

Rampion 2 Wind Farm

Category 6:

Environmental Statement

Volume 4, Appendix 22.3: Extended Phase 1 habitat survey report



Document revisions

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1. Introduction

1.1 Background

- This Appendix should be read in conjunction with **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the ES (Document Reference 6.2.22) which is provided in support of the delivery of an Environmental Impact Assessment (EIA) associated with the Rampion 2 Offshore Wind Farm, hereafter referred to as the 'Proposed Development' or 'Rampion 2'.
- 1.1.2 This Appendix describes the survey method and summarises the results of the Extended Phase 1 surveys undertaken between 2021 and 2023.

1.2 Survey site selection

- The onshore elements of the Proposed Development refer to works landward of Mean High Water Springs (MHWS) and will comprise the following key components:
 - a single landfall site near Climping, Arun District, connecting offshore and onshore cables using Horizontal Directional Drilling (HDD) installation techniques;
 - buried onshore cables in a single corridor for the maximum route length of up to 38.8km using:
 - trenching and backfilling installation techniques; and
 - trenchless and open cut crossings.
 - a new onshore substation, proposed near Cowfold, Horsham District, which will connect to an extension to the existing National Grid Bolney substation, Mid Sussex, via buried onshore cables; and
 - extension to and additional infrastructure at the existing National Grid Bolney substation, Mid Sussex District to connect Rampion 2 to the national grid electrical network.
- A detailed project description can be found in **Chapter 4: The Proposed Development, Volume 2** of the ES (Document Reference 6.2.4).
- Above MHWS the Proposed Development consists of permanent new above ground infrastructure at the location of the substation and at the connection point to the existing National Grid Bolney substation only.
- The approach to the Phase 1 habitat survey was discussed with Natural England in April 2020, and again within a variety of forums with stakeholders including South Downs National Park Authority, West Sussex County Council and the Sussex Wildlife Trust (see Section 22.3 of Chapter 22: Terrestrial ecology and nature conservation, Volume 2 of the ES (Document Reference 6.2.22), with agreement to the approach minuted.



1.3 Purpose of this Appendix

The proposed DCO Order Limits cross through habitats with the potential to support priority habitats, irreplaceable habitats and legally protected and notable vascular plant species. Data gathered on animal species during the Extended Phase 1 habitat survey is presented in individual reports. This Appendix outlines the methodologies used, and summarises the results gathered as part of an Extended Phase 1 habitat survey within the proposed DCO Order Limits (as defined in Chapter 4: The Proposed Development, Volume 2 of the ES (Document Reference 6.2.4) and a 30m buffer, hereafter referred to as the Study Area (shown on Figure 22.3.1a- I, Annex A).

1.4 Structure of this Appendix

- 1.4.1 This Appendix is structured as follows:
 - Section 2: Methods;
 - Section 3: Results;
 - Section 4: Summary;
 - Section 5: Glossary of terms and abbreviations;
 - Section 6 : References:
 - Annex A: Figures; and
 - Annex B: Scientific species names.



2. Methods

2.1 Phase 1 Habitat Survey

- 'Phase 1' habitat survey is an established field-scale vegetation survey method that classifies land parcels into various habitat categories. In line with the Joint Nature Conservation Committee (JNCC) Phase 1 Habitat survey methodology (JNCC. 2010). A Phase 1 habitat survey was undertaken between April 2020 and March 2023 of all accessible habitats within the proposed DCO Order Limits and within a 30m buffer of it. This is collectively referred to as the Study Area.
- Within the Study Area, distinct habitats were identified and any conservationnotable habitats or interest features that were too small to map were subject to a
 more detailed description, presented in the results. As the standard Phase 1
 habitat survey methodology is largely concerned with vegetation communities
 only, the survey was 'extended' in accordance with the Guidelines for Baseline
 Ecological Assessment (Institute of Environmental Assessment (IEA), 1995) to
 include:
 - Preliminary searches for evidence of protected or conservation-notable species
 / species-groups (including dormice; bats; great crested newts; badger; water
 voles; reptiles; and otters), and for habitats or features likely to support them if
 direct evidence is absent;
 - Hedgerow assessments¹, aimed at identifying hedges that might be classified
 as 'important' based on the relevant ecological and structural criteria set out in
 The Hedgerows Regulations 1997 (refer to the Appendix 22.4: National
 Vegetation Classification survey report 2021-2022, Volume 4 of the ES
 (Document Reference 6.4.22.4); and
 - The identification of other constraints (e.g. non-native invasive plant species) or opportunities (e.g. opportunities for micro-siting or enhancement) that may be present at the site.
- Preliminary information on habitat condition to assist with initial Biodiversity Net Gain (BNG) calculations (see **Appendix 22.15**: **Biodiversity Net Gain information, Volume 4** of the ES (Document Reference 6.4.22.15).
- 2.1.4 It should be noted that while every effort has been made to provide a comprehensive description of the Study Area, this survey did not constitute a full botanical survey.
- The nomenclature for the vascular plants in this report follows Stace (2019) for both scientific and English names, see **Annex B**.

¹ Broadly based on Department for Environment, Food & Rural Affairs (Defra), (2002). Hedgerow Survey Handbook



Legally controlled species

The presence of any legally controlled, non-native, invasive plants, such as Japanese knotweed and Himalayan balsam, was recorded during the Phase 1 habitat surveys.



3. Results

- The following sections describe the Phase 1 habitat types recorded between 2020 and 2023 within and adjacent to the proposed DCO Order Limits. The distribution of habitats present is shown in **Annex A, Figure 22.3.1a-I** and are described below in order of prevalence within the Study Area.
- A total of 90.75% of the Study Area was subject to Phase 1 habitat survey. Areas that were not accessible or could not be observed adequately from Public Rights of Way (PRoW) are described in **Section 3.27**.

3.2 Arable

- This habitat type was the most prevalent recorded within the Study Area. A total of 368 hectares (ha) of this habitat was recorded across the Study Area. A total of 12.58ha or 3.4% of this habitat type could not be accessed for survey and notes were made from adjacent accessible land including Public Rights of Way. This habitat type was recorded throughout the proposed DCO Order Limits from the southernmost extent at Climping to Hammerpot; between stands of woodland at Michelgrove. From Wiston and Ashurst north to Bolney arable land uses were recorded occasionally with a few larger fields noted to the east of Oakendene Industrial Estate at the northern limit.
- In general, arable fields were noted to be intensely farmed with limited to no field margins recorded; however, in a number of locations conservation headlands, pollinator strips and winter bird cover had been established. There was evidence of fertilizer run-off to adjacent habitats such as woodlands and other grasslands due to the presence of nutrient tolerant plant species such as common nettle and broadleaved dock.
- The shape and extent of many of the arable fields present are likely to be a product of hedgerow removals in previous decades. This has led to the majority of arable fields being large, especially between the landfall and the A27, and across the plateau of the South Downs National Park.
- Crops planted at the time of survey included oats, wheat, maize and barley.

 Depending on the time of year and crop rotation, fields were noted to have been recently sown, cropped, ploughed or fallow at the time of survey.

3.3 Improved grassland

This habitat type was the second most prevalent recorded within the proposed DCO Order Limits. This habitat type was scattered in 223 locations throughout the Study Area over a total of 324.8ha, habitat type was recorded sporadically from Climping to Lyminster; in numerous locations around Hammerpot and Michelgrove; the southern slopes of Sullington Hill, and a significant number of fields extending from Bines Green to the northernmost extent of the proposed DCO Order Limits. In general, coarse grasses dominated this habitat type, with perennial rye grass, Italian rye grass, cock's foot, Timothy, rough meadow grass,



false oat grass and Yorkshire fog recorded most frequently. Forbs were less frequently recorded within improved grassland with those that were common being associated with agriculturally managed grasslands such as broad-leaved dock, yarrow, common ragwort, dandelion, white clover, spear thistle, ribwort plantain, creeping buttercup and cut-leaved crane's-bill.

- Towards the north and east of the proposed DCO Order Limits, the fields appear to be more characteristic of the historic field patterns, whilst elsewhere larger tracts of grazing have been created through the removal of boundary features. Current boundary features comprised a mixture of hedgerows, tree lines, ditches, and fence lines; with hedgerows being the most common form of separation. Habitat use was recorded as either for silage / hay production or for livestock grazing. Grazing animals recorded at the time of survey included cattle, sheep, and horses. Many fields were noted to be very dry at the time of survey, particularly where the sward was grazed low to the ground.
- A total of 7.65 ha of improved grassland across eight locations within the proposed DCO Order Limits is also identified as coastal and floodplain grazing marsh on the Priority Habitats Inventory (see **Figure 22.3.2a-h, Annex A**). These fields are located within the Arun Valley and Adur Valley and are largely used for grazing livestock. **Section 3.2** provides further detail on Habitats of Principal Importance (HPI).

3.4 Woodland

- This habitat type was recorded throughout the Study Area, across a total of 29.38ha, in 118 blocks (a single woodland location may be represented by multiple blocks). A total of 0.86ha of woodland could not be fully accessed for survey; instead, notes were taken from adjacent accessible land including Public Rights of Way and from a review of satellite imagery.
- Table 3-1 below provides a summary of woodland blocks by type and retention category, from south to north:

Table 3-1 Woodland Description

Unique ID	Extent ² (ha)	Description	Retention category			
Broadlea	Broadleaved woodland- semi-natural					
W2341	0.1	Small stand of willow, alder, English elm and elder woodland south of Ferry Road in Climping, with another 0.2ha lying beyond the proposed DCO Order Limits to the southeast.	Retained			

² Within proposed DCO Order Limits



Unique ID	Extent ² (ha)	Description	Retention category
W193	0.09	Small stand of willow, alder, English elm and elder woodland south of Ferry Road in Climping, with another 0.5ha lying within Order Limits to the southeast (not accessed).	Retained
W194	0.09	Small stand of willow, alder, English elm and elder woodland south of Ferry Road in Climping, to the west of W193 and south of W2341. Another 0.2ha of woodland lies within the proposed DCO Order Limits.	Retained
W1327	0.07	Small stand of willow, English elm, elder and hawthorn woodland located north of Ferry Road in Climping. Half of the stand lies within the proposed DCO Order Limits, with another approximately 0.0.7ha lies to the west.	Retained
W1298	0.06	Small stand of woodland close to River Arun in Climping, not accessed for survey. A further stand of woodland approximately 0.14ha in extent exists within the proposed DCO Order Limits.	Retained
W38	0.05	Small strip of woodland / overgrown tree line adjacent to ditch, not accessed for survey. South of A27/ Arundel Road at Chestnut Tree House, Hammerpot.	Cleared to 6m (for haul road ³)
W39	0.05	Small strip of woodland / overgrown tree line adjacent to ditch and W38, not accessed for survey, entirely within the proposed DCO Order Limits. A larger stand of woodland lies to the south, beyond the proposed DCO Order Limits approximately 1.4ha in extent, connected to further larger woodland stands, to the south. South of A27/ Arundel Road at Chestnut Tree House, Hammerpot.	Cleared to 6m (for haul road ³)
W40 and W41	0.08	Small strip of woodland / overgrown tree line adjacent to ditch and W39, not accessed for survey. South of A27 / Arundel Road at Chestnut Tree House, Hammerpot. A larger stand of woodland lies to the south, beyond the	Cleared to 6m (for haul road ³)

 $^{^{3}}$ To be confirmed: there may be a need for a haul road at this location.



Unique ID	Extent ² (ha)	Description	Retention category
		proposed DCO Order Limits approximately 1.4ha in extent, connected to further larger woodland stands, to the south.	
W42	0.01	Small stand of woodland / overgrown tree line south of W38, not accessed for survey. A larger stand approximately 0.49 ha in extent continues to the south, beyond the proposed DCO Order Limits. South of A27 / Arundel Road at Chestnut Tree House, Hammerpot.	Retained
W46	0.09	Small strip of woodland/ overgrown tree line lying entirely within the proposed DCO Order Limits; dominated by beech, oak, hawthorn, blackthorn, ground flora dominated by ivy. East of Decoy Land and W50; south of A27 / Arundel Road at Chestnut Tree House, Hammerpot.	Cleared to 6m (for haul road ³)
W49	0.01	Continuation of parcel W46 lying entirely within the proposed DCO Order Limits; beech, oak, hawthorn, blackthorn, ground flora dominated by ivy. East of Decoy Land and W46. South of A27 / Arundel Road at Chestnut Tree House, Hammerpot.	Cleared to 6m (for haul road ³)
W50	0.19	Small strip of woodland / overgrown tree line of which a further ~0.4ha lies within the proposed DCO Order Limits to the south and west (but was not accessed for survey). Dominated by beech, oak, hawthorn, blackthorn, ground flora dominated by ivy. West of Decoy Land and W46. South of A27 / Arundel Road at Chestnut Tree House, Hammerpot.	Retained
W45	0.06	Small stand of woodland, within the proposed DCO Order Limits, with a further approximately 0.3ha extending south beyond the proposed DCO Order Limits. South of A27 / Arundel Road at Chestnut Tree House, Hammerpot.	Retained
W4	0.17	Hazel, ash, holly, oak, butcher's broom, hawthorn. Ancient woodland of approximately 5.58ha in extent lies immediately to the west beyond the proposed DCO Order Limits.	Cleared to 30m



Unique ID	Extent ² (ha)	Description	Retention category
W5	0.08	Hazel, ash, holly, oak, butcher's broom, hawthorn. Ancient woodland of approximately 5.58ha in extent lies immediately to the west beyond the proposed DCO Order Limits.	Cleared to 30m
W9	0.77	Margin of woodland located along access route between Angmering Park and Michelgrove Lane Predominantly beech with pedunculate oak, silver birch, cedar, elder and holly with ground flora of bracken and ivy. Linked to plantation woodlands W6-W30.	Retained
W28	0.77	Woodland located to the west of Michelgrove; predominantly composed of pedunculate oak with hazel, and sycamore. Further extensive woodland lies to in all directions within the proposed DCO Order Limits, and beyond.	Retained
W17	0.06	Woodland predominantly composed of pedunculate oak with hazel, and sycamore. Further extensive woodland lies to in all directions within the proposed DCO Order Limits, and beyond. Located to the east of W28.	Retained
W15	0.05	Woodland located to the west of Michelgrove; predominantly composed of pedunculate oak with hazel, and sycamore. Further extensive woodland lies to in all directions within the proposed DCO Order Limits, and beyond. Located to the north of W17 and south of W18, W19 and W31.	Retained
W19	3.37	Woodland located to the west of Michelgrove; pedunculate oak with beech and hazel, with patches of scrub. Further extensive woodland lies to in all directions within the proposed DCO Order Limits, and beyond. Located to the north of W17 and east of W18 and west of W31.	Retained
W31	0.4	Woodland located to the west of Michelgrove; pedunculate oak with beech and hazel, with patches of scrub. Further extensive woodland lies to in all directions within the proposed DCO Order Limits, and beyond. Located to the north of W17 and east of W18 and W31.	Retained



Unique ID	Extent ² (ha)	Description	Retention category
W21	0.4	Woodland located to the west of Michelgrove; pedunculate oak with beech and hazel, with patches of scrub. Further extensive woodland lies to in all directions within the proposed DCO Order Limits, and beyond. Located to the north of W31 and east of W19.	Retained
W20	0.21	Woodland located to the west of Michelgrove; pedunculate oak and ash woodland with hawthorn. Further extensive woodland lies to the south within the proposed DCO Order Limits, and beyond. Located to the northwest of W19.	Retained
W24	0.038	Woodland located to the west of Michelgrove, comprising of ash, hawthorn, blackthorn, holly, with grassland. Located between arable fields to the south and further woodland within the proposed DCO Order Limits, to the north (W22) and east (W19).	Retained
W22	0.29	Woodland located to the west of Michelgrove, comprising of ash, hawthorn, blackthorn, holly, with grassland. Located between arable fields to the north and south and further woodland to the west beyond the proposed DCO Order Limits, and within the proposed DCO Order Limits, to the east (W20 and W19).	Retained
W5284	2.34	Woodland located on the southern slope of Sullington Hill. Ancient hazel coppice with hawthorn, ash, blackthorn, elder. Woody species comprised honeysuckle, dog rose. Ground flora dog's mercury, lords and ladies, ivy, common nettle, spear thistle, primrose, and bluebell. Much of the ground flora is degraded due to pheasant rearing. Further extensive woodland located to the east beyond the proposed DCO Order Limits.	Retained
W1416	0.51	Woodland located on the south-eastern slope of Sullington Hill. Remnant ancient woodland significantly degraded from pheasant rearing pens. Ancient woodland indicators present and ancient hazel coppice present. Further	Retained



Unique ID	Extent ² (ha)	Description	Retention category
		woodland located to the north beyond the proposed DCO Order Limits.	
W1364	3.43	Woodland stand located south of Storrington Road and west of the A24 near Washington, between arable fields, connected to larger stand to the south (approximately 12ha in extent), and tree lines and hedgerows to the north and east. Canopy dominated by mature pedunculate oak, with abundant ash and occasional horse chestnut, shrub layer of field maple, understory thick with field maple, elder, occasional holly and hazel, spindle. Ground flora dominated by common nettle and fern species, occasional colt's foot, ground ivy, and hogweed. Further woodland lies immediately beyond and to the south of the proposed DCO Order Limits, approximately 1.59ha in extent.	Cleared to 30m
W1234	3.81	Woodland located to the east of the A24 outside of Washington; sycamore and pedunculate oak abundant, frequent field maple and silver birch; yew recorded occasionally. London plane rarely recorded. Within the understorey field maple was dominant, yew and holly rarely recorded. The ground flora was dominated by common nettles, ground ivy was frequent. A stand of plantation woodland lies to the west (W5877). Further concurrent woodland that was not accessed for survey is located to the south of this stand within proposed DCO Order Limits, approximately 0.36ha in extent.	Retained
W1282	0.04	Located between the A24 and The Pike near Washington, to the north of an arable field, west of W1234. Woodland dominated by mature pedunculate oak, open understorey with blackthorn, elder, hawthorn, hazel coppice. Goat willow was dominant in the west. Ground flora: common nettle was dominant, enchanter's nightshade, bent and rush species recorded occasionally. Further woodland lies immediately to the north, approximately 0.83ha in extent, beyond the proposed DCO Order Limits,	Retained



