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TACP



*FIVE MILE LANE IMPROVEMENTS  
PHASE 1 HABITAT SURVEY REPORT  
PARSONS BRINCKERHOFF  
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Parsons Brinckerhoff

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**TACP  
10 PARK GROVE  
CARDIFF  
CF10 3BN**

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### LIST OF ABBREVIATIONS

Sp.	Species (singular)
Spp.	Species (plural)
TN	Target note



## EXECUTIVE SUMMARY

This report presents the findings of Phase 1 Habitat survey undertaken as part of the Five Mile Lane Improvements scheme (the Scheme).

The study area supports large areas of semi-natural agricultural habitats including semi-improved grassland and hedges, with small areas of scrub, some broadleaved and plantation woodland blocks along the existing A4226 road edges and occasional rarer marshy grassland in the north. Some species-rich hedgerows also occur within the site. The main water body is the River Waycock that bisects the scheme in the Waycock Bridge.

The survey identified a number of habitats on the site that have some ecological and nature conservation value such as broadleaved semi-natural woodland (especially the SSSI Vale of Glamorgan Barry Woodlands complex), standing and running water habitats, species-rich hedgerows and mature scrub, semi-improved and marshy grassland, road edges with rank and unmanaged vegetation.

These also provide potential habitats for bats, breeding birds, reptiles, and potentially water-associated mammals such as water voles and otters, and for invertebrates.

It is recommended that important habitats lost should be compensated by recreating similar habitats elsewhere. Especially blocks of semi-improved woodland and some species-rich hedgerow corridors should be maintained to provide networks of habitats through the site. The River Waycock and existing steam system should not be affected by the road widening.

## **1 INTRODUCTION**

1.1.1 This report presents the findings of Phase 1 Habitat survey undertaken as part of the Five Mile Lane Improvements scheme (the Scheme), by TACP, on behalf of Parsons Brinkerhoff. The Scheme is located in the Vale of Glamorgan.

1.1.2 The purpose of this Phase 1 habitat survey was to determine the presence of any habitats and ecological features of conservation interest, both on the site and in the immediate area where applicable. The report highlights any ecological features which may have implications for future development works. The report describes the method used, survey undertaken and the results, including an evaluation of the findings with recommendations. For location, refer to Figures 1.0 A-D. Target notes with photographs are included in Appendix A.

## **2 METHOD**

### **2.1 Field survey**

2.1.1 The Phase 1 habitat survey is a standard technique for rapidly obtaining baseline ecological information over a large area of land (JNCC, 2010). It is primarily a mapping technique and uses a standard set of habitat definitions for classifying areas of land on the basis of the vegetation present.

2.1.2 A Phase 1 Habitat survey was conducted by experienced ecologists throughout the survey area on the 9th and 10th June 2014. Habitats at Sycamore Cross were surveyed on 4 June 2015 when minor junction changes were proposed as a late addition to the Scheme.

2.1.3 The dominant and readily identified species of higher plants from each habitat type within the survey area were noted. Plant species nomenclature follows Stace (2010).

2.1.4 The survey area was that defined encompassed the Scheme boundary to c. 250m either side of the proposed road; see Figure 1.0 A-C. At Sycamore Cross where the extent of proposed works are limited to within the existing highway boundary a boundary of 50 m beyond the areas affected was surveyed; see Figure 1.0D.

## **3 FIELD SURVEY RESULTS**

### **3.1 General habitats**

3.1.1 The main species were noted for each habitat and are listed in the Target Notes (**TN**) given in Appendix A. The following text provides a summary description of each habitat recorded within the survey area.

3.1.2 The section between Blackland Farm and Waycock Cross (the Five Mile Lane Improvements) supports mostly semi-natural agricultural habitats including semi-improved grassland and hedges, with small areas of scrub, some broadleaved and plantation woodland blocks along the Waycock Road edges and occasional rarer marshy grassland in the north. Some species-rich hedgerows occur within the site. The River Waycock bisects the survey area at Waycock Bridge and flows along the edges of improved fields upstream and downstream of the Waycock Road (A4226).

3.1.3 The following habitat types are represented, which are shown in the Phase 1 habitat map in **Figure 1.0 A-C**.

## 3.2 Woodland (A1)

### 3.2.1 Semi-natural broadleaved woodland (A1.1.1)

- 3.2.1.1 Semi-natural woodlands are composed of locally native trees more than 5m in height when mature which generally derive from natural regeneration or coppicing. Broadleaved woodland type is defined as having 90% or more broadleaved species in the canopy. Woodland with both semi-natural and planted trees should be classified as semi-natural if plantation accounts for less than 30% of the canopy.
- 3.2.1.2 There are numerous semi-natural woodland blocks across the study area. The individual woodlands vary in the combination of species of tree present, depending on their management in the past.
- 3.2.1.3 A medium-size block of broadleaved woodland is present in the north of the study area; to the west of the existing A4226 (**TN5, Figure 1.0A**). There was no access into the forest from the main road but this semi-natural woodland was clearly dominated by ash (*Fraxinus excelsior*) and penduculate oak (*Quercus robur*) in the canopy. On the border of the forest a very dense scrub was present which was dominated by bramble (*Rubus fruticosus*), with frequent blackthorn (*Prunus spinosa*). Grey willow (*Salix cinerea*) and hazel (*Corylus avellana*) were occasional.
- 3.2.1.4 A narrow roadside strip of woodland located to the south of a layby (**TN26, Figure 1.0C**) was dominated by ash (*Fraxinus excelsior*), oak (*Quercus robur*) and field maple (*Acer campestre*), 8-10m high in the canopy, the woodland marking the boundary between a semi-improved field and the Waycock Road. It had a well-developed structure with hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), common dogwood (*Cornus sanguinea*) and spindle (*Euonymus europaeus*) in the understory. Dog rose (*Rosa canina*) and climbing field rose (*Rosa arvensis*) were also present on the edges. The species-poor ground layer was dominated by dense ivy (*Hedera helix*) with bramble (*Rubus fruticosus*), lords and ladies (*Arum maculatum*), black bryony (*Tamus communis*) and giant bindweed (*Calystegia sylvatica*). A ditch with flowing water is located on the west side of the wood.
- 3.2.1.5 A large area of mature woodland occurs at the southern end of the surveyed area on both sides of the existing A4226 road (**TN29, Figure 1.0C**). This woodland is part of the Vale of Glamorgan Barry Woodlands SSSI complex. Adjacent to the A4226, ash (*Fraxinus excelsior*) and oak (*Quercus robur*), 15-20m high in the canopy, were dominant species complemented with wych elm (*Ulmus glabra*) and field maple (*Acer campestre*). The shrub layer, 5-10m, was composed of hazel (*Corylus avellana*) and hawthorn (*Crataegus monogyna*). The field layer contains species such as ivy (*Hedera helix*), common nettle (*Urtica dioica*) and bramble (*Rubus fruticosus*). In the edge of this woodland on the east side of the existing A4226 road, there is a 2m deep stream, running north with clay banks, a gravelly base and occasional visible bedrocks.
- 3.2.1.6 To the south, a block of approximately 8m in height of secondary woodland (**TN33, Figure 1.0C**) grew over disturbed ground with spoil. Dominant species include hazel (*Corylus avellana*) and hawthorn (*Crataegus monogyna*) with frequent blackthorn (*Prunus spinosa*), sycamore (*Acer pseudoplatanus*) and field maple (*Acer campestre*). Ground flora, however, indicates an older established woodland with lords and ladies (*Arum maculatum*), guelder rose (*Viburnum opulus*) and dog's mercury (*Mercurialis perennis*).

3.2.1.7 At Sycamore Cross, there was a long strip of sycamore woodland on the north side of the road; this may have been planted over an existing woodland site (**TN40, Figure 1.0D**).

### 3.2.2 Plantation broadleaved woodland (A1.1.2)

3.2.2.1 This type of woodland consists of planted trees that contribute more than 30% to the overall canopy composition. Mature plantations (more than 120 years) of native species with semi-natural woodland shrub and ground flora are not included in this category and are classified as semi-natural.

3.2.2.2 Plantation woodland is represented within the study site on the south-eastern edge of the SSSI woodland, directly adjacent to the Waycock Road (**TN31, Figure 1.0C**). This block has different structure to the SSSI forest. Its western edge is dominated by blackthorn (*Prunus spinosa*) up to 10m tall, with occasional hazel (*Corylus avellana*) and hawthorn (*Crataegus monogyna*). The inner area is planted mainly with ash (*Fraxinus excelsior*) and other deciduous species like oak (*Quercus robur*) and silver birch (*Betula pendula*). The shrub layer contains hazel (*Corylus avellana*), dogwood (*Cornus sanguinea*) and hawthorn (*Crataegus monogyna*). The ground layer is quite diverse represented by relict grassland species such as hogweed (*Heracleum sphondylium*), meadow buttercup (*Ranunculus acris*) and rough-stalked meadow-grass (*Poa trivialis*). A few more shade-tolerant species also occur e.g. Enchanter's nightshade (*Circaea lutetiana*). The presence of one Greater Butterfly Orchid (*Platanthera chlorantha*) in the ground layer suggests colonisation from the adjacent ancient woodland.

3.2.2.3 The second plantation is located on the very south edge of the study area, adjacent to the east side of the existing A4226 road (**TN36, Figure 1.0C**). This ash plantation, to 10m in height, is complemented by silver birch (*Betula pendula*), pedunculate oak (*Quercus robur*) and field maple (*Acer campestre*). The field layer is very poor and almost lacking in the centre of the plantation apart from marginal patches of planted hazel (*Corylus avellana*). The shrub layer around the edges is composed of blackthorn (*Prunus spinosa*), hazel (*Corylus avellana*) and hawthorn (*Crataegus monogyna*). The ground flora shows signs of nutrient enrichment with plants such as cleavers (*Galium aparine*), common nettle (*Urtica dioica*) and hogweed (*Heracleum sphondylium*) all dominant in places.

