

# **A358 Taunton to Southfields Dualling Bat Activity surveys Technical Report Appendix F Part 2**

**PCF STAGE 2**

**HE551508-MMSJV-EBD-000-RP-LB-0051**

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**Date: July 2021**

**Version P04**

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Highways England Project Manager:

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Amar Parkinson

PCF STAGE 2

Mott MacDonald Sweco Joint  
Venture

## Document control

Client	Highways England
Project	A358 Taunton to Southfields Dualling
Document title	A358 Bat Activity Surveys Technical Report
Job no.	HE551508
Document reference	HE551508-000-RP-LP-0051

## Revision history

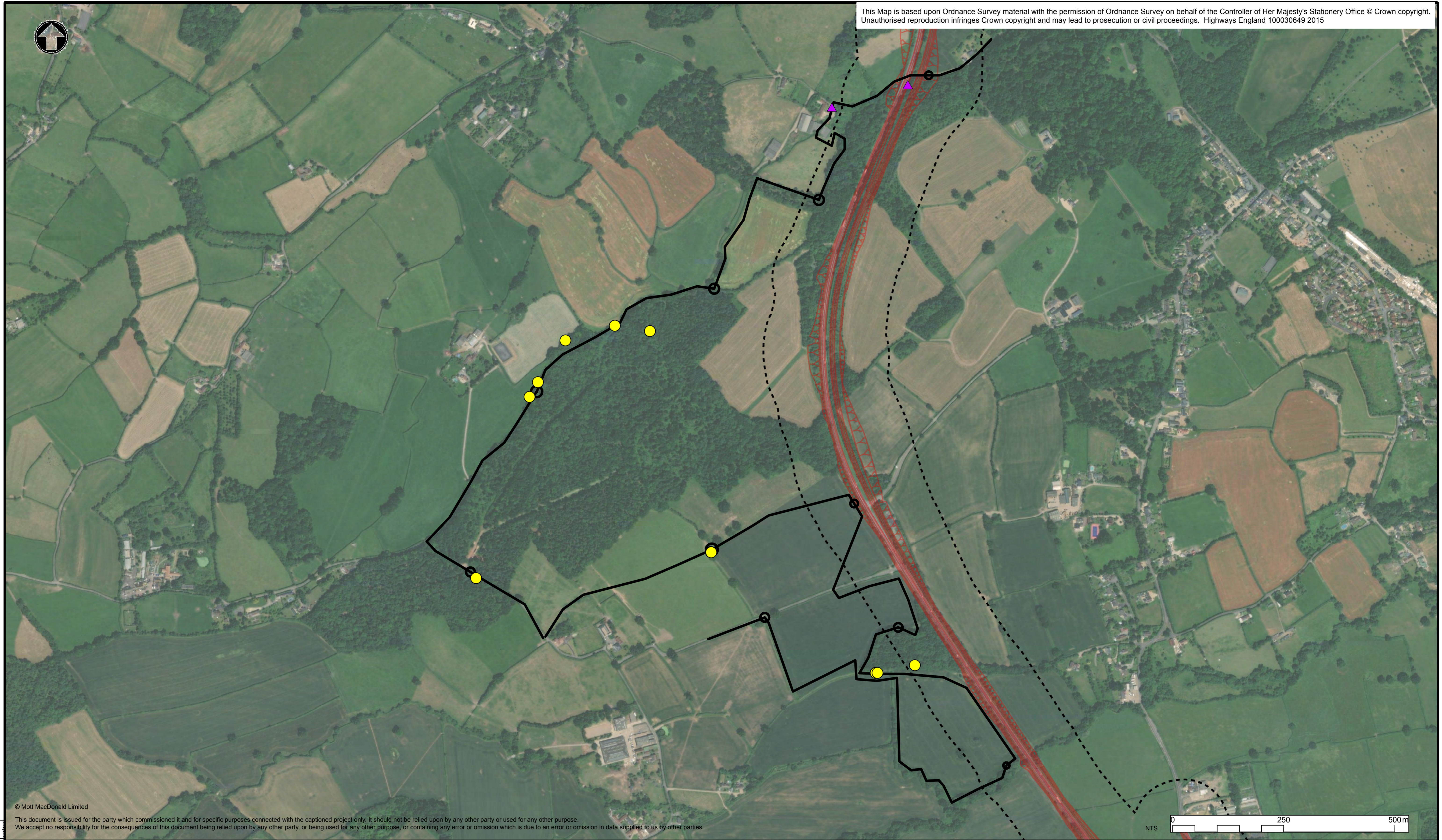
Job number: HE551508			Document ref: HE551508-MMSJV-EBD-000-RP-LB-0051			
Revision	Purpose description	Originator	Checked	Approved	Authorised	Date
P01	First Revision	D. Byett A. Evans	S. Mason	K. Atkinson	E. Rapa	11.01.2021
P02	Updated following comments	D. Byett	S. Mason	K. Atkinson	E. Rapa	03.03.2021
P03	Updated following comments	A. Evans	D. Byett	K. Atkinson	E. Rapa	24.06.2021
P04	Updated following comments	D. Byett	S. Mason	K. Atkinson	E. Rapa	12.07.2021

### Prepared for:

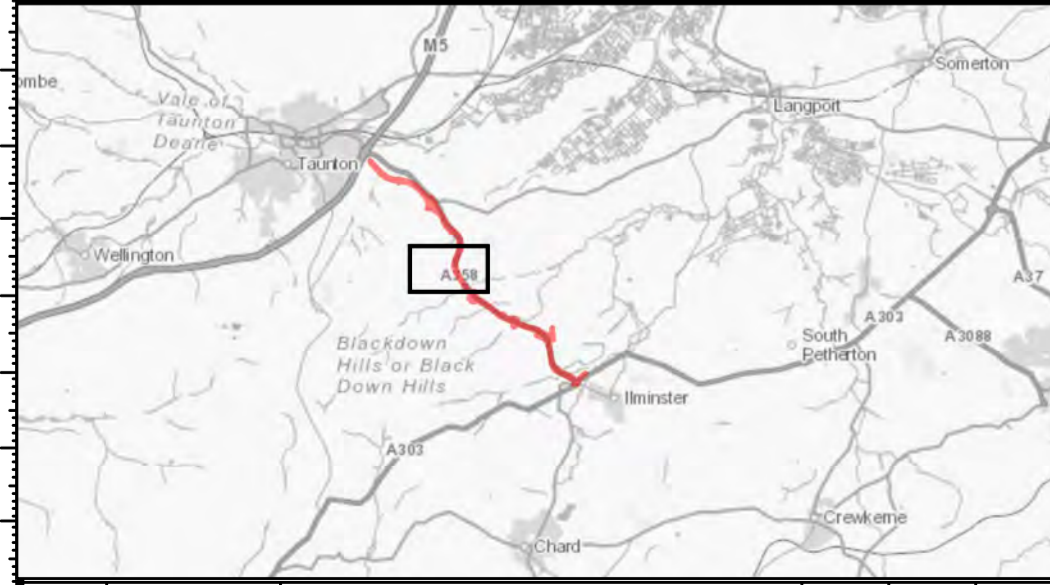
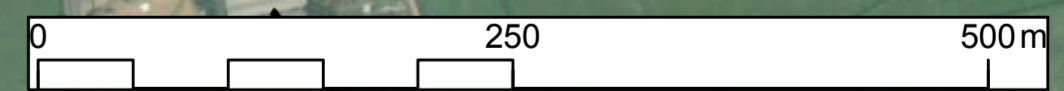
Highways England  
Temple Quay House  
2 The Square  
Temple Quay  
Bristol  
BS1 6HA

### Prepared by:

Mott MacDonald Sweco Joint Venture  
Stoneham Place  
Stoneham Lane  
Southampton  
Hampshire  
SO50 9NW



