

CLEVE HILL SOLAR PARK

ENVIRONMENTAL STATEMENT
VOLUME 4 - TECHNICAL APPENDIX A9.3
PASSAGE BIRD SURVEY REPORT 2015

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Cleve Farm – Passage Bird Survey Report



2014

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Cleve Farm – Passage Bird Survey Report

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1 Summary

AECOM was commissioned by Hive Energy in October 2014 to carry out a series of passage bird surveys at Cleve Farm near Graveney, Kent (hereafter referred to as the Site).

The aim of this survey was to record species and numbers of passage birds on the Site and to establish any interactions between those recorded and the habitats present within the proposed development area. Particular attention was paid to specially protected species or those for which the adjacent Swale Special Protection Area (SPA) and Ramsar sites have been designated. The Ramsar site is in part designated for its wintering wildfowl populations, whilst the SPA is designated both for several breeding water birds of note and its wintering wildfowl populations. The Ecological Desk Study and Phase 1 Habitat Survey Report (AECOM, 2016), sets out the designations and ecological interest of each of these important nature conservation sites.

Species were recorded over one passage bird season in a total of three survey visits during the later autumn migratory period.

The Site is used by both summer and winter migrant birds as either a final feeding resource before leaving the UK or as an initial feeding resource when arriving from continental Europe and Scandinavia. Large numbers of dark-bellied Brent geese (*Branta bernicla bernicla*), a winter visitor, were observed using the Site to forage on the arable fields adjacent to the Swale (as well as using the Swale). Another winter visitor observed during the survey was a single record of a merlin (*Falco columbarius*). Two Short-eared owls (*Asio flammeus*), were also recorded on Site on several occasions during passage bird surveys, also a winter visitor. Summer visitors observed using the Site include house martin (*Delichon urbica*), yellow wagtail (*Motacilla flava*), wheatear (*Oenanthe oenanthe*) and whinchat (*Saxicola rubetra*). Of these species, whinchat, wheatear and house martin represent likely true passage migrants as opposed to species breeding or wintering on the Site.

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2 Introduction

AECOM was commissioned by Hive Energy Ltd to carry out a passage bird survey of the Site.

The aim of this survey was to record species and numbers of passage birds on the Site and to establish any interactions between those recorded and the habitats present within the proposed development area. Particular attention was paid to specially protected species or those for which the adjacent Swale Special Protection Area (SPA) and Ramsar sites have been designated. The Ramsar site is in part designated for its wintering wildfowl populations, whilst the SPA is designated both for several breeding water birds of note and its wintering wildfowl populations. The Ecological Desk Study and Phase 1 Habitat Survey Report (AECOM, 2016), sets out the designations and ecological interest of each of these important nature conservation sites.

3 Legislation

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3.1 Legislation

Birds are afforded protection under different tiers of legislation and policy in the UK.

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All birds in the UK are protected under the EC Directive on the Conservation of Wild Birds 2009 (2009/147/EC) and Part 1 Section 1(1) of the Wildlife and Countryside Act 1981 (as amended). This gives protection to all species of wild bird from deliberate;

- killing, injuring or taking birds or their young and keeping in captivity;
- egg collecting or destroying eggs; and
- · taking, damaging or destroying nests in use or being built.

Specially protected birds are listed in Annex 1 of the Directive. Many are afforded protection by designation of land as Special Protection Areas (SPA). Special protection is also afforded to species listed in Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). These birds are rare, endangered, declining or vulnerable species. In addition to the protection afforded to all bird species, it is an offence to cause reckless or intentional disturbance to the specially protected Schedule 1 listed species when they are building nests, or when they are nesting.

Bird species are also listed as species of principal importance for conservation in England under Section 41 of the Natural Environment and Rural Communities Act (1996) (NERC). Bird species listed under Section 41 of the NERC Act are to be given material consideration during planning.

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4 Methodology

4.1 Passage bird surveys

Three survey visits (see Table 1) were made by experienced ornithologists to the Site during the 2014 autumn migratory period to record all bird species present and utilising the Site in the later autumn migratory season. The focus of this survey was to record those species utilising and interacting with the Site and not the Estuary habitats. Some observation was undertaken from the sea wall towards the Estuary, as can been seen from the results maps (Figures 1-3). However, as stated, the focus of this survey was for onsite habitats. Each survey visit comprised surveys over two consecutive days, with different sections of the Site surveyed on each day.

Surveys were undertaken during favourable weather conditions (see Table 1).

The passage bird survey broadly followed the BTO Winter Farmland Bird Survey approach, utilising the transect method. It was however revised to focus specifically on recording passage and migratory birds that may be present. A survey transect was devised that allowed observation of all major areas of habitat within and adjacent to the proposed areas of activity (See Figure 4). Visits lasted approximately 3-4 hours. All birds present were identified by sight and/or call and recorded using standard BTO species codes (BTO, N.D).

The conservation status of recorded birds was assessed against the following criteria:

- EC Birds Directive 2009 Annex 1;
- Wildlife and Countryside Act 1981 (As Amended) Schedule 1; and
- Natural Environment and Rural Communities Act (2006) Section 41 (in England).

Birds are also categorised according to their level of conservation concern as indicated by their population status and stability. These are known as the Birds of Conservation Concern (BOCC) (Eaton *et al.*, 2015) Red, Amber and Green lists. The lists categorise species according to their level of conservation concern as indicated by their population status and stability. Where these species are present, their conservation status should be taken into account in determining the likely impacts of proposed projects and plans.

Red list species are;

- those that are 'Globally Threatened' according to IUCN (International Union for Conservation of Nature and Natural Resources) criteria;
- those whose population or range has declined rapidly in recent years, and;
- those that have declined historically and not shown a substantial recent recovery.

Amber list species are;

- those with an unfavourable conservation status in Europe;
- those whose population or range has declined moderately in recent years;
- those whose population has declined historically but made a substantial recent recovery;
- those with limited populations and low breeding rates, and
- those with internationally important or localised populations.

Green list species are not of conservation concern and include all other commonly occurring birds in the UK. Several introduced species are not accorded Red, Amber or Green status.

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June 2016

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Table 1. 2014 Passage Bird Survey dates and weather conditions.

Date	Time	Temperature (°C)	Weather	Wind Speed Beaufort Scale
08/10/2014	11 - 15.30	16	Sun, partially cloudy with occasional showers	SW 4-5
09/10/2014	12.15 - 15.00	14	Partly sunny, breezy	SW 3
16/10/2014	12 - 14.30	17	Partly sunny, breezy	SW 4
17/10/2014	12.15 - 15.30	16	Partly sunny, breezy	SW 4
22/10/2014	11 - 15.30	12	Cloud, breezy	SW 5
23/10/2014	10.30 - 14.00	13	Cloudy, breezy	SW 4

4.2 Constraints

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Due to work commissioning time constraints, only the latter period of the passage/migratory season could be monitored. As such, certain species of migratory birds may have been missed, particularly, in the context of the Site, migratory waders.

June 2016

5 Results

5.1 Passage bird surveys

The results analysis for the 2014 season is based on the three visits undertaken during October. A total of seven passage bird species were recorded from the Site during autumn 2014. The value of the Site for passage birds is provided by the arable fields that are located adjacent to the Swale, the reed filled drainage ditches and the field margins. Both winter and summer migratory birds were observed utilising the Site during the three surveys.

The results of the passage bird surveys for 2014 are provided in Appendix A and illustrated across Figures 1-3

Winter migratory species

One migratory species, **merlin** (*Falco columbarius*) listed under the EC Directive on the Conservation of Wild Birds 2009 (2009/147/EC) Annex 1, was recorded on site during the passage bird surveys. Although resident in the UK, during winter the UK population is bolstered by arrivals from Iceland. Additionally the UK populations move from upland areas in the UK to inland lowland and coastal areas. The merlin is also listed under the Wildlife and Countryside Act 1981 (as amended) Schedule 1 and is a Bird of Conservation Concern (BOCC) amber listed species.

Large numbers of **dark-bellied Brent geese** (*Branta bernicla bernicla*) were observed adjacent to the Site during all three survey visits. Brent geese spend the summer months in their Arctic breeding grounds and begin to arrive in the UK from October onwards. Approximately 4,500 Brent geese were observed on the 16/17th October visit, moving between and utilizing both the Swale and the sea wall grasslands during the surveys. The Brent goose is a BOCC amber listed species and is also listed as a priority species under the Kent Biodiversity Action Plan (BAP).

A single **green sandpiper** (*Tringa ochropus*) was observed on Site during the 22/23rd October visit. This is a winter visiting species to the southern half of the UK, visiting freshwater margins including freshwater marshes and water courses. The green sandpiper is a BOCC amber listed species.

Summer migratory species

One migratory bird species listed under the Natural Environment and Rural Communities Act (2006) Section 41(NERC S41) as a priority species was recorded on the Site during the passage bird surveys namely **yellow wagtail** (*Motacilla flava*). While the Site maintains a resident breeding population of yellow wagtail, the UK population migrates to Africa during winter. Yellow wagtail is a BOCC red listed species and is also listed as a priority species under the Kent Biodiversity Action Plan (BAP).

Three species of summer passage birds observed during the surveys namely **house martin** (*Delichon urbica*), **wheatear** (*Oenanthe oenanthe*) and **whinchat** (*Saxicola rubetra*) are BOCC amber listed species'.

House martins remain in the UK until September/October before migrating south to Africa. Wheatears breed mainly in the western and northern UK and winter in central Africa. Whinchat is a summer visitor and passage migrant with breeding populations mainly confined to uplands areas of the northern and western UK. It winters in central and southern Africa.

Other species

Other species were recorded on Site that have more localised movements, such as snipe (*Gallinago gallinago*) recorded on the 22/23rd October visit. Here one individual was recorded being flushed from the Site's northern boundary and flying off over The Swale. Although snipe is a resident species to the UK, it does maintain local movement within the UK, generally breeding in uplands in the north and west and wintering in lowland wetlands. This bird may have recently arrived from upland areas.

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As a general observation, several other species were recorded in the offsite habitats of the Swale. Turnstone (*Arenaria interpres*) is a winter visitor to the UK coastal areas and ringed plover (*Charadrius hiaticula*), redshank (*Tringa totanus*) and lapwing (*Vanellus vanellus*), although all resident within the UK, have localised movements similar to the snipe.

Although not passage birds, two other species of note were recorded on Site during these surveys, namely peregrine (*Falco peregrinus*) and marsh harrier (*Circus aeruginosus*). Although Peregrine is a UK resident, it does have some localised movement between east and west UK between summer and winter. Marsh harrier in this part of the UK is resident all year round.

