

South West Milton Keynes

Updated Environmental Statement Volume 2 - Appendices

Carter Jonas LLP

MAY 2020

APPENDIX 7.9:

AMPHIBIANS SURVEY

Appendix 7.9

Amphibians

Legislation

Great crested newts are legally protected as European Protected Species (EPS) under Regulation 43 of the Conservation of Habitats and Species Regulations 2017. These Regulations make it an offence to:

- Deliberately injure, kill or capture a great crested newt
- Deliberately disturb great crested newts, impairing their ability to survive, breed, reproduce or rear/nurture their young
- Damage or destroy a breeding site or resting place used by a great crested newt

Great crested newts are also fully protected under the Wildlife & Countryside Act 1981, making it an offence to:

- Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place of shelter or protection
- Intentionally or recklessly obstruct access to any structure or place of shelter or protection

Disturbance of great crested newts is covered by both the 2017 Regulations and the 1981 Act. Disturbance that impairs survival or successful reproduction would be covered by the Regulations, while less significant acts of disturbance may only be covered by the Act.

It is important to note that great crested newts and their habitats (such as breeding ponds) are protected throughout the year, regardless of whether or not newts are present at the time.

Great crested newts are also listed as a species of principal importance for the conservation of biodiversity in England, under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006. The S41 species list is used to guide decision-makers, including planning authorities, in implementing their duty under Section 40 of the NERC Act to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

Licensing

Where development is proposed that would result in an offence under the Habitats and Species Regulations, a statutory derogation licence may be granted by Natural England to permit an act that would otherwise be unlawful. To obtain an EPS licence for development, it must be demonstrated that the purpose of the act to be licensed is for:

- “preserving public health or public safety or other imperative reasons of overriding public interest including those of social or economic nature and beneficial consequences of primary importance for the environment” (Regulation 55(2)(e))

In addition, Natural England will not grant an EPS licence unless they are satisfied that:

- “There is no satisfactory alternative” (Regulation 55(9)(a))

- “The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range” (Regulation 55(9)(b))

Methods

Desktop Study

In accordance with Natural England’s Great Crested Newt Mitigation Guidelines (2001), a desktop search was undertaken in March 2020 to identify ponds within 500m of the Site which may have potential to support breeding great crested newts *Triturus cristatus*, using Ordnance Survey (OS) mapping, the MAGIC database and aerial photography. 500m is the generally accepted typical maximum dispersal range of this species, with great crested newt most likely to use terrestrial habitat within 250m of breeding ponds. This study drew upon surveys conducted in 2008, and again in April and May 2013.

Limitations

There were no limitations to the desktop study.

Habitat Suitability Index (HSI) Assessment

Where ponds were situated within a 500m radius and connected to the Site by traversable terrestrial habitats, access permission was requested to undertake a Habitat Suitability Index (HSI) assessment, using the standard approach set out by Oldham et al (2000). These assessments were undertaken by Carly Howes ACIEEM (2017-32238-CLS-CLS) and Jamie Woollam CEcol MCIEEM (2015-19040-CLS-CLS) in March 2020.

Limitations

No access was available to P7, P8, P10a, P10b, P12 or P14 in 2020. Five ponds (P3/P4/P5/P6f/P13) were dry at the time of survey. Where possible, data from 2013 is utilised to provide some further information for these ponds.

Presence/Likely Absence Surveys

Following the HSI assessment, accessible ponds were subject to specific presence/likely absence surveys in suitable weather conditions during March and April 2020, using the following survey methods: torch surveying, egg searching and, where appropriate, netting, per visit in accordance with the ‘Great Crested Newt Mitigation Guidelines’. These surveys were led by Carly Howes ACIEEM (2017-32238-CLS-CLS) and Jamie Woollam CEcol MCIEEM (2015-19040-CLS-CLS).

Torchlight searches were carried out after dark on each survey visit with one million candlepower Clulite™ torches. Any amphibians seen were recorded. On each survey visit the vegetation was searched for the presence of great crested newt eggs.

Suitable weather conditions are those nights when the night-time air temperature is 5°C or warmer, with little or no wind. All surveys were conducted during such conditions, as shown below.