Unique ID	Extent ² (ha)	Description	Retention category
W5792	2.1	Stand located between arable fields, located north of Daisy Lane, and Washington Road (A283), southeast of Wiston. Canopy species comprised of pedunculate oak; ash was frequent. Understorey species recorded included abundant hazel with holly and elder frequent. Ground flora was dominated by ivy; common nettle and bramble were recorded occasionally. Further woodland lies immediately to the north, approximately 0.58ha in extent, beyond the proposed DCO Order Limits.	Cleared to 30m
AW 5822	0.34	Small stand of broadleaved woodland on southern limit of coniferous plantation (W591), south of Spithandle Lane; access was limited. Extensive woodland (approximately 21ha of predominantly coniferous plantation) lies to the southeast, beyond the proposed DCO Order Limits.	Retained
W596	0.75	Small strip of semi natural woodland located along Spithandle Lane along the northern limit of coniferous plantation (W591). English Elm was dominant, a limited understorey was recorded with occasional bracken, mostly leaf litter present. Field horsetail, brome, bramble, lords and ladies recorded rarely. Further woodland not accessed for survey lies immediately west beyond the proposed DCO Order Limits approximately 0.53ha in extent. Extensive woodland (approximately 21ha of predominantly coniferous plantation) lies to the southeast, beyond the proposed DCO Order Limits.	Retained
W503	0.19	Located west of W4751 on the western side of the A281 (Henfield Road) and south of Greentree Lane. Canopy dominated by pedunculate oak, ash occasional. Understorey blackthorn dominant, rare hazel, goat willow and spindle. Ground flora: herb-Robert abundant, common nettle, pendulous sedge, rush species and docks occasional.	Retained



Unique ID	Extent ² (ha)	Description	Retention category
W4751	0.12	Woodland west of W503 on the eastern side of the A281 (Henfield Road). Located pedunculate oak with sub storey of hawthorn, blackthorn, bramble. bluebell, cleavers, broadleaved dock, common spotted orchid formed the ground flora.	Retained
AW 5818	0.03	Margin to a larger stand of woodland (approximately 4.36ha) located beyond the proposed DCO Order Limits, North of Greentree Lane and to the west of A281 (Henfield Road).	Retained
W5863	0.14	Overgrown line of trees located along field margins to the west of Cowfold Stream, located east of Monastery. Not accessed for survey. Further woodland, treelines and scrub are located to the west and east beyond the proposed DCO Order Limits. Not accessed for survey.	Retained
W689	0.1	Small stand of woodland located along field margins to the west of Cowfold Stream and W5863, located east of Monastery. Canopy dominated by pedunculate oak; ash rare. Shrub layer of abundant blackthorn and hawthorn. Understorey: common nettle and wood brome abundant. Possible dry pond in centre according to landowner, but not accessed for survey. Further woodland, treelines and scrub are located to the west and east beyond the proposed DCO Order Limits.	Retained
W713	1.6	Small stand of woodland located along a field margin west of Kent Street, southeast of Oakendene Industrial Estate. Pedunculate oak dominated woodland, with frequent young, planted oaks. Beyond the proposed DCO Order Limits. To the west and south is extensive woodland (approximately 4.5ha) and a pond, scrub, and neutral grassland.	Retained
W1413	0.29	Overgrown tree line along Kent Street; opposite a tree line linked to W1409. Pedunculate oak dominated canopy; shrub layer of hazel, blackthorn bramble, hawthorn. ground flora of	Retained



Unique ID	Extent ² (ha)	Description	Retention category
		bluebells, ivy, docks, cleavers, cow parsley, herb Robert, dog's mercury.	
W1409	0.27	Overgrown tree line along Kent Street; opposite a tree line linked to W1413. Pedunculate oak dominated canopy; shrub layer of hazel, blackthorn bramble, hawthorn. ground flora of bluebells, ivy, docks, cleavers, cow parsley, herb Robert, dog's mercury.	Retained
W738	1.36	Overgrown tree line along Kent Street; opposite a tree line. Not accessed for survey.	Retained
W791	1.69	Overgrown tree line along Kent Street; opposite a tree line. Not accessed for survey.	Retained
W792	2.0	Woodland strip at the northern limit of Kent Street. Pedunculate oak dominated woodland oak with hawthorn and field maple under, dog's mercury and leaf litter with celandine, garlic mustard, bluebell, primrose and false oat-grass.	Retained
W1338	0.31	Margin of woodland located between fields to the east of Kent Street. Pedunculate oak dominated woodland with hawthorn scrub.	Retained
W736	0.75	Small stand of woodland between Cowfold and Bolney, west of Wineham Lane. Links to network of treelines and small woodland stands, beyond which lie larger stands beyond the proposed DCO Order Limits located to the northeast and south. Dominated by mature oak with margin of hawthorn dominated hedges either side with scattered elder.	Cleared to 20m
W785	0.53	Overgrown line of trees along field boundary to the east of Kent Street. Pedunculate oak dominated woodland, ash occasional; shrub layer of hawthorn, with dense ground flora of common nettle, ground ivy, and docks.	Retained
W397	1.72	Woodland located along Wineham Lane; canopy of pedunculate oak, occasional horse chestnut and ash. Understorey of hazel frequent, holly, sycamore occasional. ground	Retained



Unique ID	Extent ² (ha)	Description	Retention category
		flora of ivy, dog's mercury, and common nettle occasional.	
W843	1.74	Woodland located north of W864, to the north of Wineham Lane. Canopy oak dominant, occasional horse chestnut. Understorey hazel frequent, holly occasional. ground flora of ivy, dog's mercury, and nettles occasional.	Retained
W864	0.67	Woodland located along Wineham Lane linked to W843. Canopy oak dominant, occasional horse chestnut. Understorey hazel frequent, holly occasional, ground flora of ivy, dog's mercury and nettles occasional.	Retained
W385	1.15	Woodland located to the south of Wineham Lane opposite W864. Not accessed for survey.	Retained
W865	0.60	Woodland located to the south of Wineham Lane opposite W864. Not accessed for survey.	Retained
W857	0.72	Woodland located to the south of Wineham Lane to the south of W865. Not accessed for survey.	Retained
W479	0.75	Small stand of woodland located between Partridge Green and Shermanbury along a field boundary, linking to further stands to the northwest, and east. Pedunculate oak and ash, elder, hazel, blackthorn, hawthorn, bluebell. Larger area of woodland (approximately 5.18ha) located to the north beyond proposed DCO Order Limits.	Cleared to 20m
W384	2.21	Woodland strip located along field margins Links to W479 to the north. Not accessed for survey.	Retained
W387	1.04	Woodland strip along field margin to the east of Wineham Lane north of the existing National Grid Bolney substation, dominated by pedunculate oak, with frequent ash, hawthorn; hazel formed the understorey. The ground flora comprised of bluebell, wood avens, stitchwort, primrose, and wood false-brome.	Cleared to 20m



Unique ID	Extent ² (ha)	Description	Retention category
W3712	4.49	Woodland located to the south of Bolney substation, that is partially within the proposed DCO Order Limits in the margins. Canopy of ash and pedunculate oak. Shrub layer comprised field maple, hazel, hawthorn, blackthorn. Ground flora comprised lords and ladies, dog's mercury, bluebell, coltsfoot, bramble, dog rose, chickweed, dock, ivy, garlic mustard, primrose, wood anemone, and lesser celandine. Larger area (approximately 5.45ha) lies to the south extending across Bob Lane.	Permanent loss- to ~0.05ha within the northern extent
W5855	0.34	Located to the east of Wineham Lane, south of the existing National Grid Bolney substation. Not accessed for survey.	Retained
Broadleav	ed woodl	and, plantation	
W47	0.15	Woodland stand along southern embankment of the A27 (Arundel Road) highway near Hammerpot; highway woodland. Not accessed for survey.	Retained
W44	0.18	Woodland stand along southern embankment of the A27 (Arundel Road) highway near Hammerpot; highway woodland. Immature trees comprising ash, cherry, hawthorn, holly and pedunculate oak. Located to the west of W47.	Retained
W6-W7, W10- W14, W16, W23, W25- W29, W30.	11.99	Fourteen parcels of adjoining woodland stands located between Angmering Park and Michelgrove Lane. Canopy dominated by beech, hazel, pedunculate oak, occasional silver birch, cedar, holly and sycamore. No shrub layer recorded, bramble, bracken and ivy form the ground flora. Extensive woodland lies to the east (approximately 159ha in extent) and west (approximately 560ha in extent) of the proposed DCO Order Limits. Also includes W9.	Retained
W5877	0.14	Woodland strip located along the A24 near Washington. Further woodland lies within the proposed DCO Order Limits (W1234). Not accessed for survey.	Retained



Unique ID	Extent ² (ha)	Description	Retention category
W1002	0.23	Woodland strip located along an access track / Public Right of Way (PRoW) east of B2135 (Bines Road) north of Bines Green and west of the River Adur. Dominated by pedunculate oak, elder blackthorn, willow, bramble, rose and ash.	Notched ~4m- for change to PRoW
Coniferou	us woodla	nd-Plantation	
W1206	0.02	Woodland located to the east of the A283 (The Pike), east of Washington. Scot's pine dominant. Shrub layer of sycamore abundant, occasional goat willow and elder. Ground flora composed of common nettle and ground ivy abundant, occasional bramble, coltsfoot, and herb Robert. An extensive area of woodland (approximately 0.97ha) lies to the northwest, beyond the proposed DCO Order Limits.	Retained
W1149	0.0006	Margin of plantation woodland located along Daisy Lane, north of 283 (Washington Road), overlapping with the boundary of the proposed DCO Order Limits, with the remaining extensive (approximately 0.96ha) woodland beyond to the west. Scot's pine plantation with an elder understory and bracken and bare earth at ground. bramble at nettle at woodland margins.	Retained
W591	1.28	Woodland located to the south of Spithandle Lane, south of Ashurst, located immediately to the north of AW 5822. Not accessed for survey. A further stand of plantation woodland (approximately 0.49ha in extent) is located to the north beyond the proposed DCO Order Limits.	Retained
Mixed wo	odland- S	emi-natural	
W1238	0.0004	Margin of woodland located to the west of the A24, south of Storrington Road, to the west of Washington. The main stand located (approximately 9.08ha in extent) immediately to the north of the proposed DCO Order Limits. Pedunculate oak frequent, plus a conifer species. Ash and sycamore occasional; the understorey was dominated by hazel, with hawthorn and holly frequent. Ash saplings	Retained



Unique ID	Extent ² (ha)	Description	Retention category
		rarely recorded. Ground flora comprised abundant wood false brome and bramble, enchanter's nightshade, and herb Robert.	
W1064	0.37	Strip of woodland located to the south of The Pike, east of Washington. Further woodland (approximately 2.18 ha in extent) lies to the south of the proposed DCO Order Limits. Woodland comprised of ash, Californian redwood, bird cherry and red beech. Hazel and elder understory with bramble and nettle shrub layer which extends to the road. Standing and fallen deadwood present. Stock proof fencing was noted but was defunct with rabbit presence recorded.	Retained
W505	0.68	Strip of woodland located along a field margin to the northeast of Partridge Green and Shermanbury. Dominated by pedunculate oak, occasional hawthorn and English elm, frequent willow, Scots pine and ash were recorded rarely. Ground flora was dominated by dock species, bramble, ivy, and grasses, and slender tare was recorded occasionally.	Cleared to 30m
Mixed woo	odland- P	lantation	
W1203	0.03	Margins of woodland lying to the north of The Pike, east of Washington, with the majority lying beyond the proposed DCO Order Limits. Not accessed for survey.	Retained
W8	0.19	Strip of mixed plantation woodland recorded on the southern margin of a larger stand of broadleaved plantation (of which 13 stands lie within the proposed DCO Order Limits: W6-W30). Located to the west of Michelgrove. Dominated by hazel, elder, European larch, hawthorn, and pedunculate oak. Extensive woodland lies to the east (approximately 159ha in extent) and west (approximately 560ha in extent) of the proposed DCO Order Limits.	Retained



Unique ID	Extent ² (ha)	Description	Retention category
W2, W3, W32-W36	0.0003	Margins of woodland overlapping with an existing access route of the proposed DCO Order Limits extending west from Angmering Park; Extensive woodland lies to the east (approximately 159ha in extent) and west (approximately 560ha in extent) of the proposed DCO Order Limits. Predominantly beech with pedunculate oak, silver birch, cedar and holly with ground flora of bracken, and ivy.	Retained
W1103	0.1	Woodland strip located to the west of Water Lane, south of Wiston. An NVC survey was undertaken within this woodland, known as Workhouse Copse. This woodland strip contained a mixture of mature coniferous and broadleaved trees dominated by Scot's pine and sweet chestnut. A single veteran Scot's pine was also recorded. The understory contained beech, sycamore and cherry and occasional holly, elder English elm and field maple. Coppiced hazel was frequent. The field layer was dominated by bluebell and wood anemone with lesser celandine frequent, occasional dog's mercury, lords-and-ladies, hard shield-fern, primrose, white dead-nettle and red campion.	Retained
W1415	0.0002	Margin of woodland on the boundary of the proposed DCO Order Limits, with approximately 0.12ha lying beyond to the west along the eastern boundary of Oakendene Industrial Estate. An overgrown line of cypress with occasional sycamore, cherry and field maple. Bare ground beneath.	Retained
Other woodland: Broadleaved woodland- semi-natural: recently felled			lled
W18	0.66	Recently cleared woodland dominated by ash, with pedunculate oaks, and hazel. Further extensive woodland lies to in all directions within the proposed DCO Order Limits, and beyond. Located to the north of W15 and west of W19 and W31.	Retained



3.5 Broadleaved woodland -semi-natural

- Clusters of broadleaved semi natural woodland were recorded in locations across 77 locations over a total of 40.73ha as follows:
 - South west of the River Arun around Climping;
 - South facing slopes of Sullington Hill and discrete stands west of Washington, east of Wiston and south of Ashurst; and
 - Between Shermanbury and Monastery, and north of Wineham, and between Cowfold and Bolney with concentrations along Kent Road and Wineham Lane.
- Dominant canopy species included pedunculate oak, ash, beech or sycamore. Occasional species such as English elm, hornbeam, white poplar, and horse chestnut were also recorded. In addition, non-native tree species such as holm oak, cedar and London plane were occasionally recorded in the canopy. Lime species were recorded rarely.
- Typically, the sub-canopy included silver birch, goat willow, alder and aspen. The shrub layer species usually comprised of dominant field maple or bramble, with frequent elder, hawthorn, blackthorn, and hazel. In addition, occasional guelder rose, rowan, holly, dog rose, gorse, dogwood, apple and spindle were also recorded.
- Ground flora species included ivy, common nettle, ground ivy, common hogweed, pendulous sedge, broadleaved dock, garlic mustard, red campion, enchanter's nightshade and germander speedwell. Oak saplings were recorded frequently. Grass species included barren brome, false oat-grass, and cock's foot. Other species recorded that were indicative of ancient woodland (AWIs) included dog's mercury, butcher's broom, Lords-and-ladies, bluebell, yellow archangel, primrose, wood-false brome, lesser celandine, wood avens, hairy brome, wood spurge, and wood melick. Bracken was recorded in only four stands and was only occasionally present. Furthermore, either standing dead wood or fallen dead wood was recorded in many woodland stands. Approximately 1.7ha was not accessible for detailed survey.
- Six of the stands surveyed were also noted to have ancient characteristics, in addition to the presence of AWIs: W713, W1416, W5284, AW5818, AW5822. A total of 0.22ha of this broadleaved semi-natural woodland is also identified as Ancient woodland on the Priority Habitats Inventory (see **Figure 22.3.2a-h**, **Annex A**). A total of seven stands were also noted to meet the criteria for Lowland mixed deciduous woodland. **Section 3.2** provides further detail on HPI.

3.6 Broadleaved woodland- plantation

- This habitat type was also recorded scattered throughout the Survey Area, across a total of 51.66ha, in 23 locations.
- Stands were typically young to semi-mature in age, and less than 1ha in extent. Often trees had been planted into an existing woodland. Species that dominated the canopy included species such as pedunculate oak, ash, sycamore, beech,



- cherry, willow. In addition, non-native plantation was also recorded: horse chestnut, white poplar, and red oak.
- The shrub layer was typically dominated by hazel, hawthorn, field maple, English elm, rose, elder, with occasional holly and rowan also recorded.
- Woodland ground flora was not recorded in many of the stands due to shading and lack of woodland management. The ground flora of often recorded to be bare ground or leaf litter. However, some woodland plantations did support a speciespoor ground flora, comprising ground-ivy, dog's mercury, silverweed, cleavers and bluebell. A total of 13 stands were also noted to meet the criteria for Lowland mixed deciduous woodland. **Section 3.2** provides further detail on HPI.