5.2 Other potential species that may occur

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It is also likely that large flocks of other summer migratory species including swallow (*Hirundo rustica*) and swift (*Apus apus*) and other individual migratory bird species, also use the Site as a final foraging resource before migration.

The Site also offers an important primary feeding resource location for winter visiting species including fieldfare (*Turdus pilaris*) and redwing (*Turdus iliacus*) arriving to the UK from continental Europe. These were recorded on Site several times during the wintering bird surveys.

Although not recorded during the passage bird surveys, short-eared owl was recorded on site several times during the wintering bird surveys, with at least two individuals on one occasion.

Additionally, the Site is considered suitable to support other passage predatory birds including hen harrier (*Circus cyaneus*).

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6 References

BTO (N.D) BTO Species Codes. Available at:

http://www.bto.org/sites/default/files/u16/downloads/forms_instructions/bto_bird_species_codes.pdf

Eaton MA, Brown AF, Noble DG, Musgrove AJ, Hearn R, Aebischer NJ, Gibbons DW, Evans A and Gregory RD (2015). Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. British Birds 102, pp296–341. http://www.bto.org/sites/default/files/u12/bocc3.pdf

EC Directive on the Conservation of Wild Birds 2009 (2009/147/EC). London: HMSO

Natural Environment and Rural Communities Act 1996. London: HMSO

Wildlife and Countryside Act 1981 (as amended). London: HMSO

Appendix A. Passage bird survey results.

Protected and/or otherwise notable bird species recorded during <u>2014</u> passage bird surveys

Page A-1

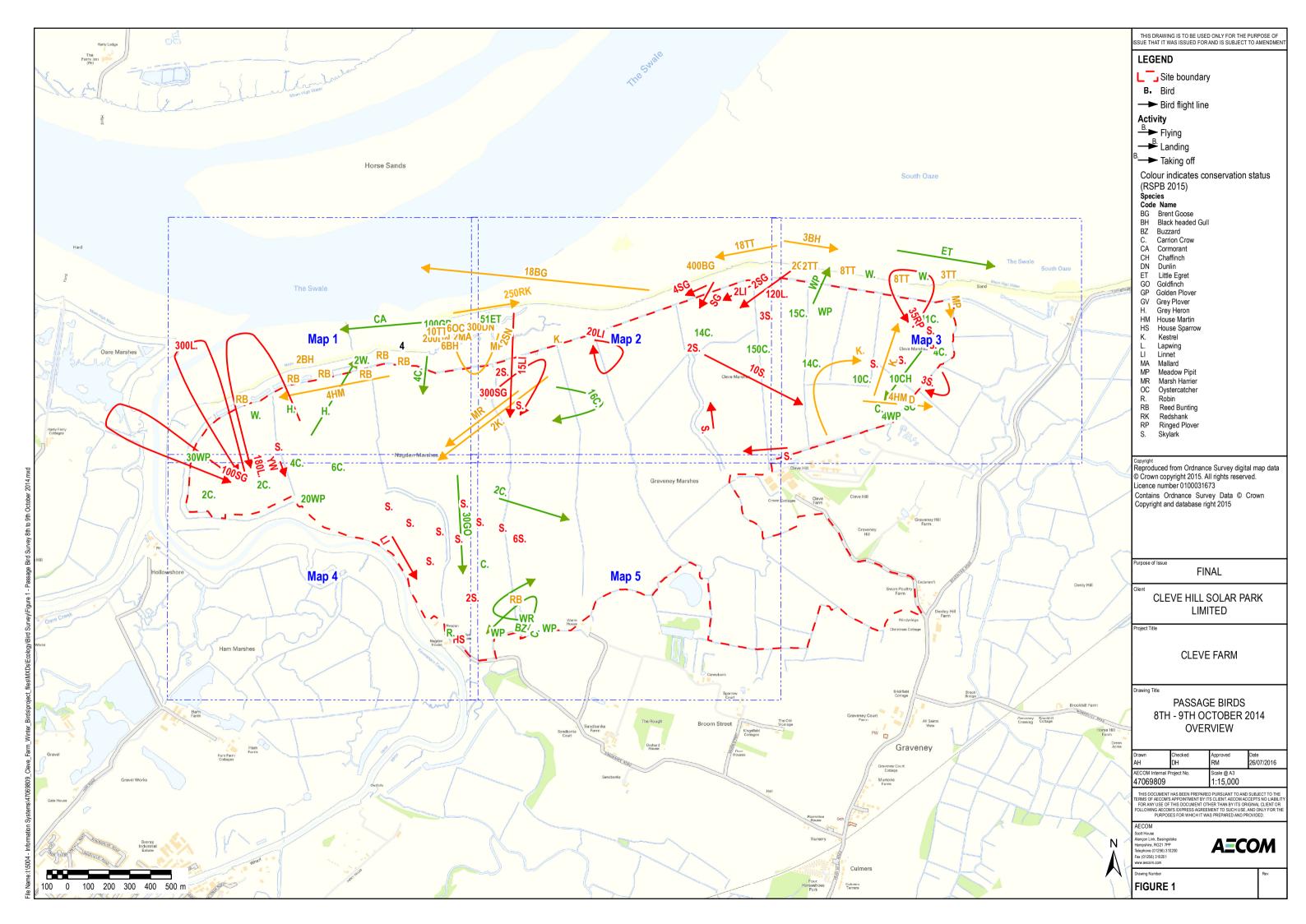
Species (code)	Numbers on 8/9 th October () = birds flying over	Numbers on 16/17 th October () = birds flying over	Numbers on 22/23 rd October () = birds flying over	Passage bird	Conservation status
Brent goose (BG)	(400)	(4560)	(49)	Yes	Kent BAP
Green Sandpiper (GE)			1	Yes	
House martin (HM)	(4)			Yes	
Marsh harrier (MR)	1			-	Birds Dir; W&CA
Merlin (ML)			(1)	Yes	Birds Dir; W&CA
Peregrine (PE)		(1)	(1)	-	Birds Dir; W&CA
Wheatear (W.)	2			Yes	
Whinchat (WC)		1		Yes	
Yellow wagtail (YW)	(1)			Yes	NERCS41; Kent BAP

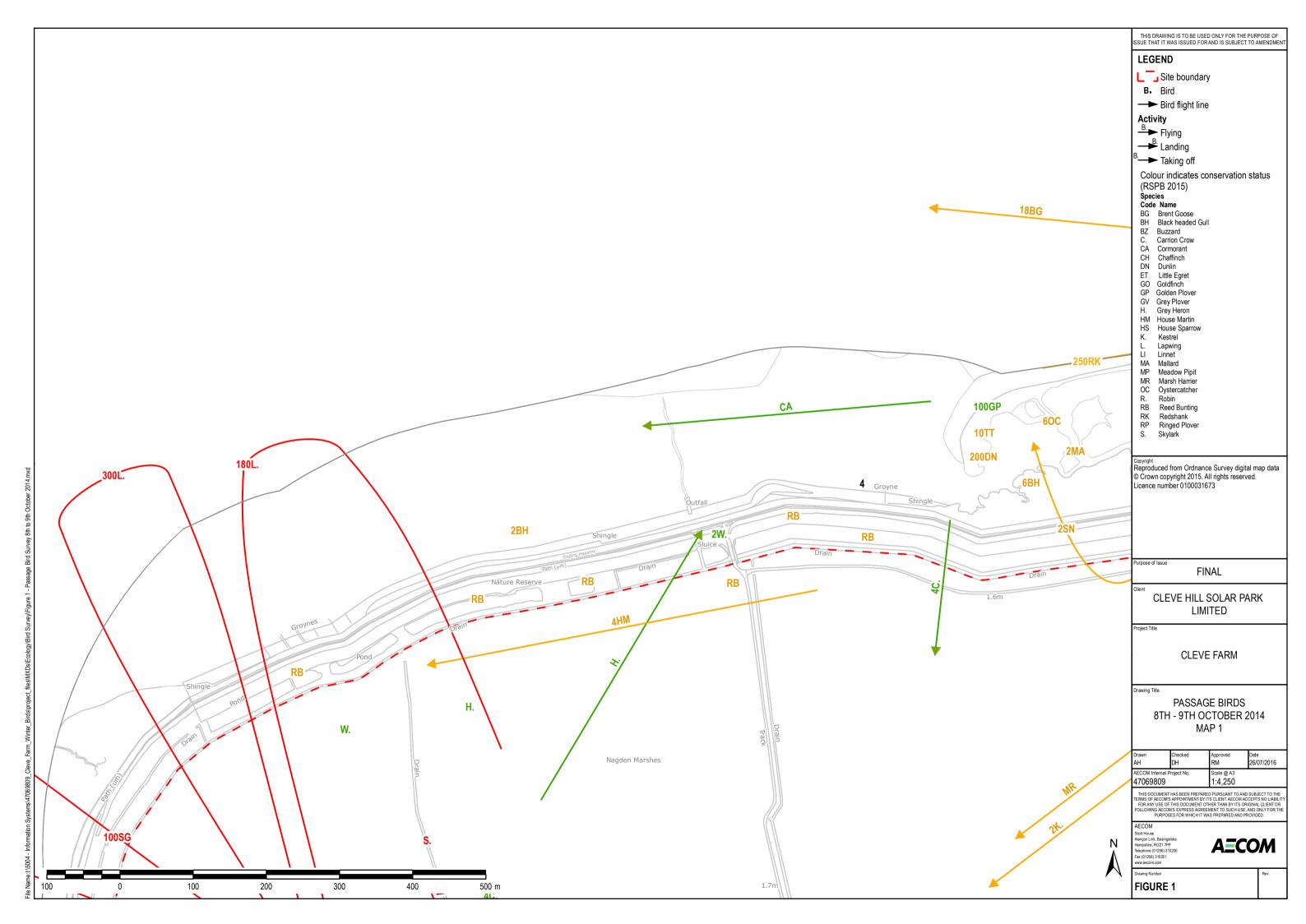
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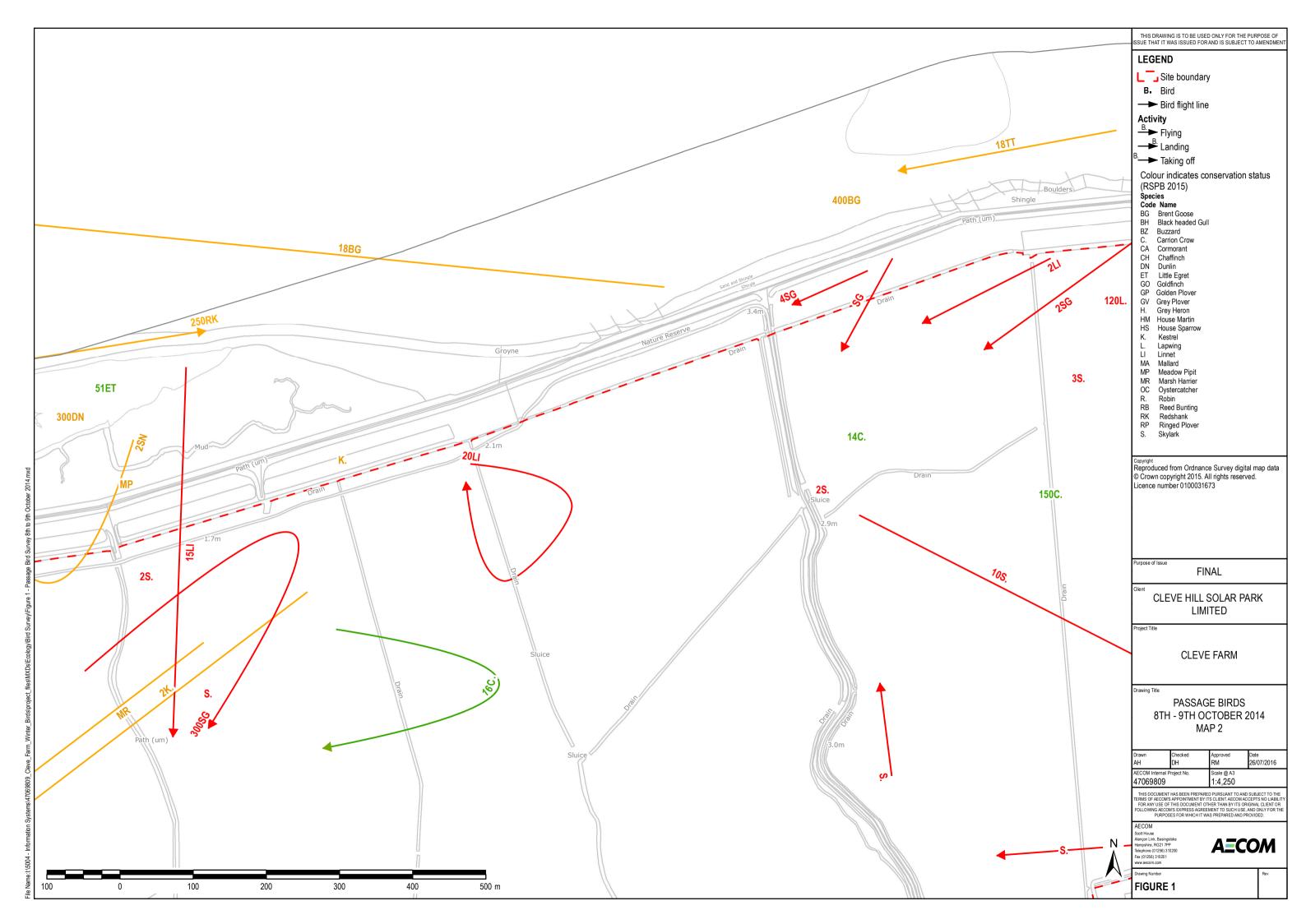
Abbreviation	
Birds Dir	Annex 1 of the EC Directive on the Conservation of Wild Birds 1979 (79/409/EEC)
W&CA	Schedule 1 of the Wildlife and Countryside Act 1981 (as amended)
NERCS41	Section 41 of the Natural Environment and Rural Communities Act (2006)
	Birds of Conservation Concern (2015) Red Listed Species
	Birds of Conservation Concern (2015) Amber Listed Species
	Birds of Conservation Concern (2015) Green Listed Species

