

Breeding Bird Survey of **Land at Water Lane, Angmering, West Sussex**

on behalf of:

Barratt Homes Southern Counties

September 2020

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Over 30 Years of Service, Value and Innovation

34/57 Oak Woodgate, Bury St Edmunds, Suffolk, IP33 3PA

Chairman: James Blake BA (Hons) Dip LA (Hons) CMLJ

Company Secretary: Louise Blake BSc PGCE

Directors: Elzbieta Zebrowska MSc Eng LArch MScEnvSc CMLJ ; Kevin Slezacek Dip Art MA Arbor

Associate Directors: Vienne Jackson ; Marie Lowe CMA Cert EA

www.jba-landmarc.com

Registration no. 08106886 VAT no. 512 4127 51

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James Blake Associates Ltd have made every effort to meet the client's brief. However, no survey ensures complete and absolute assessment of the changeable natural environment. The findings in this report were based on evidence from thorough survey: It is important to remember that evidence can be limited, hard to detect or concealed by site use and disturbance. When it is stated that no evidence was found or was evident at that point in time, it does not mean that species are not present or could not be present at a later date: The survey was required because habitats are suitable for a given protected species, and such species could colonise areas following completion of the survey.

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EXECUTIVE SUMMARY

Breeding bird surveys were carried out at land at Water Lane, Angmering, in West Sussex, on the 7th April, 30th April, 22nd May and 30th June.

Forty-seven bird species were recorded on or close to the site. These included nine Species of Principal Importance (SPI) in England, all of which are relatively common and widespread species in West Sussex. In terms of the Birds of Conservation Concern (BoCC) categorisation; seven BoCC Red Listed species and eight BoCC Amber Listed species were recorded using the site.

Four species were confirmed breeding on site, however; nineteen species were considered likely breeding. A total of twelve species were considered possibly breeding on site and twelve species considered unlikely breeding on site. The bird species noted using the site are generally common and widespread. A small population of snipe were noted in April to be overwintering on the site.

Key habitat for birds on site includes the mature boundary trees, hedgerows, scrub, hedgerow margins and the northern section of the site, around the watercourse and wet marsh. These habitats should be retained where possible and enhanced by the development; mitigation should be provided where habitat cannot be retained.

Proposed open space (POS) within the development (including proposed Sustainable Urban Drainage Systems (SUDS)) is recommended to be designed, created, and managed to provide nesting and foraging habitat for birds. Public access should be carefully managed to ensure that sensitive bird species and the habitats they depend on are not subject to disturbance. Other enhancements include the provision of bird boxes on new buildings and retained trees. Any vegetation clearance/management should be undertaken outside the breeding bird season; nesting bird season is deemed to be March to September, weather dependant.

If recommendations outlined in this report, including precautionary measures, are followed, it is considered that impacts to nesting and/or foraging birds would be low.

1 INTRODUCTION

Background to the study

- 1.1 James Blake Associates Ltd was commissioned by Barratt Homes Southern Counties to undertake breeding bird surveys of land at Water Lane, Angmering, West Sussex. Ordnance Survey National Grid Reference TQ 07480 04510, taken from the centre of the site.
- 1.2 Nesting birds are protected under the Wildlife and Countryside Act (1981, as amended), and some bird species are also priority species under Section 41 of The Natural Environment and Rural Communities (NERC) Act (2006). All protected and priority species are material considerations for individual planning decisions under the National Planning Policy Framework (NPPF) 2019, which places responsibility on Local Planning Authorities to aim to conserve and enhance biodiversity and to encourage biodiversity in and around developments. Species of Principal Importance (SPI) in England, listed under Section 41 of the NERC Act, are a material consideration for planning decisions.
- 1.3 Birds of Conservation Concern (BoCC) are split into three criteria; the Red list is the highest conservation priority (species needing urgent action). The Amber list is the next most critical group, followed by Green. Red listed species are those that are globally threatened according to the International Union for Conservation of Nature (IUCN) criteria, species with populations or ranges that have declined rapidly in recent years, and those that have declined historically and have not shown a substantial recent recovery.

Surveyors

- 1.4 Surveys were carried out by Christopher Bridge BSc (Hons), Natural England Barn Owl Class Licence CL29.