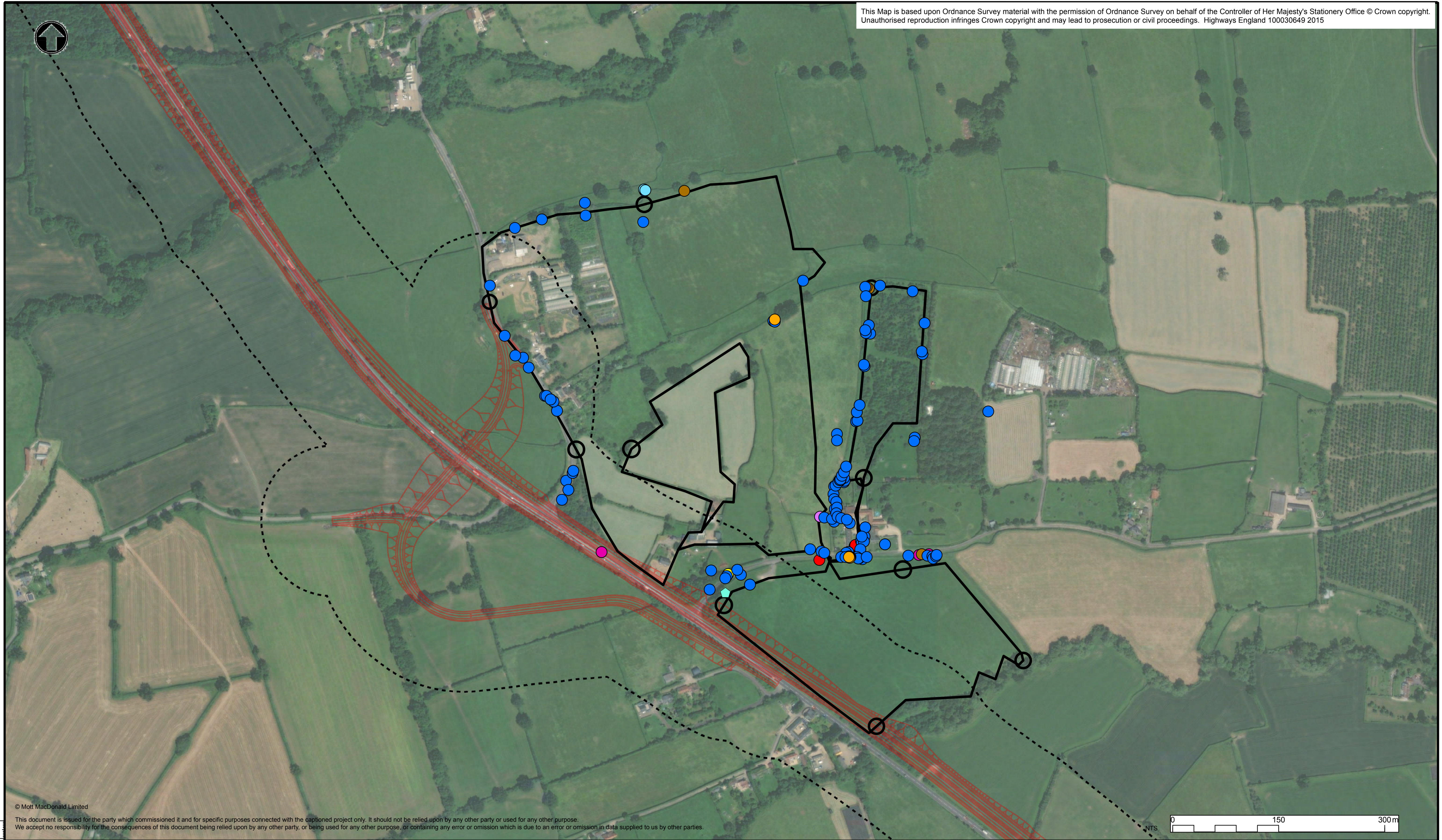
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<b>Notes</b>		<b>Key to symbols</b>		<b>References drawings</b>	
Pink Modified Scheme, Mott MacDonald (2018) Transect results, Mott MacDonald (2020)		— Pink modified scheme option			
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics,		--- 100m buffer			
		— Transect 9			
		<b>Species</b>			
		● Barbastelle			
		▲ Lesser Horseshoe			

Drawing Status		Suitable for Stage Approval		S4		Project Title		A358 Taunton to Southfields											
Client		<b>Mott MacDonald Sweco</b>		Stoneham Place Stoneham Lane Southampton SO50 9NW Tel : +44 (0)23 8062 8800 Fax : +44 (0)23 8062 8801 www.mottmac.com		Drawing Title		Transect Results Barbastelle and Lesser HorseshoeSpecies Transect Route 9											
Scale		NTS		Designed		DL		Drawn		ER		Checked		SM		Approved		ER	
Original Size		A1		Date		10/03/2021		Date		10/03/2021		Date		10/03/2021		Date		10/03/2021	
Drawing Number		HE PIN		Originator		Volume		Project Ref. No.		HE551508 - MMSJV		- EBD -		370774		Revision		P1	
Location		000		- DR - LB - 0194															

P1	06/01/2021	Suitable for Stage Approval	ER	SM	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D



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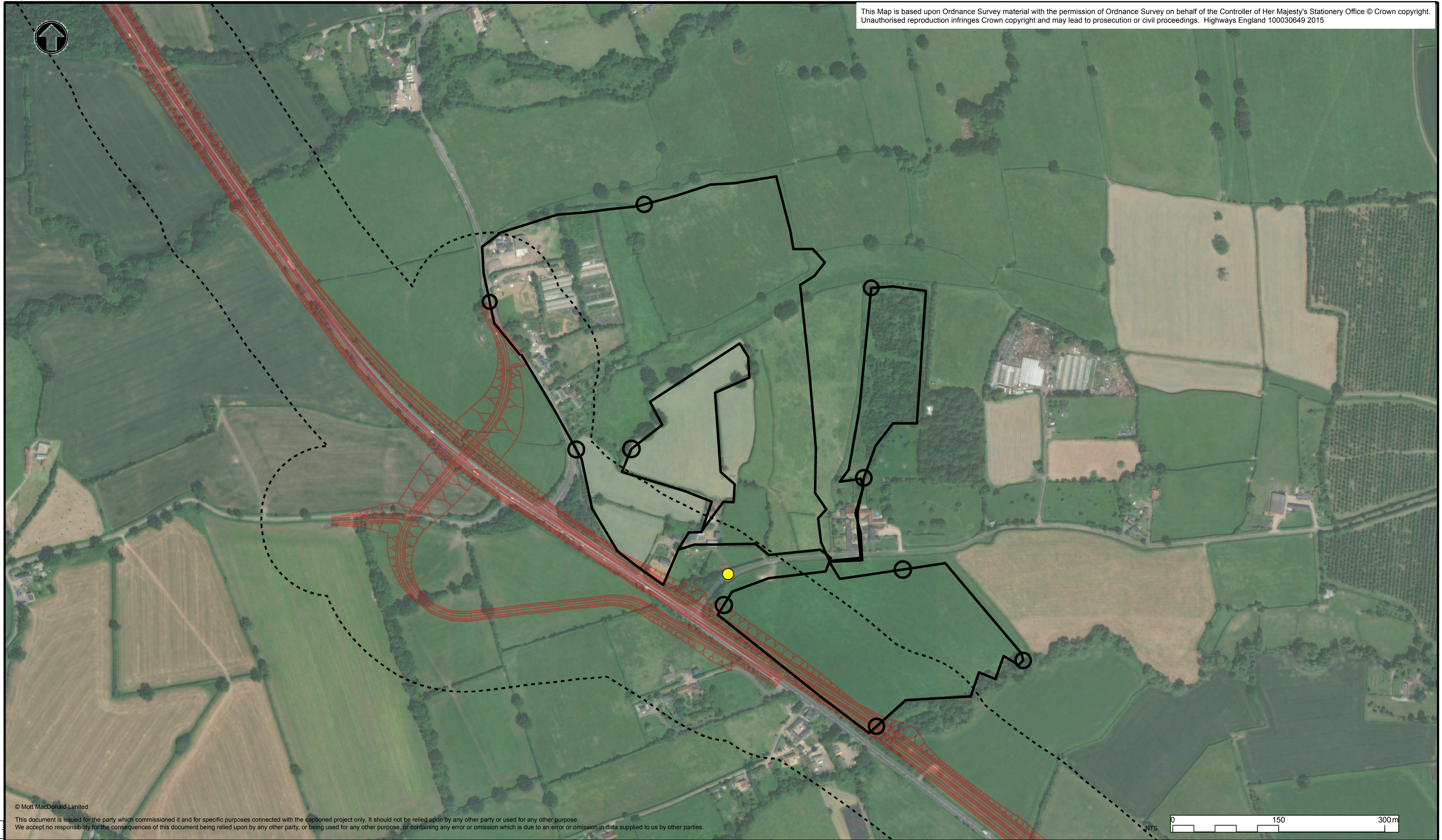


**Notes**  
 Pink Modified Scheme, Mott MacDonald (2018)  
 Transect results, Mott MacDonald (2020)  
 Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics,

Key to symbols		References drawings	
	Pink modified scheme option		Nyctaloid
	100m buffer		Leisler's bat
	Transect 10		Noctule
<b>Species</b>			Soprano Pipistrelle
	Barbastelle		Pipistrelle species
	Serotine		Common Pipistrelle
	Myotis		

Drawing Status		Suitable for Stage Approval		S4		Project Title		A358 Taunton to Southfields			
Client		<b>Mott MacDonald Sweco</b>		Stoneham Place Stoneham Lane Southampton SO50 9NW Tel : +44 (0)23 8062 8800 Fax : +44 (0)23 8062 8801 www.mottmac.com		Drawing Title		Transect Results All Species Transect Route 10			
Scale	NTS	Designed	DL	Drawn	ER	Checked	SM	Approved	ER		
Original Size	A1	Date	10/03/2021	Date	10/03/2021	Date	10/03/2021	Date	10/03/2021		
Drawing Number	HE PIN	Originator	Volume		Project Ref. No.		370774				
000			- DR - LB - 0195		Revision		P1				
Location		Type	Role	Number							

P1	10/03/2021	Suitable for Stage Approval	ER	SM	ER
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**Notes**      **Key to symbols**      **References drawings**

Pink Modified Scheme, Mott MacDonald (2018)  
Transect results, Mott MacDonald (2020)

