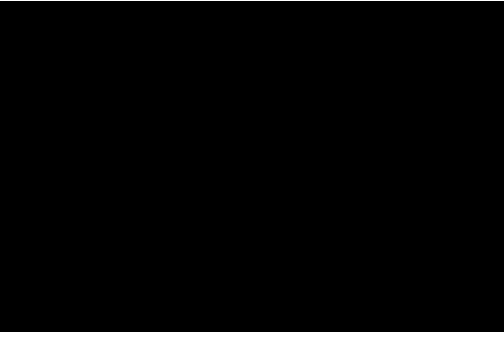
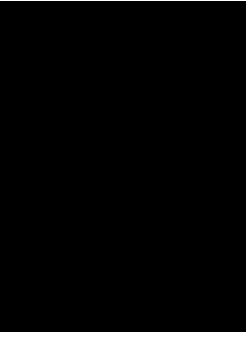

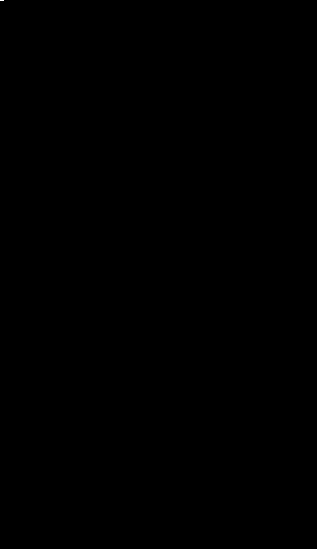
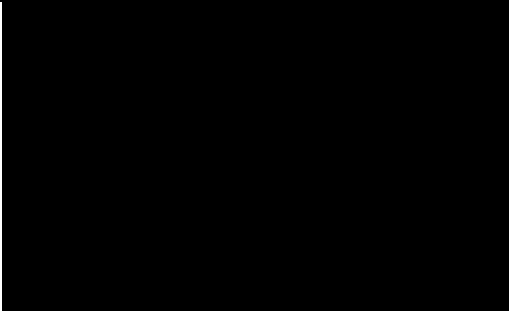
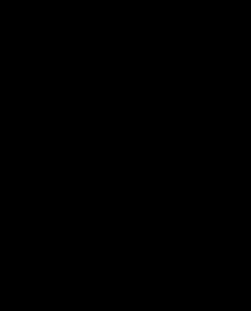
Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Summary Description of Suitability	Unsuitable/Sub-optimal/Suitable	Photograph
	<ul style="list-style-type: none"> f. Steep (>45°), silt banks suitable for burrowing; g. 10% shaded by bankside vegetation; and h. Moderate disturbance – possible signs of dredging and adjacent to agricultural activity. 		
(Unmarked field ditch)	<ul style="list-style-type: none"> a. Not connected to other watercourses; b. Bankside vegetation comprised tall grasses and weeds and a hedgerow running along the northern edge; c. In-channel vegetation comprised tall grasses and weeds; d. Year-round food source; e. Dry in June 2024; f. Shallow (<45°), earth banks unsuitable for burrowing; g. 70% shaded by bankside vegetation; and h. Some disturbance – no signs of management but adjacent to agricultural activity. 	Unsuitable for Water Vole and Otter	


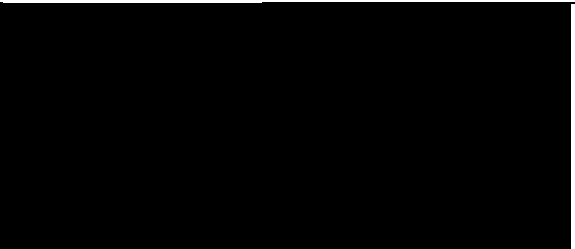
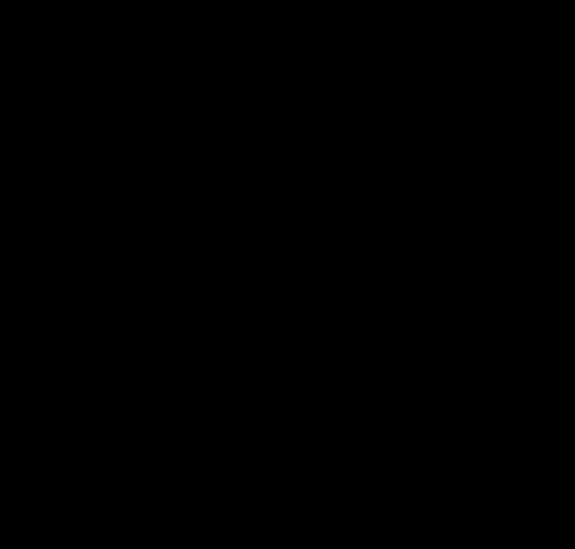
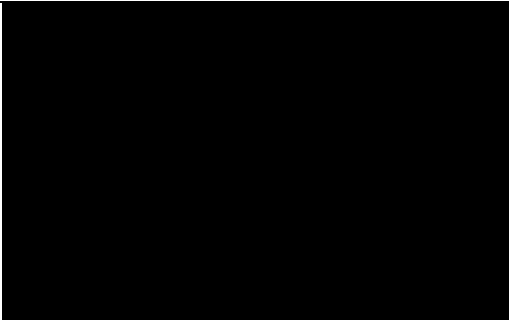
Riparian Mammal Survey

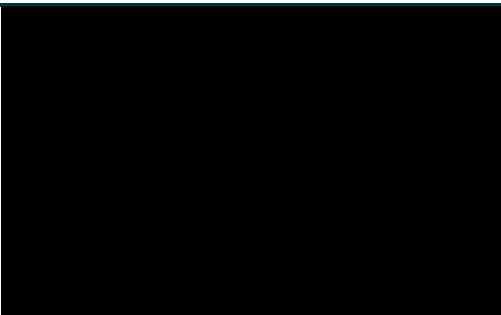

- 4.2.2 Eight watercourses (see Figure 8-9-1 and 8-9-2, Annex A) were scoped in for further Water Vole and Otter surveys during the HSA to determine presence or absence of Water Vole and Otter. These were D15 North, D29/30, Engine Drain, Fenwick Common Drain, Forstead Lane Drain, River Went, Thorpe Marsh Engine Drain and Wrancarr Drain.
- 4.2.3 Evidence of Otter was found along the River Went and along D29/30 watercourse which is hydrologically connected to the River Went. Potential Water Vole feeding stations were found along Engine Drain and Thorpe Marsh Engine Drain and an American Mink scat and hole was found along the D15 North watercourse.
- 4.2.4 A summary of the field signs observed during the riparian mammal survey is presented in Table 3 and illustrated in Figure 8-9-1 and 8-9-2 (Annex A).

Table 3: Riparian Mammal Survey Data

Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Feature	Location	Photograph
River Went	Bankside hole with potential to be Otter holt, although no evidence of Otter use recorded.		
	Otter spraint, two weeks old		
	Otter footprints beneath bridge		

Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Feature	Location	Photograph
D15 North	Mink scat outside Mink burrow.		
	Hole at base of tree with potential to be an Otter holt and resting place, although no evidence of Otter use recorded. Badger present along the same hedgeline.		
D29/30 (east section)	Three Otter spraints and anal jelly found on fallen limbs of a Willow tree (<i>Salix</i> sp.).		
	Old Otter spraint on broken tree branch.		

Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Feature	Location	Photograph
	Mink trap (indicates the presence of Mink)	N/A	
Engine Drain	One potential Water Vole burrow.	N/A	No photo.
	One potential Water Vole feeding station.		
Thorpe Marsh Engine Drain	One Water Vole feeding station.		
	One Water Vole feeding station and run.		

Watercourse Reference (see Figure 8-9-1 and 8-9-2)	Feature	Location	Photograph
	One potential Water Vole burrow.		
	One potential Water Vole feeding station.		No photo.

5. Evaluation

5.1 Water Vole and Otter

- 5.1.1 The desk study returned records of Water Vole, with the closest being approximately 150 m to the southeast of the Solar PV Site. Surveys of watercourses within the Order limits identified the presence of Water Vole along a section of Thorpe Marsh Engine Drain and possible presence along a section of Engine Drain. No records of Otter were returned from the desk study, however, surveys of watercourses within the Order limits identified the presence of Otter along the River Went, with a bankside hole offering potential as a holt site, although no evidence of such was recorded, and presence of commuting Otter along the D29/30 watercourse which is hydrologically connected to the River Went. Furthermore, areas along the D15 North watercourse and Wrancarr Drain could potentially provide good habitat features for Otter suggesting they could form part of Otter migratory routes.
- 5.1.2 The presence of a bankside hole along the north bank of the River Went could offer suitability for Otter, although no evidence of use was recorded. This feature is located >60 m from the proposed works area, with the Ecological Mitigation Areas being located between the holt and the Solar PV Site. The disturbance distance for otter holts is considered to be 50 m and as such is not anticipated to be impacted by the Scheme.
- 5.1.3 It is not possible to confirm Water Vole presence from potential burrows and feeding stations alone. However, based off the desk study data and results from the field surveys, Water Vole is present in at least one of the watercourses within the Grid Connection Corridor (Thorpe Marsh Engine Drain) and possibly present in another (Engine Drain). Due to the limited number of field signs identified, the water vole population is assessed as being of Local importance.
- 5.1.4 Otter has an estimated British population of 11,000 (Ref. 23), with an increasing population size and range. Therefore, in consideration of the limited number of records of Otter (restricted to the D29/30 watercourse), the Order limits is of Local importance (within approximately 2 km of the Order limits).
- 5.1.5 As described in Section 3.5 of this report, poor weather conditions prior to the September surveys and over-grown vegetation causing potential health and safety risks meant that some evidence of riparian mammal presence could have been missed, especially along the watercourses that were assessed as suitable during the HSA and are connected to ones where evidence was found (e.g. the River Went is connected to the D29/30 watercourse).
- 5.1.6 As Otter are present along two watercourses within the Order limits with a potential suitable feature along a third, and Otter and Water Vole absence cannot be fully confirmed along others, RAMS such as pre-commencement checks and low strimming prior to any works taking place should be followed to limit the potential impacts of the Scheme on the riparian mammal populations within the Order limits.