Limitations

Due to the presence of water shrew *Neomys fodiens* in Tattenhoe Park (risk of killing of this species) as well as limitations in respect of COVID-19 working methods, bottle trapping was not conducted in 2020. In addition, fewer than half of the requisite surveys were conducted during peak season (mid-April to mid-May). However, as three survey methods were employed, and presence of GCN identified in ponds previously confirmed in 2006, the aim of the survey to detect presence is not therefore concluded to be compromised. Population size-class estimates made from the 2020 surveys should however be treated with caution given the timing and number of surveys conducted.

Results

Desktop Study

BMERC returned 16 records of common toad *Bufo bufo* and 71 records of great crested newt *Triturus cristatus* from within the search area. The closest record for common toad is located with Newton Longville Brickworks immediately to the south of the Site beyond the disused railway, dating to 1979. The closest records for great crested newt include numerous records associated with ponds in Tattenhoe Valley Park, c 0.1km north of the Site, beyond the A421. A further record is associated with Chepstow pond, c. 0.2km east of the Site, dating to 2015, as well as field ponds c.400m to the southeast.

The desk-based search for ponds identified 30 waterbodies within 500m of the Site. Seven ponds were identified on-site, although only ponds P1a-c and P2 contained water at the time of survey. These ponds are all identified on the Amphibian Survey Plan (CSA/4857/118) and are listed within the Pond Schedule in Table 1.

Survey Results

Ponds P1a-c are located in the north-western corner of the Site. These linear ponds appear to form backwater connections to the local ditch network and are likely to dry in some years. There are moderate levels of vegetation for egg laying and the surrounding habitat includes amenity shrubs and grassland. A single adult male GCN was identified within P1c during the surveys. Given the proximity of P1a-c it is likely that all three ponds are utilised by any GCN present within P1c.

P2 is an (ditch)on-line pond within a small wooded copse to the north of the Site. No GCN were identified during the surveys undertaken and the pond was found to dry by the late April 2020.

Ponds P6a-k are located within Tattenhoe Park and are all within close proximity of each other. These ponds are well managed with a known historic GCN population. P6f was dry at the time of survey, with P6a nearly dry. All ponds within Tattenhoe Park were determined to have 'Good' or 'Excellent' suitability to support GCN, and all ponds had suitable egg laying material. GCN were identified within P6b-e and P6g-k. Taken together these populations are likely to exceed the threshold for a 'Large' Population. A number of ponds within Tattenhoe Park were also found to support large number of breeding common toad *Bufo bufo*, as well as some common frog and smooth newts.

P9 is located within Chepstow Local Park to the south-east of the Site. This pond supports a 'large' population of GCN which was identified in 2013. During surveys in 2020 GCN were confirmed to remain present with common toad also identified during the surveys.

P14 was not accessed during 2020. However, HSI assessment in 2013 determined this pond to have 'average' potential to support GCN and no GCN were identified during presence/likely absence surveys.

