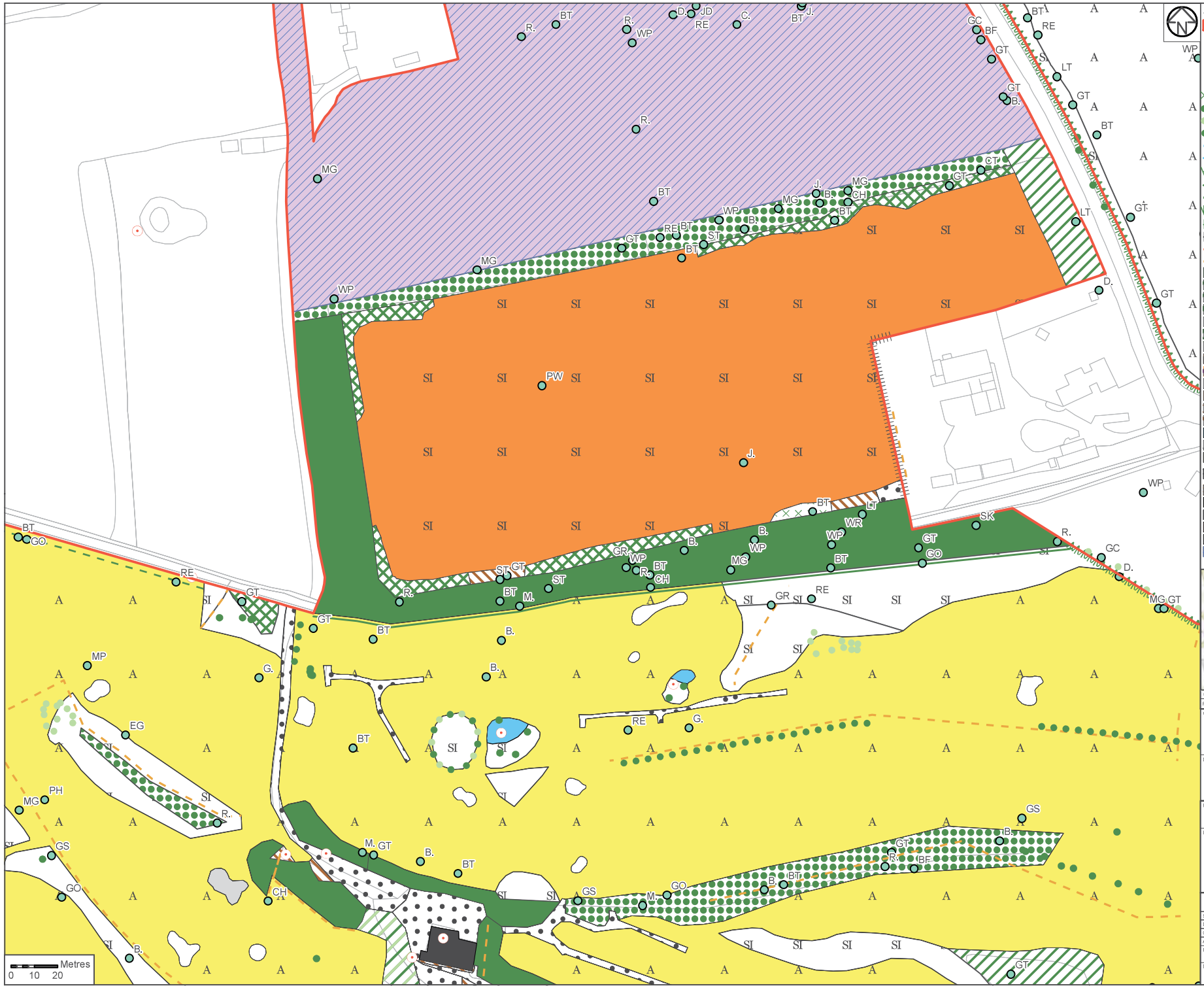

Legend

- Site Boundary
- All Wintering Bird Data with BTO Code
- Target note
- Scattered Scrub
- Broadleaved scattered trees
- Coniferous scattered trees
- Scrub - scattered
- Broadleaved Parkland/scattered trees
- Coniferous Parkland/scattered trees
- Mixed Parkland/scattered trees
- Standing water
- Running water
- Intact hedge - native species-rich
- Intact hedge - species-poor
- Defunct hedge - species-poor
- Hedge with trees - native species-rich
- Hedge with trees - species-poor
- Fence
- Wall
- Dry ditch
- Broadleaved woodland - semi-natural
- Broadleaved woodland - plantation
- Mixed woodland - plantation
- Scrub - dense/continuous
- Scrub - scattered
- Broadleaved Parkland/scattered trees
- Mixed Parkland/scattered trees
- Neutral grassland - semi-improved
- Marsh/marshy grassland
- Poor semi-improved grassland
- Bracken - continuous
- Bracken - scattered
- Other tall herb and fern - ruderal
- Standing water
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Cultivated/disturbed land - ephemeral/short perennial
- Introduced shrub
- Buildings
- Bare ground
- Sandpits
- Hardstanding
- Unable to

Sheet Location

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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client: Homes England

Designer: ARCADIS

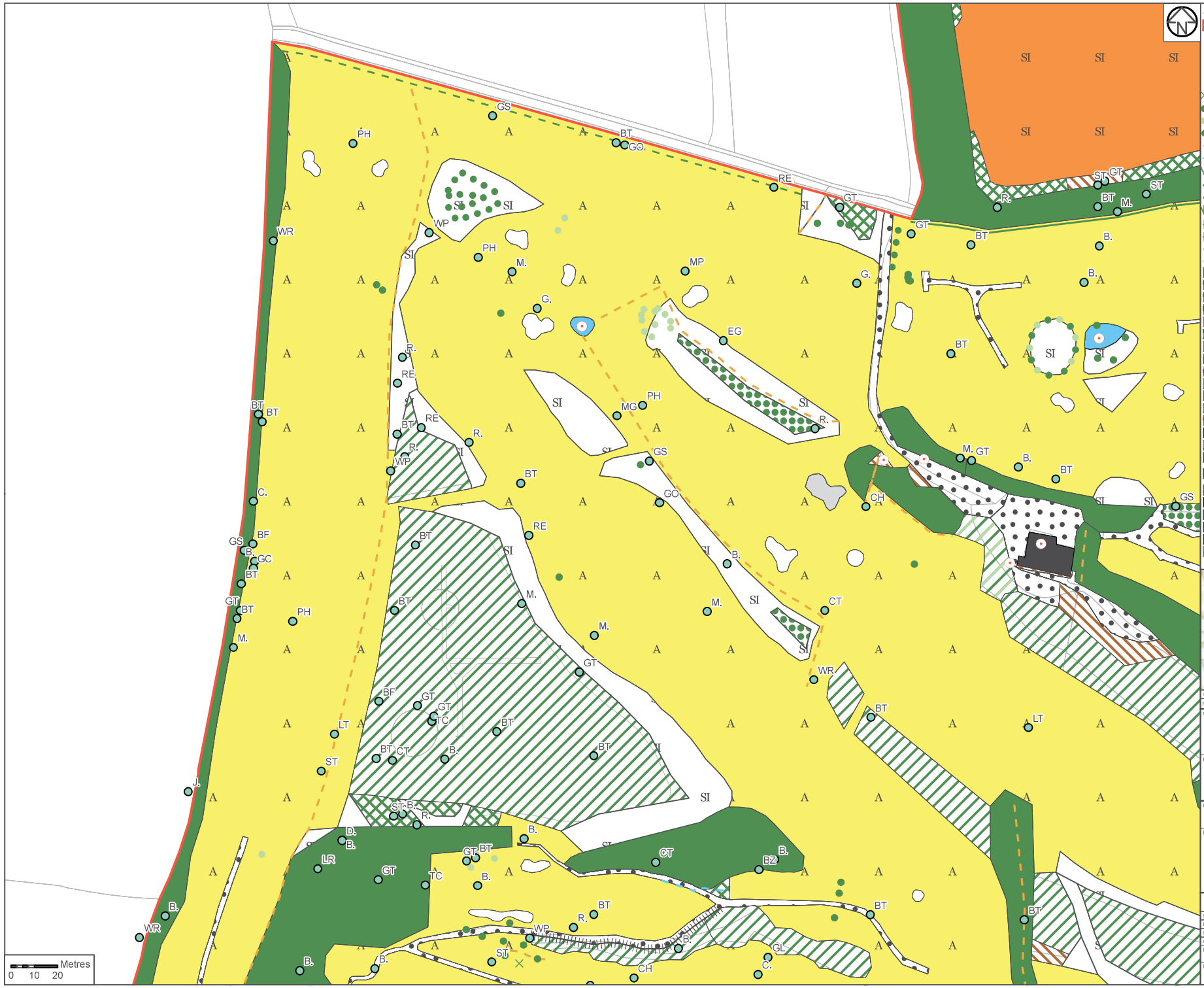
Registered office: Arcadis House, 34 York Way, London, N1 9AB
Coordinating office: 5th Floor, 401 Faraday Street, Birchwood, Warrington, WA3 6GA

Project: Land West of Ifield

Drawing Title: Figure 1 Summary of All Wintering Bird Survey Results (Page 16 of 22)

	Status: S2	Revision: 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

Drawing number: Hp File | Originator | Volume | Location | Type | Role | Number



Legend

- Site Boundary
- All Wintering Bird Data with BTO Code
- Target note
- Scattered Scrub
- Broadleaved scattered trees
- Coniferous scattered trees
- Scrub - scattered
- Broadleaved Parkland/scattered trees
- Coniferous Parkland/scattered trees
- Mixed Parkland/scattered trees
- Standing water
- Running water
- Intact hedge - native species-rich
- Intact hedge - species-poor
- Defunct hedge - species-poor
- Hedge with trees - native species-rich
- Hedge with trees - species-poor
- Fence
- Wall
- Dry ditch
- Broadleaved woodland - semi-natural
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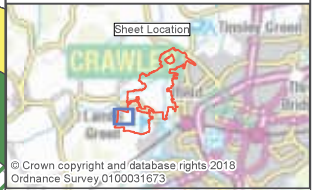
- Other tall herb and fern - ruderal
- Standing water
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Cultivated/disturbed land - ephemeral/short perennial
- Introduced shrub
- Buildings
- Bare ground
- Sandpits
- Hardstanding
- Unable to



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chk'd	Appr'd
01	S2	17-Jun-19	Initial issue	PN	BM	MG

Client: Homes England

Designer: ARCADIS

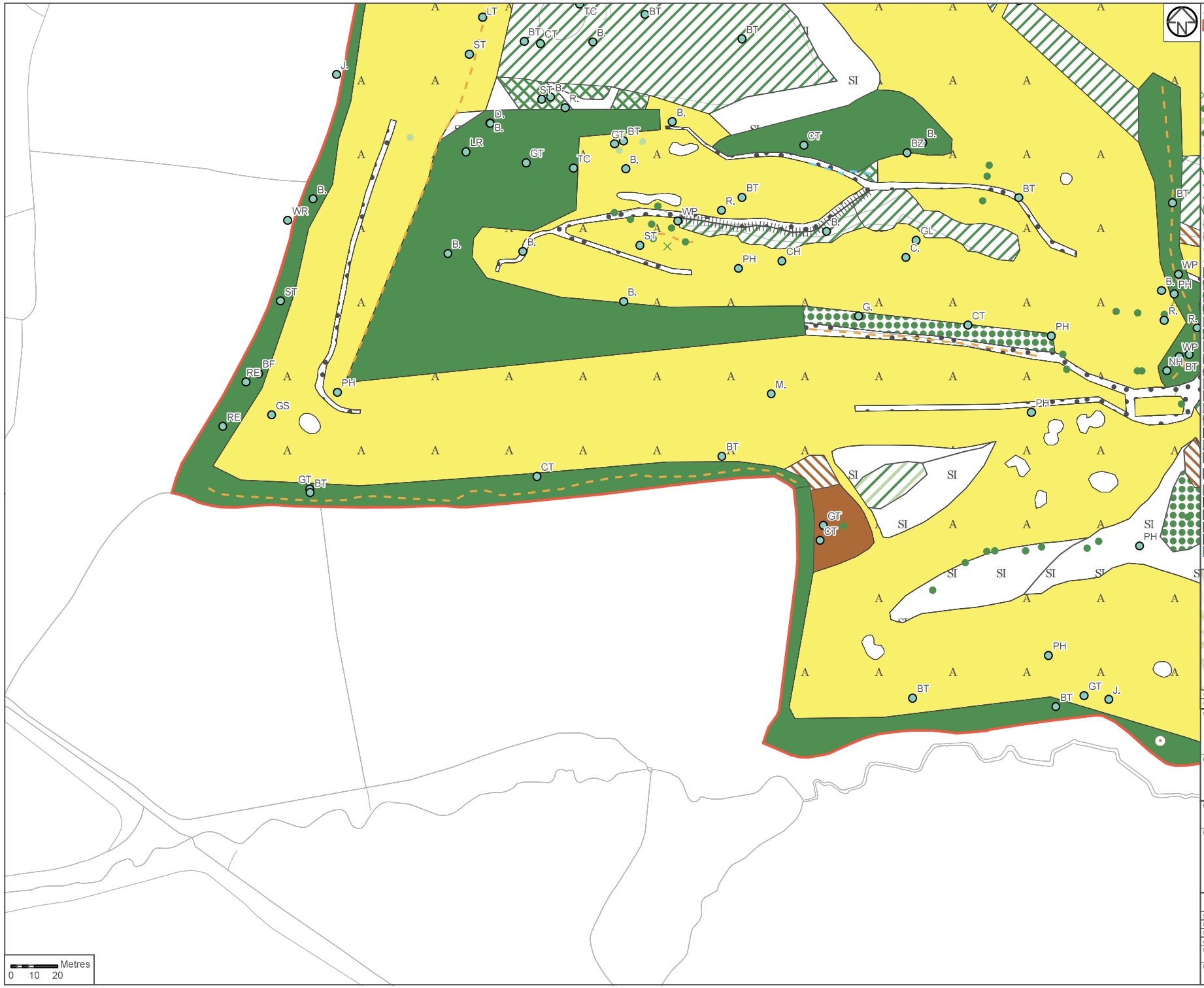
Registered office: Arcadis House, 34 York Way, London, N1 9AB
Coordinating office: 5th Floor, 401 Faraday Street, Birchwood, Warrington, WA3 6GA

Project: Land West of Ifield

Drawing Title: Figure 1 Summary of All Wintering Bird Survey Results (Page 17 of 22)

	Status: S2	Revision: 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

Drawing number: Hp File | Originator | Volume | Location | Type | Role | Number



Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client: Homes England

Designer: ARCADIS

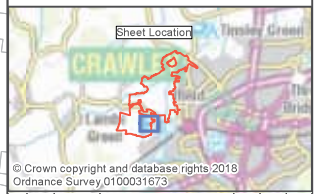
Project: Land West of Ifield

Drawing Title: Figure 1 Summary of All Wintering Bird Survey Results (Page 18 of 22)

	Status S2	Revision 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			
Drawing number	Hp Hlc	Originator	Volume	Location	Type	Role	Number

