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WARREN HALL, BROUGHTON BREEDING BIRD SURVEY 2018

TEP Technical Report March 2019

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Drawings

G7016.002 Breeding Bird Survey Visit 1 11.05.2018

G7016.003 Breeding Bird Survey Visit 2 01.06.2018

G7016.004 Breeding Bird Survey Visit 3 27.06.2018

1.0 General Details

-	
Central NGR	SJ 32408 62514
Site Location	Warren Hall, Broughton
Date(s)	Visit 1 = 11/05/2018 Visit 2 = 01/06/2018 Visit 3 = 27/06/2018
Surveyor(s)	Mike Walker, Lee Greenhough, Richard Castell
	1st visit - Dry, cloudy, light breeze
Weather	2nd visit – Dry, fair, bright
	3rd visit - Dry, bright, light breeze, warm
Methods	Three morning survey visits using transect method, including a buffer extending 100m around the site boundary.
Seasonal Constraints	The survey was undertaken during the optimum breeding bird survey period. There are no constraints associated with the survey.
	G7016.002 Breeding Bird Survey Visit 1 11.05.2018
Drawing References	G7016.003 Breeding Bird Survey Visit 2 01.06.2018
	G7016.004 Breeding Bird Survey Visit 3 27.06.2018

2.0 Introduction

- 2.1 TEP was commissioned by Welsh Assembly Government in April 2018, to carry out a series of ecological surveys to feed into an Ecological Assessment at Warren Hall, Broughton, Wales, hereafter referred to as 'the site'.
- 2.2 This breeding bird survey comprises one of these elements of the commissioned work.
- 2.3 The drawings for the breeding bird survey include two boundaries, the site boundary (S) and a 100m offset buffer (SBU). Drawings G7016.002 to G7016.004 illustrate these boundaries as well as the results of each visit of the survey.

Site Location and Description

- 2.4 The site is located east of Penymynydd, south of the A55 and Broughton. The central grid reference is SJ 32408 62514. The site is immediately bounded by the A5104 to the north, Kinnerton Lane to the south west, and Leicester Lane to the west. The site border dips around the grounds of Warren Hall to the north. Farmland surrounds the site.
- 2.5 The site consists of a series of poor semi-improved grassland fields, with an area of plantation mixed woodland in the north of the site and an area of plantation broad-leaved woodland in the south of the site. The plantation broad-leaved woodland has numerous patches of bluebells, an ancient woodland indicator species in the west with a body of running water running west to east through this. A body of standing water lies within the site south of Warren Hall. This standing water is surrounded by plantation broad-leaved woodland and is connected to the mixed plantation woodland by an area of marsh/marshy grassland. Most of the fields are bordered by species-poor intact hedgerows, with some fencing and the site perimeter is bordered mostly by native species-rich intact hedgerow. There are scattered trees across the site, mostly along the filed boundaries.
- 2.6 The surrounding landscape comprises farmland with some small settlements to the south and west, and Broughton village to the north-east of the A55.

Pre-existing Site Data

- 2.7 Desktop records of protected or notable bird species recorded within a 1km radius of the site were gathered from the Cofnod North Wales Environmental Information Services in June 2018. Bird species classed as notable are those listed on any of the following:
 - Schedule 1 of the Wildlife and Countryside Act 1981, as amended (WCA1)



- Species of principal importance under Section 7 of the Environment (Wales) Act 2016 (S7)
- Red and Amber listed Bird of Conservation Concern (BoCC) UK species (BRd/ BAm) (Eaton *et al.* 2015)
- Red and Amber listed Bird of Conservation Concern (BoCC) in Wales (Bam/ BRd – Wales) (RSPB, 2016)
- 2.8 There are historical records of 42 notable bird species that have been recorded within 1 km of the site. The birds identified within these records are
 - Barn Owl (WCA1)
 - Black-headed Gull (S7, BAm, BRd -Wales)
 - Bullfinch (S7, BAm, BRd -Wales)
 - Common Gull (BAm, BRd -Wales)
 - Curlew (S7, BRd, BRd Wales)
 - Dunnock (S7, BAm)
 - Grey Partridge (S7, BRd, BRd -Wales)
 - House Martin (BAm)
 - Kestrel (S7, BAm, BRd Wales)
 - Lapwing (S7, BRd, BRd Wales)
 - Lesser Black-backed Gull (BAm, BAm - Wales)
 - Lesser Spotted Woodpecker (S7, BRd, BRd - Wales)
 - Linnet (S7, BRd, BRd Wales)
 - Long-tailed Tit (BAm Wales)

- Mallard (BAm, BAm Wales)
- Meadow Pipit (BAm, BAm Wales)
- Red Kite (WCA1, BAm Wales)
- Redwing (S7, BAm, BAm Wales)
- Reed Bunting (S7, BAm, BAm -Wales)
- Skylark (S7, BRd, BAm Wales)
- Song Thrush (S7, BRd, BAm Wales)
- Starling (S7, BRd, BRd Wales)
- Swift (BAm, BAm Wales)
- Tree Sparrow (S7, BRd, BRd -Wales)
- Whitethroat (BRd Wales)
- Woodcock (BRd, BRd Wales)
- Yellowhammer (S7, BRd, BRd -Wales)

3.0 Method

- 3.1 The survey was carried out applying methods based on the standard breeding bird survey and common bird census methods developed by the British Trust for Ornithology (Gilbert *et al.* 1998).
- 3.2 Visits were carried out in the morning period, starting at least half an hour after dawn. Each survey visit was carried out approximately 4 weeks apart, over the period May to June.
- 3.3 Bird species and activity patterns were recorded and mapped using standard BTO symbology.
- 3.4 Three survey visits were undertaken using pre-determined transect routes to cover the entire site.
- 3.5 Bird species within the 100m surrounding the site boundary were also recorded during the survey, as a proportion of the bird's foraging or nesting habitat is likely to be within the site.



