

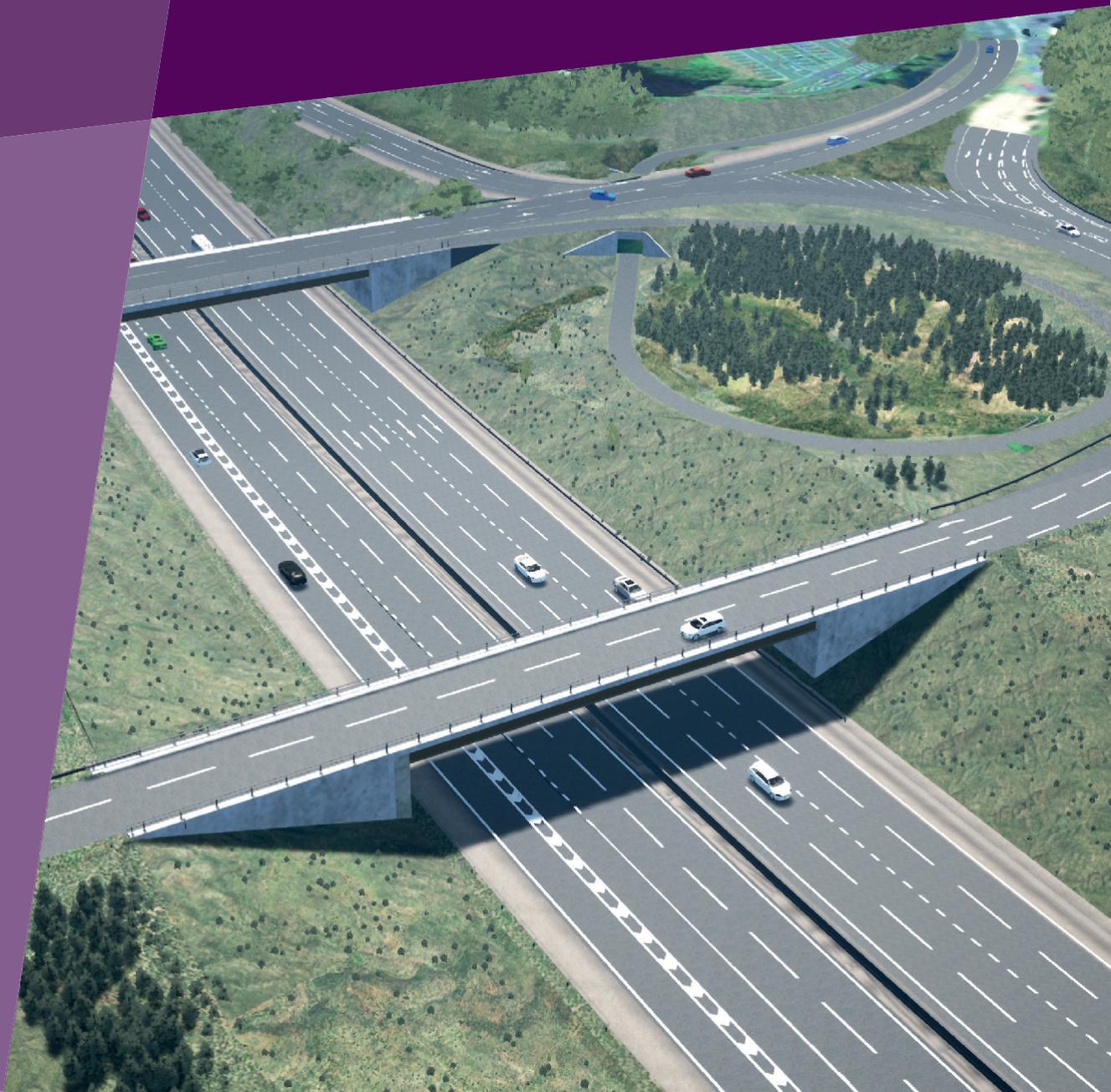
M3

junction 9 improvement scheme

Preliminary Environmental Information Report

Appendix 8.2 – Baseline Reports (Part 1 of 5)

May 2021



Appendix 8.2 Baseline Reports

**APPENDIX B8-1
PHASE 1 HABITAT
SURVEY REPORT**

M3

Junction 9 Improvement Scheme

PCF Stage 2 - Phase 1 Habitat Survey Report

M3 JUNCTION 9 IMPROVEMENT SCHEME

PCF STAGE 2 PHASE 1 HABITAT SURVEY REPORT

Highways England

Date: March 2018

Project no:

HE PIN: HE5515121
WSP Ref: 70015218

Prepared for:
Highways England
Bridge House
Walnut Tree Close
Guildford
Surrey
GU1 4LZ



Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ

Tel: +00 44(0) 1256 318 800
Fax: +00 44(0) 1256 318 700
www.wsp.com

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PRODUCTION TEAM

HIGHWAYS ENGLAND

Major Projects Programme Lead Steve Hoesli

Major Projects Senior Project
Manager Neil Andrew

Major Projects Project Manager Simon Hewett

Senior User Representative Paul Benham

WSP

RIS Area 3 Programme Director Steve O'Donnell Tel: +44 (0)1684 851 751

RIS Area 3 Programme Manager Stuart Craig Tel: +44 (0)1256 318 660

RIS Area 3 Environment Lead Rachael Bailey Tel: +44 (0)1483 528 921

M3 J9 Project Director Roland Diffey Tel: +44 (0)1256 318 777

M3 J9 Project Manager Pradeep Agrawal Tel: +44 (0) 20 3116 9090

M3 J9 Environmental Co-
ordinator Martin McLaughlin Tel: +44 (0)161 886 2636

RIS DCO Programme Lead Amy Hallam Tel: +44 (0)1392 229 700

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EXECUTIVE SUMMARY

Highways England proposes to undertake improvements to Junction 9 of the M3 (centred on grid reference SU4967 13047). The 'scheme' will seek to create a seamless link between the M3 and A34, which suffers significant congestion.

In order to gather baseline ecological information, a Phase 1 habitat survey was undertaken of a 'field study area' comprising all land within 250m of the 'scheme area' (i.e. the maximum extent of works for all options), an area totalling approximately 187ha (HE551511-WSP-EGN-M3J9PCF2-DR-LE-13361). Urban areas were excluded from the survey as they are considered highly unlikely to pose ecological constraints to the scheme.

The survey was undertaken between March and August 2017.

The field study area, which is traversed by several roads, includes a range of habitats. To the east of the M3, the landscape is dominated by arable land, with associated hedgerows and small areas of woodland. The central area between the A34/A33 and M3 contains a variety of habitats, including grazed semi-improved pastures and several small woodlands of various types. The River Itchen passes northeast to southwest through the north of the field study area and is characterised by a number of interconnected channels with associated wetland and floodplain grasslands.

A Phase 1 habitat map is presented within this report together with habitat photographs and a description of each parcel (HE551511-WSP-EGN-M3J9PCF2-DR-LE-13362 to 13366, Appendix A and Appendix B).

1. INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1 Three options have been taken forward to Project Control Framework (PCF) Stage 2 and assessed within the Environmental Assessment Report (EAR) (HE551511-WSP-GEN-M3J9PCF2-RP-LE-00041), namely:

- Option 14: Northbound and Southbound Free Flow Design
- Option 16B: Incremental Delivery – Northbound A34 Free Flow Link
- Option 16C: Incremental Delivery – Southbound A34 Free Flow Design

1.1.2 A full description of the scheme is provided in in the PCF Stage 2 Client Scheme Requirements (<http://share/share/llisapi.dll/properties/43796959>).

The anticipated maximum extent of the works for all options is shown as ‘the scheme area’ on HE551511-WSP-EGN-M3J9PCF2-DR-LE-13361. For the purposes of ecological assessment, in order to consider indirect effects on adjacent/nearby receptors, a field study area of 250m around the scheme area was defined (HE551511-WSP-EGN-M3J9PCF2-DR-LE-13361). The field study area totals around 187.6 ha.