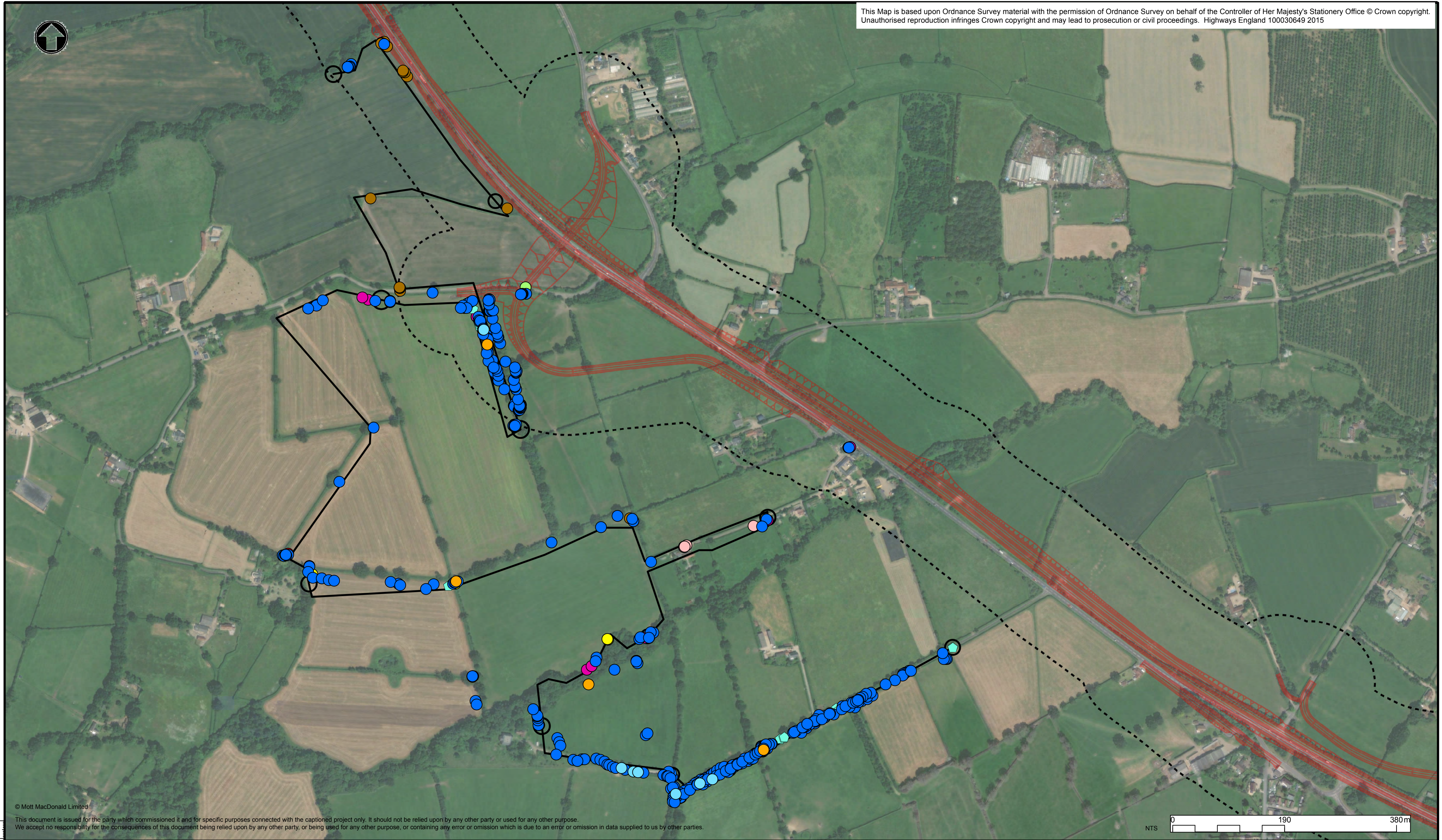
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics,

— Pink modified scheme option  
 - - - 100m buffer  
 — Transect 10

**Species**  
 ● Barbastelle

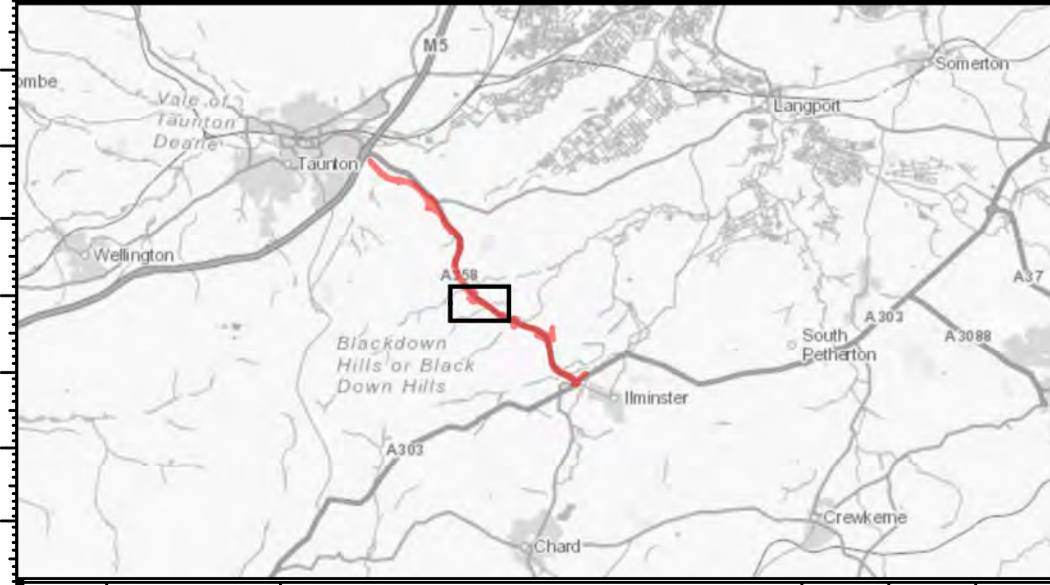
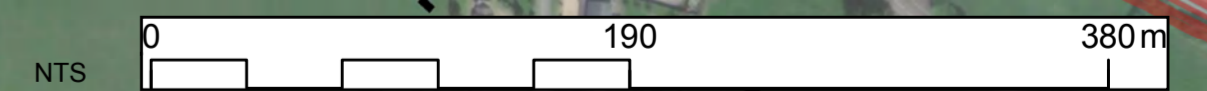
P1	10/03/2021	Suitable for Stage Approval	ER	SM	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D

Drawing Status	Suitable for Stage Approval	Suitability	S4	Project Title	A358 Taunton to Southfields									
<b>Mott MacDonald Sweco</b> Stoneham Place Stoneham Lane Southampton SO50 9NW Tel : +44 (0)23 8062 8800 Fax : +44 (0)23 8062 8801 www.mottmac.com		Drawing Title Transect Results Barbastelle Species Transect Route 10			Scale	NTS	Designed	DL	Drawn	ER	Checked	SM	Approved	ER
Client			Original Size	A1	Date	10/03/2021	Date	10/03/2021	Date	10/03/2021	Date	10/03/2021	Date	10/03/2021
Drawing Number HE PIN HE551508 - MMSJV - EBD - 000		Originator Volume - DR - LB - 0196		Project Ref. No. 370774		Revision P1								



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**Notes**

Pink Modified Scheme, Mott MacDonald (2018)  
Transect results, Mott MacDonald (2020)

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics,

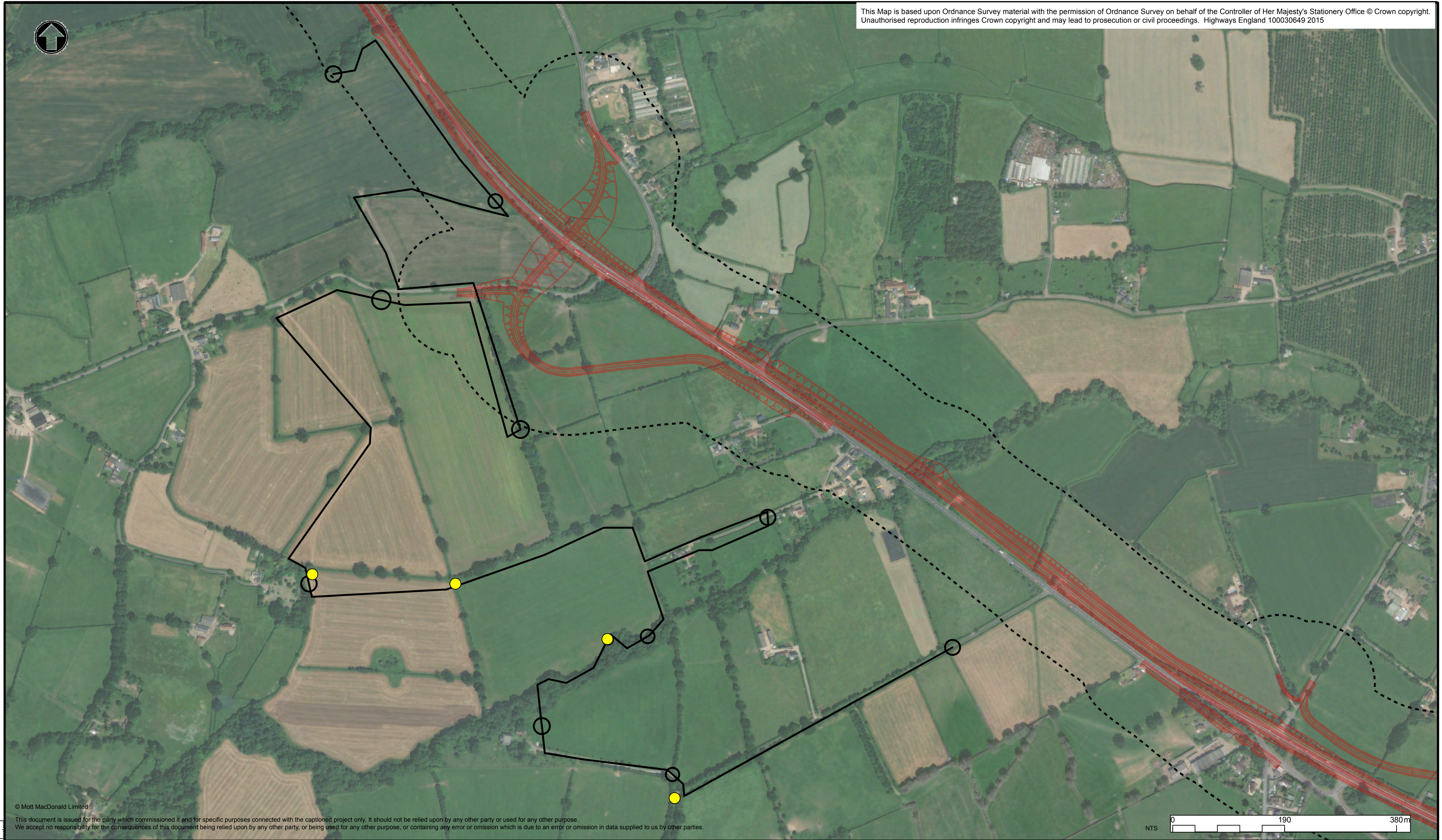
**Key to symbols**

- Pink modified scheme option
- 100m buffer
- Transect 11
- Species**
- Barbastelle
- Serotine
- ◆ Myotis spp.
- Nyctaloid
- Common Noctule
- Nyctalus spp.
- Common Pipistrelle
- Soprano Pipistrelle
- Pipistrelle species
- Long-eared bat