4.0 Results

Visit	Date	Start Time	Finish Time
Visit 1	25/04/2018	06:00	07:30
Visit 2	22/05/2018	06:00	07:30
Visit 3	19/06/2018	06:30	08:00

Table 1: Counts of bird species recorded during the 2018 breeding bird season, including conservation and likely breeding status.

Species	Vi	sit 1	Vi	sit 2	Vi	isit 3	Status		Breeding b. of pairs)
	S	SBU	S	SBU	S	SBU		S	SBU
Blackbird	14	19	6	9	11	12		C (3), Pr (3)	C (3), Pr (4)
Blackcap	7	9	4	4	6	7		Pr (4)	Pr (4)
Black-headed Gull			1	1			S7, BAm, BRd - Wales	N	Ν
Blue Tit	11	16	7	9	10	13		C (4), Pr (3)	C (4), Pr (5)
Bullfinch	1	2		1	2	2	S7, BAm, BRd - Wales	Pr (1)	Pr (2)
Buzzard	1	1	2	2	6	7		Pr (1)	Pr (1)
Canada Goose	7	7						Po	Po
Carrion Crow	9	9	1	2	7	7		C (1)	C (1)
Chaffinch	4	6	6	7	1	2		Pr (4)	Pr (6)
Chiffchaff	2	4	5	5	3	3		Pr (2)	Pr (4)



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Species	Vi	sit 1	Vi	sit 2	Vi	isit 3	Status		Breeding b. of pairs)
	S	SBU	S	SBU	S	SBU		S	SBU
Coal Tit			2	3	2	3		Pr (1)	Pr (2)
Collard Dove				3	2	7		Po	Pr (2)
Dunnock	7	8	6	6	5	6	S7, BAm	Pr (3)	Pr (3)
Goldcrest	2	2	1	3	3	3		Pr (2)	Pr (2)
Goldfinch	1	1	4	4	5	7		C (1) Pr (1)	C (1) Pr (2)
Great Spotted Woodpecker	5	5	2	2	7	9		C (1), Pr (1)	C (1), Pr (1)
Great Tit	9	13	5	10	6	12		C (1), Pr (3)	C (3), Pr (3)
Greenfinch				1		1		N	Po
Greylag Goose	6	6					BAm	Po	Po
Hobby					1	1	WCA1	C (1)	C (1)
House Martin			2	4		2	BAm	N	C (1)
House Sparrow	2	5			5	5	S7, BRd, BAm - Wales	N	Pr (col)
Jackdaw	28	28	32	33	10	30		Pr (col)	Pr (col)
Jay	2	2	2	2	2	2		Pr (1)	Pr (1)
Kestrel			1	1	1	1	S7, BAm, BRd - Wales	Pr (1)	Pr (1)



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Species	Vi	sit 1	Vi	sit 2	V	isit 3	Status		Breeding b. of pairs)
opeoles	S	SBU	S	SBU	S	SBU		S	SBU
Lapwing	5	5	11	11	1	1	S7, BRd, BRd - Wales	C (1), Pr (1)	C (1), Pr (1)
Lesser Black- backed Gull					2	2	BAm, BAm - Wales	N	Ν
Lesser Whitethroat	1	1	1	1	2	3		Pr (1)	Pr (1)
Long-tailed Tit	1	1	2	2			BAm - Wales	Pr (1)	Pr (1)
Magpie	3	4	4	4	6	8		Pr (2)	Pr (3)
Mallard	8	8	2	2	1	1	BAm, BAm - Wales	C (1)	C (1)
Mandarin Duck					1	3		Po	Po
Mistle Thrush	3	6	2	2	4	4	BRd, BAm - Wales	C (1) Pr (1)	C (1) Pr (1)
Moorhen			2	2				C (1)	C (1)
Nuthatch			1	2	4	6		Pr (1)	Pr (1)
Pheasant	2	2	1	2	1	2		Pr (1)	Pr (1)
Pied Wagtail			2	2				C (1)	C (1)
Raven			1	1				Ν	Ν
Red-Legged Partridge	1	1	2	2				Pr (1)	Pr (1)
Robin	10	12	8	12	4	4		Pr (5)	Pr (8)