1.2 BRIEF AND OBJECTIVES

1.2.1 In order to gather baseline habitat information to inform the scheme, a Phase 1 habitat survey was undertaken. The brief was to:

- Undertake an extended Phase 1 habitat survey of land within and up to 250m from the options currently under consideration (3 options) excluding urban areas
- Map the habitats present, in line with standard methods (Joint Nature Conservation Committee (JNCC), 2010), and collect an indicative botanical species list for each habitat recorded
- Present the methods and results of the Phase 1 habitat survey in a technical report suitable to inform the subsequent assessment documents

2. METHODS

2.1 EXTENDED PHASE 1 HABITAT SURVEY

- 2.1.1 A field study area was defined comprising the scheme area and land within 250m of the scheme area boundary. Urban areas, predominantly located to the west of the junction were excluded from the field study area (see HE551511-WSP-EGN-M3J9PCF2-DR-LE-13362-6).
- 2.1.2 A Phase 1 habitat survey of the field study area was conducted following JNCC survey methods (JNCC, 2010)¹. Phase 1 habitat survey is a standard technique for classifying and mapping British habitats where the dominant plant species are recorded and habitats are classified according to their vegetation types. All habitats present within the scheme area were mapped (HE551511-WSP-EGN-M3J9PCF2-DR-LE-13362-6), a description of each habitat type collected and an indicative botanical species list compiled (Appendix C).
- 2.1.3 The DAFOR scale was used to indicatively assess the relative abundance of plant species recorded within surveyed habitats, as follows:
- D: Dominant
 - A: Abundant
 - F: Frequent
 - O: Occasional
 - R: Rare
- 2.1.4 Additionally, the prefix 'L' was used where a species had a markedly local distribution within a habitat parcel.
- 2.1.5 Target notes were made to record information relating to features and habitats of note (where these are too small to map), and photographs were gathered for all main habitat types to provide a visual record of conditions (Appendix B).

2.2 DATES OF SURVEY AND PERSONNEL

- 2.2.1 Field surveys were undertaken during 2017. The majority of survey work was conducted on the 2nd and 3rd of March and 24th and 29th April 2017. Areas of land within the highways boundary (*i.e.* areas of land enclosed by highways fences) were surveyed on the 24th to 26th April and 8th to 11th April 2017. Additional survey visits were made during August 2017 when additional access to areas of land located between the M3 and A33 roads was obtained.
- 2.2.2 The surveys were led by an Associate member of the Chartered Institute of Ecology and Environmental Management with over six years' ecological consultancy experience. They have attained the Field Studies Council (FSC) Field Identification Skills Certificate (FISC) level 4 indicating a good level of botanical survey competency.

¹ JNCC (Joint Nature Conservation Committee) (2010). Handbook for Phase I habitat survey: A Technique for Environmental Audit

2.3 NOTES AND LIMITATIONS

- 2.3.1 Some of the survey visits were undertaken outside of the optimal period for Phase 1 habitat survey (generally considered to be April-September inclusive). Although botanical surveys are seasonally limited, and throughout spring and summer certain species will be more or less evident (dependent upon flowering season), it is considered that sufficient information was gathered to enable robust categorisation of habitat types. Detailed botanical surveys have been undertaken in areas of potential botanical value and are detailed within a separate report (HE551511-WSP-GEN-M3J9PCF3-RP-LE-00006-P02).
- 2.3.2 Some of the survey work was undertaken at night under traffic management. Whilst this is not considered to have affected habitat classification, lower numbers of plant species were generally recorded in these areas and photographs of these habitat parcels have not been included.
- 2.3.3 Urban areas within the field study area, but outside of the scheme area, were not included within the Phase 1 habitat survey. As these areas are highly unlikely to support habitats of ecological interest and will not be directly affected by the scheme, this is not considered to be a significant limitation.

3. RESULTS

3.1 OVERVIEW

- 3.1.1 The field study area totals approximately 187ha. The M3 runs north-south with Junction 9 comprising Winnal Roundabout (located above the main carriageway) to the centre. The A34 dual carriageway heads north-west from the Junction with the A33 splitting off from the A34 in a northerly direction. The A272 'Spitfire Link' runs south-east from the junction.
- 3.1.2 To the east of the M3, the landscape is dominated by arable farmland, with associated hedgerows and small areas of woodland. The central area between the A34/A33 and M3 contains a variety of habitats, including grazed semi-improved pastures and several small woodlands of various types. The River Itchen is a chalk river that passes north-east to south-west through the north of the field study area and is characterised by a number of interconnected channels associated with historic water meadow management of the surrounding grasslands. The south-western part of the field study area is characterised by urban development, which includes industrial and commercial premises. Also of relevance to the habitats within the field study area is the route of a historic railway line which ran close to the A34 and is evidenced by cuttings and embankments.
- 3.1.3 All habitat types recorded are listed in Table 1, which includes the area of each habitat present within the field study area.
- 3.1.4 Summary descriptions of the ranges of habitat types present are provided below. Alpha-numeric codes (e.g. A1.1.1) used in this section cross-refer to the JNCC Phase 1 habitat survey classification (JNCC, 2010). The order of the habitat descriptions below reflects their ordering in the Phase 1 habitat survey manual and does not reflect habitat importance. A description of each habitat parcel together with photographs is provided within Appendix B. Species lists for each habitat parcel are provided within Appendix C. The distribution of habitats are shown on drawings HE551511-WSP-EGN-M3J9PCF2-DR-LE-13362-6, with Target Note descriptions in Table 2, below the habitat descriptions.

Table 1 Summary of habitats present within field study area

Habitat Type	Area (ha)	Length (km)
Semi-natural broadleaved woodland	11.88	N/A
Broadleaved plantation woodland	9.74	N/A
Semi-natural mixed woodland	0.99	N/A
Mixed plantation	5.24	N/A
Dense scrub	2.80	N/A
Scattered scrub	0.29	N/A
Parkland/Scattered Broadleaved Trees	0.62	N/A
Semi-Improved neutral grassland	0.28	N/A
Semi-improved calcareous grassland	11.05	N/A
Improved grassland	1.43	N/A
Marshy grassland	16.90	N/A
Species poor semi-improved grassland	2.04	N/A
Tall ruderal vegetation	0.59	N/A
Swamp	3.31	N/A
Marginal Vegetation	0.45	N/A

Habitat Type	Area (ha)	Length (km)
Standing water	0.24	N/A
Running Water	3.63	N/A
Arable	56.15	N/A
Amenity grassland	0.76	N/A
Introduced shrub	0.18	N/A
Buildings and hard standing	20.80	N/A
Bare ground	1.45	N/A
Species rich hedgerow	N/A	0.3
Species poor hedgerow	N/A	1.3
Species rich hedgerow with trees	N/A	0.9
Species poor hedgerow with trees	N/A	1.3
Not included (urban areas)	35.64	N/A
Total	186.46	3.8

SEMI-NATURAL BROADLEAVED WOODLAND A1.1.1

- 3.1.5 There are eighteen parcels of semi-natural broadleaved woodland within the field study area. A number of wet willow *Salix* spp. and/or alder *Alnus glutinosa* dominated stands occur around the River Itchen, which tend to be relatively species-poor with ground flora dominated by aquatic emergent vegetation such as reed canary-grass *Phalaris arundinacea* and large sedges *Carex* spp. An area of hazel *Corylus avellana* coppice dominated woodland occurs close to the River Itchen (BW4 on HE551511-WSP-EGN-M3J9PCF2-DR-LE-13364), the structure of which indicates a long established woodland. Elsewhere, this habitat type tends to comprise secondary woodlands that appear to have developed naturally on embankments to the roads and the route of the old railway line. These stands are often dominated by sycamore *Acer psuedoplatanus* with mature, multi-stemmed trees indicative of historic clearance and regrowth.

PLANTATION BROADLEAVED WOODLAND A1.1.2

- 3.1.6 This habitat type occurs frequently within the field study area and generally comprises roadside planting. The stands tend to be even-aged and immature (around 20-30 years old) and are densely planted with little ground flora or structural diversity present. The species composition tends to be relatively homogenous with field maple *Acer campestre*, dogwood *Cornus* spp. (including horticultural varieties) and hawthorn *Crataegus monogyna* amongst the more frequently recorded species. Exceptions include an area with mature lime *Tilia* sp. trees in the centre of the field study area (PBW4); an area with mature planted beech trees *Fagus sylvatica* that occur in the south-west of the field study area (PBW10) and an area with mature pollarded horse chestnut trees *Aesculus hippocastanum* in the west of the field study area (PBW24).