Legend

- Site Boundary
- All Wintering Bird Data with BTO Code
- Target note
- Scattered Scrub
- Broadleaved scattered trees
- Coniferous scattered trees
- Scrub - scattered
- Broadleaved Parkland/scattered trees
- Coniferous Parkland/scattered trees
- Mixed Parkland/scattered trees
- Standing water
- Running water
- Intact hedge - native species-rich
- Intact hedge - species-poor
- Defunct hedge - species-poor
- Hedge with trees - native species-rich
- Hedge with trees - species-poor
- Fence
- Wall
- Dry ditch
- Broadleaved woodland - semi-natural
- Broadleaved woodland - plantation
- Mixed woodland - plantation
- Scrub - dense/continuous
- Scrub - scattered
- Broadleaved Parkland/scattered trees
- Mixed Parkland/scattered trees
- Neutral grassland - semi-improved
- Marsh/marshy grassland
- Poor semi-improved grassland
- Bracken - continuous
- Bracken - scattered
- Other tall herb and fern - ruderal
- Standing water
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Cultivated/disturbed land - ephemeral/short perennial
- Introduced shrub
- Buildings
- Bare ground
- Sandpits
- Hardstanding
- Unable to



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial issue	PN	BM	MG

Client: Homes England

Designer: ARCADIS

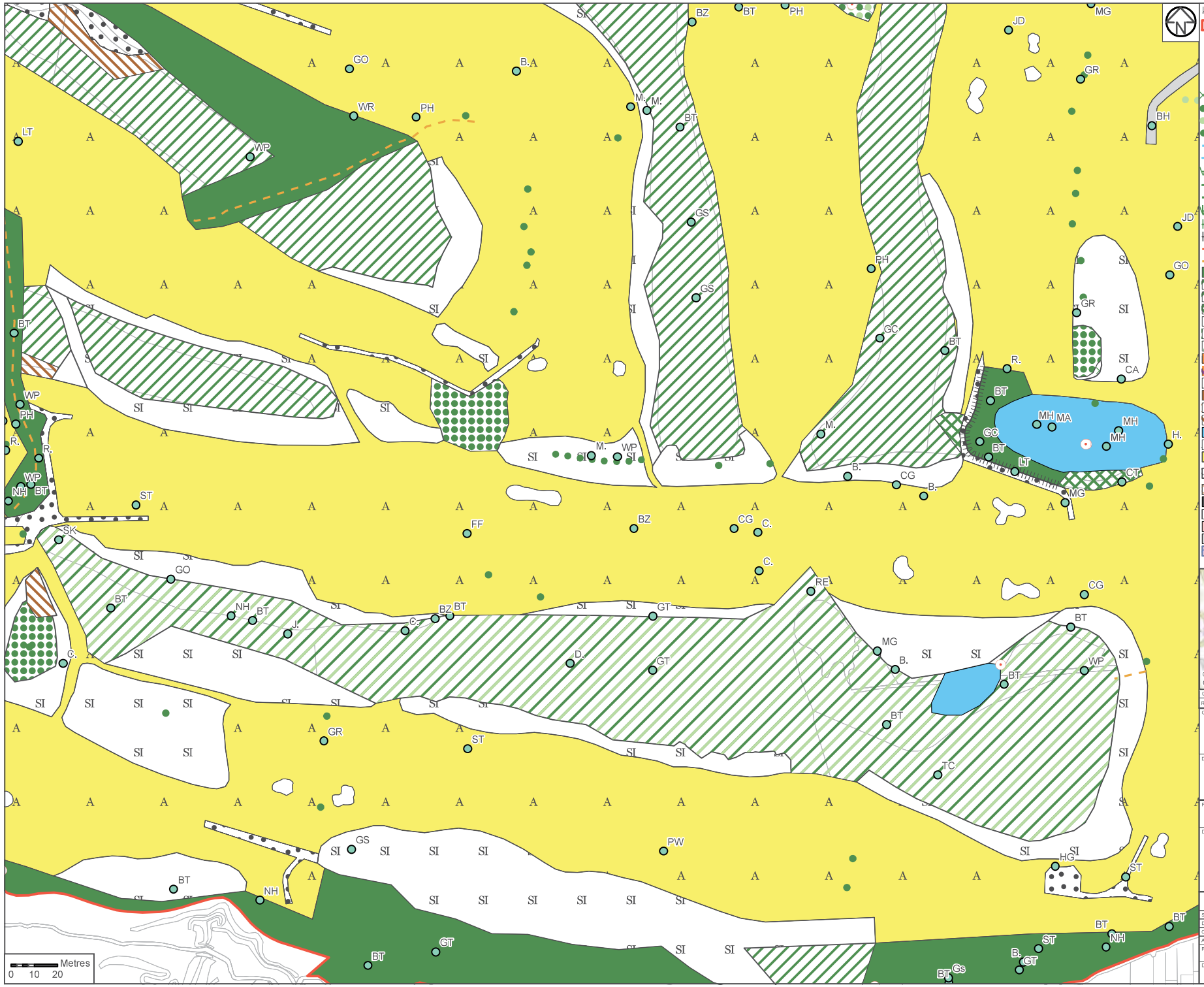
Registered office: Arcadis House, 34 York Way, London, N1 9AB
Coordinating office: 5th Floor, 401 Faraday Street, Birchwood, Warrington, WA3 6GA

Project: Land West of Ifield

Drawing Title: Figure 1 Summary of All Wintering Bird Survey Results (Page 19 of 22)

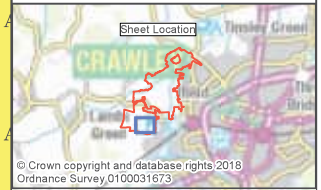
	Status: S2	Revision: 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

Drawing number: HE-Hle | Originator | Volume | Location | Type | Role | Number



Legend

- Site Boundary
- All Wintering Bird Data with BTO Code
- Target note
- Scattered Scrub
- Broadleaved scattered trees
- Coniferous scattered trees
- Scrub - scattered
- Broadleaved Parkland/scattered trees
- Coniferous Parkland/scattered trees
- Mixed Parkland/scattered trees
- Standing water
- Running water
- Intact hedge - native species-rich
- Intact hedge - species-poor
- Defunct hedge - species-poor
- Hedge with trees - native species-rich
- Hedge with trees - species-poor
- Fence
- Wall
- Dry ditch
- Broadleaved woodland - semi-natural
- Broadleaved woodland - plantation
- Mixed woodland - plantation
- Scrub - dense/continuous
- Scrub - scattered
- Broadleaved Parkland/scattered trees
- Mixed Parkland/scattered trees
- Neutral grassland - semi-improved
- Marsh/marshy grassland
- Poor semi-improved grassland
- Bracken - continuous
- Bracken - scattered
- Other tall herb and fern - ruderal
- Standing water
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Cultivated/disturbed land - ephemeral/short perennial
- Introduced shrub
- Buildings
- Bare ground
- Sandpits
- Hardstanding
- Unable to



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client: Homes England

Designer: ARCADIS

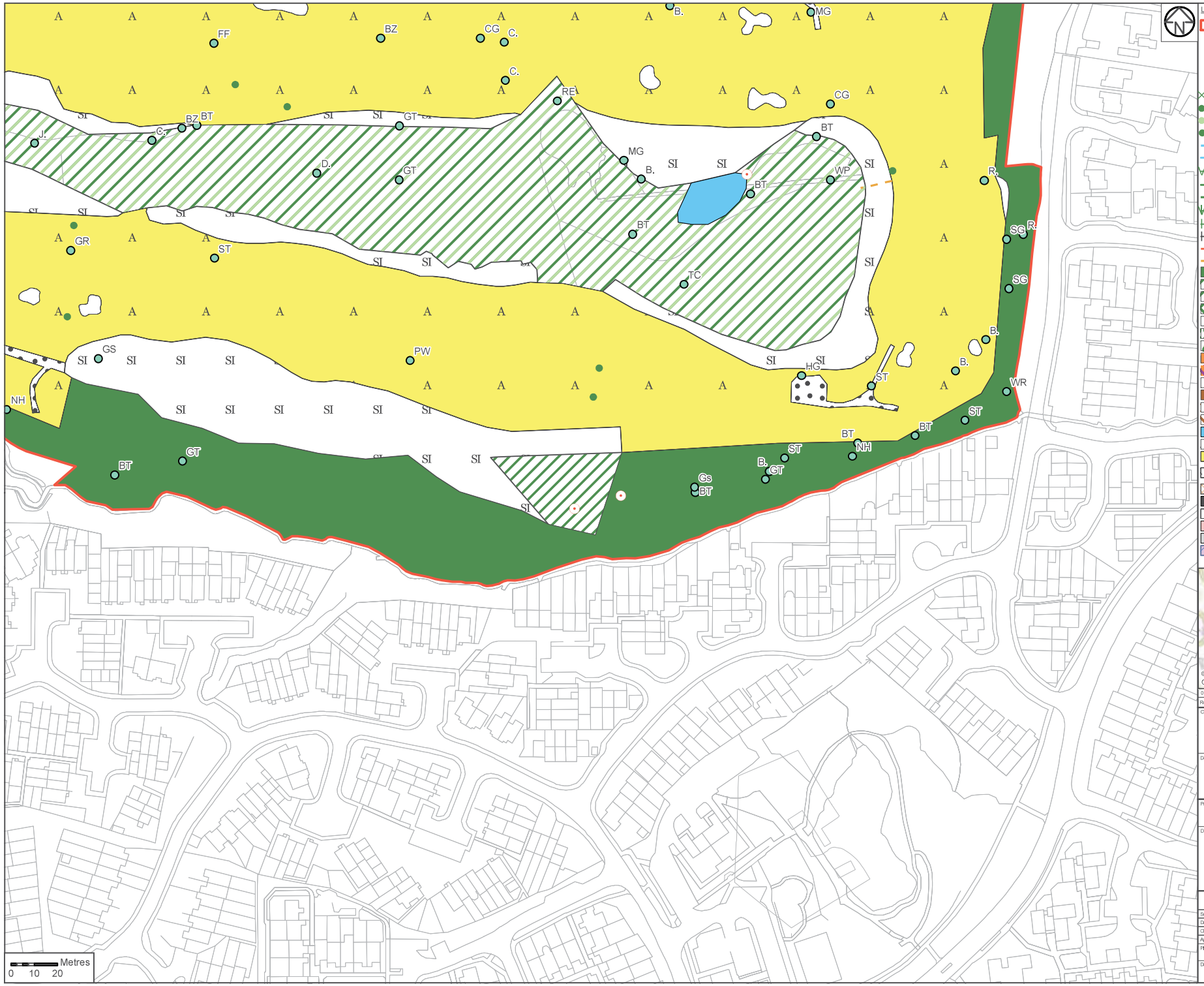
Registered office: Arcadis House, 34 York Way, London, N1 9AB
Coordinating office: 5th Floor 401 Faraday Street, Birchwood, Warrington, WA3 6GA

Project: Land West of Ifield

Drawing Title: Figure 1 Summary of All Wintering Bird Survey Results (Page 20 of 22)

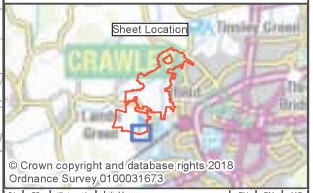
	Status: S2	Revision: 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

Drawing number: Hp File | Originator | Volume | Location | Type | Role | Number



Legend

- Site Boundary
- All Wintering Bird Data with BTO Code
- Target note
- Scattered Scrub
- Broadleaved scattered trees
- Coniferous scattered trees
- Scrub - scattered
- Broadleaved Parkland/scattered trees
- Coniferous Parkland/scattered trees
- Mixed Parkland/scattered trees
- Standing water
- Running water
- Intact hedge - native species-rich
- Intact hedge - species-poor
- Defunct hedge - species-poor
- Hedge with trees - native species-rich
- Hedge with trees - species-poor
- Fence
- Wall
- Dry ditch
- Broadleaved woodland - semi-natural
- Broadleaved woodland - plantation
- Mixed woodland - plantation
- Scrub - dense/continuous
- Scrub - scattered
- Broadleaved Parkland/scattered trees
- Mixed Parkland/scattered trees
- Neutral grassland - semi-improved
- Marsh/marshy grassland
- Poor semi-improved grassland
- Bracken - continuous
- Bracken - scattered
- Other tall herb and fern - ruderal
- Standing water
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - amenity grassland
- Cultivated/disturbed land - ephemeral/short perennial
- Introduced shrub
- Buildings
- Bare ground
- Sandpits
- Hardstanding
- Unable to



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client: Homes England

Designer: ARCADIS

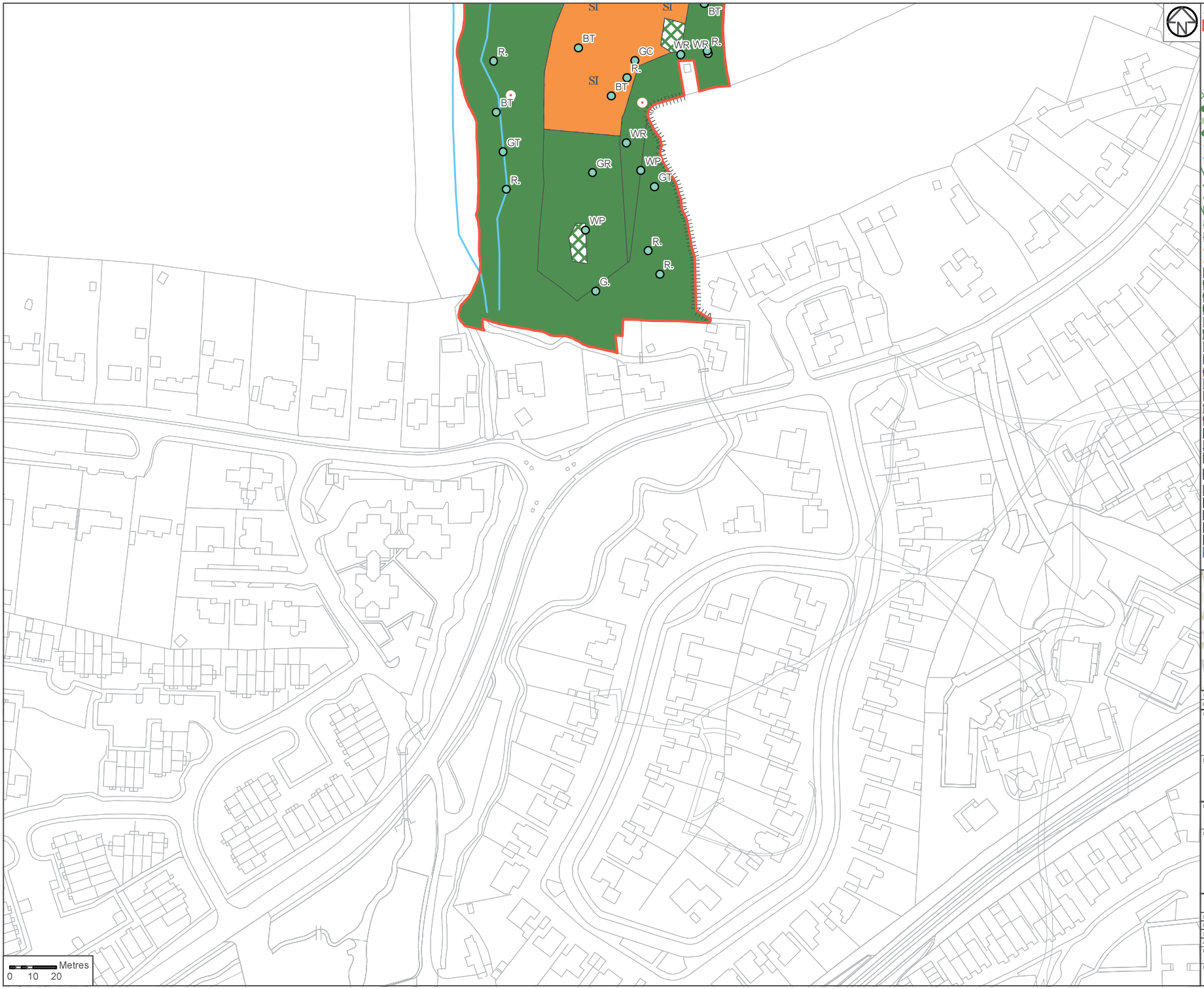
Registered office: Arcadis House, 34 York Way, London, N1 9AB
Coordinating office: 5th Floor 401 Faraday Street, Birchwood, Warrington, WA3 6GA

Project: Land West of Ifield

Drawing Title: Figure 1 Summary of All Wintering Bird Survey Results (Page 21 of 22)

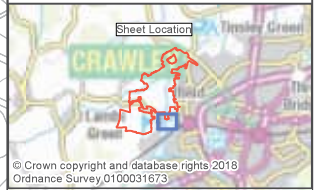
	Status	Revision
	S2	01
Scale	1:1,500	Date 17-Jun-19
Drawn By	P. Nehete	
Checked By	B. Murrary	
Approved By	M. Girvan	
PINS No.		