3.7 Coniferous woodland- plantation

This habitat type was also recorded, across a total of 1.31ha, in three locations. Species recorded comprised a canopy dominated by Scot's pine, with occasional Douglas fir and spruce. Ground flora species included bracken, bramble and common nettle.

3.8 Mixed woodland- semi-natural

- This habitat type was recorded across a total of 0.43ha, in three locations within the central section of the Survey Area, near Washington.
- Mixed woodland was recorded in small stands in the general vicinity not exceeding 0.8ha in extent. Species comprised ash and pedunculate oak with occasional sycamore. Coniferous species were recorded rarely and included Scot's pine Douglas fir and spruce species. The understorey was generally comprised of hawthorn, English elm, hazel, blackthorn and bird cherry.

3.9 Mixed woodland- plantation

- This habitat type was recorded across a total of 0.32ha, in 12 locations between Climping and Littlehampton and between Shermanbury and Wineham.
- Typically, these stands were less than 1ha in extent and tended to be dominated by broadleaved species such as pedunculate oak, sycamore, poplars, ash, beech and lime with some coniferous/pine species including Leyland cypress and Scot's pine. Ground flora species frequently included common nettle, wood false-brome and bramble. In addition, occasional enchanters' nightshade, bluebell, cleavers and herb-Robert were also recorded. One stand was also noted to meet the criteria for Lowland mixed deciduous woodland. **Section 3.2** provides further detail on HPI.

3.10 Neutral grassland-semi-improved

This habitat type was recorded across 70.8ha, in 11 locations, clustered at the Sussex Downs National Park, Lyminster and around Partridge Green.



- Grasses dominated this habitat type with species including perennial ryegrass, Yorkshire fog, false oat-grass, creeping bent, annual meadow grass, cock's foot, meadow foxtail, crested dog's tail, smaller cat's-tail, and soft brome.
- Forbs included white clover, docks and thistle species, ribwort plantain, field bindweed, creeping cinquefoil, autumn hawkbit, common nettle, bird's foot trefoil, cuckoo flower, great willowherb, bugle, red clover, meadow buttercup, common fleabane, speedwell species, dandelion species, hawkweed species, fat hen, greater plantain, tufted vetch, black knapweed, cut-leaved crane's-bill, bristly oxtongue, hogweed, grass vetchling and red bartsia. In damper areas, water mint and creeping buttercup were more dominant.
- A total of 0.004 ha of semi-improved neutral grassland within the proposed DCO Order Limits is also identified as coastal and floodplain grazing marsh on the Priority Habitats Inventory (see **Figure 22.3.2a-h**, **Annex A**). This habitat was located near landfall, surrounded by arable fields. **Section 3.2** provides further detail on HPI.

3.11 Poor semi-improved grassland

- This habitat type was scattered in 55 locations throughout the Study Area over a total of 64.51ha, between Climping and Hammerpot, Washington, Ashurst to Shermanbury, with the greatest areas recorded east of Monastery and Cowfold.
- Poor semi-improved grassland was dominated by grasses such as Yorkshire fog, cock's foot, tall fescue, false oat grass, meadow foxtail, red fescue, perennial ryegrass, soft brome, barren brome, Timothy, bent species, annual meadow grass, small cat's- tail, sweet vernal-grass, rough meadow grass and wall barley.
- Forbs included broad-leaved dock, common fleabane, white and red clover, redshank, burdock, docks, common toadflax, creeping thistle, teasel, smooth bedstraw, common nettle, dandelion, sheep's sorrel, creeping buttercup, ragwort species, agrimony, cinquefoil, stitchwort, common sorrel, slender tare, spear thistle, bird's- foot trefoil, common knapweed, field bindweed, hemp agrimony, pineappleweed, spear thistle, yarrow, ox-eye daisy, white campion, red campion, smooth bedstraw, cow parsley, lesser stitchwort, ground ivy, pennyroyal, hogweed, greater plantain and burdock. Some swards were noted to be dominated by rushes or broadleaved dock.
- In general, poor semi-improved grassland was associated with farmland that has been left fallow or is inaccessible to machinery in recent years. Thereby, allowing the described species above to naturally colonise. In many of these habitats, the vegetation cover was patchy and fragmented with no obvious signs of grassland management recorded.
- A total of 0.003 ha of poor semi-improved grassland within the proposed DCO Order Limits is also identified as coastal and floodplain grazing marsh on the Priority Habitats Inventory (see **Figure 22.3.2a-h**, **Annex A**). This habitat was located near landfall, surrounded by arable fields **Section 3.2** provides further detail on HPI.
- A total of 0.38ha of this habitat type recorded within the proposed DCO Order Limits was not fully accessed for survey.



Scrub- Dense / continuous or scattered

- This habitat type was scattered throughout the Study Area across a total of 22.04ha, in 78 locations and tended to be located at field margins. Species recorded within this habitat type comprised hawthorn, blackthorn, bramble, goat willow, dogwood, elder, hazel, field rose, field maple, holly, and traveller's joy. Herbs associated with this habitat type included bindweed, common nettle, dandelion, hogweed, couch grass, creeping thistle, and ragwort species.
- 3.11.8 Scattered scrub was often recorded as a linear feature which was the remnant of a hedge, dominated by bramble and hawthorn.
- Young black poplar was recorded within two lines of scrub (HS48 and HS5803) in Climping.

3.12 Hedgerows

- A total of 236 hedgerow were recorded within the Study Area equating to a total of 50.26km.
- Full details of hedgerow assessment can be found within at Appendix 22.5:

 Hedgerow survey report, Volume 4 of the ES (Document Reference 6.4.22.5).

 This Appendix details findings of hedgerow surveys undertaken for all hedgerows that were accessed within the Study Area.
- 3.12.3 In summary, all six hedgerow types were recorded within the Study Area:
 - Intact hedge: native, species-rich;
 - Intact hedge: native, species-poor;
 - Defunct hedge; native, species-rich;
 - Defunct hedge: native, species-poor;
 - Hedge with trees: native, species-rich; and
 - Hedge with trees: native, species-poor.
- In general, hedgerows were either dominated by hawthorn or blackthorn. In addition, frequently observed species such as elder, dogwood, ash, oak, English elm, hazel, field maple willow, holly, rose and spindle were also recorded.
- Hedgerows were recorded at arable field margins, improved grassland margins, along roadsides and associated within boundaries to private gardens. Most hedgerows were degraded due to lack of good quality management, such as replanting or stock-proofing. However, many of the hedgerows provided suitable habitat to a range of protected and notable species. The ground flora associated with the hedges was frequently species-poor, and reflective of enrichment due to adjacent agricultural land management; species recorded included common nettle, broadleaved dock, spear thistle, bristly ox-tongue, hogweed and creeping thistle.
- For several hedges the flora was more representative of more mature and species-rich hedges, and the ground flora comprised of a more woodland-type species complement such as herb-Robert, primrose, spindle saplings, lords-and-



- ladies, including the ancient woodland indicators primrose, bluebells, and dog's mercury.
- 3.12.7 Young black poplar was recorded within Hedgerow H19, in Climping, south of the River Arun.

3.13 Parkland and scattered tree - broadleaved

This habitat type was recorded across 56 locations spread throughout the Study Area across a total of 21.90km included scattered broadleaved trees and tree lines. Species recorded included pedunculate oak, ash, horse chestnut, field maple, sycamore, lime. In addition, poplar, occasional apple, silver birch, hawthorn, Norway maple, goat and grey willow were also recorded. Young black poplar was recorded within two tree lines (W52 and W388) in Climping, south of the River Arun.

Parkland and scattered tree - mixed

Again, this habitat type included scattered trees and tree lines but conifers were recorded only occasionally. Species recorded were pedunculate oak, yew, sycamore, Scot's pine, lime and ash. In addition, occasional horse chestnut, yew, Leyland cypress, pine species, aspen, blackthorn and hawthorn were also recorded. This habitat was recorded across six locations over a total of 1.4km.

Hardstanding

Hardstanding was recorded over 14.55ha, in 99 locations, as access roads / tracks, railway sidings and lines, within residential areas, and industrial areas of farms. It was not possible to access this habitat type in many locations, and notes were made from PRoW and mapping undertaken from a review of satellite imagery.

3.14 Amenity grassland

Amenity grassland was recorded in six locations across 1.36 ha and was associated with road verges and residential areas. Species included perennial ryegrass, dandelion, red fescue, Yorkshire fog, yarrow, self-heal, ragwort species, white clover, ground ivy, bird's-foot trefoil. Example habitat use include campsites, church grounds and private gardens.

Quarry

This habitat type was recorded in one location to the north of Washington. It was noted to be an active site, dominated by bare earth with early colonising ruderal species emerging in less disturbed areas. Trees species such as silver birch was noted to be growing at the banks and slopes.



Bare ground

Bare ground constituted access tracks, bare areas within horse paddocks, carparks, and footpaths.

3.15 Calcareous grassland -unimproved

- This priority habitat was recorded in two locations across 7.2ha within the proposed DCO Order Limits; both within the South Downs National Park. One compartment was 7.06ha in area located on the south western aspect of Sullington Hill, with the second location located along Chantry Lane being 0.14ha in extent; associated with the Amberley Mount to Sullington Hill Site of Special Scientific Interest (SSSI).
- These grasslands supported calcareous grassland species such as bird's foot trefoil, common milkwort, common knapweed, parsley piert, small-flowered buttercup and thyme leaved sandwort.
- This habitat is also identified as lowland calcareous grassland on the Priority Habitats Inventory (see **Figure 22.3.2a-h**, **Annex A**). **Section 3.2** provides further detail on HPI.

Shingles / cobbles

This habitat was recorded across a total of 3.66ha, as sparsely vegetated shingle along Climping Beach in two locations.

Intertidal - mud / sand

This habitat was recorded in three locations across 2.67ha; one was recorded on Climping beach and two lay along the southwest bank of the River Arun near Climping, is also identified as intertidal mudflats on the Priority Habitats Inventory (see **Figure 22.3.2a-h**, **Annex A**).

3.16 Marsh / marshy grassland

- This habitat type was recorded across 1.7ha, in six locations and tended to be a linear feature associated with drainage ditches that were dominated by tussocky uncut grasses, and unmanaged margins of fields. A total of 1.67ha of this habitat type could not be fully accessed for survey.
- A total of 1.51 ha of marshy grassland within the proposed DCO Order Limits is also identified as coastal and floodplain grazing marsh on the Priority Habitats Inventory (see **Figure 22.3.2a-h**, **Annex A**). These habitats were located mainly within the Arun Valley and Adur Valley, with three smaller land parcels located east of Partridge Green and Cowfold. The grasslands were typically unmanaged, lower lying field margins and located between to areas of improved grassland that were used for grazing and drainage ditches and streams. **Section 3.2** provides further detail on HPI.



3.17 Neutral grassland unimproved

This habitat type was recorded in one location across a total of 0.0001 ha as part of an area of grassland that lies beyond the proposed DCO Order Limits along the southern bank of the River Adur near Climping. This habitat was also identified as coastal and floodplain grazing marsh on the Priority Habitats Inventory (see Figure 22.3.2a-h, Annex A). The grassland was typically unmanaged, lower lying field margins and located between to areas of improved grassland that were used for grazing and drainage ditches and streams. Section 3.2 provides further detail on HPI.

3.18 Tall ruderal vegetation

This habitat was recorded across a total of 0.37ha, in 10 locations. Species recorded within this habitat type comprised common nettle, creeping thistle, bristly ox-tongue, hogweed, buttercups, Canadian fleabane, willowherbs, cow parsley, cleavers, curled and broadleaved dock, and bramble.

3.19 Calcareous grassland - semi-improved

- This habitat was predominantly recorded within the central section of the Study Area associated within the Sussex Downs National Park, in four locations comprising a total of 0.25ha. The largest extent 0.23ha- was recorded in a field margin located south of Chantry Lane.
- Plant species recorded that are indicative of calcareous soil included bird's-foot trefoil, yellow rattle, lady's bedstraw, black knapweed, greater knapweed, toadflax and common poppy.
- Other plant species recorded at this habitat also include perennial rye-grass, red fescue, crested dog's tail, Yorkshire fog, soft brome, false oat-grass, cock's-foot, and Timothy, four seeded vetch, ribwort plantain, greater plantain, white clover, red clover, yarrow, broad-leaved dock, ragworts, self-heal, creeping buttercup, silverweed, common daisy, crosswort, wild strawberry, cut-leaved crane's-bill, hogweed, ground ivy, speedwells, creeping thistle, white and red campion, shepherds' purse, smooth sow thistle, dove's-foot crane's-bill, greater burdock, spear thistle, sheep's sorrel, lesser stitchwort, agrimony, great willowherb, hairy willowherb, teasel, tufted vetch, and cowslip.
- This habitat is also identified as lowland calcareous grassland on the Priority Habitats Inventory (see **Figure 22.3.2a-h**, **Annex A**). **Section 3.2** provides further detail on HPI.

Coastal grassland

This habitat type was recorded in one area, 0.15ha in extent, located along the southern bank of the River Arun, near Climping.



Ephemeral / short perennial

This habitat type was recorded across a total of 0.04ha, in one location Between an arable field and the southern bank of the River Arun. Species included ground ivy, bramble, cinquefoil species, speedwell, and cow parsnip.

Buildings

Building structures were recorded in two locations within the proposed DCO Order Limits and comprised a wooden shelter for livestock and an open barn.

3.20 Dry ditch

This habitat type was recorded across the Study Area, over a total of 7.26km, in 27 locations. Common reed was the dominant plant species with frequently recorded rosebay willowherb, common nettle, field bindweed, hogweed, purple loosestrife, sedges, reedmace, gypsywort, reed canary grass, bulrush, great willowherb and agrimony. This habitat type was associated mainly with networks of arable fields and also featured as a component of the Coastal and flood plain grazing marsh Priority habitat type near Climping and Bines Green (see **Figure 22.3.2a-h**, **Annex A**).

3.21 Other habitats

The 'Other habitats' category was recorded in several locations within the Study Area. This habitat type was predominantly located at industrial areas. Example habitat types that were recorded under this include spoil, brick/stone walls and fences.

3.22 Priority Habitats

- The following Priority habitats (or Habitats of Principal Importance) were recorded within the Study Area:
 - Coastal and floodplain grazing marsh there were 16 areas of grassland that were characteristic of the priority habitat type 'flood plain grazing marsh', refer to Figure 22.3.2a-h, Annex A. This priority habitat type was recorded as follows:
 - CFGM153 and CFGM229- strips of grassland along the boundary of the proposed DCO Order Limits near Climping Street;
 - CFGM5841 within the proposed DCO Order Limits along the southern bank of the River Adur in Climping;
 - CFGM1420, CFGM1590, CFGM2022, CFGM2238 in the proposed DCO Order Limits in Climping north of the River Adur;
 - CFGM3010, CFGM3004, CFGM3002, CFGM3016, CFGM3001 and CFGM1846 - all located within the proposed DCO Order Limits around the Black Ditch north of Climping;



- ► CFGM999 -the margin of a field located immediately south of the proposed DCO Order Limits to the east of Bines Green; and
- ► CFGM5835 and CFGM5842 located in the proposed DCO Order Limits between the B2135 and A281, south of Partridge Green and Shermanbury, close to streams connecting to the River Adur.
- Lowland mixed deciduous woodland areas characteristic of this priority woodland were recorded across 21 stands, over a total 16ha within the Study Area. This priority habitat type was recorded as follows:
 - W50 and W46, W45 near Hammerpot;
 - Numerous concurrent stands of woodland to the west of Michelgrove/ east of Wepham (W6-W8, W10-W14, W16, W23, W25-W29, W30); and
 - W5284 and W1416 on the southwestern slope of Sullington Hill.
- Lowland calcareous grassland a small number of fields were recorded to support this priority habitat type. These were recorded in three locations across 0.25ha as follows:
 - ► CG1187- the margins to a field located at the base of Chantry Lane, with a larger field located to the north beyond the proposed DCO Order Limits;
 - ► CG1310 a strip of grassland located between large arable fields, 0.5km south of CG1187; and
 - CG1329- field margin located to the south of Chantry Lane opposite CG1187.
- Intertidal Mudflats this habitat was recorded in two locations on Climping beach and a further area lay along the southwest bank of the River Arun near Climping; and
- Hedgerows all 236 hedgerows recorded within the proposed DCO Order Limits were characteristic of the Hedgerows priority habitat type.

3.23 Waterbodies / watercourses

Waterbodies / watercourses were recorded intersecting the entire Study Area. Waterbody types recorded included ponds, lakes, river, streams/brooks, and ditches. **Table 3-2** describes these further.

Table 3-2 Waterbodies and Watercourses recorded during field survey

Туре	Description	
Ponds	Ten waterbodies classed as ponds were recorded within the proposed DCO Order Limits.	
Lakes	No waterbodies classed as lakes were recorded within the proposed DCO Order Limits.	



Туре	Description
Rivers	Two major rivers were recorded within the Study Area. These were the River Arun and River Adur. In addition, many tributaries of these rivers extend throughout the proposed DCO Order Limits.
Streams / brooks	A total of four steams/brooks were recorded within the Study Area. In order of south to north these were the Ryebank Rife, Black Ditch, Pepper Pond, and Cowfold Stream.
Ditches ⁴	A total of 38 ditches were recorded, totalling 12km in length, with running or stagnant water. These were located in the main to the north of the South Downs National Park; from south to north this habitat type was recorded around Climping and Littlehampton, around Washington, and from Wiston to the northern limit of the proposed DCO Order Limits.