5.2 American Mink

5.2.1 American Mink are present along the D15 North watercourse and possibly the D29/30 watercourse. The presence of a mink trap implies there is already some form of mitigation against the spread of this INNS. It is against the law to release or promote the spread of this species in the wild (Ref. 1) as American Mink can have a devastating impact on native Water Vole populations through predation. Therefore, eradication schemes are a vital part of the mitigation process against them.

5.3 Avoidance and Mitigation

- 5.3.1 Open-cut crossings are required on seven watercourses across the Order limits. These include Engine Drain, Hawkhouse Green Dike, Mill Dike, Moss Little Common Drain, Moss Road and London Hill Drain, Thorpe Marsh Engine Drain and Wrancarr Drain.
- 5.3.2 The River Went, Engine Drain and Thorpe Marsh Engine Drain may support otter and water vole, and are to be avoided as part of the Scheme. The River Went will be avoided and protected and Engine Drain and Thorpe Marsh Engine Drain will be crossed by HDD.
- 5.3.3 Otter field signs were located at D29/30 and a suitable feature for otter was identified at D15 (North). As such, follow up visits of these watercourses should be undertaken prior to construction to determine updated presence/absence of otter.
- 5.3.4 Where suitable watercourses for Water Vole and Otter are to be impacted by the Scheme, RAMS will be employed as part of any planned works. This is specified within the **Framework CEMP [EN010152/APP/7.7]** and will be detailed within a detailed CEMP following grant of the DCO. The detailed CEMP should outline the following recommendations:
- Outline the habitat deemed suitable to riparian mammals within the Order limits;
 - Appoint an Ecological Clerk of Works (ECoW) and a site Ecological Representative;
 - Provision of 'Toolbox Talks' by the ECoW;
 - Provision of pre-commencement checks including searches of suitable habitat by the ECoW;
 - Outline relevant legislation; and,
 - Outline permitted timings and weather conditions of the construction works.
- 5.3.5 It is unlikely that open-cut crossings will have any impacts on riparian mammals across watercourses that were deemed unsuitable for Water Vole and Otter.
- 5.3.6 These measures would ensure that the potential for deliberate harm and injury to Water Vole and Otter will be avoided such that the Scheme will not have adverse impact on riparian mammals.
- 5.3.7 The Scheme presents an opportunity to include habitat creation within the design that would enhance the populations of Water Vole and Otter within

the Order limits and its environs. There is also an opportunity to aid in American Mink control by contributing to eradication programs within the area.

6. Conclusions

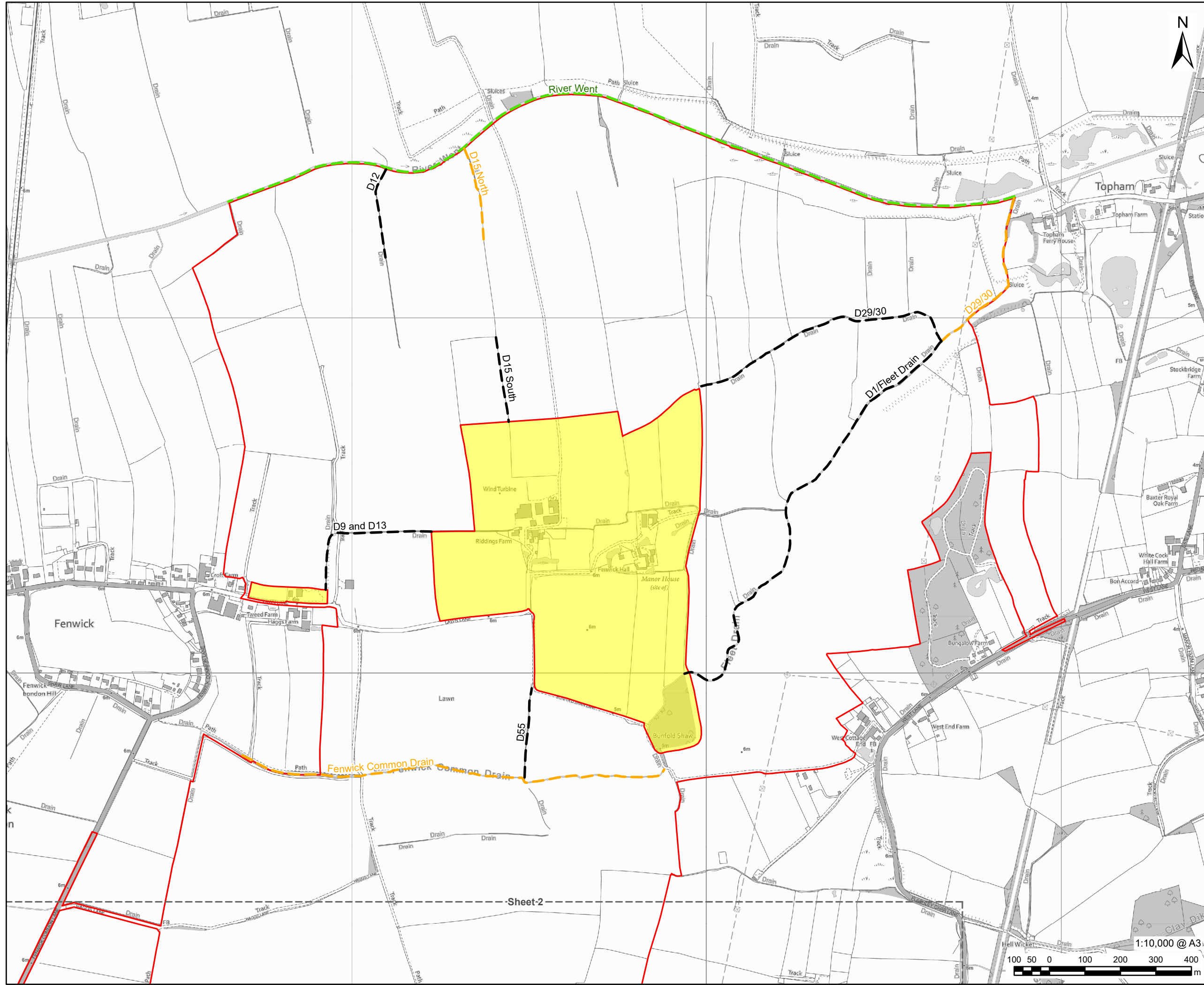
- 6.1.1 The primary purpose of this report is to provide an assessment of the presence or absence of Water Vole and Otter and their biodiversity importance within the Order limits to inform **ES Volume I Chapter 8: Ecology [EN010152/APP/6.1]**. An assessment of potential impacts (considering embedded mitigation), any additional mitigation, and residual effects on these species has been undertaken and is included within **ES Volume I Chapter 8: Ecology [EN010152/APP/6.1]**.
- 6.1.2 The desk study returned records of Water Vole within 2 km of the Order limits and from the last ten years.
- 6.1.3 Based on the results to date, the Scheme will be able to embed sufficient mitigation measures, formalised through the **Framework CEMP [EN010152/APP/7.7]** to ensure that Water Vole and Otter occurring within the Order limits are not negatively impacted upon. This will be in line with legislation, policy and guidance as described in Section 2 of this report. There is also an opportunity to aid in American Mink control by contributing to eradication programs within the area, which will mitigate against the spread of this invasive non-native species.