Drawing number: Hp Ho | Originator | Volume | Location | Type | Role | Number



Legend

- Site Boundary
- All Wintering Bird Data with BTO Code
- Target note
- Scattered Scrub
- Broadleaved scattered trees
- Coniferous scattered trees
- Scrub - scattered
- Broadleaved Parkland/scattered trees
- Coniferous Parkland/scattered trees
- Mixed Parkland/scattered trees
- Standing water
- Running water
- Intact hedge - native species-rich
- Intact hedge - species-poor
- Defunct hedge - species-poor
- Hedge with trees - native species-rich
- Hedge with trees - species-poor
- Fence
- Wall
- Dry ditch
- Broadleaved woodland - semi-natural
- Broadleaved woodland - plantation
- Mixed woodland - plantation
- Scrub - dense/continuous
- Scrub - scattered
- Broadleaved Parkland/scattered trees
- Mixed Parkland/scattered trees
- SI Neutral grassland - semi-improved
- Marsh/marshy grassland
- SI Poor semi-improved grassland
- Bracken - continuous
- Bracken - scattered
- Other tall herb and fern - ruderal
- Standing water
- A Cultivated/disturbed land - arable
- A Cultivated/disturbed land - amenity grassland
- Cultivated/disturbed land - ephemeral/short perennial
- Introduced shrub
- Buildings
- Bare ground
- Sandpits
- Hardstanding
- Unable to



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client: Homes England

Designer: ARCADIS

Registered office: Arcadis House, 34 York Way, London, N1 9AB
Coordinating office: 5th Floor, 401 Faraday Street, Birchwood, Warrington, WA3 6GA

Project: Land West of Ifield

Drawing Title: Figure 1 Summary of All Wintering Bird Survey Results (Page 22 of 22)

	Status: S2	Revision: 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

Drawing number: Hp Ho | Originator | Volume | Location | Type | Role | Number

Figure 2: Notable birds and birds of conservation concern observed during the wintering bird surveys

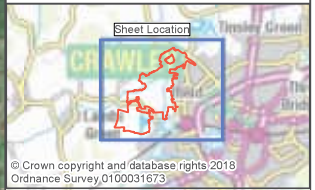
N.B. All BTO codes used in this map are presented in Appendix D.

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client: Homes England

Designer: ARCADIS

Registered office: Arcadis House, 34 York Way, London, N1 9AB

Coordinating office: 5th Floor 401 Faraday Street, Birchwood, Warrington, WA3 6GA

Project: Land West of Ifield

Drawing Title: Figure 2 Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed) (Page 1 of 22)

	Status: S2	Revision: 01
Scale	1:10,000	Date 17-Jun-19
Drawn By	P. Nehete	
Checked By	B. Murrary	
Approved By	M. Girvan	
PINS No.		

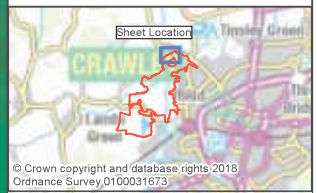
Drawing number: HE-Hx | originator | volume | Location | type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client

Homes England

Designer

ARCADIS

Registered office: Arcadis House 34 York Way London N1 9AB

Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

Project

Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 2 of 22)

	Status S2	Revision 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

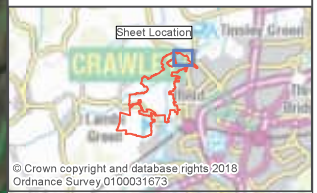
Drawing number: Hp Hdr | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client

Homes England

Designer

ARCADIS

Registered office: Arcadis House 34 York Way London N1 9AB

Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

Project

Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 3 of 22)

	Status S2	Revision 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

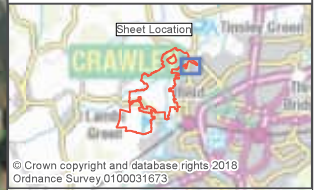
Drawing number: Hp Hdr | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client

Homes England

Designer

ARCADIS

Registered office: Arcadis House 34 York Way London N1 9AB

Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

Project

Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 4 of 22)

	Status S2	Revision 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

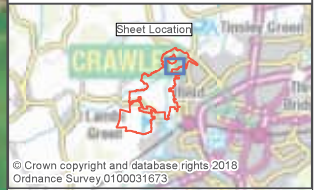
Drawing number: Hp File | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client

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Designer

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Registered office: Arcadis House 34 York Way London N1 9AB

Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

Project

Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 5 of 22)

	Status S2	Revision 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

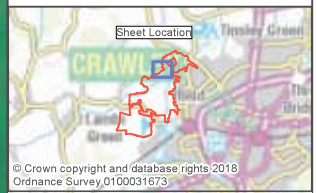
Drawing number: Ref No. | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client

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Designer

ARCADIS

Registered office: Arcadis House 34 York Way London N1 9AB

Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

Project

Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 6 of 22)

	Status	Revision
	S2	01
Scale	1:1,500	Date 17-Jun-19
Drawn By	P. Nehete	
Checked By	B. Murrary	
Approved By	M. Girvan	
PINS No.		

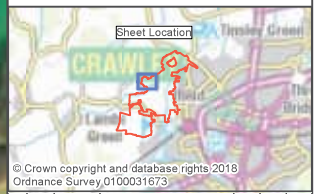
Drawing number: Ref No. | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client

Homes England

Designer

ARCADIS

Registered office: Arcadis House 34 York Way London N1 9AB

Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

Project

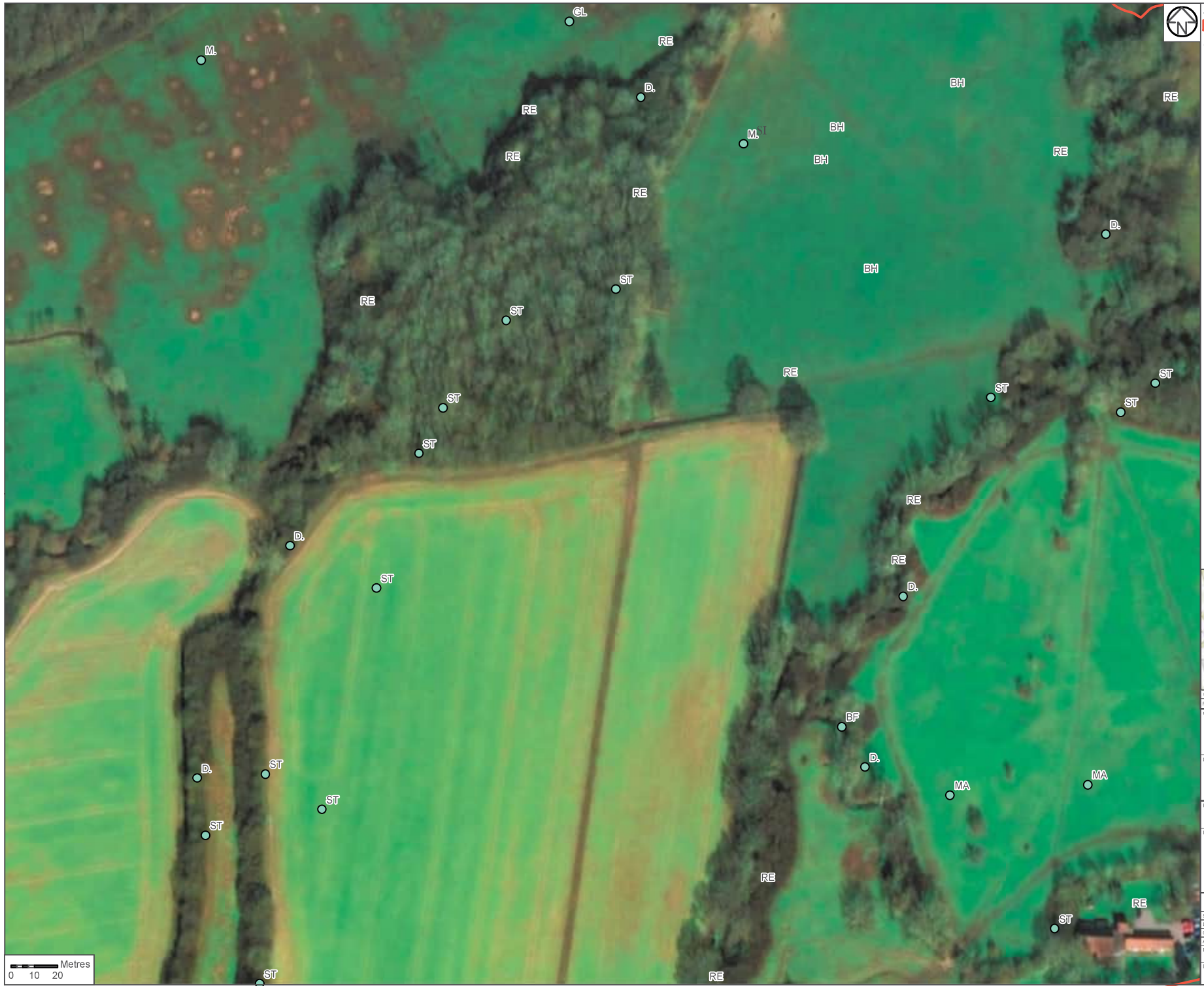
Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 7 of 22)

	Status	Revision
	S2	01
Scale	1:1,500	Date 17-Jun-19
Drawn By	P. Nehete	
Checked By	B. Murrary	
Approved By	M. Girvan	
PINS No.		

Drawing number: Ref No. | Originator | Volume | Location | Type | Role | Number

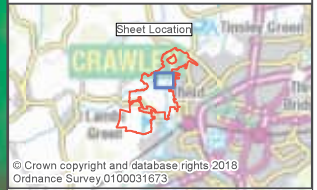


Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

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Designer

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Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

Project

Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 8 of 22)

	Status	Revision
	S2	01
Scale	1:1,500	Date 17-Jun-19
Drawn By	P. Nehete	
Checked By	B. Murrary	
Approved By	M. Girvan	
PINS No.		

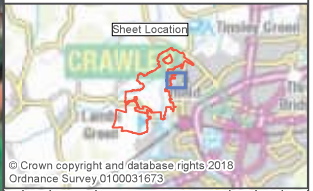
Drawing number: Hp Hlc | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

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Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 9 of 22)

	Status S2	Revision 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

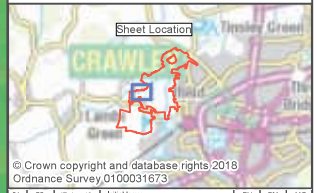
Drawing number: Hp Hlc | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client

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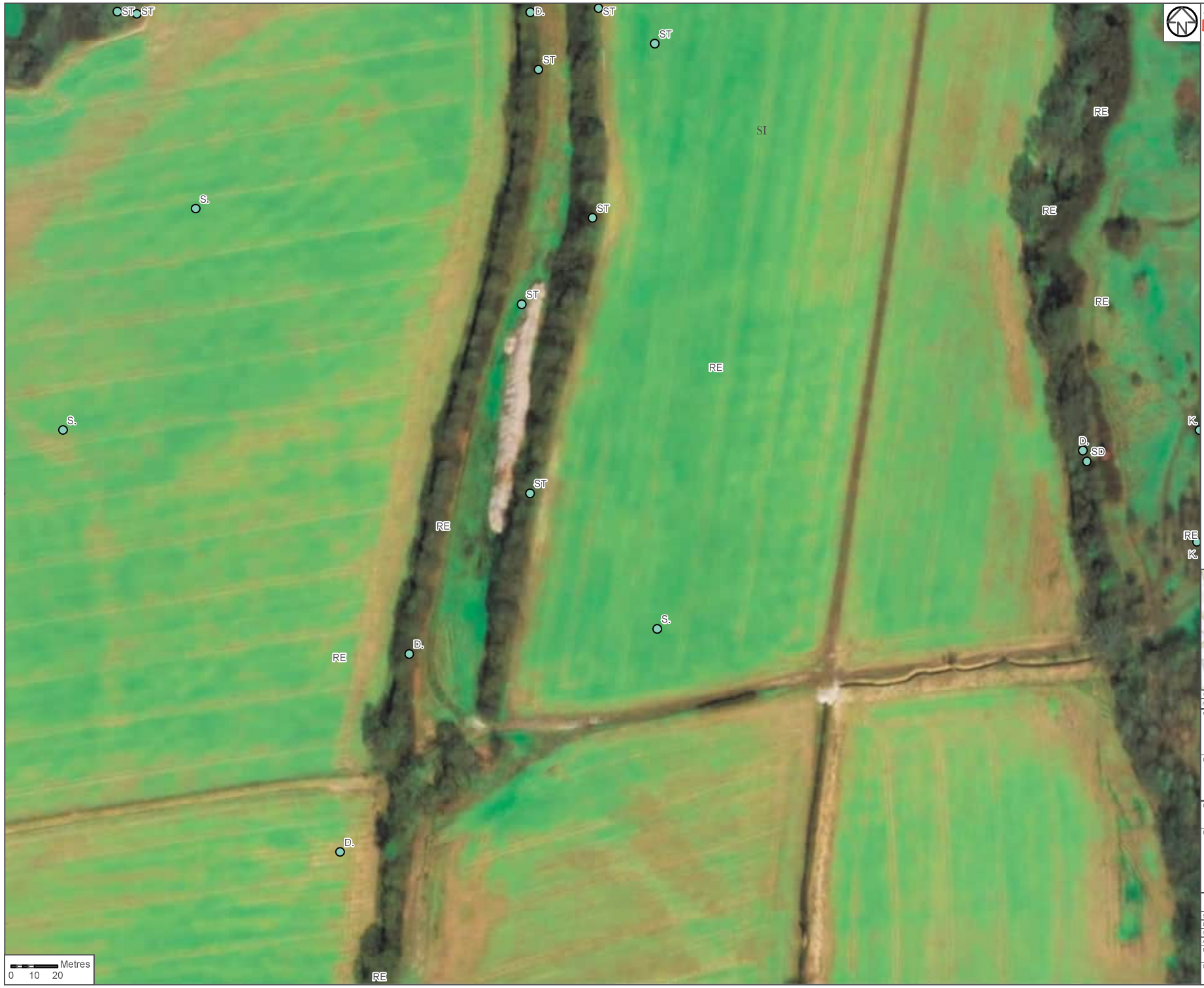
Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 10 of 22)

	Status	Revision
	S2	01
Scale	1:1,500	Date 17-Jun-19
Drawn By	P. Nehete	
Checked By	B. Murrary	
Approved By	M. Girvan	
PINS No.		