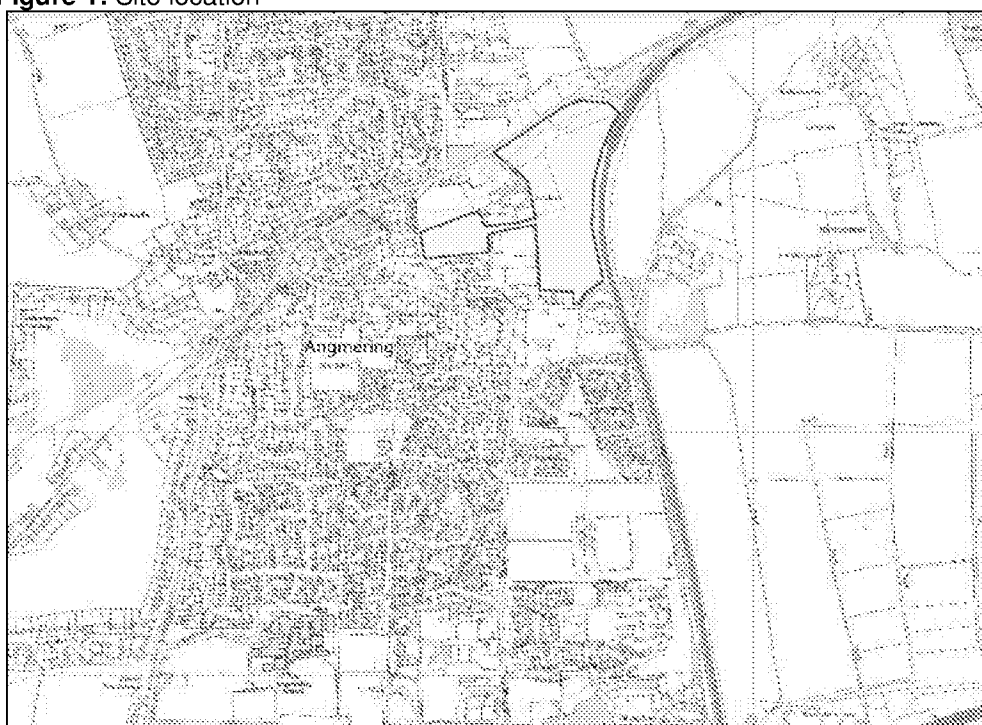
Geographical scope

- 1.5 The site is approximately 9.3 hectares in size and is located to the south of Water Lane in the town of Angmering, West Sussex. The wider landscape

includes the town of Angmering, residential and arable land. The A280 runs east of the site (see Figure 1 below).

- 1.6 The site itself comprises grazed/mown improved grassland with areas of scattered scrub and species-poor hedgerows. The north section of the site includes a small, slow-flowing watercourse and marshy grassland with further scattered scrub. Other habitats on site include; semi-improved grassland, tall ruderal, hardstanding, scattered trees, amenity grassland and buildings.

Figure 1: Site location



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Aims and objectives

- 1.7 The aim of the survey was to;
- determine if significant bird species or population sizes were using the site for nesting or foraging at the time of the survey;
 - determine the likely risk of impact on birds and local bird conservation from the proposed development; and
 - recommend precautionary measures, compensation of habitats or mitigation to prevent harm to birds, if necessary.

2 METHODOLOGY

Methods

- 2.1 Surveys were conducted in optimal weather conditions (dry, with little/moderate wind) and during the peak bird breeding season (March to June). The duration of each survey was approximately two hours.
- 2.2 Surveys were undertaken on the 7th and 30th April, 22nd May and 30th June within three hours of dawn, when territorial behaviour is usually at its peak.
- 2.3 The survey was based on a registration mapping methodology adapted from the British Trust for Ornithology (BTO) Breeding Bird Survey: during each visit, all birds seen or heard were recorded on a transect along with any significant behaviour, particularly regarding breeding activity e.g. territorial singing, display, carrying food or nesting material, active nests etc.

Constraints

- 2.4 Road noise, from the A280, prevented clear identification of some bird calls when surveying habitats in its vicinity. However, visual identification remained possible in these areas, and these more highly disturbed parts of the site were less likely to support birds sensitive to the proposals. Therefore, it was considered not likely to be a significant constraint or alter the conclusions drawn.

3 RESULTS

Survey results

- 3.1 Forty-seven bird species were recorded on or close to the site. All birds heard/seen using the site (feeding and/or flying) were noted on the transect maps shown in Appendix A.
- 3.2 The table below shows all of the species that were observed, the date(s) of observation and their protection.

Table 1: Summary of survey results

Species	BTO code	Sussex BAP	Schedule 1	NERC SPI	BoCC	Survey dates & species observed			
						07.04.2020	30.04.2020	22.05.2020	30.06.2020
Blackcap <i>Sylvia atricapilla</i>	BC					✓	✓	✓	✓
Blackbird <i>Turdus merula</i>	B.					✓	✓	✓	✓
Blue tit <i>Cyanistes caeruleus</i>	BT					✓	✓	✓	✓
Buzzard <i>Buteo buteo</i>	BZ							✓	
Canada goose <i>Branta canadensis</i>	CG					✓			
Carrion crow <i>Corvus corone</i>	C.					✓	✓	✓	✓
Chaffinch <i>Fringilla coelebs</i>	CH					✓	✓	✓	✓
Chiffchaff <i>Phylloscopus collybita</i>	CC					✓	✓		
Coal tit <i>Periparus ater</i>	CT								✓
Collared dove <i>Streptopelia decaocto</i>	CD					✓	✓		✓
Dunnock <i>Prunella modularis</i>	D.			✓	Amber	✓	✓	✓	✓
Feral pigeon <i>Columba livia domestica</i>	FP						✓		✓
Goldcrest <i>Regulus regulus</i>	GC						✓		✓
Goldfinch <i>Carduelis carduelis</i>	GO					✓	✓	✓	✓
Great spotted woodpecker <i>Dendrocopos major</i>	GS							✓	
Great tit <i>Parus major</i>	GT					✓	✓		✓
Greenfinch <i>Carduelis chloris</i>	GR					✓	✓	✓	✓
Green woodpecker <i>Picus viridis</i>	G.					✓	✓	✓	✓
Grey heron <i>Ardea cinerea</i>	H.							✓	
Herring gull <i>Larus argentatus</i>	HG	✓		✓	Red Subsp. argentatus	✓	✓	✓	✓
House sparrow <i>Passer domesticus</i>	HS	✓		✓	Red	✓	✓	✓	✓
Jackdaw <i>Corvus monedula</i>	JD					✓	✓	✓	
Kestrel <i>Falco tinnunculus</i>	K.				Amber				✓