Species	Vi	sit 1	Vi	sit 2	Vi	isit 3	Status		Breeding b. of pairs)
	S	SBU	S	SBU	S	SBU		S	SBU
Rook			12	18	8	18		Ро	Pr (col)
Song Thrush	1	3	2	3	3	4	S7, BRd, BAm - Wales	C (1)	C (1) Pr (1)
Sparrowhawk	1	1	1	1	1	1		Pr (1)	Pr (1)
Spotted Flycatcher			1	1			S7, BRd, BRd - Wales	C (1)	C (1)
Starling	4	4	12	13			S7, BRd, BRd - Wales	Pr (2)	Pr (2)
Stock Dove					8	8	BAm	Po	Po
Swallow	1	1	6	10	5	6		Po	Pr (col)
Swift			1	1			BAm, BAm - Wales	Ν	Po
Tawny Owl			1	1			BAm	Ро	Po
Treecreeper	2	2	2	2	1	1		Pr (1)	Pr (1)
Tufted Duck					1	1		Po	Po
Whitethroat			2	3			BRd - Wales	Po	Po
Willow Warbler			1	1			BAm, BRd -Wales	Po	Po
Wood Pigeon	14	19	14	16	15	18		C (1), Pr (4)	C (1), Pr (4)
Wren	9	15	8	9	11	14		C (1), Pr (4)	C (1), Pr (4)



Species	Visit 1		Visit 2 Visit 3		isit 3	Status	Likely B Status (No	breeding b. of pairs)	
	S	SBU	S	SBU	S	SBU	Status	S	SBU
Total Species	34	34	44	47	39	40			·

S: Site; SBU: Site including 100m buffer

Status Key: WCA1 = Schedule 1, S7 = Section 7; BRd = BoCC Red List; BAm = BoCC Amber List. **Likely Breeding Status Key:** C = Confirmed, Pr = probably breeding within site, Po = possibly breeding within site, N = not breeding within site.

Results Summary

- 4.1 The breeding bird survey has been conducted to identify areas of importance for birds and any constraints concerning birds for the proposed residential development. The results of the survey are shown in drawings G7016.002, G7016.003 and G7016.004.
- 4.2 There are historic records of 27 notable species (species classed as S7, BRd, BAm, BRd Wales, BAm Wales) that have been recorded within 1km of the site. Thirteen of these species, black-headed gull, bullfinch, dunnock, greylag goose, house martin, house sparrow, kestrel, lapwing, lesser black-backed gull, long-tailed tit, mallard, mistle thrush, song thrush, spotted flycatcher, starling, stock dove, swift, tawny owl, whitethroat, and willow warbler were recorded within the site and/or 100m survey buffer during the 2018 breeding bird survey.
- 4.3 A total of 55 species were recorded within the site boundary and 100m buffer during the breeding bird survey; 34 species in visit one, 46 species in visit two and 40 species in visit three.
- 4.4 One Schedule 1 species, hobby, was recorded to breed within the site during the breeding bird survey. This species was recorded to nest within a tree within the centre of the site.
- 4.5 During the breeding bird survey, nine S7 species were recorded within the site buffer.
- 4.6 Seventeen bird species were confirmed to be breeding within the site boundary and 100m buffer. These are blackbird, blue tit, carrion crow, goldfinch, great spotted woodpecker, great tit, hobby, house martin, lapwing, mallard, mistle thrush, moorhen, pied wagtail, song thrush, woodpigeon and wren.
- 4.7 With regards to notable bird species, 1 pair of hobby, 1 pair of lapwing, 1 pair of mallard, 1 pair of mistle thrush, 1 pair of song thrush and 1 pair of spotted flycatcher, were confirmed to nest within the site itself.



4.8 Twenty four probable breeding species were recorded within the site and 100m buffer during the breeding bird survey, of which bullfinch, dunnock, house sparrow, kestrel and long-tailed tit are considered notable.

5.0 Evaluation and Recommendations

- 5.1 The 55 bird species recorded during the 2018 breeding bird survey within the site and site buffer represents a moderate to high species diversity.
- 5.2 Fuller (1980) devised a method of classifying the ornithological interest of sites for conservation based on three site attributes: population size, rarity and diversity.
- 5.3 No significant breeding bird concentrations (i.e. 1% or more of the national breeding population) or nationally rare breeding bird species (i.e. between 1 and 1,000 breeding pairs) (Musgrove *et al.* 2013) were recorded during the survey.
- 5.4 The total number of confirmed, probable and possible breeding bird species recorded within a site also indicates its significance. Table 2 includes the breeding diversity criteria devised by Fuller.

Table 2: Significance of the total number of breeding species recorded at a site

Local	County	Regional	National
25-49	50-69	70-84	85+

- 5.5 Based on the above criteria, the 52 confirmed, probable and possible breeding bird species recorded within the site and 100m survey buffer would indicate it is at the lower end of county significance for breeding birds. The 48 confirmed, probable and possible breeding bird species recorded within the site itself indicates it is at the higher end of local significance for breeding birds.
- 5.6 The majority of bird species recorded during the survey are associated with nesting in trees, hedgerow and scrub, with some species nesting in the arable areas. The majority of birds noted during the survey were recorded within the woodland in the north of the site. The notable bird species recorded nesting within the site were recorded within the woodland and across the arable land.
- 5.7 The removal of hedgerows and trees will reduce the amount of breeding and nesting habitat available for these species and should be retained or replaced wherever possible. If trees are to be replaced or new hedgerows planted, they should include a range of native species to create a varied vegetation structure and suit a wider range of breeding bird species. Fruiting tree and shrub species and/or species that are attractive to insects will also provide additional foraging resources for numerous bird species.
- 5.8 The removal of arable land will reduce the amount of breeding and nesting habitat available for ground nesting species, including lapwing, a S7, BRd, BRd Wales species. The proposed plan will cause a loss of this habitat, which will result in ground nesting bird species dispersing to nearby habitat suitable for nesting.

