



**APPENDIX 11.1**

**EAST HILL, HEMPSTEAD,**

**MEDWAY**

**Phase 1 Habitat Survey**

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<b>Author</b>	Alexander Watkinson
<b>Reviewer</b>	Jenny Passmore
<b>Client name</b>	Hume Planning
<b>Corylus reference</b>	17032

## SUMMARY

- A Phase 1 Survey has been undertaken of three areas of land within the East Hill, Hempstead, Medway, throughout 2018.
- Correspondence with Natural England is required as the Site falls within the SSSI Impact Risk Zones of Medway Estuary and Marshes, Purple Hill, Queendown Warren, Wouldham to Detling Escarpment and Tower Hill to Cockham Wood.
- The hedgerow on the southern boundary of Field 1 (H2) has been assessed under the wildlife and landscape criteria of the Hedgerows Regulations 1997; this hedgerow has not been assessed for its importance under the archaeology and historic criteria of the regulations as this is beyond the scope of an ecology report. Hedgerow H1 is considered to be 'Important' under the wildlife and landscape criteria of the Hedgerows Regulations, and it is also species rich as it contains over 7 woody species throughout the entire hedgerow.
- Mitigation, Enhancement and Management Strategies will be required in relation to 'North Dane Way Wood' located adjacent to the Site and 'Whites Wood' ancient woodland located within the Site.
- Buffer zones should be created and there should be an emphasis on the retention, protection and enhancement of the Site's boundary features which hold the best biodiversity features. A 15m wide buffer should be retained between the two ancient woodland areas and any area of development. The buffers will be generously planted with appropriate native species and managed for wildlife.
- Fragments of chalk grassland have been recorded around the margins of the arable fields and in unmanaged or infrequently managed areas. These species-rich areas of grassland also support man orchid, which is a UK BAP priority vascular plant species. Chalk grassland is a priority habitat for conservation in Kent.
- Japanese knotweed and cotoneaster have been recorded adjacent to the Site; these are on Schedule 9 of the Wildlife and Countryside Act, which makes it an offence to cause their spread in the wild.

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## 1.0 INTRODUCTION

1.1 Corylus Ecology has undertaken a Phase 1 habitat survey of three areas of arable land near East Hill, Hempstead, Medway, hereinafter referred to collectively as 'the Site'. The OS grid reference at Site centre is TQ 77498 65293.

1.2 The Site consists of three large arable fields (Fields 1, 2 and 3) located within the Medway Towns area approximately 1.5km to the west of Hempstead and 2.7km to the south of Chatham. The three areas are shown on Figure 2 and 3.

1.3 There are two large fields that are separated by Shawstead Road and a smaller field to the east that is connected to the large northern field through an area of dense vegetation:

- The southern field (Field 1) measures 20ha and is used to grow crops, with wheat grown during the 2018 season. The field is bordered by managed hedgerows and woodland along the boundaries with two separate sections of ancient woodland at the western and southern boundaries.
- The northern field (Field 2) measures 23ha and is used to grow crops with wheat grown during the 2018 season. The field is bordered by managed hedgerows and dense scrub along the boundaries with an area of grassland and scrub on the western boundary.
- The smaller field (Field 3) located in the north-east corner of the Site located to the west of Capstone Road, immediately to the north of Capstone Country Park. The area measures approximately 5ha. It is dominated by a wheat field (c.4ha) with a block of woodland and scrub (c.1ha) to the west.

1.4 The objectives of the survey were to:

- Determine the botanical context of the Site through evaluation of the designated areas and desk study records.
- Classify and map the habitats within the Site according to those within the Phase 1 manual;
- Evaluate the importance of the plant communities identified

## **2.0 METHODOLOGY**

### **2.1 Desk Study**

- 2.1.1 Records of protected species and designated sites were sought from the Kent and Medway Biological Records Centre (KMBRC), encompassing a 3km search area. In addition, information regarding European Protected Species Mitigation licences and Priority Habitats were searched for within 5km of the Site by using freely available internet resource [www.MAGIC.gov.uk](http://www.MAGIC.gov.uk).

### **2.2 Phase 1 Survey**

- 2.2.1 The Site has been subject to multiple Phase 1 Surveys to assess the site over the seasons with an initial survey undertaken on 22<sup>nd</sup> May 2017 followed by additional surveys undertaken in spring, summer and autumn 2018. The habitats present within the Site were mapped in accordance with the 'Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit' (JNCC, 2003). Habitat areas and features of topographical and/or ecological interest were described in the form of target notes. These were later used to create botanical species lists by target note area and also to create a colour coded Phase 1 Habitat Map. All nomenclature follows Stace (2010). Non-native and invasive species were also identified and mapped where appropriate.

### **2.5 Hedgerow Regulation Assessment**

- 2.5.1 The hedgerow survey followed guidelines published by DEFRA (2002). A hedgerow is defined as a row of bushes that may or may not contain trees. Some hedgerows ('Important Hedgerows') are protected by law and it is illegal to remove them without permission. The protection system applies to all hedgerows that are 20m or more in length, or which meet another hedgerow at each end, other than garden hedgerows, which are exempt from the Hedgerows Regulations 1997. A further exemption is applied where a former hedgerow has ceased to be actively managed and has grown into a line of trees, and so would no longer be covered by the Regulations. Only the ecological criteria for the Hedgerows Regulations have been assessed.