7. References

- Ref. 1 Chartered Institute of Ecology and Environmental Management (CIEEM). (2018). Guidelines for Ecological Impact assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Available at: <https://cieem.net/wp-content/uploads/2018/08/ECIA-Guidelines-2018-Terrestrial-Freshwater-Coastal-and-Marine-V1.2-April-22-Compressed.pdf>. [Accessed 18 October 2024].
- Ref. 2 British Standards Institute (2013). BS42020:2013 Biodiversity: Code of Practice for Planning and Development.
- Ref. 3 His Majesty's Stationery Office (HMSO) (1981). Wildlife and Countryside Act 1981 (as amended). HMSO, London. Available at: <https://www.legislation.gov.uk/ukpga/1981/69>. [Accessed 18 October 2024].
- Ref. 4 European Council (EC) (1992). Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. EC, Brussels. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31992L0043>. [Accessed 18 October 2024].
- Ref. 5 HMSO (2018). The Conservation of Habitats and Species Regulations 2017 (as amended). HMSO, London. Available at: <https://www.legislation.gov.uk/uksi/2017/1012/contents/made>. [Accessed 18 October 2024].
- Ref. 6 Anon (2001). Appendices of the Convention and Amendments to the Appendices. Bern Convention, Council of Europe.
- Ref. 7 Anon (2020). Appendices I, II and III. CITES.
- Ref. 8 IUCN (2020). The IUCN Red List of Threatened Species.
- Ref. 9 HMSO (2006). Natural Environment and Rural Communities Act 2006. HMSO, London. Available at: <https://www.legislation.gov.uk/ukpga/2006/16/contents>. [Accessed 18 October 2024].
- Ref. 10 HMSO (1994). Biodiversity The UK Action Plan. HMSO, London. Available at: <https://data.jncc.gov.uk/data/cb0ef1c9-2325-4d17-9f87-a5c84fe400bd/UKBAP-BiodiversityActionPlan-1994.pdf>. [Accessed 18 October 2024].
- Ref. 11 Joint Nature Conservation Committee (JNCC) and Department for Environment, Food and Rural Affairs (DEFRA) (2012). UK Post-2010 biodiversity Framework. Available at: http://jncc.defra.gov.uk/pdf/UK_Post2010_Bio-Fwork.pdf. [Accessed 18 October 2024].

- Ref. 12 JNCC (2023). UK Biodiversity Framework 2024. Available at <https://data.jncc.gov.uk/data/19a729f6-440e-4ac6-8894-cc72e84cc3bb/uk-biodiversity-framework.pdf>. [Accessed 18 October 2024].
- Ref. 13 United Nation (2022). Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity. Available at: <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf>. [Accessed 18 October 2024].
- Ref. 14 Doncaster Local Biodiversity Action Plan 2007. Available at: <https://www.doncaster.gov.uk/services/environmental/doncaster-biodiversity-action-plan>. [Accessed 18 October 2024].
- Ref. 15 HMSO (2021). The Environment Act 2021. HMSO, London. Available at: <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>. [Accessed 18 October 2024].
- Ref. 16 AECOM (2024). Fenwick Preliminary Ecological Appraisal.
- Ref. 17 Harris, J., Markwell, H. and Raybould, B. (2009). In Practice Issue 65: Training and Education. Chartered Institute of Ecology and Environmental Management (CIEEM), Hampshire.
- Ref. 18 Chanin, P. (2003). Monitoring the Otter: Conserving Natura 2000 Rivers Ecology Series No.10. Peterborough, English Nature.
- Ref. 19 Strachan, R., Moorhouse, Y. and Gelling, M. (2011). The Water Vole Conservation Handbook. 3rd edition. WildCRU, University of Oxford.
- Ref. 20 Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Editors Fiona Mathews and Paul Chanin. The Mammal Society, London.
- Ref. 21 Holmes, N., Ward, D. and Jose, P. (2001). The New Rivers and Wildlife Handbook. Royal Society for the Protection of Birds.
- Ref. 22 Crawford, A. (2011). Fifth otter survey of England 2009 – 2010: Technical Report. Environment Agency.
- Ref. 23 GOV.UK (2022). Otters: advice for making planning decisions. Available at: <https://www.gov.uk/guidance/otters-advice-for-making-planning-decision>. [Accessed 18 October 2024].

Annex A Figures



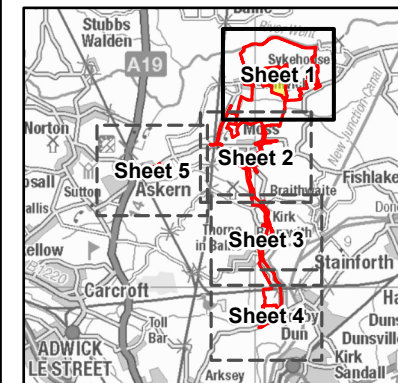
AECOM

PROJECT
Fenwick Solar Farm

CLIENT
Fenwick Solar Project Limited

CONSULTANT
AECOM Limited
Midpoint,
Alencon Link
Basingstoke, RG21 7PP
www.aecom.com

- LEGEND**
- Order limits
 - Land not included in the Order limits
 - Otter Habitat Suitability Assessment (HSA)**
 - Suitable
 - Sub-Optimal
 - Unsuitable



NOTES

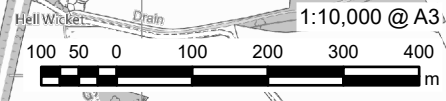
Reproduced from Ordnance Survey digital map data © Crown copyright 2024. All rights reserved. Licence number 0100031673.

ISSUE PURPOSE
Environmental Statement

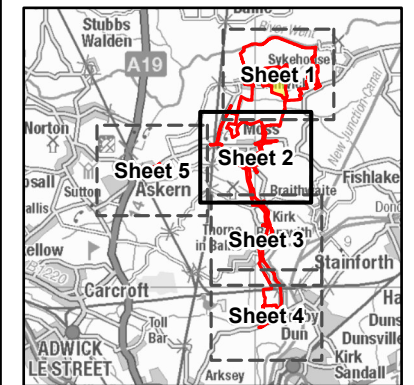
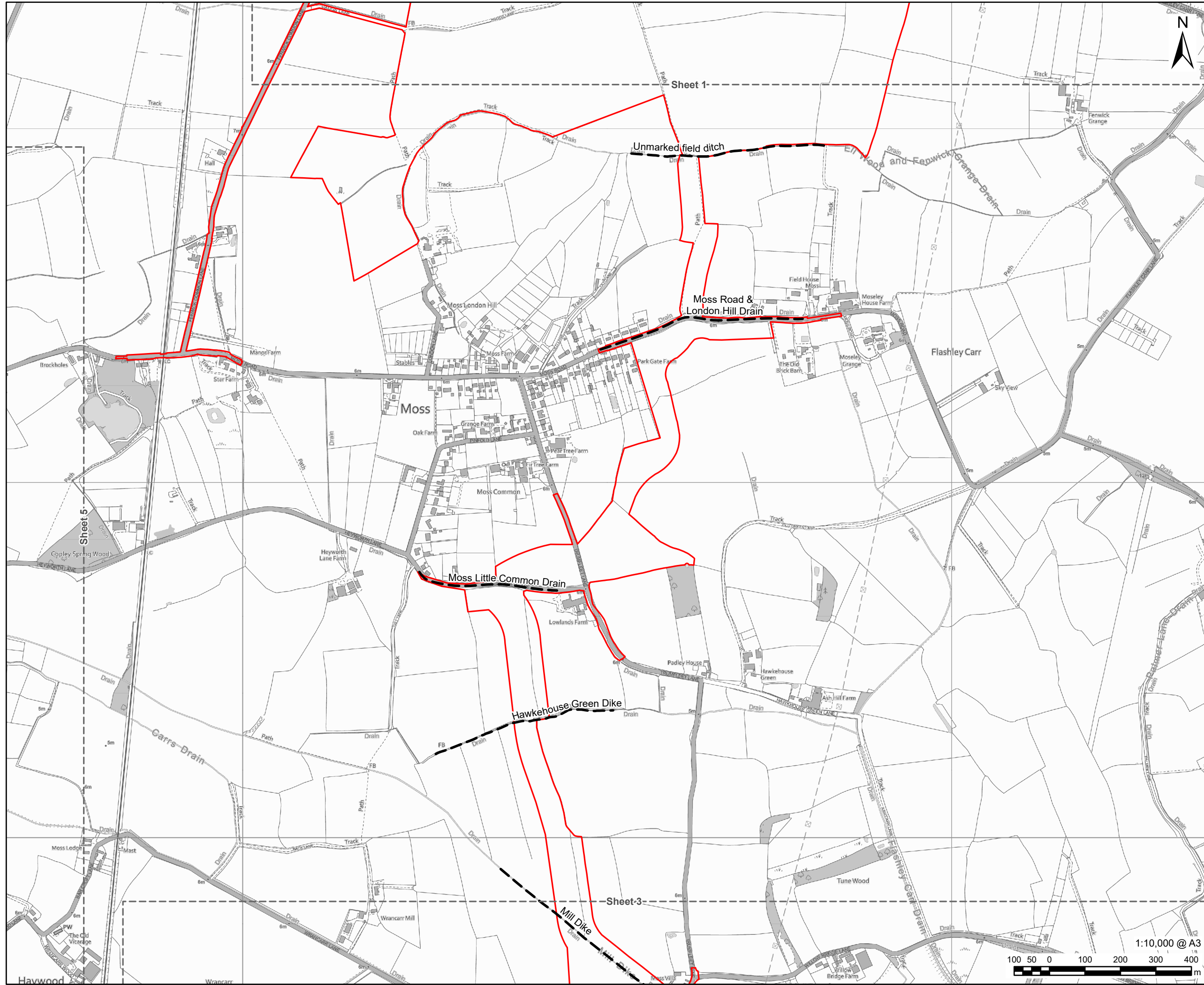
PROJECT NUMBER
60698207

FIGURE TITLE
Otter Habitat Suitability Assessment Results
Sheet 1 of 5

FIGURE NUMBER
Figure 8-9-1



This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.