**References drawings**

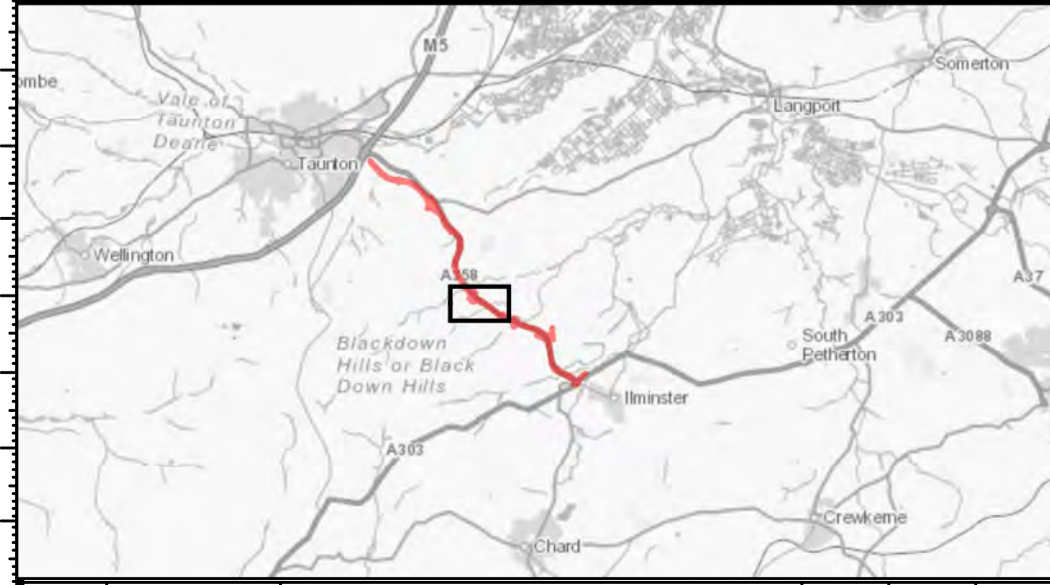
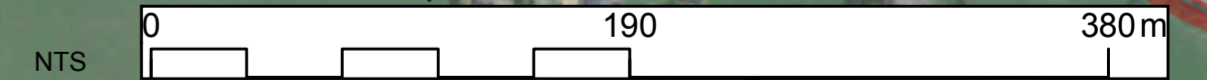
Suitable for Stage Approval		S4		Project Title <b>A358 Taunton to Southfields</b>	
<b>Mott MacDonald Sweco</b>		Stoneham Place Stoneham Lane Southampton SO50 9NW Tel : +44 (0)23 8062 8800 Fax : +44 (0)23 8062 8801 www.mottmac.com		Drawing Title <b>Transect Results All Species Transect Route 11</b>	
Scale NTS	Designed DL	Drawn ER	Checked SM	Approved ER	
Original Size A1	Date 11/03/2021	Date 11/03/2021	Date 11/03/2021	Date 11/03/2021	
Drawing Number HE PIN HE551508 - MMSJV		Originator Volume - EBD -		Project Ref. No. 370774	
000		- DR - LB - 0197		Revision P2	
Location		Type		Role	

P2	11/03/2021	Suitable for Stage Approval	ER	SM	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D



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**Notes**      **Key to symbols**      **References drawings**

Pink Modified Scheme, Mott MacDonald (2018)  
Transect results, Mott MacDonald (2020)

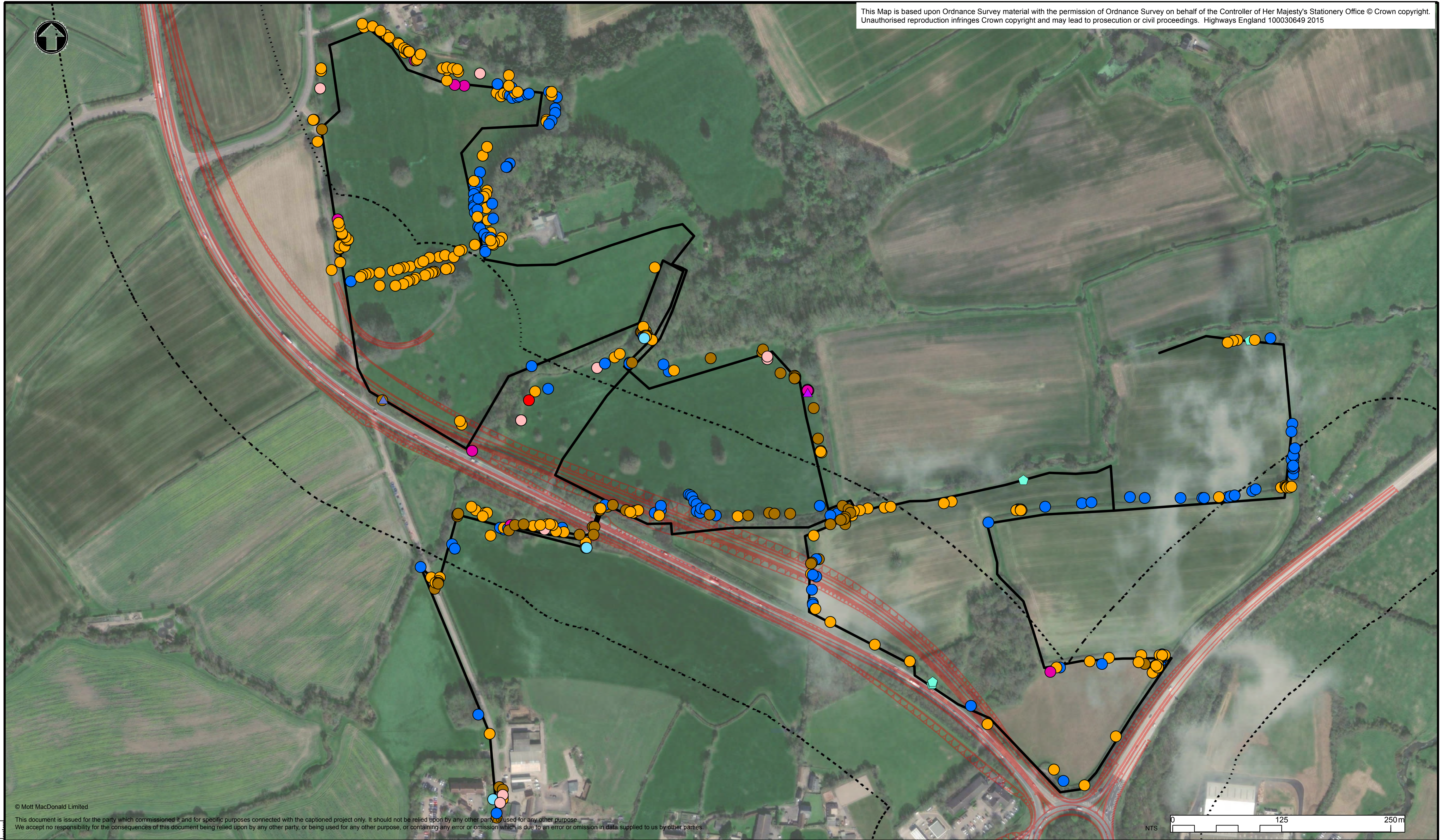
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics,

— Pink modified scheme option  
 - - - 100m buffer  
 — Transect 11  
**Species**  
 ● Barbastelle

P2	11/03/2021	Suitable for Stage Approval	ER	SM	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D