### 3.0 RESULTS

#### 3.1 Desk Study

##### Statutory Designated Sites

- 3.1.1 Figure 1 shows the location of all designated sites within a 5km radius of the Site. Medway Estuary and Marshes Ramsar Site, Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI) is located 3.3km north of the Site. The site consists of a complex arrangement of tidal channels, saltmarsh and grazing marsh. The mud-flats are rich in invertebrates and, in summer, the estuary supports breeding waders and terns, whilst in winter it holds important numbers of geese, ducks, grebes and waders. The site is also of importance during spring and autumn migration periods, especially for waders.
- 3.1.2 There are an additional four Sites of Special Scientific Interest (SSSIs) within a 5km radius of the Site. The Site falls within the Site of Special Scientific Interest (SSSI) Impact Risk Zones for these:
- Purple Hill SSSI is located approximately 2.9km to the south-east and supports calcareous grassland, scrub and woodland. It supports the rare Kentish milkwort *Polygala austriaca* and several orchid species such as man orchid *Aceras anthropophorum*.
  - Queendown Warren SSSI (also a SAC and LNR) is located 3.5km to the south-east and supports grassland and woodland in a dry chalk valley. The site is botanically and entomologically rich with interesting species including squinancywort *Asperula cynanchica*, meadow clary *Salvia pratensis*, the adonis blue butterfly *Lysandra bellargus* and the rufous grasshopper *Gomphocerippus rufus*. The orchid-rich, dry chalk grassland is an Annex 1 habitat and the primary reason for the SAC designation.
  - Wouldham to Detling Escarpment SSSI is located approximately 4km to the south-west and supports woodland, scrub and unimproved grassland on chalk which in turn supports a rich invertebrate assemblage, including a number of scarce and rare species.
  - Tower Hill to Cockham Wood SSSI is located 4km to the north-west of the Site and supports broadleaved woodland. The Site supports a rich insect fauna, particularly the aculeate hymenoptera (bees and wasps).
- 3.1.3 There are nine Local Nature Reserves within a 5km radius of the Site, the closest of which (Darland Banks) is discussed in more detail below:
- Darland Banks LNR located 180m to the north;
  - Ambley Wood LNR is located approximately 300m to the north of Field 3;
  - South Wood LNR is located 0.9km to the south of Field 1;
  - Levan Strice LNR is 1.2km to the south-east of Field 1;
  - Foxburrow Wood is located approximately 1.5km to the south-east of Field 1;
  - Berengrave Chalk Pit is located 3km to the north-east of Field 1;
  - Queendown Warren LNR (also a SAC and SSSI) is located 3.5km to the south-east of Field 1;
  - Boxley Warren LNR is located 4.6km to the south-west; and

- Baty's Marsh LNR is located approximately 4.8km to the north-west.

#### Darland Banks LNR

- 3.1.4 Darland Banks Local Nature Reserve is a 45ha area of chalk grassland, scrub and woodland on a steep south-west facing escarpment on the North Downs. Calcareous grassland is listed as a priority habitat under the UK's Biodiversity Action Plan. The Site is renowned for its chalk grassland plants: man orchid, lizard orchid, fragrant orchid, green-winged orchid, early-purple orchid, pyramidal orchid, field scabious and common knapweed have all been recorded here. It supports the largest population of man orchid in the country. Numerous species of butterfly and moth have been recorded at the LNR, some of which are rare and UK BAP Priority species: chalk hill and common blue, marbled white and green hairstreak butterfly, straw belle and fox moths are examples of the species recorded. The LNR also provides habitat for the great green bush-cricket.
- 3.1.5 Birds which have been recorded within the LNR include: honey buzzard, hobby, sparrowhawk, kestrel, willow warbler, woodcock, Mediterranean gull, black-headed gull, herring gull, common tern, turtle dove, cuckoo, tawny owl, meadow pipit, stonechat, redwing, mistle thrush, reed warbler, whitethroat, goldcrest swift, swallow, house martin, stonechat, song thrush, yellowhammer, green woodpecker, lesser spotted woodpecker, greater spotted woodpecker, linnet, blackcap and lesser whitethroat.

#### Ancient Woodland

- 3.1.6 There are multiple areas of ancient woodland within a 5km radius of the Site. There are two areas of ancient woodland located within and adjacent the Site, both of these are within Field 1, see Figure 2. The first is Whites Wood a 1.3ha section of woodland located within the Site on the western boundary of the field. The second is North Dane Wood located adjacent to the Site on the southern field edge and is 3.3ha in size.

#### Priority Habitats

- 3.1.7 Under Section 41 of The Natural Environment and Rural Communities (NERC) Act 2006, the Secretary of State published a Priority Habitats Inventory which is a list of habitats and species of principal importance for the conservation of biodiversity in England. Within a 5km radius of the Site there are eight Priority Habitat Types: deciduous woodland, lowland meadow, lowland calcareous grassland, traditional orchard, coastal saltmarsh, mudflats, reedbeds and coastal and floodplain grazing marsh. There is also good quality semi-improved grassland, which is a non-priority habitat. The Site itself contains three areas of deciduous woodland and is bordered by another three. Darland Banks LNR located 200m to the north-east contains lowland meadow and lowland calcareous grassland habitats. The nearest area of traditional orchard is located 600m to the east of the Site. The areas of mudflats, coastal saltmarsh, reedbeds and

coastal and floodplain grazing marsh are all located within the Medway Estuary and Marshes Ramsar Site, 3.3km to the north.

#### Botanical Desk Study

- 3.1.8 Records show that chalk grassland plants are located nearby, calcareous grassland is listed as a priority habitat under the UK's Biodiversity Action Plan. Chalk grassland plants include: man orchid, lizard orchid, fragrant orchid, green-winged orchid, early-purple orchid, pyramidal orchid, field scabious and common knapweed have all been recorded here. Darland Banks LNR 180m to the north-east is a significant area for these species.

### 3.2 Phase 1 Survey

#### Field 1 – c.20ha

- 3.2.1 Field 1 is a large arable wheat field located at the southern end of the Site. This field is bordered by woodland, managed hedgerows and scrub. The northern and eastern boundary of the field is formed by a minor road called Shawstead Road. A large section of the western boundary and 150m section of the southern boundary of the wheat field is formed by ancient woodland. The habitats within Field 1 are shown within Figure 2, with further detail provided by way of specific target notes: these are denoted by the letters 'TN'. Photographs of selected target notes are provided in Figure 4.

#### *Arable – TN1*

- 3.2.2 The majority of the Field 1 is a large arable field, this field was used to grow wheat during the 2017 summer season and cabbage over the 2017/2018 winter, wheat was grown again in 2018 and oil seed rape was also planted leading into winter 2018. Where the soil is exposed, the ground is chalk with flint nodules throughout.