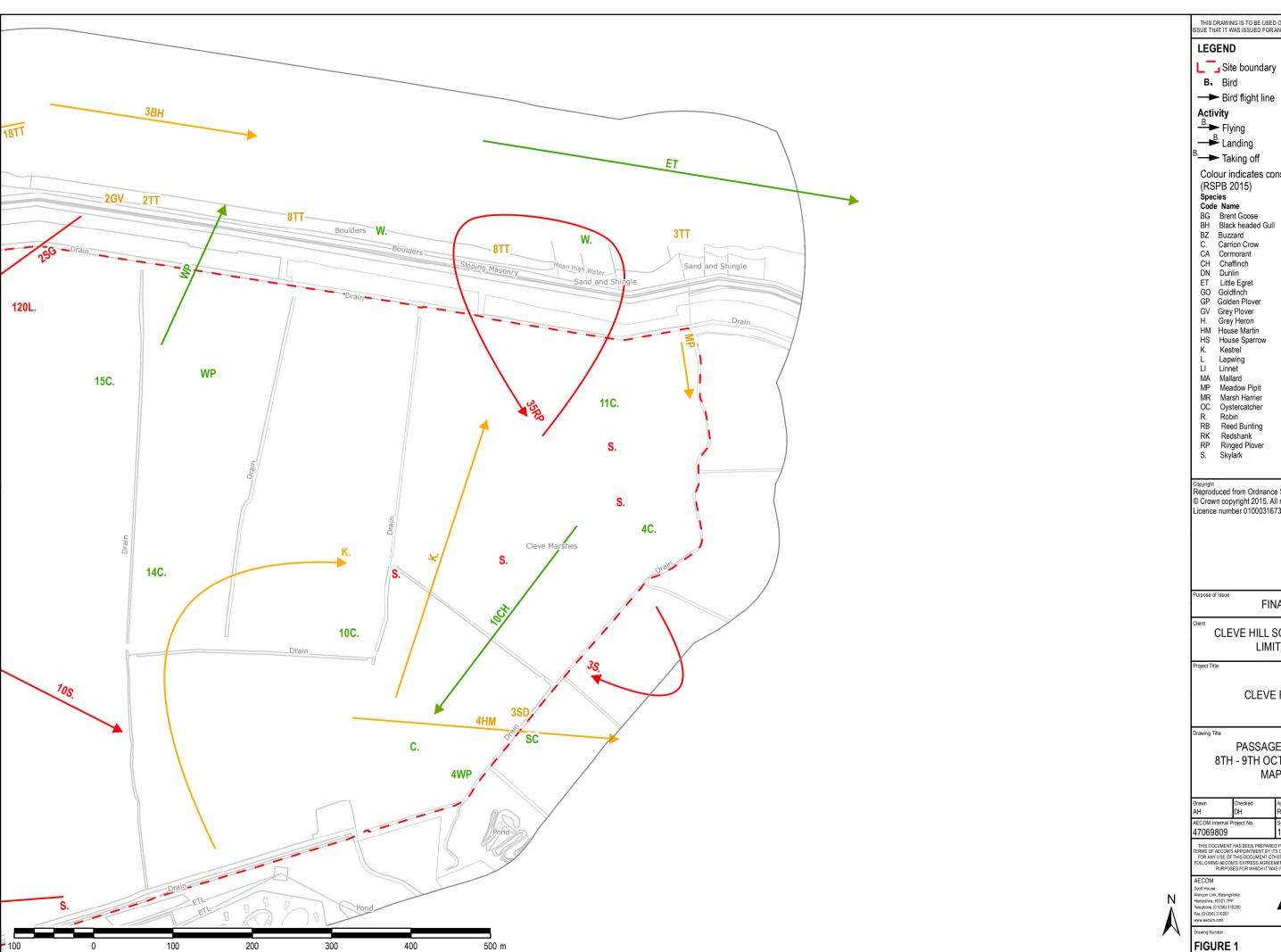
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Figures – Figures 1 – 4 Passage Bird Surveys 2014.