### 3.2.3 Semi-natural mixed woodland (A1.3.1)

3.2.3.1 Semi-natural mixed woodland consists of 10-90% of either broadleaved or conifer naturally regenerating trees in the canopy. The appropriate proportions of the two types must be included in the target notes.

3.2.3.2 A block of semi-natural mixed woodland, dominated by deciduous species in proportion 80 to 20 per cent in the canopy, was present within the study area to the east of the proposed route alignment (**TN16, Figure 1.0C**). Located on south-west facing slope, this woodland was dominated by scattered old pedunculate oak (*Quercus robur*) with ash (*Fraxinus excelsior*) and field maple (*Acer campestre*) and under-planted with conifers, (cf. western red cedar, *Thuja plicata* and cf. Scot's pine, *Pinus sylvestris*). The sparse shrub layer contains mainly hazel (*Corylus avellana*), with wych elm (*Ulmus glabra*) along the lower wet edge. The ground layer is very sparse in the body of the woodland with ivy (*Hedera helix*), lords and ladies (*Arum maculatum*) and richer along the edges associated with the stream with Enchanter's nightshade (*Circaea lutetiana*), wood speedwell (*Veronica montana*), herb-Robert (*Geranium robertianum*), primrose (*Primula vulgaris*), lesser celandine (*Ficaria verna*),

goldilocks buttercup (*Ranunculus auricomus*), wood sedge (*Carex sylvatica*) and bastard stone-parsley (*Sison amomum*). The woodland is unfenced on the west side and is open to stock. The south side has a bank and ditch and is fenced. The east side along the crest of the hill is fenced.

3.2.3.3 A small area of semi-natural broadleaved woodland remained intact at the north end of this wood. It was not under-planted with conifers and contains some pedunculate oak (*Quercus robur*) in the canopy and bramble (*Rubus fruticosus*) in understorey. On the west side a stream up to 1m deep with a clay bottom occurs; the stream banks, especially close to the woodland at the southern end, are quite rich with woodland plants.

### **3.3 Scrub (A2)**

Scrub comprises scattered or dense stands of naturally regenerated locally native tree and shrub species, generally under 5m tall.

#### **3.3.1 Dense scrub (A2.1)**

3.3.1.1 Dense scrub is predominantly characterised by dense vegetation cover with low species composition.

3.3.1.2 Small blocks of dense scrub are located across the study site, with the larger area being a dense patch located in the southern end (**TN35, Figure 1.0C**). Dogwood (*Cornus sanguinea*) and hawthorn (*Crataegus monogyna*) are locally dominant with abundant patches of English elm (*Ulmus procera*), dog rose (*Rosa canina*), ash (*Fraxinus excelsior*), old man's beard (*Clematis vitalba*) and bramble (*Rubus fruticosus*). This scrub is rather impenetrable, up to 4m tall. A small inner grassy area is visible on the aerial photos but was inaccessible.

#### **3.3.2 Scattered scrub (A2.2)**

3.3.2.1 Small section of scattered bramble (*Rubus fruticosus*) scrub is located to the northeast of the semi-natural mixed woodland described previously.

3.3.2.2 An additional narrow strip of scattered scrub was observed spreading from the Waycock river edge that runs between two improved meadows to the east of the study area (**TN20, Figure 1.0C**). Species present included blackthorn (*Prunus spinosa*), ash (*Fraxinus excelsior*), goat willow (*Salix caprea*), field maple (*Acer campestre*) and less frequently hawthorn (*Crataegus monogyna*). The ground layer was rich in tall herbaceous plants and grasses.

### **3.4 Parkland and scattered trees (A3)**

3.4.1 Habitat under this category is characterised by tree cover of less than 30%. Scattered trees represent sporadic trees over meadow, pasture, heath, and bog or limestone pavement.

#### **3.4.2 Scattered broadleaved trees (A3.1)**

3.4.2.1 There are several free standing mature trees across the study area, predominantly pedunculate oak (*Quercus robur*) (**TN20, Figure 1.0C**).



### 3.5 Grassland and marsh (B)

#### 3.5.1 Unimproved neutral grassland (B2.1)

- 3.5.1.1 This term is used to describe meadows and pastures that occur on soils which are neither acid nor basic and that have not been subject to any significant degree of agricultural intensification. They may be rank and neglected, mown or grazed. The flora diversity is often high with a low percentage of agricultural species.
- 3.5.1.2 A few small patches of these meadows are present across the study area. An unimproved verge was identified by the layby, to the east of the existing A4226 road (TN23a, Figure 1.0C). This habitat was probably derived from seed mix sown in association with creation of the layby and picnic spot. This belt composed of two parts. The mown verges along sight lines are short grassland to 10 cm tall dominated by ribwort plantain (*Plantago lanceolata*), daisy (*Bellis perennis*), rough-stalked meadow grass (*Poa trivialis*), Yorkshire fog (*Holcus lanatus*), red fescue (*Festuca rubra*) and perennial rye-grass (*Lolium perenne*).
- 3.5.1.3 The tall grassland (TN 23b, Figure 1.0C) to 1.5m high is dominated by false oat-grass (*Arrhenatherum elatius*) with locally frequent cock's-foot (*Dactylis glomerata*), red fescue (*Festuca rubra*), rough-stalked meadow grass (*Poa trivialis*), Yorkshire fog (*Holcus lanatus*) and creeping buttercup (*Ranunculus repens*). Yellow oat-grass (*Trisetum flavescens*), crested dog's-tail (*Cynosurus cristatus*), common knapweed (*Centaurea nigra*), curled dock (*Rumex crispus*) and broad-leaved dock (*Rumex obtusifolius*) were occasional. Additional species included sorrel dock (*Rumex sanguineus*), cut-leaved cranesbill (*Geranium dissectum*), hoary mustard (*Hirschfeldia incana*), common nettle (*Urtica dioica*), oxeye daisy (*Leucanthemum vulgare*), common vetch (*Vicia sativa*), common selfheal (*Prunella vulgaris*), hairy and blue sedge (*Carex hirta* and *Carex flacca*), common sainfoin (*Onobrychis viciifolia*), red clover (*Trifolium pratense*) and common mallow (*Malva sylvestris*). This grassland is probably mown only once or twice a year. Four bird cherry (*Prunus padus*) trees, to 3m high, were planted in the centre.
- 3.5.1.4 In addition a narrow verge of similar habitat was located just opposite the layby, on the west side of Waycock Road (TN24, Figure 1.0C). This marginal strip is associated with roadside ditch and contains wetland flora represented by great willowherb (*Epilobium hirsutum*) and hemlock water-dropwort (*Oenanthe crocata*) with false oat-grass (*Arrhenatherum elatius*) and nitrophilous species such as common nettle (*Urtica dioica*), creeping thistle (*Cirsium arvense*), rough-stalked meadow-grass (*Poa trivialis*) and cleavers (*Galium aparine*) that were less abundant. A narrow 1m strip of mowed roadside grassland adjacent to the above supports communities of Yorkshire fog (*Holcus lanatus*), red fescue (*Festuca rubra*), common yarrow (*Achillea millefolium*), creeping cinquefoil (*Potentilla reptans*), cock's-foot (*Dactylis glomerata*), creeping buttercup (*Ranunculus repens*) and more ruderal plants like common hogweed (*Heracleum sphondylium*) and cow parsley (*Anthriscus sylvestris*).
- 3.5.1.5 Other small patches of unimproved neutral grassland were located in the very south of the study area, nearby the roundabout as well as a narrow strip that is adjacent to a small woodland path to the east of the Scheme.
- 3.5.1.6 At Sycamore Cross, the road verges increase in diversity away from the carriageways (TN39 and TN42, Figure 1.0D).