#### *Ancient Woodland – 'Whites Wood'– TN2*

- 3.2.3 Located within the western boundary of Field 1 there is a 1.3ha area of ancient woodland: Whites Wood. This woodland was previously part of larger area, however in the 1980's North Dane Way and a housing development was constructed to the west reducing the woodland down to its current size. The woodland has a sparse understorey throughout with denser shrub layer where management has taken place against the edge of the arable field to the east and north. The canopy of the woodland is dominated by sweet chestnut *Castanea sativa* and ash *Fraxinus excelsior* with several large mature pendunculate oaks *Quercus robur* and there are also occasional mature cherry *Prunus sp.* trees. The shrub layer includes elder *Sambucus nigra*, hawthorn *Crataegus monogyna*, field maple *Acer campestre*, hazel *Corylus avellana*, holly *Ilex aquifolium*, beech *Fagus sylvatica*. The ground flora is dominated by dense common ivy *Hedera helix ssp. helix* cover but also includes herb-Robert *Geranium robertianum*, occasional bramble



*Rubus fruticosus* sp. agg, wood avens *Geum urbanum*, occasional traveller's-joy *Clematis vitalba*, cow parsley *Anthriscus sylvestris*, dog's mercury *Mercurialis* and wood anemone *Anemone nemorosa*.

#### *Ancient Woodland – 'North Dane Wood'– TN3*

- 3.2.4 Located at the southern boundary of Field 1, North Dane Wood is 3.3ha of ancient woodland. This woodland was also part of larger area, however in the 1980's North Dane Way road was constructed to the west that split the woodland into two. The Site boundary runs along the edge of the woodland where a dilapidated post and wire fence is located. Access to the woodland beyond the edge was restricted due to the use of this land for shooting. The woodland has a sparse understorey throughout with the shrub layer more developed where management has taken place against the edge of the arable field to the west. The canopy of the woodland is dominated by mature ash but also includes beech, sycamore *Acer pseudoplatanus* and hazel. The shrub layer includes blackthorn *Prunus spinosa*, hawthorn, holly *Ilex aquifolium*, elder, dog-rose *Rosa canina* and spindle *Euonymus europaeus*. The ground flora is sparse and includes common ivy, common nettle, herb-Robert, cow parsley, traveller's-joy, wood anemone, wood avens, dog's mercury and bramble.

### **Boundary Features and Field Margins**

#### *Dense Scrub – TN4*

- 3.2.5 The north and north-western boundary is formed by a wooden post and rail fence. The habitat beyond the fence include a narrow field margin and dense scrub on steep banks that extend down to Shawstead Road to the north and North Dane Way to the west. The dense scrub behind the fence line on the steep banks is dominated by mature silver birch *Betula pendula*, occasional cherry, alder buckthorn *Frangula alnus*, dense traveller's-joy, sycamore and common ivy, however there are also ornamental species that had have started to colonise the banks including *Berberis* sp. and several species of *Cotoneaster* sp. including *C. horizontalis*. The field margins here are narrow ranging between 0.5 to 1m in width and the assemblage is dominated by false oat-grass *Arrhenatherum elatius*, Yorkshire-fog *Holcus lanatus* and common nettle but also includes creeping thistle *Cirsium arvense*, cock's-foot *Dactylis glomerata*, cow parsley, cleavers *Galium aparine*, mugwort *Artemisia vulgaris*, bramble and white dead-nettle *Lamium album*. There are also many plants from the Brassicaceae family with escaped oil-seed rape *Brassica napus* from the arable fields as well as charlock *Sinapis arvensis* and white mustard *Sinapis alba*. These margins also contain occasional man orchid *Orchis anthropophora*.

#### *Tall Ruderal – TN5*

- 3.2.6 The north-east boundary is formed by a low vegetated earth bund that runs along the edge of Shawstead Road, this bund is dominated by tall ruderal species. This bund and field margin is approximately 4m wide and is disturbed from fly tipping with large amounts of rubbish located throughout, towards the northern

end is a single bar gate for vehicle access by the landowner. The species within the bund is dominated by common nettle and bramble but also includes large amounts of common hogweed *Heracleum sphondylium* and hemlock *Conium maculatum* along with cow parsley, cleavers, herb-Robert, false oat-grass, Yorkshire-fog and cocks-foot. These same species are also present along the adjacent narrow 0.5m field margin.

#### *Eastern Boundary – TN6*

- 3.2.7 The majority of the eastern boundary is formed by a managed hedgerow that runs on top of the bank alongside Shawstead Road. This hedge (H1) runs for c.500m, however there are two large 30m gaps located along the length. This hedge is dominated by blackthorn and dense common ivy but also includes field maple and occasional hazel, spindle and buddleia *Buddleja davidii*. The field margin along this hedgerow is very narrow with the wheat growing up to the base, however there is a narrow strip of cow parsley cleavers, false oat-grass and occasional common hogweed.

#### *South-east Boundary – TN7*

- 3.2.8 Within the south-east corner is a small 85m long section of managed hedgerow (H2) that has several gaps. The species within this hedge include field maple, blackthorn, dog rose, wild privet *Ligustrum vulgare*, alder buckthorn, spindle, common ivy, traveller's-joy and hedge bindweed *Calystegia sepium*. The number of species within this hedge make it species-rich. Here the field edge is defined by a well-worn area of bare earth from a public footpath and a c.2.5m wide area of tall ruderal. This ruderal is dominated by common nettle, common hogweed and cow parsley but also includes common ivy, cleavers, bramble and occasional hemlock water dropwort.

#### *Western Boundary – TN8*

- 3.2.9 The western boundary that extends from the southern corner to Whites Wood is c.400m long and is marked by a wooden post and rail fence line. This area is a bank that extends from the Site edge to North Dane Way; this was cleared in the 1980's when the road was built and has been colonised by dense scrub and trees since. The species within this scrub include field maple, blackthorn, hawthorn, sycamore, alder buckthorn, sycamore, dog-rose, bramble, common ivy and yew *Taxus baccata*. There is also occasional pendunculate oak, willow *Salix caprea* and beech. The field margin along this boundary is c.1m wide and is heavily shaded by the adjacent trees and scrub. The species here are dominated by dense common ivy cover but also include false oat-grass, cleavers and occasional stinking iris *Iris foetidissima*. Within the margin there is a public footpath and gate for vehicle access; here a large amount of disturbance has taken place with fly tipping and a fire taking place in October 2018 which damaged a c.30m section.