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___ Site boundary

→ Bird flight line

Colour indicates conservation status

Redshank

Ringed Plover

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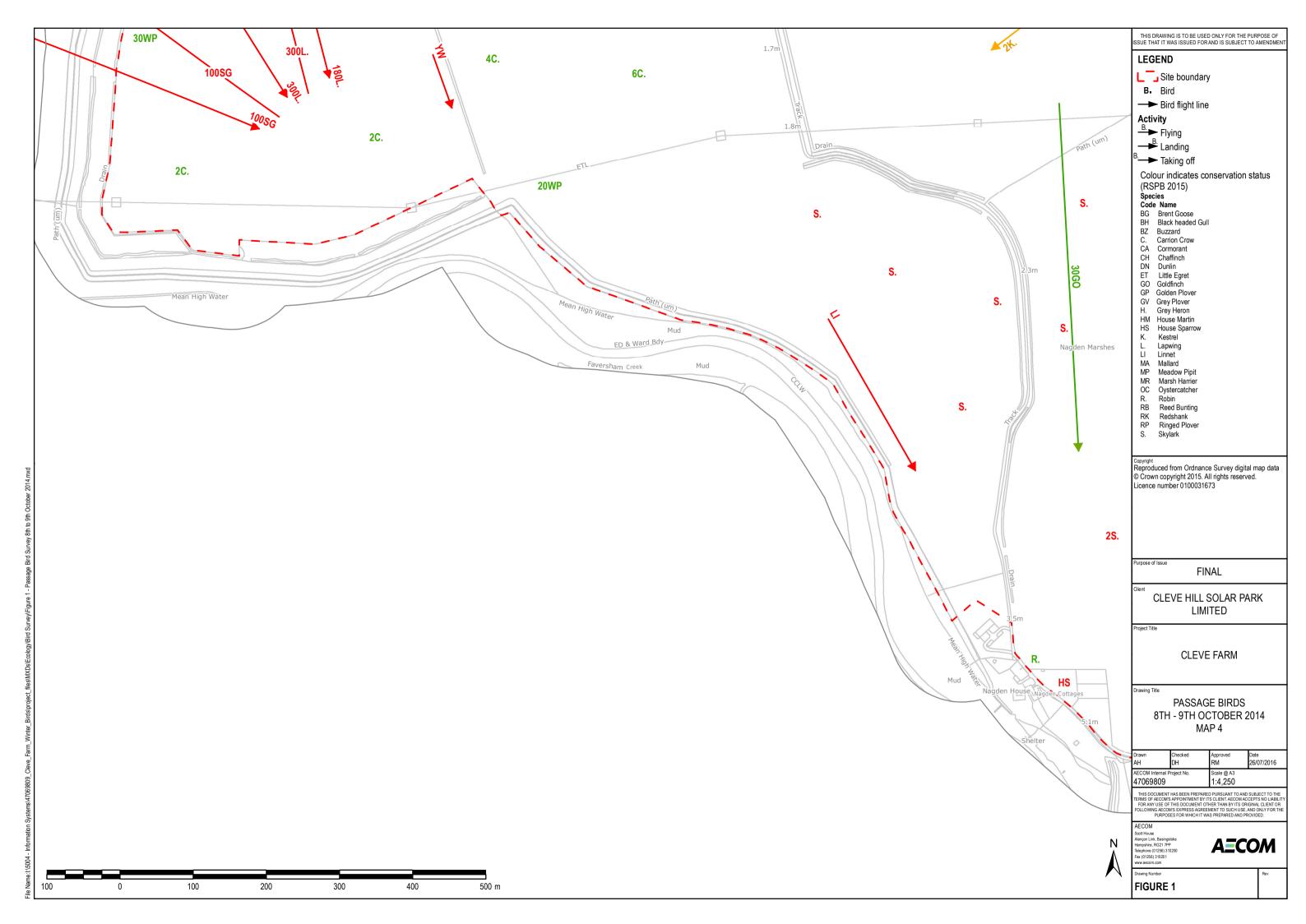
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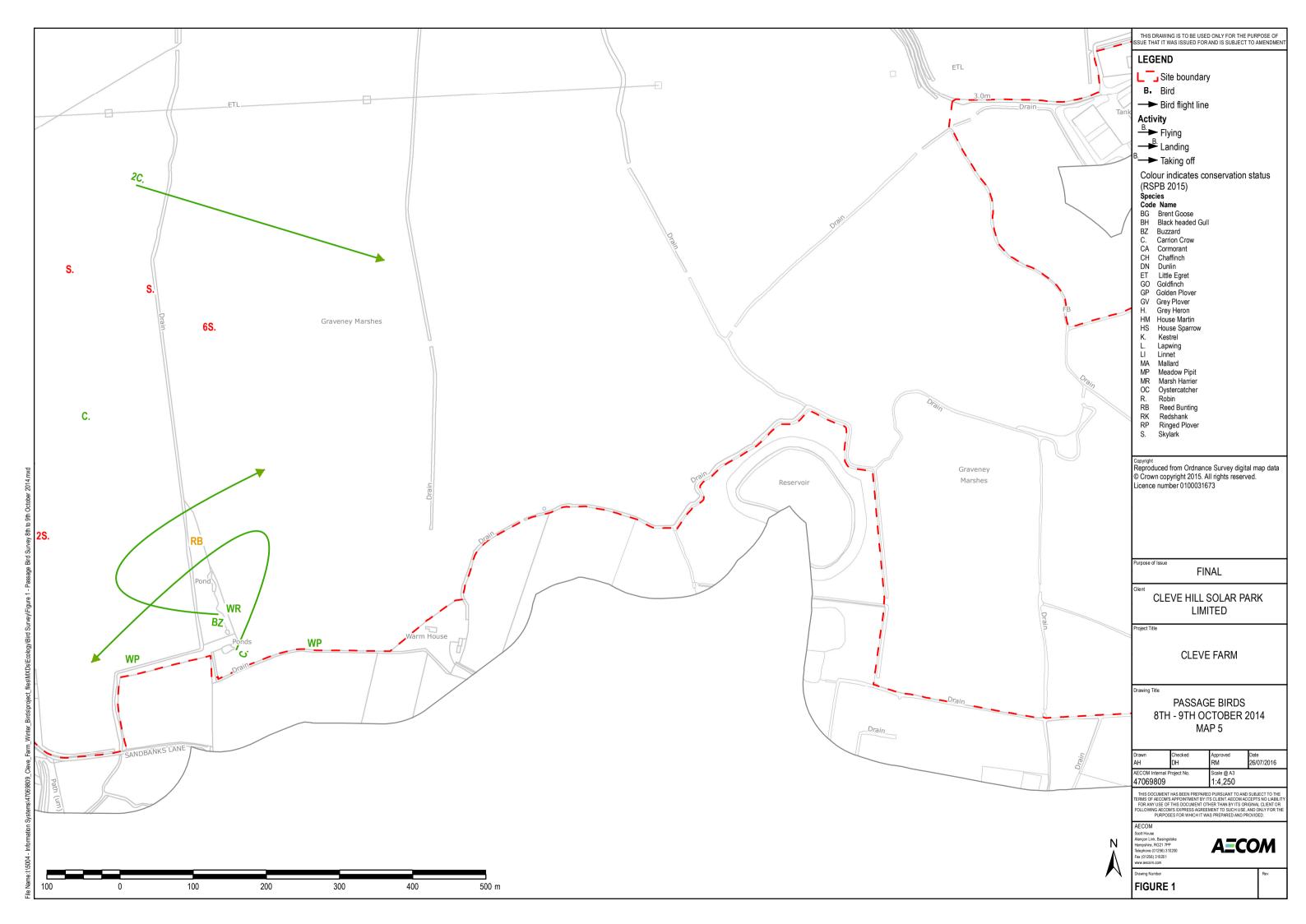
PASSAGE BIRDS 8TH - 9TH OCTOBER 2014 MAP 3