SEMI-NATURAL MIXED WOODLAND A1.3.1

- 3.1.7 One parcel of habitat was mapped as semi-natural mixed woodland (MW1 on HE551511-WSP-EGN-M3J9PCF2-DR-LE-13362). It comprises an area of woodland on Easton Down in the centre of the field study area. The woodland is mainly located on a steep embankment. Coppiced hazel dominates with yew *Taxus baccata* locally dominant and few standard trees are present. The woodland is heavily shaded and ground flora was sparse at the time of the survey.

PLANTATION MIXED WOODLAND A1.3.2

- 3.1.8 Six areas of mixed plantation woodland were mapped in the field study area. These include a range of stand types, including mature woodlands which include significant proportions of non-native conifer species (PMW1-3) and those largely comprising younger trees (PMW4-5). PMW6 is unusual in that it is dominated by semi-mature yew trees. In addition, an area of mixed plantation woodland occurs to the east of Junction 9 comprising young trees growing over species-poor semi-improved grassland in an area otherwise dominated by arable land (PMW/SI 1).

DENSE SCRUB A2.1

- 3.1.9 Several parcels of dense scrub occur within the field study area, primarily comprising areas of shrubby vegetation lacking in semi-mature/ mature trees occurring close to the road. Prevalent species include bramble *Rubus fruticosus agg.* and dogwood. Exceptions include two areas within Easton Down to the centre of the field study area which occur on banksides and are dominated by hawthorn.

SCATTERED SCRUB A2.2

- 3.1.10 Scattered scrub occurs frequently in association with less managed areas of roadside grassland, with prevalent species including bramble, ash *Fraxinus excelsior* saplings and hawthorn. In addition, two parcels have been mapped as scattered scrub. SS1 is located on the north-western verge of the M3 adjacent to a woodland and is dominated by ivy *Hedera helix* and bramble. SS2 is located on the south western verge of the M3 and represents vegetation developing on a steep embankment with very thin solids and prevalent bare chalk. A variety of vegetation is present including ivy, traveller's joy *Clematis vitalba*, blackthorn *Prunus spinosa* and ash saplings.

PARKLAND/ SCATTERED BROADLEAVED TREES A3.1

- 3.1.11 Scattered broadleaved trees are prevalent across the north-west of the field study area, largely comprising willow *Salix spp.* trees growing in association with the wet ground. Elsewhere, a double row of mature beech trees growing over amenity grassland is present within a commercial car park in the central western part of the field study area.

SEMI-IMPROVED NEUTRAL GRASSLAND B2.2

- 3.1.12 A section of road verge on the A33 road in the north of the field study area was classified as semi-improved neutral grassland. The grassland is damp and contains a moderate diversity of species including knapweed *Centaurea nigra*, common comfrey *Symphytum officinale* and bulbous buttercup *Ranunculus bulbosus*.

SEMI-IMPROVED CALCAREOUS GRASSLAND B3.2

- 3.1.13 The verges of the M3 and southern parts of the A34 and grassland of the Junction 9 roundabout have been classified as semi-improved calcareous grassland. The widths of these parcels vary significantly with the larger tracts occurring on the northern part of the field study area where the M3 traverses a cutting. The swards typically include scattered scrub with other non-grassland species such as ivy and traveller's joy often prevalent. The most frequently recorded grasses in the relatively coarse swards were red fescue *Festuca rubra* and false brome *Brachypodium pinnatum*. A range of herbaceous species were recorded including those indicative of calcareous and/ or well-drained soils such as yellow-wort *Blackstonia perfoliata* and great mullein *Verbascum thapsus* alongside more ubiquitous grassland species.
- 3.1.14 In addition, two areas of pasture located between the M3 and A34 have been classified as this habitat type. These areas comprised cattle grazed grassland that is comparatively dry in nature. The diverse sward in these areas comprises a mixture of characteristic improved grassland species such as perennial rye-grass *Lolium perenne* and white clover *Trifolium repens* with colonisation by some species characteristic of more calcareous conditions including hoary ragwort *Jacobaea erucifolia* and traveller's joy.

IMPROVED GRASSLAND B4

- 3.1.15 Two areas of improved grassland are located in the north-west of the field study area and comprise grazed pastures with short sward heights that are dominated by perennial rye-grass.

MARSH/ MARSHY GRASSLAND B5

- 3.1.16 A significant area of floodplain grasslands occur in the west of the field study area in association with the River Itchen. These areas are structurally diverse habitats with varying amounts of tall wetland grasses and rushes *Juncus* spp. occurring amongst the generally herb-rich swards. Meadowsweet *Filipendula ulmaria* is prevalent throughout as are sedges *Carex* spp. Other characteristic species include marsh marigold *Caltha palustris* and yellow flag-iris *Iris psuedacorus*.
- 3.1.17 The Marshy grassland within the Winnal Moors Hampshire and Isle of Wight Wildlife Trust (HIWWT) nature reserve (MG6 to MG13 on HE551511-WSP-EGN-M3J9PCF2-DR-LE-13362) are understood to be managed as naturally flooding meadows, involving seasonal inundation and subsequent cutting and grazing throughout the year. These grasslands include a series of spring-fed flushes vegetated with common reed *Phragmites australis* and fen vegetation. Elsewhere, the marshy grasslands are thought to generally be managed by cattle grazing, though cutting for hay may also occur.

SPECIES POOR SEMI-IMPROVED GRASSLAND B6

- 3.1.18 Species-poor semi-improved grasslands were mapped to the north-west and central areas of the field study area. These largely comprise grazed pastures typically dominated by Yorkshire fog *Holcus lanatus* alongside a low diversity of forbs. Also present is a fenced-off, unmanaged tract of grassland on Easton Down dominated by coarse grasses cock's foot *Dactylis glomerata* and false-oat grass *Arrhenatherum elatius* (SI3) and sections of road verges on the A34 where there was markedly low diversity of forbs.

TALL RUDERAL VEGETATION C3.1

- 3.1.19 Three areas dominated by tall ruderal vegetation occur within the field study area. These include an area within an aggregates yard in the south-east of the field study area and two sections of the A34 road verge, where the habitat type occurs in mosaic with scattered scrub and scattered broadleaved trees. These areas are dominated by common nettle *Urtica dioica* alongside a range of ruderal species including cow parsley and bramble.

SWAMP AND MARGINAL VEGETATION F1/F2.1

- 3.1.20 Several areas of marginal emergent vegetation, often dominated by common reed and sedge *Carex spp.* occur in the east of the field study area. These include areas to the margins of water bodies and those that occur in association with seasonally wet ditches and flushes.

STANDING WATER G1

- 3.1.21 Standing water generally comprises ditches to the west of the field study area that appeared to have no significant flow. They are typically fringed with emergent vegetation with aquatic vegetation, particularly watercress *Nasturtium officinale*, frequent. Exceptions comprise: SW3 which is an artificial pond cut out from the main channel of the River Itchen; SW6 located adjacent to the A34 and thought to comprise an attenuation pond and SW5 and SW7 which are long linear ditches adjacent to the A34 and are also assumed to comprise attenuation drainage features for the road.

RUNNING WATER G2

- 3.1.22 The River Itchen traverses the north of the field study area. The river has multiple, interconnected channels which are thought to be a result of historic use for water meadow management. The main channels tend to be relatively fast flowing with clear water and gravel substrates. Marginal and aquatic vegetation are prevalent throughout.

ARABLE J1.1

- 3.1.23 Arable land dominates the land east of the M3 carriageway. A grassy field margin that ranges between approximately 1-3m is present along much of the western boundary of the land adjacent to the M3.

AMENITY GRASSLAND J1.2

- 3.1.24 Three small parcels of amenity grassland occur within the field study area. These comprise heavily managed grasslands that are close to developed areas.

INTRODUCED SHRUB J1.4

- 3.1.25 Two areas of introduced shrub were mapped within the field study area. These comprise ornamental landscaping adjacent to commercial premises and a stand of Wilson's honeysuckle *Lonicera nitida* occurring on the western verge of the M3.

HEDGEROWS J2

- 3.1.26 Twenty-two hedgerows were mapped within the field study area, predominantly occurring in association with the arable land and pastures that occur to the east and west of the M3 north of Junction 9. Eight of the hedgerows were classified as species-rich with >5 woody species recorded. Blackthorn, dogwood, hawthorn and privet *Ligustrum vulgare* were the most frequently recorded species.