### 3.5.2 Semi-improved neutral grassland (B2.2)

- 3.5.2.1 Semi-improved grassland is a transition category made up of meadows and pastures that have been modified by some agricultural improvements including intensive grazing, usage of artificial fertilizers or drainage, and consequently has a range of species which is less diverse and natural than unimproved grasslands.
- 3.5.2.2 A few fields of good semi-improved neutral grassland are present. In the south-east corner of the study area, to the east of the layby as well as in the north of the proposed alignment route, richer meadows occur. Although perennial rye-grass (*Lolium perenne*) was locally present, a diversity of different grass species dominated, with a wider range of forbs.
- 3.5.2.3 Grassland associated with existing roadside ditch was identified in the very north of the Scheme corridor (**TN1, Figure 1.0A**). A good semi-improved marginal verge was composed of 2-3m of un-mown area and 3m of cut strip. Trimmed verge was dominated by Yorkshire fog (*Holcus lanatus*), rough-stalked meadow grass (*Poa trivialis*) and crested dog's-tail (*Cynosurus cristatus*) with frequent broad-leaved dock (*Rumex obtusifolius*), creeping buttercup (*Ranunculus repens*) and mouse-ear chickweed (*Cerastium fontanum*). Un-mown area was wet and rank and composed of cock's foot (*Dactylis glomerata*), common nettle (*Urtica dioica*), hogweed (*Heracleum sphondylium*), great horsetail (*Equisetum telmateia*), hedge parsley (*Torilis arvensis*), common thistle (*Cirsium vulgare*) and willowherbs (*Epilobium* spp.).
- 3.5.2.4 Some more semi-improved pastures occur at the north end of the Scheme (**TN4, Figure 1.0A**). Some have been recently reseeded but so not seem to be developing well with many bare ground patches present. Sweet vernal-grass (*Anthoxanthum odoratum*) and perennial rye-grass (*Lolium perenne*) were common as well as clovers (*Trifolium repens* and *Trifolium pratense*) and buttercups (*Ranunculus repens* and *Ranunculus acris*). Cuckoo flower (*Cardamine pratensis*) and willowherbs (*Epilobium* spp.) were also noted. There was abundant of animal manure stored at the bottom of the field and many gulls were noticed feeding on this pasture.
- 3.5.2.5 A narrow belt of semi-improved meadow with a moderate diversity of species is located near Northcliff Cottage (**TN15, Figure 1.0B**). Grazed by horses, this grassland supports variety of grass species. Yorkshire fog (*Holcus lanatus*) and crested dog's tail (*Cynosurus cristatus*) is abundant with locally frequent sweet vernal-grass (*Anthoxanthum odoratum*) and rough-stalked meadow-grass (*Poa trivialis*). Herbaceous species were represented by creeping and meadow buttercup (*Ranunculus repens* and *Ranunculus acris*), white and red clover (*Trifolium repens* and *Trifolium pratense*), mouse-ear chickweed (*Cerastium fontanum*), daisy (*Bellis perennis*), self-heal (*Prunella vulgaris*) and ribwort plantain (*Plantago lanceolata*).
- 3.5.2.6 A semi-improved horse-grazed field occurs to the east of the layby (**TN25, Figure 1.0C**). It is dominated by white clover (*Trifolium repens*) and creeping buttercup (*Ranunculus repens*). The sward is relatively uniform with occasional short and longer areas reach in docks (*Rumex* spp.).
- 3.5.2.7 A semi-improved meadow, currently un-grazed, but possibly grazed by horses previously, was identified in the south-eastern edge of the SSSI woodland (**TN32, Figure 1.0C**). The species composition comprises frequent sweet vernal-grass (*Anthoxanthum odoratum*) and rough-stalked meadow-grass (*Poa trivialis*) with occasional perennial rye-grass (*Lolium perenne*) and cock's-foot (*Dactylis glomerata*). White clover (*Trifolium repens*) and red clover (*Trifolium pratense*) were also abundant together with buttercup (*Ranunculus acris* and *Ranunculus repens*) and

ribwort plantain (*Plantago lanceolata*). Plants that may indicate small areas of less improvement include locally frequent common sorrel (*Rumex acetosa*), common self-heal (*Prunella vulgaris*), mouse-ear chickweed (*Cerastium fontanum*) and cut-leaved cranesbill (*Geranium dissectum*). There are also areas with bigger thistles and docks (e.g. curled dock *Rumex crispus*) in animal latrine areas.

### 3.6 Improved grassland (B4)

3.6.1.1 Improved grasslands are those which have been so affected by heavy grazing, drainage or the application of herbicides and fertilisers that have lost many of the species expected to be present in an unimproved field.

3.6.1.2 Improved neutral grassland is common in the study area, especially in the middle section of the Scheme. These have a limited range of grasses and a few common forbs, mainly those demanding of nutrients and resistant to grazing were present. Perennial rye-grass (*Lolium perenne*), crested dog's tail (*Cynosurus cristatus*) and white clover (*Trifolium repens*) were common. Some fields had been cut for silage.

### 3.7 Marshy grassland (B5)

3.7.1.1 Marshy grassland is generally found on permanently damp soils or land with impeded drainage. They may be used for light grazing and are highly susceptible to agricultural modification and reclamation.

3.7.1.2 This type of vegetation is rare along the Scheme. A narrow strip of marshy grassland with a drainage ditch occurs at the southern edge of an improved field (TN2, Figure 1.0A). It was dominated by purple moor-grass (*Molina caerulea*) and rough-stalked meadow-grass (*Poa trivialis*) with frequent rushes including soft rush (*Juncus effusus*), hard rush (*Juncus inflexus*) and compact rush (*Juncus conglomeratus*). Also present but less abundant were Yorkshire fog (*Holcus lanatus*), cleavers (*Galium aparine*), meadow buttercup (*Ranunculus acris*), wild angelica (*Angelica sylvestris*) and great willowherb (*Epilobium hirsutum*). Fool's watercress (*Apium nodiflorum*) and watercress (*Rorippa nasturtium-aquaticum*) were the aquatic species present.

3.7.1.3 A larger area of marshy grassland was also located in the Amelia Farm Trust (TN6, Figure 1.0A). This grassland was species-rich, un-mown and approximately 1m tall. Grass species included abundant cock's foot (*Dactylis glomerata*), Yorkshire fog (*Holcus lanatus*), tufted hair-grass (*Deschampsia cespitosa*) and timothy grass (*Phleum pratense*). Also abundant were purple moor-grass (*Molina caerulea*) and several species of rushes (*Juncus conglomeratus* and *Juncus articulatus*). Herbaceous species composed of meadow sweet (*Filipendula ulmaria*), marsh bedstraw (*Galium palustre*), cleavers (*Galium aparine*), greater bird's-foot trefoil (*Lotus pedunculatus*), common fleabane (*Pulicaria dysenterica*), common hogweed (*Heracleum sphondylium*) and buttercups (*Ranunculus* spp.) and docks (*Rumex* spp.).

### 3.8 Poor semi-improved grassland (B6)

3.8.1.1 Sub-division of semi-improved meadows into 'good semi-improved' and 'poor semi-improved' is optional for Phase 1 surveys. Good semi-improved grassland has a reasonable diversity of herbaceous species and is clearly recognisable as acid, calcareous or neutral in origin. Poor semi-improved grassland have much more restricted list of species and, being more improved, it is more likely to resemble species-poor neutral grassland, irrespective of its origin.

3.8.1.2 Poor semi-improved grassland was identified in the south of the study area (**TN37, Figure 1.0C**). It was un-grazed and uncut meadow, relatively uniform with few herbaceous plants to 1m tall. Dominant grassy species were represented by cock's-foot (*Dactylis glomerata*), meadow foxtail (*Alopecurus pratensis*), rough-stalked meadow-grass (*Poa trivialis*) and Yorkshire fog (*Holcus lanatus*). Herbaceous plants included creeping thistle (*Cirsium arvense*), dock (*Rumex* spp.) and buttercup (*Ranunculus* spp.).

### 3.9 Tall herb and fern (C)

#### 3.9.1 Tall ruderal (C3.1)

3.9.1.1 Ruderals are weedy species that are first to colonize disturbed land. The tall ruderal category comprises stands of tall perennial or biennial dicotyledons, usually more than 25cm high.

3.9.1.2 A small area by the Welsh Hawking Centre was dominated by tall ruderal plants (**TN28, Figure 1.0C**). Locally dominant patches of common nettle (*Urtica dioica*) and abundant cow parsley (*Anthriscus sylvestris*) characterise the vegetation with frequent patches of hogweed (*Heracleum sphondylium*), great willowherb (*Epilobium hirsutum*) and creeping thistle (*Cirsium arvense*). Several species of grasses were also abundant.

### 3.10 Standing water (G1)

3.10.1 Standing water includes lakes, reservoirs, pools, flooded gravel pits, ponds, ditches, canals and brackish lagoons.

3.10.2 A drain ditch, 15m long, bisecting improved grassland in the north of the Scheme, was dry at the time of the survey (**TN3, Figure 1.0A**). The ditch was overgrown with wetland vegetation, such as fool's watercress (*Apium nodiflorum*), watercress (*Rorippa nasturtium-aquaticum*) and great willowherb (*Epilobium hirsutum*).

3.10.3 A pond, with an approximately 150m perimeter, was located within the Amelia Trust Farm, 400m to the west of the existing A4226 (**TN8, Figure 1.0A**). The pond was not fully accessible due to dense scrub, which surrounds about 40% of the pond bank and restricts access. A willow (*Salix* sp.) was the dominant species around the pond, which was shaded in 10-15%. The remaining banks above the high water line were accessible, although they were steep in places and vegetated with rank grass, herbaceous plants and tall ruderal plants. It appeared to be between 1-2m in depth with a sediment base. The water surface was densely covered with broad-leaved pondweed (*Potamogeton natans*) and occasional patches of white waterlily (*Nymphaea alba*). There was a fringe of good marginal and aquatic vegetation, such as reeds, sedges and rushes, e.g. broad-leaved reedmace (*Typha latifolia*).

3.10.4 A 100-150m long ditch was located in an arable field and ran beneath the existing A4226 (**TN9, Figure 1.0A**). The water level in the ditch was very low, 5-10cm at the deepest. The ditch was overgrown by great willowherb (*Epilobium hirsutum*), especially in the centre. The edges were dominated by grasses such as Yorkshire fog (*Holcus lanatus*), perennial rye-grass (*Lolium perenne*) and cock's foot (*Dactylis glomerata*). Herbaceous species were also abundant and represented by hogweed (*Heracleum sphondylium*), creeping thistle (*Cirsium arvense*), curled dock (*Rumex crispus*) and common nettle (*Urtica dioica*). Scarce shrubs were distributed unevenly and composed of dogwood (*Cornus sanguinea*) and hawthorn (*Crataegus monogyna*). The ditch was mostly unshaded by trees.