5.9 Hobby is listed under Schedule 1 of the Wildlife and Countryside Act 1981, making it a criminal offence to disturb this species while nesting, including the dependant young once they have left the nest. An active hobby nest was noted in a tree along a field boundary in the southeast of the site during survey visit 3 on the 27th June 2018, with an aggressive encounter between an adult hobby and a kestrel also observed by the surveyor. The hobby breeding season is typically May to August inclusive but this can extend to mid-October for the dispersal of fledged young. Hobby are not known to be faithful to particular nest sites (Hardey *et al.* 2006).

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- 5.10 Prior to any works being undertaken during the hobby breeding season, a walkover survey should be carried out by an experienced ornithologist to determine if hobby are nesting at the site. If no nests are identified by mid-June it can be assumed that nesting has not taken place at the site.
- 5.11 If hobby nesting is noted at the site, any works within the vicinity will be subject to an ornithological watching brief to monitor breeding success and confirm that the hobby nest has not been disturbed as a result of the works. It will also be necessary to implement a buffer zone between the nest and the works, the buffer distance will be at least 100m but will be more if the works being undertaken have the potential to cause greater disturbance (e.g. piling). An experienced ornithologist will confirm the buffer distance and decide if visual and/or acoustic screening would need to be deployed to further minimise disturbance.
- 5.12 Hobbies breed within existing old large nests of other species (usually crow nests) of other species or squirrel dreys Hobby will nest within both urban and suburban habitats, and will nest in single trees, clumps of trees, lines of trees and small woodlands within 300m of an open space. Hobby have been recorded to use artificial nests such as basket nests (Hardey et al., 2006).
- 5.13 A nest box scheme undertaken as part of the development, including small nest boxes with holes and open fronted nest boxes, would provide additional nesting sites for a number of species such as blue tit and robin. House sparrow have been recorded to nest within surrounding habitat and therefore house sparrow terraces should be incorporated into the new development to encourage this notable bird species.
- 5.14 As part of the nest box scheme, basket nests will be placed in trees in suitable locations to encourage nesting hobby. Such suitable locations will be within 300m of open habitats and is likely to include the edge of the woodland within the centre of the site.
- 5.15 All wild birds and their nests and eggs are protected under the *Wildlife and Countryside Act 1981*, as amended. It is recommended that all tree and vegetation clearance across site avoids the core breeding bird season, March to August



inclusive; although bird nesting can take place outside this period. If vegetation clearance works are necessary during the core breeding bird season, or at any time when bird nesting is suspected, a nesting bird check of the affected area by an ecologist is required immediately prior to the clearance works taking place. This includes site preparation works within open fields where lapwing have been previously recorded to nest. Extensive clearance of potential bird nesting habitat is not always practical and development programmes should take this constraint into account.