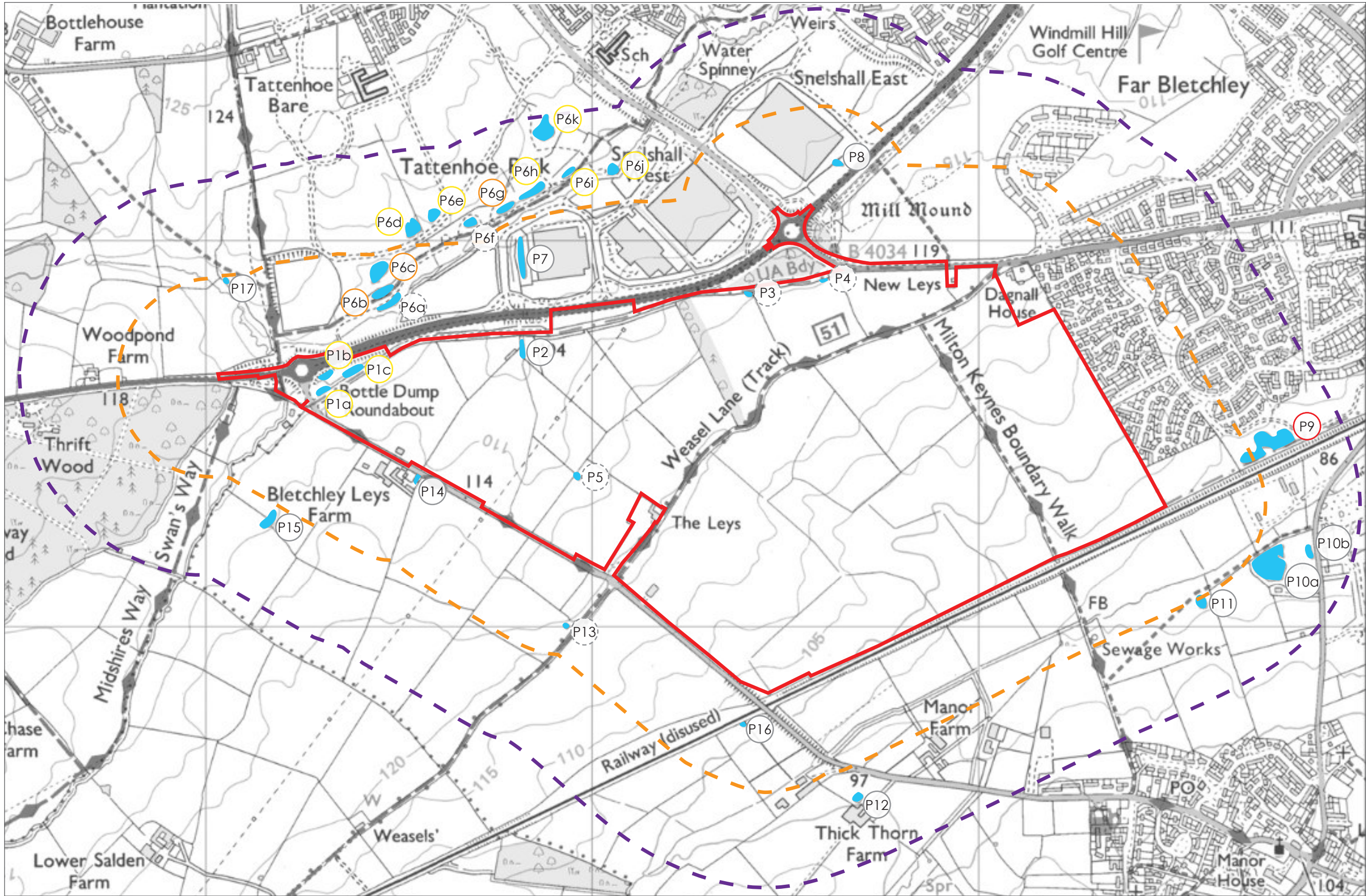
P15 was determined to have 'average' potential to support GCN in both 2013 and 2020. Whilst presence/likely absence survey were not undertaken in 2020, no GCN were identified in 2013.

See Table 1 below for a summary of all survey results, including both 2013 and 2020 data.

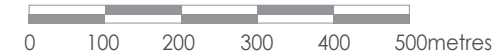
Table 7.9a Pond Schedule & Summary of GCN Survey results.

Pond	Approximate Distance from Site Boundary	Survey (2013)	Results (2013)	Type of Survey (2020)	Results (2020)	GCN Present?
1a	On-site	HSI; presence/absence	Below average; no GCN	HSI; torching	Poor; no GCN	Assumed as present in P1c.
1b	On-site	HSI; presence/absence	Below average; no GCN	HSI; torching	Average; no GCN	Assumed as present in P1c.
1c	On-site	HSI; presence/absence	Below average; no GCN	HSI; torching	Average; peak count 1.	Yes , likely small population 2020.
2	On-site	-	-	HSI; torching	Below average; no GCN	Likely absent- pond dry by late-April 2020,
3	On-site	-	-	NA - pond dry	-	-
4	On-site	-	-	NA - pond dry	-	-
5	On-site	-	-	NA - pond dry	-	-
6a	110m	-	-	HSI; torching	Below average; pond nearly dry, no GCN	Likely absent
6b	140m	-	-	HSI; torching	Excellent; peak count 25; common toad	Yes , medium population 2020
6c	180m	-	-	HSI; torching	Excellent; peak count 23; common toad; frogspawn	Yes , medium population 2020
6d	285m	-	-	HSI; torching	Excellent; peak count 1; common toad, frogspawn	Yes , small population 2020
6e	310m	-	-	HSI; torching	Excellent; peak count 2	Yes , small population 2020
6f	285m	-	-	NA - pond dry	-	-
6g	330m	-	-	HSI; torching	Excellent; peak count 14; common toad	Yes , medium population 2020
6h	310m	-	-	HSI; torching	Excellent; peak count 7; common toad; frogspawn	Yes , small population 2020
6i	345m	-	-	HSI; torching	Excellent; peak count 1; common toad	Yes , small population 2020
6j	390m	-	-	HSI; torching	Excellent; peak count 1; common toad	Yes , small population 2020
6k	440m	-	-	HSI; torching	Good; peak count 5; common toad	Yes , small population 2020
7	140m	-	-	NA - no access	-	-
8	280m	-	-	NA - no access	-	-