NOTES

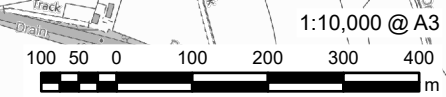
Reproduced from Ordnance Survey digital map data © Crown copyright 2024. All rights reserved. Licence number 0100031673.

ISSUE PURPOSE
Environmental Statement

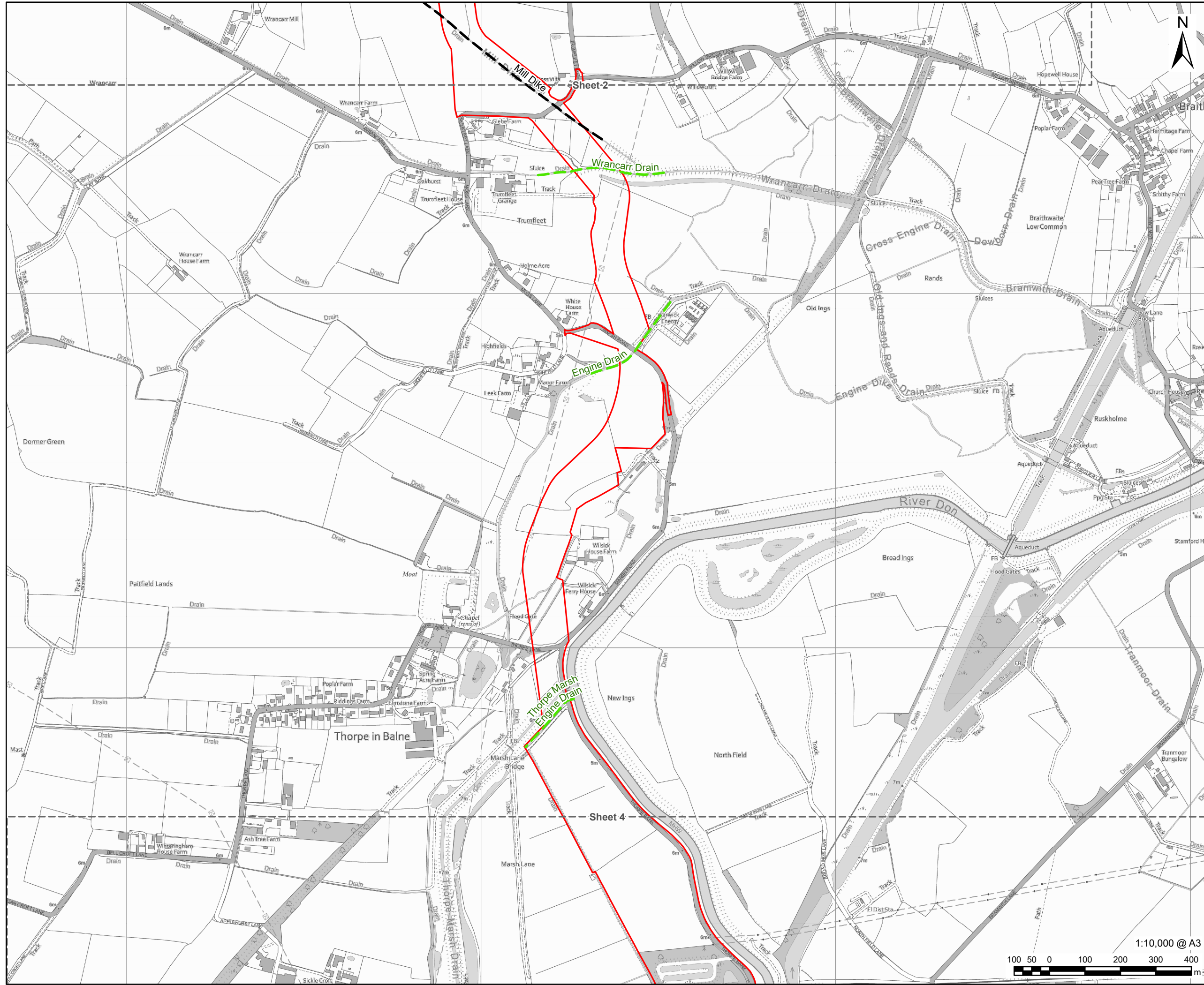
PROJECT NUMBER
60698207

FIGURE TITLE
Otter Habitat Suitability Assessment Results
Sheet 2 of 5

FIGURE NUMBER
Figure 8-9-1



This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as signed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.



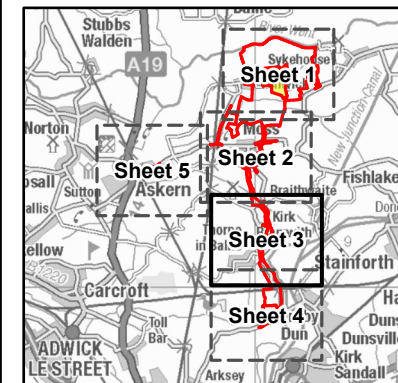
PROJECT
Fenwick Solar Farm

CLIENT
Fenwick Solar Project Limited

CONSULTANT
AECOM Limited
Midpoint,
Alencon Link
Basingstoke, RG21 7PP
www.aecom.com

LEGEND

- Order limits
- Otter Habitat Suitability Assessment (HSA)
 - Suitable
 - Unsuitable



NOTES

Reproduced from Ordnance Survey digital map data © Crown copyright 2024. All rights reserved. Licence number 0100031673.

ISSUE PURPOSE
Environmental Statement

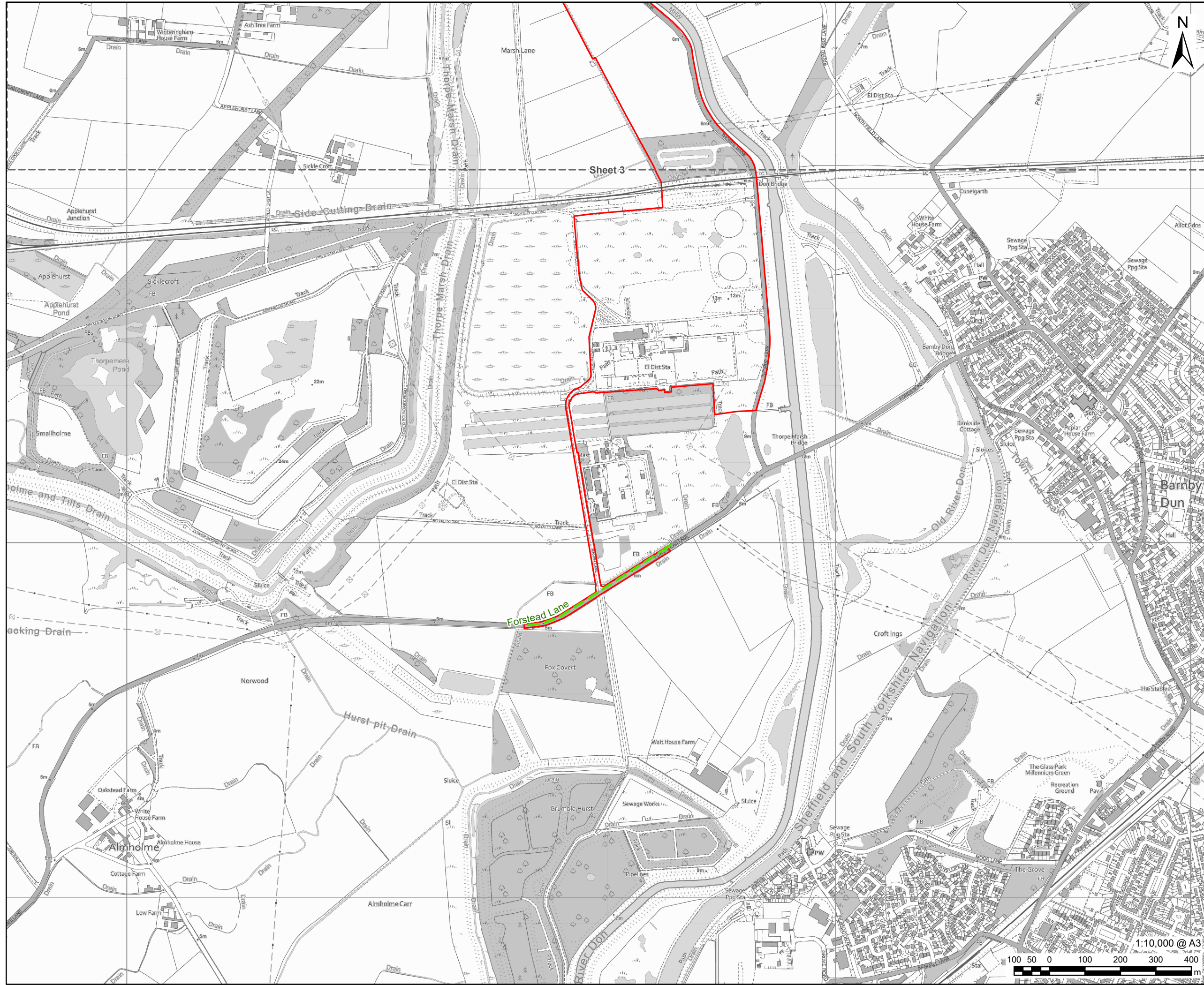
PROJECT NUMBER
60698207

FIGURE TITLE
Otter Habitat Suitability Assessment Results
Sheet 3 of 5

FIGURE NUMBER
Figure 8-9-1



This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.