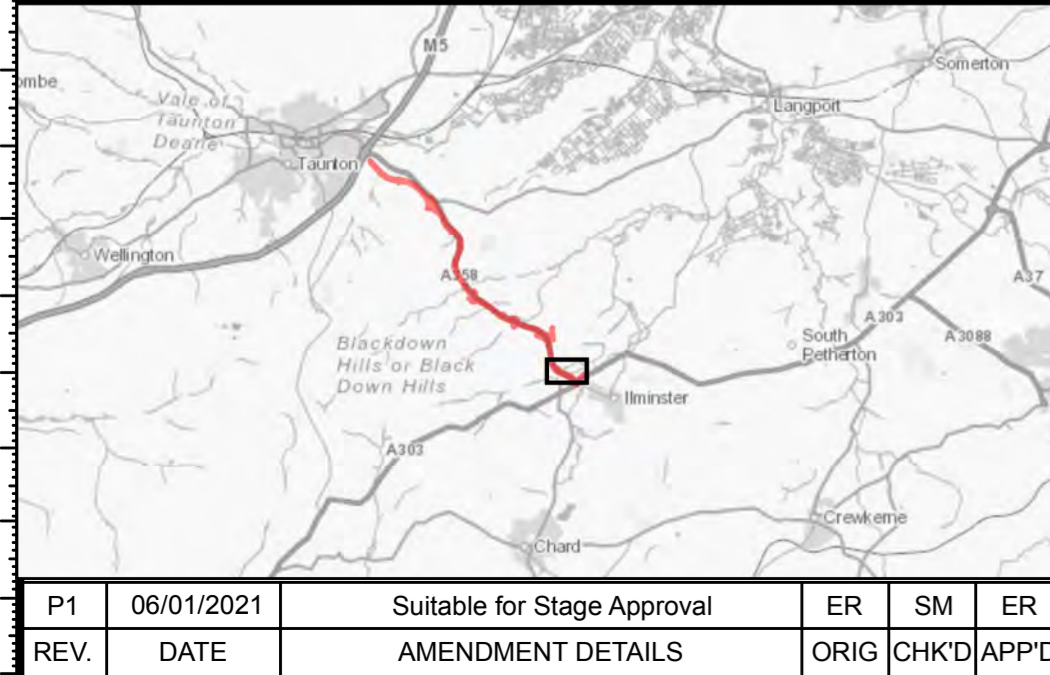
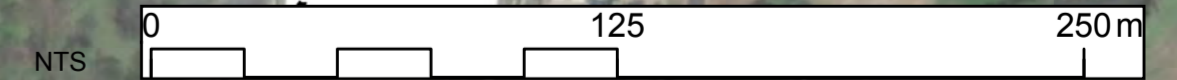
Drawing Status		Suitable for Stage Approval		Sutability		S4		Project Title				A358 Taunton to Southfields																			
Client		<b>Mott MacDonald Sweco</b>		Stonham Place Stonham Lane Southampton SO50 9NW Tel : +44 (0)23 8062 8800 Fax : +44 (0)23 8062 8801 www.mottmac.com		Drawing Title		Transect Results Barbastelle Species Transect Route 11				Scale		NTS		Designed		DL		Drawn		ER		Checked		SM		Approved		ER	
Drawing Number		HE PIN		Originator		Volume		Project Ref. No.		370774		Original Size		A1		Date		11/03/2021		Date		11/03/2021		Date		11/03/2021		Date		11/03/2021	
Drawing Number		HE PIN		Originator		Volume		Project Ref. No.		370774		Original Size		A1		Date		11/03/2021		Date		11/03/2021		Date		11/03/2021		Date		11/03/2021	
000		- DR - LB - 0198		- EBD -		- DR - LB - 0198		Revision		P2		Location		Type		Role		Number													





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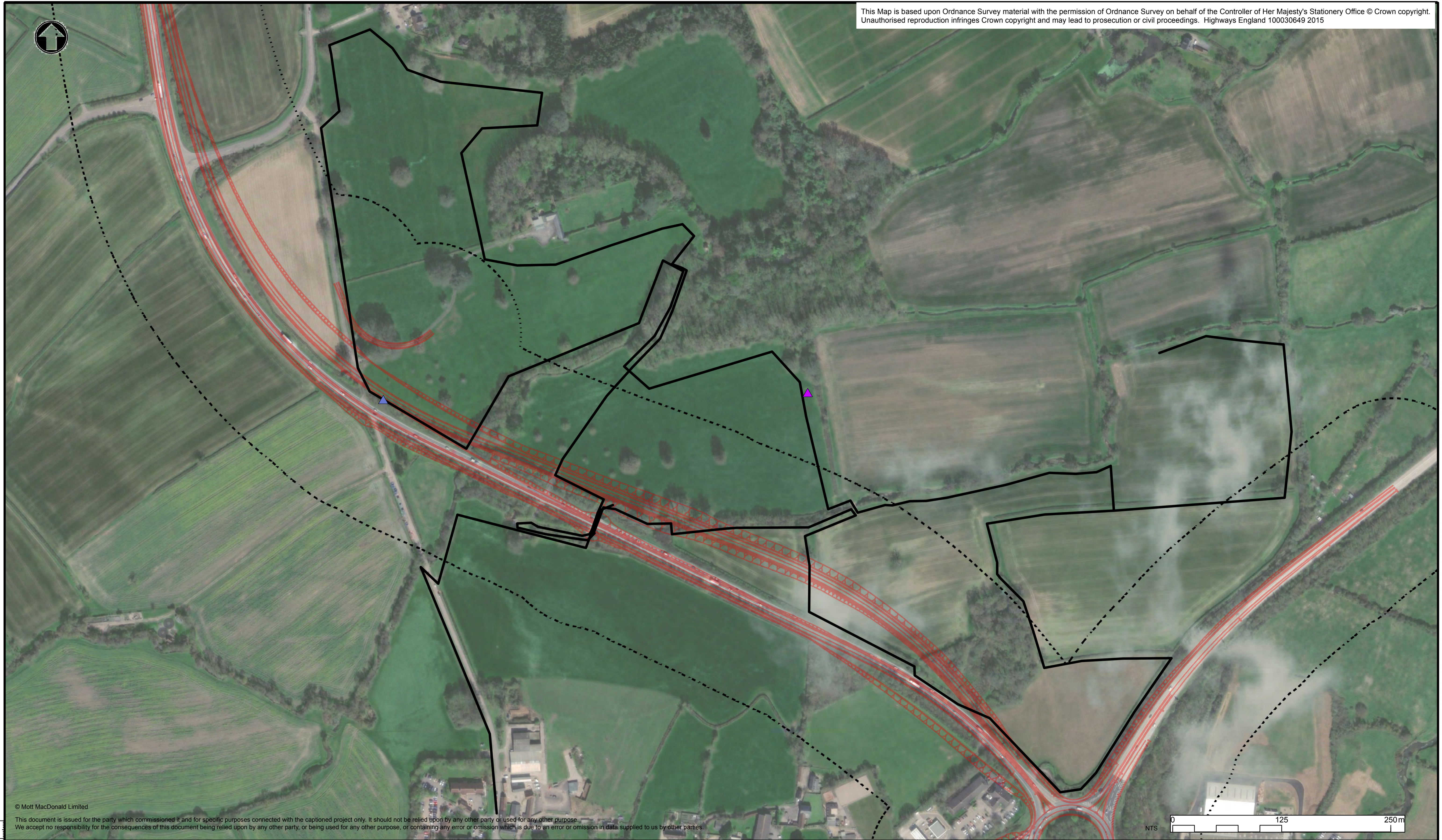
**Notes**  
 Pink Modified Scheme, Mott MacDonald (2018)  
 Transect results, Mott MacDonald (2020)  
 Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics,

Key to symbols		References drawings	
	Pink modified scheme option		Common Noctule
	100m buffer		Common Pipistrelle
	Transect 12		Soprano Pipistrelle
<b>Species</b>			Pipistrelle species
	Serotine		Long-eared bat
	Myotis		Greater Horseshoe
	Nyctaloid		Lesser Horseshoe

Drawing Status		Suitable for Stage Approval		Sutability		S4		Project Title				A358 Taunton to Southfields																			
Client		<b>Mott MacDonald Sweco</b>		Stoneham Place Stoneham Lane Southampton SO50 9NW Tel: +44 (0)23 8062 8800 Fax: +44 (0)23 8062 8801 www.mottmac.com		Drawing Title		Transect Results All Species Transect Route 12				Scale		NTS		Designed		DL		Drawn		ER		Checked		SM		Approved		ER	
Drawing Number		HE PIN		Originator		Volume		Date		Date		Date		Date		Date		Date		Date		Date		Date		Date		Date			
000		HE551508 - MMSJV		- EBD -		- DR - LB -		0199		06/01/2021		06/01/2021		06/01/2021		06/01/2021		06/01/2021		06/01/2021		06/01/2021		06/01/2021		06/01/2021		06/01/2021			
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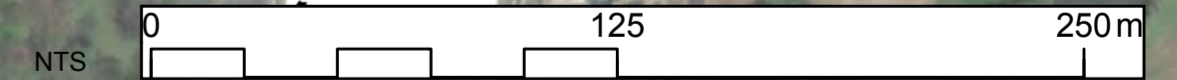
P1	06/01/2021	Suitable for Stage Approval	ER	SM	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D





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**Notes**

Pink Modified Scheme, Mott MacDonald (2018)  
Transect results, Mott MacDonald (2020)

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics,

**Key to symbols**

— Pink modified scheme option

--- 100m buffer

— Transect 12

**Species**

▲ Greater Horseshoe

▲ Lesser Horseshoe

**References drawings**

**Drawing Status**

Suitable for Stage Approval

**Suitability**

S4

**Project Title**

A358 Taunton to Southfields

**Mott MacDonald Sweco**

Stoneham Place  
Stoneham Lane  
Southampton  
SO50 9NW  
Tel: +44 (0)23 8062 8800  
Fax: +44 (0)23 8062 8801  
www.mottmac.com