9	220m	HSI; presence/absence	Excellent; peak count 122	HSI; torching	Good; presence confirmed (1 GCN); common toad	Yes, large population 2013, presence only confirmed (small population) in 2020
10a	265m	-	-	NA - no access		-
10b	380m	-	-	NA - no access		-
11	250m	-	-	HSI (from footpath only- no access for full survey)	Good (HSI)	Possible- but c.250m from site boundary
12	320m	-	-	NA - no access	-	-
13	145m	-	-	NA - pond dry	-	-
14	15m	HSI; presence/absence	Average; no GCN	NA - no access	-	Assumed absent based upon 2013 surveys
15	290m	HSI; presence/absence	Average; no GCN	HSI	Average	Unknown- but beyond 250m
16	70m	-	-	Not surveyed	-	-
17	240m	-	-	Not surveyed	-	-



- Site Boundary
- Pond
- Pond Number
- Pond with 'small' GCN population
- Pond with 'medium' GCN population
- Pond with 'large' GCN population
- Dry pond
- 250m Buffer
- 500m Buffer



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Project	South West Milton Keynes	Date	March 2020	Drawing No.	CSA/4857/118
Drawing Title	Figure 7g - Amphibian Survey Plan	Scale	Refer to scale	Rev	-
Client	Taylor Wimpey UK Ltd, William Davis Ltd, Hallam Land Management Ltd, Bellcross Homes and Connolly Homes	Drawn	AC	Checked	JW

APPENDIX 7.10:

BIODIVERSITY METRIC CALCULATION

Appendix 7.10

Biodiversity Metric Calculation

Methods

The Defra Biodiversity Metric 2.0 is designed to provide a means of assessing changes in biodiversity value (losses or gains) brought about by development or changes in land management. The metric is a habitat based approach to determining a proxy biodiversity value.

Baseline conditions at the Site were measured from the Habitats Plan (CSA/4857/115) with areas (Ha) and lengths (km) calculated for each of the existing habitat parcels and linear habitats present. Proposed habitats to be 'created' were measured using the Development Framework Parameters Plan (CSA/4857/100/D) and the Illustrative Masterplan (CSA/4857/112/B).

These measurements were input into the Biodiversity Metric 2.0 calculation tool along with the habitat type and a number of other variables including habitat condition and connectivity. Based on these multipliers the calculator provides a total number of 'habitat units' for each habitat and an overall 'net unit' and 'net percentage' change for the whole site.

Use of the tool therefore characterises the overall biodiversity interest of the existing and proposed habitats at the Site quantitatively and provides an indication of the overall loss or gain in biodiversity value at the Site.

Limitations

The Defra Biodiversity Metric 2.0 is currently in its 'beta test' phase. An update to the metric is due to be published in late 2020.

Where possible, measurements were undertaken using .dwg files. However, these files were not available for all plans and therefore all measurements must be considered indicative.

Calculations are based on an outline scheme and detail has not yet been provided for landscaping proposals. Therefore, measurements and habitat classifications are indicative of the type and area of habitat/hedgerow creation which could potentially be achieved.