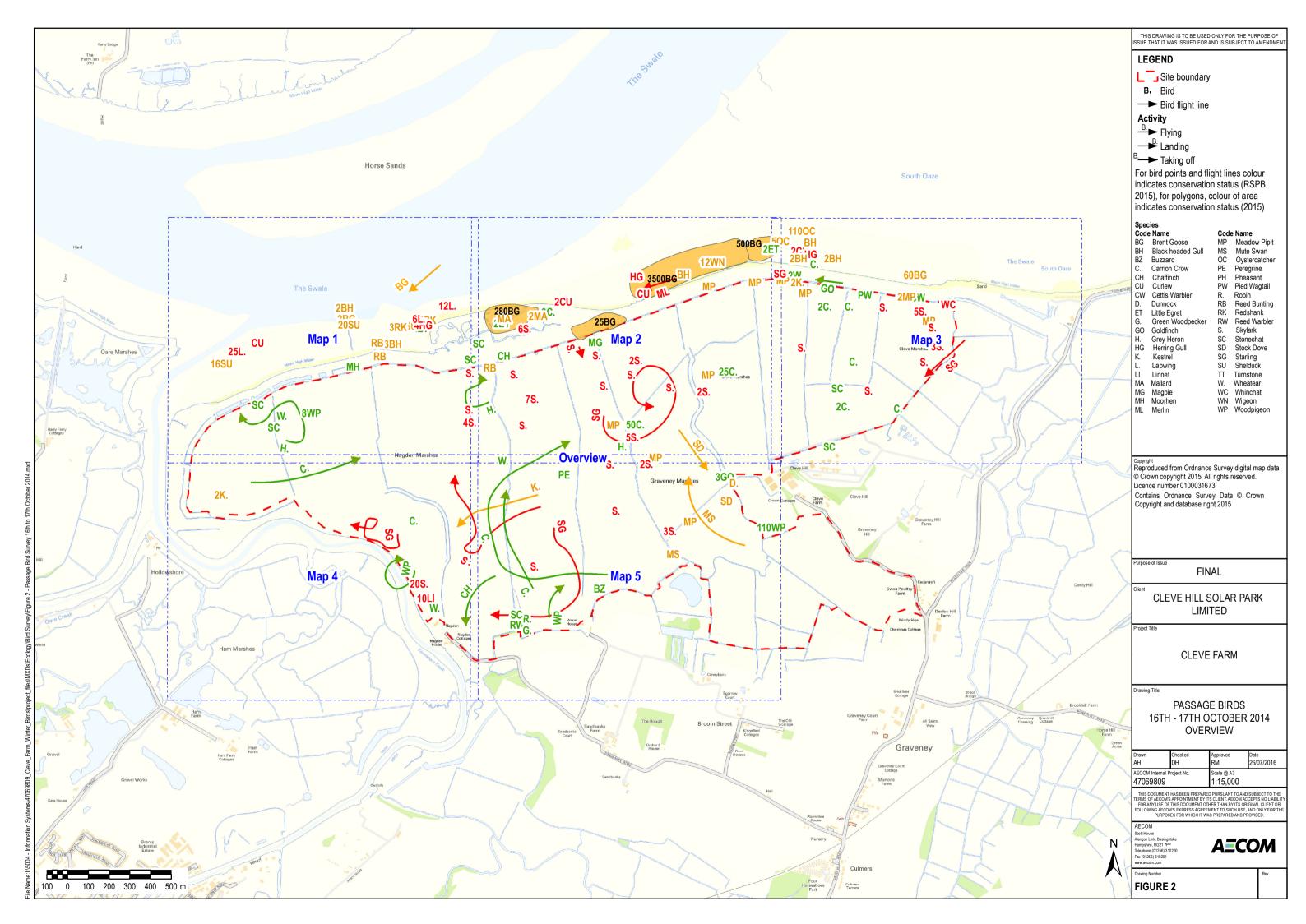
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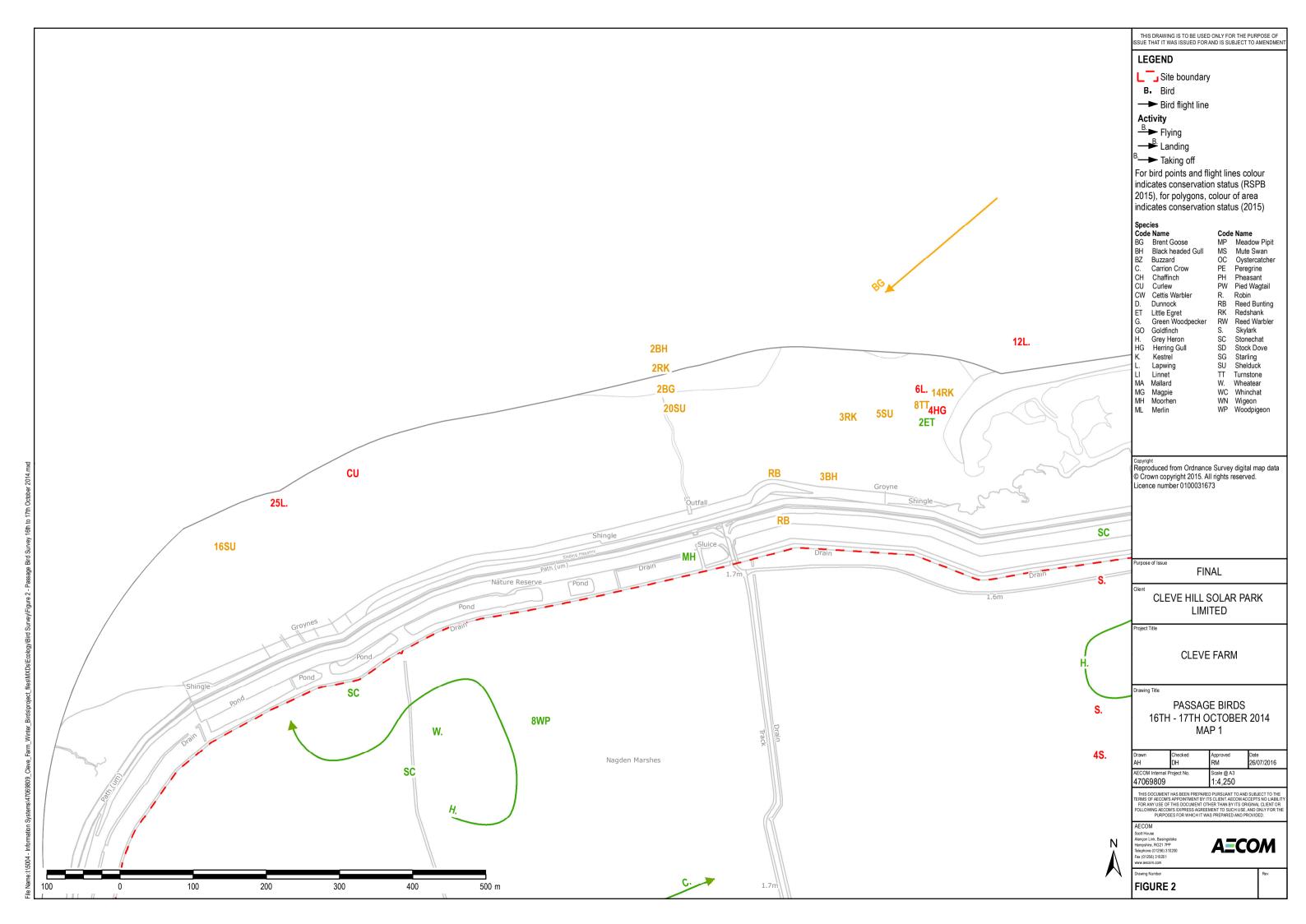
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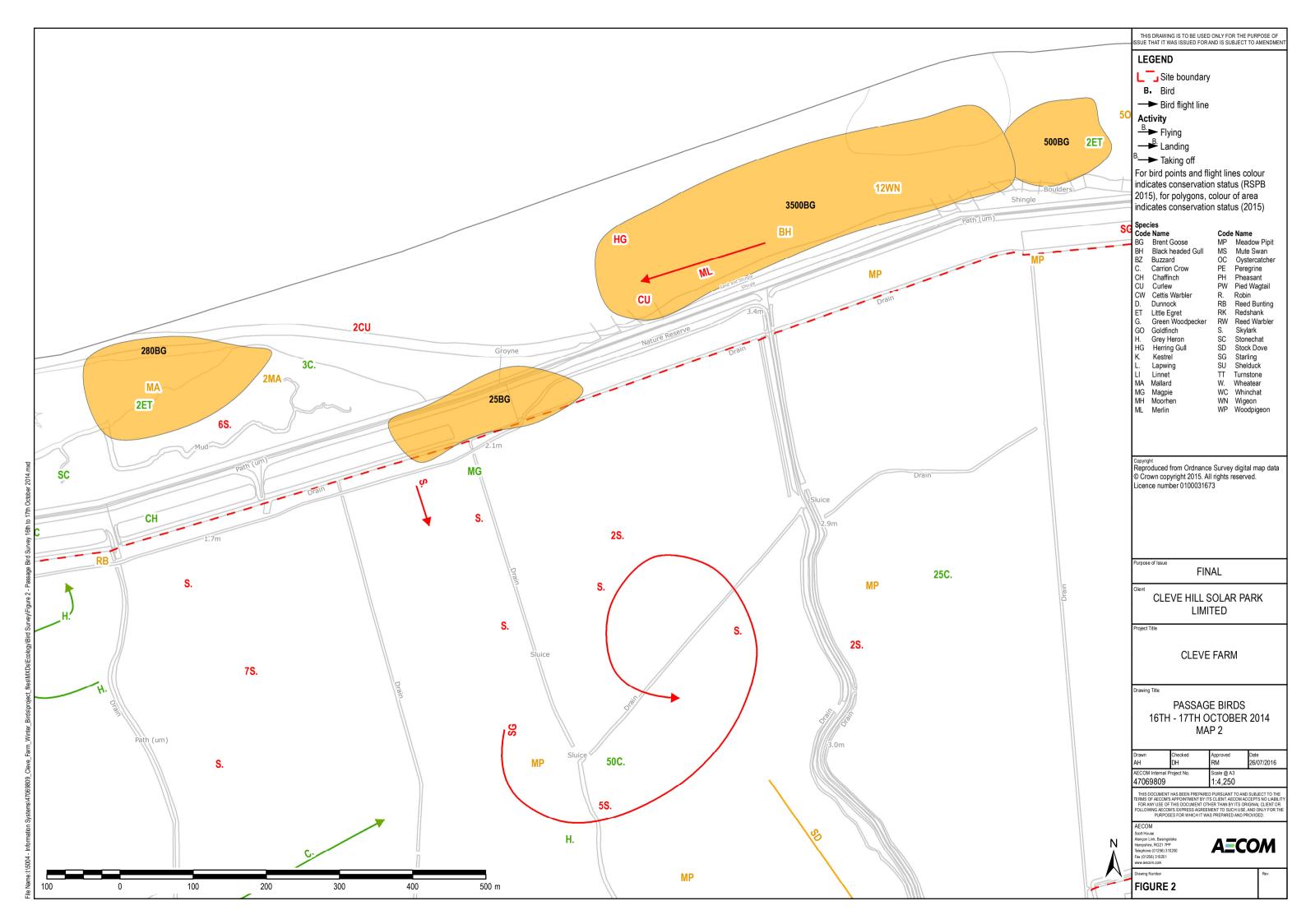
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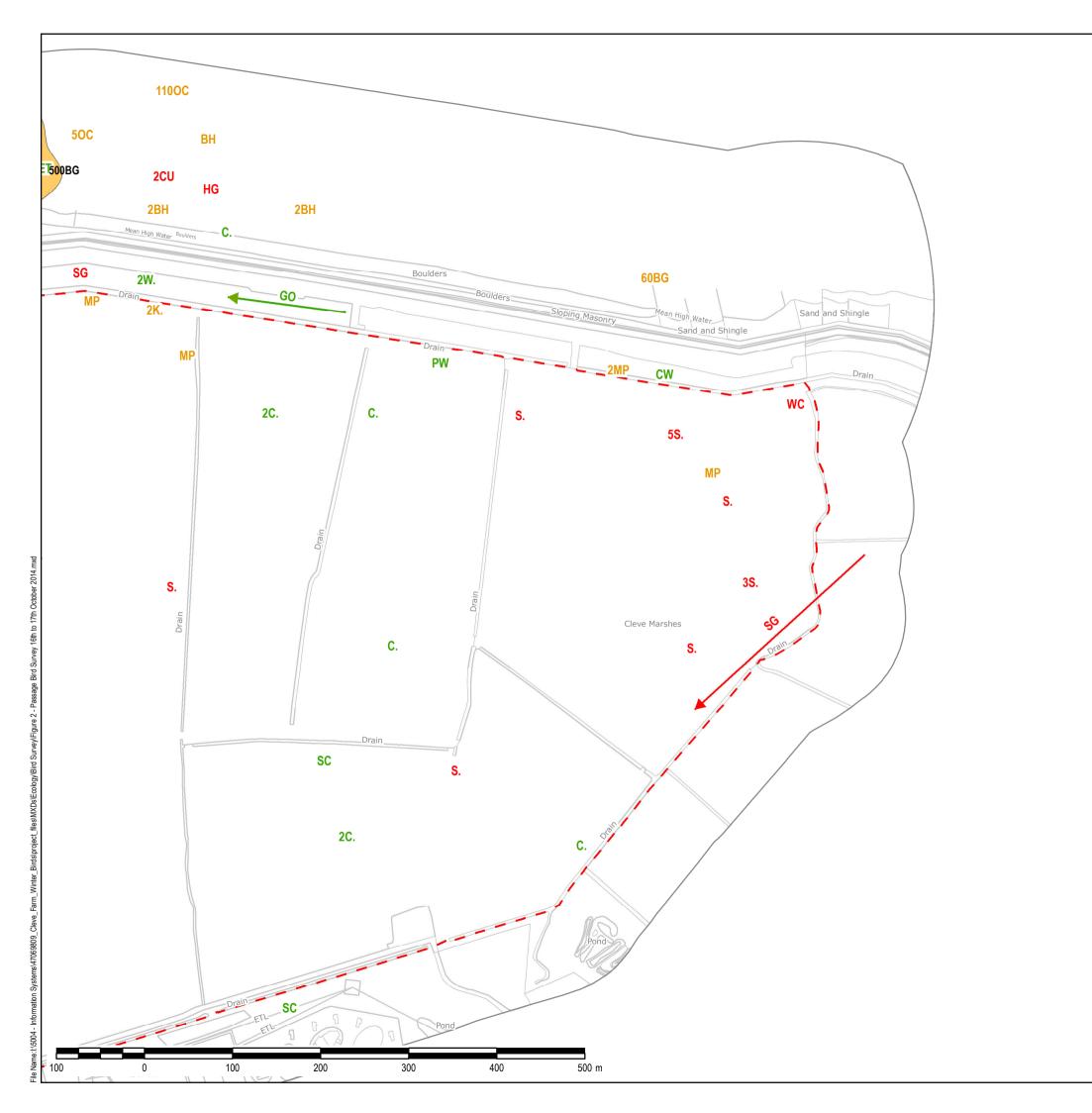












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LEGEND

___ Site boundary

B. Bird

→ Bird flight line

Activity

B. ► Flying

→B. Landing

B.—► Taking off

For bird points and flight lines colour indicates conservation status (RSPB 2015), for polygons, colour of area indicates conservation status (2015)

opecies					
Code	e Name	Code	e Name		
BG	Brent Goose	MP	Meadow Pipit		
BH	Black headed Gull	MS	Mute Swan		
BZ	Buzzard	OC	Oystercatcher		
C.	Carrion Crow	PE	Peregrine		
CH	Chaffinch	PH	Pheasant		
CU	Curlew	PW	Pied Wagtail		
CW	Cettis Warbler	R.	Robin		
D.	Dunnock	RB	Reed Bunting		
ET	Little Egret	RK	Redshank		
G.	Green Woodpecker	RW	Reed Warbler		
GO	Goldfinch	S.	Skylark		
H.	Grey Heron	SC	Stonechat		
HG	Herring Gull	SD	Stock Dove		
K.	Kestrel	SG	Starling		
L.	Lapwing	SU	Shelduck		
LI	Linnet	TT	Turnstone		
MA	Mallard	W.	Wheatear		
MG	Magpie	WC	Whinchat		
MH	Moorhen	WN	Wigeon		
ML	Merlin	WP	Woodpigeon		