- 3.10.5 The same ditch, but on the west side of the road, was shaded by 5-8m high trees and shrubs including alder (*Alnus glutinosa*), hawthorn (*Crataegus monogyna*), holly (*Ilex aquifolium*) and hazel (*Corylus avellana*). The bottom of the ditch composed of stones and rocks and the banks were covered with dense ivy and ferns with scarce tussocks of remote sedge (*Carex remota*). The water level was less than 20cm.
- 3.10.6 A ditch (**TN18, Figure 1.0C**) located on the southwest side of an arable land runs along species rich hedgerow, and then continues on the west side of the semi-natural mixed woodland. This ditch was about 40-60cm deep and had clay bottom and steep banks, for most of its length. It was shaded in about 80% due to the dense hedge cover, although small patches, more exposed to the sun, were also present. The ditch was lacking submerged plants and the bank vegetation was composed mostly of rank grasses and tall herbaceous plants with dense ivy and typical woodland floor plants creeping into the ditch. The banks, especially close to the woodland at the southern end, were quite rich with woodland plants.
- 3.11 Running water (G2)**
- 3.11.1 **Running water comprises rivers and streams.** There are three main running water courses across the study site. These are presented on Figure 1.0A & C, with the direction of flow indicated by an arrow.
- 3.11.2 A stream was running along the semi-natural woodland to the northeast of the Scheme (**TN7, Figure 1.0A**). The stream, 2-2.5m wide, was shallow for most of its length. Marginal and submerged vegetation was absent, apart from the dense woodland floor dominated by ivy (*Hedera helix*), Hart's-tongue fern (*Asplenium scolopendrium*) and mosses that were creeping on the banks of the stream. The banks and the bottom were mainly covered with gravel and rocks.
- 3.11.3 The River Waycock (**TN22, Figure 1.0C**) and a small tributary feeding it flow across the study area. The river corridor was generally steep sided, 3-5m wide and with moderate to fast flowing water, 20-60cm deep. The bottom was mostly gravelly with occasional bigger rocks and cobbles. It is generally shaded and with little to no aquatic vegetation. Lots of ivy on the woodland floor was creeping down the banks. Occasional hemlock water-dropwort (*Oenanthe crocata*), Hart's tongue (*Asplenium scolopendrium*), mosses and tussocks of grasses were present on the banks. The banks were regulated in some places with stone work, possibly to protect surrounding land from flooding. Scattered scrub was spreading from the river banks with species composition included blackthorn (*Prunus spinosa*), ash (*Fraxinus excelsior*), goat willow (*Salix caprea*), field maple (*Acer campestre*) and hawthorn.
- 3.11.4 The stream which runs beside the Waycock Road in the SSSI woodland (**TN30, Figure 1.0C**) was up to 1m deep with clay banks and base composed of gravel and bedrocks. The stream is shaded by the woodland trees in most places. The banks were medium to steep in gradient and were covered with dense woodland floor vegetation. Moss and fern communities were present on the banks. No submerged plants were present. Runoff from the A446 drains directly into the stream.
- 3.12 Cultivated land (J1)**
- 3.12.1 Arable (J1.1)**
- 3.12.1.1 This category supports arable fields, horticultural land, freshly-ploughed land and recently reseeded grasslands.



3.12.1.2 Most of the northern part of the Scheme is dominated by cultivated arable land. This is comprised of large fields covering approximately 40% of the study area, mostly with wheat (*Triticum* sp.).

### **3.13 Boundaries (J2)**

#### **3.13.1 Intact hedge (J2.1)**

3.13.1.1 This category includes intact hedges that are entire and stock proof.

3.13.1.2 Several stretches of species-rich intact hedgerows occurred on the Scheme (for example **TN10-TN13, Figure 1.0A; TN19, Figure 1.0C; TN38, Figure 1.0C**). Typical species include hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), hazel (*Corylus avellana*), ash (*Fraxinus excelsior*), field maple (*Acer campestre*), common dogwood (*Cornus sanguinea*) and dog rose (*Rosa canina*), with bramble (*Rubus fruticosus*), ivy (*Hedera helix*) and common nettle (*Urtica dioica*) in field layers.

3.13.1.3 One Leyland cypress (*Cupressus leylandii*) hedgerow is located on the western edge of the roadside by the Hawking Centre; dense and trimmed to 1.5m tall.

3.13.1.4 At Sycamore Cross, the hedges were species-poor and mostly dominated by hawthorn (**TN39, Figure 1.0D**).

#### **3.13.2 Defunct hedge (J2.2)**

3.13.2.1 This category represents hedges that are no longer stock-proof as the gaps created allow stock to pass through.

3.13.2.2 An improved meadow is bisected with defunct hedge opposite the layby (**TN27, Figure 1.0C**). Hawthorn (*Crataegus monogyna*), oak (*Quercus robur*) and ash (*Fraxinus excelsior*) species dominate the canopy with common nettle in the understorey.

#### **3.13.3 Hedge with trees (J2.3)**

3.13.3.1 Hedgerows with standard trees or tall-growing hedges more than 5m tall fall into this category. The approximate density of trees is indicated on Figure 1.0B, C & D.

3.13.3.2 The hedgerows which run along boundaries of improved meadows are often tall and species-rich with clearly pronounced canopy and shrub layer (e.g. **TN14, Figure 1.0B; TN17, Figure 1.0C; TN40, Figure 1.0D**).

### **3.14 Built-up areas (J3)**

#### **3.14.1 Buildings (J3.6)**

3.14.1.1 This category comprises agricultural, industrial and domestic buildings and built-up areas.

3.14.1.2 In addition to the existing buildings shown on the base-map on **Figure 1.0C**, a ruin of an old building, which contains asbestos, was seen in the SSSI woodland and may be a potential bat roosting habitat (**TN34, Figure 1.0C**).

## 4 CONCLUSIONS

4.1.1 The survey identified a number of habitats on the site that have some ecological and nature conservation value. These included:

- Broadleaved semi-natural woodland (especially the Vale of Glamorgan SSSI Barry Woodlands complex)
- Standing and running water habitats
- Species-rich hedgerows and mature scrub
- Semi-improved and marshy grassland
- Road edges with rank and unmanaged vegetation

4.1.2 These also provide potential habitats for bats, breeding birds, reptiles, and potentially water associated mammals such as water voles and otters, and for invertebrates.

4.1.3 Habitats of lower nature conservation value were:

- Improved pastures
- Species poor hedges
- Poor semi-improved grasslands
- Woodland plantations
- Arable lands.

4.1.4 The following recommendations are made given the results of the site survey:

- Blocks of semi-improved woodland and species-rich hedgerow corridors should be maintained to provide networks of habitats through the study area. If avoidance is not possible, and areas of woodland or species-rich hedgerows are to be cleared, consideration could be given to the re-creation of such habitats elsewhere within the study area in the landscape design. Consideration may also be given to the provision of artificial roosts/nests, such as bat, bird or dormouse nesting boxes.
- The River Waycock and existing stream system should not be affected by the road widening. Consideration should be given to widening the A4226 on the western side opposite the stream to minimise any impact on the water courses.
- Road edges with unimproved grasslands should either be retained or an equivalent area of species-rich unimproved meadow re-created in a suitable location.
- There are some large isolated trees that may be of ecological value including old oaks, which should be retained and managed where practical.
- Invasive plant species present (Japanese knotweed and Himalayan Balsam) will need to be taken into consideration when managing soils and vegetation.

## 5 REFERENCES

Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit*. Reprinted 2010, JNCC, Peterborough.