6.0 References

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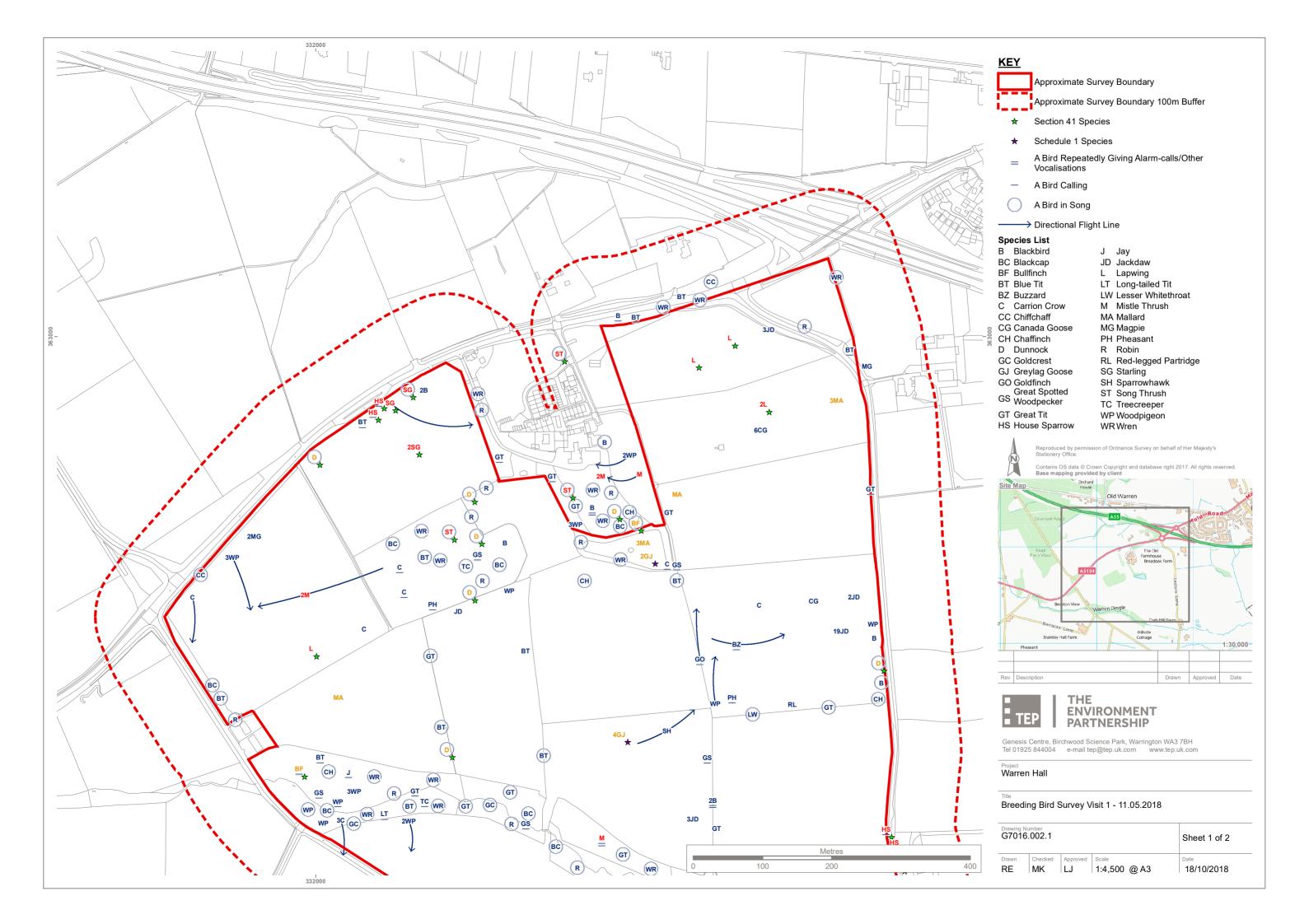
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