BARE GROUND J4

3.1.27 Two significant areas of bare ground are located within the field study area. A yard used for storing and processing aggregates occurs immediately south-east of Junction 9 and an area of bare ground was found to the south of standing water SW3 indicative of recent earth works in the area.

3.2 TARGET NOTES

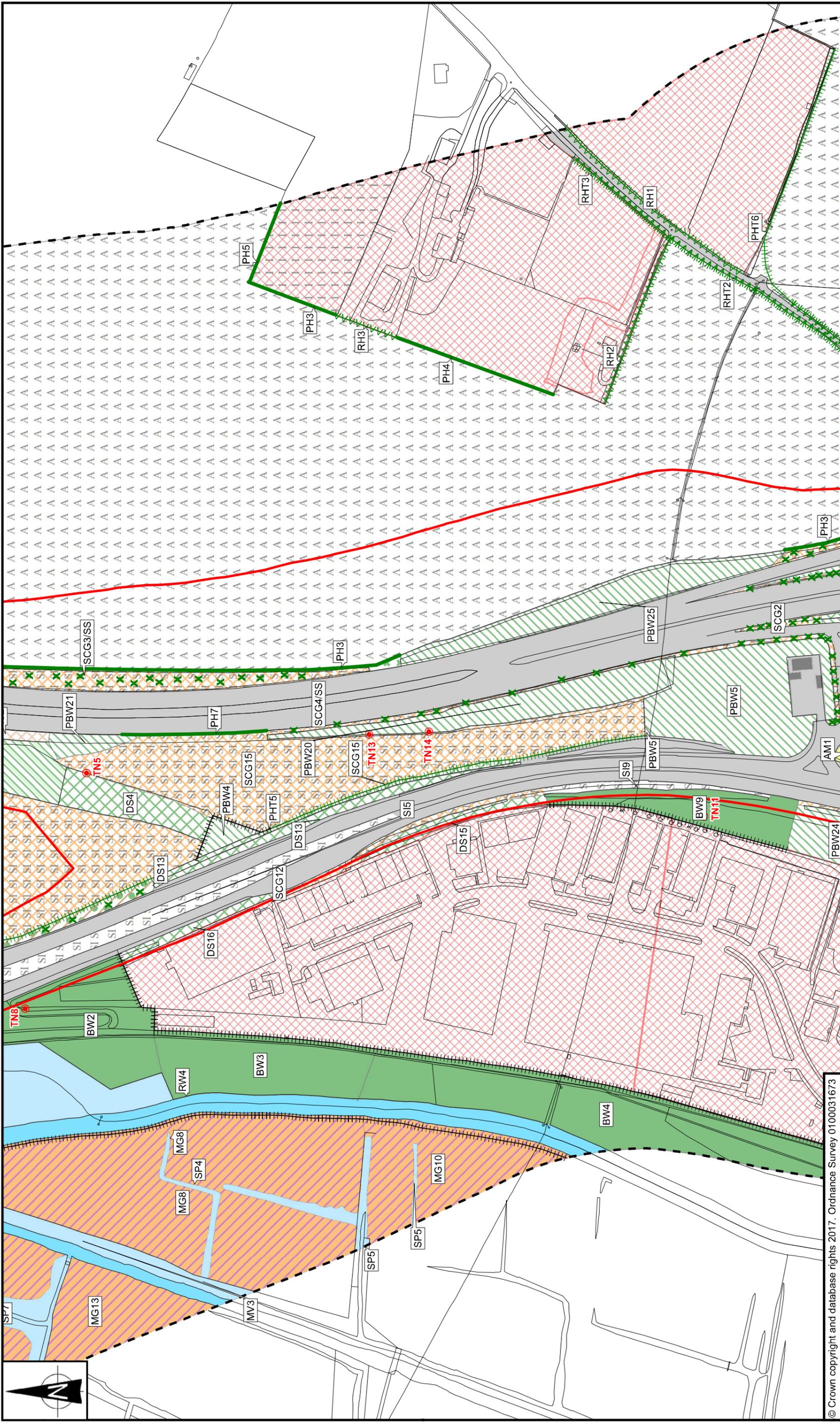
3.2.1 Target Notes detailed within Table 2 correspond to notable features identified within the field study area.

Table 2 Target Notes

Target notes	
TN1	Area of mature sycamore trees.
TN2	Abundant rabbit burrows.
TN3	2m wide grassy margin to arable field.
TN4	Narrow grassy margins adjacent to the carriageway approximately 1-2m wide. Not directly accessed. Species typical of poor semi-improved grassland.
TN5	REDACTED
TN6	REDACTED
TN7	REDACTED
TN8	Two small stems of Japanese knotweed on top of the embankment.
TN9	Series of flushes thought to drain spring water. Varied vegetation includes abundant sedges and bryophytes.
TN10	Drainage tunnel under railway cutting around 1.5m high.
TN11	REDACTED

Appendix A

DRAWINGS



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250m field study area

Target Note

- HHH Fence
- HHH Hedge with trees - native species-rich
- HHH Hedge with trees - species-poor
- VVV Intact hedge - native species-rich
- VVV Intact hedge - species-poor

- Hard standing
- Broadleaved Parkland/scattered trees
- Broadleaved woodland - plantation
- Broadleaved woodland - semi-natural
- Buildings
- Calcareous grassland - semi-improved
- Cultivated/disturbed land - amenity grassland

- Cultivated/disturbed land - arable
- Improved grassland
- Introduced shrub
- Marginal and inundation - marginal vegetation
- Marsh/marshy grassland
- Mixed woodland - plantation
- Not accessed land

- Other tall herb and fern - ruderal
- Poor semi-improved grassland
- Running water
- Scrub - dense/continuous
- Scrub - scattered
- Swamp

Project Title: REGIONAL INVESTMENT PROGRAMME M3 JUNCTION 9

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Date:

Description:

Stability: S3

SUITABLE FOR REVIEW & COMMENT

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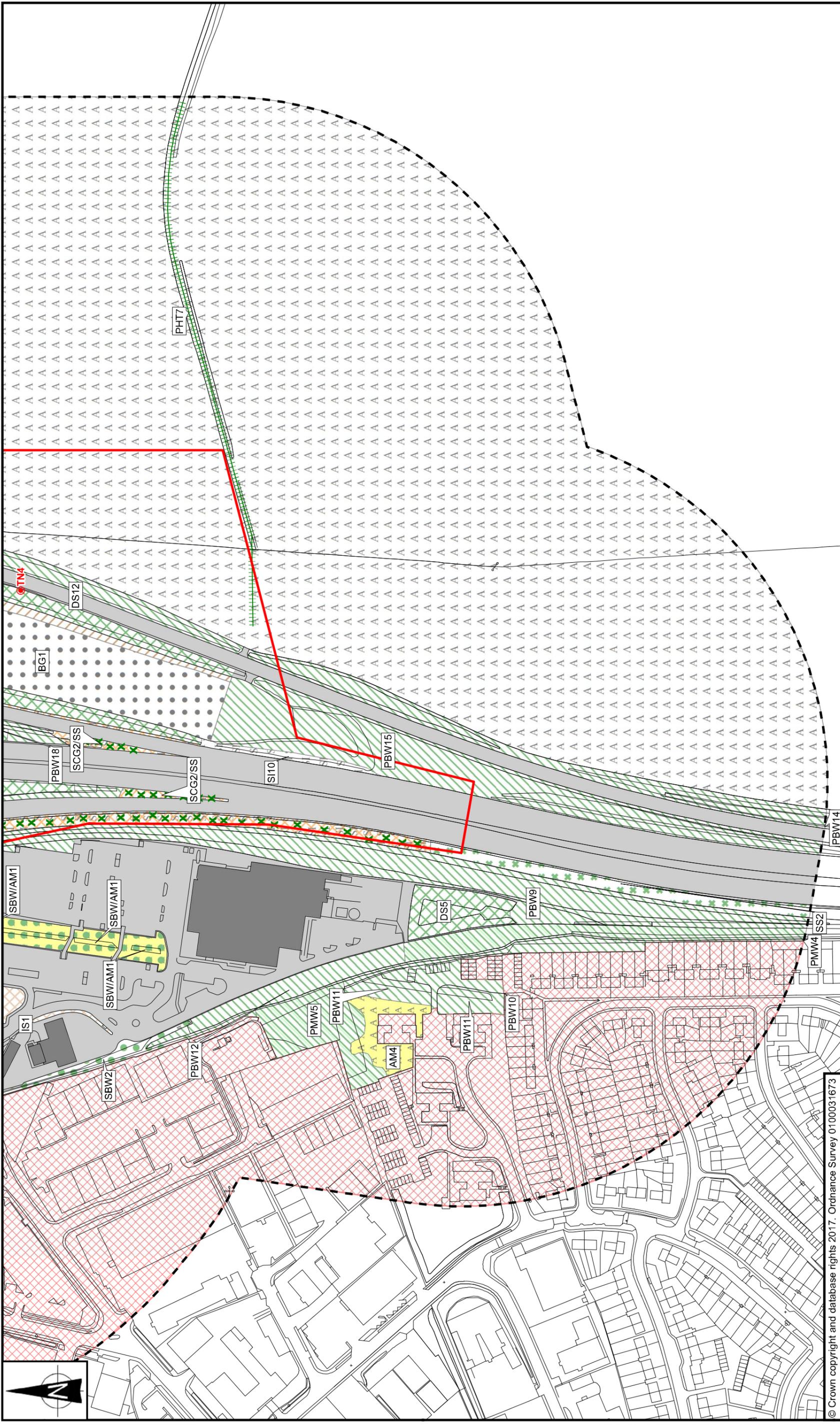
highways england logo