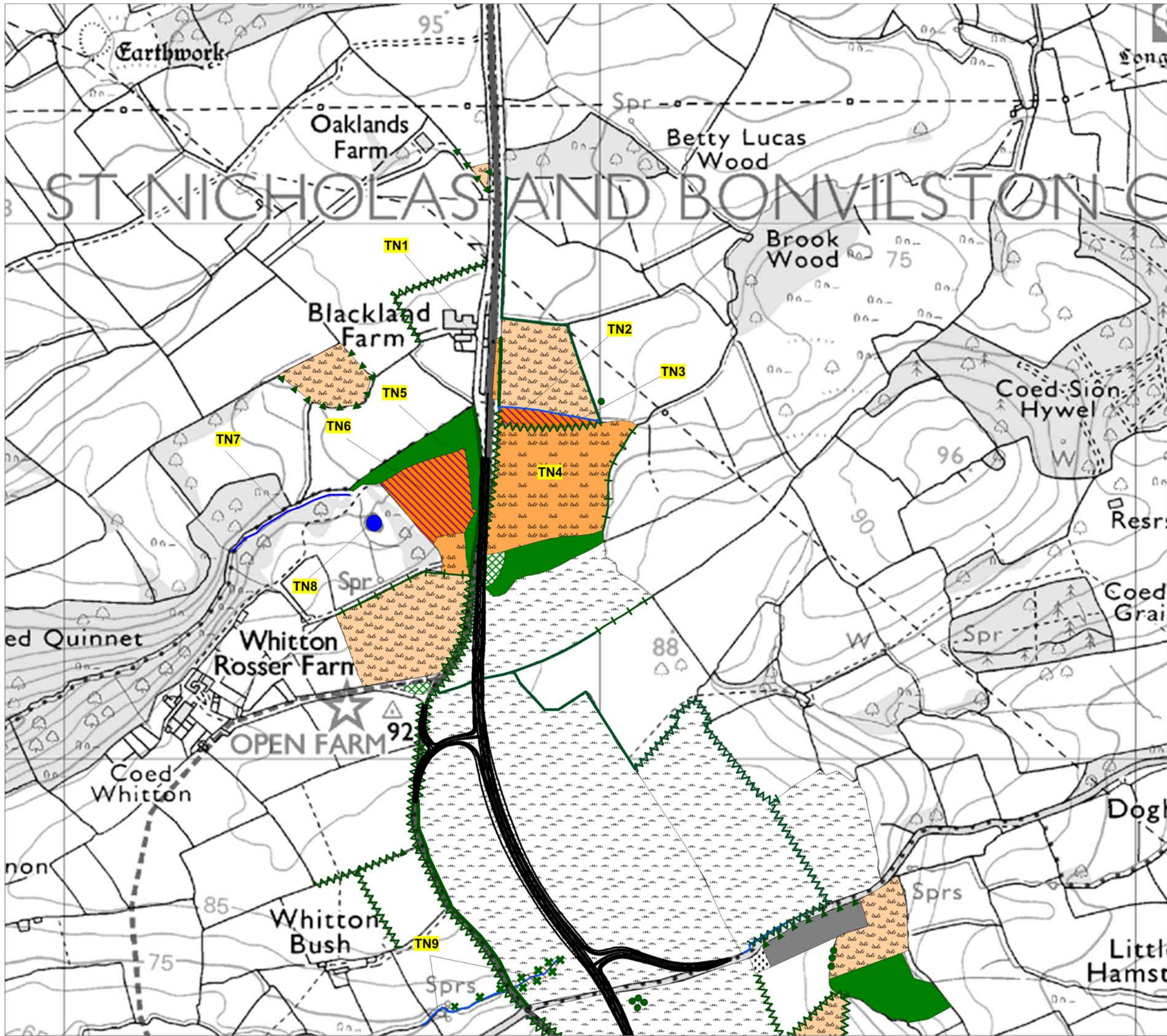




**6**            **FIGURES**

6.1            Figures 1.0 A-D Site location and the habitats





**Key**

- Semi-natural broadleaved woodland
- Plantation broadleaved woodland
- Semi-natural mixed woodland
- Dense scrub
- Unimproved grassland
- Semi-improved grassland
- Improved grassland
- Marshy grassland
- Poor semi-improved grassland
- Tall ruderal
- Standing water
- Arable land
- Buildings
- No access
- Intact hedge species-rich
- Intact hedge species-poor
- Hedge and trees species-poor
- Hedge and trees species-rich
- Defunct hedge
- Running water
- Scattered scrub
- Broadleaved scattered trees
- Ruins
- Target Note

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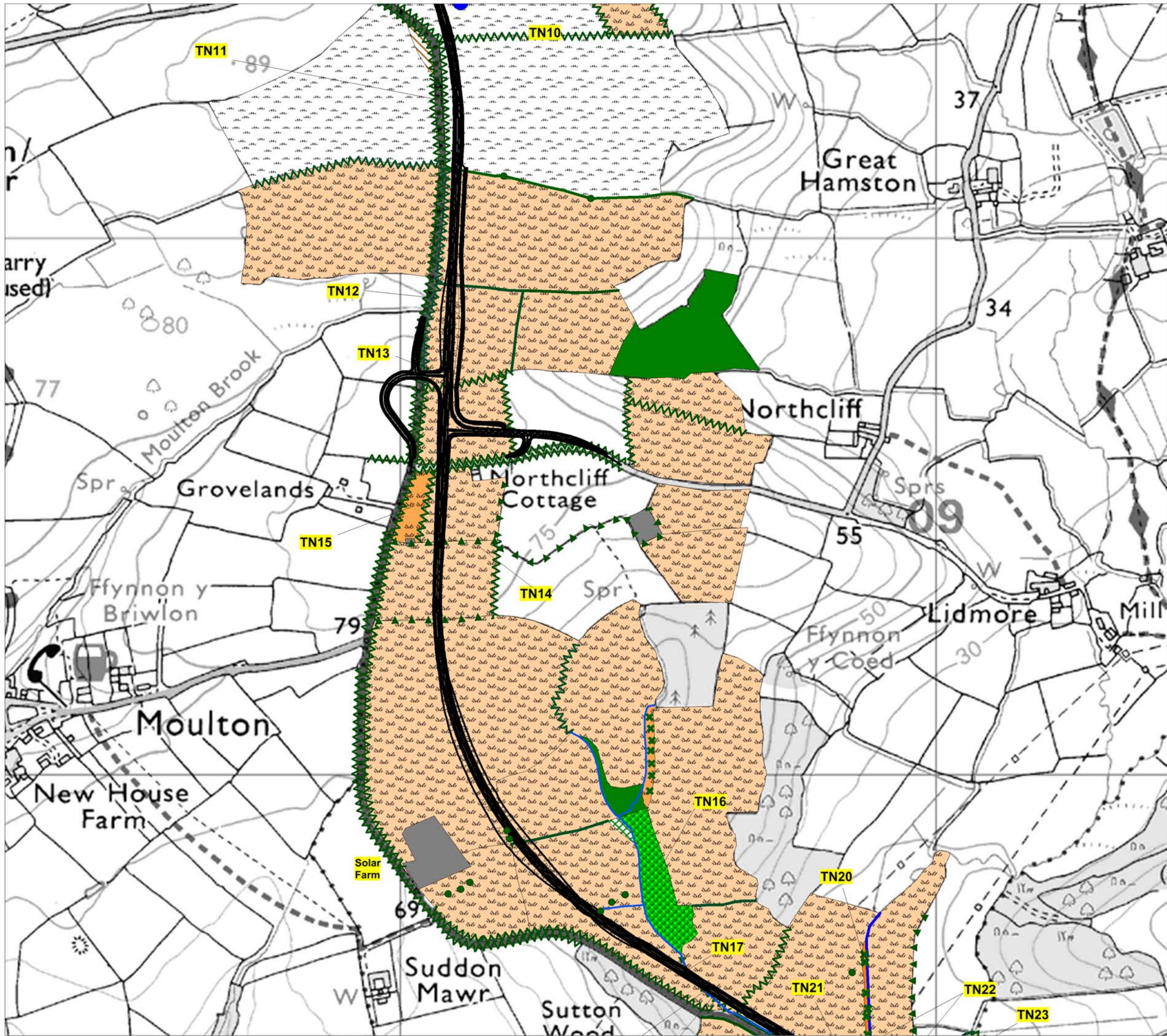
NOTES

**Vale of Glamorgan  
A4226 Five Mile Lane Improvements  
Phase 1 Habitat Survey**

○ DRAWN JB      ○ CHECKED TR      ○ OFFICE : CARDIFF  
 ○ NOT TO SCALE      ○ DATE OCT 2015

FIGURE / DRAWING NO. 1.0 A	REV
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**Key**

- Semi-natural broadleaved woodland
- Plantation broadleaved woodland
- Semi-natural mixed woodland
- Dense scrub
- Unimproved grassland
- Semi-improved grassland
- Improved grassland
- Marshy grassland
- Poor semi-improved grassland
- Tall ruderal
- Standing water
- Arable land
- Buildings
- No access
- Intact hedge species-rich
- Intact hedge species-poor
- Hedge and trees species-poor
- Hedge and trees species-rich
- Defunct hedge
- Running water
- Scattered scrub
- Broadleaved scattered trees
- Ruins
- Target Note

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NOTES

**Vale of Glamorgan**

**A4226 Five Mile Lane Improvements**

**Phase 1 Habitat Survey**

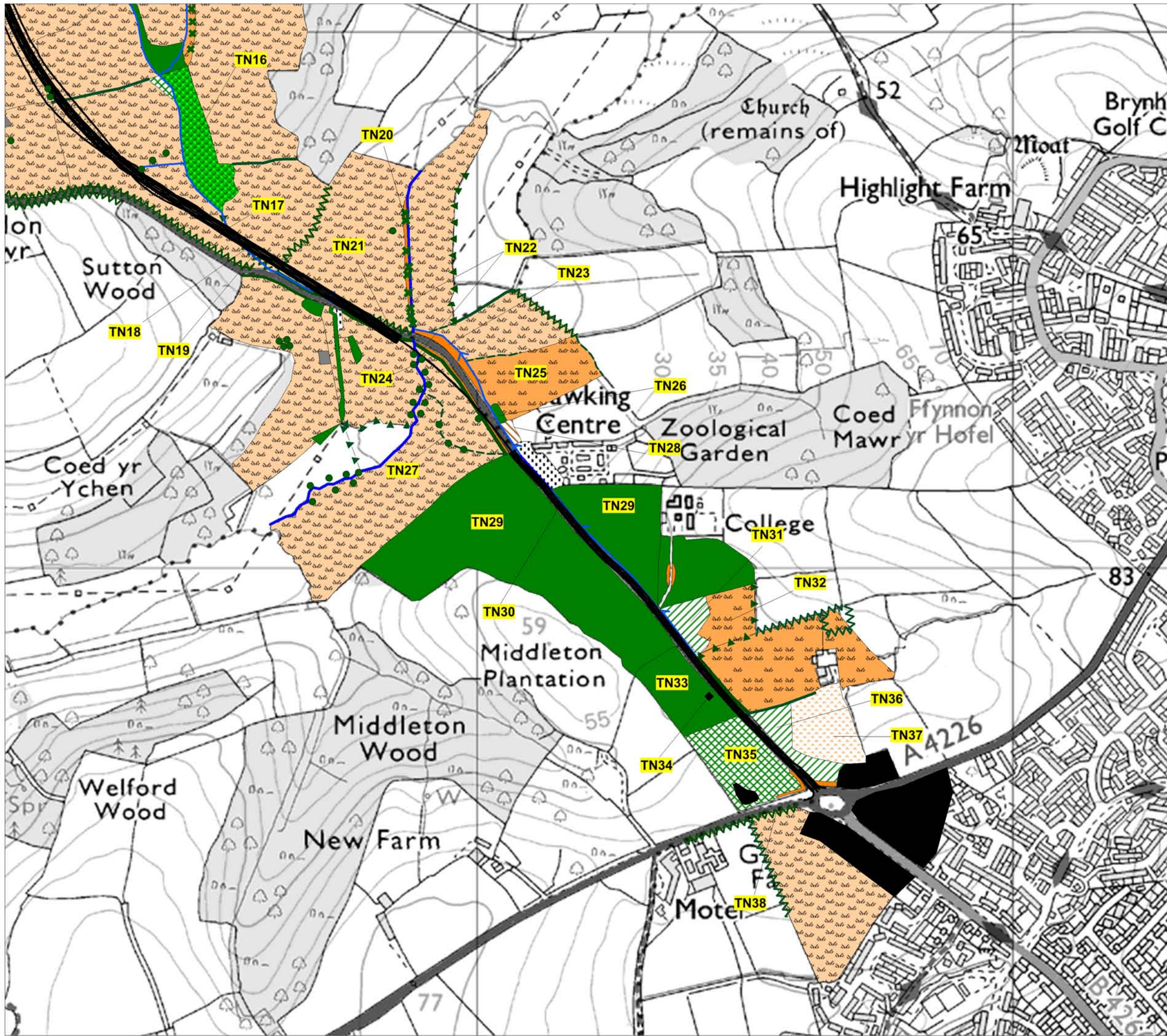
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**FIGURE / DRAWING NO. 1.0 B**      **REV**  
**60654\_MI001**      **02**