Drawing number: Hp Hlc | Originator | Volume | Location | Type | Role | Number

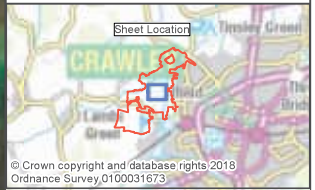


Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

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ARCADIS

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Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

Project

Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 11 of 22)

	Status	Revision
	S2	01

Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

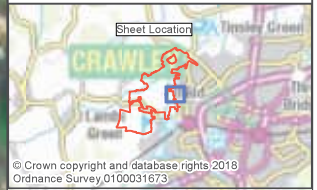
Drawing number: Hp Hlc | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial issue	PN	BM	MG

Client

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Designer

ARCADIS

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Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

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Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 12 of 22)

	Status S2	Revision 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

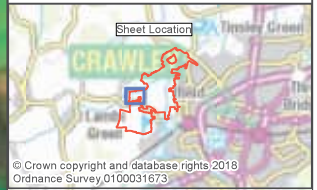
Drawing number: Hp File | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

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Coordinating office:
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Birchwood
Warrington
WA3 6GA

Project

Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 13 of 22)

	Status S2	Revision 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

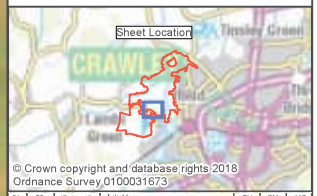
Drawing number: HE-Hle | originator | volume | Location | type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client

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Designer

ARCADIS

Registered office: Arcadis House 34 York Way London N1 9AB

Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

Project

Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 14 of 22)

	Status	Revision
	S2	01
Scale	1:1,500	Date 17-Jun-19
Drawn By	P. Nehete	
Checked By	B. Murrary	
Approved By	M. Girvan	
PINS No.		

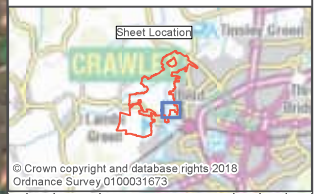
Drawing number: Hp Hlc | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

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Designer

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Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

Project

Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 15 of 22)

	Status S2	Revision 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

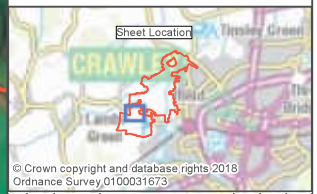
Drawing number: Hp File | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client

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Designer

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Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

Project

Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 16 of 22)

	Status S2	Revision 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

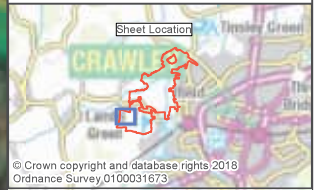
Drawing number: Hp Hlc | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client

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Designer

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Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

Project

Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 17 of 22)

	Status	Revision
	S2	01
Scale	1:1,500	Date 17-Jun-19
Drawn By	P. Nehete	
Checked By	B. Murrary	
Approved By	M. Girvan	
PINS No.		

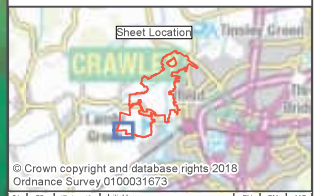
Drawing number: Hp Hlc | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client

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Designer

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Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

Project

Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 18 of 22)

	Status S2	Revision 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

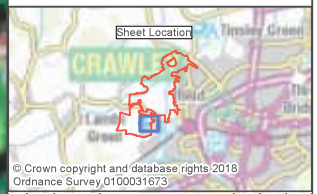
Drawing number: Hp File | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client

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Designer

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Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

Project

Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 19 of 22)

	Status S2	Revision 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

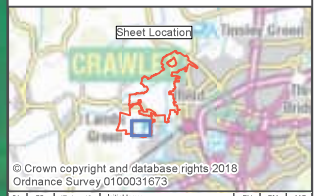
Drawing number: Hp Hlc | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client: Homes England

Designer: ARCADIS

Registered office: Arcadis House, 34 York Way, London, N1 9AB

Coordinating office: 5th Floor, 401 Faraday Street, Birchwood, Warrington, WA3 6GA

Project: Land West of Ifield

Drawing Title: Figure 2 Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed) (Page 20 of 22)

	Status: S2	Revision: 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

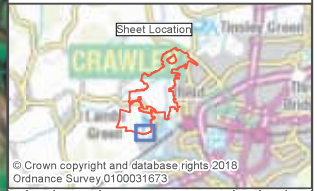
Drawing number: Hp Ho | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code

Notable birds and birds of coinservation concern (amber and red listed) with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial issue	PN	BM	MG

Client

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Designer

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Coordinating office: 5th Floor 401 Faraday Street Birchwood Warrington WA3 6GA

Project

Land West of Ifield

Drawing Title

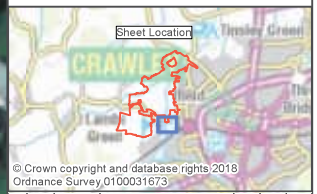
Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 21 of 22)

	Status S2	Revision 01	
Scale	1:1,500	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

Drawing number: Hp Hdr | Originator | Volume | Location | Type | Role | Number

Legend

Site Boundary



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial issue	PN	BM	MG

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Homes England

Designer

ARCADIS

Registered office:
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34 York Way
London
N1 9AB

Coordinating office:
5th Floor 401 Faraday Street
Birchwood
Warrington
WA3 6GA

Project

Land West of Ifield

Drawing Title

Figure 2
Notable Birds of Conservation Concern Identified during the Wintering Bird Surveys (red and amber listed)
(Page 22 of 22)

	Status	Revision
	S2	01
Scale	1:1,500	Date 17-Jun-19
Drawn By	P. Nehete	
Checked By	B. Murrary	
Approved By	M. Girvan	
PINS No.		

Drawing number: Hp Hlx | Originator | Volume | Location | Type | Role | Number

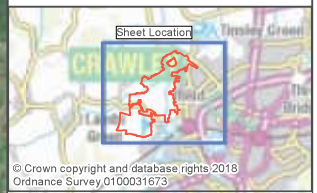
Figure 3: ‘Farmland’ birds recorded during the wintering bird surveys

N.B. All BTO codes used in this map are presented in Appendix D.

Legend

Site Boundary

Farmland Birds with BTO species code



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	17-Jun-19	Initial Issue	PN	BM	MG

Client: Homes England

Designer: ARCADIS

Registered office: Arcadis House, 34 York Way, London, N1 9AB

Coordinating office: 5th Floor 401 Faraday Street, Birchwood, Warrington, WA3 6GA

Project: Land West of Ifield

Drawing Title: Figure 3 Farmland Birds Identified during the Wintering Bird Surveys

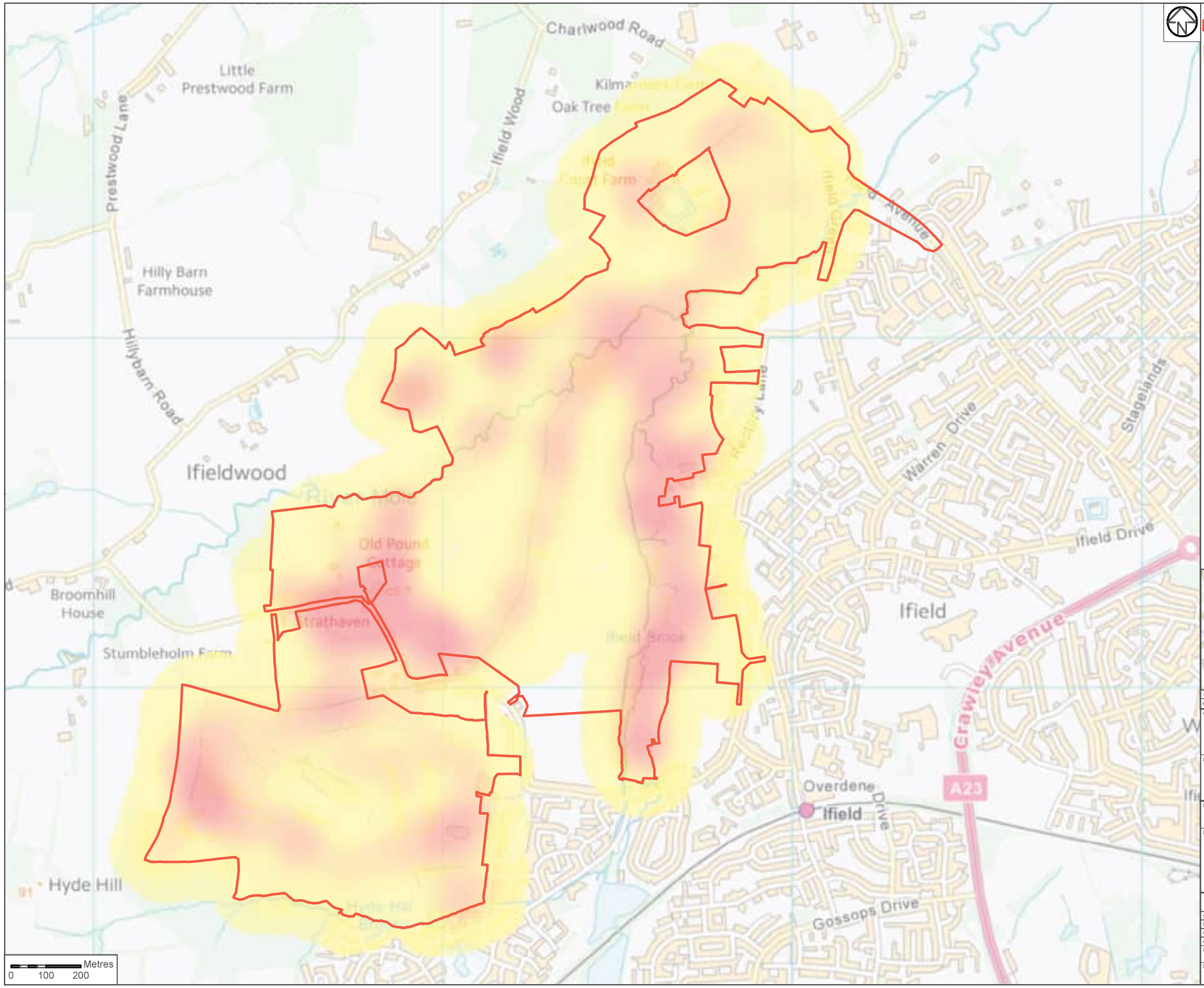
	Status	Revision
	S2	01

Scale	1:10,000	Date	17-Jun-19
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

Drawing number: Ref No. | Originator | Volume | Location | Type | Role | Number

Figure 4: Heat map of wintering bird activity recorded on the site

N.B. All BTO codes used in this map are presented in Appendix D.

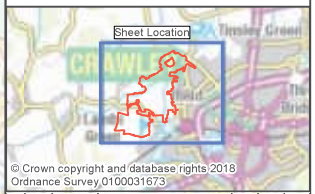


Legend

Site Boundary

Breeding Bird Heatmap

- High
- Low



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Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
01	S2	05/28/2019	Initial Issue	PN	BM	MG

Client

Homes England

Designer

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Project

Land West of Ifield

Drawing Title

Figure 4
Heatmap - Birds recorded during the Wintering Bird Surveys

	Status S2	Revision 01	
Scale	1:10,000	Date	05/28/2019
Drawn By	P. Nehete		
Checked By	B. Murrary		
Approved By	M. Girvan		
PINS No.			

Drawing number: Hy-Ho | Originator | Volume | Location | Type | Role | Number

APPENDIX A: Wintering bird desk study records

Table 6: Wintering bird species recorded during the desk study – only records from within 2km of the site boundary and from within the last 10 years

Common name	Scientific Name	Designation	Number of records	Recent winter (Aug-Mar)	Nearest location from centre of site
Barn owl	*Tyto alba*	WCA Sch1 Pt1, Notable Bird	6	13/10/2012	Bewbush Hyde Wood / Hill (1396 SW)
Common crossbill	*Loxia curvirostra*	WCA Sch1 Pt1, Notable Bird	3	10+ years	Crawley (2445m SW)
Common kestrel	Falco tinnunculus	Bird Amber, Notable Bird	21	24/02/2016	Onsite
Common linnet	*Linaria cannabina*	NERC S41, Bird Red, Notable Bird	13	10+ years	Bewbush Hyde Wood / Hill (1396m SW)
Corn bunting	*Emberiza calandra*	NERC S41, Bird Red, Notable Bird	1	10+ years	Crawley Gossops Green (1062m S)
Dartford warbler	*Sylvia undata*	Birds Dir A1, WCA Sch1 Pt1, RedList Global post2001 NT, Bird Amber, Notable Bird	2	10+ years	Faygate Holmbush Tip (2847m SW)
Dunnock	*Prunella modularis*	NERC S41, Bird Amber, Notable Bird	55	26/09/2013	Crawley Gossops Green (894m SW)
Eurasian bullfinch	*Pyrrhula pyrrhula*	NERC S41, Bird Amber, Notable Bird	30	27/10/2012	Crawley Gossops Green (894m SW)
Eurasian green woodpecker	Picus viridis	Notable Bird	50	26/09/2013	Onsite
Eurasian skylark	*Alauda arvensis*	NERC S41, Bird Red, Notable Bird	37	03/02/2011	Ifield nr Crawley (217m W)
European herring gull	Larus argentatus	NERC S41, Bird Red, Notable Bird	18	20/02/2011	Crawley (2766m W)
European starling	*Sturnus vulgaris*	NERC S41, Bird Red, Notable Bird	45	10+ years	Crawley Gossops Green (894m SW)
Firecrest	*Regulus ignicapilla*	WCA Sch1 Pt1, Notable Bird	1	10+ years	Ifield Mill Pond (1062m S)
Grey wagtail	*Motacilla cinerea*	Bird Red, Notable Bird	22	23/09/2015	Crawley Gossops Green (894m SW)