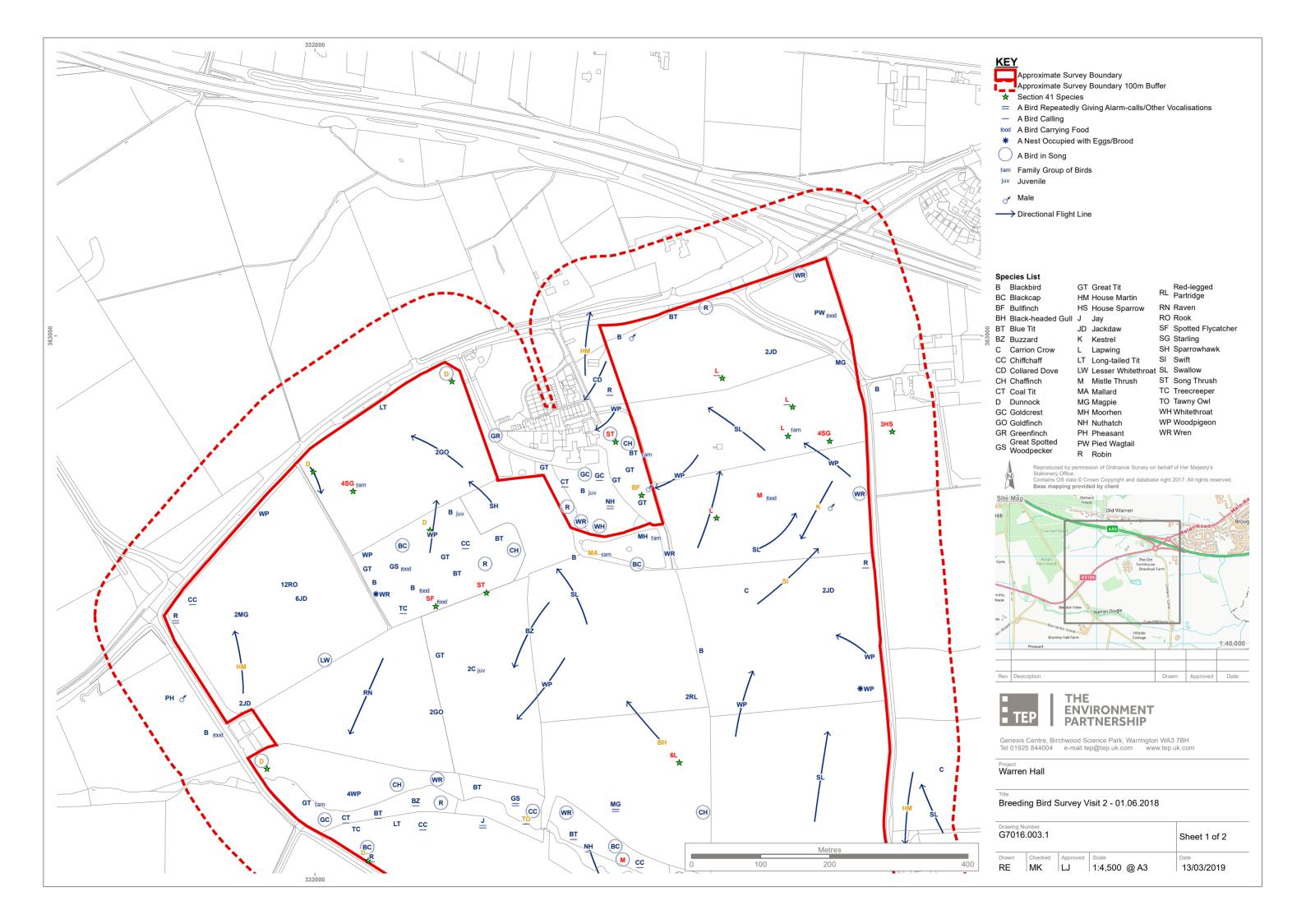
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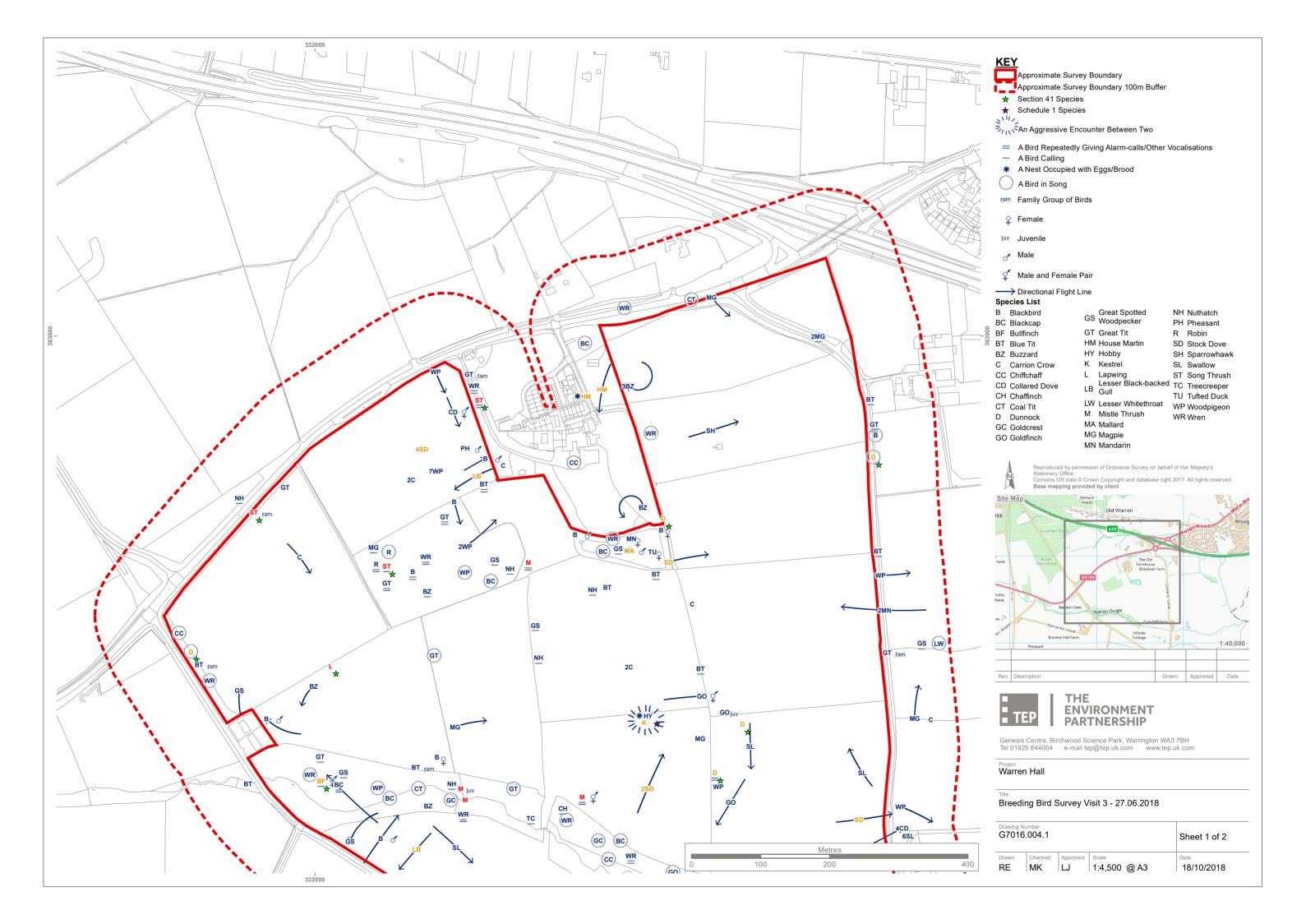