3.24 Protected and rare plant species

Notable Species

- 3.24.1 The following protected and rare plant species were recorded within the Survey Area:
 - bluebell (Schedule 8 of the Wildlife and Countryside Act 1981);
 - black poplar (Sussex Biodiversity Action Plan (BAP) Species);
 - small-flowered buttercup (locally common); and
 - rough poppy (locally common).

3.25 Legally controlled plant species

Invasive plant species were recorded in five discrete locations. A summary is presented below in **Table 3-3**.

Table 3-3 Invasive plant species recorded during field survey

Species	Distance and direction	Extent / notes
Cotoneaster	Within proposed DCO Order Limits to the east of Water Lane.	Within hedgerow H208.
Himalayan balsam	Within proposed DCO Order Limits to the east of Water Lane.	Within hedgerow H208, along bank of stream.

⁴ Note, this figure represents individual ditches that were not associated with a hedgerow. Refer to the hedgerow report for ditches associated with hedgerows.



Species	Distance and direction	Extent / notes
Japanese knotweed	Within the proposed DCO Order Limits - to the east of Water Lane, east of Washington.	Within a strip of improved grassland G1306.
Rhododendron	Within the proposed DCO Order Limits- to the west of Wineham Lane near the junction with Bob Lane	Recorded within broadleaved plantation woodland W561.
Snowberry	Within the proposed DCO Order Limits along the northern and southern verges of King's Lane near the junction with Kent Street.	Small patches within hedgerows H481 and H484.

3.26 Legally protected species

Table 3-4 indicates habitat suitability of the phase 1 habitats recorded within proposed DCO Order Limits to legally protected species.

Table 3-4 Habitat types of suitability to legally protected species that are present within the proposed DCO Order Limits

Legally protected species	Suitable phase 1 habitat type to this species/ group
Badger	All woodland types, all grassland types, arable fields and scrub.
Bats	Broadleaved woodland, semi-improved grassland, hedgerows, tree lines and standing and running water.
Breeding and wintering birds	Broadleaved woodland, hedgerows, scrub, arable fields and their margins, running water, ditches and reedbeds.
Hazel dormouse	Broadleaved woodland, hedgerows and scrub.
Riparian mammals	River and ditches.
Reptiles	Unimproved grasslands, semi-improved grassland, poor semi-improved grassland, dense scrub, tall ruderal vegetation, marginal areas of ponds, rivers and ditches.



Legally protected species	Suitable phase 1 habitat type to this species/ group
Great crested newts	Unimproved grasslands, semi-improved grassland, poor semi-improved grassland, hedgerows, broadleaved woodland, ponds and ditches.
Invertebrates	Unimproved grasslands, semi-improved grassland, poor semi-improved grassland, broadleaved woodland, hedgerows, scrub, rivers, ditches and ponds.

3.27 Deviations, constraints and limitations

- During the 2021-2022 suite of Phase 1 habitat surveys, occasionally these were undertaken at a sub-optimal time of year that is during autumn / winter, when plant species are generally less apparent / visible and cannot be identified. Although it was possible to record the broad habitat types within the Phase 1 Study Area the list of those species documented should not be treated as exhaustive. These seasonal constraints can also lead to invasive species being missed.
- The dense nature of some areas of scrub / hedgerow and the presence of vegetation may have reduced the visibility and presence of protected species' field signs. Areas have been described as having potential for protected species where the habitat was assessed as suitable, but field signs were not observed often due to dense scrub or limited access.
- 3.27.3 Access was limited in certain locations, which is acknowledged by habitat type above.
- For watercourses where access was limited, detailed habitat-based assessments were carried out from the nearest accessible point.



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4. Summary

- 4.1.1 The Extended Phase 1 habitat surveys undertaken between 2020 2022 recorded the presence of a range of habitat types. Several of these are characteristic of priority habitats, these were:
 - Ancient woodland;
 - Lowland mixed deciduous woodland;
 - Rivers;
 - Ponds;
 - Floodplain and coastal grazing marsh;
 - Hedgerows;
 - Lowland calcareous grassland;
 - Lowland neutral grassland; and
 - Intertidal mud flats.
- Further botanical assessment of these priority habitats was undertaken. Full details of habitat assessment and classification can be found within the NVC report Appendix 22.4: National Vegetation Classification survey report 2021-2022, Volume 4 of the ES (Document Reference 6.4.22.4).
- Full hedgerow assessment of hedgerow importance can be found within report **Appendix 22.5: Hedgerow survey report, Volume 4** of the ES (Document Reference 6.4.22.5).
- 4.1.4 Bluebell and black poplar were the only legally protected plant species recorded within the Study Area. In addition, locally common species such as small-flowered buttercup was also recorded on Sullington Hill in very low abundance. Rough poppy was also recorded during the surveys, in field margins within locations outside of the proposed DCO Order Limits.
- Invasive non-native plant species were recorded scattered within the proposed DCO Order Limits. These species were as follows:
 - Cotoneaster:
 - Japanese knotweed;
 - Rhododendron; and
 - Snowberry.
- 4.1.6 A range of habitat suitable to support the following protected species was present as follows:
 - Badger;
 - Bats:



- Breeding and wintering birds;
- Hazel dormouse;
- Water vole;
- Otter;
- Widespread reptiles;
- · Great crested newt; and
- Protected and rare invertebrate species.



5. Glossary of terms and abbreviations

Term (Acronym)	Definition
MHWS	Mean High-Water Springs
HDD	Horizontal Directional Drill is an engineering technique avoiding open trenches.
JNCC	Joint Nature Conservation Committee is the public body that advises the UK Government and devolved administrations on UK-wide and international nature conservation.
Development Consent Order (DCO) Application	An application for consent under the Planning Act 2008 to undertake a Nationally Significant Infrastructure Project made to the Planning Inspectorate who will consider the application and make a recommendation to the Secretary of State, who will decide on whether development consent should be granted for the Proposed Development.
Public Rights of Way (PRoW)	The laws in England and Wales provide you with the right to walk, ride, cycle and drive in public rights of way in the countryside. Public rights of way include footpaths, byways and bridleways.
Site of Special Scientific Interest (SSSI)	Sites designated at the national level under the Wildlife & Countryside Act 1981 (as amended). They are a series of sites that are designated to protect the best examples of significant natural habitats and populations of species.
НРІ	Habitats of Principal Importance
ВАР	Biodiversity Action Plan



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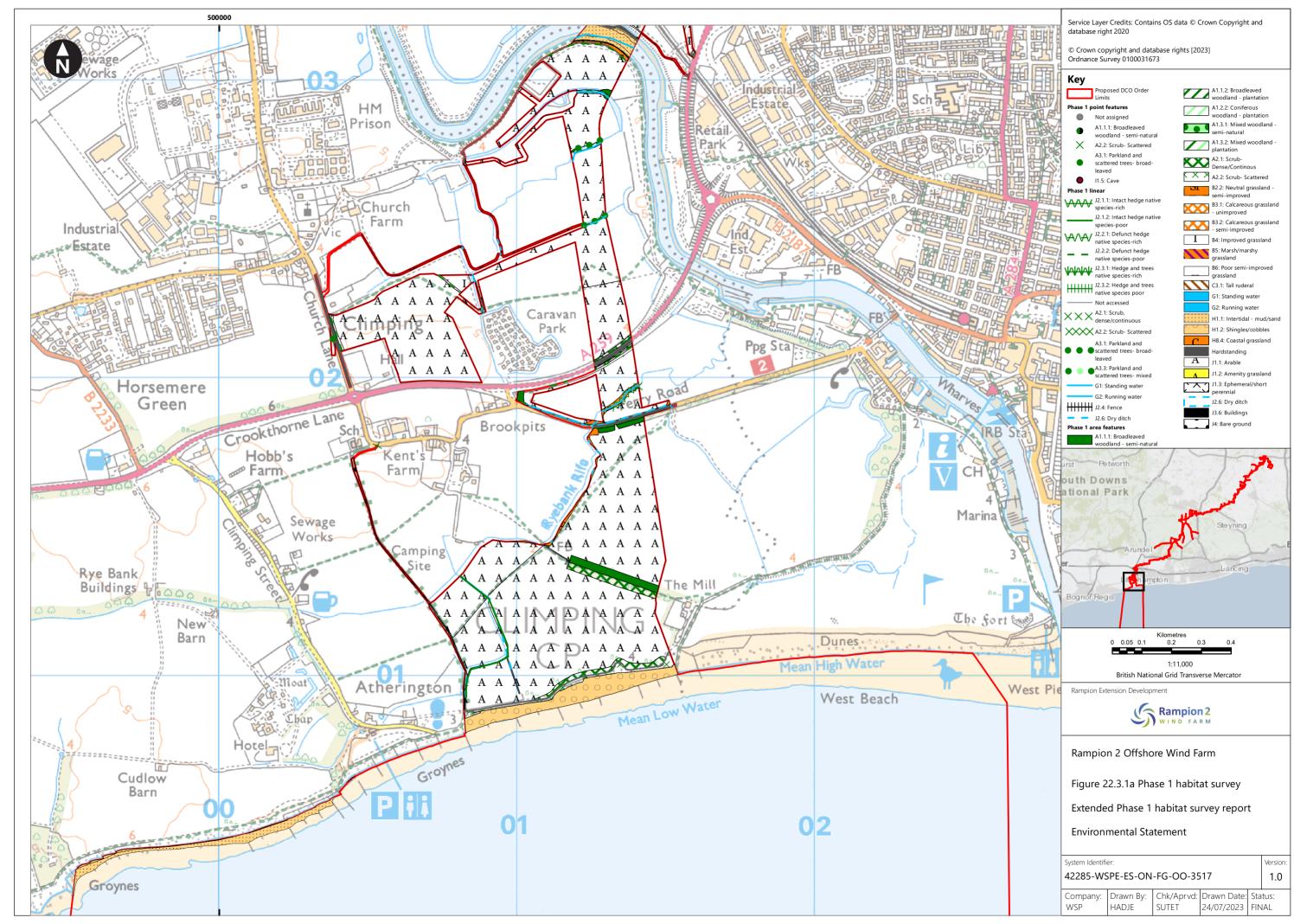
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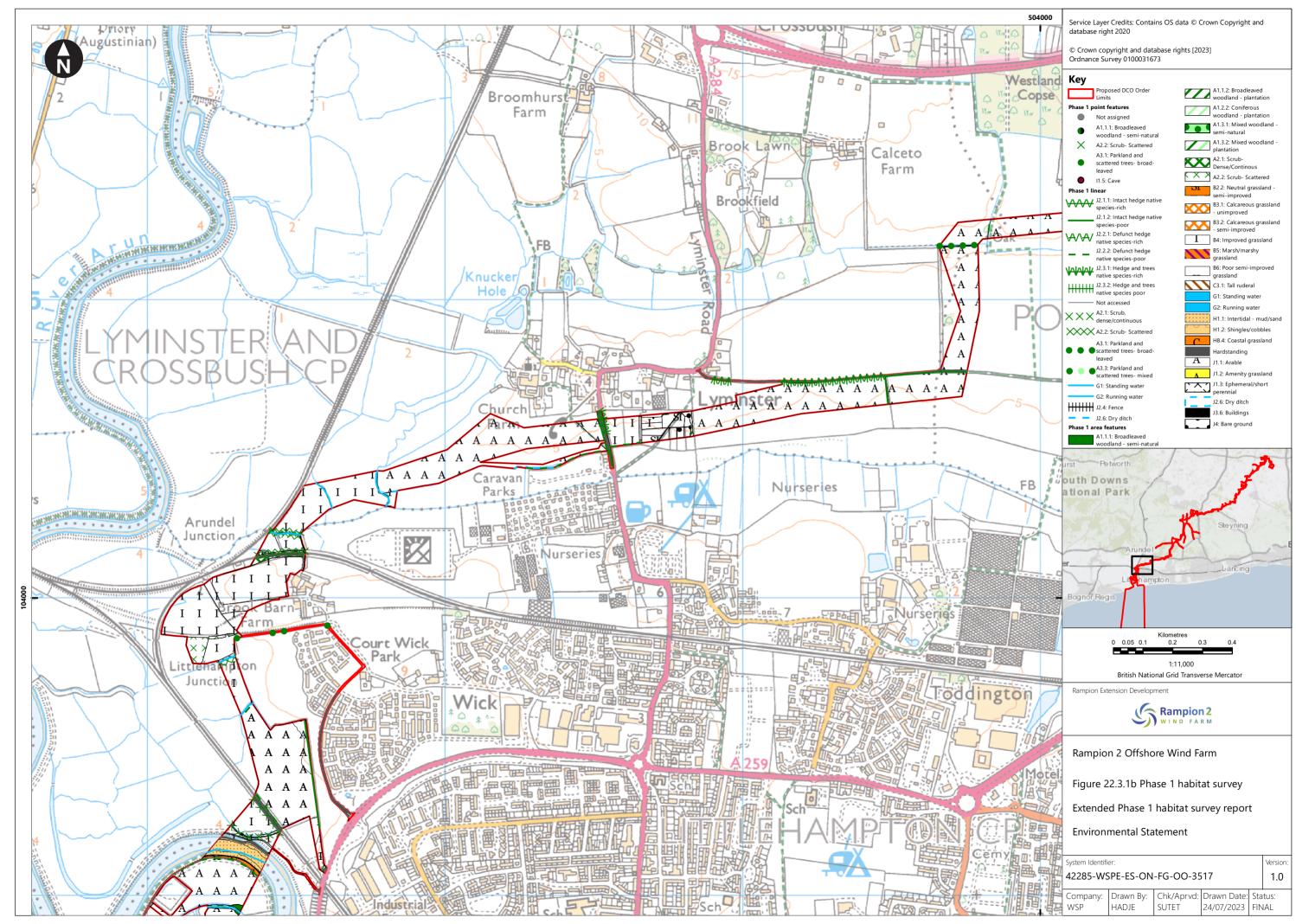