Common name	Scientific Name	Designation	Number of records	Recent winter (Aug-Mar)	Nearest location from centre of site
House sparrow	*Passer domesticus*	NERC S41, Bird Red, Notable Bird	51	26/09/2013	Crawley Gossops Green (894m SW)
Kingfisher	Alcedo atthis	Birds Dir A1, WCA Sch1 Pt1, Bird Amber, Notable Bird	15	24/02/2016	Ifield Mill Pond (1062m S)
Lesser redpoll	*Acanthis cabaret*	NERC S41, Bird Red, Notable Bird	1	20/02/2011	Crawley (2766m W)
Lesser spotted woodpecker	*Dendrocopos minor*	NERC S41, Bird Red, Notable Bird	8	30/01/2013	Crawley Gossops Green (1062m S)
Little grebe	*Tachybaptus ruficollis*	Notable Bird	1	10+ years	Rusper Oaklands Park (Surrey) (3597m NE)
Mallard	*Anas platyrhynchos*	Bird Amber, Notable Bird	46	20/02/2011	Crawley Gossops Green (894m SW)
Marsh tit	*Poecile palustris*	NERC S41, Bird Red, Notable Bird	9	10+ years	Scrag Copse, Rusper (2080km NE)
Meadow pipit	*Anthus pratensis*	Bird Amber, Notable Bird	2	10+ years	Faygate Holmbush Farm (2847m SW)
Mistle thrush	*Turdus viscivorus*	Bird Red, Notable Bird	16	24/02/2016	Crawley Langley Green (1547m NE)
Mute swan	*Cygnus olor*	Bird Amber, Notable Bird	16	20/02/2010	Crawley Gossops Green (894m SW)
Northern lapwing	Vanellus vanellus	NERC S41, Bird Red, Notable Bird	3	10+ years	Faygate Holmbush Tip (2187m S)
Red kite	*Milvus milvus*	Birds Dir A1, WCA Sch1 Pt1, RedList Global post2001 NT, Notable Bird	8	10+ years	Ifield nr Crawley (217m W)
Reed bunting	*Emberiza schoeniclus*	NERC S41, Bird Amber, Notable Bird	16	03/02/2011	Crawley Gossops Green (894m SW)
Song thrush	*Turdus philomelos*	NERC S41, Bird Red, Notable Bird	61	24/02/2016	Crawley Gossops Green (894m SW)
Stock dove	*Columba oenas*	Bird Amber, Notable Bird	32	11/02/2016	Ifield nr Crawley (217m W)
Tawny owl	*Strix aluco*	Bird Amber, Notable Bird	17	20/10/2015	Crawley Gossops Green (894m SW)

Common name	Scientific Name	Designation	Number of records	Recent winter (Aug-Mar)	Nearest location from centre of site
Tufted duck	*Aythya fuligula*	Notable Bird	1	25/09/2011	Ifield Mill Pond (1062m S)
Western lesser black-backed gull	*Larus fuscus*	Bird Amber, Notable Bird	4	10+ years	Crawley Manor Royal (3081m NE)
Yellowhammer	*Emberiza citrinella*	NERC S41, Bird Red, Notable Bird	14	16/02/2011	Crawley Gossops Green (894m SW)

RedList Global post2001 NT – IUCN Red listed species (Near Threatened); WCA Sch1 Pt1 – Wildlife & Countryside Act (1981, as amended) Schedule 1 Part 1; NERC S41 – Natural Environment & Rural Communities Act (2006) Section 41; Bird Red – BoCC Red list; Bird Amber – BoCC Amber list; Notable Bird – Sussex BAP

APPENDIX B: Wintering bird survey visit details

Table 7: Details of the wintering bird field surveys

Visit	1a	2	3	4
Surveyors*	**DDL**	**DDL**	**DDL**	**DDL**
Date	28/11/2018	19/12/2018	16/01/2019	14/02/2019
Start time	07:24	11:54	07:40	07:04
Finish time	11:22	16:25	11:21	11:18
Temp (°C)	13	8-9	8	-3-6
Wind direction	SW	SW	SW	W
Wind speed (beaufort)	4	2	4	0
Cloud cover (oktas)	8	2-7	8	0
Snow	0	0	0	0
Rain	Light drizzle	One short shower	Occasional light drizzle	0
Notes				Mist at first, cleared during the survey

Surveyor: David Darrell-Lambert (DDL)

APPENDIX C: Wintering bird surveys – results

Table 8: Results from the 'wintering' bird surveys

Species	Survey Data					Status / Designation			
	28 November 2018	19 December 2018	16 January 2019	14 February 2019	Total count	NERC	Schedule 1	BOCC List	Sussex BAP
Blue Tit	24	59	59	67	209			Green	
British Wren	11	8	8	7	34			Green	
Carrion Crow	12	7	18	8	45			Green	
Chaffinch	6	4	1	6	17			Green	
Coal Tit	1	6	2	3	12			Green	
Common Black-headed Gull	66	54	152		272			Amber	
Common Kestrel	2	1		1	4			Amber	
Common Linnet				1	1	Y		Red	Y
Common Magpie	14	20	12	8	54			Green	
Dunnock	8	5	4	28	45	Y		Amber	Y
Egyptian Goose	1	2	8	3	14			Introduced	
Eurasian Blackbird	15	51	39	25	130			Green	
Eurasian Bullfinch		6		4	10	Y		Amber	Y

Land West of Ifield Wintering Bird Survey Report

Species	Survey Data					Status / Designation			
	28 November 2018	19 December 2018	16 January 2019	14 February 2019	Total count	NERC	Schedule 1	BOCC List	Sussex BAP
Eurasian Buzzard	6		3	3	12			Green	
Eurasian Collared Dove	1	1	3	2	7			Green	
Eurasian Common Moorhen		2	1	1	4			Green	
Eurasian Green Woodpecker	6	2	1	3	12			Green	
Eurasian Jackdaw	27	20	10	5	62			Green	
Eurasian Jay	3	9	4	2	18			Green	
Eurasian Nuthatch	1	6	4	2	13			Green	
Eurasian Siskin	1			13	14			Green	
Eurasian Skylark				4	4	Y		Red	Y
Eurasian Sparrowhawk		1			1			Green	
Eurasian Treecreeper		3	3	1	7			Green	
European Goldfinch	11	13	20	13	57			Green	
European Greenfinch	2	2	4	4	12			Green	
European Herring Gull	7	2	12		21	Y		Red	Y

Land West of Ifield Wintering Bird Survey Report

Species	Survey Data					Status / Designation			
	28 November 2018	19 December 2018	16 January 2019	14 February 2019	Total count	NERC	Schedule 1	BOCC List	Sussex BAP
European Robin	20	28	34	42	124			Green	
European Starling	40	2	13		55	Y		Red	Y
Fieldfare		1			1		Y	Red	
Goldcrest	7	7	4		18			Green	
Great Cormorant		1			1			Green	
Great Spotted Woodpecker	5	4	5	9	23			Green	
Great Tit	16	12	18	37	83			Green	
Greater Canada Goose		2	13	2	17			Introduced	
Grey Heron	2	2		1	5			Green	
Grey Wagtail		1	2	1	4			Red	
House Sparrow	1				1	Y		Red	Y
Lesser Redpoll		2			2	Y		Red	Y
Little Egret	2	4	5	1	12			Green	
Long-tailed Tit	8	12	2	3	25			Green	

Land West of Ifield Wintering Bird Survey Report

Species	Survey Data					Status / Designation			
	28 November 2018	19 December 2018	16 January 2019	14 February 2019	Total count	NERC	Schedule 1	BOCC List	Sussex BAP
Mallard		10	6	1	17			Amber	
Meadow Pipit	3				3			Amber	
Mistle Thrush	8	9	6	4	27			Red	
Pied Wagtail	3	4	4	1	12			Green	
Redwing	31	52	180	22	285		Y	Red	
Ring-necked Pheasant	18	9	10	20	57			Introduced	
Song Thrush	10	21	18	23	72	Y		Red	Y
Stock Dove	1	6		2	9			Amber	
Woodpigeon	288	385	805	1041	2519			Green	
Total	688	858	1493	1424	4463				

Peak counts are highlighted in orange

APPENDIX D: BTO Codes utilised in mapping

Table 9. BTO species codes utilised in the mapping

BTO code	Species	BTO code	Species	BTO code	Species
B.	Eurasian Blackbird	J.	Eurasian Jay	TO	Tawny Owl
BC	Blackcap	JD	Eurasian Jackdaw	WH	Common Whitethroat
BF	Eurasian Bullfinch	K.	Common Kestrel	WP	Woodpigeon
BT	Blue Tit	LB	Western Lesser Black-backed Gull	WR	British Wren
BZ	Eurasian Buzzard	LI	Common Linnet	Y.	Yellowhammer
C.	Carrion Crow	LT	Long-tailed Tit	YW	Yellow Wagtail
CC	Common Chiffchaff	LW	Lesser Whitethroat		
CD	Eurasian Collared Dove	M.	Mistle Thrush		
CG	Greater Canada Goose	MA	Mallard		
CH	Chaffinch	MG	Common Magpie		
CT	Coal Tit	MH	Eurasian Common Moorhen		
D.	Dunnock	MN	Mandarin Duck		
G.	Eurasian Green Woodpecker	NH	Eurasian Nuthatch		
GC	Goldcrest	PH	Ring-necked Pheasant		
GL	Grey Wagtail	PW	Pied Wagtail		
GO	European Goldfinch	R.	European Robin		
GR	European Greenfinch	RW	Eurasian Reed Warbler		
GS	Great Spotted Woodpecker	S.	Eurasian Skylark		
GT	Great Tit	SD	Stock Dove		
GW	Garden Warbler	SG	European Starling		
H.	Grey Heron	SI	Common Swift		
HG	European Herring Gull	SL	Eurasian Swallow		
HS	House Sparrow	ST	Song Thrush		
HM	Northern House Martin	TC	Eurasian Treecreeper		

APPENDIX E: Pen portraits of surveyors

Table 10: Surveyor Pen Portraits

Surveyor	CV details
David Darrell Lambert	David has over 30 years field experience and has travelled all over Britain as well as overseas surveying a range of birds and wildlife. David has an excellent knowledge of all British breeding birds and migratory species. David is a Schedule 1 licence holder for barn owl for England, this has been extended for other species including black redstart and little ringed plover.
Porscha Thompson ACIEEM (Graduate Ecologist) MSc BSc (Hons)	Porscha has experience in assessing sites for potential ecological impacts and is able to provide appropriate recommendations and mitigation in order to reduce potential impacts. Porscha has experience in undertaking a range of protected species surveys including bats, great crested newts (GCN), dormice, reptiles and badger surveys, phase 1 habitat surveys and ecological clerk of works and has a keen interest in botany. She also has strong report writing, desk study and coordination skills. She currently holds a Class 1 Natural England GCN licence, is an accredited agent of a Natural Resources Wales GCN licence and bat licence.
Siân Carr MCIEEM (Senior Ecologist) PhD BSc (Hons)	Siân has over 10 years' experience as an ecological consultant working on both public and private sector projects of various scales. These roles have provided her with a wide range of technical experience, and a thorough understanding of environmental legislation and excellent organisational skills. She has expertise in a range of species surveys, including badgers and produced numerous technical reports, including habitat assessments, species specific reports including mitigation strategies and method statements
Julie Player ACIEEM (Ecologist) BSc (Hons)	Julie has 6 years' experience as an ecological consultant working on both public and private sector projects. Julie has significant experience of undertaking surveys for protected species. These roles have provided her with a wide range of technical experience, has significant experience in undertaking surveys for protected species, a thorough understanding of environmental legislation, Ecological and Environmental Clerk of Works and excellent organisation skills. Julie is experienced in producing technical reports, including habitat assessments, species specific reports including mitigation strategies, method statements and species licenses.
Ewan Gibson BSc (hons) Grad CIEEM	Ewan Gibson is an ecologist with a broad range of ecological experience. Ewan has been a professional ecologist for 3 years and has conducted surveys for a range of species, including bats, badger, dormouse, amphibians and reptiles, as well as being licensed to survey for barn owl.

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APPENDIX 8.20: LAND WEST OF IFIELD – BARN OWL SURVEY 2020

Intended for
Turner & Townsend on behalf of Homes England

Document type
Report

Date
August 2020

LAND WEST OF IFIELD
BARN OWL SURVEY 2020

RAMBOLL

LAND WEST OF IFIELD
BARN OWL SURVEY 2020

Revision	**1st Issue**
Date	**24th August 2020**
Made by	**Laura Sanderson**
Checked by	**Adam Fitchet**
Approved by	**Matt Royall**
Description	**Barn Owl Survey Report**

Ref	R-1620007949_1-Barn Owls

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APPENDICES

Appendix A
Arcadis Figure

1. INTRODUCTION

1.1 Scope of the Report

1.1.1 Ramboll UK Limited (Ramboll) has been appointed by Turner & Townsend plc on behalf of Homes England (herein referred to as 'the Applicant') to undertake a barn owl survey in respect of a proposed development at Land West of Ifield (the site).

1.1.2 This current report presents baseline information on barn owl *Tyto alba* nesting potential at the site. It updates survey work carried out by Arcadis in 2019[1].

1.2 Site Description

1.2.1 The site surveyed is proposed to be developed as a large scale housing development with approximately 3000 - 4000 dwellings, three schools and associated infrastructure. There will also be significant areas of public open space, mainly in the north of the site. The site directly adjoins the town of Ifield. The main part of the site is centred on grid reference TQ 24133 37360 (see Arcadis figure included in Appendix A).

1.3 Legislation

1.3.1 All wild birds in the UK are protected under the Wildlife and Countryside Act 1981 (as amended) 'the WCA 1981'. This makes it illegal to:

i. Kill, injure or take any wild bird;
ii. Take, damage or destroy the nest of any wild bird while it is being built or in use;
iii. Take or destroy the eggs of any wild bird; and
iv. Possess or control any wild bird or egg unless obtained legally.

1.3.2 Some species including barn owls listed on Schedule 1 of the WCA 1981 receive a higher level of protection, making it illegal to intentionally or recklessly disturb any bird listed on Schedule 1 while nest building or at or near a nest containing eggs or young, or to disturb any of its dependent young.

2. METHODS AND LIMITATIONS

2.1 Methods

2.1.1 Sussex Barn Owl Study Group[2] was contacted for records of barn owls and known barn owl surveys at the site and in the local area.

2.1.2 A barn owl survey of buildings accessible within the site which had previously[3] been identified as being potentially suitable for use by barn owls was conducted. The site boundaries and buildings present within the site with barn owl roost potential are shown in Appendix A.

2.1.3 The survey approach was based on Chartered Institute of Ecology and Environmental Management (CIEEM) barn owl survey guidance [4]. Surveyors assessed the external and, where access allowed, internal parts of the building for signs of barn owl activity, such as birds present,

[11] Arcadis. Land West of Ifield. Breeding Bird Survey including Barn Owl Assessment. November 2019.
[2] Email correspondence 11 March 2020. Barrie Watson <barriewatson1@yahoo.co.uk>
[3] By Arcadis
[4] Shawyer C. 2012. Barn Owl *Tyto alba* Survey Methodology and Techniques for use in Ecological Assessment. Wildlife Conservation Partnership. https://cieem.net/resource/barn-owl-survey-methodology-and-techniques-for-use-in-ecological-assessment/

active nests, disused nests, pellets, feathers and droppings. Buildings were assigned a category as derived from CIEEM guidance, as shown in Table 2.1.

Table 2.1: Barn Owl Nest Sign Categories

Building Category	Description	Evidence
Potential Nest Site	Tree or structure with a cavity or chamber of a suitable size and structure to support breeding barn owls.	An entry hole of at least 80 mm diameter (about tennis ball size) or vertical slot of this width backed by a sufficiently large and dark chamber with a floor area greater than 250 mm x 250 mm.
Occupied Breeding Site	Tree or structure which has evidence of current or recent use by breeding barn owls.	Presence of adult barn owls, moulted feathers, pellets, eggs, egg shells, chicks or down.
Active Roost Site	Tree or structure where breeding does not occur, but where a barn owl is seen or heard regularly or its current or recent presence (last 12 months) can be recognised by observed signs. Can be further sub-divided as occasionally-used and regularly-used	Thick, chalky-white, streaky droppings, usually accompanied by pellets and feathers.
Temporary Rest Site	Tree, structure or other feature such as a fence post indicating temporary night-time stopping-off place for a barn owl.	Droppings, occasional pellets or feathers present.