Working on behalf of

Mountbatten House, Basing View, Basingstoke
Hampshire RG21 1HU
Tel: +44 1256 318000
wsp.com

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PHASE 1 HABITAT MAP - SHEET 3 OF 5



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- Target Note
- 250m field study area
 - Hedge with trees - species-poor
 - Hard standing
 - Bare ground
 - Broadleaved Parkland/scattered trees
 - Broadleaved woodland - plantation
 - Buildings
 - Calcareous grassland - semi-improved
 - Cultivated/disturbed land - amenity grassland
 - Cultivated/disturbed land - arable
 - Introduced shrub
 - Mixed woodland - plantation
 - Not accessed land
 - Other tall herb and fern - ruderal
 - Poor semi-improved grassland
 - Scrub - dense/continuous
 - Scrub - scattered

Planning Status
SUITABLE FOR REVIEW & COMMENT
S3

wsp
Mounbatten House, Basing View, Basingstoke
Hampshire RG21 4HJ
Tel: +44 (0)1256 318000
wsp.com

Working on behalf of
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england

Project Title
REGIONAL INVESTMENT PROGRAMME
M3 JUNCTION 9

Drawing Title
PHASE 1 HABITAT MAP - SHEET 5 OF 5

Scale	1:2,500	Drawn	JSDS	Checked	LR	Approved	HS	Authorised	MM
Original Size	A3	Date	JULY 2017	Date	JULY 2017	Date	MAY 2017	Date	MAR 2018
Project	HE551511	Originator	WSP	Volume	EGN	Project Ref. No.	70015218	Revision	
Drawing Number	M3J9PCF2	DR Type	DR	LE	13366	Revision			
Location		Type	DR	LE	13366	Revision			

Appendix B

DETAILED RESULTS

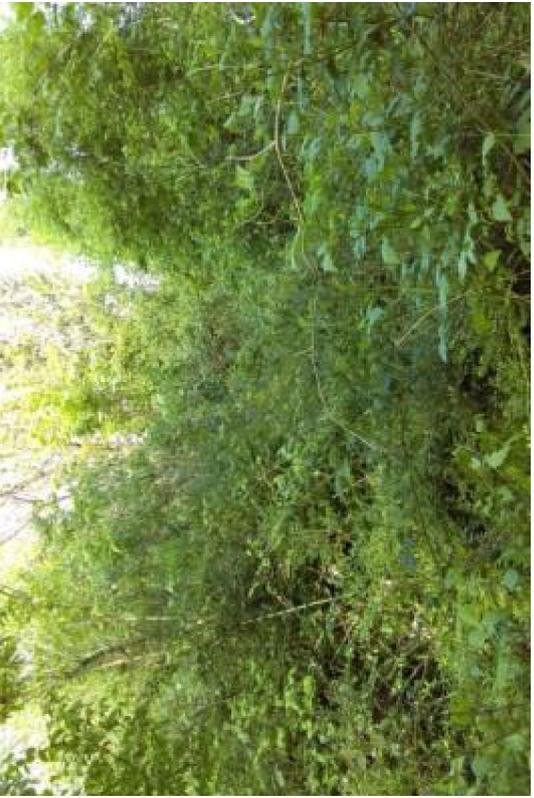
Habitat type	Parcel Code	Photograph number	Notes
Semi-natural broadleaved woodland	BW1		Small area of willow trees growing over marshy grassland dominated by tall grasses and sedges.
Semi-natural broadleaved woodland	BW2		Secondary woodland developed over remnant of old railway line cutting. Some planted trees present including a line of mature alder. Varied structure though not very old trees present. Fallen and felled logs present.

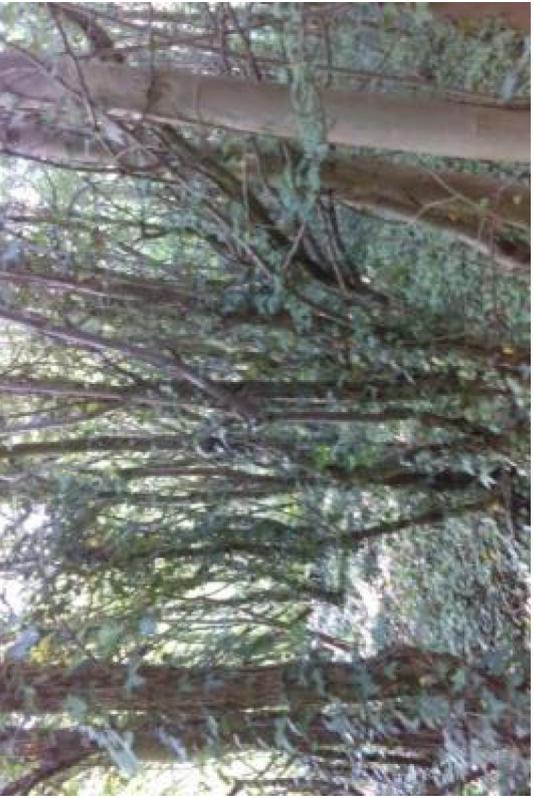
Habitat type	Parcel Code	Photograph number	Notes
Semi-natural broadleaved woodland	BW3		Area of woodland with much hazel coppice and occasional standard trees adjacent to the River Itchen.
Semi-natural broadleaved woodland	BW4		Wet woodland largely dominated by willow trees with abundant dead wood present. Trees not very mature.

Habitat type	Parcel Code	Photograph number	Notes
Semi-natural broadleaved woodland	BW5		Wet woodland comprising mature standard trees that appear uniform in age. Some derelict coppice is present. Dense field layer and sparse understorey.
Semi-natural broadleaved woodland	BW6		Woodland that is drier than much of the surrounding woodland, which includes some of the defunct railway cutting present elsewhere within the field study area. Structurally diverse including some large mature poplar trees and a band of alder trees adjacent to the road. Dense ground field layer and moderate understorey.

Habitat type	Parcel Code	Photograph number	Notes
Semi-natural broadleaved woodland	BW7		Mature even-aged trees. Wet woodland with high cover in the field layer and occasional cover in the shrub layer. Younger trees present to the north of the parcel possibly indicating recent clearance.
Semi-natural broadleaved woodland	BW8		Wet woodland traversed by small streams. Mature trees to approximately 15m. Dense canopy and understory cover with mixed ages of trees. Ground cover dense also.

Habitat type	Parcel Code	Photograph number	Notes
Semi-natural broadleaved woodland	BW9		Thought to be a secondary woodland part of which has developed on an old railway cutting. Mature trees infrequent, relatively diverse range of species with occasionally high cover in ground layers.
Semi-natural broadleaved woodland	BW10		Secondary woodland with mature trees, many of which are multi-stemmed.