**Key**

- Semi-natural broadleaved woodland
- Plantation broadleaved woodland
- Semi-natural mixed woodland
- Dense scrub
- Unimproved grassland
- Semi-improved grassland
- Improved grassland
- Marshy grassland
- Poor semi-improved grassland
- Tall ruderal
- Standing water
- Arable land
- Buildings
- No access
- Intact hedge species-rich
- Intact hedge species-poor
- ++ Hedge and trees species-poor
- ▲▲ Hedge and trees species-rich
- Defunct hedge
- Running water
- x Scattered scrub
- Broadleaved scattered trees
- ◆ Ruins
- TN Target Note

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NOTES

**Vale of Glamorgan  
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**7 APPENDIX A: TARGET NOTES**

## Appendix: Target Notes

Target notes list plant species with an abundance score using the DAFOR scale: Dominant, Abundant, Frequent, Occasional and Rare.



Target Note No	Grid reference	Habitat type	Target note	Figure
1	ST 07805 72658	Semi-improved grassland	<p>Neutral grassland on verge beside road; semi-improved.</p> <p>Mown verge approx. 3 m; unmown verge between the mown and a species-poor hedgerow approx. 2-3 m.</p> <p>Mown verge: <i>Holcus lanatus</i>, <i>Poa trivialis</i> and <i>Cynosurus cristatus</i> dominant.</p> <p>Frequent <i>Rumex obtusifolius</i>, <i>Ranunculus repens</i> and <i>Cerastium fontanum</i>.</p> <p>Unmown area wet and rank. <i>Dactylis glomerata</i>, <i>Urtica dioica</i>, <i>Heracleum sphondylium</i>, <i>Equisetum telmateia</i>, <i>Torilis arvensis</i>, <i>Cirsium vulgare</i>, <i>Epilobium</i> sp. present.</p>	

Target Note No	Grid reference	Habitat type	Target note
2	ST 07870 72643	Marshy grassland	Marsh to the south of a drain bisecting improved grassland. <i>Molina caerulea</i> and <i>Poa trivialis</i> dominant. <i>Juncus effusus</i> , <i>Juncus inflexus</i> , <i>Juncus conglomeratus</i> frequent. <i>Holcus lanatus</i> abundant. <i>Galium aparine</i> , <i>Ranunculus acris</i> , <i>Angelica sylvestris</i> , <i>Epilobium hirsutum</i> less abundant.
3	ST 07879 72660	Standing water	A drain goes through pasture; perpendicular to the road. No water; overgrown with wetland plants. A stripe with aquatic species <i>Apium nodiflorum</i> and <i>Rorippa nasturtium-aquaticum</i> dominant. <i>Epilobium hirsutum</i> frequent.


Figure





Target Note No	Grid reference	Habitat type	Target note	Figure
4	ST 07888 72536	Semi-improved grassland	Neutral grassland; semi-improved; recently reseeded; patches with bare ground visible. Frequent <i>Anthoxanthum odoratum</i> , <i>Lolium perenne</i> , <i>Trifolium repens</i> , <i>Trifolium pratense</i> , <i>Ranunculus repens</i> , <i>Ranunculus acris</i> . Also <i>Cardamine pratensis</i> , <i>Epilobium sp.</i> present. Mounds of manure stored at the bottom of the field; gulls were feeding on this pasture.	
5	ST 07770 72551	Semi-natural broadleaved woodland	Broadleaved woodland; semi-natural. Canopy dominated by <i>Fraxinus excelsior</i> and <i>Quercus robur</i> . Very dense scrub; 3-4 m high; 2 m wide; on the edge of the woodland. Woodland fenced from the road; inaccessible. Shrubs <i>Rubus fruticosus</i> dominant. <i>Prunus spinosa</i> frequent. <i>Salix cinerea</i> and <i>Corylus avellana</i> occasional.	



Target Note No	Grid reference	Habitat type	Target note	Figure
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6	ST 07690 72503	Marshy grassland	<p>Marshy grassland within the Amelia Farm Trust; inaccessible from the main road.</p> <p>Species-rich, unmown and approx. 1m tall. Species present abundant <i>Dactylis glomerata</i>, <i>Holcus lanatus</i>, <i>Deschampsia cespitosa</i> and <i>Phleum pratense</i>.</p> <p>Wetland indicators <i>Molina caerulea</i> and <i>Juncus conglomeratus</i> and <i>Juncus acutiflorus</i>.</p> <p>Herbaceous species composed of <i>Filipendula ulmaria</i>, <i>Galium palustre</i>, <i>Galium aparine</i>, <i>Lotus pedunculatus</i>, <i>Pulicaria dysenterica</i>, <i>Heracleum sphondylium</i>, <i>Ranunculus</i> spp. and <i>Rumex</i> spp.</p>	
7	ST 07406 72467	Running water	<p>A stream run along the semi-natural woodland. The stream, 2-2.5 m wide, shallow for most of its length.</p> <p>Marginal and submerged vegetation absent. <i>Hedera helix</i>, <i>Asplenium scolopendrium</i> and mosses creeping on the banks.</p> <p>The banks and the bottom were mainly with gravel and rocks. Sometimes clay.</p>	







Target Note No	Grid reference	Habitat type	Target note	Figure
8	ST 07573 72455	Standing water	<p>A pond, 150m perimeter, within the Amelia Farm Trust, 400m to the west of the A4226. The pond was not fully accessible due to a dense scrub.</p> <p><i>Salix</i> sp. was dominant around the pond.</p> <p>Pond edge with rank grass, herbs and tall ruderal plants.</p> <p>Water surface was densely covered with <i>Potamogeton natans</i> and occasional patches of <i>Nymphaea alba</i>. There was a fringe of good marginal and aquatic vegetation, such as sedges and rushes, e.g. <i>Typha latifolia</i>.</p>	
9	ST 07879 71619	Standing water	<p>A ditch running along arable land; water level very low, 5-10cm (left figure). The centre overgrown by <i>Epilobium hirsutum</i>. The edges were dominated by grasses such as <i>Holcus lanatus</i>, <i>Lolium perenne</i> and <i>Dactylis glomerata</i>. <i>Heracleum sphondylium</i> was abundant and <i>Cirsium arvense</i>, <i>Rumex crispus</i>, <i>Urtica dioica</i> were frequent. Scarce shrubs were distributed unevenly and composed of <i>Cornus sanguinea</i> and <i>Crataegus monogyna</i>.</p> <p>The same ditch, but on the west hand side of the road was deeper (right figure). Trees and shrubs including <i>Crataegus monogyna</i>, <i>Alnus glutinosa</i>, <i>Corylus avellana</i> and <i>Ilex aquifolium</i>. Rocky bottom and very dense <i>Hedera helix</i> on the banks with scarce tussocks of <i>Carex remota</i>. The water was 10-15 cm deep.</p>	

Target Note No	Grid reference	Habitat type	Target note	Figure
10	ST 08235 71380	Hedgerow	Intact hedge bisecting arable land; very dense; approx. 1.8 m high, 1.5 m wide; species-rich. Woody species: <i>Crataegus monogyna</i> , <i>Prunus spinosa</i> , <i>Corylus avellana</i> , <i>Acer campestre</i> , <i>Quercus robur</i> , <i>Fraxinus excelsior</i> , <i>Hedera helix</i> and <i>Lonicera</i> sp.	
11	ST 08075 71259	Hedgerow	Intact hedge; approx. 2m high, 1.5m wide. Woody species: <i>Crataegus monogyna</i> , <i>Fraxinus excelsior</i> , <i>Ilex aquifolium</i> , <i>Sambucus nigra</i> , <i>Corylus avellana</i> . Field layer overgrown with <i>Rubus fruticosus</i> and <i>Urtica dioica</i> .	



Target Note No	Grid reference	Habitat type	Target note	Figure
12	ST 08091 70734	Hedgerow	Intact hedge, approx. 2m high, 1.5m wide. Woody species: <i>Prunus spinosa</i> dominant. Frequent <i>Crataegus monogyna</i> and <i>Acer campestre</i> . Occasional <i>Corylus avellana</i> , <i>Fraxinus excelsior</i> and <i>Ilex aquifolium</i> .	
13	ST 08066 70582	Hedgerow	Intact hedge; uniform height 2m; approx. 1.5-2m wide. Woody species: dominant <i>Prunus spinosa</i> . Frequent <i>Corylus avellana</i> , <i>Acer campestre</i> , and <i>Cornus sanguinea</i> . Occasional <i>Ulmus procera</i> .	