*Tree Line – TN9*

- 3.2.10 Within the centre of the field located towards the southern end is a c.110m long tree line and scrub that has been retained within the arable field. This feature has been within the field since at least the 1940's. The dominant species are whitebeam *Sorbus* sp. and blackthorn but also include common ivy, hazel, beech, field maple and wild privet. Surrounding this isolated tree line is a c.1m wide field margin, the species here include Yorkshire-for, false oat-grass, cock's-foot, cow parsley, common ivy, common nettle, white dead-nettle, cleavers, mugwort and herb-Robert.

**Field 2 – c.20ha**

- 3.2.11 Field 2 is a large arable field located at the northern end of the Site. This field is bordered by dense scrub, managed hedgerows and trees. The southern boundary of the field is formed by a minor road called Shawstead Road. Running parallel to the western boundary is North Dane Way road with a steep embankment between the road and the field. The eastern boundary is the edge of the Capstone Country Park. The habitats present within the Site are shown within Figure 3, with further detail provided by way of specific target notes: these are denoted by the letters 'TN'. Photographs of selected target notes are provided in Figure 5.

*Arable – TN1*

- 3.2.12 The majority of Field 2 is a large arable field, this field was used to grow wheat during the 2017 summer season and oil seed rape over the 2017/2018 winter, wheat was grown again in 2018 and cabbage was also grown leading into winter 2018.

**Boundary Features and Field Margins***North-east Boundary – TN2*

- 3.2.13 The north-east boundary is a c.90m area of scattered trees set on a steep bank leading down from the field to tennis courts below. The trees here are dominated by mature oaks but also include holly, elder, hawthorn and blackthorn. The field margin here is c.2.5m wide and the species includes false oat-grass, cock's-foot, Yorkshire-fog herb-Robert, white dead nettle, common nettle, cleavers and bramble. This margin suffered fire damaged during the summer.

*Northern Boundary and Field Margin – TN3*

- 3.2.14 The field's northern boundary is formed by multiple sections of close board fencing of private residential gardens. There is a narrow c.1m to 2m wide field margin present with a number of ornamental garden species established. The species in this margin are dominated by common ivy, hedge bindweed, cleavers, bramble, herb-Robert, common nettle, Yorkshire-fog, cock's-foot, false oat-grass, wheat and occasional common hogweed. Woody species present include snowberry *Symphoricarpos albus*, hawthorn, buddleia and leyland cypress *X Cupressocyparis leylandii*.

*North-west and Western Boundary – TN4*

- 3.2.15 The north-west corner and extending down towards the south is formed by an area of dense scrub and trees that form the edge of the arable field; a branch of this also extends onto the steep embankment of North Dane Way road. The mature trees here consist of pendunculate oak, ash and elm and the scrub is dominated by blackthorn but also includes common ivy, hawthorn, bramble, spindle, holly, dog-rose, traveller's-joy and hazel. Closer to North Dane Way road, blackthorn, hawthorn and traveller's-joy become the dominant species. The field margin here is narrow at c.0.5m wide and heavily shaded by the tree and scrub line adjacent. The species here are dominated by common ivy and common nettle but also include cleavers, mugwort, false oat-grass and cocks'-foot.

*Central Western Boundary – TN5*

- 3.2.16 In the western section of field 2 is an area of species-rich grassland and scattered scrub. This area is surrounded by dense scrub and has started to become colonised by scattered scrub with saplings of alder buckthorn, field maple, blackthorn, dog-rose, briar rose *Rosa rubiginosa*, bramble and travellers-joy, however grassland and herb species are also present with spear thistle *Cirsium vulgare*, cow parsley, false oat-grass, cock's-foot, springy turf-moss *Rhytidiadelphus squarrosus*, autumn hawkbit *Leontodon autumnalis*, herb-Robert, mugwort, rosebay willowherb *Chamerion angustifolium*, dandelion *Taraxacum officinale*, oxeye daisy *Leucanthemum vulgare*, tufted vetch *Vicia cracca* and occasional hogweed. Other species of interest recorded included pyramidal orchid *Anacamptis pyramidalis*, man orchid, bladder campion *Silene vulgaris* and common poppy *Papaver somniferum*.

*Western and Southern Boundary – TN6*

- 3.2.17 The western section of field 2 has a scrub boundary to the west and south, formed by a wooden post and rail fence. The habitats here include a narrow field margin, fence line and dense scrub on steep banks that extend down to North Dane Way to the west. The dense scrub is dominated by mature silver birch, occasional cherry, alder buckthorn, dense traveller's-joy, sycamore and common ivy, however there are also ornamental species that had have started to colonise the banks including berberis and several species of cotoneaster. The field margins here are narrow ranging between 0.5 to 1m in width and the species present are dominated by false oat-grass, Yorkshire-fog and common nettle but also include creeping thistle, cock's-foot, cow parsley, common ivy, cleavers, mugwort, bramble and white dead-nettle.

*Central Southern Boundary – TN7*

- 3.2.18 The centre of the southern boundary supports an area of disturbed habitat. Here a public footpath enters the field along with a low metal gate for vehicle access, between the two is a large earth bund that is overgrown by scrub. There is fly tipping here along with a mound of chicken manure. The species here

are dominated by dense bramble scrub but also include semi-mature sycamore and ash, hawthorn, dog rose, common nettle, common hogweed, cleavers, herb-Robert, cock's-foot, false oat-grass and Yorkshire-fog.

*South-western Boundary – TN8*

- 3.2.19 The south-west boundary is formed by a low vegetated earth bund that runs along the edge of Shawstead Road to the west; this is dominated by tall ruderal species. This bund and field margin is approximately 4m wide and is disturbed from fly tipping with rubbish located throughout and towards the northern end is a single bar gate for vehicle access by the landowner. The species are dominated by common nettle and bramble but also includes large amounts of common hogweed and hemlock along with cow parsley, cleavers, herb-Robert, false oat-grass, Yorkshire-fog and cocks-foot. These species also extend into the narrow c.0.5m wide field margin. Within the bund there is an area of mature trees with two mature pendunculate oak trees T2 and T3.