Species	BTO code	Sussex BAP	Schedule 1	NERC SPI	BoCC	Survey dates & species observed			
						07.04.2020	30.04.2020	22.05.2020	30.06.2020
Lapwing <i>Vanellus vanellus</i>	LP	✓		✓	Red	✓			
Lesser black-backed gull <i>Larus fuscus</i>	LB				Amber	✓	✓		✓
Lesser whitethroat <i>Sylvia curruca</i>	LW						✓		✓
Linnet <i>Carduelis cannabina</i>	LI	✓		✓	Red		✓		✓
Little egret <i>Egretta garzetta</i>	EG								✓
Magpie <i>Pica pica</i>	MG					✓	✓	✓	✓
Mallard <i>Anas platyrhynchos</i>	MA				Amber	✓	✓	✓	✓
Moorhen <i>Gallinula chloropus</i>	MH					✓	✓	✓	
Pheasant <i>Phasianus colchicus</i>	PH					✓			
Red kite <i>Milvus milvus</i>	ET		✓						✓
Reed warbler <i>Acrocephalus scirpaceus</i>	RW						✓		✓
Robin <i>Erithacus rubecula</i>	R.					✓	✓	✓	✓
Rook <i>Corvus frugilegus</i>	RO						✓		✓
Skylark <i>Alauda arvensis</i>	S.	✓		✓	Red			✓	✓
Snipe <i>Gallinago gallinago</i>	SN				Amber	✓			
Song thrush <i>Turdus philomelos</i>	ST	✓		✓	Red	✓	✓	✓	✓
Stock dove <i>Columba oenas</i>	SD				Amber			✓	✓
Starling <i>Sturnus vulgaris</i>	SG	✓		✓	Red	✓	✓	✓	✓
Swallow <i>Hirundo rustica</i>	SL					✓			
Swift <i>Apus apus</i>	SI			✓	Amber			✓	✓
Tawny owl <i>Strix aluco</i>	TO				Amber				✓
Whitethroat <i>Sylvia communis</i>	WH						✓	✓	✓
Woodpigeon <i>Columba palumbus</i>	WP					✓	✓	✓	✓
Wren <i>Troglodytes troglodytes</i>	WR					✓	✓		✓

NERC SPI = Species of Principal Importance in England under Section 41 of the NERC Act (2006)

Sussex BAP = Local Biodiversity Action Plan

BoCC = Birds of Conservation Concern

Schedule 1 = protected (while breeding) under Schedule 1 of the Wildlife and Countryside Act (1981)

Black text: Observed using habitats within the site boundary

Weather conditions

- 3.3. The four breeding bird survey visit dates and the weather conditions that were recorded during these surveys are provided in Table 2.

Table 2: Summary of weather conditions

Visit	Date (2020)	Weather conditions
1	7 th April	6°C, 35% cloud cover and Beaufort 0 to 1
2	30 th April	8°C, 100% cloud cover and Beaufort 2 to 3
3	22 nd May	17°C, 70% cloud cover and Beaufort 2 to 3
4	30 th June	15°C, 80% cloud cover and Beaufort 0 to 1

4 EVALUATION

- 4.1 Birds of Conservation Concern (BoCC) assigns species to red, amber or green lists under the following criteria:

Red Listed species

These are species of high national conservation concern. Species are included on this list if they meet one or more of the following criteria:

- Globally threatened;
- Historical population decline in UK during 1800-1995;
- Rapid (> 50%) decline in UK breeding or non-breeding population over last 25 years;
- Rapid (> 50%) contraction of UK breeding range over last 25 years.

Amber Listed species

These are species of medium national conservation concern. Species are included on this list if they meet one or more of the following criteria:

- Historical population decline during 1800-1995, but now recovering with population size having more than doubled over the last 25 years;
- Moderate (25-49%) decline in UK breeding or non-breeding population or breeding range over the last 25 years;
- Species of European Conservation Concern;
- Between only one and 300 breeding pairs, or one and 900 individuals, in the UK;
- >50% of the UK breeding or non-breeding population in ten or fewer sites;
- >20% of the European breeding population in the UK;
- >20% of the North-West European (wildfowl), East Atlantic Flyway (waders) or European (others) non-breeding populations in the UK.

Green Listed species

All regularly occurring native species that do not qualify under any of the red or amber criteria are green listed. The green list also includes those species listed as recovering from Historical Decline in the last review that have continued to recover and do not qualify under any of the other criteria.

Overview of birds observed during the surveys

4.2 Species of Principal Importance (SPI)

Nine priority species were recorded using the site as follows:

- **Dunnocks** (*Prunella modularis*) were recorded during all four survey visits, singing and foraging within immature and mature trees, as well as hedgerows and scrub throughout the site. This species is confirmed breeding at the site, due to the presence of audible juvenile birds recorded on the site. The site provides a variety of potential breeding habitat including hedgerows, trees, scrub and vegetated banks. The dunnock is an SPI and a BoCC Amber listed species because UK populations declined significantly during the 1970s and 1980s, although are now more stable. Good quality breeding habitat, such as

hedgerows, low thick scrub and bramble patches, is present throughout the site. It is recommended that boundary vegetation is retained and enhanced, and hedgerow gaps are plugged to maintain breeding and foraging habitat for dunnocks and mitigate for the loss of any habitat during development. If these measures are undertaken it is considered likely that the local population status of the dunnock would not be significantly impacted by the proposals.