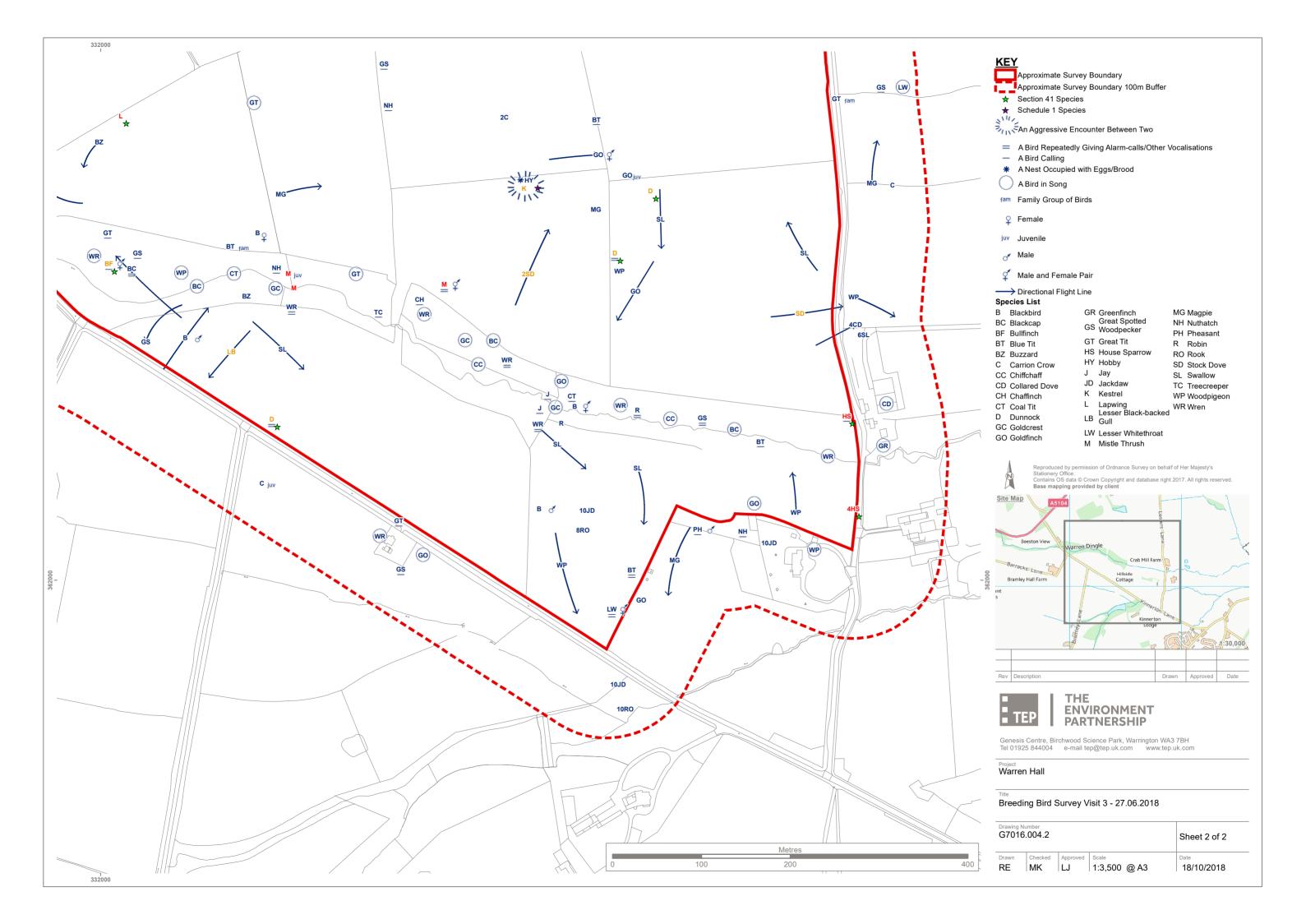
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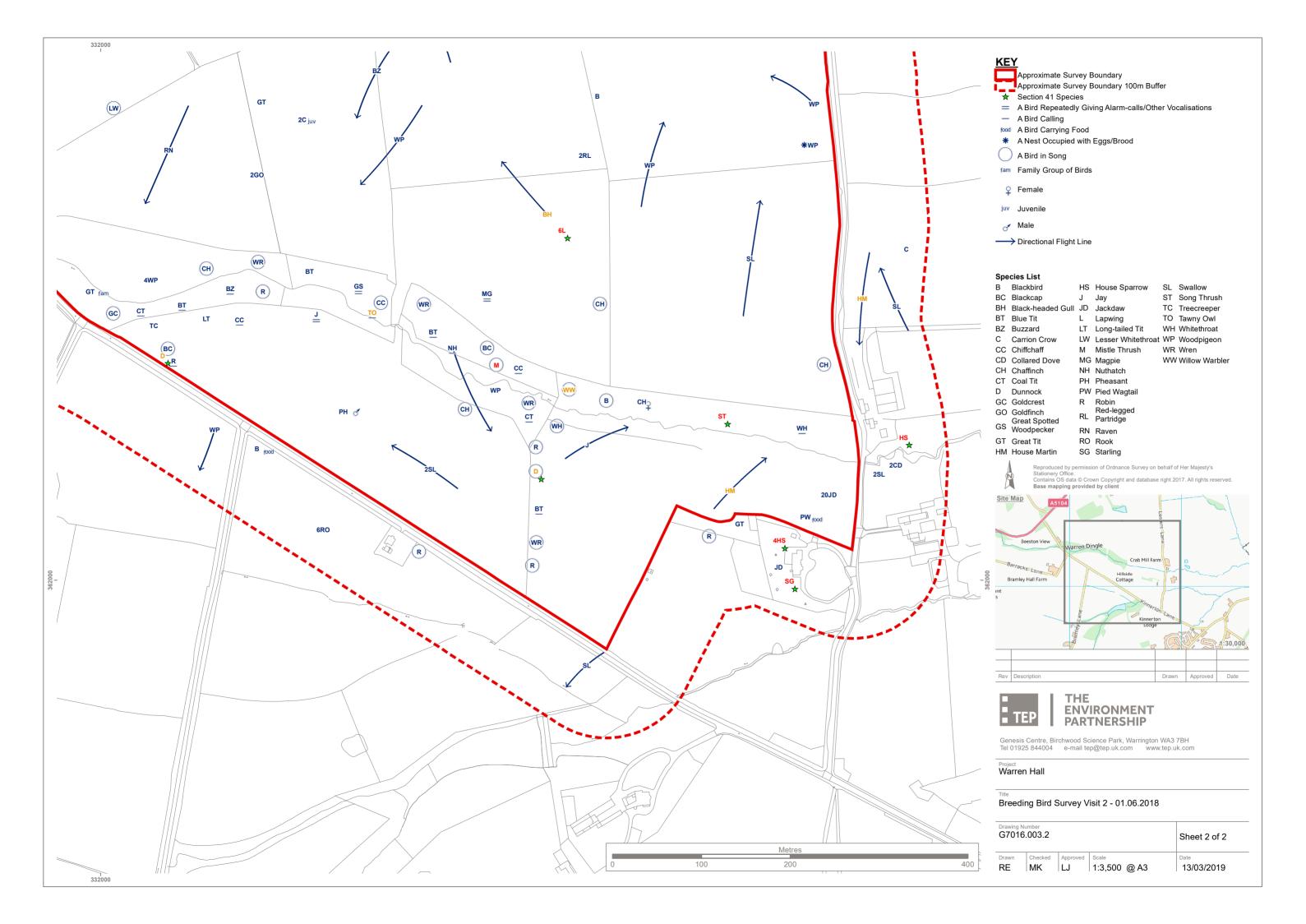