**Drawing Title**

Transect Results Lesser and Greater Horseshoe Species  
Transect Route 12

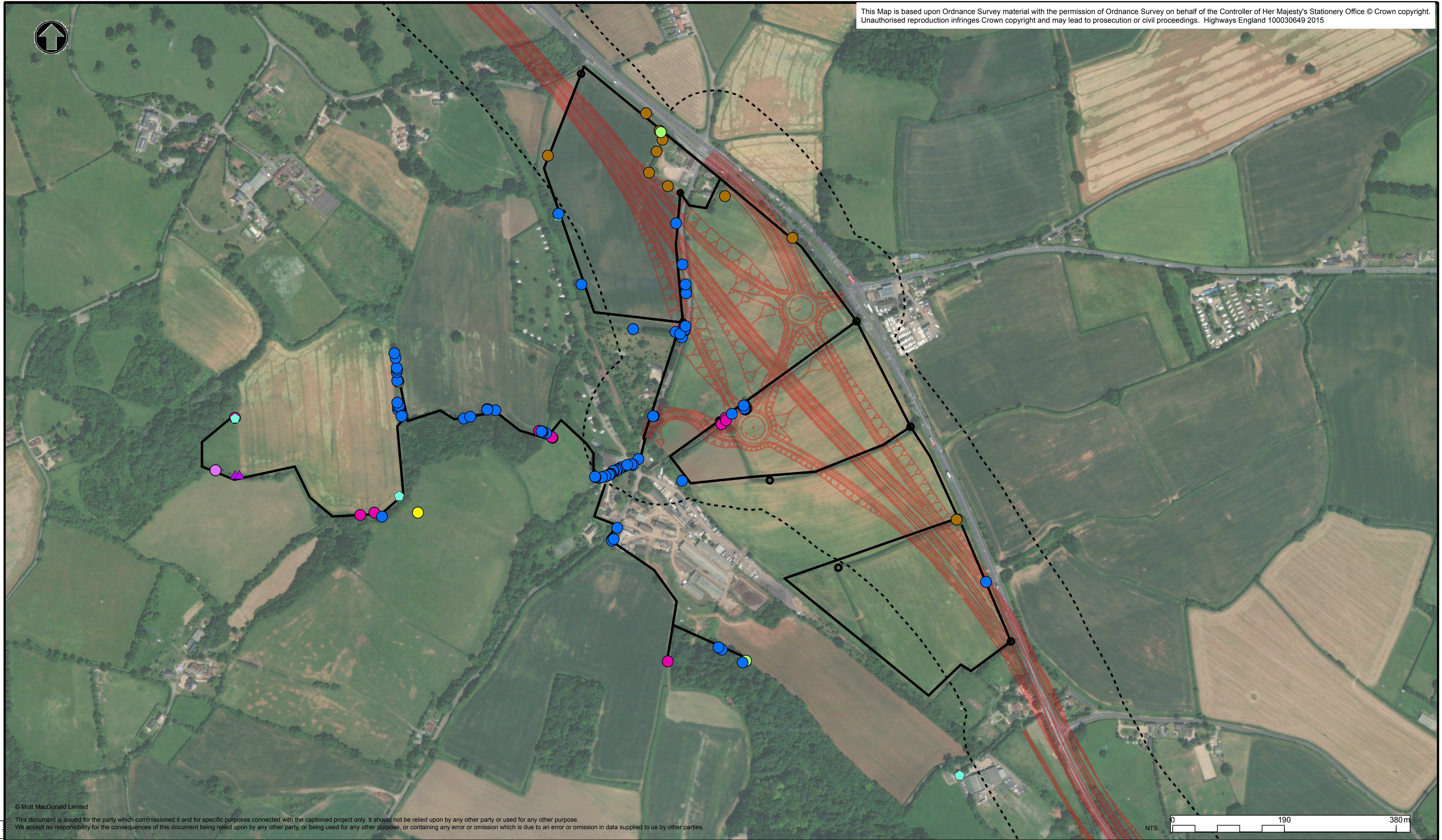
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Original Size A1	Date 06/01/2021	Date 06/01/2021	Date 06/01/2021	Date 06/01/2021
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Drawing Number HE PIN HE551508 - MMSJV	Originator - EBD -	Volume - DR - LB - 0200	Project Ref. No. 370774
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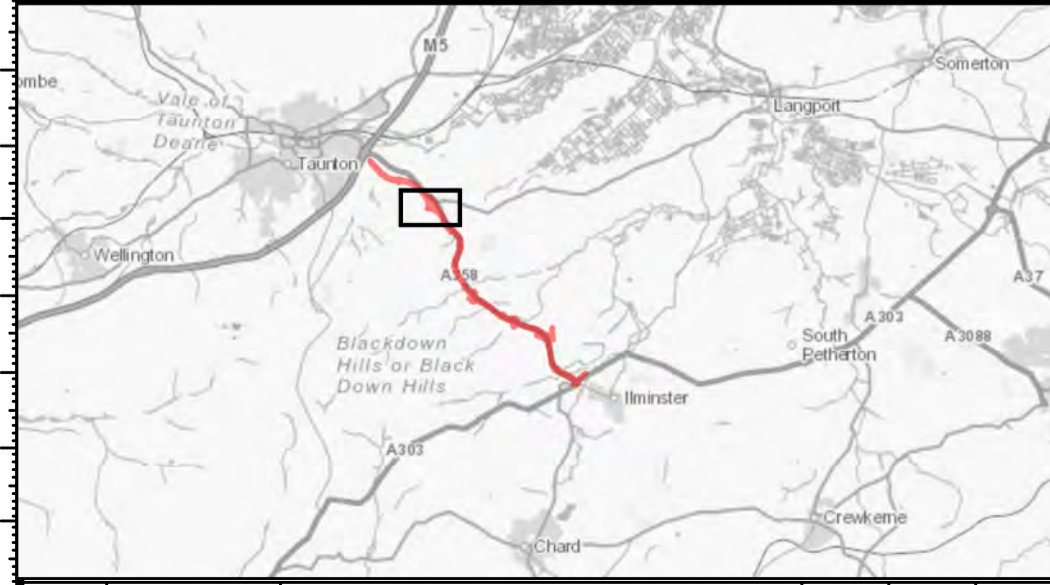
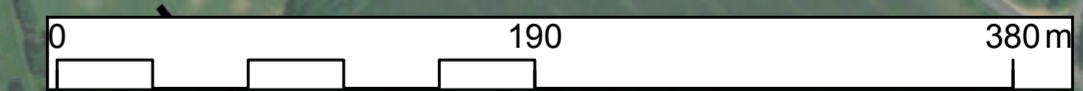
Location	Type	Role	Number	Revision P1
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P1	06/01/2021	Suitable for Stage Approval	ER	SM	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D



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**Notes**

Pink Modified Scheme, Mott MacDonald (2018)  
Transect results, Mott MacDonald (2020)

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics,

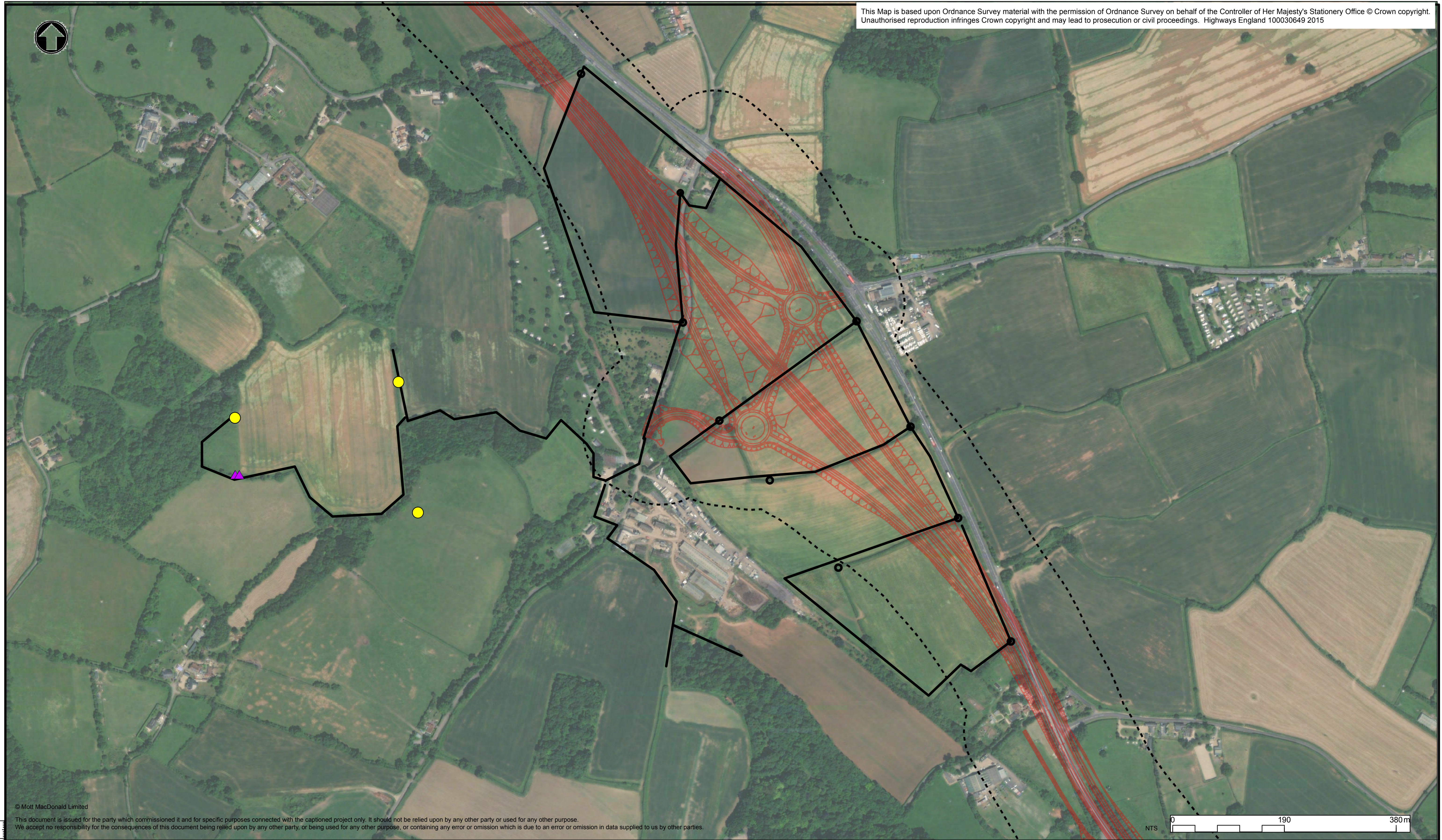
**Key to symbols**

- Pink modified scheme option
- 100m buffer
- Transect 13
- Species**
- Barbastelle
- Serotine
- ◆ Myotis
- Leisler's bat
- Common Noctule
- Nyctalus spp.
- Common Pipistrelle
- ▲ Lesser Horseshoe