- **Herring gulls** (*Larus argentatus*) were recorded during all four surveys, either flying over the site or foraging on land within the site. The herring gull is an SPI, a BoCC Red listed species and a Sussex Local Biodiversity Action Plan (LBAP) species. The site itself does not provide suitable breeding habitat for herring gull which prefer cliffs, beaches, shingle islands, moorland and buildings (usually with a flat roof). This species is considered unlikely to be breeding at the site due to the lack of suitable nesting sites and would likely use the associated fields for foraging only; it is therefore considered unlikely that the development would impact the local population status of these gulls.
- **House sparrows** (*Passer domesticus*) were recorded during all four surveys foraging mostly on the boundaries of fields in areas with nearby houses. House sparrows are an SPI, a BoCC Red listed species and a Sussex LBAP species; due to rapid decline in abundance over the last 25 years. The house sparrow remains widespread and common throughout England and locally within Sussex; it was the most recorded bird during the Royal Society for the Protection of Birds (RSPB) 'Big Garden Birdwatch' in 2020, being recorded in 63% of participating gardens, respectively. It is considered unlikely that this species uses the proposed development site for breeding in significant numbers due to the availability of preferred nesting opportunities within off-site buildings. Grassland fields and their margins could be maintained for foraging birds through the retention of suitably managed buffers to retained hedgerows and tree lines. Due to the availability of optimal nesting opportunities outside the site boundary and provided that retention of on-site foraging habitat and additional hedgerow planting is incorporated into the landscape design,

it is considered unlikely that this species would be significantly impacted by the proposed development. The development will also provide opportunities to increase optimal breeding opportunities for house sparrows at the site through the erection of purpose-built nest boxes (see Section 5).

- **Lapwings** (*Vanellus vanellus*) were recorded during survey one of the four survey visits, flying over the site only. Lapwings are an SPI, a BoCC Red listed species and a Sussex LBAP species, due to the change to the autumn sowing of crops and drainage of wetlands. Lapwing is considered unlikely to be breeding at the site due to the increased suitability of nearby habitat, i.e. agricultural fields in the surrounding area. It is considered unlikely that the development would impact on the local population status of lapwings.
- **Linnets** (*Carduelis cannabina*) were recorded during two of the four survey visits across the entire site. Linnets are an SPI, a BoCC Red listed species and a Sussex LBAP species, due to steep declines between 1965 and 1985. Numbers nationally rose slightly in the ten years after 1985 and since have seen a decline in England and Wales of approximately 30%. Linnet numbers within Sussex are currently stable; however, numbers have not fully recovered. It is likely that linnets are nesting within the site boundary or within the overgrown bramble scrub, which provided suitable nesting opportunities and within which territorial behaviour was observed. Retention and enhancement of hedgerows will also benefit this species, particularly through the promotion of thorny species throughout the site. Retention and long-term appropriate management of any future public open space (POS) is recommended to maintain a mosaic of tall grassland, scrub and ruderal vegetation for nesting and foraging birds. Additional scrub planting within POS or along boundaries is also recommended to increase this habitat type across the site. These recommendations will provide additional breeding opportunities for linnets, reducing the likelihood that the local population status of this species will be significantly impacted by the proposals.

- **Skylarks** (*Alauda arvensis*) were heard singing above arable fields outside the site boundary during two survey visits. Audible records were noted, indicating that more than one territory was held within the local area. This species is an SPI in England and Sussex, a BoCC Red listed species and a Sussex LBAP species, due to significant population declines over the past 25 years, with a rapid decline from the mid-1970s until the mid-1980s. It is thought that the skylark has declined due to changes in agricultural practices and a reduction in suitable nesting habitat. Skylarks are widespread throughout the UK and Sussex, however, are still showing a slow decline in abundance. Skylarks are unlikely to be breeding on site, as territory displays were observed outside the site boundary on two site visits; late May and late June. Therefore, it is considered likely that skylarks will not be impacted by the proposals. However, recommendations to encourage skylarks post development and enhance the site for other ground nesting and foraging birds can be found in Section 5.
- **Song thrushes** (*Turdus philomelos*) were recorded singing from perches and foraging within the site boundary during all four survey visits. The abundance of scrub in these areas provided optimal nesting opportunities and this species was considered likely to be breeding within the site boundary. The song thrush is an SPI in England and Sussex, a BoCC Red listed species and a Sussex LBAP species, due to significant population declines. Between 1970 and 1995 song thrushes declined by approximately 50%, which was more pronounced on farmland, where populations decreased by approximately 70%. Song thrushes are widespread within the UK and Sussex and are showing a general increase, although population levels remain relatively low. Retention of on-site foraging and nesting habitat, including hedgerows, scrub and mature trees within and at the site boundaries, will ensure that this species will not be impacted by the development. Inclusion of native hedgerow, and tree planting within the scheme, with areas of less intensive management to allow scrub encroachment, will provide additional nesting and foraging habitat for song thrush. It is also recommended that as many areas as possible

are retained and suitably managed in the long term to maintain these areas of scrub for nesting birds (see Section 5).

- **Starlings** (*Sturnus vulgaris*) were recorded during all four surveys, predominantly using habitats within the site boundary and in residential buildings off-site. Starlings are a BoCC Red listed species, as well as an SPI in England and a Sussex LBAP species, due to long term declines in the number of breeding pairs in Britain, reasons for which are under research. Starlings remain widespread within Britain and Sussex and this species was the second most numerous bird recorded during the RSPB 'Big Garden Birdwatch' in 2020. Behaviour displayed during the survey visits suggested that this species was using the site for foraging only, as the site itself provided limited nesting opportunities. It is recommended that foraging areas are retained or incorporated into areas of POS within the landscape plans. If this can be achieved, it was considered unlikely that starlings would be significantly impacted by the proposed development. Furthermore, opportunities to enhance the site for breeding starlings, and maintain and enhance suitable foraging areas post development, are detailed in Section 5.
- **Swifts** (*Apus apus*) were recorded during two of the four survey visits, migrating through the site in good numbers during late May and late June. Swift is an SPI, a BoCC Amber listed species and a Sussex LBAP species. Swifts are endangered because their nesting sites are being lost through development and through building demolition, renovation and roof repair, as well as the lack of insect food that they rely on. It is proposed that the development would not impact the local population status of swift. Opportunities to enhance the site for breeding swifts post development are detailed in Section 5.

4.3 BoCC Red Listed species

Seven Red listed species were recorded during the survey visits, all of which used habitats within the site boundary. These included herring gull, house sparrow, lapwing, linnet, skylark, song thrush and starling. These seven listed species are discussed and can be found above in Section 4.2.