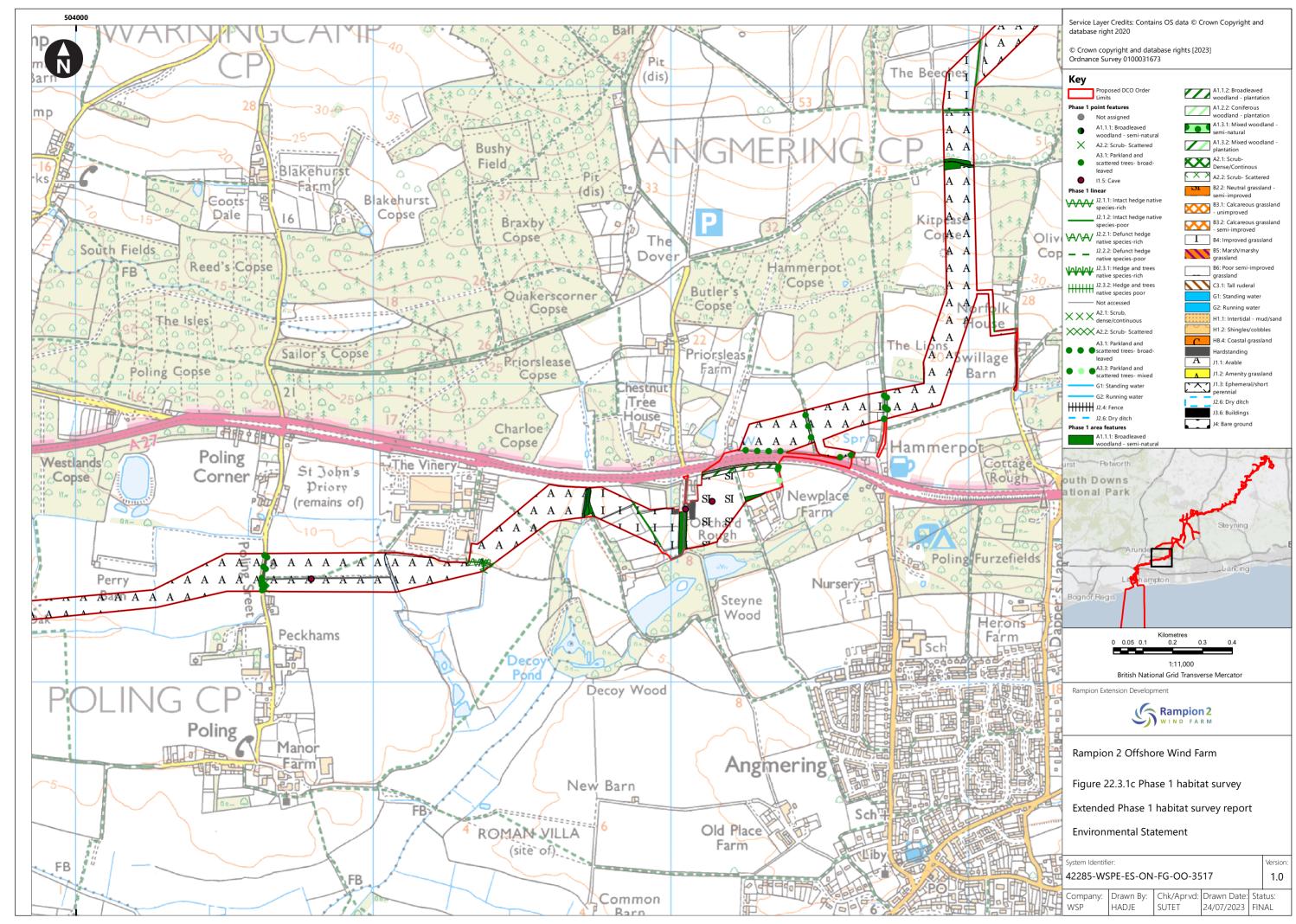
Annex A Figures

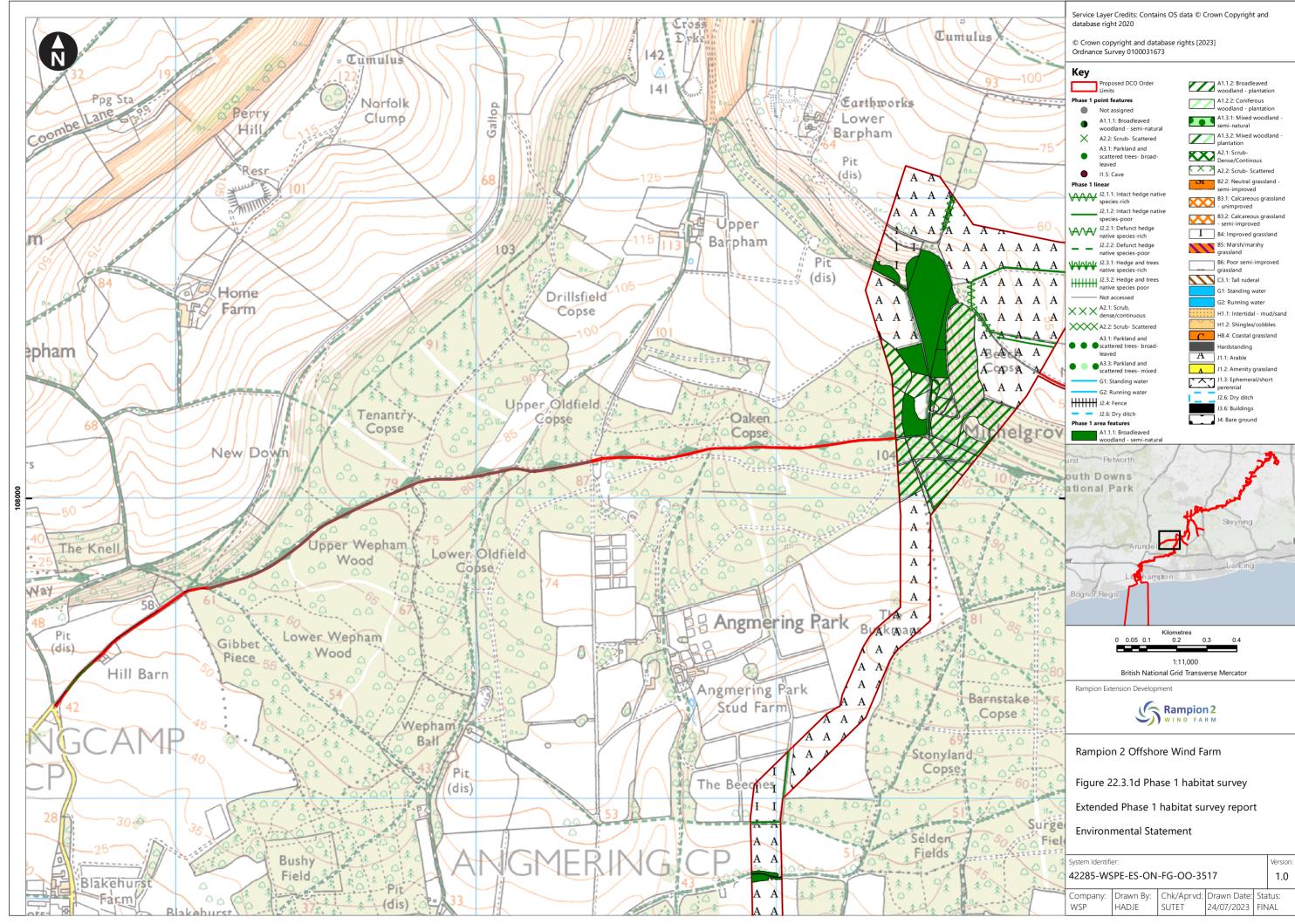


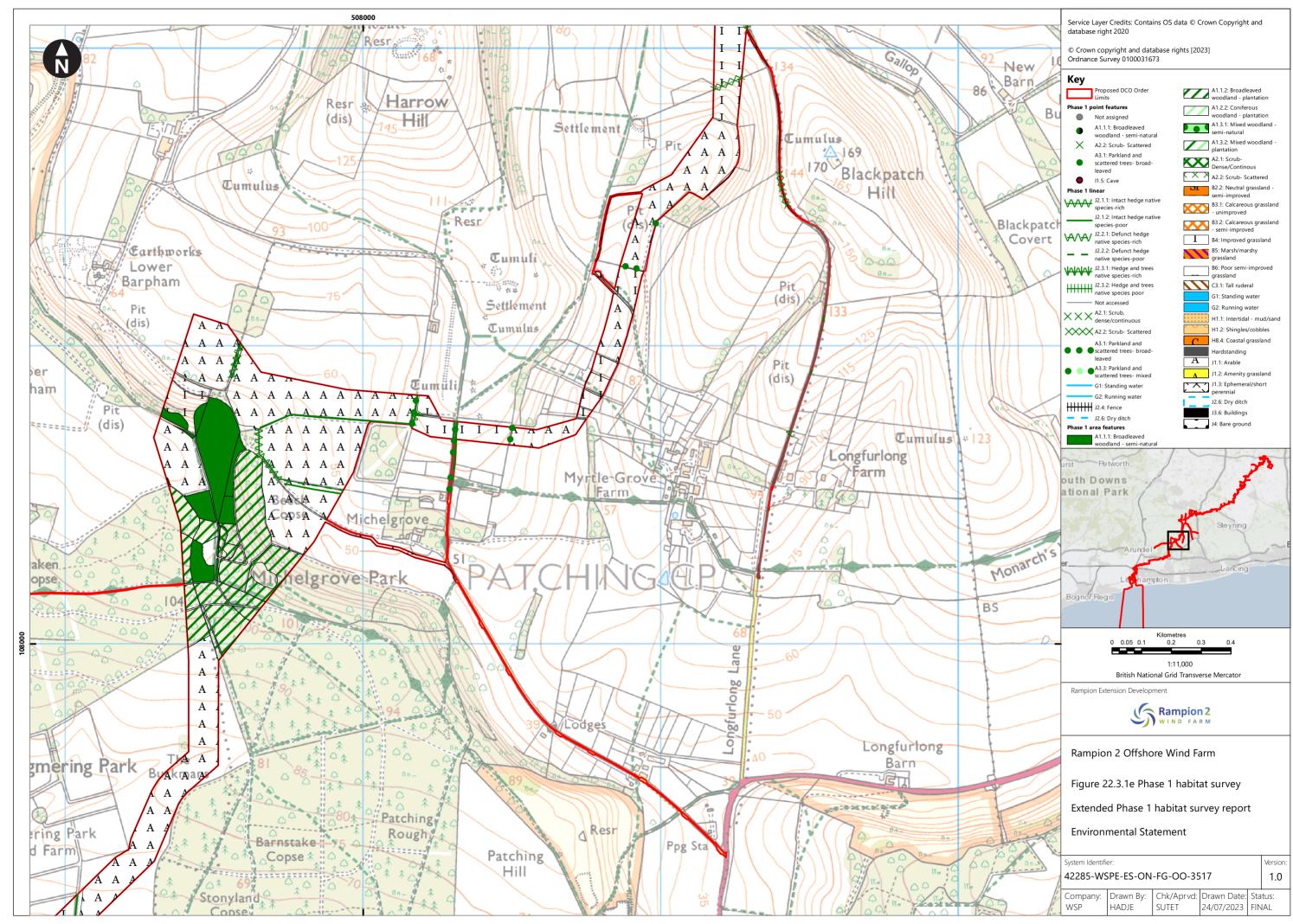
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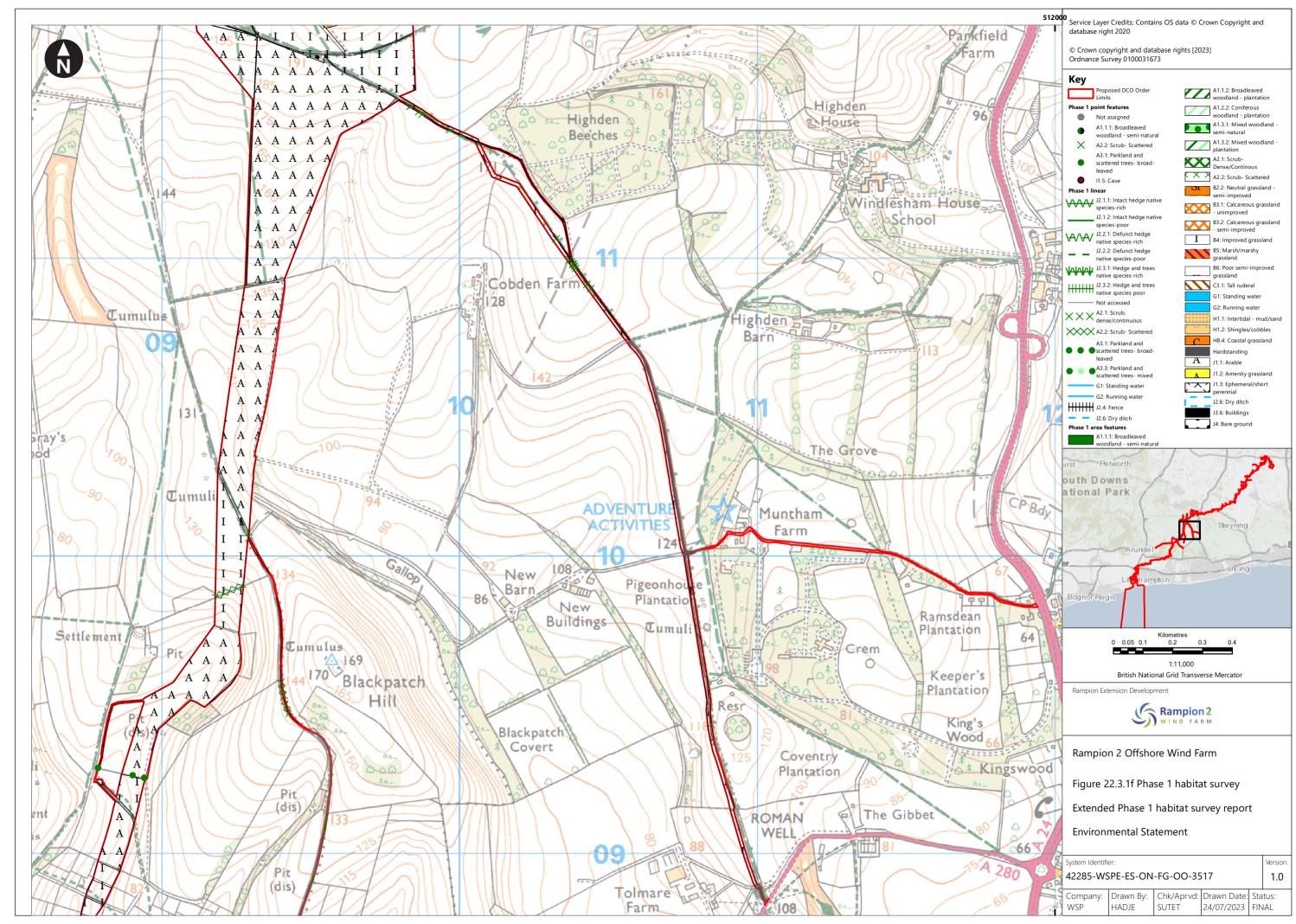