South West Milton Keynes

Headline Results

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On-site baseline	Habitat units	363.42
	Hedgerow units	74.84
	River units	0.00
On-site post-intervention (Including habitat retention, creation, enhancement & succession)	Habitat units	479.43
	Hedgerow units	79.35
	River units	0.00
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation, enhancement & succession)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention/creation)	Habitat units	116.02
	Hedgerow units	4.50
	River units	0.00
Total net % change (including all on-site & off-site habitat creation + retained habitats)	Habitat units	31.92%
	Hedgerow units	6.02%
	River units	0.00%

Overall Trading Acceptable

Very high		
Habitat group	Group	Existing area lost
Grassland - Lowland dry acid grassland	Grassland	0.00
Heathland and shrub - Mountain heaths and willow scrub	Heathland and shrub	0.00
Sparsely vegetated land - Limestone pavement	Sparsely vegetated land	0.00
Wetland - Blanket bog	Wetland	0.00
Wetland - Depressions on Peat Substrates (H7150)	Wetland	0.00
Wetland - Fens (upland and lowland)	Wetland	0.00
Wetland - Lowland raised bog	Wetland	0.00
Wetland – Oceanic Valley Mire[1] (D2.1)	Wetland	0.00
Wetland - Purple moor grass and rush pastures	Wetland	0.00
Wetland - Transition mires and quaking bogs (H7140)	Wetland	0.00
Grassland - Lowland meadows	Grassland	0.00
Grassland - Upland hay meadows	Grassland	0.00
lakes - Aquifer fed naturally fluctuating water bodies	Lakes	0.00
Sparsely vegetated land - Calaminarian grasslands	Sparsely vegetated land	0.00
Rocky shore - High energy littoral rock - on bedrock	Rocky shore	0.00
Rocky shore - Moderate energy littoral rock - on bedrock	Rocky shore	0.00
Rocky shore - Low energy littoral rock - on bedrock	Rocky shore	0.00
Rocky shore - Features of littoral rock - on bedrock	Rocky shore	0.00
Intertidal sediment - Littoral sediments dominated by aquatic angiosperms - on bedrock	Intertidal sediment	0.00
Intertidal sediment - Littoral biogenic reefs - on bedrock	Intertidal sediment	0.00
Total impact to be addressed through separate mechanism		0.00

Any rows highlighted in red within this table highlight habitat types that require further compensation in order to deliver the required number of units to reach no net loss