4.4 BoCC Amber Listed species

Eight BoCC Amber listed species were recorded using habitats within the site boundary. Dunnock and swift, are also both SPI and are detailed in paragraph 4.2. Six of the remaining Amber listed species are outlined below;

- **Kestrel** (*Falco tinnunculus*) were recorded during the bird surveys in late June and are likely to be breeding in close proximity to the site; it is recommended that sections of POS are seeded within a tussocky grassland mix and of seed-bearing species, which will create a haven for the kestrels main food source, small mammals.
- **Lesser black-backed gull** (*Larus fuscus*) are considered unlikely to be breeding at the site due to the lack of suitable nesting sites and would likely use the arable fields for foraging only. The site itself does not provide suitable breeding habitat for lesser black-backed gull which prefer cliffs, beaches, shingle islands, moorland and buildings (usually with a flat roof). This BoCC Amber listed species were recorded flying over the site and on land within; it is recommended that areas of POS would benefit foraging lesser black-backed gulls. However, it is considered likely that the development would not impact the local population status of these gulls.
- **Mallard** (*Anas platyrhynchos*) were recorded during all four survey visits, using the wet marsh at the northern section of the site. However, as the stream and wetland areas will be retained and enhanced as part of the proposed development, it is considered unlikely the local population will be impacted. Potential impacts and mitigation measures are discussed in Section 5.
- **Stock dove** (*Columba oenas*) were recorded flying over the site only and are considered unlikely to be breeding at the site due to the lack of suitable nesting sites and would likely use the fields and surrounding arable fields for foraging only. It is considered likely that the development would not impact the local population status of this species.

- **Snipe** (*Gallinago gallinago*) were recorded on 7th April in good numbers, totalling over twenty birds. These small flocks of snipe were recorded in the wet marsh to the northern boundary, which represents an important habitat for wintering snipe. It is likely that the development would have an impact on the local population of wintering snipe. However, as the stream and wetland areas will be retained and enhanced as part of the proposed development, it is considered unlikely the local population will be impacted.
- A **tawny owl** (*Strix aluco*) was recorded on 30th June; the individual was audible for only a short period which was considered to be present within or close to the boundary trees on the southern boundary, which could provide suitable breeding habitat. Potential impacts and mitigation measures are discussed in Section 5.

4.5 Schedule 1 Species

One Schedule 1 Species was recorded using the site as follows:

- A single **red kite** (*Milvus milvus*) was observed on 30th June; flying west over the western section of the site. Red kites breed within Sussex in small numbers and prefer to nest in large undisturbed deciduous and coniferous woodlands. It is considered unlikely that red kites are breeding on the site and with which it is likely that the development would not have an impact on the local population of red kite.

4.6 Local Biodiversity Action Plan (LBAP) Species

During the four breeding bird survey visits, the following LBAP species were recorded: herring gull, house sparrow, lapwing, linnet, skylark, song thrush and starling. For all seven species, potential impacts and mitigation recommendations have been discussed in Section 4.2.

- 4.7 All birds were found to be using most habitats found on site; mostly boundary vegetation (including trees, hedgerows and scrub). A large proportion of the recorded activity was singing and foraging and situated in-and-around the wet marsh at the northern section of the site. Other breeding activity, such as active nests and carrying food and material, was noted, suggesting that a

number of species were using the proposed development site for breeding. Table 3 shows the likelihood of bird species breeding on site.

Table 3: Likelihood of species breeding on site:

Species	Breeding status on site			
	Confirmed	Likely	Possible	Unlikely
Blackcap		✓		
Blackbird	✓			
Blue tit		✓		
Buzzard			✓	
Canada goose			✓	
Carrion crow		✓		
Chaffinch		✓		
Chiffchaff			✓	
Coal tit			✓	
Collared dove		✓		
Duncock	✓			
Feral pigeon				✓
Goldcrest				✓
Goldfinch		✓		
Great spotted woodpecker			✓	
Great tit		✓		
Greenfinch		✓		
Green woodpecker			✓	
Grey heron				✓
Herring gull				✓
House sparrow			✓	
Jackdaw		✓		
Kestrel			✓	
Lapwing				✓
Lesser black-backed gull				✓
Lesser whitethroat		✓		
Linnet		✓		
Little egret				✓
Magpie	✓			
Mallard		✓		
Moorhen		✓		
Pheasant		✓		
Red kite				✓

Species	Breeding status on site			
	Confirmed	Likely	Possible	Unlikely
Reed warbler			✓	
Robin		✓		
Rook				✓
Skylark			✓	
Snipe				✓
Song thrush		✓		
Stock dove		✓		
Starling			✓	
Swallow			✓	
Swift				✓
Tawny owl				✓
Whitethroat		✓		
Woodpigeon	✓			
Wren		✓		

5 ENHANCEMENTS AND MITIGATION

- 5.1 The area that holds the wet marsh to the northern section of the site, including mature trees, hedgerows, hedgerow margins and scrub should be retained and enhanced by the development. Enhancements are also recommended at all boundaries of the development, in which to maintain breeding, foraging and commuting habitat for birds, particularly over-wintering snipe in early spring. These areas should be retained and managed for priority bird species such as dunnock, linnet and song thrush.
- 5.2 If possible, some areas should include the seeding of specific seed producing and invertebrate encouraging wildflowers, particularly at the boundaries, combined and managed in the long-term to retain currently established habitat suitable for nesting whitethroat, and to provide a mosaic of habitats throughout the site.
- 5.3 Additional hedgerow planting, and within gaps of existing hedgerows, would provide additional nesting and foraging opportunities for birds. Planting should include native fruit and nut bearing species such as hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*), wild cherry (*Prunus cerasifera*), guelder rose (*Viburnum opulus*), blackthorn and field maple (*Acer campestre*). This will also

compensate for the potential loss of hedgerow and scrub in other areas of the site.