2.1.4 The survey was conducted on 18th March 2020 during dry, cloudy, mild weather conditions. It was conducted by Ramboll ecologists Laura Sanderson MCIEEM (NE Barn Owl licence holder CL29/00040) and Jake James-Knell. Access by ladder was undertaken where required (building B21a and B21c only).

2.1.5 In addition, an assessment of the suitability for trees for use by nesting and roosting barn owls was completed during bat roost assessments on 12th March 2020 by Chris Savage MCIEEM. Where trees were found to be suitable for use by barn owls, they were categorised for suitability in accordance with Table 2.1.

2.2 Limitations

2.2.1 This report has been prepared by Ramboll solely for the benefit of the Applicant. It shall not be relied upon or transferred to any third party without the prior written authorisation of Ramboll.

2.2.2 Full access could not be gained to some areas of the site during the survey. Building B1, a small stable, could not be accessed and was viewed from adjacent public roads. It was considered to be unsuitable for use by nesting barn owls due to its small size and low roof. Therefore the lack of access to this building is not considered to be a constraint. Buildings B6 within the golf course and B11 could not be accessed during the survey. There was no internal access for surveyors on the first floor of B20, however this part of the building appeared to be well-sealed and there were no obvious entrance points for barn owls, and therefore it is considered unlikely that the building would be used by barn owls and the lack of access to this building is not a significant constraint. B22 had a partially collapsed ceiling and full internal access was not considered safe. Assessment was made from the accessible parts of the building and it was considered to have low suitability for use by barn owls.

3. RESULTS

3.0.1 Sussex Barn Owl Study Group confirmed that they were not aware of barn owl nest sites at the site, and that they had not conducted surveys there. They confirmed that the nearest known nest

site is in a barn owl box in a barn at Stumbleholm Farm, (grid reference TQ229369), located approximately 1 km to the west of the site.

3.0.2 The barn owl survey results are shown in Table 3.1.

3.0.3

Table 3.1: Barn Owl Survey Results

Building ID	Building Description	Nesting/Roosting Features	Barn Owl Evidence	Barn Owl Category	Photos
B6	Golf Course Stores	Not surveyed			
B7	Older wood-clad barn. Open fronted (large doors). Ivy clad. Asbestos shallow-pitched roof. ~5m tall. Used for straw storage.	Large straw bales obstruct full view, but considered unlikely to be suitable for nesting.	No	Potential Temporary Rest Site	
B8	Older wood telegraph pole barn with metal roof and open sites. Used for hay and straw storage.	No nesting potential. Beams on ends suitable for perching, but unlikely day roosting as exposed.	Two old large white pellets with obvious bones and hair, likely barn owl but possible other raptor.	Temporary Rest Site	
B11		Not surveyed			
B14	Small ramshackle/home-built stable, recently covered in new felt. Single storey, low flat roof (<3 m), likely to be well-used by people and ponies.	Not evident	Not accessed	None	

Building ID	Building Description	Nesting/Roosting Features	Barn Owl Evidence	Barn Owl Category	Photos
B15	Wood sheds, partially open-fronted and partially closed garage stores. Covered open sided car port. Single storey (3.5 m). used for storage. Pitched felt roof.	Low suitability for roosting, few perch opportunities and low. No entrance to garage area for barn owls. Not suitable for nesting.	No	None	
B20	Older brick storage barn, multiple stories, open-fronted woodstore ground floor. Pitched tiled roof and tiled walls. No internal access for surveyors on first floor, but well-sealed and no obvious entrance points for owls.	Low suitable perch opportunities in woodstore. Otherwise unsuitable due to lack of internal access for barn owls.	No	None	

Building ID	Building Description	Nesting/Roosting Features	Barn Owl Evidence	Barn Owl Category	Photos
B21a	Old traditional wood frame timber barn. Highly suitable for barn owls. High pitched roof, 7-8m tall at apex. No loft. Lined roof. Large beams on gable ends, shallow. No owl holes but large open doorways on sides. Used for hay and straw bale storage.	Large gable end beams fairly shallow (30-40cm). Likely to be too shallow and well-lit for nesting owls. Some potential for nesting on bales, but likely to be regularly disturbed.	5 x barn owl pellets identified at south side of barn. Relatively old. No droppings or feathers seen. Many pigeon droppings. Barn owl presence reported by site worker during bat surveys.	Active Roost Site, Low Potential as Nest Site	
B21c	Timber framed and clad traditional cattle shed attached to timber barn (B21a). Single storey, pitched roof, open front.	Several beams, no real nesting opportunities.	Many droppings on beams, especially at end attached to barn. Could be quite old. No pellets, but recently in use by farm animals with straw and dung on floor.	Temporary roost site	

Building ID	Building Description	Nesting/Roosting Features	Barn Owl Evidence	Barn Owl Category	Photos
B22	Red brick workshop, single storey, tiles intact, multi-pitched roof. Loft space present, partially collapsed in places. Derelict and unsafe to access whole building internally, though parts inspected.	Many pigeons using space. Partially collapsed ceiling previously noted to have some potential, but space above is small, low and has high concentrations of pigeons. Low suitability for use by owls.	No	None	
B23	Car port formed from poles and shipping containers with metal and insulation panel flat cover roof. Open sided.	No potential perch areas.	No	None	

Building ID	Building Description	Nesting/Roosting Features	Barn Owl Evidence	Barn Owl Category	Photos
B26	Large purpose-built modern cattle shed, metal frame and corrugated cement type roof. In use by cattle with large haylage bale stack.	No nesting areas identified, and bales likely to be regularly disturbed by people. Roosting potential on metal beams, but open and well-used.	No, but difficult to see due to presence of cattle.	Potential Temporary Rest Site	

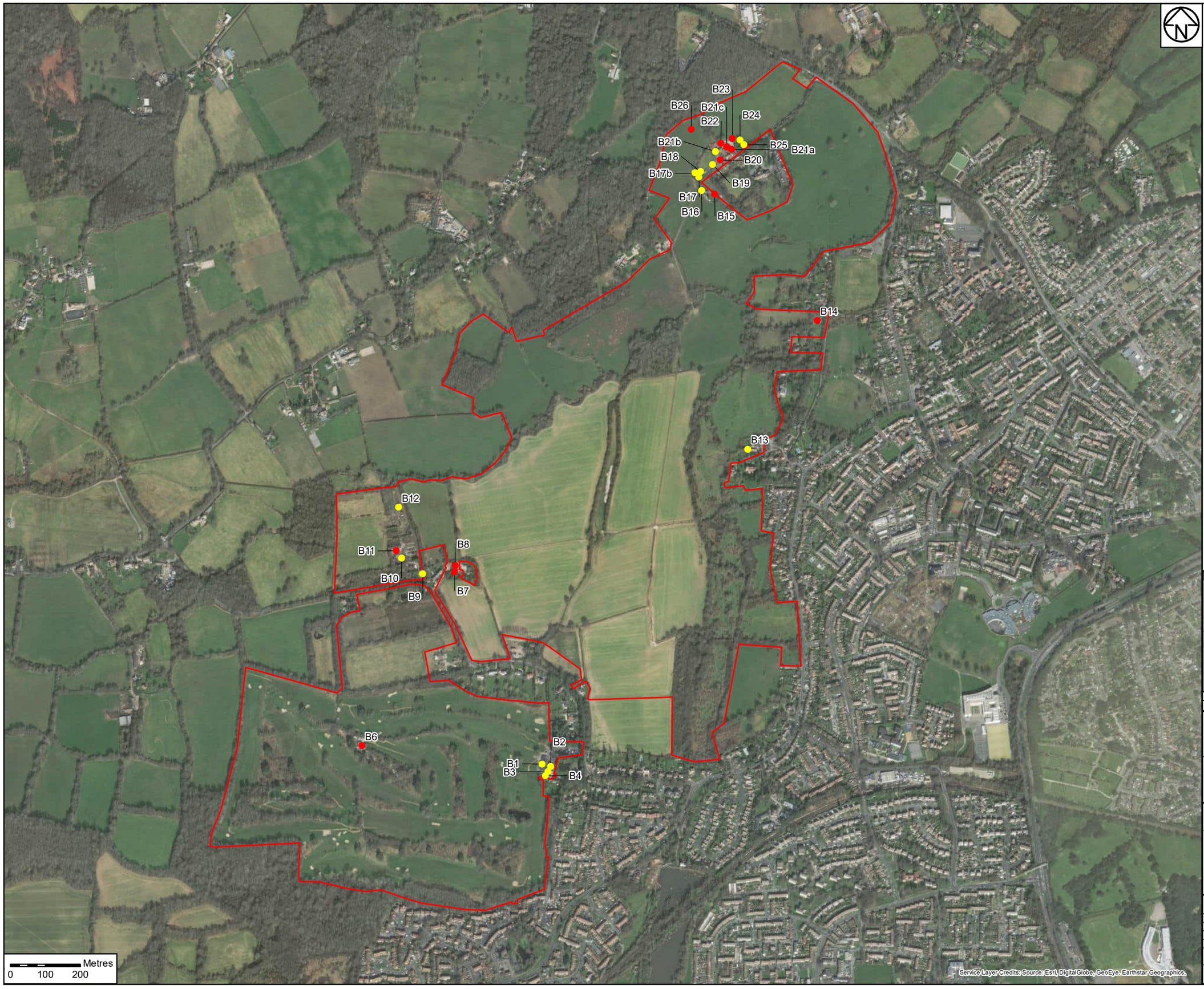
No trees suitable for use by roosting or nesting barn owls were recorded during the surveys.

No Occupied Breeding Sites were identified within the buildings surveyed on the site. One Potential Breeding Site was identified, at Building B21a, with no evidence of current or recent breeding within it. It is therefore considered that whilst barn owls use the buildings surveyed on the site (B8, B21a and B21c) for roosting and foraging, they do not currently breed within these parts of the site.

Given the low level of barn owl evidence identified, it is likely that barn owls are present and breed in the local area. It would be best practice to include appropriate enhancement for barn owls within the development, with provision of new breeding resources such as barn owl boxes in suitable areas, and retention or provision of new foraging areas.

APPENDIX A

Arcadis Figure



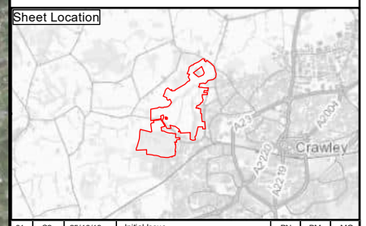
Legend

Redline Boundary

Roosting or Nesting Potential

- No
- Yes

Sheet Location



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Land West of Ifield

Drawing Title

Figure 6
Buildings Assessed for Bar Owl Roosting or Nesting Potential

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APPENDIX 8.21: LAND WEST OF IFIELD – BAT SURVEY REPORT 2024

Intended for
Homes England

Document Type
Report

Date
January 2025

Project reference
1620016174-003

LAND WEST OF IFIELD
BAT SURVEY REPORT 2024

RAMBOLL Bright ideas. Sustainable change.

LAND WEST OF IFIELD
BAT SURVEY REPORT 2024

Project name	**Land West of Ifield**
Project no.	**1620016174-003**
Recipient	**Homes England**
Document type	**Report**
Version	**1.0**
Date	**24/01/2025**
Prepared by	**Danielle Esterhuizen**
Checked by	**Ellie Frew**
Approved by	**Matt Royall**
Description	**Bat Survey Report**

Revision	Date	Prepared by	Checked by	Approved by	Description
1.0	24/01/2025	DE	EF	MR	First Client Issue

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1. INTRODUCTION

1.1 Background

Ramboll UK Limited ('Ramboll') was commissioned by Homes England (the 'Client') to undertake a suite of bat surveys in relation to the proposed development plans for the Land West of Ifield, Ifield, West Sussex (the 'site'). The site is located at Ordnance Survey (OS) grid reference TQ 24625 38471, primarily within the administrative boundary of Horsham District Council as shown in Appendix 2, Figure 1.

Bat surveys were previously undertaken at the site by Arcadis Consulting Ltd ('Arcadis') between 2018 and 2019. Results from the 2019 survey report[1] confirmed that nine species of bats were recorded. The 2019 surveys by Arcadis also included the Ifield Brook Wood and Meadows Local Wildlife Site (LWS) to the east of the site, which was previously incorporated within the proposed development area, however, this area is no longer within the proposed site boundary (other than a potential cycle / pedestrian route crossing this area in one location).

Ramboll previously conducted bat surveys across the whole West of Ifield site (see view box showing complete site boundary in Appendix 2, Figure 2). Each of the surveys covered a different area of the site each year. This means that surveys become out of date at different times depending on the area that is being surveyed. This report covers the northern section of the site comprising farmland (see zoomed in section of the site in Appendix 2, Figure 2) to update bat emergence surveys to inform the proposed planning application. This report presents the findings of the updated surveys, comprising emergence surveys at buildings, climbing surveys of trees, and emergence surveys at any suitable trees that could not be climbed, which were carried out by Ramboll between June and September 2024.

This report is provided as supporting information to the proposed planning application and provides a general outline of the required mitigation strategy in relation to roosting bats.

1.2 Proposed Works

At the time of writing Ramboll understands that the proposed development will comprise:

- Up to 3,000 new residential units with associated infrastructure;
- Space for employment, retail, community uses and landscaping; and
- Access arrangements.

Further details regarding the proposed development will be determined in due course and may be subject to revision.

1.3 Objectives

The aim of this report is to outline the results of the bat surveys undertaken at the site between June and September 2024. The structure and content of the report is based on current ecological report writing guidance provided by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017[2]) and guidance provided by the British Standards Institution (BSI, 2013[3]).

The content of this report is based on the findings of:

- Updated External Building Inspection;
- Updated Ground Level Tree Assessment; and

[1] Arcadis (October 2019). Land west of Ifield – Bat Survey Report. Report reference: WOI-AUK-XX-WS-RP-EC-00013-01-Bat Survey Report.
[2] CIEEM (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
[3] British Standards Institution (2013). BS 42020:2013. Biodiversity – Code of Practice for Planning and Development. BSI Standards Limited, London.

- Bat dusk emergence surveys of buildings and trees. The specific objectives of the surveys and this report are to:
  - Determine the presence/likely absence of bats roosting within buildings and trees on the site and, if present, to ascertain the species and number, in addition to the number, type(s) and location(s) of any bat roost(s) identified;
  - Determine the use of the site as a whole by bats and ascertain any seasonal or spatial variation in activity levels and use of the site;
  - Assess the potential impacts on roosting, foraging and commuting bats (if present) arising from the proposed development; and
  - Provide brief recommendations for mitigation, compensation and/or enhancement, taking into consideration the impact of the proposed development on any bat population(s) present, where applicable[4].