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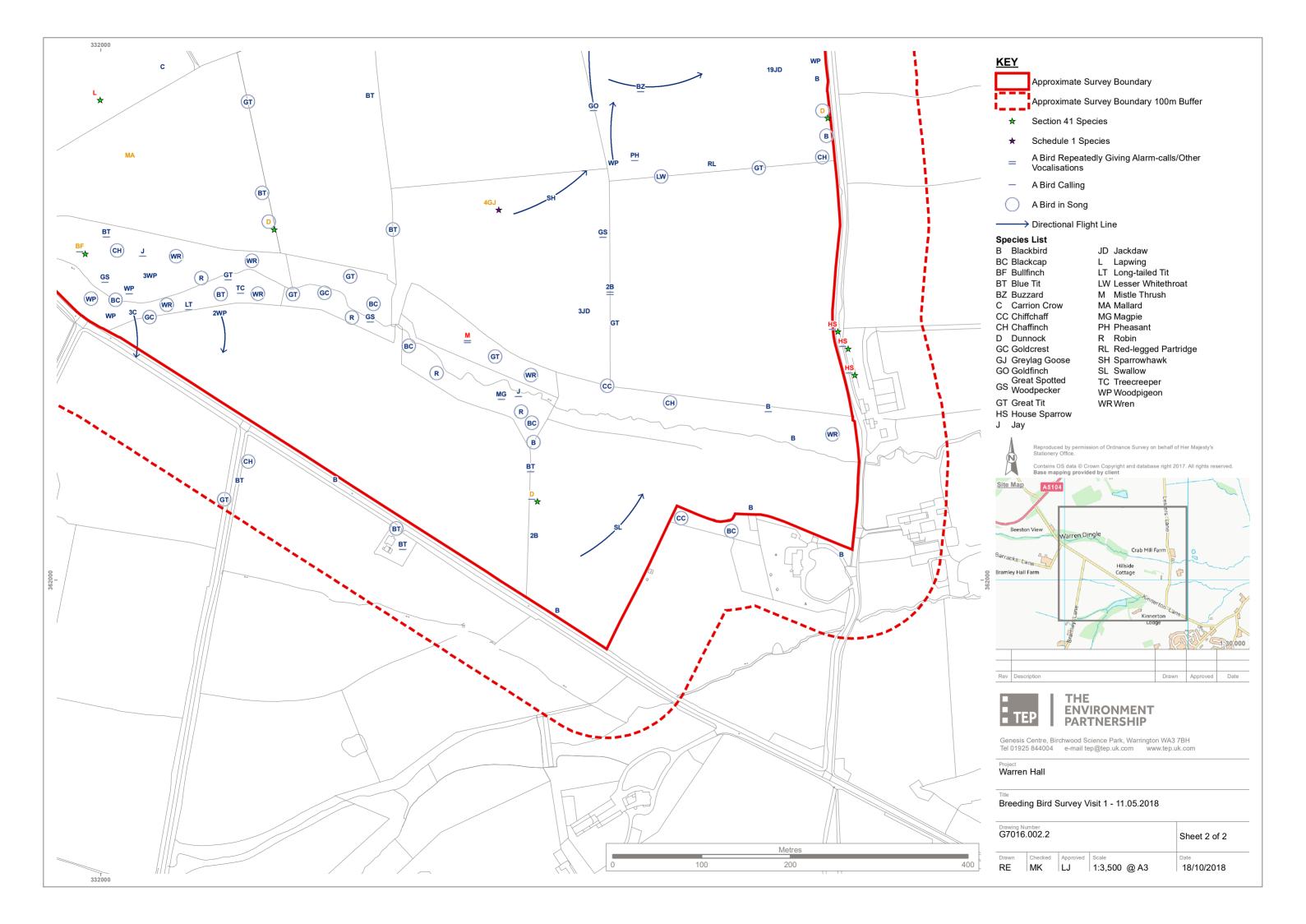














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