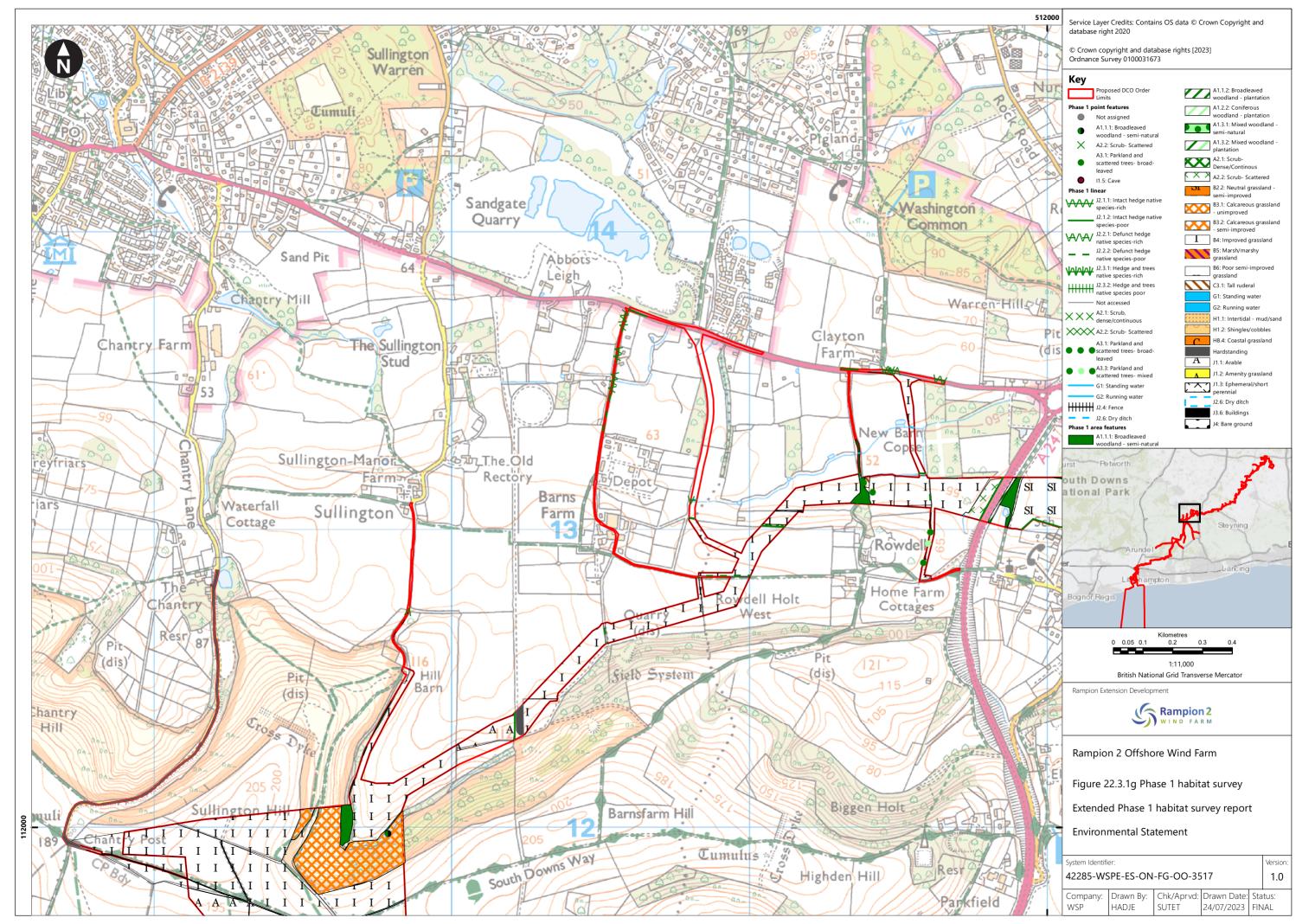


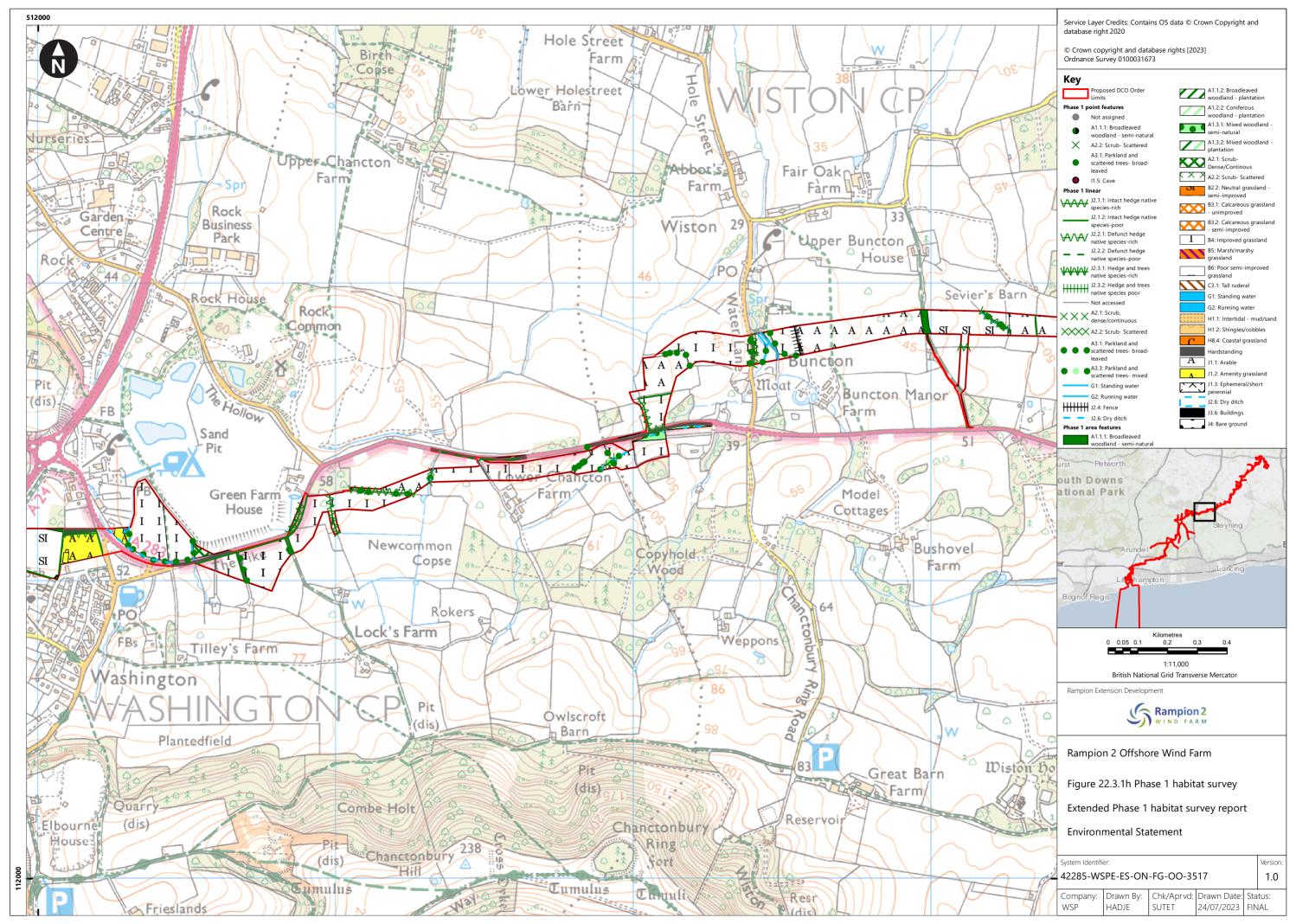


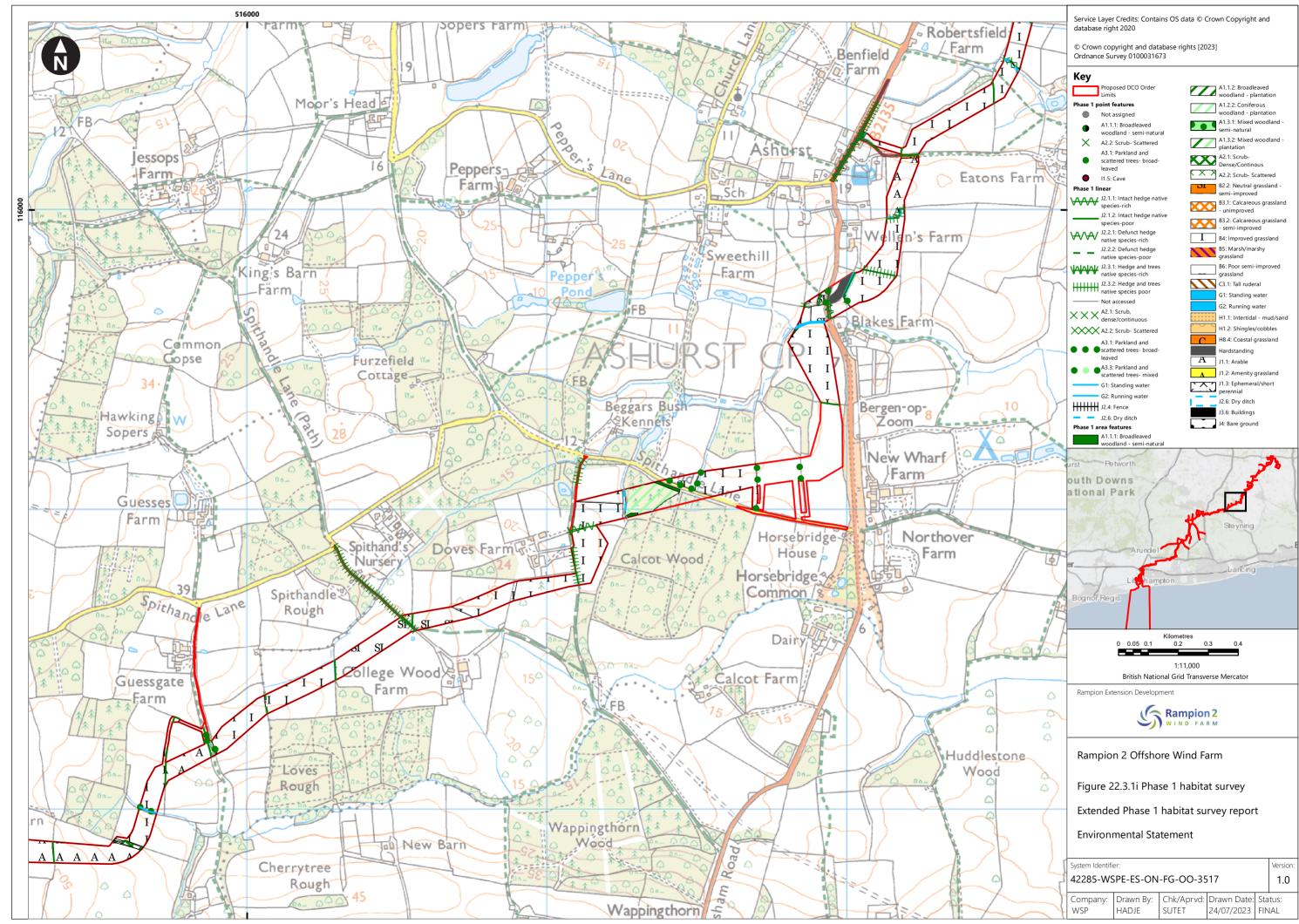


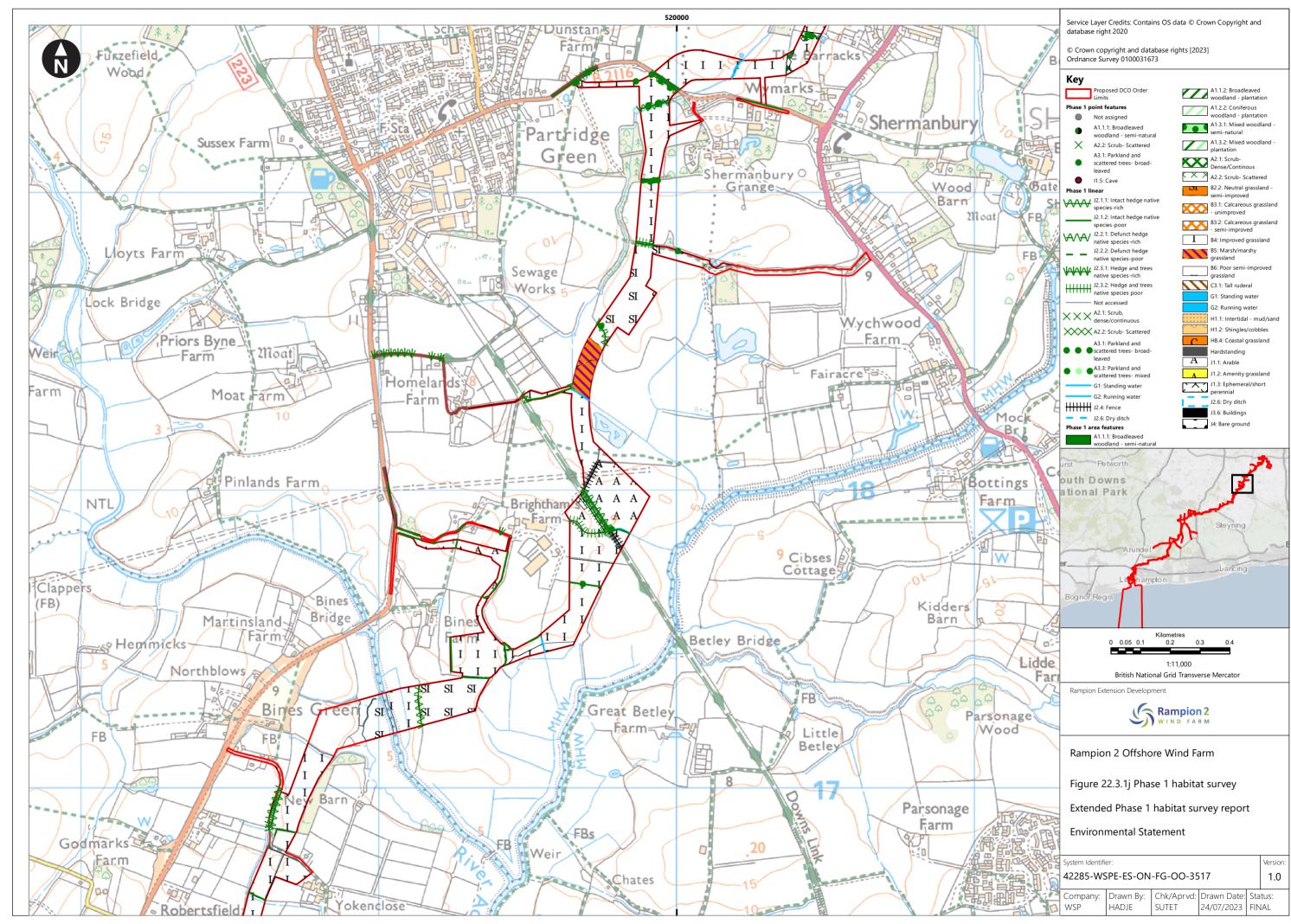


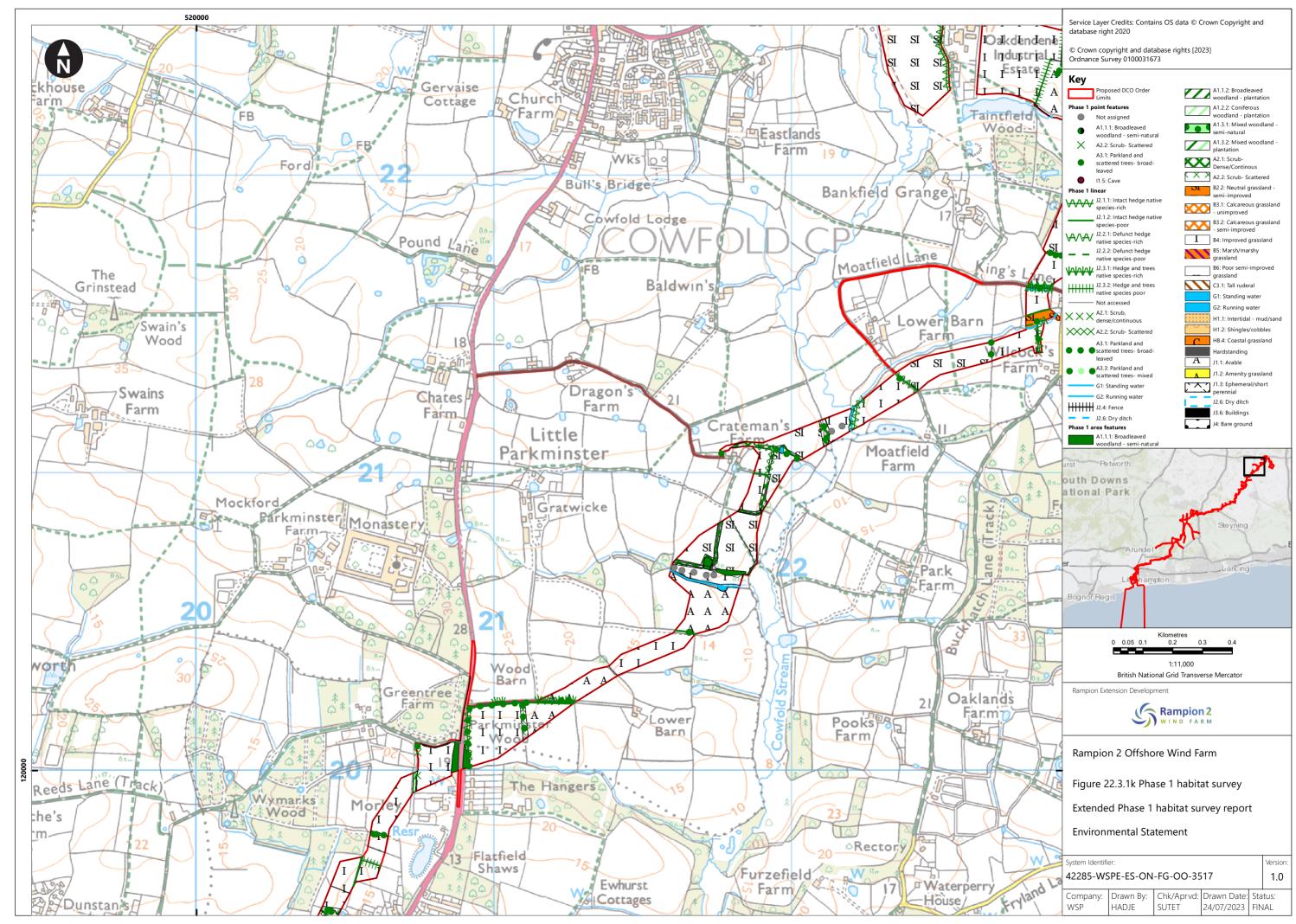


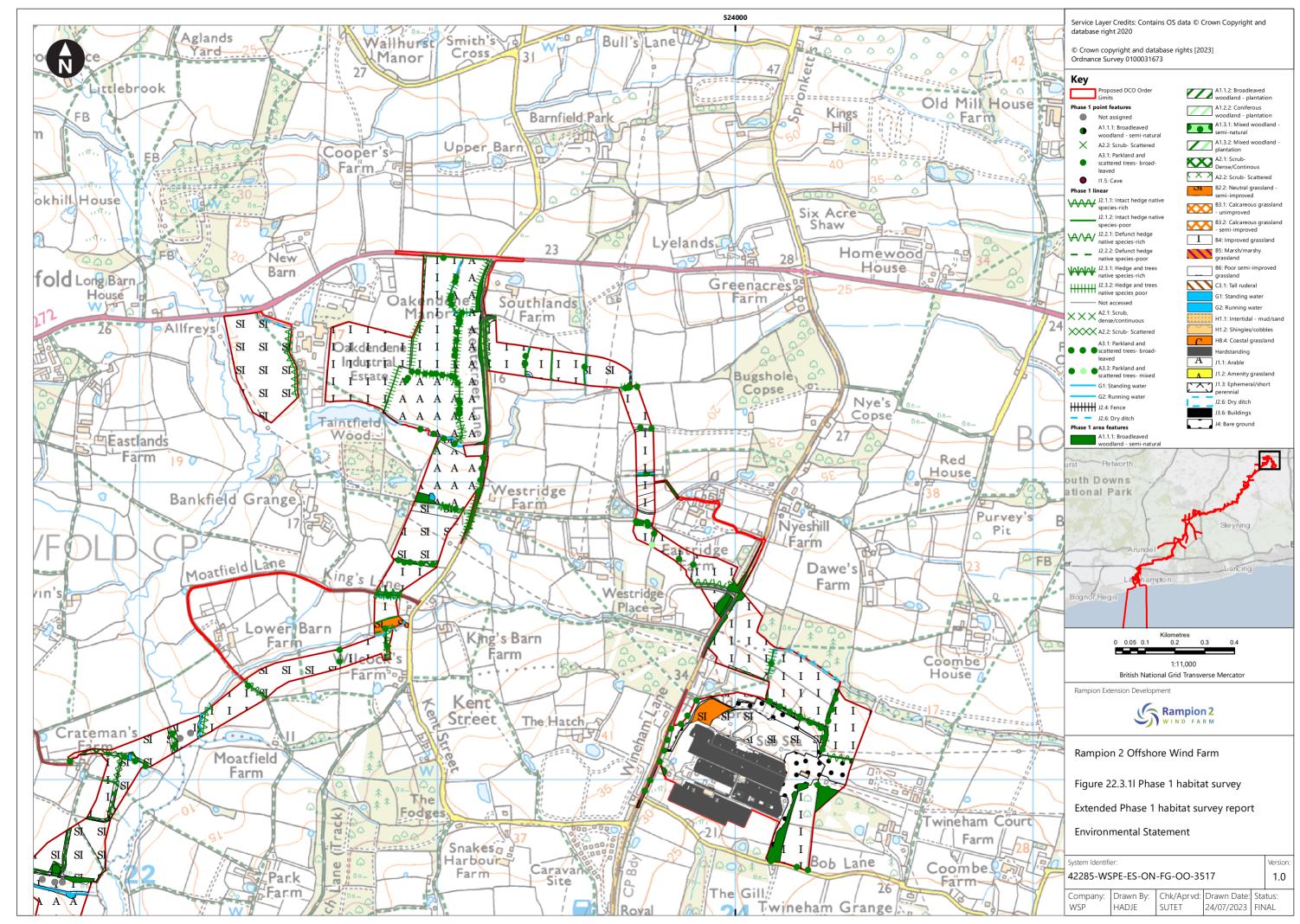


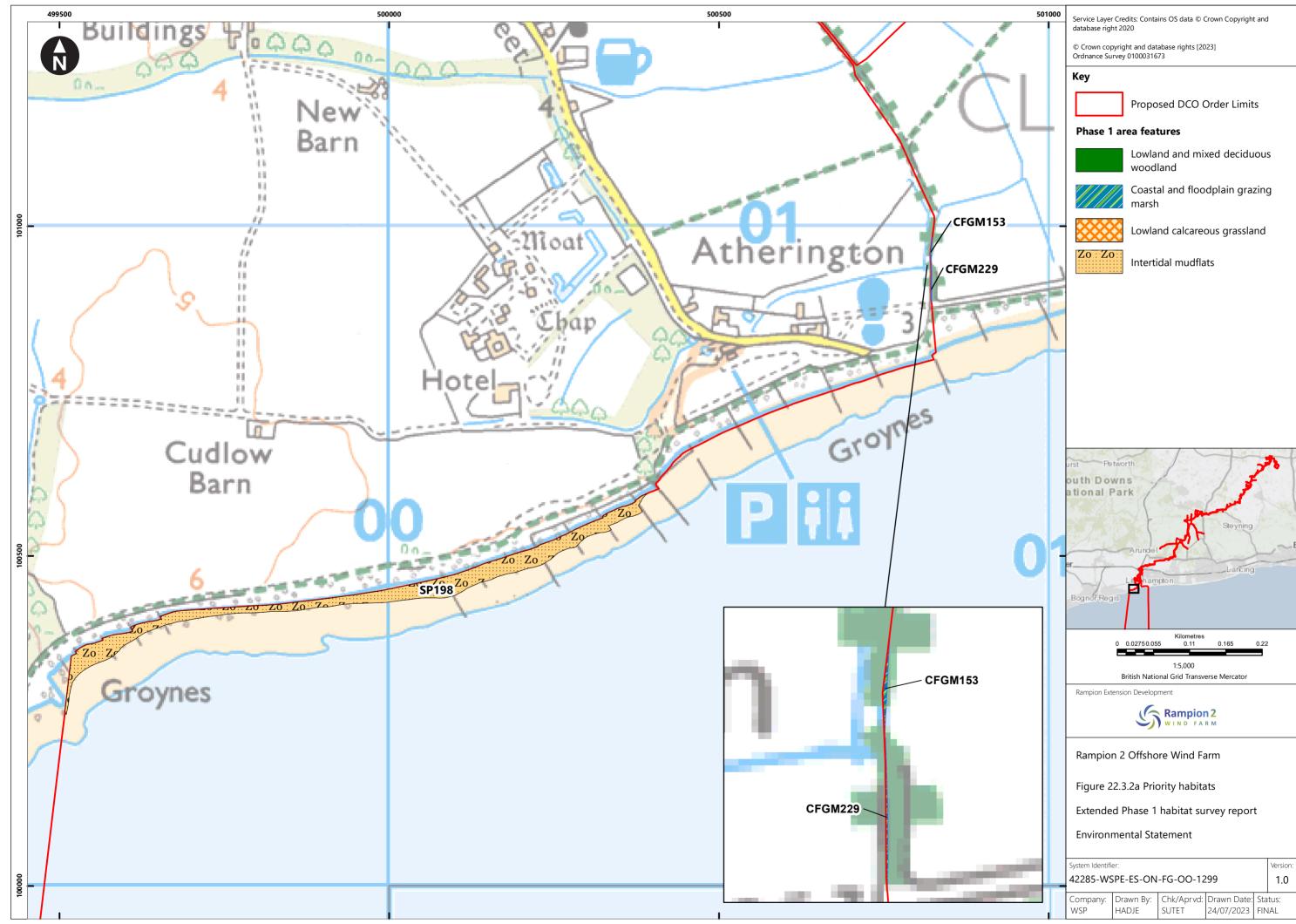


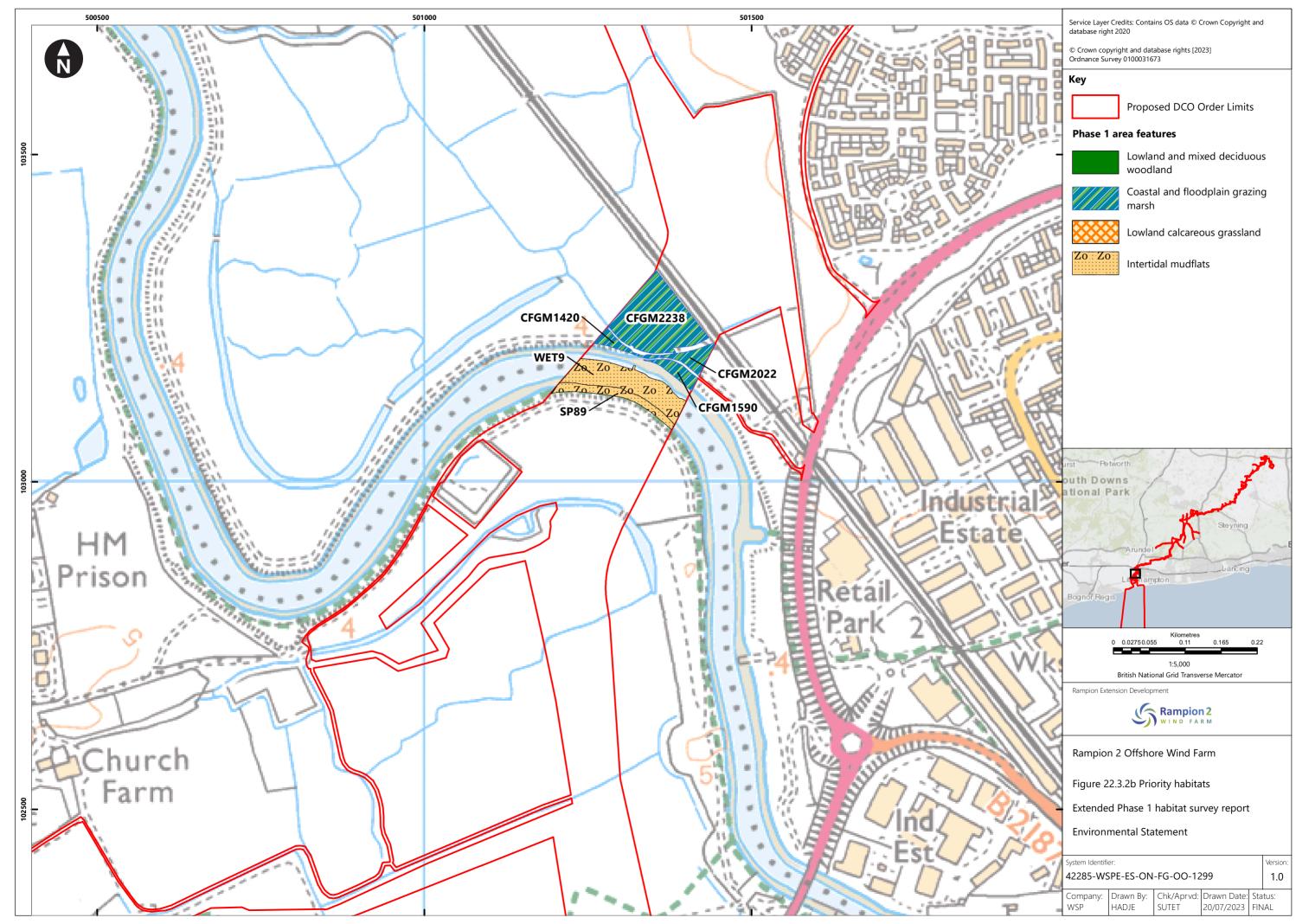


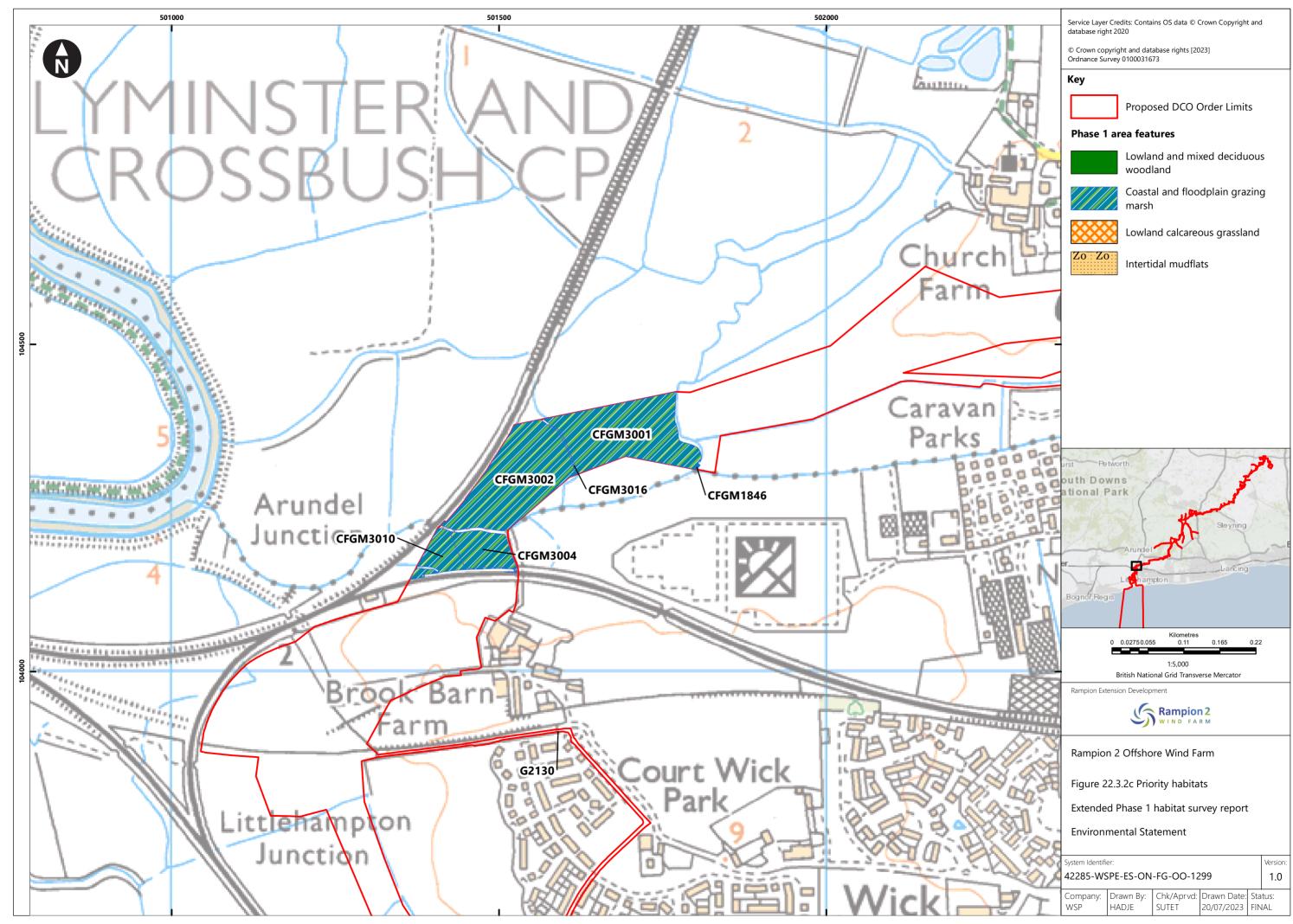


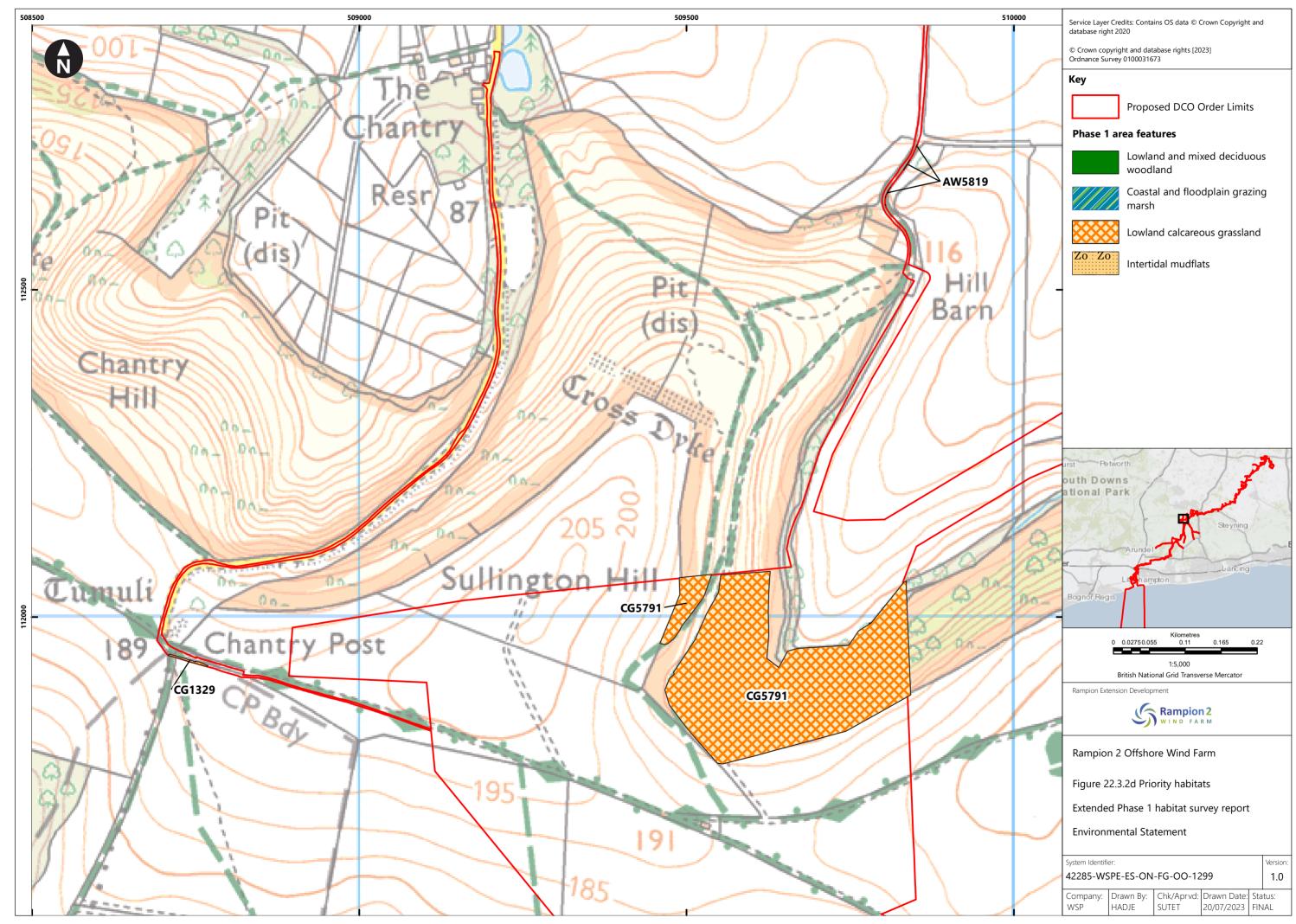


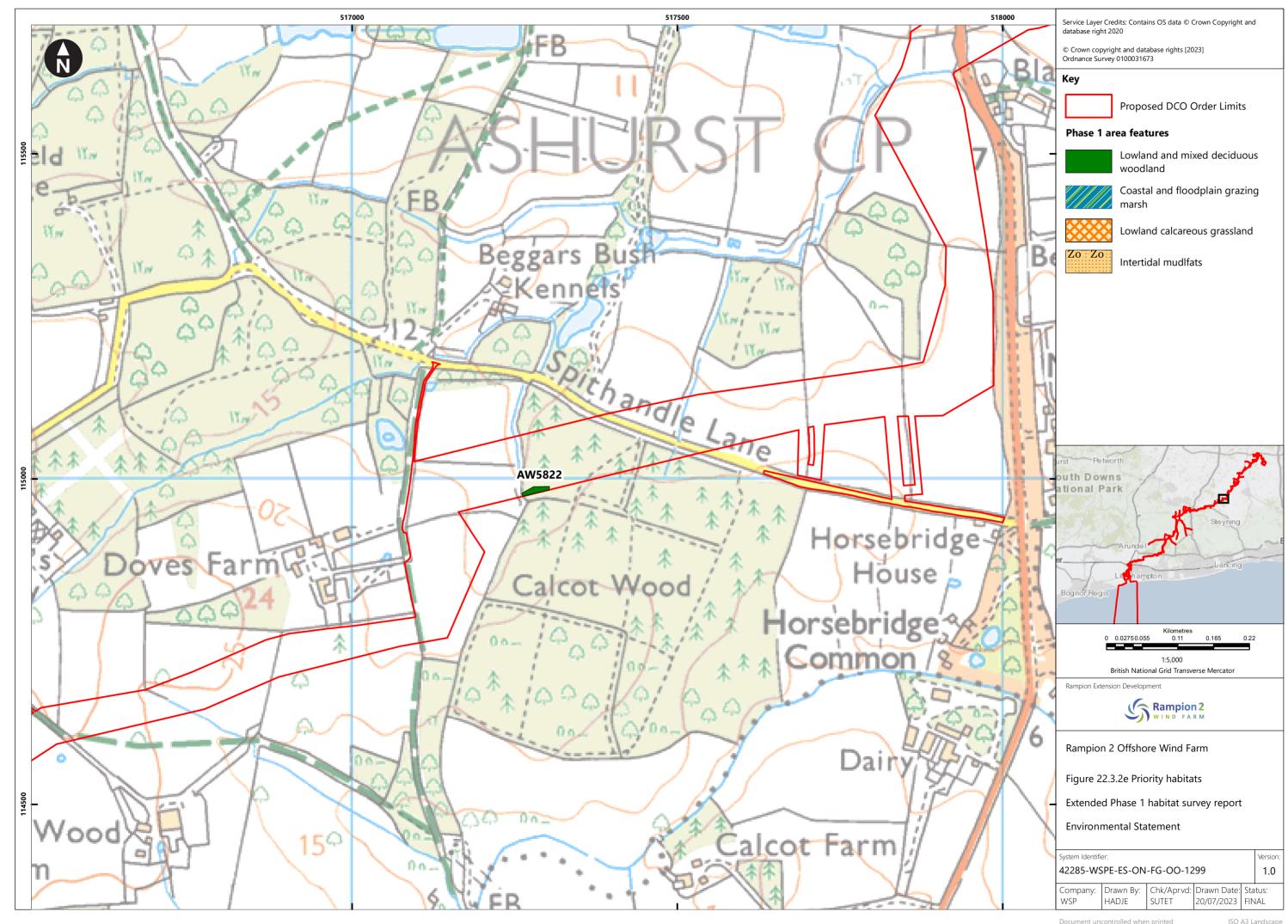


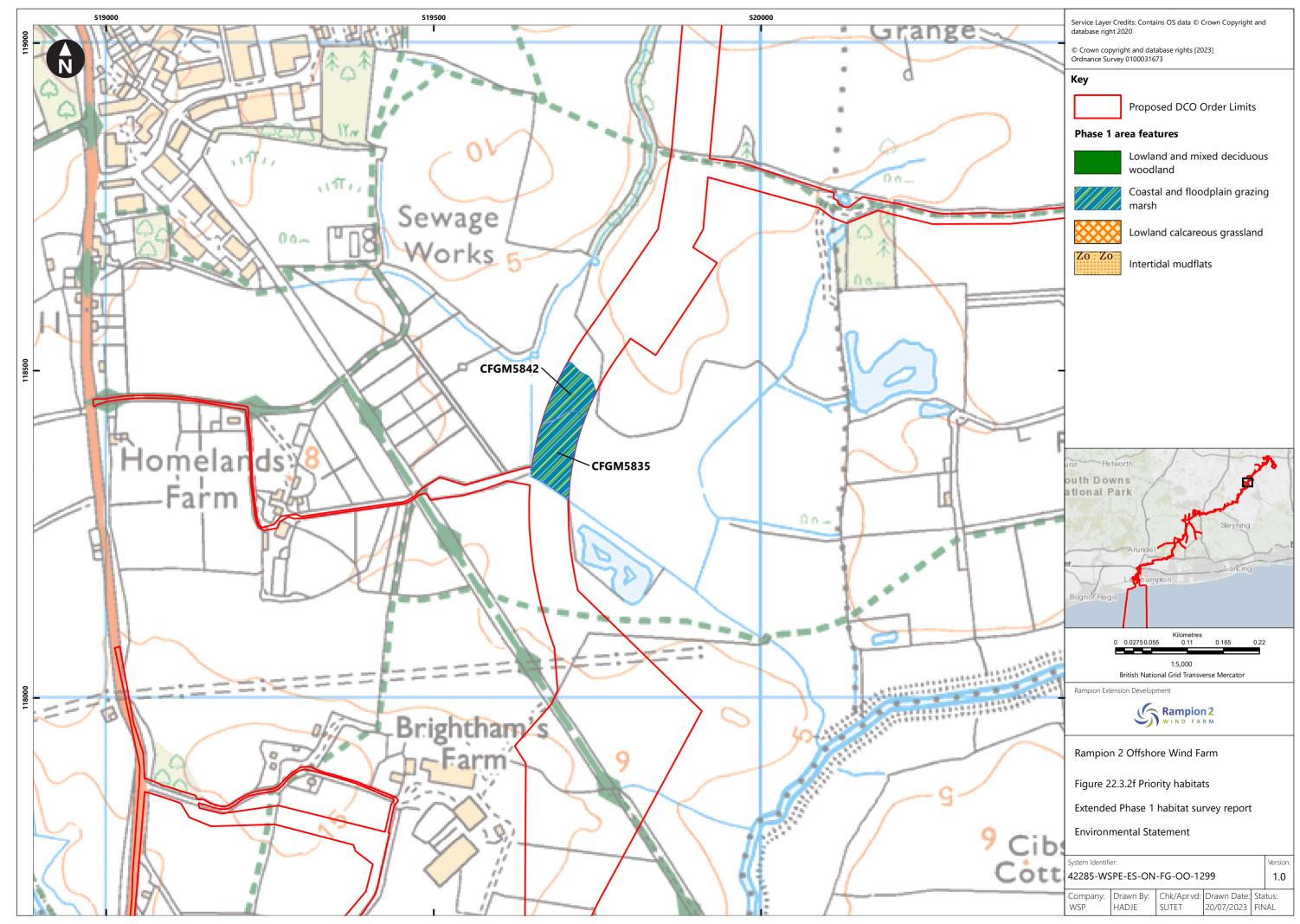


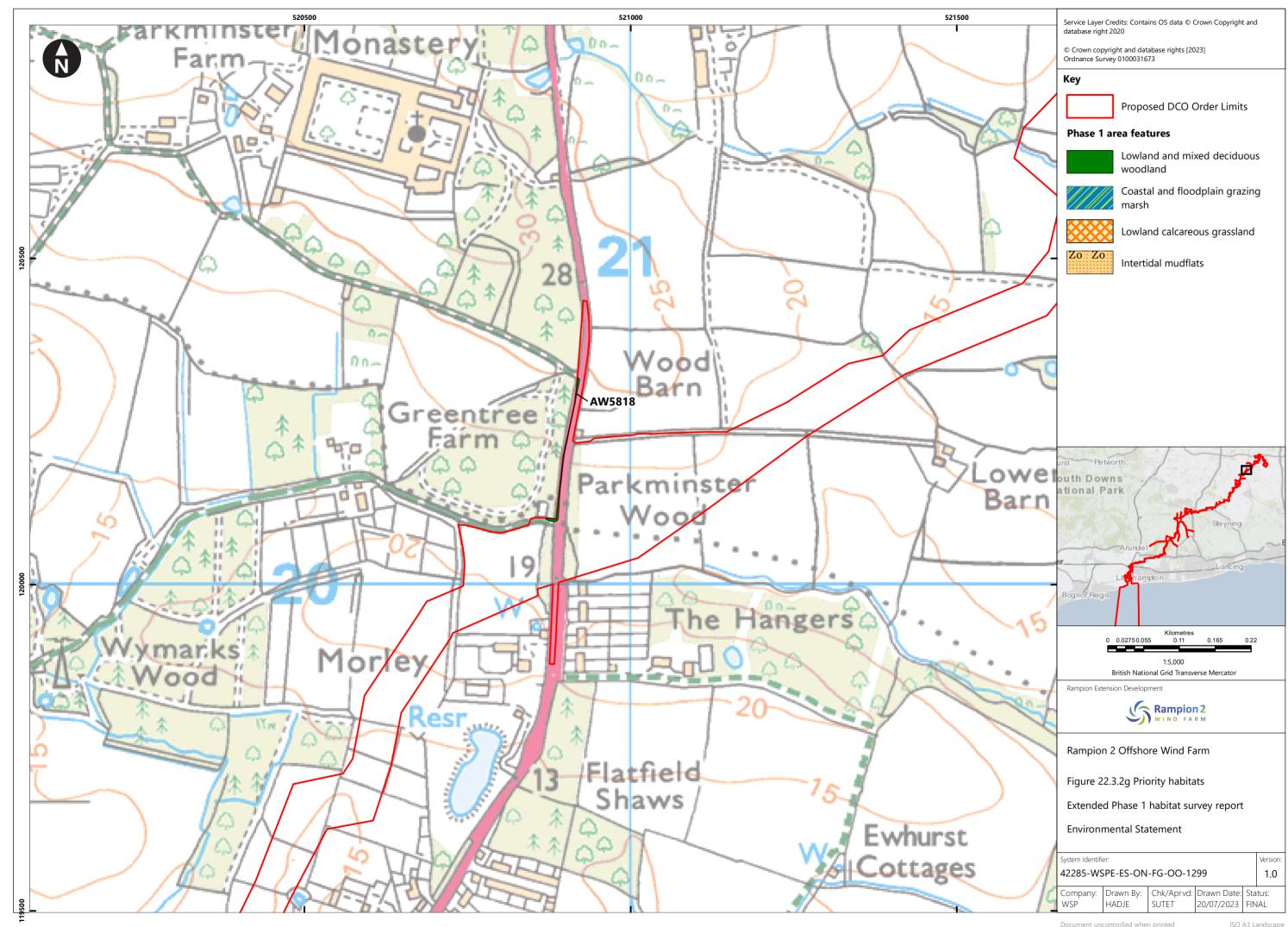


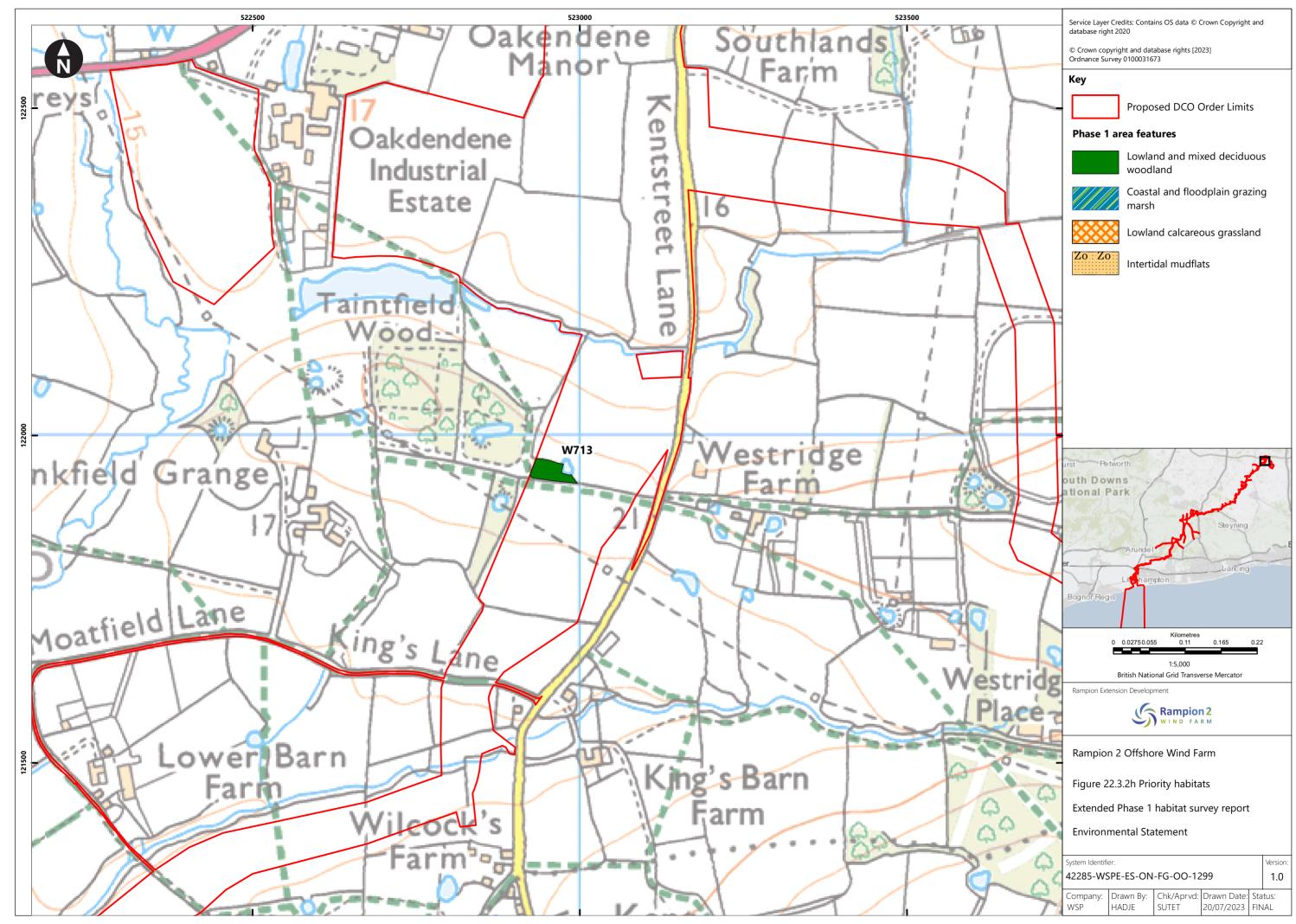














Annex B Scientific species names

Table B-1 below lists all species mentioned within this report, note some species mentioned below were not recorded during surveys. This report uses English species names and only uses scientific species names for species groups where this not available.

Table B-1 Scientific name of species mentioned in this report

English name	Scientific name
Mammal	
American mink	Neovison vison
Badger	Meles meles
Hazel dormouse	Muscardinus avellanarius
Otter	Lutra lutra
Water vole	Arvicola amphibius
Amphibian	
Great crested newt	Triturus cristatus
Vascular plant	
Agrimony	Agrimonia eupatoria
Annual meadow grass	Poa annua
Ash	Fraxinus excelsior
Beech	Fagus sylvatica
Birch	Betula sp.
Bird's foot trefoil	Lotus corniculatus
Black poplar	Populus nigra
Blackthorn	Prunus spinosa
Bluebell	Hyacinthoides non-scripta
Bracken	Pteridium aquilinum



English name	Scientific name
Bramble	Rubus fruticosus agg.