Target Note No	Grid reference	Habitat type	Target note
14	ST 08196 70517	Hedge with trees	Intact hedge with trees; approx. 8-10 m high; 3 m wide. The canopy species: <i>Quercus robur</i> , <i>Acer campestre</i> and <i>Fraxinus excelsior</i> . The Shrub layer dominated by <i>Prunus spinosa</i> and <i>Crataegus monogyna</i> .





15	ST 08030 70503	Semi-improved grassland	Neutral grassland; semi-improved; grazed by horses. Abundant <i>Holcus lanatus</i> and <i>Cynosurus cristatus</i> . Frequent <i>Anthoxanthum odoratum</i> and <i>Poa trivialis</i> . Herbaceous species: frequent <i>Ranunculus repens</i> , <i>Ranunculus acris</i> , <i>Trifolium repens</i> , <i>Trifolium pratense</i> , <i>Cerastium fontanum</i> , <i>Bellis perennis</i> , <i>Prunella vulgaris</i> and <i>Plantago lanceolata</i> .
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Figure




Target Note No	Grid reference	Habitat type	Target note	Figure
16	ST 08482 69778	Semi-natural mixed woodland	<p>Mixed woodland; semi-natural; located on southwest facing slope.</p> <p>The canopy dominated by <i>Quercus robur</i> with <i>Fraxinus excelsior</i> and <i>Acer campestre</i>; planted with <i>Thuja plicata</i> and <i>Pinus sylvestris</i>. Shrub mainly <i>Corylus avellana</i> with <i>Ulmus glabra</i>;</p> <p>The ground layer sparse in the body of the forest with <i>Hedera helix</i>, <i>Arum maculatum</i> and richer along the edges with <i>Circaea lutetiana</i>, <i>Veronica montana</i>, <i>Geranium robertianum</i>, <i>Primula vulgaris</i>, <i>Ficaria verna</i>, <i>Ranunculus auricomus</i>, <i>Carex silvatica</i> and <i>Sison amomum</i>.</p> <p>The woodland is unfenced on the west side and is open to stock. The south side has a bank and ditch and is fenced. The east side along the crest of the hill is fenced.</p>	
17	ST 09552 68542	Hedge and trees	<p>Intact hedgerow with trees;</p> <p>Dominant <i>Prunus spinosa</i> and <i>Ilex aquifolium</i>. Frequent <i>Corylus avellana</i> and <i>Crataegus monogyna</i> supported by <i>Salix cinerea</i>, <i>Acer campestre</i>, <i>Rosa canina</i> and <i>Sambucus nigra</i>. <i>Viburnum opulus</i>, <i>Cornus sanguinea</i>, <i>Ulmus procera</i> rare.</p> <p>Also <i>Hedera helix</i> and <i>Rubus fruticosus</i>.</p>	



Target Note No	Grid reference	Habitat type	Target note	Figure
18	ST 08552 69617	Standing water	<p>A ditch runs along species rich hedgerow, then continues on the west side of the semi-natural mixed woodland.</p> <p>This ditch, 40-60cm deep and had clay bottom and steep banks; shaded in about 80%.</p> <p>The ditch was lacking submerged plants and the bank vegetation was composed mostly of rank grasses and tall herbs.</p> <p><i>Hedera helix</i> creeping into the ditch. The banks, especially close to the woodland at the southern end, were rich with woodland plants.</p>	
19	ST 08560 69616	Hedgerow	<p>Intact hedge; species-rich; 2 m tall; neatly cut.</p> <p>Frequent population of <i>Crataegus monogyna</i> with occasional <i>Prunus spinosa</i>, <i>Corylus avellana</i> and <i>Acer campestre</i>.</p> <p>Also present occasional <i>Sambucus nigra</i> and <i>Rosa canina</i>.</p> <p>This hedge is open to cattle and intensively grazed in places.</p> <p>Small ditch runs nearby.</p> <p>Locally dominant patches of <i>Urtica dioica</i> and <i>Silene dioica</i> present.</p>	





Target Note No	Grid reference	Habitat type	Target note	Figure
20	ST 08793 69612	Scrub	<p>Scrub; scattered.            Scattered scrub was spreading from the river edge;            Dominate <i>Prunus spinosa</i>, <i>Fraxinus excelsior</i>, <i>Salix caprea</i>, <i>Acer campestre</i>.            Less frequent <i>Crataegus monogyna</i>.            The ground layer was rich in tall herbs and grasses.</p> <p>Single <i>Quercus robur</i> present in the northeast corner of an improved meadow.</p>	
21	ST 08842 69448	Hedgerow	<p>Intact hedge; species rich.            Dominated by <i>Acer campestre</i>, <i>Corylus avellana</i> and <i>Fraxinus excelsior</i>.            Frequent <i>Prunus spinosa</i> and <i>Euonymus europaeus</i>.            Hedgerow rich only for the first 50m and then becomes more uniform with locally dominant <i>Crataegus monogyna</i>.</p>	



Target Note No	Grid reference	Habitat type	Target note	Figure
22	ST 08876 69443	Running water	<p>The River Waycock; steep sided; 3-5 m wide; moderate to fast flowing; water to 60 cm deep; generally shaded and with little to no aquatic vegetation.</p> <p>Occasional <i>Oenanthe crocata</i>, <i>Asplenium scolopendrium</i> and mosses on the banks.</p> <p>Scattered scrub was spreading from the banks dominated by <i>Fraxinus excelsior</i>, <i>Prunus spinosa</i>, <i>Salix caprea</i>, <i>Acer campestre</i> and <i>Crataegus monogyna</i>.</p>	
23a	ST 08986 69336	Unimproved grassland	<p>Neutral grassland; unimproved.</p> <p>The verge by a layby; probably derived from seed mix sown in association with creation of the layby and picnic spot.</p> <p>Two parts: the mown verges along sight lines; short grassland to 10 cm tall dominated by <i>Plantago lanceolata</i>, <i>Bellis perennis</i>, <i>Poa trivialis</i>, <i>Holcus lanatus</i>, <i>Festuca rubra</i>, <i>Lolium perenne</i>.</p>	





Target Note No	Grid reference	Habitat type	Target note	Figure
23b	ST 08986 69336	Unimproved grassland	<p>The tall grassland to 1.5 m high dominated by <i>Arrhenatherum elatius</i> with locally frequent <i>Dactylis glomerata</i>, <i>Festuca rubra</i>, <i>Poa trivialis</i>, <i>Holcus lanatus</i> and <i>Ranunculus repens</i>. More occasional <i>Trisetum flavescens</i>, <i>Cynosurus cristatus</i>, <i>Centaurea nigra</i>, <i>Rumex crispus</i> and <i>Rumex obtusifolius</i>. Additional species <i>Rumex sanguineus</i>, <i>Geranium dissectum</i>, <i>Hirschfeldia incana</i>, <i>Urtica dioica</i>, <i>Leucanthemum vulgare</i>, <i>Vicia sativa</i>, <i>Prunella vulgaris</i>, <i>Carex hirta</i> and <i>Carex flacca</i>, <i>Onobrychis viciifolia</i> and <i>Trifolium pratense</i>. <i>Malva sylvestris</i> rare.</p> <p>This grassland is probably mown only once or twice a year. Four <i>Prunus padus</i> trees, to 3 m high, planted in the centre. Reptile habitat.</p>	
24	ST 08970 69324	Unimproved grassland	<p>Neutral grassland; unimproved; opposite the layby. Marginal strip containing wetland flora <i>Epilobium hirsutum</i> and <i>Oenanthe crocata</i> with <i>Arrhenatherum elatius</i>. Less abundant; nitrophilous species <i>Urtica dioica</i>, <i>Cirsium arvense</i>, <i>Poa trivialis</i> and <i>Galium aparine</i>. A narrow 1 m strip of mowed area adjacent to the above with <i>Holcus lanatus</i>, <i>Festuca rubra</i>, <i>Achillea millefolium</i>, <i>Potentilla reptans</i>, <i>Dactylis glomerata</i>, <i>Ranunculus repens</i>. Ruderal plants like <i>Heracleum sphondylium</i> <i>Anthriscus sylvestris</i> present.</p>	





Target Note No	Grid reference	Habitat type	Target note	Figure
25	ST 09050 69296	Semi-improved grassland	Neutral grassland; semi-improved; horse-grazed; Dominated by <i>Trifolium repens</i> and <i>Ranunculus repens</i> . The sward is relatively uniform with occasional short and longer areas reach <i>Rumex</i> spp.	
26	ST 09032 69296	Semi-natural broadleaved woodland	Broadleaved woodland; semi-natural; narrow strip located to the south of a layby. Dominant <i>Fraxinus excelsior</i> , <i>Quercus robur</i> , <i>Acer campestre</i> ; 8-10m high in the canopy. A well-developed structure; the understory <i>Corylus avellana</i> , <i>Crataegus monogyna</i> , <i>Prunus spinosa</i> , <i>Cornus sanguinea</i> , <i>Euonymus europaeus</i> . <i>Rosa canina</i> and <i>Rosa arvensis</i> also present on the edges. Species-poor ground layer: dense <i>Hedera helix</i> with <i>Rubus fruticosus</i> , <i>Arum maculatum</i> , <i>Tamus communis</i> and <i>Calystegia sylvatica</i> . A small drain is located on the west side of the wood.	