Habitat type	Parcel Code	Photograph number	Notes
Semi-natural broadleaved woodland	BW11		<p>Dense secondary woodland. Drainage feature is present to the west of the woodland which is wet in character and dominated by alder and willow species. A significant defunct railway cutting is present to the east of the parcel, which is drier in character and dominated by sycamore.</p>
Semi-natural broadleaved woodland	BW12		<p>Dense secondary woodland with mature trees, many of which are multi-stemmed. Significant tracts are dominated by invasive shrubs snowberry and Wilson's honeysuckle. Old railway cutting traverses habitat parcel.</p>

Habitat type	Parcel Code	Photograph number	Notes
Semi-natural broadleaved woodland	BW13		<p>On steep embankment below A34. Diverse age range with trees up to approximately 75cm diameter at breast height (dbh), but mainly less. Some recent planting of yew trees.</p>
Semi-natural broadleaved woodland	BW14		<p>Small parcel of woodland close to the A34 road comprising young self-sown trees with dbh of approximately 10-25cm.</p>

Habitat type	Parcel Code	Photograph number	Notes
Semi-natural broadleaved woodland	BW15		Woodland on steep embankment adjacent to A34 which was not fully accessed. Some large mature specimens present.
Semi-natural broadleaved woodland	BW16	N/A	Roadside woodland including some mature specimens.
Semi-natural broadleaved woodland	BW17	As BW7	
Semi-natural broadleaved woodland	BW18	As BW7	

Habitat type	Parcel Code	Photograph number	Notes
Semi-natural broadleaved woodland	BW19		Small, structurally diverse parcel to centre of the road. No particularly mature specimens present.
Semi-natural broadleaved woodland	BW20		A row of mature poplar trees alongside the A34 road over a mixed shrub layer including hazel, sycamore and cherry laurel.

Habitat type	Parcel Code	Photograph number	Notes
Plantation broadleaved woodland	PBW1		Roadside woodland estimated to be around 20 years old. Dense, even-aged stand on embankment.
Plantation broadleaved woodland	PBW2		Open, even-aged woodland within Winnal Roundabout with much horticultural dogwood.

Habitat type	Parcel Code	Photograph number	Notes
Plantation broadleaved woodland	PBW4		Small area of woodland largely formed of immature specimens but with some large mature lime trees.
Plantation broadleaved woodland	PBW5		Planted woodland estimated to be 20-30 years old with coppiced hazel dominant.

Habitat type	Parcel Code	Photograph number	Notes
Plantation broadleaved woodland	PBW9		Surveyed from edge. Band of plantation woodland between Tesco and road side. Trees appear immature.
Plantation broadleaved woodland	PBW10		Rows of mature beech trees

Habitat type	Parcel Code	Photograph number	Notes
Plantation broadleaved woodland	PBW11	N/A	Rows of mature beech trees
Plantation broadleaved woodland	PBW12		Plantation comprising generally young trees on embankment in built up area

Habitat type	Parcel Code	Photograph number	Notes
Plantation broadleaved woodland	PBW13		Plantation woodland between road and field. Not directly accessed. Trees semi-mature.
Plantation broadleaved woodland	PBW14		Plantation woodland between road and field. Not directly accessed. Trees semi-mature.

Habitat type	Parcel Code	Photograph number	Notes
<p>Plantation broadleaved woodland</p>	<p>PBW15</p>		<p>Immature trees densely planted, up to approximately 40cm dbh.</p>
<p>Plantation broadleaved woodland</p>	<p>PBW16</p>		<p>Open plantation woodland where lower branches have recently been cleared, thought to be for road safety purposes. Trees with approximately 30 cm dbh.</p>

Habitat type	Parcel Code	Photograph number	Notes
Plantation broadleaved woodland	PBW17		Open plantation woodland where lower branches have recently been cleared, thought to be for road safety purposes. Trees with approximately 30 cm dbh.
Plantation broadleaved woodland	PBW18		Dense area of young plantation woodland on embankment.

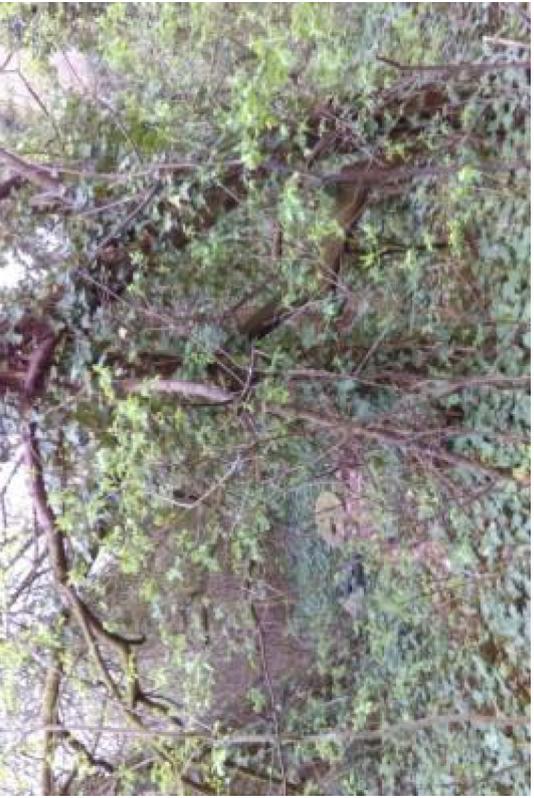
Habitat type	Parcel Code	Photograph number	Notes
<p>Plantation broadleaved woodland</p>	<p>PBW19</p>		<p>Trees growing atop embankment adjacent to M3 and are largely immature. Densely spaced with little ground flora. Trees dbh of approximately 30cm.</p>
<p>Plantation broadleaved woodland</p>	<p>PBW20</p>		<p>Young plantation woodland on steep embankment. Trees approximately 20cm dbh. Approximately 3m margin adjacent to carriageway with no trees but dominated by ivy.</p>

Habitat type	Parcel Code	Photograph number	Notes
<p>Plantation broadleaved woodland</p>	<p>PBW21</p>		<p>Plantation woodland with semi-mature trees up to around 50cm dbh. Diverse age range of trees.</p>
<p>Plantation broadleaved woodland</p>	<p>PBW22</p>		<p>Open plantation woodland were lower branches have recently been cleared, thought to be for road safety purposes. Trees with approximately 30 cm dbh.</p>

Habitat type	Parcel Code	Photograph number	Notes
<p>Plantation broadleaved woodland</p>	<p>PBW23</p>		<p>Small area of young plantation adjacent to the slip road. Trees approximately 10cm dbh.</p>
<p>Plantation broadleaved woodland</p>	<p>PBW24</p>		<p>Mature horse chestnut trees with approximately 150cm dbh. Sparse shrub and ground layers.</p>

Habitat type	Parcel Code	Photograph number	Notes
Plantation broadleaved woodland	PBW25	N/A	Not accessed (night time survey visit, parcel has steep embankments and fences), but appears similar to other roadside plantation woodlands.
Plantation broadleaved woodland	PBW26	N/A	Young plantation woodland adjacent to Winnal roundabout.
Semi-natural mixed woodland	MW1		Woodland on steep embankment which was not fully accessed. Largely comprises old coppiced hazel with yew abundant. Few standard trees.

Habitat type	Parcel Code	Photograph number	Notes
Mixed plantation woodland	PMW1		<p>Mature woodland. Conifer trees form outer boundaries with mixed age planted broadleaved trees centrally. Abundant dead wood present.</p>
Mixed plantation woodland	PMW2		<p>Mature plantation woodland with dense canopy layer and sparse shrub and ground layer cover.</p>

Habitat type	Parcel Code	Photograph number	Notes
Mixed plantation woodland	PMW3		Rows of mature planted trees of varying ages. Structurally diverse.
Mixed plantation woodland	PMW4		Mixed-age plantation on embankment with trees up to around 40-50cm dbh.