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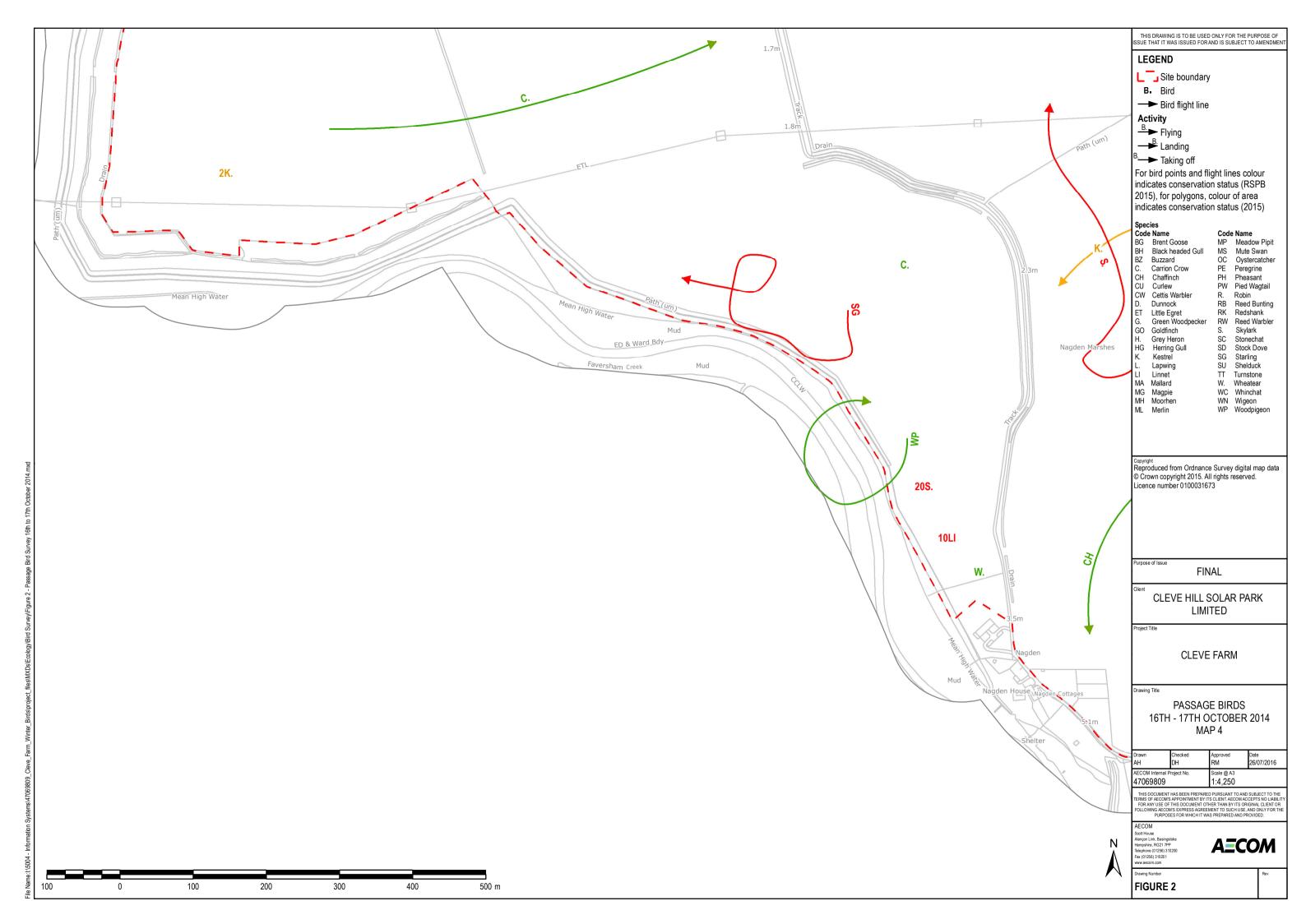
PASSAGE BIRDS 16TH - 17TH OCTOBER 2014 MAP 3

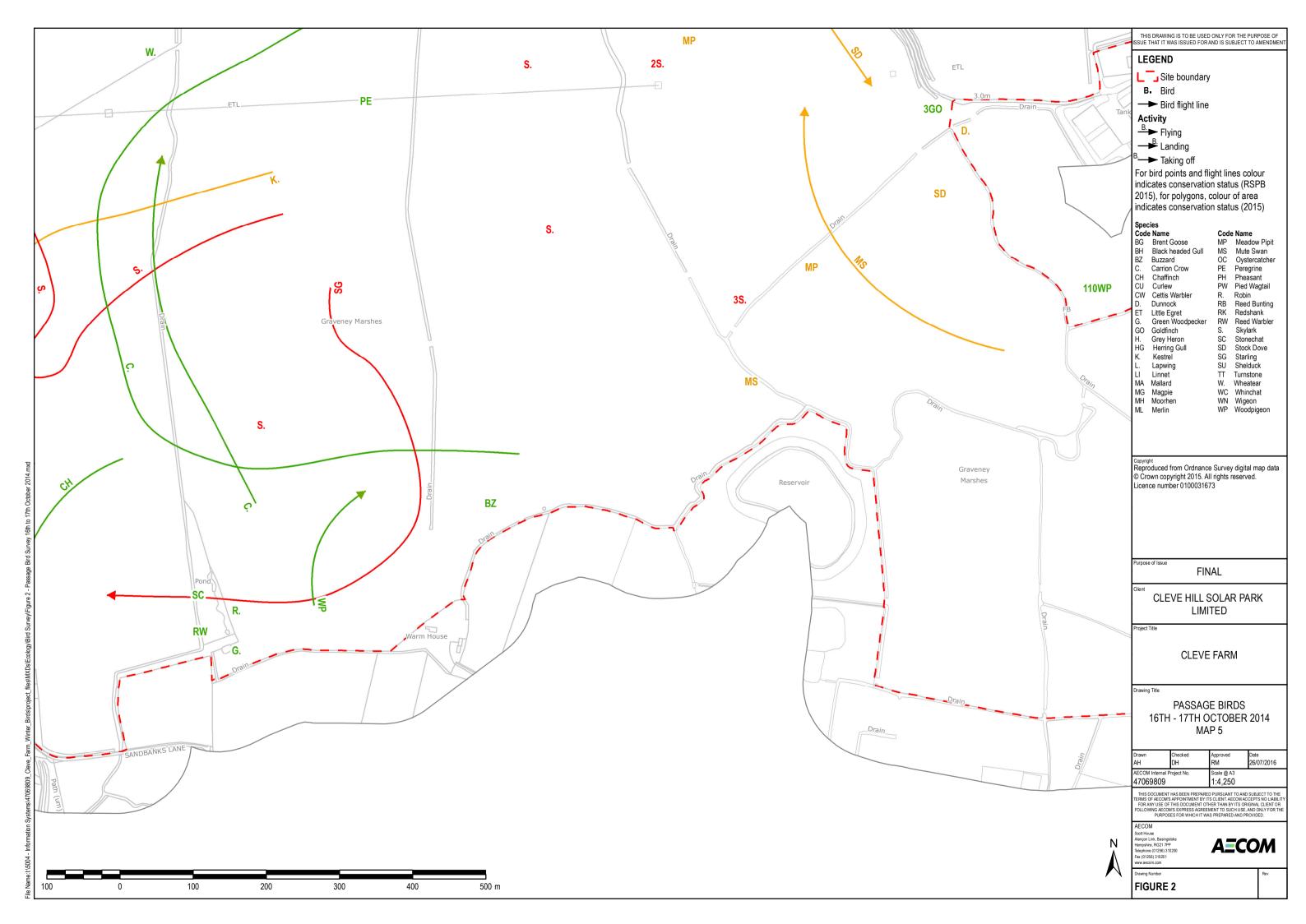
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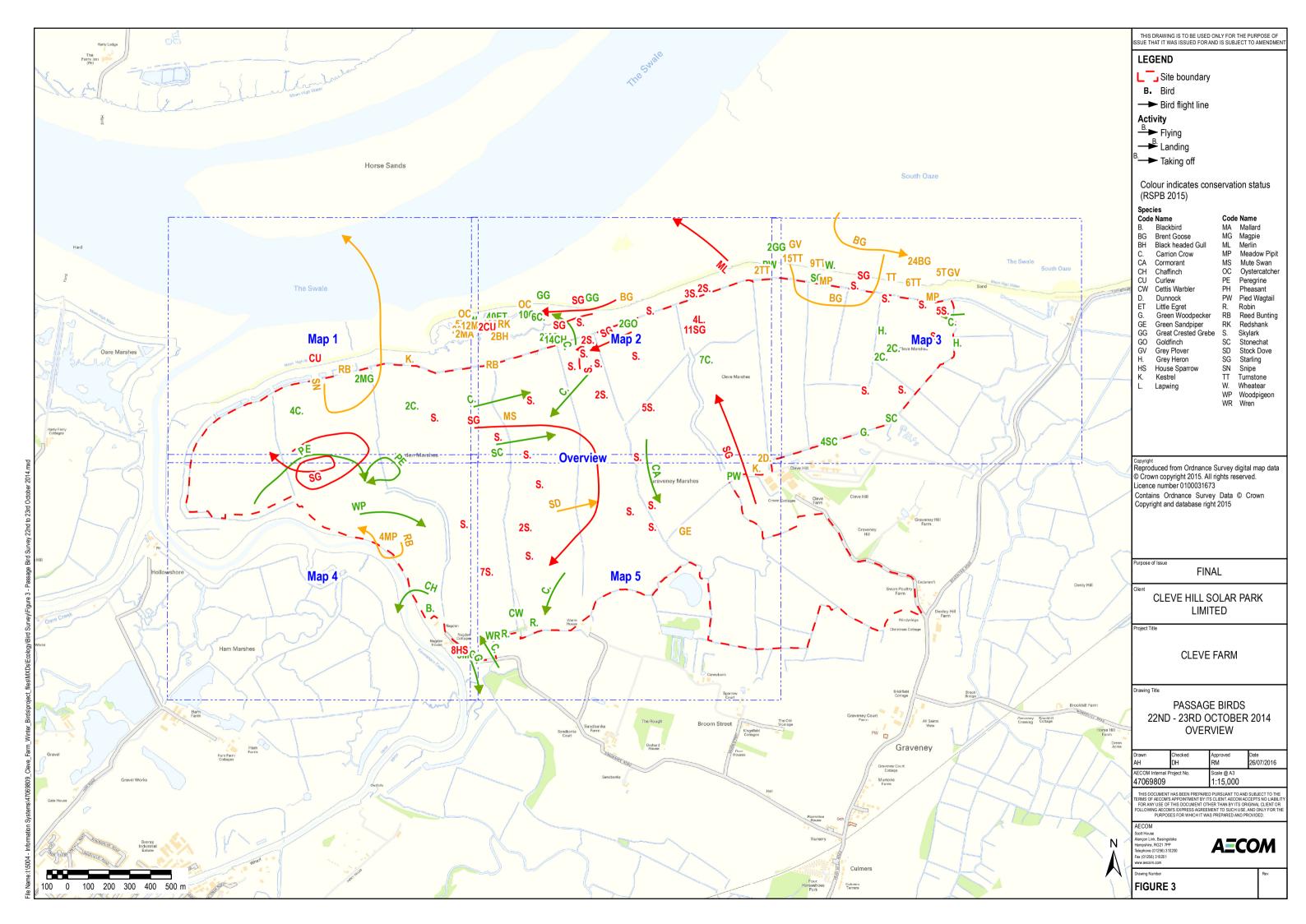
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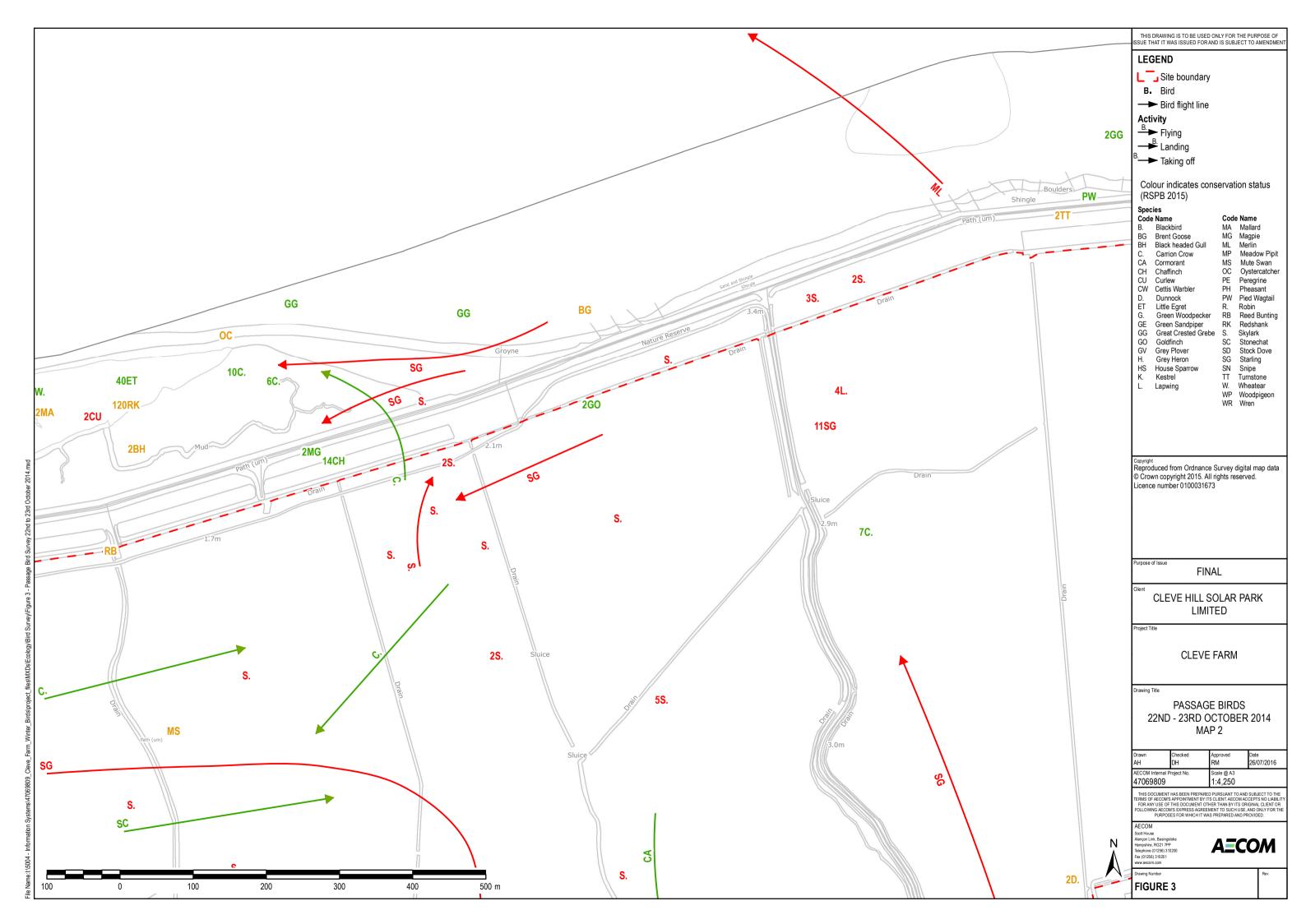
FIGURE 2