Target Note No	Grid reference	Habitat type	Target note	Figure
27	ST 08947 69281	Hedgerow	<p>Defunct hedgerow with trees. Improved meadow is bisected with defunct hedge opposite the layby.</p> <p><i>Crataegus monogyna</i>, <i>Quercus robur</i> and <i>Fraxinus excelsior</i> dominate the canopy with <i>Urtica dioica</i> in the understorey.</p>	
28	ST 09086 69206	Tall ruderal	<p>Tall ruderal plants; a small area by the Welsh Hawking Centre</p> <p>Locally dominant patches of <i>Urtica dioica</i> and abundant <i>Anthriscus sylvestris</i> with frequent patches of <i>Heracleum sphondylium</i>, <i>Epilobium</i> sp. and <i>Carduus</i> sp.</p>	





Target Note No	Grid reference	Habitat type	Target note	Figure
29	ST09192 69082	Semi-natural broadleaved woodland	<p>Broadleaved woodland; semi-natural; part of the SSSI Vale of Glamorgan Barry Woodlands complex. Dominated by <i>Fraxinus excelsior</i> and <i>Quercus robur</i>; 15-20 m high in the canopy; complemented by <i>Ulmus glabra</i> and <i>Acer campestre</i>. The shrub layer; 5-10 m; <i>Corylus avellana</i> and <i>Crataegus monogyna</i>. The field layer: <i>Hedera helix</i>, <i>Urtica dioica</i> and <i>Rubus fruticosus</i>.</p> <p>In the edge of this woodland; on the east side of the existing A4226 road; 2 m deep stream, running north with clay banks, a gravelly base and occasional bedrocks. Moss communities were visible on the banks. The Waycock road drains directly into the stream.</p>	
30	ST 09160 69115	Running water	<p>A stream runs beside the Waycock road in the SSSI woodland; up to 1m deep with clay banks and base composed of gravel and bedrocks; shaded by the woodland understory; the banks medium to steep in gradient and covered with woodland floor vegetation. Moss and fern dominant on the banks. No submerged plants. The Waycock Road drains directly into the stream.</p>	





Target Note No	Grid reference	Habitat type	Target note	Figure
31	ST 09391 68913	Plantation broadleaved woodland	<p>Broadleaved woodland; plantation; south-eastern edge of the SSSI woodland. Different structure to the SSSI forest. Western edge dominated by <i>Prunus spinosa</i> up to 10 m tall, with occasional <i>Corylus avellana</i> and <i>Crataegus monogyna</i>. The inner area planted with <i>Fraxinus excelsior</i> and <i>Quercus robur</i> and <i>Betula pendula</i>. The shrub layer: <i>Corylus avellana</i>, <i>Cornus sanguinea</i> and <i>Crataegus monogyna</i>. The ground layer is quite diverse and represented by relict grassland species <i>Heracleum sphondylium</i>, <i>Ranunculus acris</i> and <i>Poa trivialis</i>. A few more shade-tolerant species also occur e.g. <i>Circaea lutetiana</i>. One <i>Platanthera chlorantha</i> present.</p>	
32	ST 09467 68915	Semi-improved grassland	<p>Neutral grassland; semi-improved; the south-eastern edge of the SSSI woodland; currently ungrazed, but possibly grazed by horses previously. The species composition: Frequent <i>Anthoxanthum odoratum</i> and <i>Poa trivialis</i> with occasional <i>Lolium perenne</i> and <i>Dactylis glomerata</i>. Abundant <i>Trifolium repens</i> and <i>Trifolium pratense</i> together with <i>Ranunculus acris</i> and <i>Ranunculus repens</i> and ribwort <i>Plantago lanceolata</i>. Species that may indicate small areas of less improvement: <i>Rumex acetosa</i>, <i>Prunella vulgaris</i>, <i>Cerastium fontanum</i>, <i>Geranium dissectum</i>. There are also areas with bigger thistles and docks (eg <i>Rumex crispus</i>) in animal latrine areas.</p>	



Target Note No	Grid reference	Habitat type	Target note	Figure
33	ST 09412 68768	Semi-natural broadleaved woodland	Broadleaved woodland; semi-natural. A block of approx. 8 m in height of secondary woodland grew over disturbed ground with spoil. Dominant species <i>Corylus avellana</i> and <i>Crataegus monogyna</i> with frequent <i>Prunus spinosa</i> , <i>Acer pseudoplatanus</i> and <i>Acer campestre</i> . Ground flora indicates of older established woodland with <i>Arum maculatum</i> , <i>Viburnum opulus</i> and <i>Mercurialis perennis</i> .	
34	ST 09412 68768	Buildings	A ruin of an old building, which contains asbestos, were seen in the SSSI woodland; it might be a potential bat roosting habitat	



Target Note No	Grid reference	Habitat type	Target note	Figure
35	ST 09501 68664	Scrub	<p>Dense scrub; in the southern end of the study site. Dominant <i>Cornus sanguinea</i> and <i>Crataegus monogyna</i>.</p> <p>Abundant patches of <i>Ulmus procera</i>, <i>Rosa canina</i>, <i>Fraxinus excelsior</i>, <i>Clematis vitalba</i> and <i>Rubus fruticosus</i>.</p> <p>Impenetrable, up to 4m tall.</p> <p>A small inner grassy area is visible on the aerial photos but was inaccessible.</p>	
36	ST 09547 68729	Plantation broadleaved woodland	<p>Broadleaved woodland; plantation; south edge of the study area.</p> <p>Ash plantation; to 10m in height; complemented <i>Betula pendula</i>, <i>Quercus robur</i> and <i>Acer campestre</i>.</p> <p>The field layer very poor and almost lacking in the centre, marginal patches of planted <i>Corylus avellana</i>; the shrub layer around the edges <i>Prunus spinosa</i>, <i>Corylus avellana</i>, <i>Crataegus monogyna</i>.</p> <p>The ground flora shows signs of nutrient enrichment with plants <i>Galium aparine</i>, <i>Urtica dioica</i>, <i>Heracleum sphondylium</i> all dominant in places.</p>	

Target Note No	Grid reference	Habitat type	Target note	Figure
37	ST 09536 68829	Poor semi-improved grassland	Semi-improved grassland; poor; in the south of the study area. Ungrazed and uncut, relatively uniform with few herbaceous plants to 1 m tall. Dominant species <i>Dactylis glomerata</i> , <i>Alopecurus pratensis</i> , <i>Poa trivialis</i> and <i>Holcus lanatus</i> . Herbs: <i>Cirsium arvense</i> , <i>Rumex</i> spp. and <i>Ranunculus</i> spp.	
38	ST 09552 68542	Hedgerow	Intact hedgerow; species rich; to the west of the roundabout on the south edge of Port Road. Seven woody species: dense patches of <i>Crataegus monogyna</i> , <i>Prunus spinosa</i> and <i>Corylus avellana</i> . Frequent <i>Fraxinus excelsior</i> , <i>Acer campestre</i> , <i>Cornus sanguinea</i> and <i>Rosa canina</i> . Field layer with <i>Rubus fruticosus</i> , <i>Hedera helix</i> and <i>Tamus communis</i> .	



39 ST 074 741 SE Side of  
Sycamore Cross

Adjacent to a wheat field there is a species-poor hawthorn hedge trimmed to c. 1.5m high. On the north side of the hedge is a line of trees (mainly ash) to 15m tall with ivy and bramble at their base, spreading out onto the grassy verge.

The verges at the north end of Five Mile Lane on both sides are of relatively recent origin but have developed reasonable species diversity. The verges adjacent to the carriageways are mown; they have ryegrass, red fescue, white clover, red clover, creeping buttercup, ribwort plantain and dandelion.

At the back of the verge nearer the hedge and on road banks, which are less frequently mown, there is more diversity including ox-eye daisy, cow parsley, red campion, common knapweed, meadow buttercup, bracken, hogweed, false oat-grass, tall fescue, hedge woundwort, meadowsweet, bluebell, dog's mercury, tufted vetch, smooth meadow-grass, cat's-ear, bird's-foot trefoil, nettle and sorrel.



40 ST 074 742 NE Side of  
Sycamore Cross

There is a broad, mown verge c. 8m wide, with cock's-foot grass, Yorkshire fog, soft-brome, rough meadow-grass, Italian ryegrass, rye-grass, red fescue, dandelion and daisy.

At the eastern end there is a species-rich hedge with trees (English elm, ash, hazel, sycamore, elder) to 15 m adjacent to a garden.

Near to the cross is a long strip of sycamore woodland about 20m wide (presumably hence the name Sycamore Cross). The canopy is c. 25m tall dominated by sycamore with a few ash trees. Some trees have been removed on the north-west side. There is no clearly defined shrub layer, though English elm, holly and sycamore are present on the southern edge, where there



41 ST 073 741 NW Side of  
Sycamore Cross

is a wire fence. The ground layer is dominated by ivy and bramble. Bluebells, red campion and ransoms are also present. Himalayan balsam is locally abundant along the southern edge.

Immediately adjacent to the NE corner of the crossroads the verges have some small patches of tall ruderals (creeping thistle, bristly ox-tongue, broad-leaved dock) in areas associated with the recent traffic signal installation.

The NW side is largely gardens and dwellings with garden hedges and trees adjacent to the road.



42 ST 073 740 SW Side of  
Sycamore Cross

A trimmed (1.5m) species-poor hawthorn hedge runs adjacent to the fields (the final northern 30m of Five Mile Lane have a sycamore hedge rather than hawthorn). The verges are moderately diverse (though mown) and include nettle, bramble, creeping thistle, false oat-grass, red fescue, rye-grass, rough meadow-grass, dandelion, hogweed, ox-eye daisy, red campion, cow parsley, common comfrey, bush vetch, ribwort plantain, meadow buttercup, perforate St John's Wort and wild carrot. Small areas immediately associated with the recent traffic signal upgrade scheme have been re-sown, and now have rye-grass, red rescue, white clover and creeping buttercup. The fields adjacent to the cross are semi-improved with rye-grass, soft brome, sorrel, meadow buttercup and ribwort plantain.