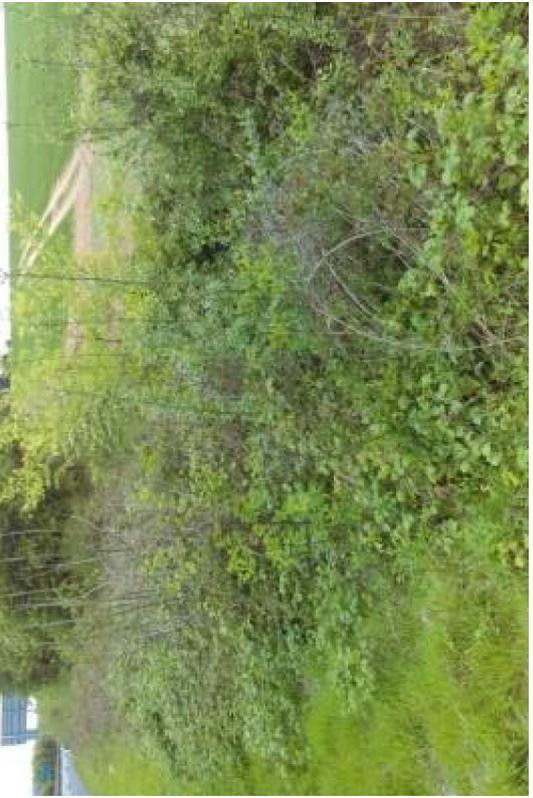
Habitat type	Parcel Code	Photograph number	Notes
Mixed plantation woodland	PMW5		Mature conifer trees over elder understory.
Mixed plantation woodland	PMW6		Multi-stemmed trees (mainly yew) planted in rows on embankment. Heavily shaded with little ground flora.

Habitat type	Parcel Code	Photograph number	Notes
<p>Mixed plantation woodland with species poor semi-improved grassland</p>	<p>PMW/S11</p>		<p>Planted trees around ten years old over a coarse grassland sward.</p>
<p>Dense scrub</p>	<p>DS1</p>		<p>Small area of scrub dominated by dogwood adjacent to Winnal roundabout.</p>

Habitat type	Parcel Code	Photograph number	Notes
Dense scrub	DS3		Occurring in mosaic with grassland on fenced off embankment.
Dense scrub	DS4		Area of scrub on embankment with significant cattle damage.

Habitat type	Parcel Code	Photograph number	Notes
Dense scrub	DS5		Depression in ground vegetated with dense scrub, possibly some wet areas. Not directly accessed.

Habitat type	Parcel Code	Photograph number	Notes
Dense scrub	DS6		Trees are absent from the vegetation closest to the road, with a dense scrub present around 1.5m high.

Habitat type	Parcel Code	Photograph number	Notes
Dense scrub	DS7		Trees are absent from the vegetation closest to the road, with a dense scrub present around 1.5m high.
Dense scrub	DS8		Area of dense bramble scrub on embankment.

Habitat type	Parcel Code	Photograph number	Notes
Dense scrub	DS9		Area of dense bramble scrub on embankment adjacent to slip road.
Dense scrub	DS10		Dense dogwood scrub under roundabout

Habitat type	Parcel Code	Photograph number	Notes
Dense scrub	DS11	N/A	Dense dogwood scrub under roundabout and adjacent slip road
Dense scrub	DS12		Scrub on very steep embankment with bare chalk visible. Not directly accessed.
Dense Scrub	DS13	N/A	Scrub on embankment adjacent to A34. Relatively diverse in structure.

Habitat type	Parcel Code	Photograph number	Notes
Dense scrub	DS14		Saplings and shrubs growing on thin strip of verge. Grassy edge to habitat parcel.
Dense scrub	DS15	N/A	Roadside scrub lacking trees
Dense scrub	DS16	N/A	Roadside scrub lacking trees

Habitat type	Parcel Code	Photograph number	Notes
Scattered scrub	SS1		Ivy dominated section of verge adjacent to coniferous woodland.
Scattered scrub	SS2	N/A	Steep embankment not accessed for health and safety reasons. Likely thin soils, ivy dominant alongside saplings and shrubs.

Habitat type	Parcel Code	Photograph number	Notes
<p>Scattered broadleaved woodland</p>	<p>SBW1</p>		<p>Likely to be a defunct hedge, comprising mature willow trees over bramble scrub.</p>
<p>Scattered broadleaved woodland</p>	<p>SBW2</p>		<p>Double row of beech trees adjacent to hard standing pathway.</p>

Habitat type	Parcel Code	Photograph number	Notes
<p>Scattered broadleaved woodland with amenity grassland</p>	<p>SBW/AM1</p>		<p>Double row of mature beech trees over amenity grassland within Tesco's car park.</p>
<p>Semi-improved neutral grassland</p>	<p>SNG1</p>		<p>Damp road verge grassland with reasonable diversity of herbaceous vegetation. Sward approximately 35cm being mown at time of survey.</p>

Habitat type	Parcel Code	Photograph number	Notes
Semi-improved calcareous grassland	SCG1/SS	 <p>A photograph showing a strip of grassland adjacent to a road. The grass is green and appears somewhat disturbed, with some bare patches and scattered shrubs. A road with a guardrail and some orange traffic cones is visible on the left side of the image.</p>	Strip of grassland 1-4m wide adjacent to the M3. Disturbed ground including bare patches and wood chip present. Occurs with scattered shrub.
Semi-improved calcareous grassland	SCG2/SS	As above	Strip of grassland 1-4m wide adjacent to the M3. Disturbed ground including bare patches and wood chip present. Occurs with scattered shrub.

Habitat type	Parcel Code	Photograph number	Notes
Semi-improved calcareous grassland	SCG3/SS		<p>Grassland on the eastern side of M3 north of Junction 9. Includes steep embankment/ cutting further north. Grassland occurs in mosaic with scattered scrub. Bryophytes prominent in sward that is relatively herb-rich in places.</p>
Semi-improved calcareous grassland	SCG4/SS		<p>Narrow strip of grassland on road verge between approximately 1m and 3m wide.</p>

Habitat type	Parcel Code	Photograph number	Notes
Semi-improved calcareous grassland	SCG5/SS		Grassland on western side of M3. Ivy is prevalent within the sward, which also contains a good diversity of forbs. Scattered scrub is frequent.
Semi-improved calcareous grassland	SCG7/SS	N/A	2-3m wide strip of grassland adjacent to slip road. Scrub, ivy, bryophytes and bare ground frequent in sward.
Semi-improved calcareous grassland	SCG8/SS	N/A	2-3m wide strip of grassland adjacent to slip road. Scrub and, ivy, bryophytes and bare ground frequent in sward.
Semi-improved calcareous grassland	SCG9/SS	N/A	Embankment vegetated with grassland sward that is around 50cm high with scrub encroaching.
Semi-improved calcareous grassland	SCG10/SS	N/A	Herb-rich, closely mown, grassland with exposed bare chalk present.
Semi-improved calcareous grassland	SCG11	N/A	Approximate 2m wide margin, relatively coarse and herb-rich sward.

Habitat type	Parcel Code	Photograph number	Notes
Semi-improved calcareous grassland	SCG12	N/A	Relatively coarse grass margin to the road. Includes lorry pull in which is covered with grass.
Semi-improved calcareous grassland	SCG13		Rough grassland present to the peripheries of Winnal roundabout. Relatively diverse assemblage of species present.
Semi-improved calcareous grassland	SCG14	As SCG13	

Habitat type	Parcel Code	Photograph number	Notes
Semi-improved calcareous grassland	SG15		Cattle grazed pasture, habitat classification borderline with improved grassland. Area of wet ground present to southern end of parcel.
Semi-improved calcareous grassland	SCG16		Cattle grazed pasture, habitat classification borderline with improved grassland.

Habitat type	Parcel Code	Photograph number	Notes
Improved grassland	11		Sheep grazed pasture with tight sward of approximately 10cm.
Improved grassland	12		Improved pasture field.

Habitat type	Parcel Code	Photograph number	Notes
Marshy grassland	MG1		Area of wet ground dominated by large sedges and grasses. Much litter from annual vegetation.
Marshy grassland	MG2		Wet pasture with coarse sward that includes abundant rushes.

Habitat type	Parcel Code	Photograph number	Notes
Marshy grassland	MG3		Wet pasture with coarse sward that includes abundant rushes.
Marshy grassland	MG5		Area of wet ground with large sedges and grasses dominant. Abundant leaf litter on the ground. Occasional scattered willow scrub present.

Habitat type	Parcel Code	Photograph number	Notes
Marshy grassland	MG6		Tussocky grassland with sward of around 20-30cm. High cover of wetland species including reed, sedges and rushes.
Marshy grassland	MG7		Grassland with sward around 10cm. Forb-rich and bordered by reeds.

Habitat type	Parcel Code	Photograph number	Notes
Marshy grassland	MG8		Grassland with sward around 10cm. Forb-rich and bordered by reeds. Frequent tussocks of rushes.
Marshy grassland	MG9		Mown pathway for fishermen along the embankment of River Itchen.