High								
Habitat group	Group	On-Site units lost	Units delivered on-site	On Site Unit Change	Units delivered off-site	Project wide Unit Change	Percentage change above loss	losses not yet accounted for
Cropland - Traditional orchards	Cropland	0.00	0.00	0.00	0.00	0.00		
Grassland - Floodplain Wetland Mosaic (CFGM)	Grassland	0.00	0.00	0.00	0.00	0.00		
Grassland - Lowland calcareous grassland	Grassland	0.00	0.00	0.00	0.00	0.00		
Grassland - Tall herb communities	Grassland	0.00	0.00	0.00	0.00	0.00		
Grassland - Upland calcareous grassland	Grassland	0.00	0.00	0.00	0.00	0.00		
Heathland and shrub - Lowland Heathland	Grassland	0.00	0.00	0.00	0.00	0.00		
Heathland and shrub - Sea buckthorn scrub (Annex 1)	Heathland and shrub	0.00	0.00	0.00	0.00	0.00		
Heathland and shrub - Upland Heathland	Heathland and shrub	0.00	0.00	0.00	0.00	0.00		
Lakes - High alkalinity lakes	Lakes	0.00	0.00	0.00	0.00	0.00		
Lakes - Low alkalinity lakes	Lakes	0.00	0.00	0.00	0.00	0.00		
Lakes - Marl Lakes	Lakes	0.00	0.00	0.00	0.00	0.00		
Lakes - Moderate alkalinity lakes	Lakes	0.00	0.00	0.00	0.00	0.00		
Lakes - Peat Lakes	Lakes	0.00	0.00	0.00	0.00	0.00		
Lakes - Ponds (Priority Habitat)	Lakes	0.00	2.41	2.41	0.00	2.41		
Lakes - Temporary lakes, ponds and pools	Lakes	0.00	0.00	0.00	0.00	0.00		
Sparsely vegetated land - Coastal sand dunes	Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00		
Sparsely vegetated land - Coastal vegetated shingle	Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00		
Sparsely vegetated land - Inland rock outcrop and scree habitats	Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00		
Sparsely vegetated land - Maritime cliff and slopes	Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00		
Urban - Open Mosaic Habitats on Previously Developed Land	Urban	0.00	0.00	0.00	0.00	0.00		
Wetland - Reedbeds	Wetland	0.00	0.00	0.00	0.00	0.00		
Woodland and forest - Lowland beech and yew woodland	Woodland and forest	0.00	0.00	0.00	0.00	0.00		
Woodland and forest - Lowland mixed deciduous woodland	Woodland and forest	1.27	23.96	22.69	0.00	22.69		
Woodland and forest - Native pine woodlands	Woodland and forest	0.00	0.00	0.00	0.00	0.00		
Woodland and forest - Upland birchwoods	Woodland and forest	0.00	0.00	0.00	0.00	0.00		
Woodland and forest - Upland mixed ashwoods	Woodland and forest	0.00	0.00	0.00	0.00	0.00		
Woodland and forest - Upland oakwood	Woodland and forest	0.00	0.00	0.00	0.00	0.00		
Woodland and forest - Wet woodland	Woodland and forest	0.00	0.00	0.00	0.00	0.00		
Woodland and forest - Wood-pasture and parkland	Woodland and forest	0.00	0.00	0.00	0.00	0.00		
Coastal lagoons - Coastal lagoons	Coastal lagoons	0.00	0.00	0.00	0.00	0.00		
Rocky shore - High energy littoral rock	Rocky shore	0.00	0.00	0.00	0.00	0.00		
Rocky shore - Moderate energy littoral rock	Rocky shore	0.00	0.00	0.00	0.00	0.00		
Rocky shore - Low energy littoral rock	Rocky shore	0.00	0.00	0.00	0.00	0.00		
Rocky shore - Features of littoral rock	Rocky shore	0.00	0.00	0.00	0.00	0.00		
Intertidal sediment - Littoral coarse sediment	Intertidal sediment	0.00	0.00	0.00	0.00	0.00		
Intertidal sediment - Littoral sand and muddy sand	Intertidal sediment	0.00	0.00	0.00	0.00	0.00		
Intertidal sediment - Littoral mud	Intertidal sediment	0.00	0.00	0.00	0.00	0.00		
Intertidal sediment - Littoral mixed sediments	Intertidal sediment	0.00	0.00	0.00	0.00	0.00		
Coastal Saltmarsh -saltmarshes and saline reedbeds	Coastal Saltmarsh	0.00	0.00	0.00	0.00	0.00		
Intertidal sediment - Littoral sediments dominated by aquatic angiosperms	Intertidal sediment	0.00	0.00	0.00	0.00	0.00		
Intertidal sediment - Littoral biogenic reefs	Intertidal sediment	0.00	0.00	0.00	0.00	0.00		
Intertidal sediment - Features of littoral sediment	Intertidal sediment	0.00	0.00	0.00	0.00	0.00		
				25.09	0.00	25.09		0.00

cumulative positive - this sums only the positive values in order for them to be utilised to offset any deficit in lower distinctiveness bands