Bristly hawkbit	Leontodon hispidus
Broad buckler-fern	Dryopteris dilatata
Broadleaved dock	Rumex obtusifolius
Broadleaved plantain	Plantago major
Bugle	Ajuga reptans
Burdock	Arctium minus
Canadian fleabane	Erigeron canadensis
Cherry species	Prunus sp.
Chickweed	Stellaria media
Cleavers	Galium aparine
Cock's foot	Dactylis glomerata
Common bent	Agrostis capillaris
Common fleabane	Pulicaria dysenterica
Common hogweed	Heracleum sphondylium
Common knapweed	Centaurea nigra
Common milkwort	Polygala vulgaris
Common nettle	Urtica dioica
Common ragwort	Senecio jacobaea
Cowslip	Primula veris
Creeping buttercup	Ranunculus repens
Creeping cinquefoil	Potentilla reptans
Crested dog's-tail	Cynosurus cristatus
Crosswort	Cruciata laevipes
Curled dock	Rumex crispus
Cut-leaved crane's-bill	Geranium dissectum



English name	Scientific name
Daisy	Bellis perennis
Dandelion	Taraxacum agg.
Dog rose	Rosa canina agg.
Dog's mercury	Mercurialis perennis
Dogwood	Cornus sanguinea
Elder	Sambucus nigra
Enchanter's-nightshade	Circaea lutetiana
English elm	Ulmus minor
European larch	Larix decidua
False oat-grass	Arrhenatherum elatius
Field maple	Acer campestre
Germander speedwell	Veronica chamaedrys
Greater plantain	Plantago major
Ground ivy	Glechoma hederacea
Guelder rose	Viburnum opulus
Hard shield-fern	Polystichum aculeatum
Hawkweed species	Picris sp.
Hawthorn	Crataegus monogyna
Hazel	Corylus avellana
Holly	Ulex europaeus
lvy	Hedera sp.
Lady's bedstraw	Galium verum
Lesser celandine	Ranunculus ficaria
Lime species	Tilia sp.