*Southern and Eastern Boundary Dense Scrub – TN9*

- 3.2.20 The southern end of field 2 and majority of the eastern boundary is dominated by a dense scrub and tree line. The species within this scrub is dominated by blackthorn but also include hawthorn, hazel, field maple, elder, bramble, holly, common ivy, buddleia, travellers-joy, buddleia and occasional pendunculate oak and elm *Ulmus procera*. The field margin along these boundaries varies from c.0.5m to 1.5m wide and the species present include false oat-grass, Yorkshire-fog, cock's-foot, common nettle, creeping thistle, cock's-foot, cow parsley, common ivy, cleavers, mugwort, bramble and white dead-nettle.

**Field 3 – c.5ha**

- 3.2.21 Field 3 is a large arable field measuring approximately 4ha and located in the north-east corner of the Site. To the west there is an area of dense scrub and woodland which measures approximately 1ha and the northern, eastern and southern boundaries are formed of tree lines or woodland. The habitats present within the Site are shown within Figure 3, with further detail provided by way of specific target notes: these are denoted by the letters 'TN'. Photographs of selected target notes are provided in Figure 6.

*Arable – TN1*

- 3.2.22 The majority of Field 3 is a large arable field, which was used to grow wheat during the 2017 summer season, oil seed rape over the 2017/2018 winter, wheat in 2018 and cabbage in winter 2018.

*Dense Scrub and Woodland – TN2*

- 3.2.23 The western section of Field 3 consists of an area of young woodland and dense scrub. This area was formally an area of unmanaged calcareous grassland, bordered by tree and hedge lines and has since the 1960's been left to become overgrown by dense scrub and trees. The species present here are

dominated by dense blackthorn and ash but also include elm, alder buckthorn, field maple, elder, willow, hornbeam, wild privet, hawthorn, spindle, travellers-joy, bramble and occasional hazel and holly. The ground flora is predominantly dense common ivy cover with occasional cleavers.

#### *Grassland – TN3*

- 3.2.24 There is grassland where a vehicle track is kept clear to allow access between Field 3 and Field 2; here there is traveller's-joy, dog-rose, ground-ivy *Glechoma hederacea*, greater stitchwort *Stellaria holostea*, germander speedwell *Veronica chamaedry*, common vetch *Vicia sativa*, wood false-brome *Brachypodium sylvaticum*, common nettle, creeping thistle, creeping buttercup *Ranunculus repens*, bramble, forget-me-not *Myosotis arvensis*, white dead-nettle, cow parsley, ribwort plantain *Plantago lanceolata* and red clover *Trifolium pratense*. There are also pyramidal orchids. Within this dense scrub activity from large mammals (fox/badger) was noted such as mammal runs and holes.

#### *Scrub and Trees – TN4*

- 3.2.25 To the north of the field there is a dense vegetated Site boundary dominated by scrub and trees. The western end of the boundary is dominated by sweet chestnut trees along with dense blackthorn and traveller's-joy; also located here is a large mature sweet chestnut (T1). As the boundary extends to the east the boundary becomes curtilage to residential properties located beyond with close board fencing. Here the scrub is dominated by blackthorn and traveller's joy but also includes occasional stands of hazel. The field margin along this boundary is fairly large varying between c.2m to 4m wide in places and is a mix of grassland and tall ruderal species, the species present include wood false brome, common nettle, common hogweed, cow parsley, forget-me-not, cock's-foot, bramble, cleavers, false oat-grass, creeping thistle, wood avens, common mallow *Malva sylvestris*, garlic mustard *Alliaria petiolata*, herb-Robert, rough meadow-grass *Poa trivialis*, common ivy, dog-rose and creeping buttercup.

#### *Scattered Trees – TN5*

- 3.2.26 Scattered trees and scrub form the eastern and southern boundary. The tree species include sycamore, ash, field maple, elm, blackthorn, hawthorn and elder. In the south of the field there are ash trees overhanging the field, as well as a mature sycamore tree, hazel and hornbeam *Carpinus betulus*. The western and southern field margins (c.1-2m wide) supports grassland and tall ruderal species, the species present are false brome, common nettle, hogweed, cow parsley, forget-me-not, cock's-foot, bramble, cleavers, false oat-grass, creeping thistle, wood avens, common mallow *Malva sylvestris*, garlic mustard, herb-Robert, rough meadow-grass, ivy, dog-rose and creeping buttercup.

## 4.0 EVALUATION

### 4.1 Overview

- 4.1.1 A Desk Study and Phase 1 Survey has been undertaken of three areas of land within the East Hill, Hempstead, Medway, throughout 2018.
- 4.1.2 The Site falls within the SSSI Impact Risk Zones for the following SSSIs: Medway Estuary and Marshes, Purple Hill, Queendown Warren, Wouldham to Detling Escarpment and Tower Hill to Cockham Wood. For the majority of these SSSIs, consultation is required for residential applications of 100 units or more or applications which will result in a net gain in residential units. Natural England should therefore be consulted.
- 4.1.3 The Local Nature Reserve (LNR) Darland Banks is located 180m to the north of the Site. The proposals for the Site will result in a significant net increase in the number of people visiting and using this LNR. Mitigation will be required to reduce the impact of an increase in visitors. This is likely to be in the form of a management plan in partnership with the Kent Wildlife Trust.

### 4.2 Phase 1 Survey

- 4.2.1 The areas of botanical value are restricted to the woodlands and the field margins, with the arable fields being of low botanical interest.

#### Ancient Woodland

- 4.2.2 Field 1 is adjacent to two areas of ancient woodland, 'Whites Wood' to the west within the Site and 'North Dane Wood' to the south adjacent to the Site. Ancient woodland has no statutory protection or designation unless it is designated as a SSSI or similar. However, the conservation value of ancient woodland has been long recognised and, as a result, national planning policy and guidance provides protection to areas of ancient woodland. Standing Advice has been provided by Natural England (May 2012), which states that:
- '.....They (local planning authorities) should not grant planning permission for any development that would result in its loss or deterioration unless the need for, and benefits of, the development in that location outweigh the loss of the woodland habitat.'*
- 4.2.3 The Standing Advice for mitigation includes the recommendation of a buffer of 15m between the woodland edge and areas of new development. A 15m planted buffer should therefore be created between the edges these Ancient Woodlands and any proposed development areas. An Ancient Woodland Management Plan should be created to ensure that the Whites Wood woodland within the Site is managed for biodiversity

into the future and to minimise the impacts of any proposed development. This should include provision of alternative leisure areas to minimise the impacts of increased footfall.