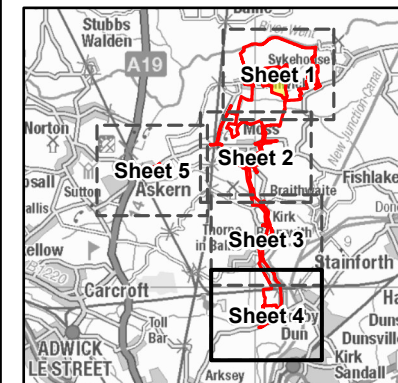


PROJECT
Fenwick Solar Farm

CLIENT
Fenwick Solar Project Limited

CONSULTANT
AECOM Limited
Midpoint,
Alencon Link
Basingstoke, RG21 7PP
www.aecom.com

LEGEND
 Order limits
 Otter Habitat Suitability Assessment (HSA)
— Suitable



NOTES
 Reproduced from Ordnance Survey digital map data © Crown copyright 2024. All rights reserved. Licence number 0100031673.

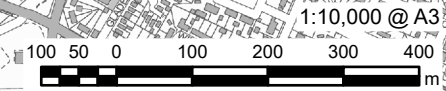
ISSUE PURPOSE
 Environmental Statement

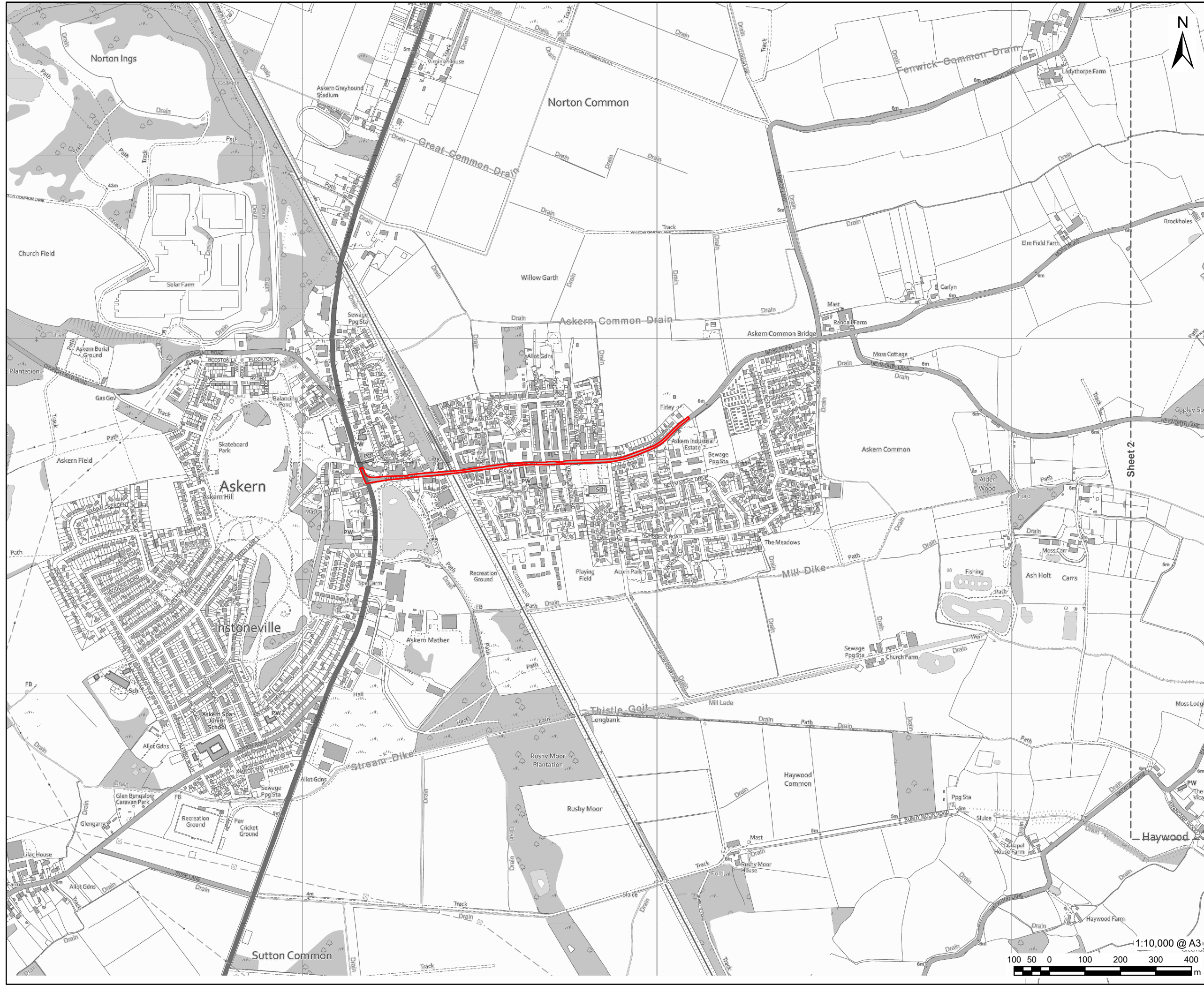
PROJECT NUMBER
 60698207

FIGURE TITLE
 Otter Habitat Suitability Assessment Results
 Sheet 4 of 5

FIGURE NUMBER
 Figure 8-9-1

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.



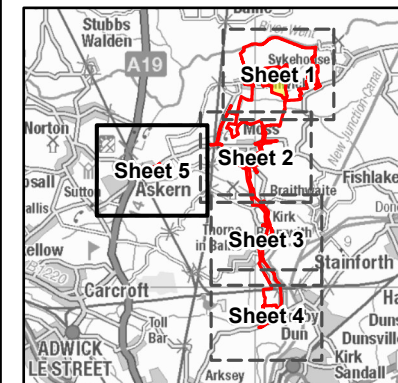


PROJECT
Fenwick Solar Farm

CLIENT
Fenwick Solar Project Limited

CONSULTANT
AECOM Limited
Midpoint,
Alencon Link
Basingstoke, RG21 7PP
www.aecom.com

LEGEND
Order limits



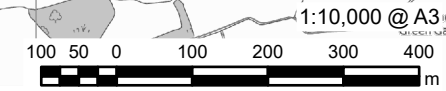
NOTES
Reproduced from Ordnance Survey digital map data © Crown copyright 2024. All rights reserved. Licence number 0100031673.