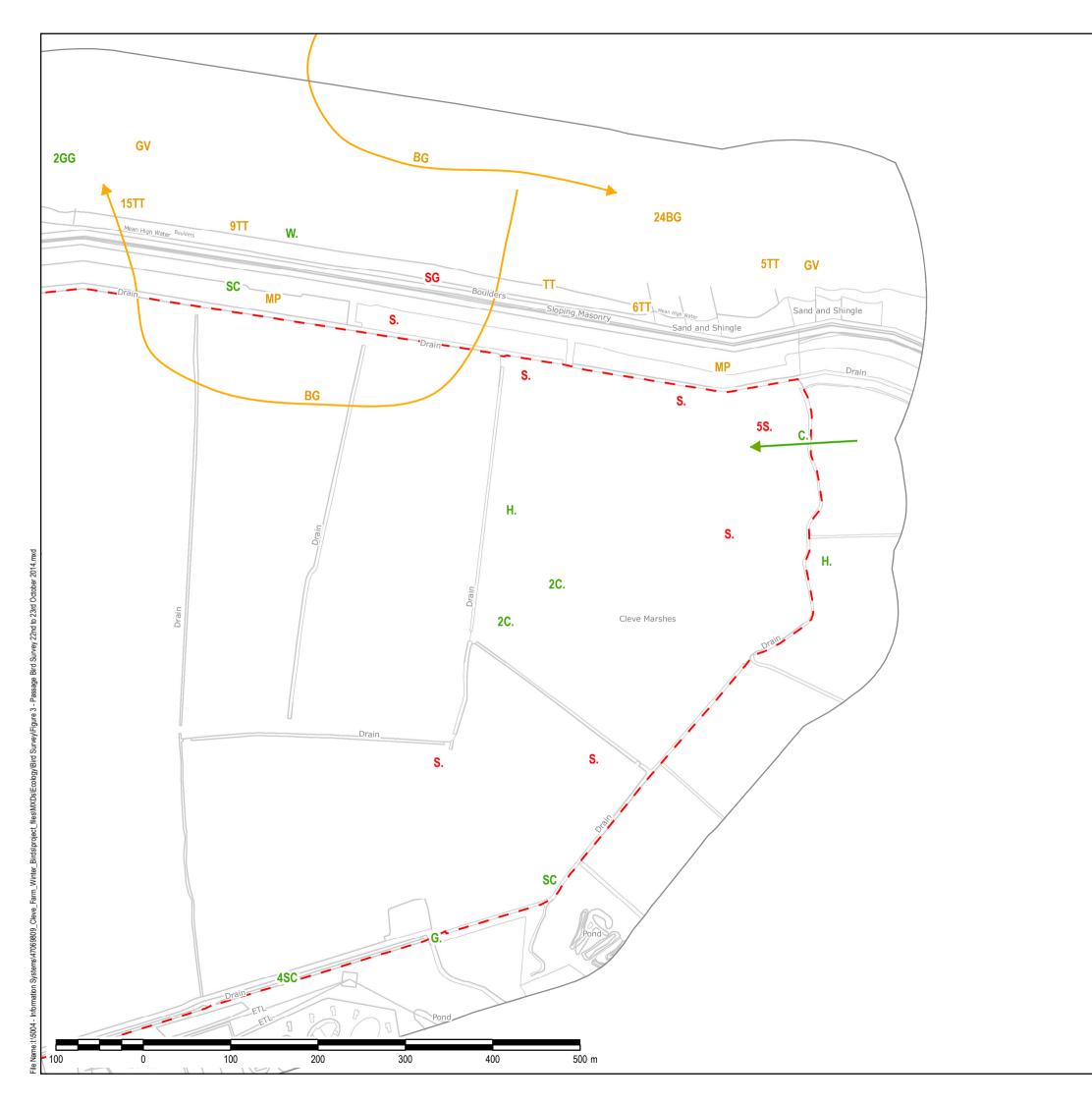












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LEGEND

___ Site boundary

B. Bird

→ Bird flight line

Activity

B. Flying →B. Landing

B. → Taking off

Colour indicates conservation status (RSPB 2015)

Species Code Name

Code Name

MA Mallard

MG Magpie

ML Merlin

MP Meadow Pipit B. Blackbird
BG Brent Goose
BH Black headed Gull
C. Carrion Crow
CA Cormorant MS Mute Swan
OC Oystercatcher
PE Peregrine
PH Pheasant CH Chaffinch CU Curlew CW Cettis vic...