Assessment of potential impacts arising from the proposed development on roosting, foraging and commuting bats will be included in the Biodiversity Chapter of the proposed Environmental Statement (ES) (to be submitted with the proposed planning application for the proposed development). Similarly, final mitigation, compensation and enhancement strategies and commitments will be outlined within the ES Chapter. The impact assessment and subsequent mitigation strategy detail within the ES Chapter will be informed by a combination of this report (addressing roosting bats and activity recorded during the surveys outlined above), the Static Detector Survey Report (Ramboll, 2023[5]), 2022 Bat Emergence / Re-Entry Report (Ramboll, 2023[6]) and the Bat Trapping and Radio-Tracking Baseline Report (DWE on behalf of Ramboll, 2022[7], 2024[8] and AEWC on behalf of Ramboll, 2021[9]). The report is supported by the following appendices:

- Appendix 1: Legislation; and
- Appendix 2: Figures.

1.4 Legislation and Policy Framework

Various legislation and planning policies refer to the protection of wildlife, with those relevant specifically to bats summarised below, although this summary should not be regarded as a definitive legal opinion. When dealing with individual cases, the full texts of the relevant documents should be consulted, and legal advice obtained if necessary.

All species of British bat are listed on Schedule 5 of the *Wildlife and Countryside Act 1981 (as amended)* and are afforded protection under Section 9 of this Act. In addition, all British bat species are listed on Schedule 2 of *The Conservation of Habitats and Species Regulations 2017 (as amended)* and are protected under Regulation 39 of these Regulations.

Under this legislation it is an offence to:

- Intentionally kill, injure, take (handle) or capture a wild bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a place used by bats for breeding or resting (roosts) (even if bats are not occupying the roost at the time);
- Possess or advertise / sell / exchange a bat of a species found in the wild in the UK (dead or alive) or any part of a bat; or

[4] Detailed mitigation, compensation and enhancement measures will be outlined within the overall Ecological Impact Assessment, which is being produced in parallel with this bat survey report.

[5] Ramboll, 2023. Ifield Bat Activity Report. R1620007949_2-Ifield_Bat Activity Report.docx

[6] Ramboll, 2023. Ifield Bat Emergence/Re-entry Report (Buildings and Trees). R1620007949_1A_Ifield_Bat Report.docx

[7] David-Watts Ecology Ltd. (DWE), 2022. Bat Trapping and Radio-tracking Baseline Report and Evaluation For Land West of Ifield, Crawley For Ramboll, 26th September 2022.

[8] David-Watts Ecology Ltd. (DWE), 2024. Bat Trapping and Radio-tracking 2024 Further Baseline Report and Evaluation For Land West of Ifield, Crawley For Ramboll, December 2024.

[9] Animal Ecology & Wildlife Consultants Ltd. (AEWC), 2021. Advanced Bat Survey Report Baseline Trapping and Radiotracking Survey Results Land West of Ifield, November 2021.

- Intentionally or recklessly obstruct access to a bat roost.

In addition, barbastelle *Barbastella barbastellus*, Bechstein's *Myotis bechsteinii*, greater horseshoe *Rhinolophus ferrumequinum*, lesser horseshoe *Rhinolophus hipposideros*, brown long-eared, soprano pipistrelle *Pipistrellus pygmaeus* and noctule *Nyctalus noctula* bats are listed as Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities Act 2006, which requires that these species are considered as a material consideration in the planning process.

2. METHODOLOGY

2.1 Desk Study

The previous obtained desk study records (Sussex Biodiversity Records Centre Report Reference: SxBRC/22/1027, dated April 2023 and Surrey Biodiversity Information Centre, dated April 2023) remain valid to cover the updated 2024 surveys outlined in this report. This is in accordance with latest guidance on the lifespan of ecological reports and surveys[10].

The information gathered from previous surveys undertaken by Ramboll provide a good understanding of the site, the habitats within the site (which have not changed significantly) and the potential protected species that could utilise the site. Ramboll have reviewed the validity of site-specific protected species surveys and updated these surveys accordingly.

Bat licence applications to Natural England require data search information to be from the most recent season/year in relation to when the licence is being applied for. Therefore, a new data search will be required for any licence application to ensure the validity of the data being submitted.

2.2 Daytime Building Inspection

A daytime building inspection was conducted by Ramboll ecologists Ellie Frew and James Hrynkiewicz on 8th and 9th April 2024. Principal Ecologist Ellie Frew is a Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). Ellie has a Level 2 class licence from Natural England to survey bats[11] and is a Registered Consultant[12] under the Bat Mitigation Class Licence (BMCL). James Hrynkiewicz holds a BSC (Hons) in Ecology and conservation and has worked professionally as an ecologist since 2016. He is also an associate member of CIEEM. The weather was overcast with infrequent rain.

The following building types and features are of particular suitability to support roosting bats:

- Buildings of pre-20th or early 20th century construction;
- Agricultural buildings of brick, stone, or timber construction;
- Large and complicated roof void(s) with unobstructed flying spaces;
- Large (>20 cm) roof timbers with mortise joints, cracks, and holes;
- Entrances into buildings for bats to fly through;
- Poorly maintained buildings such that they provide access points for bats into roofs, walls, bridges, but at the same time not being too cool and draughty;
- Roof warmed by the sun e.g. south facing;
- Weatherboarding and/or hanging tiles with gaps;
- Undisturbed building roofs and structures;
- Buildings and built structures in proximity to each other providing a variety of roosting opportunities throughout the year; and
- Buildings and built structures close to good foraging habitat e.g. mature trees, parkland, woodland, or wetland.

During the updated building inspection conducted by Ramboll in 2024, one building was assessed for its suitability to support roosting bats (as shown in Appendix 2, Figure 2). This building was made up of two distinct sections (B25 and the Outhouse). The previous surveys undertaken for the building were considered to have expired and this building therefore required re-surveying to obtain up to date baseline data.

[10] Advice-Note.pdf (cieem.net) April 2019
[11] 2016-24264-CLS-CLS
[12] RC219

The exterior elevations of the buildings were inspected for field evidence of roosting bats (using high-powered handheld and head torches), including droppings, urine staining, feeding remains, and potential roosting points.

The surveys followed appropriate methodology as outlined in the Bat Conservation Trust (BCT) Good Practice Guidelines (2023)[13] and Bat Workers Manual (2004)[14].

The buildings surveyed were classified as having bat roosting potential and were subsequently subject to bat emergence surveys. The number of surveys at the buildings were dependent upon the potential of the buildings (low, moderate, or high) and complied with standard survey guidance[15]. Previous surveys undertaken in 2020 found an absence of bat roosts in B25.

Table 2.1 outlines the criteria for each of the bat roosting potential categories.

Table 2.1: Bat Roost Potential Categories in Built Structures

Roost Potential	Description
Confirmed	A structure that is confirmed to support a bat roost.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat. These structures have the potential to support high conservation status roosts (e.g., maternity, or classic cool / stable hibernation site).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, and / or suitable surrounding habitat to be used on a regular basis or by a large number of bats (i.e., unlikely to be suitable for maternity and not cool / stable hibernation site but could be used by individual hibernating bats).
Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e., a complete absence of crevices / suitable shelter at all ground / underground levels).

In addition, the suitability of the site for foraging and commuting bats was assessed.

The potential for the buildings (and subsequent number of surveys required) is outlined below in Table 2.2.

Table 2.2: Bat Roost Potential for Buildings off-site, but in close proximity of the site

Building	Bat Potential	Number of Surveys Required
B25	Low	One
Outhouse	Low	One

2.3 Ground Level Tree Assessment

An initial Ground Level Tree Assessment (GLTA) was conducted by Ramboll ecologists Ellie Frew and James Hrynkiewicz on 8th and 9th April 2024. The weather was overcast with infrequent rain. Following this, another GLTA and tree climbing scoping survey was conducted by two suitably qualified ecologists from Simlaw Ecology Ltd (on behalf of Ramboll) on 28th June 2024 and 1st July

[13] Collins J, 2023. Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition).

[14] Mitchell-Jones & McLeish (2004) Bat Workers Manual (3rd ed). Joint Nature Conservation Committee.

[15] Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London

2024. This second survey included additional trees located within a parcel of woodland (see Trees 2419-1 to 2419-29 in Appendix 2, Figure 2). All trees were located to the north of the site (see Appendix 2, Figure 2).

Following these assessments, a total of 63 trees were classified as having bat roost potential. Of the total 63 trees, 51 were subject to an appropriate number of climbing surveys. Trees that could not be climbed due to access and / or health and safety reasons, or where climbers could not access certain Potential Roost Features (PRFs), were subject to bat emergence surveys. A total of 14 trees therefore underwent emergence surveys. Tree 2442 and Tree 2443 did not undergo emergence surveys as these trees are proposed to be retained as per the emerging development masterplan.

All other trees on site were considered to have negligible potential to support roosting bats.

The surveys followed appropriate methodology as outlined in the Bat Conservation Trust (BCT) Good Practice Guidelines (2023) and Bat Workers Manual (2004).

The potential of trees that were subject to emergence surveys (and number of surveys therefore required) is outlined below in Table 2.3.

Table 2.3: Bat Roost Potential for Trees That Underwent Emergence Surveys on Site

Tree	Bat Potential	Number of Surveys Required
Group 2418	No Access	No Access
Group 2419 – 22	High	Three
Group 2419 – 24	High	Three
Group 2424 A	High	Three
Group 2424 B	High	Three
Tree 2425	High	Three
Tree 2430	High	Three
Tree 2434	High	Three
Tree 2436	High	Three
Tree 2441	High	Three
Tree 2445	High	Three
Tree 2446	High	Three
Tree 2450	High	Three
Tree 2451	High	Three

2.4 Tree Climbing Surveys

Tree climbing surveys of the 51 trees were conducted by suitably qualified ecologists from Simlaw Ecology Ltd (Simlaw) (on behalf of Ramboll) between June and September 2024. Only trees that were considered safe to climb were surveyed.

The surveys followed appropriate methodology as outlined in the Bat Conservation Trust (BCT) Good Practice Guidelines (2023) and Bat Workers Manual (2004).

A team of two ecologists completed three survey visits for each tree. Table 2.5 details the dates of each survey visit.

Table 2.4: Date of each Tree Climbing Survey Visit

Tree Ref.	Survey Dates
Group 2419 woodland trees (T2419-1 to T2418 and T2419-20 to T2419-29)	Visit 1 - 02/07/24 and 03/07/24
	Visit 2 - 13/08/24
	Visit 3 - 16/09/24 (19/12/24 for T2419-29)
Trees in fields (T2417, T2421, T2422, T2423, T2427, T2428, T2429, T2431, T2432, T2433, T2435, T2437, T2438, T2439, T2440, T2444a, T2444b, T2447, T2448, T2449, T2450, T2451, T2452)	Visit 1 - 28/06/24
	Visit 2 - 13/08/24
	Visit 3 - 13/09/24

Trees were climbed by a licensed bat ecologist or accredited agent using a rope and harness to access and closely inspect each of the identified PRFs. A video endoscope (Bosch GIC 120 C Professional Cordless Inspection Camera) with an 8.5 mm lens-head and 3 m articulating probe was using to carry out a detailed inspection of all accessible areas of each PRF.

The following information was recorded for each inspected PRF:

- Dimensions of the PRF;
- Conditions within the PRF;
- Detailed notes on any bats if present;
- Direct evidence of bat habitation (i.e. presence of bat droppings); and
- Indirect evidence of bat habitation (including cavity smoothing or waxing; absence of competitors).

Endoscope photos were taken for all trees, including where bats were present[16].

PRFs were categorised as either 'PRF-I' or 'PRF-M' in line with BCT Guidelines. Table 2.5 provides criteria for each of these categories.

Table 2.5: Suitability of Potential Roost Features in Trees for Bats[17]

Suitability	Description
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to the size of lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

2.5 Bat Emergence Surveys

Dusk emergence surveys of the buildings and 14 trees were conducted by Ramboll and Simlaw ecologists between July and September 2024.

The surveys followed appropriate methodology as outlined in the Bat Conservation Trust (BCT) Good Practice Guidelines (2023) and Bat Workers Manual (2004).

During each survey, surveyors were positioned to allow clear views of each elevation or Potential Roost Feature (PRF), or access point as identified during the initial building inspection or GLTA.

For details on the number of surveyors per building, see Table 2.4 below, and for the number of surveyors per tree, see Table 2.5 below.

[16] Endoscope photos are available on request.

[17] Adapted from Table 7.1, BCT Bat Survey Guidelines (2023)

The surveyors recorded the time and location (including a description of PRFs and access points) of any confirmed or possible emergences. Foraging and commuting activity was also recorded to ascertain an overall picture of the use of the site by bats.

The surveys were conducted from 15 minutes before sunset and carried on for at least 1 hour 30 minutes after sunset (dependent upon levels of bat activity).

The surveyors used ultrasonic bat detectors with in-built recorders (EchoMeter Touch 2 Pro (EMT2 Pro), Wildlife Acoustics and Chorus detectors), allowing bat calls to be recorded. The in-built auto-ID feature was utilised during the survey, with difficult or unexpected calls manually checked after the survey using Kaleidoscope Lite (v5.4.8) and the British Trust for Ornithology (BTO) Acoustic Pipeline.

The surveyors also used Night Vision Aids (NVAs) comprising NightFox Whisker night vision InfraRed (IR) binoculars with tripods, Track and XP50 thermal imaging cameras. NVAs were positioned to capture the full elevation that the surveyor was observing, with IR levels increased throughout the survey as required. Surveyors checked NVAs every 15 minutes to ensure that cameras were still recording correctly and that light levels were still adequately lighting the elevation being observed. Any confirmed or potential emergence times (or times specified by the surveyor to check footage) were checked after the survey using Windows Media Player. Where trees were surveyed using one surveyor and one camera, footage was analysed by watching from start to finish on VLC media player v3.0.20, which has a frame rate of >60FPS to match the framerate of the thermal cameras. The zoom and playback speed functions were used to help identify bats where needed.

Table 2.4 summarises the locations, timings, weather conditions and equipment used during each bat survey on buildings.

Table 2.6: Date, time, weather conditions and equipment and number of surveyors for dusk emergence surveys at buildings at Land West of Ifield.

Building Ref.	Date	Sunset Time	Start / Finish Time	Weather at Start	Weather at End	Detector	Number of Surveyors
B25	01/07/24	21:19	21:04 22:49	17°C, dry, light breeze, 90% cloud	16°C, dry, light breeze, 100% cloud	EMT2 Pro, Nightfox camera	Two
Outhouse	01/07/24	21:19	21:04 22:49	17°C, dry, light breeze, 90% cloud	16°C, dry, light breeze, 100% cloud	EMT2 Pro, Nightfox camera	

Table 2.5 summarises the locations, timings, weather conditions and equipment used during each bat survey on trees.

Table 2.7: Date, time, weather conditions and equipment and number of surveyors for dusk emergence surveys at trees at Land West of Ifield.