- 5.4 Retained hedgerows should have a buffer of at least 5m to the proposed construction zone (where appropriate), to retain existing scrub and grassland margins for foraging birds. These should be suitably managed for foraging birds, such as starling, in the long term and included in a Landscape and Ecological Management Plan (LEMP).
- 5.5 Suitable areas within any POS should be managed as amenity grassland and wildflower areas as appropriate. This will maintain foraging opportunities for priority species, such as linnet and house sparrow. It is recommended that wildflower areas are managed appropriately in the long-term, particularly for foraging starling; this should include the seeding of specific seed producing and invertebrate encouraging wildflowers, and a suitable management regime to be detailed within the LEMP.
- 5.6 Suitable areas of POS should also be sown with fine grasses in addition to wildflower mixes, such as common bent (*Agrostis capillaris*), red fescue (*Festuca rubra*), hard fescue (*Festuca longifolia*) and smooth-stalked meadow grass (*Poa pratensis*). This would provide enhanced nesting habitat for ground nesting species such as skylark post-development. These areas should be fenced off to prevent dogs from entering. Clear mown pathways should be incorporated and maintained in these areas to encourage pedestrians to reduce disturbance to ground nesting birds.
- 5.7 Any proposed attenuation ponds and SUDS should be planted with marginal and aquatic species such as marsh marigold (*Caltha palustris*), bog bean (*Menyanthes trifoliata*), water forget-me-not (*Myositis scorpiodes*), common reed (*Phragmites australis*), reed canary grass (*Phalaris arundinacea*) and pendulous sedge (*Carex pendula*). This will create a valuable wetland area to attract invertebrates to the site to provide enhanced foraging habitat for swifts and mallard post-development.
- 5.8 Any vegetation clearance or management should be undertaken outside the breeding bird season, which is deemed to be March to September (weather dependant). Should vegetation removal be required during the nesting season,

a nesting bird check should be undertaken by a suitably qualified ornithologist no more than two days prior to works.

- 5.9 To mitigate for the loss of bird nesting opportunities on the site, a total of at least 20 bird boxes, of different varieties, should be installed on retained trees, proposed trees (if suitable) and new buildings within the development. It is recommended that bird boxes suitable for house sparrow (Schwegler 1SP), kestrel (Schwegler no.28), swifts (Schwegler 16S swift boxes), starling (Schwegler 3SV) and tawny owl nest box, are used, as these species are likely to use bird boxes on buildings and trees. A variety of standard bird boxes with different sized and shaped entrance holes should also be installed on retained mature trees along the boundaries to attract a greater diversity of birds to nest. Bird box installation should be conducted following the advice of an ornithologist once a proposed layout has been produced to ensure most appropriate locations and fixings. The LEMP should detail all necessary maintenance works for the nest boxes installed.
- 5.10 Planting within the development will be designed to maintain connectivity throughout the site for birds. This could include hedgerow planting at the boundaries or along access roads, and grouped tree or shrub planting to provide 'islands' of habitat within the development.

6 CONCLUSION

- 6.1 The birds identified during the survey were predominantly common species, both at a national and local (i.e. county) level. Nine SPIs were observed during the surveys, including; dunnoek, linnet and song thrush. Some of which are confirmed or likely to be breeding on site.
- 6.2 A single Schedule 1 species (red kite) was recorded during the breeding bird surveys, flying across the site. It is likely that the development would not have an impact on the local population of red kite.
- 6.3 Areas of higher quality foraging and nesting habitat, particularly the wet marsh habitat to the northern section of the site, as well as boundary vegetation, (including trees, hedgerows and scrub) are recommended for retention and suitable management and enhancement. Additionally, the loss of scrub,

hedgerows and hedgerow margins at the site should be mitigated for through hedgerow planting and incorporation of grassland and wildflower areas into POS.

- 6.4 Seven BoCC Red listed and Sussex LBAP species were recorded; herring gull, house sparrow, lapwing, linnet, skylark, song thrush and starling. It is considered that through enhancement of retained areas, buffers to retained hedgerows, compensatory hedgerow and scrub planting and provision of additional nesting opportunities, the likely loss of some areas of nesting and foraging habitat will be adequately mitigated for, and the value of the site for birds will be maintained and enhanced.