#### Chalk Grassland and Orchids

- 4.2.4 The boundary features support some rarer botanical species have been identified that are associated with chalk environments and have been recorded within the nearby Darland Banks LNR. In Field 1 along the north-west boundary TN4, several spikes of man orchid were recorded in June 2018. Man orchids are a UK BAP priority vascular plant species and are protected. In Field 2 the western boundary TN5, supports an area of unmanaged scrub and grassland that has a number of chalk grassland species; here bladder campion and briar rose were recorded along with multiple spikes of man orchids and pyramidal orchids. Field 3 also supports an area of chalk grassland (TN2) with multiple spikes of man orchids and pyramidal orchids.
- 4.2.5 Man orchid is a UK BAP priority vascular plant species meaning it is a priority for conservation.
- 4.2.6 Parts of the field margins (Field 1, TN4; Field 2, TN5) support an herb-rich chalk grassland assemblage. Good quality chalk grassland, of the type associated with the North Downs and East Kent Coast, is a rare and fragmented habitat of conservation importance and is therefore a Kent Biodiversity Action Plan Habitat type. Kent supports 5% of the UK resource, and the UK holds 50% of the world's old chalk grassland. There is an obligation to protect this priority habitat during the planning process.

#### Hedgerows Regulations Assessment

- 4.2.7 The two hedgerow located on the eastern (H1) and southern (H2) boundaries of Field 1 have been assessed under the wildlife and landscape criteria of the Hedgerows Regulations 1997; these hedgerows have not been assessed for its importance under the archaeology and historic criteria of the regulations as this is beyond the scope of an ecology report.
- 4.2.8 Hedgerow H2 is considered to be 'Important' under the wildlife and landscape criteria of the Hedgerows Regulations, and it is also species rich as it contains over 7 woody species throughout the entire hedgerow.

#### Invasive Species and Poisonous Plants

- 4.2.9 Within Field 1 there are three invasive and/or poisonous botanical species that have been identified both within and outside the Site boundary: Japanese knotweed (INV1), common hogweed (TN5, TN7) and hemlock (TN5, TN7). The Japanese knotweed (INV1) is not located within the Site but within the adjacent land to the east on the other side of Shawstead road. Hogweed and hemlock have also been identified in the western boundary of Field 2 (TN8). No invasive botanical species have been recorded in Field 3. *Contoneaster horizontalis* was identified on the western boundary of field 2 TN6.



- 4.2.10 Japanese knotweed and Cotoneaster are on Schedule 9 of the Wildlife and Countryside Act (1981) meaning it is an offence to cause it to spread in the wild and therefore it should be treated appropriately. It is recommended that a strategy is devised to ensure that these species are treated appropriately to prevent their spread into the Site. This is likely to involve treatment prior to construction, methods of working during the construction process and long-term monitoring and management.