Tree Ref.	Date	Sunset Time	Start / Finish Time	Weather at Start	Weather at End	Detector	Number of Surveyors
Group 2418	No Access	-	-	-	-	-	-
Group 2419 – 22	06/08/24	20:38	20:23 22:23	19°C, dry, no wind, 50% cloud	16°C, dry, gentle breeze, 50% cloud	EMT2 Pro	One

Tree Ref.	Date	Sunset Time	Start / Finish Time	Weather at Start	Weather at End	Detector	Number of Surveyors
	28/08/24	19:54	19:39 21:39	20°C, dry, no wind, 90% cloud	18°C, dry, gentle breeze, 90% cloud	Chorus detector Track thermal imaging camera	Two (surveyor and Track thermal imaging camera)
	18/09/24	19:07	18:52 20:52	19°C, dry, no wind, 5% cloud	17°C, dry, no wind, 0% cloud	EMT2 Pro Track thermal imaging camera	Two (surveyor and Track thermal imaging camera)
Group 2419 – 24	06/08/24	20:38	20:23 22:23	19°C, dry, no wind, 50% cloud	16°C, dry, gentle breeze, 50% cloud	EMT2 Pro XP50 thermal imaging camera	Two (surveyor and XP50 thermal imaging camera)
	28/08/24	19:54	19:39 21:39	20°C, dry, no wind, 90% cloud	18°C, dry, gentle breeze, 90% cloud	EMT2 Pro XP50 thermal imaging camera	
	18/09/24	19:07	18:52 20:52	19°C, dry, no wind, 5% cloud	17°C, dry, no wind, 0% cloud	XP50 thermal imaging camera	
Group 2424 A	06/08/24	20:38	20:23 22:08	19°C, dry, no wind, 50% cloud	16°C, dry, gentle breeze, 50% cloud	EMT2 Pro, Nightfox camera	Two
	28/08/24	19:54	19:39 21:39	20°C, dry, no wind, 90% cloud	18°C, dry, gentle breeze, 90% cloud		
	18/09/24	19:07	18:52 20:52	19°C, dry, no wind, 5% cloud	17°C, dry, no wind, 0% cloud		
Group 2424 B	06/08/24	20:38	20:23 22:08	19°C, dry, no wind, 50% cloud	16°C, dry, gentle breeze, 50% cloud	EMT2 Pro, Nightfox camera	One
	28/08/24	19:54	19:39 21:39	20°C, dry, no wind, 90% cloud	18°C, dry, gentle breeze, 90% cloud		Two
	18/09/24	19:07	18:52 20:52	19°C, dry, no wind, 5% cloud	17°C, dry, no wind, 0% cloud		Two
Tree 2425	06/08/24	20:38	20:23 22:08	19°C, dry, no wind, 50% cloud	16°C, dry, gentle breeze, 50% cloud	EMT2 Pro, Nightfox camera	One
	28/08/24	19:54	19:39 21:39	20°C, dry, no wind, 90% cloud	18°C, dry, gentle breeze, 90% cloud	EMT2 Pro and XP50	
	18/09/24	19:07	18:52 20:52	19°C, dry, no wind, 5% cloud	17°C, dry, no wind, 0% cloud	EMT2 Pro and XP50	

Tree Ref.	Date	Sunset Time	Start / Finish Time	Weather at Start	Weather at End	Detector	Number of Surveyors
Tree 2430	06/08/24	20:38	20:23 22:08	19°C, dry, no wind, 50% cloud	16°C, dry, gentle breeze, 50% cloud	EMT2 Pro, Nightfox camera	One
	28/08/24	19:54	19:39 21:39	20°C, dry, no wind, 90% cloud	18°C, dry, gentle breeze, 90% cloud	EMT2 Pro	
	18/09/24	19:07	18:52 20:52	19°C, dry, no wind, 5% cloud	17°C, dry, no wind, 0% cloud	EMT2 Pro	
Tree 2434	05/08/24	20:40	20:31 22:10	21°C, dry, moderate breeze, 10% cloud	20°C, dry, moderate breeze, 10% cloud	EMT2 Pro, Nightfox camera	One
	27/08/24	19:56	19:41 21:41	18°C, dry, no wind, 10% cloud	17°C, dry, no wind, 10% cloud		
	17/09/24	19:09	18:54 20:39	17°C, dry, light breeze, 35% cloud	16°C, dry, light breeze, 35% cloud		
Tree 2436	05/08/24	20:40	20:31 22:10	21°C, dry, moderate breeze, 10% cloud	20°C, dry, moderate breeze, 10% cloud	EMT2 Pro, Nightfox camera	One
	27/08/24	19:56	19:41 21:41	18°C, dry, no wind, 10% cloud	17°C, dry, no wind, 10% cloud		Two
	17/09/24	19:09	18:54 20:39	17°C, dry, light breeze, 35% cloud	16°C, dry, light breeze, 35% cloud		Two
Tree 2441	06/08/24	20:38	20:23 22:08	19°C, dry, no wind, 50% cloud	16°C, dry, gentle breeze, 50% cloud	EMT2 Pro, Nightfox camera	One
	27/08/24	19:56	19:41 21:41	18°C, dry, no wind, 10% cloud	17°C, dry, no wind, 10% cloud		
	17/09/24	19:09	18:54 20:39	17°C, dry, light breeze, 35% cloud	16°C, dry, light breeze, 35% cloud		
Tree 2445	05/08/24	20:40	20:31 22:10	21°C, dry, moderate breeze, 10% cloud	20°C, dry, moderate breeze, 10% cloud	EMT2 Pro	One
	27/08/24	19:56	19:41 21:41	18°C, dry, no wind, 10% cloud	17°C, dry, no wind, 10% cloud	EMT2 Pro	One

Tree Ref.	Date	Sunset Time	Start / Finish Time	Weather at Start	Weather at End	Detector	Number of Surveyors
	17/09/24	19:09	18:54 20:39	17°C, dry, light breeze, 35% cloud	16°C, dry, light breeze, 35% cloud	EMT2 Pro XP50 thermal imaging camera	Two (surveyor and XP50 thermal imaging camera)
Tree 2446	05/08/24	20:40	20:31 22:10	21°C, dry, moderate breeze, 10% cloud	20°C, dry, moderate breeze, 10% cloud	EMT2 Pro	One
	27/08/24	19:56	19:41 21:41	18°C, dry, no wind, 10% cloud	17°C, dry, no wind, 10% cloud	EMT2 Pro	
	17/09/24	19:09	18:54 20:39	17°C, dry, light breeze, 35% cloud	16°C, dry, light breeze, 35% cloud	EMT2 Pro	
Tree 2450	05/08/24	20:40	20:31 22:10	21°C, dry, moderate breeze, 10% cloud	20°C, dry, moderate breeze, 10% cloud	EMT2 Pro	One
	27/08/24	19:56	19:41 21:41	18°C, dry, no wind, 10% cloud	17°C, dry, no wind, 10% cloud	EMT2 Pro XP50 thermal imaging camera	Two (surveyor and XP50 thermal imaging camera)
	17/09/24	19:09	18:54 20:39	17°C, dry, light breeze, 35% cloud	16°C, dry, light breeze, 35% cloud	EMT2 Pro XP50 thermal imaging camera	Two (surveyor and XP50 thermal imaging camera)
Tree 2451	05/08/24	20:40	20:31 22:10	21°C, dry, moderate breeze, 10% cloud	20°C, dry, moderate breeze, 10% cloud	EMT2 Pro XP50 thermal imaging camera	Two (surveyor and XP50 thermal imaging camera)
	27/08/24	19:56	19:41 21:41	18°C, dry, no wind, 10% cloud	17°C, dry, no wind, 10% cloud	EMT2 Pro	One
	17/09/24	19:09	18:54 20:39	17°C, dry, light breeze, 35% cloud	16°C, dry, light breeze, 35% cloud	EMT2 Pro Track thermal imaging camera	Two (surveyor and Track thermal imaging camera)

2.6 Evaluating Bat Roosts

Wray *et al*. (2010)[18] outlined a framework for assessing the importance of bat roosts, with roosts assigned importance based on the rarity of the species and the categorisation of roost type informed by the survey results. This methodology has been developed and updated within the UK Bat Mitigation Guidelines (2023)[19], considering differences in rarity and distribution between regions, as shown in Tables 2.6 and 2.7, respectively.

[18] Wray, S., Well, D., Long, E. & Mitchell-Jones, T (2010) Valuing Bats in Ecological Impact Assessment. CIEEM In Practice. December 2010: 23 – 25.

[19] Reason, R.F. and Wray, S (2023) UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. CIEEM, Ampfield.

Once a value has been calculated, robust mitigation for any impacts identified from the proposed works can be determined.

Table 2.8: Rarity Categories for Bats in South-eastern England/East Anglia

Widespread	Widespread but Rare	Rarer or Restricted Distribution	Rarest (Annex II and very rare species)
Common pipistrelle (*Pipsitrellus pipistrellus*) Soprano pipistrelle (*Pipistrellus pygmaeus*) Brown long-eared (*Plecotus auritus*)	Daubenton's (*Myotis daubentonii*) Natterer's (*Myotis nattereri*) Noctule (*Nyctalus noctula*)	Whiskered (*Myotis mystacinus*) Brandt's (*Myotis brandtii*) Serotine (*Eptesicus serotinus*) Leisler's (*Nyctalus leisleri*) Nathusius' pipistrelle (*Pipsitrellus nathusii*)	Barbastelle (*Barbastella barbastellus*) Alcathoe myotis (*Myotis alcathoe)*

Table 2.7: Assessing Roost Importance[20]

	Widespread	Widespread but Rare	Rarer or Restricted Distribution	Rarest (Annex II and very rare species)
Feeding perches; Night roosts; Individual or very small occasional / transitional / opportunistic roosts	Site	Site	Site / Local / District	Site / Local / District
Non-breeding day roosts (small numbers of species)	Site	Site	Site / Local / District	Site / Local / District
Mating sites; Small numbers of hibernating bats	Site	Site	Site / Local / District	Site / Local / District
Larger transitional roosts	Site / Local	District	District	District
Hibernation sites	District / County	District / County	District / County	County / Regional
Autumn swarming sites	District / County	County / Regional	County / Regional	County / Regional
Maternity sites	District	County	County / Regional	County / Regional

2.7 Limitations

This report has been prepared for the Client and shall not be relied upon by any third party unless that party has been granted a contractual right to rely on this report for the purpose for which it was prepared.

All bat surveys were undertaken at an appropriate time of year, under suitable weather conditions and in accordance with the most recent BCT survey guidelines. However, the bat emergence surveys completed in 2024 did not cover the start of the maternity season for pipistrelles (May-June) and so peak counts may not be indicative of typical maternity roost numbers. Although the surveys missed this period, the roost features being surveyed (particularly those present at B25 and the Outhouse) were not considered suitable for maternity roosts. Therefore, this isn't considered to be a significant limitation and does not impact the conclusions of this report. The third climbing survey visit of T2419-29 was also undertaken out of the bat season (19th December 2024) due to a PRF being identified during a subsequent survey visit. This is not thought to be a significant limitation, however due to the winter being a beneficial time of year for the detection of transitional and hibernation roosts, and the fact that T2419-29 is currently proposed to be retained as part of the development. Additional mitigation has been suggested however to address the timing of the third

[20] Adapted from Table 3.2, UK Bat Mitigation Guidelines

survey (if required), in the event that the proposed development plans change and T2419-29 is impacted. (see section 5.1 for more details).

Bats are mobile creatures and can occupy different habitats at different times. Bat emergence surveys do not consider seasonal differences or the physical changes to the site and its features after the survey date due to weathering, maintenance, deterioration, or damage. The absence of a species cannot be confirmed by a lack of field signs.

It is widely accepted that some bat species (including *Myotis* sp. and *Plecotus* sp.) cannot be identified to species levels by acoustic analysis alone, however, call characteristics may give some indication of species and allow some species to be ruled out with a degree of confidence based on multiple call parameters.

The identification of bat species based on echolocation calls using computer sonogram analysis software is dependent upon the clarity of the sonogram / recording. The quality is subject to weather conditions, the distance of bats from the detector, the presence of physical obstructions and the level of background noise.

Internal building inspections were not able to be completed due to a lack of access to B25 and Outhouse. The PRF's identified from the external inspection however, did not suggest access into an internal void space.

In several instances, only one surveyor was used to survey trees (see Table 2.5), the rationale for this is provided below in Table 2.8.

Table 2.8: Surveyor Rationale

Tree	Survey	Rationale
Group 2419 – 22	First survey on 6th August 2024	Group 2419 – 22 had one surveyor during the first survey on 6th August 2024 and upon reassessment, the number of surveyors was increased to two for survey two and three due to the identification of additional PRFs.
Group 2424 B	First survey on 6th August 2024	Group 2424 B had one surveyor during the first survey on 6th August 2024 and upon reassessment, the number of surveyors was increased to two for survey two and three due to the identification of additional PRFs.
Tree 2425	Throughout all three surveys	Throughout all three surveys, Tree 2425 had one surveyor due to the tree being adjacent to broadleaved woodland, which meant that dense vegetation prevented a second surveyor from viewing the east side of the tree.
Tree 2430	Throughout all three surveys	Throughout all three surveys, Tree 2430 had one surveyor due to dense vegetation preventing a second surveyor from viewing the south side of the tree.
Tree 2434	Throughout all three surveys	Throughout all three surveys, Tree 2434 had one surveyor as the northwest side of the tree was located outside of the red line boundary and no access was permitted for a second surveyor to be placed within the neighbouring land.
Tree 2436	First survey on 5th August 2024	Tree 2436 had one surveyor during the first survey on 5th August 2024 and upon reassessment, the number of surveyors was increased to two for survey two and three due to the identification of additional PRFs.
Tree 2441	Throughout all three surveys	Throughout all three surveys, Tree 2441 had one surveyor due to dense vegetation preventing a second surveyor from viewing the south side of the tree.
Tree 2441	Throughout all three surveys	Throughout all three surveys, Tree 2441 had one surveyor due to having only one PRF needing to the surveyed.

Tree	Survey	Rationale
Tree 2445	First and second survey	Throughout the first and second survey, Tree 2445 had one surveyor due to the southeast side of the tree facing the outside of the red line boundary and so no access was permitted for a second surveyor to be placed within the neighbouring land.
Tree 2446	Throughout all three surveys	Throughout all three surveys, Tree 2446 had one surveyor due to the southeast side of the tree facing the outside of the red line boundary and so no access was permitted for a second surveyor to be placed within the neighbouring land.
Tree 2450	First survey on 5th August 2024	Tree 2450 had one surveyor during the first survey on 5th August 2024 and upon reassessment, the number of surveyors was increased to two for survey two and three due to the identification of additional PRFs.
Tree 2451	Second survey on	Throughout the second survey, Tree 2451 had one surveyor due to the east side of the tree facing the outside of the red line boundary and so no access was permitted for a second surveyor to be placed within the neighbouring land.

Group 2418 (identified as having PRFs during the GLTA) was subsequently confirmed as being located outside the site boundary and within neighbouring land, with surveyor access not permitted meaning that Group 2418 could not be surveyed.

During the first emergence survey on G2424 B (6th August 2024), an EMT2 Pro bat detector did not record correctly, and no audio data was therefore available for analysis. This is not considered a significant limitation however as there are another two surveys worth of data and the surveyor confirmed the auto-ID in the field at the time of the survey.

During the third emergence survey on Tree 2436 (17th September 2024), the survey footage from the associated NVA corrupted during the data upload and no video footage was therefore available for analysis. No emergences were observed during the first and second survey, which therefore makes it unlikely that emergences would have been observed on the third survey. As a result of this, two potential bat emergences observed by the surveyor were unable to be confirmed. These observations have therefore been recorded as confirmed emergences on a precautionary basis. This is not considered to be a significant limitation due to T2436 already having a confirmed emergence, so there is no effect to the overall site mitigation strategy for bats.

Ramboll is satisfied that this report represents a robust appraisal of the site. If any action or development has not taken place on this land within 12 months of the date of this report, the findings of this survey should be reviewed by a suitably qualified ecologist and may need to be updated.