7 REFERENCES

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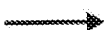
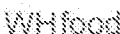
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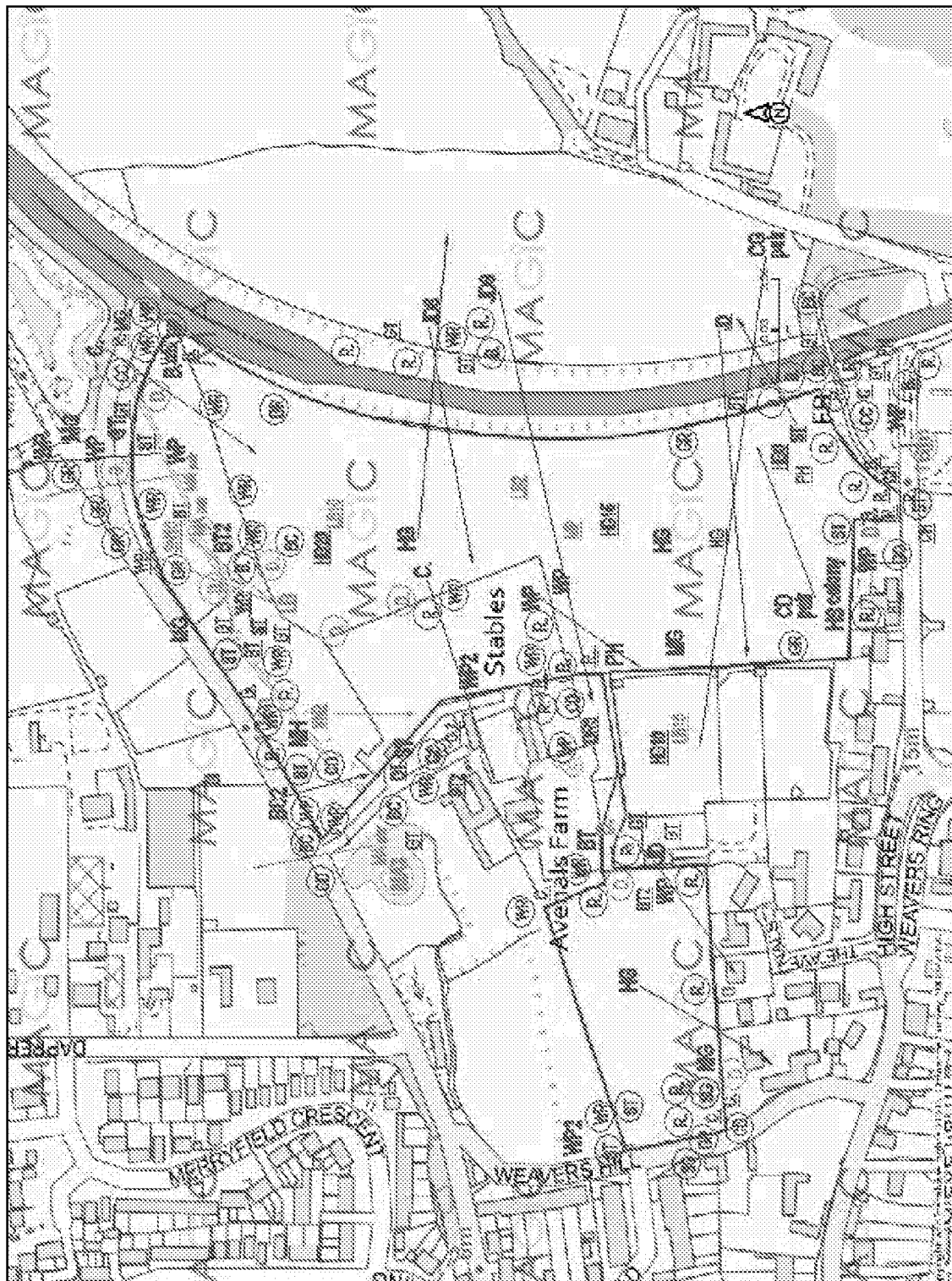
Appendix A: Plans showing bird activity

Species recorded during the four survey visits. The species codes used can be found in Table 1.