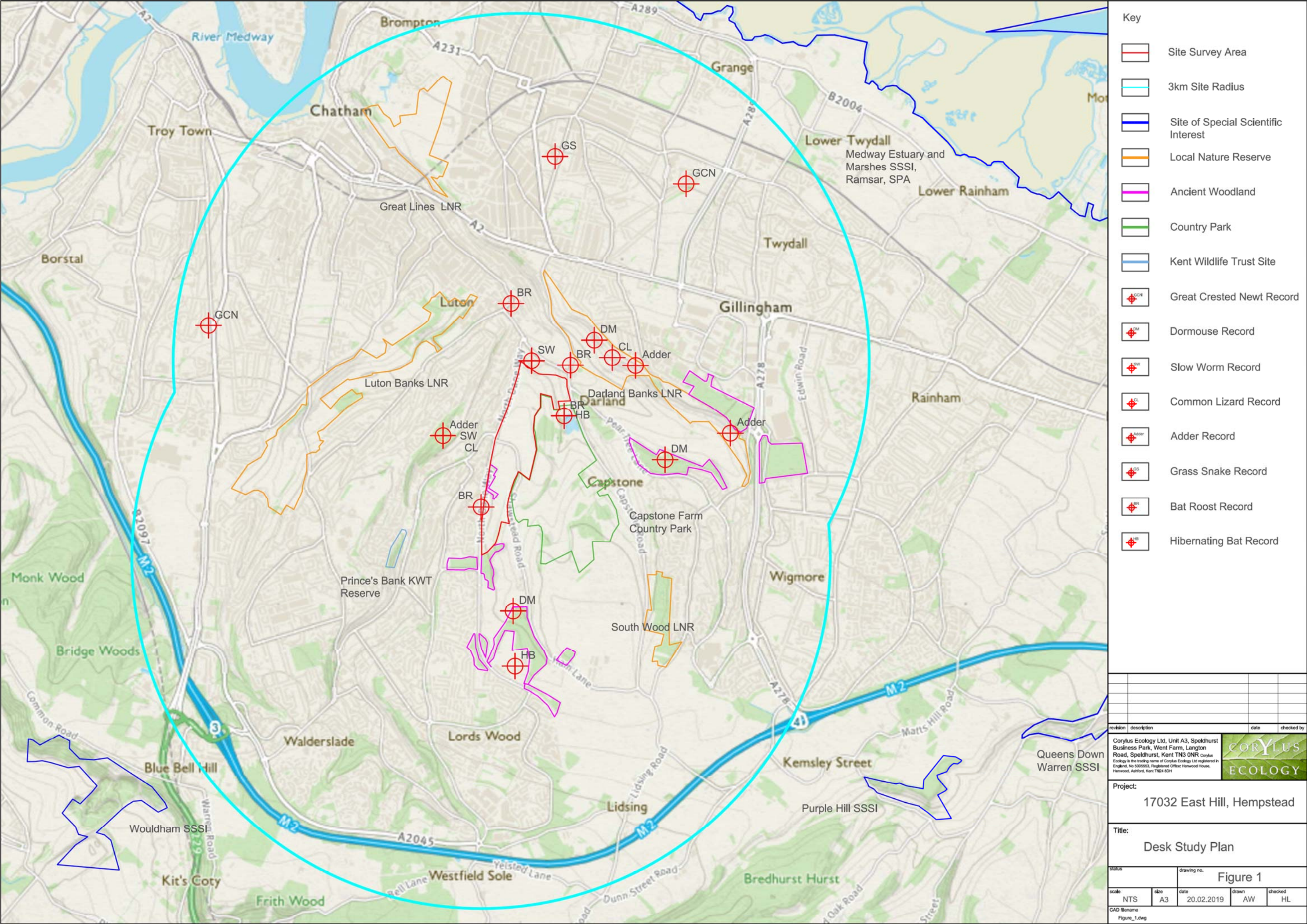
## **5.0 CONCLUSIONS**

- 5.1 A Phase 1 Survey has been undertaken of three areas of land within the East Hill, Hempstead, Medway, throughout 2018.
- 5.2 Correspondence with Natural England is required as the Site falls within the SSSI Impact Risk Zones of Medway Estuary and Marshes, Purple Hill, Queendown Warren, Wouldham to Detling Escarpment and Tower Hill to Cockham Wood.
- 5.3 The hedgerow on the southern boundary of Field 1 (H2) has been assessed under the wildlife and landscape criteria of the Hedgerows Regulations 1997; this hedgerow has not been assessed for its importance under the archaeology and historic criteria of the regulations as this is beyond the scope of an ecology report. Hedgerow H1 is considered to be 'Important' under the wildlife and landscape criteria of the Hedgerows Regulations, and it is also species rich as it contains over 7 woody species throughout the entire hedgerow.
- 5.4 Mitigation, Enhancement and Management Strategies will be required in relation to 'North Dane Way Wood' located adjacent to the Site and 'Whites Wood' ancient woodland located within the Site.
- 5.5 Buffer zones should be created and there should be an emphasis on the retention, protection and enhancement of the Site's boundary features which hold the best biodiversity features. A 15m wide buffer should be retained between the two ancient woodland areas and any area of development. The buffers will be generously planted with appropriate native species and managed for wildlife.
- 5.6 Fragments of chalk grassland have been recorded around the margins of the arable fields and in unmanaged or infrequently managed areas. These species-rich areas of grassland also support man orchid, which is a UK BAP priority vascular plant species. Chalk grassland is a priority habitat for conservation in Kent.
- 5.7 Cotoneaster has been recorded within the Site and Japanese knotweed adjacent to it; these are on Schedule 9 of the Wildlife and Countryside Act, which makes it an offence to cause their spread in the wild.

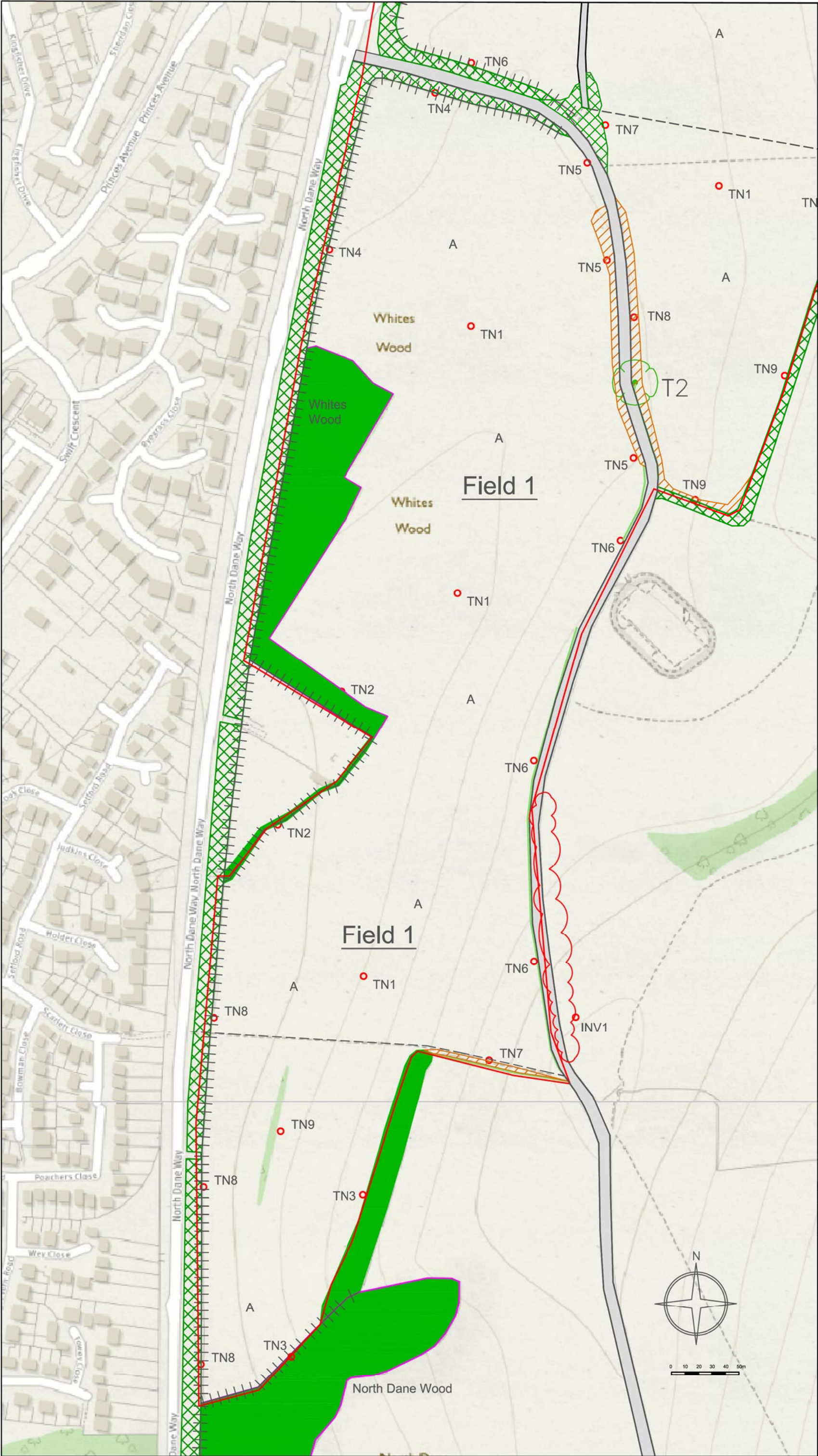
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- Key
- Site Survey Area
  - Tree
  - Broad-leaved Woodland
  - Ancient Woodland Boundary
  - Broad-leaved Planting
  - Dense Scrub
  - Scattered Scrub
  - SI Semi-Improved Grassland
  - Tall Ruderal
  - Waterbody
  - A Arable Field
  - Species Rich Hedge
  - Species Poor Hedge
  - Fence
  - Building
  - Hard Standing
  - TN1 Target Note 1
  - P1 Pond 1
  - Foot Path