**References drawings**

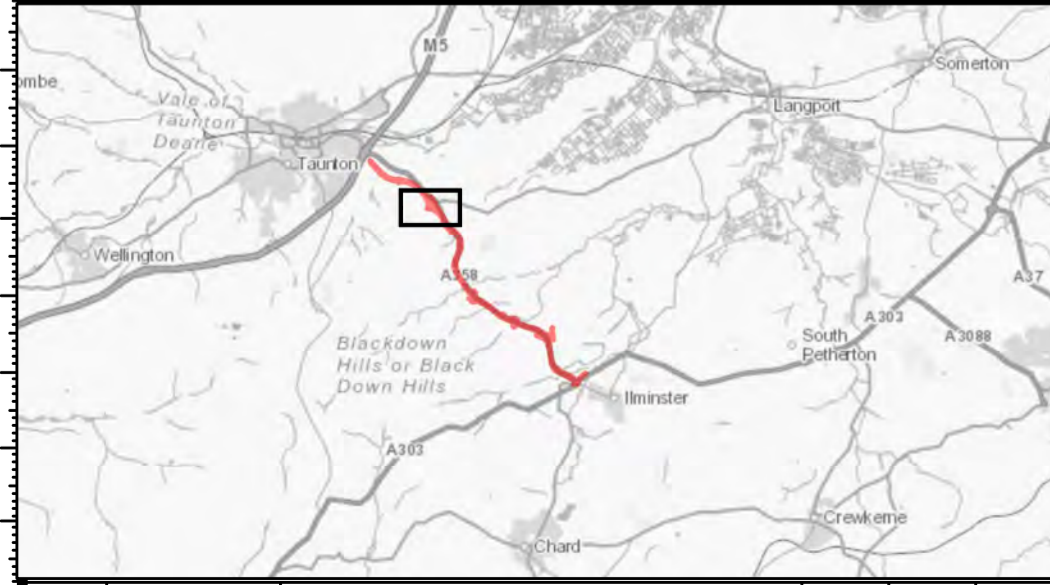
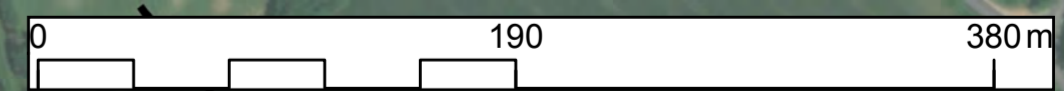
Drawing Status		Suitable for Stage Approval		Sutability		S4		Project Title			
		<b>Mott MacDonald Sweco</b>		Stoneham Place Stoneham Lane Southampton SO50 9NW Tel: +44 (0)23 8062 8800 Fax: +44 (0)23 8062 8801 www.mottmac.com		A358 Taunton to Southfields					
								Drawing Title			
								Transect Results All Species Transect Route 13			
Scale	NTS	Designed	DL	Drawn	ER	Checked	SM	Approved	ER		
Original Size	A1	Date	06/01/2021	Date	06/01/2021	Date	06/01/2021	Date	06/01/2021		
Drawing Number	HE PIN	Originator	Volume		Project Ref. No.		370774				
000		MMSJV	- EBD -		Revision		P1				
Location		Type	Role	Number							

P1	06/01/2021	Suitable for Stage Approval	ER	SM	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D



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**Notes**

Pink Modified Scheme, Mott MacDonald (2018)  
Transect results, Mott MacDonald (2020)

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics,

**Key to symbols**

- Pink modified scheme option
- 100m buffer
- Transect 13
- Species**
- Barbastelle
- ▲ Lesser Horseshoe

**References drawings**

Drawing Status		Suitable for Stage Approval		Sutability		S4		Project Title				A358 Taunton to Southfields			
		Stoneham Place Stoneham Lane Southampton SO50 9NW Tel : +44 (0)23 8062 8800 Fax : +44 (0)23 8062 8801 www.mottmac.com		Drawing Title				Transect Results Barbastelle and Lesser Horseshoe Species Transect Route 13							
				Scale	NTS	Designed	DL	Drawn	ER	Checked	SM	Approved	ER		
Client		Original Size	A1	Date	06/01/2021	Date	06/01/2021	Date	06/01/2021	Date	06/01/2021	Project Ref. No.			370774
		Drawing Number	HE PIN		Originator	Volume		Project Ref. No.			Revision			P1	
		000			- DR - LB -	0202									
		Location		Type		Role		Number							

P1	06/01/2021	Suitable for Stage Approval	ER	SM	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D



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**Notes**

Pink Modified Scheme, Mott MacDonald (2018)  
Transect and static locations, Mott MacDonald (2017-2020)  
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics,

**Key to symbols**

- Pink modified scheme option
- Transect 2
- 250m buffer

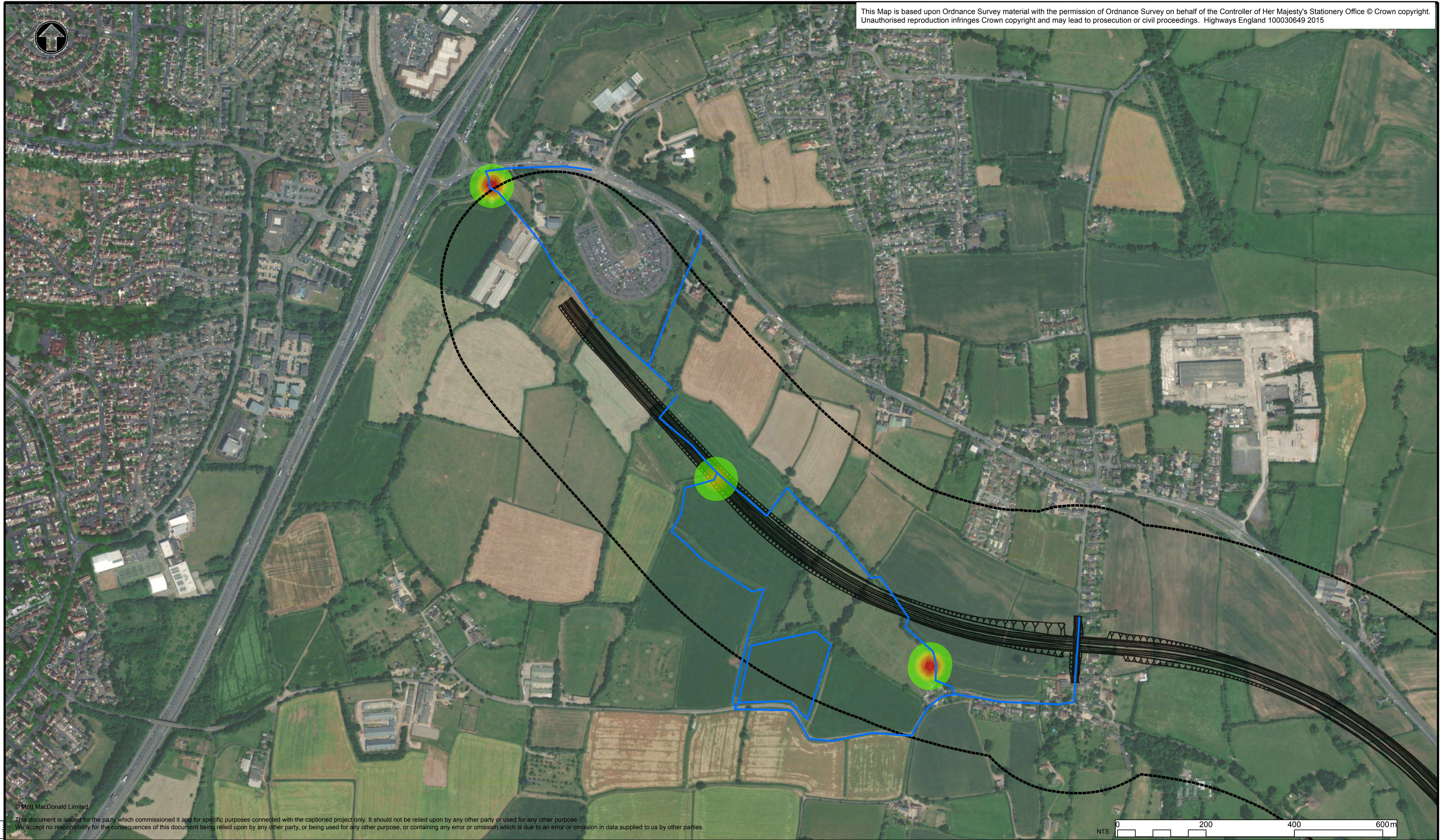
**Results**

- No value
- Low
- High

**References drawings**

Drawing Status		Suitable for Stage Approval		Sutability		S4		Project Title				A358 Taunton to Southfields																			
Client				Stoneham Place Stoneham Lane Southampton SO50 9NW Tel : +44 (0)23 8062 8800 Fax : +44 (0)23 8062 8801 www.mottmac.com		Drawing Title		Transect Results: Kernel Density Transect 2 All Species				Scale		NTS		Designed		DB		Drawn		ER		Checked		SM		Approved		ER	
Drawing Number		HE PIN		Originator		Volume		Date		Date		Date		Date		Date		Date		Date		Date		Date		Date		Date		Date	
000		HE551508 - MMSJV		- EBD -		- DR - LB - 0203		18/03/2021		18/03/2021		18/03/2021		18/03/2021		18/03/2021		18/03/2021		18/03/2021		18/03/2021		18/03/2021		18/03/2021		18/03/2021		18/03/2021	
Location		Type		Role		Number		Project Ref. No.		Revision		Project Ref. No.		Revision		Project Ref. No.		Revision		Project Ref. No.		Revision		Project Ref. No.		Revision		Project Ref. No.		Revision	
								370774		P2		370774		P2		370774		P2		370774		P2		370774		P2		370774		P2	