ISSUE PURPOSE
Environmental Statement

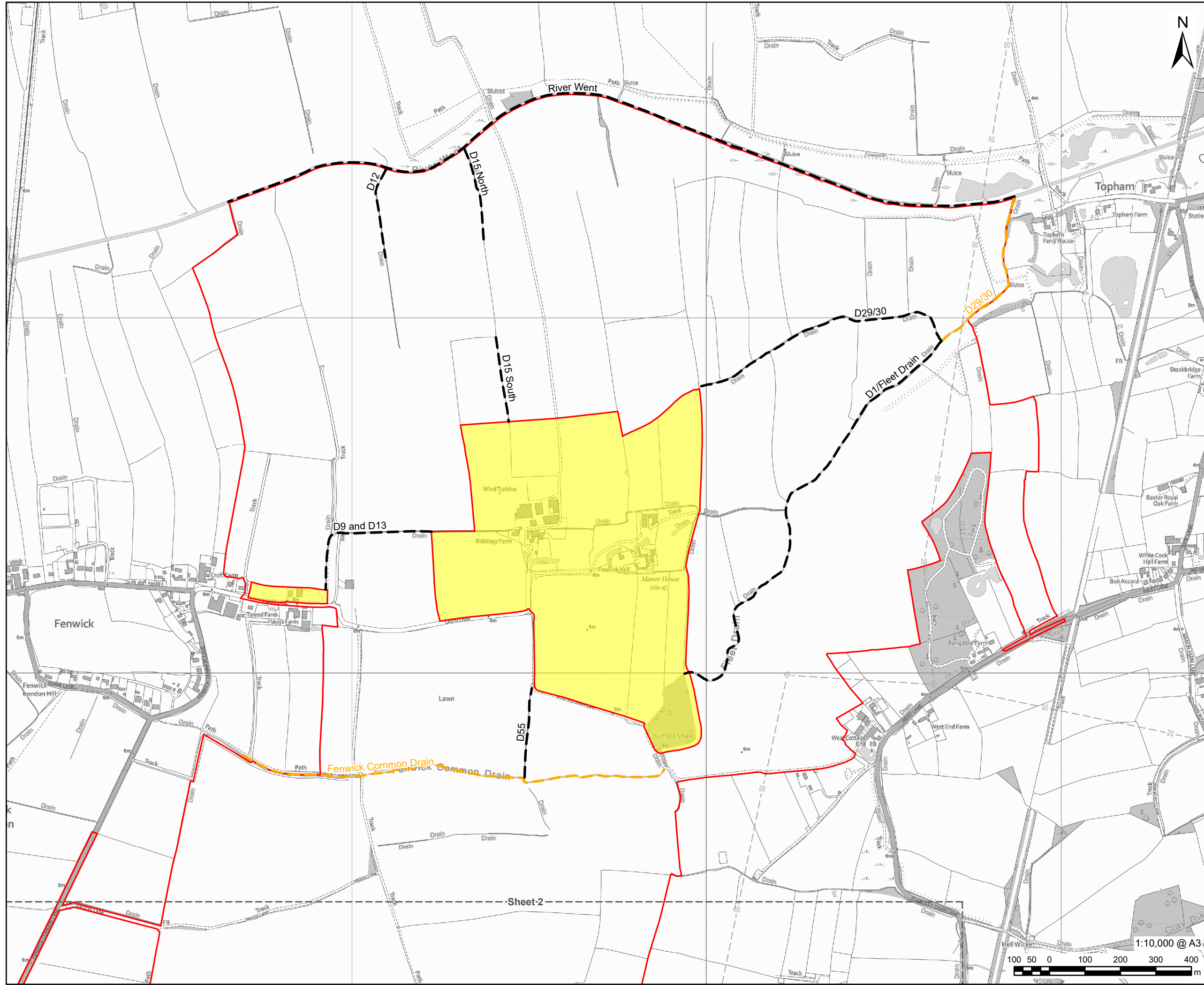
PROJECT NUMBER
60698207

FIGURE TITLE
Otter Habitat Suitability Assessment Results
Sheet 5 of 5

FIGURE NUMBER
Figure 8-9-1



This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.



AECOM

PROJECT
Fenwick Solar Farm

CLIENT
Fenwick Solar Project Limited

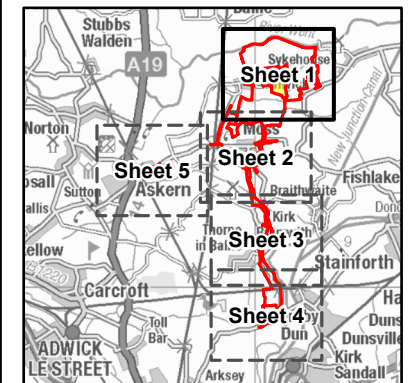
CONSULTANT
AECOM Limited
Midpoint,
Alencon Link
Basingstoke, RG21 7PP
www.aecom.com

LEGEND

- Order limits
- Land not included in the Order limits

Water Vole Habitat Suitability Assessment (HSA)

- Sub-Optimal
- Unsuitable



NOTES

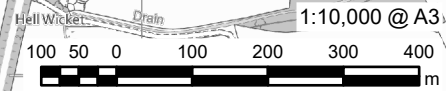
Reproduced from Ordnance Survey digital map data © Crown copyright 2024. All rights reserved. Licence number 0100031673.

ISSUE PURPOSE
Environmental Statement

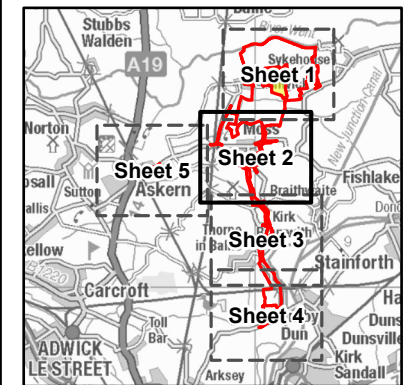
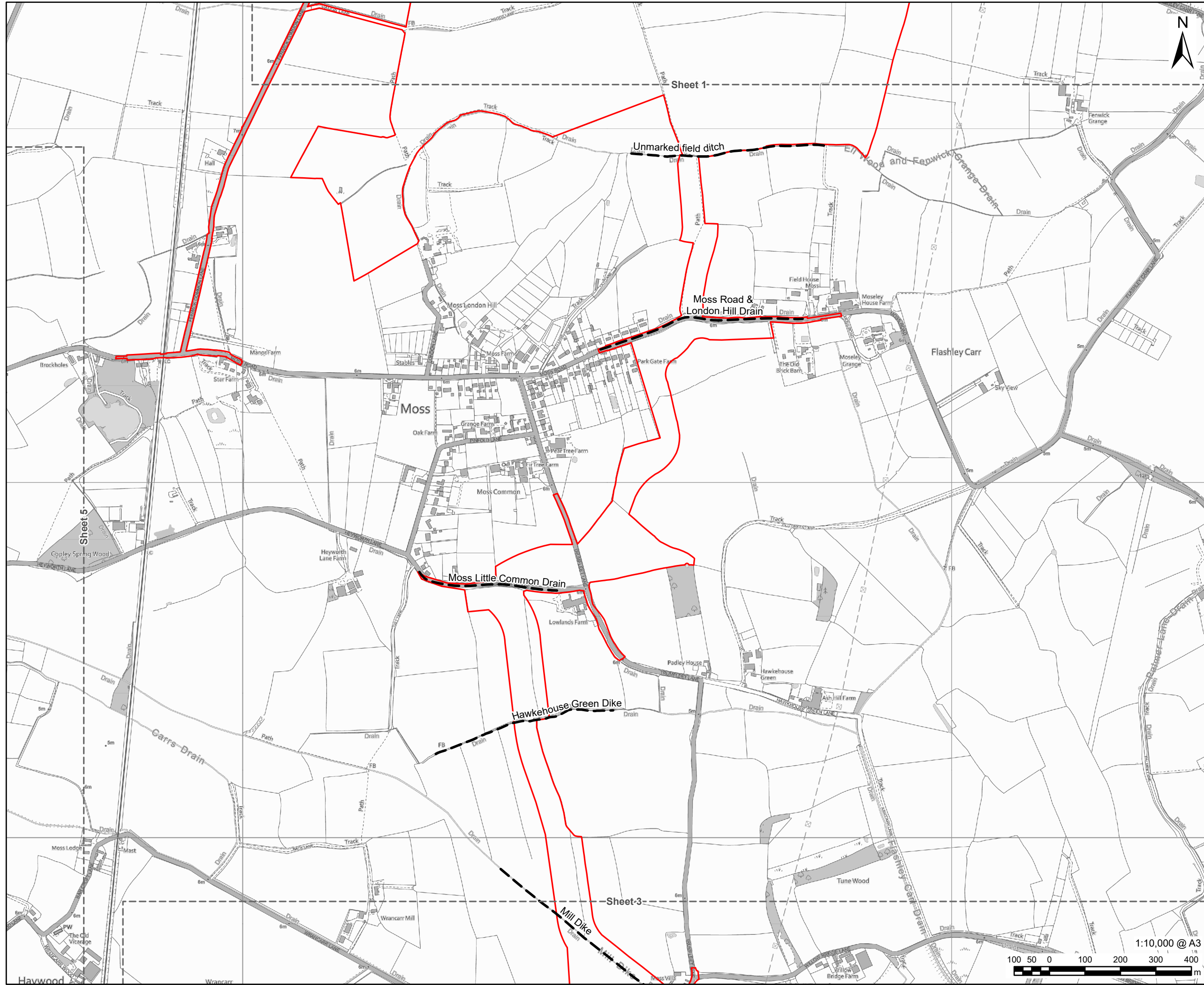
PROJECT NUMBER
60698207