Ordnance Survey  
Licence Number  
100050443

revision | description | date | checked by

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Project:  
17032 East Hill, Hempstead

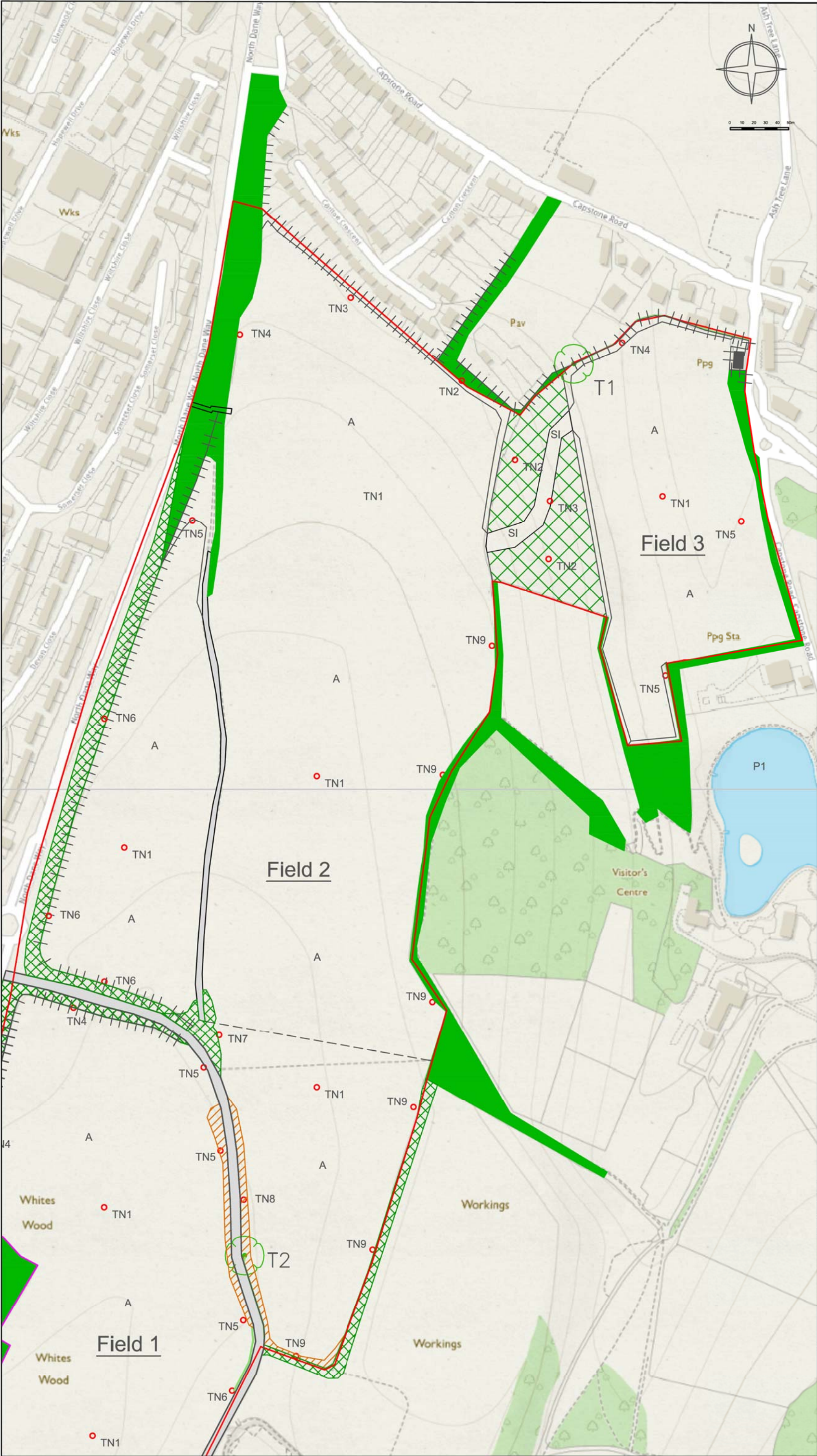
Title:  
Phase 1 Habitat Survey  
Plan - Field 1

status | drawing no. | Figure 2

scale	size	date	drawn	checked
NTS	A3	11.02.2019	AW	HL

CAD filename  
Figure\_1.dwg





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Title:  
Phase 1 Habitat Survey  
Plan - Field 2 and 3

status		drawing no.			
scale	size	date	drawn	checked	
NTS	A3	20.02.2019	AW	HL	

CAD filename  
Figure\_1.dwg

Figure 3



**Figure 4 - Field 1 Photographs**



**Looking south across the field**



**Looking east**



**Whites Wood woodland edge**



**Looking south**



**Looking south**



**Fields eastern boundary**



**Whites Wood**



**Fields western boundary**



**Looking north along fields eastern boundary**



**Shawstead Road bank looking south**



**Shawstead road bank looking north**



**Looking west along fields northern boudnary**



**Figure 5 - Field 2 Photographs**



**Looking south across field**



**Fields north-east corner**



**Looking west along fields northern boundary**



**Looking south along fields western boundary**



**Looking north along fields western boundary**



**Looking north and fields western boundary**



**Looking north along at grassland area TN5**



**Grassland area TN5**



**Looking north along fields western boundary**



**Looking south along Shawstead road boundary**



**Looking south along fields eastern boundary**



**Looking north and fields eastern boundary**



**Looking north along fields eastern boundary**



**Trees T2 and T3**



**Figure 6 - Field 3 Photographs**



**Looking south across field**



**Looking south along fields western boundary**



**Looking east along fields northern boundary**



**Looking east along fields northern boundary**



**Looking south along fields eastern boundary**



**Fields eastern boundary**



**Track within area of dense scrub between Fields 2 and 3**



**Dense scrub between Fields 2 and 3**



**Tree T1**