P1	18/03/2021	Suitable for Stage Approval	ER	SM	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D



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**Notes**  
 Pink Modified Scheme, Mott MacDonald (2018)  
 Transect and static locations, Mott MacDonald (2017-2020)  
 Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics,

**Key to symbols**

- Pink modified scheme option
- Transect 2
- - - 250m buffer

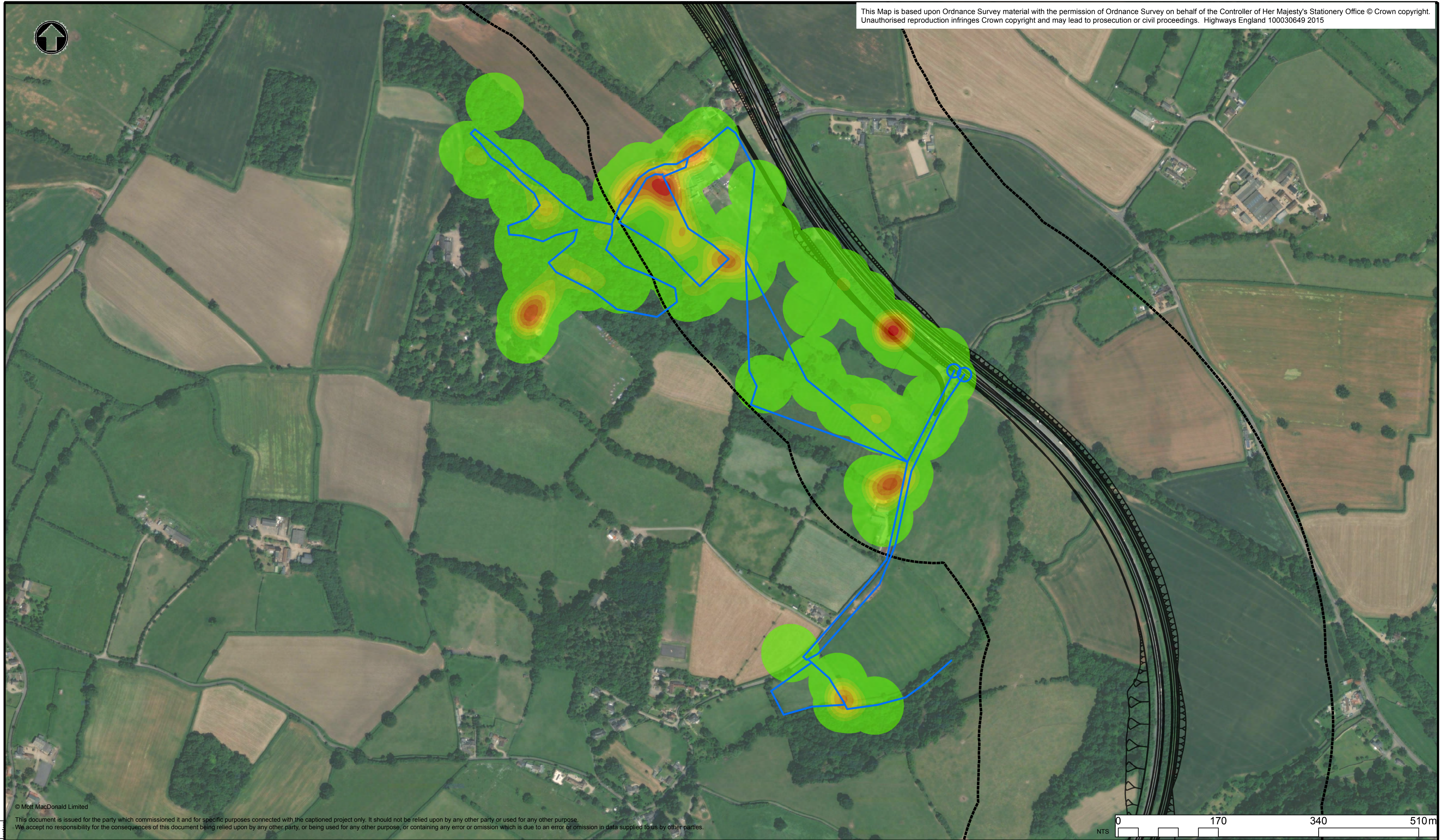
**Results**

- No value
- Low
- High

References drawings

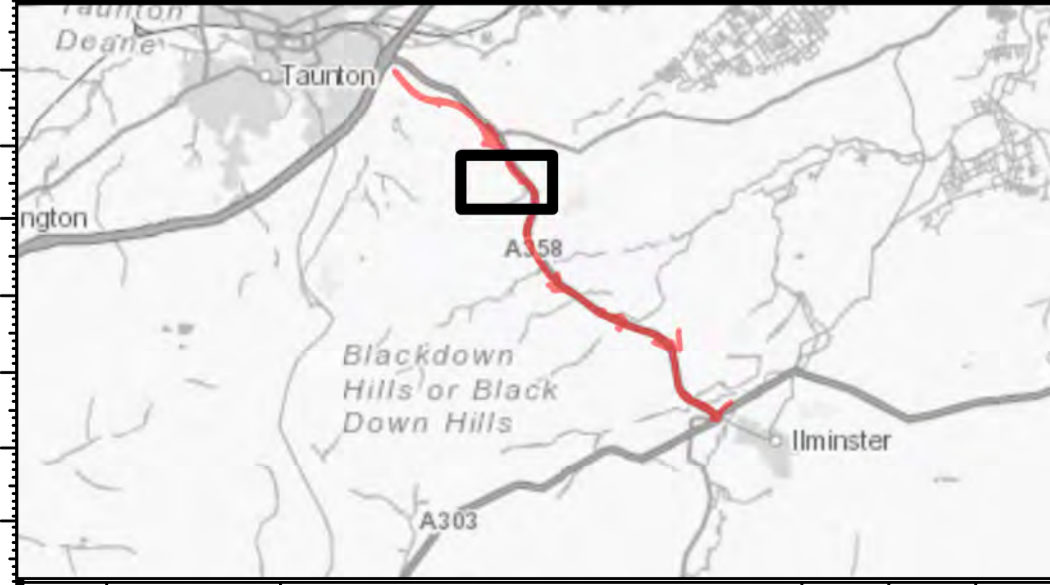
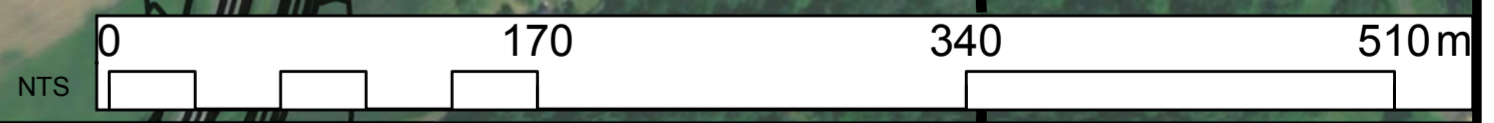
Drawing Status		Suitable for Stage Approval		S4		Project Title		A358 Taunton to Southfields			
Client				Stoneham Place Stoneham Lane Southampton SO50 9NW Tel : +44 (0)23 8062 8800 Fax : +44 (0)23 8062 8801 www.mottmac.com		Drawing Title		Transect Results: Kernel Density Transect 2 Barbastelle			
Scale	NTS	Designed	DB	Drawn	ER	Checked	SM	Approved	ER		
Original Size	A1	Date	18/03/2021	Date	18/03/2021	Date	18/03/2021	Date	18/03/2021		
Drawing Number	HE PIN		Originator	Volume		Project Ref. No.		370774			
000	HE551508 - MMSJV		- EBD -		- DR - LB - 0204		Revision		P2		
Location	Type	Role	Number								

P1	18/03/2021	Suitable for Stage Approval	ER	SM	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D



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**Notes**  
 Pink Modified Scheme, Mott MacDonald (2018)  
 Transect and static locations, Mott MacDonald (2017-2020)  
 Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics,

**Key to symbols**

- Pink modified scheme option
- Transect 4
- 250m buffer

**Results**

- No value
- Low
- High

References drawings

Suitable for Stage Approval		S4		Project Title <b>A358 Taunton to Southfields</b>	
<b>Mott MacDonald Sweco</b>		Stoneham Place Stoneham Lane Southampton SO50 9NW Tel : +44 (0)23 8062 8800 Fax : +44 (0)23 8062 8801 www.mottmac.com		Drawing Title <b>Transect Results: Kernel Density Transect 4 All Species</b>	
Scale	Designed	Drawn	Checked	Approved	
NTS	DB	ER	SM	ER	
Original Size	Date	Date	Date	Date	
A1	18/03/2021	18/03/2021	18/03/2021	18/03/2021	
Drawing Number	Originator	Volume		Project Ref. No.	
HE PIN	MMSJV	- EBD -		370774	
000	- DR - LB -	0205		Revision	
Location	Type	Role	Number	P1	

P1	18/03/2021	Suitable for Stage Approval	ER	SM	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D