Habitat type	Parcel Code	Photograph number	Notes
Marshy grassland	MG10		Grassland with sward around 10cm. Forb-rich and bordered by reeds. Frequent tussocks of rushes.
Marshy grassland	MG11	AS MG7	As MG 7
Marshy grassland	MG12	AS MG7	As MG 7
Marshy grassland	MG13	AS MG7	As MG 7

Habitat type	Parcel Code	Photograph number	Notes
Marshy grassland	MG14		Damp area of wider pasture close to river
Marshy grassland	MG15		Area of rough grassland between main channel of Itchen and a tributary. Large trees present.

Habitat type	Parcel Code	Photograph number	Notes
Marshy grassland	MG16		Apparently unmanaged tract of land adjacent to running watercourse. Scrub encroachment.
Marshy grassland	MG17		Cattle grazed wet pasture that is likely to seasonally flood. Mosaic of closely grazed grassland alongside areas dominated by taller vegetation characteristic of wet conditions including flag iris, meadowsweet and rushes.

Habitat type	Parcel Code	Photograph number	Notes
Marshy grassland	MG18		Cattle grazed wet pasture that is likely to seasonally flood. Mosaic of closely grazed grassland alongside areas dominated by taller vegetation characteristic of wet conditions including flag iris, meadowsweet and rushes.
Species poor semi-improved grassland	SI1		Pasture occurring on the edge of the field study area.

Habitat type	Parcel Code	Photograph number	Notes
Species poor semi improved grassland	SI3		Fenced-off unmanaged grassland on an embankment.
Species poor semi improved grassland	SI5		Central reservation. Coarse, little managed grassland with prevalent ruderal species such as nettle.

Habitat type	Parcel Code	Photograph number	Notes
Species poor semi improved grassland	S16		Drier area of the wet pasture.
Species poor semi improved grassland	S17		Drier part of damp grassland, moderate sward height.

Habitat type	Parcel Code	Photograph number	Notes
Species poor semi improved grassland	S18		Pasture with sward height of around 15-25cm.
Species poor semi improved grassland	S19	N/A	Coarse unmanaged verge up to 4m wide.
Species poor semi improved grassland	S110	N/A	Coarse unmanaged verge up to 4m wide.

Habitat type	Parcel Code	Photograph number	Notes
Tall ruderal vegetation	TR 1		Strip of ruderal vegetation in aggregates yard.
Tall ruderal vegetation	TR/SS/SBW1		Road verge vegetation on embankment with dry ditch at the bottom with some aquatic species present.

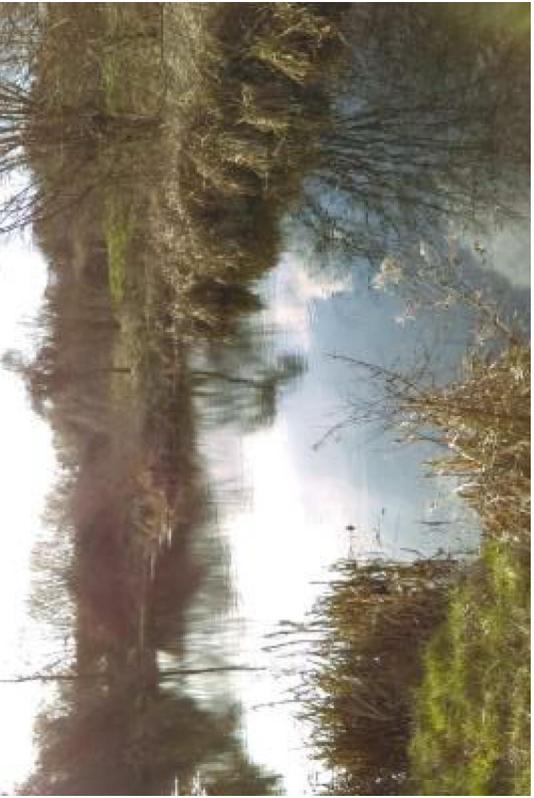
Habitat type	Parcel Code	Photograph number	Notes
Swamp	SP1		Relatively large area of dense reed with some willow scrub adjacent to the River Itchen.
Swamp	SP3	n/a	Area of dense reeds between two running water channels. Common nettle locally abundant.

Habitat type	Parcel Code	Photograph number	Notes
Swamp	SP4		Linear reed beds around 4m wide growing between two areas of marshy grassland, possibly growing over flush.
Swamp	SP5	n/a	Linear reed bed around 4m wide growing between two areas of marshy grassland, possibly growing over flush.

Habitat type	Parcel Code	Photograph number	Notes
Swamp	SP6		Area of unmanaged land dominated by reed with some trees including mature specimens and recently planted alder.
Swamp	SP7		Area of reed growing over ditch at margin of field. Small amount of willow scrub present.

Habitat type	Parcel Code	Photograph number	Notes
Swamp	SP8		Tall-herb dominated wetland with mown fisherman's path passing through. Occasional shrubs and trees present.
Marginal vegetation	MV1		Un-accessed island to SW/3 dominated by emergent sedges.

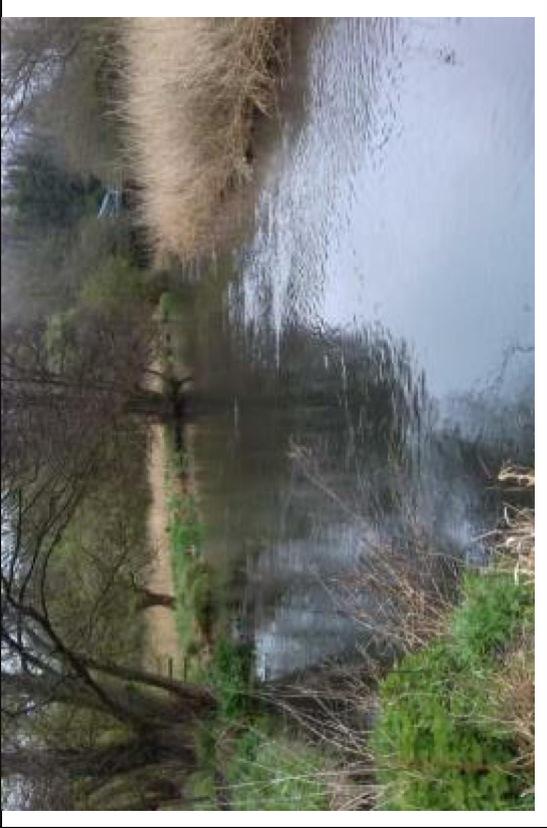
Habitat type	Parcel Code	Photograph number	Notes
Marginal vegetation	MV/2		Band of reeds surrounding ditch. Some scrub encroachment.
Marginal vegetation	MV/3	n/a	Band of reeds adjacent to running watercourse.

Habitat type	Parcel Code	Photograph number	Notes
Standing water	SW1		Ditch approximately 1m wide with dense aquatic and emergent vegetation.
Standing water	SW3		Water body connected to main channel of the River Itchen but upstream (i.e. not affected by flow). Appears to be artificial.

Habitat type	Parcel Code	Photograph number	Notes
Standing water	SW4		Shallow drainage ditch (likely seasonally dry) with emergent wetland vegetation present
Standing water	SW5		Ditch approximately 1m wide with abundant emergent vegetation. Likely some form of road drainage feature.

Habitat type	Parcel Code	Photograph number	Notes
Standing water	SW6		Attenuation pond covered with dense duckweed (<i>Lemna sp.</i>).
Standing water	SW7		Ditch along west of A34 filled with water. Around 1m wide. Little or no flow. Likely to be related to highways drainage.

Habitat type	Parcel Code	Photograph number	Notes
Running water	RW1		Approximately 2m wide, clear chalk stream, watercress and marginal vegetation abundant.
Running water	RW2		3m wide, clear chalk stream, watercress and marginal vegetation abundant.

Habitat type	Parcel Code	Photograph number	Notes
Running water	RW3	N/A	Small stream approximately 1m wide x 0.5m deep, abundant emergent vegetation present. Little flow observed. Occurs in association with scattered scrub.
Running water	RW4		Main channel of River Itchen. Approximately 5-10m wide and over 1m deep. Abundant aquatic vegetation, with exposed gravels on bed. Some siltation observed.
Amenity grassland	AM1	N/A	Herb-rich amenity grasslands associated with highways depot.