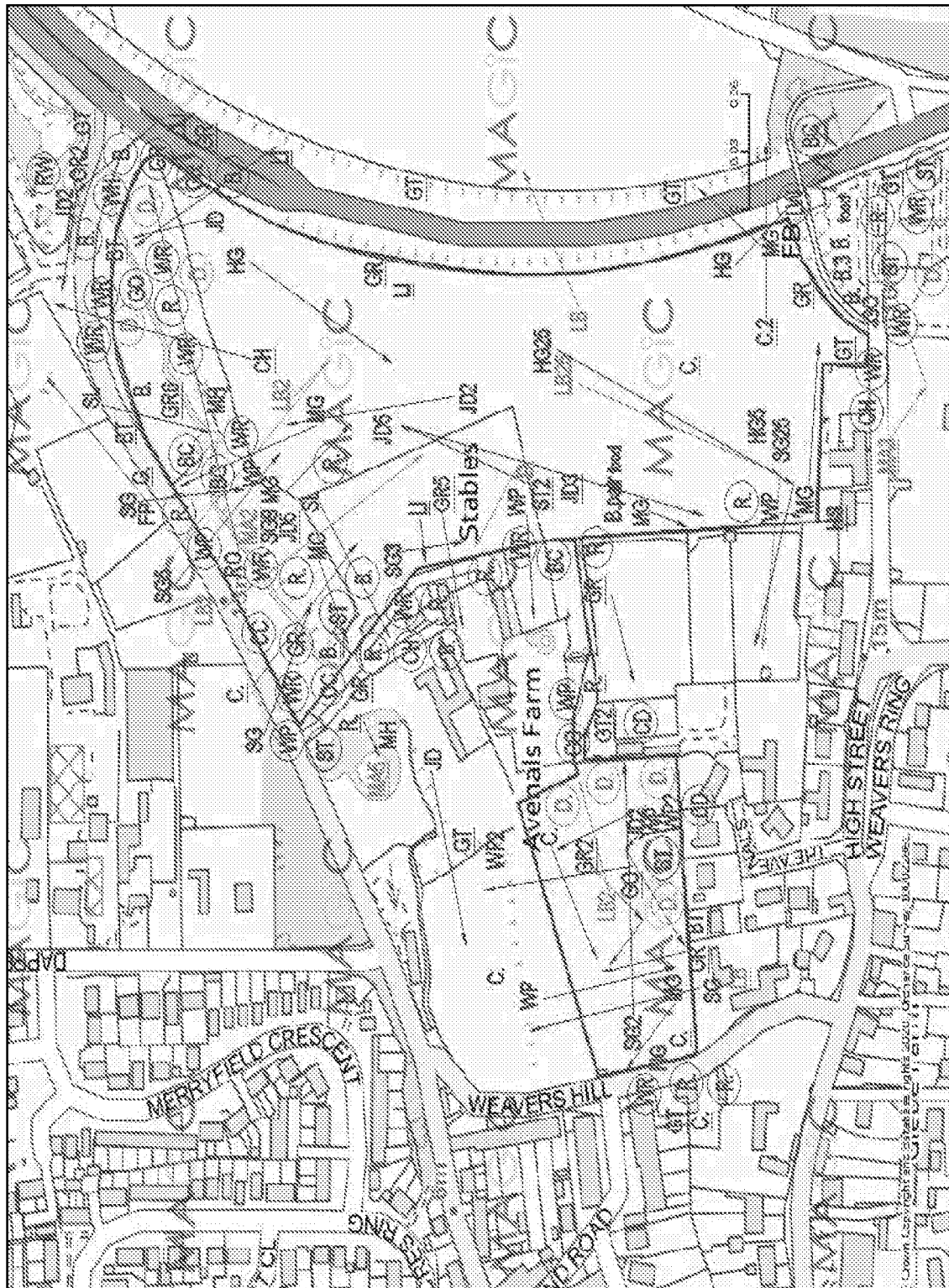
Map Key

BT	BoCC green listed species		Chaffinch singing
SI	BoCC amber listed species		Direction of flight
ST	BoCC red listed species		Probably the same bird
PH	BoCC unlisted species		Two dunnocks in song simultaneously (definitely different birds)
CH	Chaffinch calling		Skylark nest
R.juv	Juvenile robin		Whitethroat carrying food
2D.mat	Two dunnocks carrying nest material		Aggressive/territorial encounter between two skylarks
SS	A pair of skylarks		
LTfam	Juvenile long-tailed tits with parents in attendance		

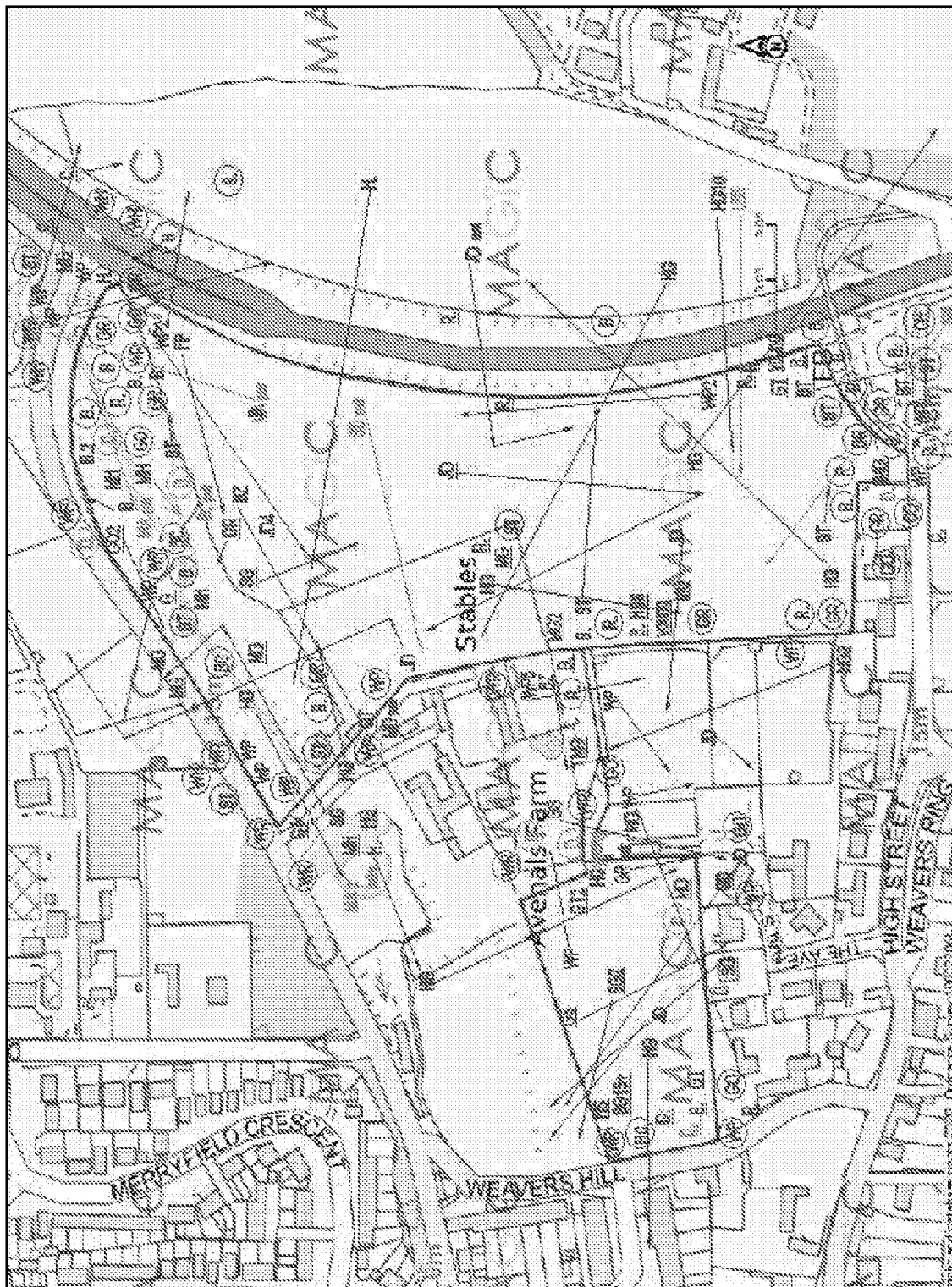
Visit 1: 7th April 2020



Visit 2: 30th April 2020



Visit 3: 22nd May 2020



Visit 4: 30th June 2020