FIGURE TITLE
Water Vole Habitat Suitability Assessment Results
Sheet 1 of 5

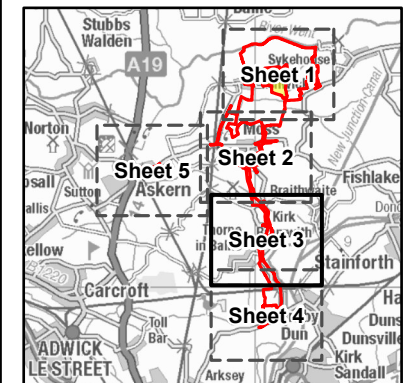
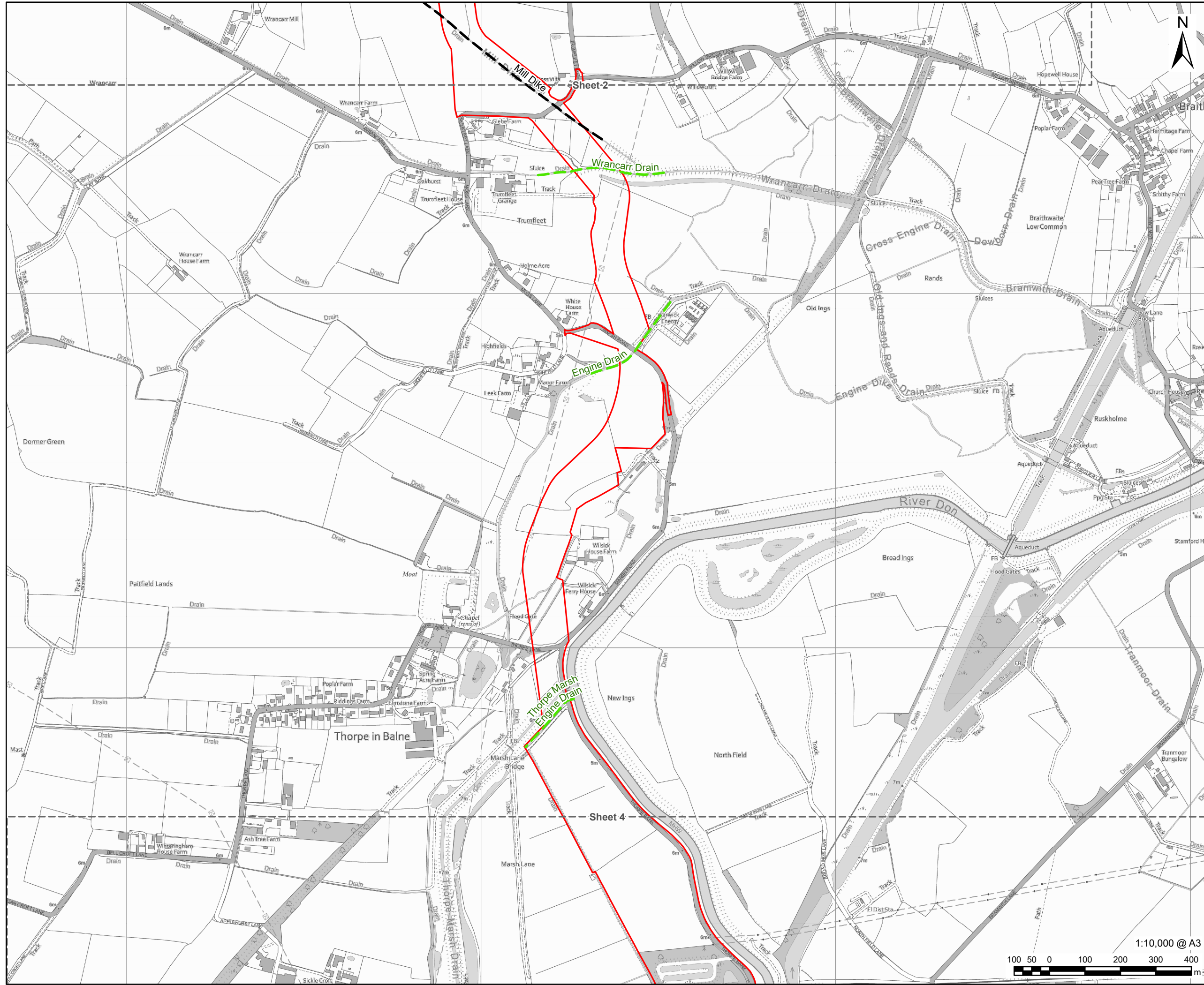
FIGURE NUMBER
Figure 8-9-2



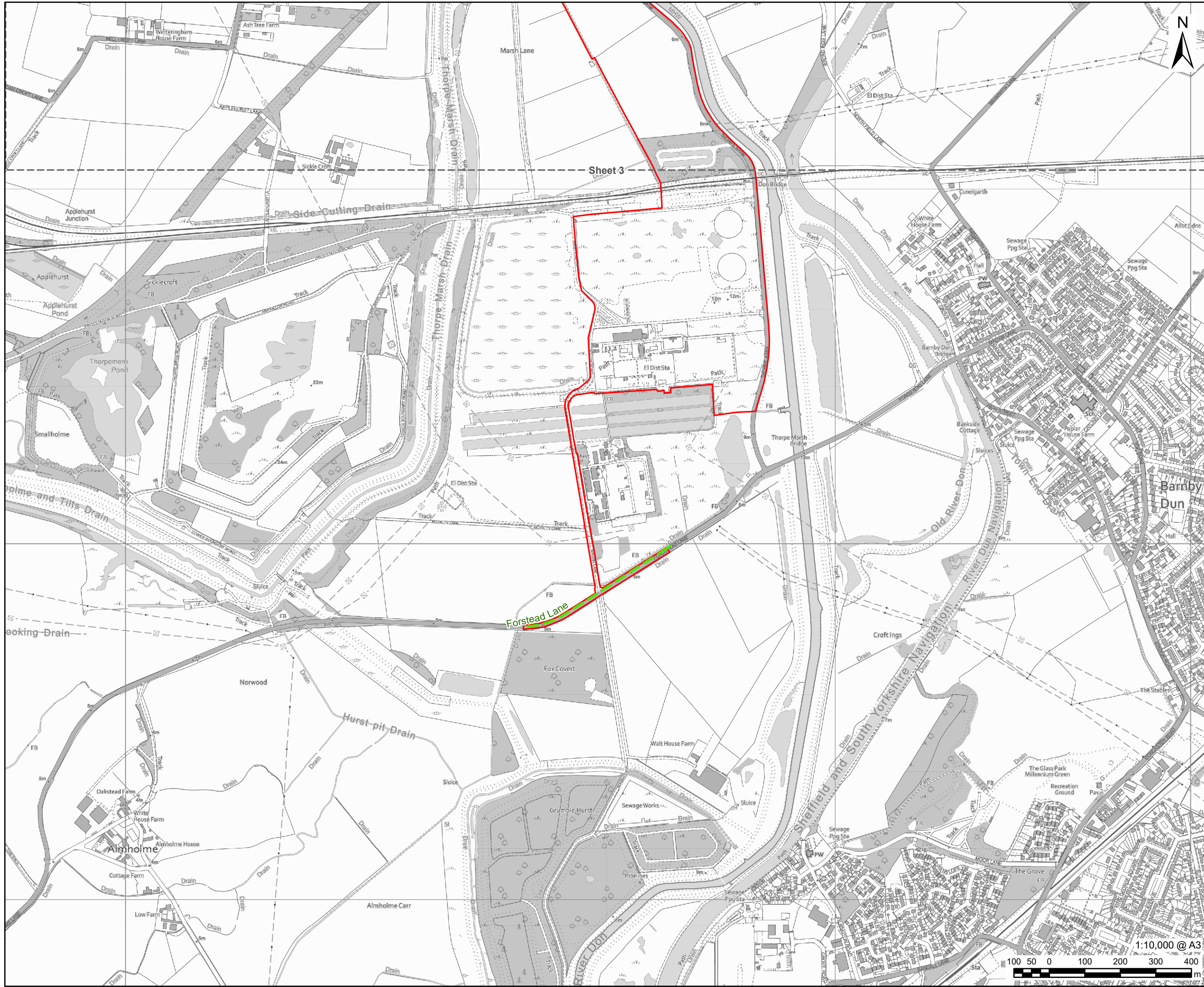
This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.



This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.



This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.



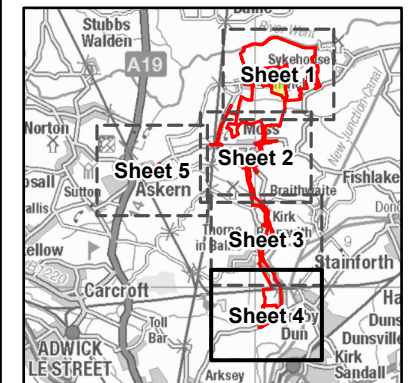
PROJECT
Fenwick Solar Farm

CLIENT
Fenwick Solar Project Limited

CONSULTANT
AECOM Limited
Midpoint,
Alencon Link
Basingstoke, RG21 7PP
www.aecom.com

LEGEND

- Order limits
- Water Vole Habitat Suitability Assessment (HSA)
- Suitable



NOTES

Reproduced from Ordnance Survey digital map data © Crown copyright 2024. All rights reserved. Licence number 0100031673.