D. Dunnock

ET Little Egret R. Room

G. Green Woodpecker RB Reed Bunting

GE Green Sandpiper RK Redshank

GG Great Crested Grebe S. Skylark

GO Goldfinch SC Stonechat

GV Grey Plover SD Stock Dove

H. Grey Heron SG Starling

HS House Sparrow SN Snipe

K. Kestrel TT Turnstone

Wheatear

WP Woodpigeor

Wren CW Cettis Warbler

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WR Wren

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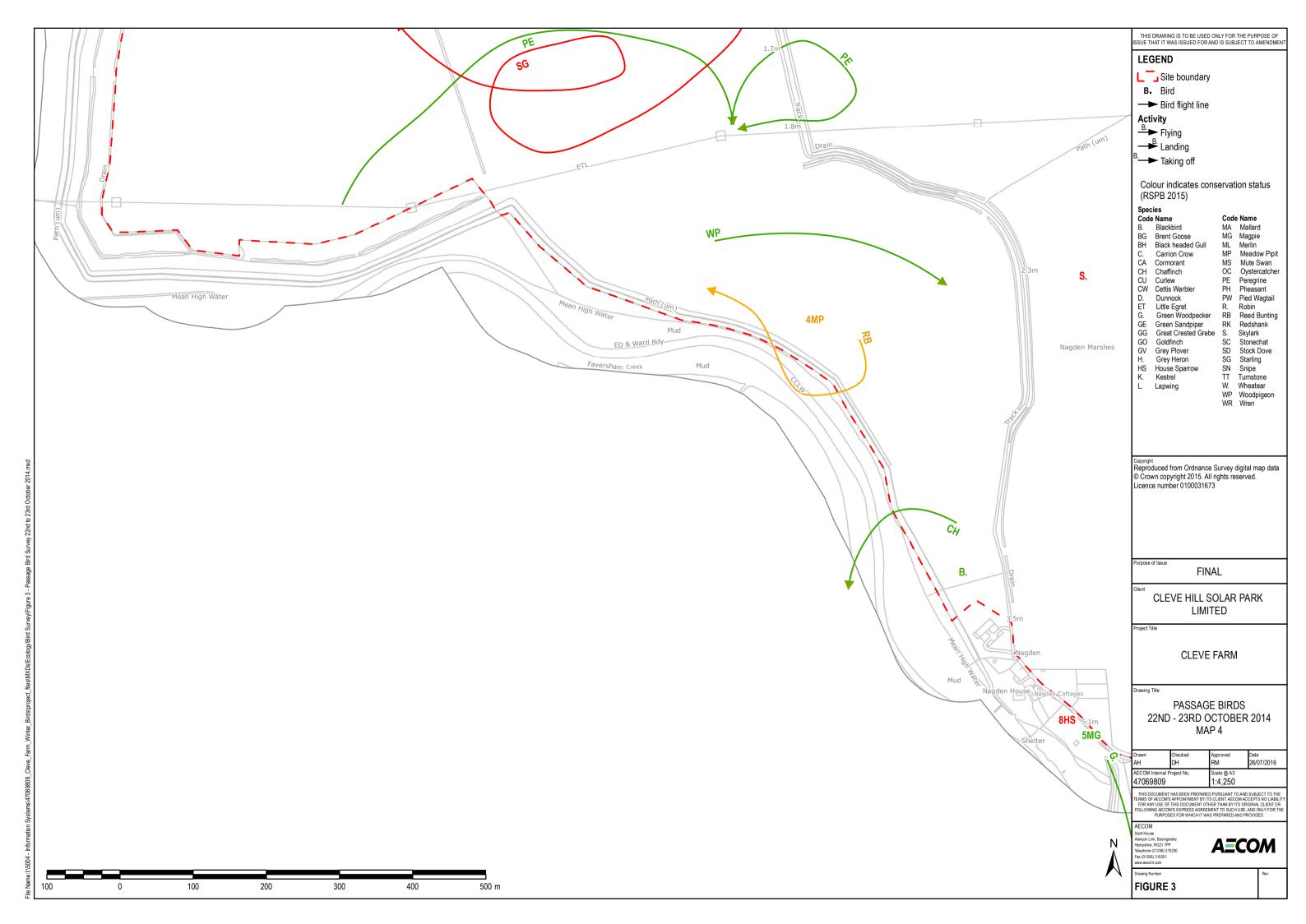
PASSAGE BIRDS 22ND - 23RD OCTOBER 2014 MAP 3

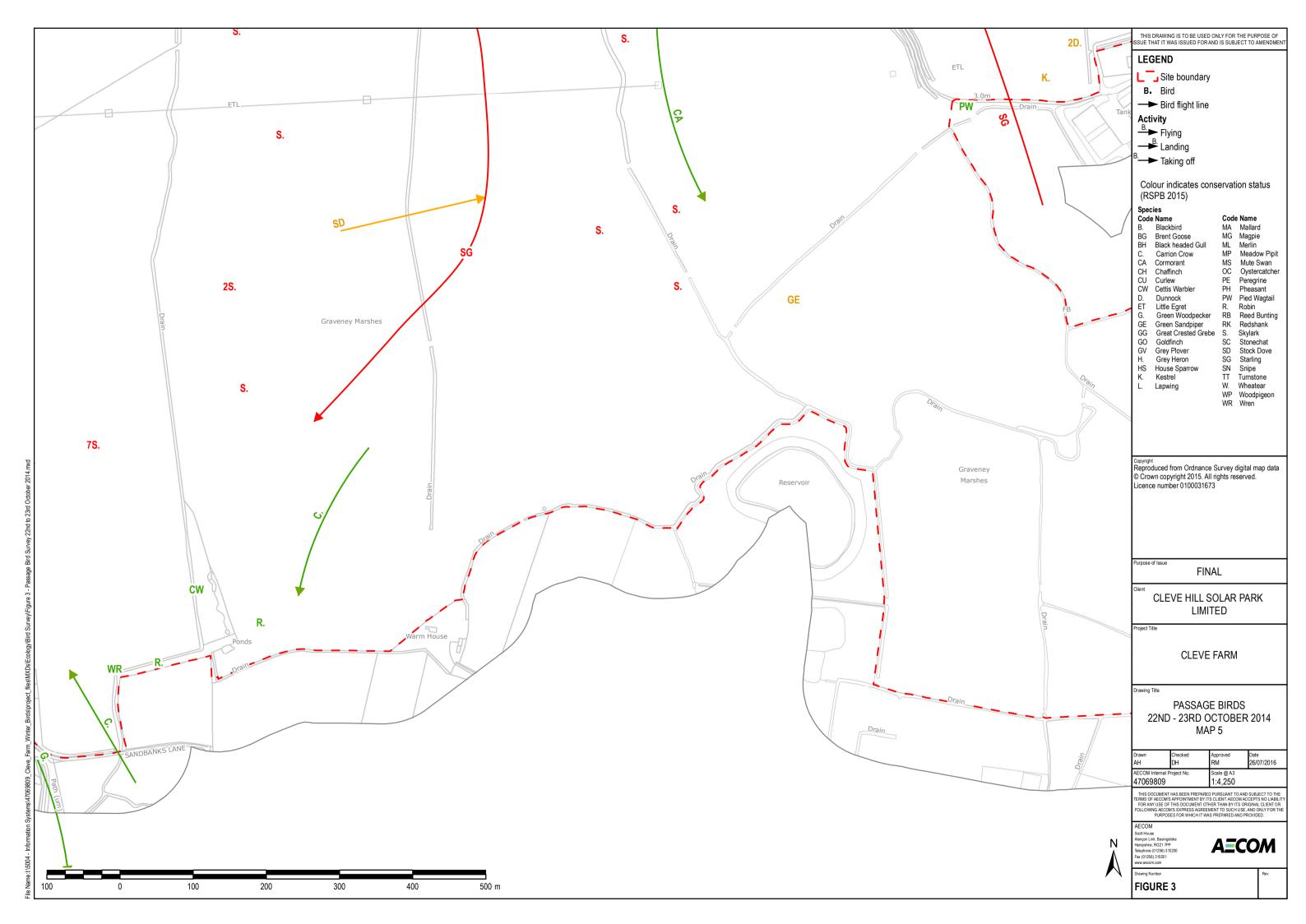
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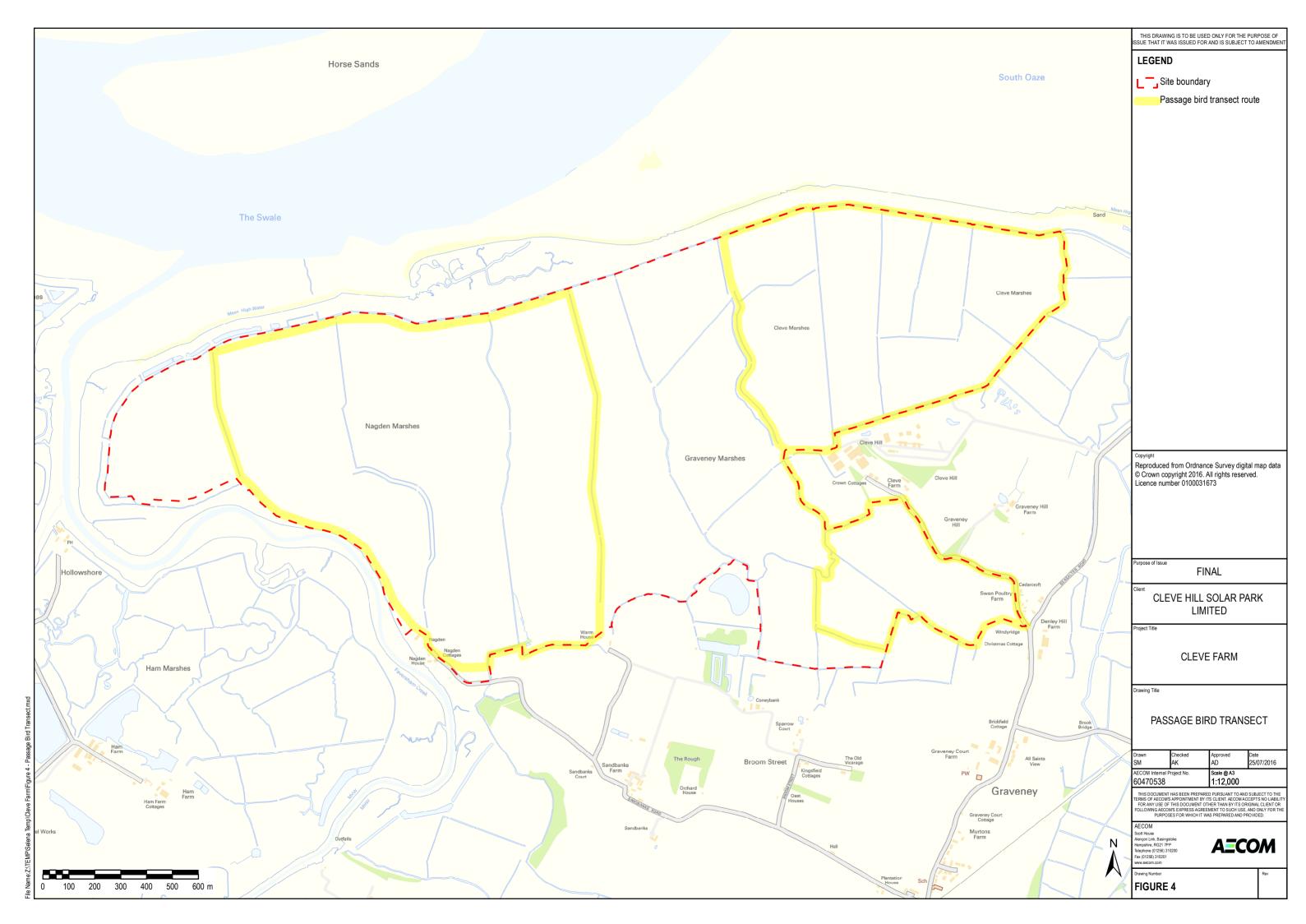
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FIGURE 3







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