Lords-and-ladies	Arum maculatum
Meadow fescue	Festuca pratensis



English name	Scientific name
Parsley piert	Aphanes arvensis agg.
Pedunculate oak	Quercus robur
Perennial rye-grass	Lolium perenne
Pineappleweed	Matricaria discoidea
Primrose	Primula vulgaris
Red campion	Silene dioica
Red clover	Trifolium pratense
Ribwort plantain	Plantago lanceolata
Rosebay willowherb	Chamerion angustifolium
Rough meadow-grass	Poa trivialis
Scot's pine	Pinus sylvestris
Self-heal	Prunella vulgaris
Sheep's sorrel	Rumex acetosella
Silver birch	Betula pendula
Silverweed	Potentilla anserine
Small-flowered buttercup	Ranunculus parviflorus
Smaller cat's tail	Phleum bertolonii
Smooth bedstraw	Cruciata laevipes
Soft brome	Bromus hordeaceus
Spear thistle	Cirsium vulgare
Spindle	Euonymus europaeus
Sweet chestnut	Castanea sativa
Sweet vernal-grass	Anthoxanthum odoratum
Sycamore	Acer pseudoplatanus
Rough poppy	Papaver hybridum
Thyme-leaved sandwort	Arenaria serpyllifolia



English name	Scientific name
White clover	Trifolium repens
White dead-nettle	Lamium album
Wild cherry	Prunus avium
Wood anemone	Anemone nemorosa
Wood avens	Geum urbanum
Wood false brome	Brachypodium sylvaticum
Wood speedwell	Veronica montana
Wood spurge	Euphorbia amygdaloides.
Yarrow	Achillea millefolium
Yellow archangel	Lamium galeobdolon
Yorkshire fog	Holcus lanatus
Invasive non-native plant species	
Cotoneaster	Cotoneaster sp.
Himalayan balsam	Impatiens glandulifera
Japanese knotweed	Reynoutria japonica
Rhododendron	Rhododendron ponticum
Snowberry	Symphoricarpos albus