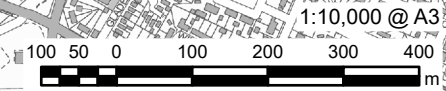
ISSUE PURPOSE
Environmental Statement

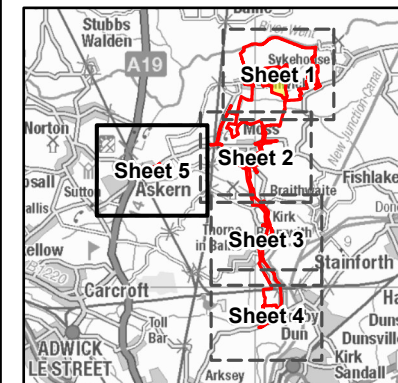
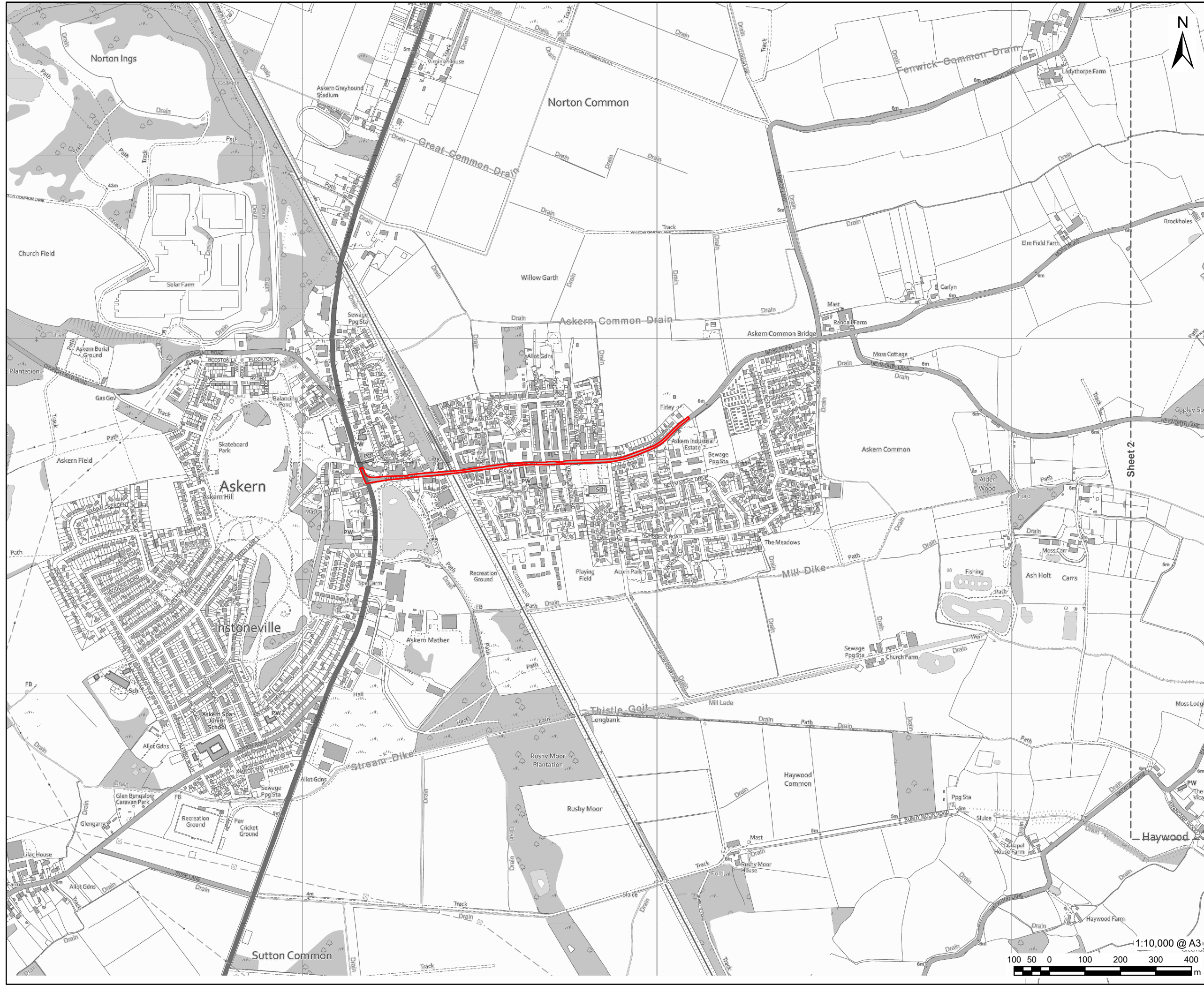
PROJECT NUMBER
60698207

FIGURE TITLE
Water Vole Habitat Suitability Assessment Results
Sheet 4 of 5

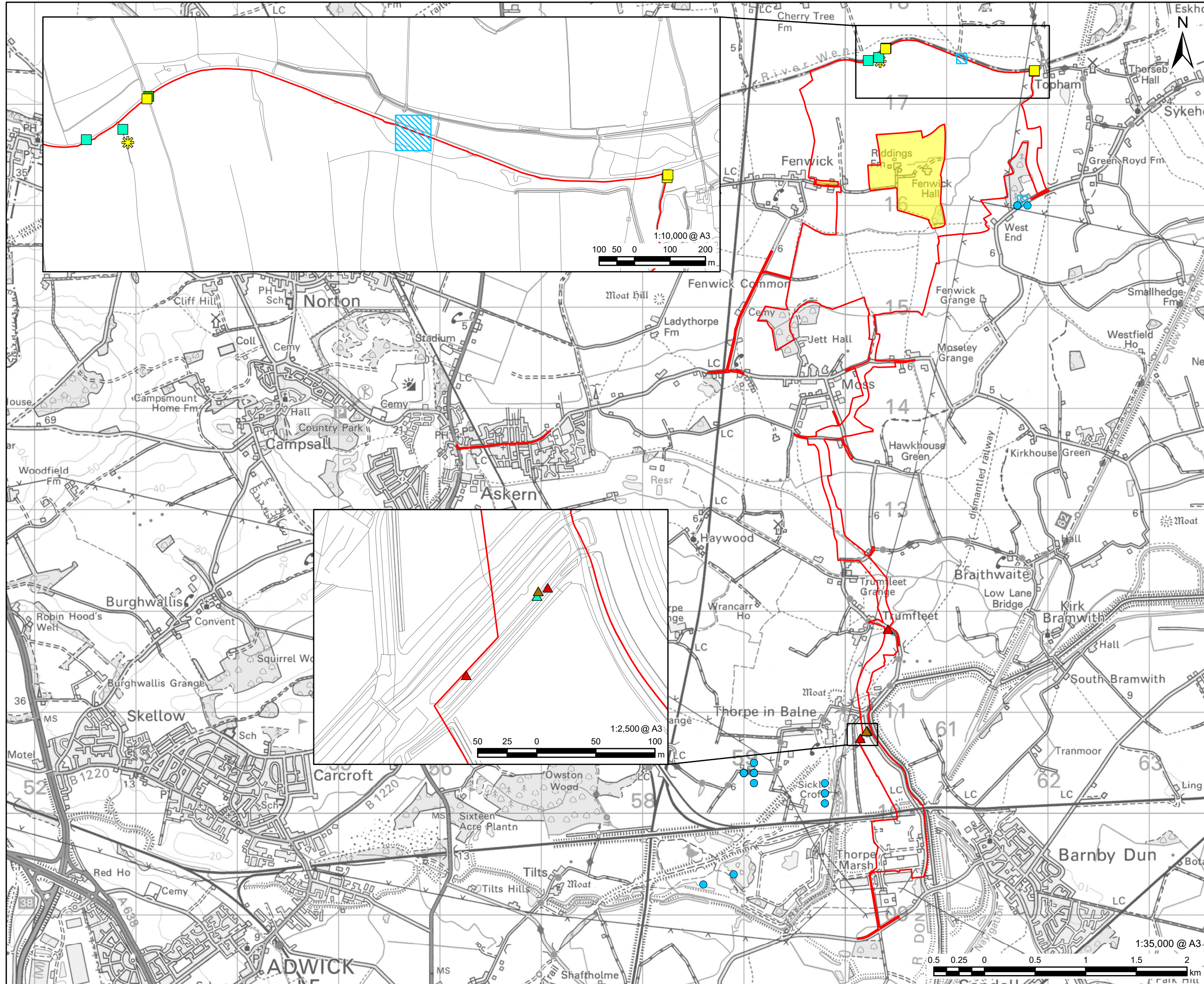
FIGURE NUMBER
Figure 8-9-2

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.





This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.



- LEGEND**
- Order limits
 - Land not included in the Order limits
- Desk Study Records**
- 10m Accuracy**
- European Water Vole
- 100m Accuracy**
- European Water Vole
- Field Survey Results**
- ✦ American Mink - Spraint/Scat
 - Otter - Footprint
 - Otter - Potential Holt
 - Otter - Spraint/Scat
 - ▲ Water Vole - Feeding Station
 - ▲ Water Vole - Potential Burrow
 - ▲ Water Vole - Run

NOTES

Reproduced from Ordnance Survey digital map data © Crown copyright 2024. All rights reserved. Licence number 0100031673. Desk study records provided by Doncaster Local Records Centre, 2023.

ISSUE PURPOSE
Environmental Statement

PROJECT NUMBER
60698207

FIGURE TITLE
Riparian Mammal Desk Study Data and Field Survey Results

FIGURE NUMBER
Figure 8-9-3

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as signed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.

An aerial photograph of a vast solar farm at sunset. The rows of solar panels stretch across the landscape, creating a strong sense of perspective. The sky is a deep orange and red, with the sun low on the horizon, casting long shadows and a warm glow over the entire scene.

BOOM
POWER

BUILD | OWN | OPERATE | MAINTAIN

BOOM-POWER.CO.UK