25.09

High Trading Acceptable

Trading Down Liability High Distinctiveness/Units

0.00

Not Like For Like/Units

0.00

Medium								
Habitat Group	Group	On-Site units lost	Units delivered on-site	On site unit change	Units delivered off-site	Project wide unit change	Percentage change above loss	losses not yet accounted for
Cropland - Arable field margins cultivated annually	Cropland	0.00	0.00	0.00	0.00	0.00		
Cropland - Arable field margins game bird mix	Cropland	0.00	0.00	0.00	0.00	0.00		
Cropland - Arable field margins pollen & nectar	Cropland	0.00	0.00	0.00	0.00	0.00		
Cropland - Arable field margins tussocky	Cropland	0.00	0.00	0.00	0.00	0.00		
Cropland - Cereal crops winter stubble	Cropland	0.00	0.00	0.00	0.00	0.00		
Grassland - Bracken	Grassland	0.00	0.00	0.00	0.00	0.00		
Grassland - Other lowland acid grassland	Grassland	0.00	0.00	0.00	0.00	0.00		
Grassland - Other neutral grassland	Grassland	61.20	69.67	8.47	0.00	8.47		
Grassland - Upland acid grassland	Grassland	0.00	0.00	0.00	0.00	0.00		
Heathland and shrub - Blackthorn scrub	Heathland and shrub	0.00	0.00	0.00	0.00	0.00		
Heathland and shrub - Bramble scrub	Heathland and shrub	0.00	0.00	0.00	0.00	0.00		
Heathland and shrub - Gorse scrub	Heathland and shrub	0.00	0.00	0.00	0.00	0.00		
Heathland and shrub - Hawthorn scrub	Heathland and shrub	0.00	0.00	0.00	0.00	0.00		
Heathland and shrub - Hazel scrub	Heathland and shrub	0.00	0.00	0.00	0.00	0.00		
Heathland and shrub - Mixed scrub	Heathland and shrub	0.00	0.00	0.00	0.00	0.00		
Heathland and shrub - Sea buckthorn scrub (other)	Heathland and shrub	0.00	0.00	0.00	0.00	0.00		
Lakes - Ditches	Lakes	0.00	0.00	0.00	0.00	0.00		
Lakes - Reservoirs	Lakes	0.00	0.00	0.00	0.00	0.00		
Sparsely vegetated land - Calaminarian grasslands	Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00		
Sparsely vegetated land - Other inland rock and scree	Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00		
Urban - Allotments	Urban	0.00	6.18	6.18	0.00	6.18		
Urban - Artificial lake or pond	Urban	0.00	0.00	0.00	0.00	0.00		
Urban - Brown roof	Urban	0.00	0.00	0.00	0.00	0.00		
Urban - Cemeteries and churchyards	Urban	0.00	0.00	0.00	0.00	0.00		
Urban - Extensive green roof	Urban	0.00	0.00	0.00	0.00	0.00		
Urban - Orchard	Urban	0.00	1.31	1.31	0.00	1.31		
Urban - Woodland	Urban	0.00	0.00	0.00	0.00	0.00		
Woodland and forest - Felled	Woodland and forest	0.00	0.00	0.00	0.00	0.00		
Woodland and forest - Other Scot's Pine woodland	Woodland and forest	0.00	0.00	0.00	0.00	0.00		
Woodland and forest - Other woodland; broadleaved	Woodland and forest	3.68	10.32	6.64	0.00	6.64		
Woodland and forest - Other woodland; mixed	Woodland and forest	0.00	0.00	0.00	0.00	0.00		
Woodland and forest - Other woodland; Young Trees planted	Woodland and forest	0.00	256.27	256.27	0.00	256.27		
				278.87	0.00	278.87		0.00

Medium cumulative offset plus high surplus, this number must be a positive when offsite compensation is factored in

303.96

Medium Trading Acceptable

Trading Down Liability Medium Distinctiveness/Units

0.00

Not Like For Like or Better/Units

0.00

Cumulative Trading Error

0.00

Low								
Habitat group	Group	On-site units lost	Units delivered on-site	On site unit change	Units delivered off-site	Project wide unit change	Percentage change above loss	losses not yet accounted for
Cropland - Cereal crops	Cropland	230.18	0.00	-230.18	0.00	-230.18		-230.18
Cropland - Cereal crops other	Cropland	0.00	0.00	0.00	0.00	0.00		
Cropland - Horticulture	Cropland	0.00	0.00	0.00	0.00	0.00		
Cropland - Intensive orchards	Cropland	0.00	0.00	0.00	0.00	0.00		
Cropland - Non-cereal crops	Cropland	0.00	0.00	0.00	0.00	0.00		
Cropland - Temporary grass and clover leys	Cropland	0.00	0.00	0.00	0.00	0.00		
Grassland - Modified grassland	Grassland	0.00	12.10	12.10	0.00	12.10		
Heathland and shrub - Rhododendron scrub	Grassland	0.00	0.00	0.00	0.00	0.00		
Sparsely vegetated land - Ruderal/Ephemeral	Heathland and shrub	0.00	0.00	0.00	0.00	0.00		
Urban - Bioswale	Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00		
Urban - Façade-bound green wall	Urban	0.00	0.00	0.00	0.00	0.00		
Urban - Ground based green wall	Urban	0.00	0.00	0.00	0.00	0.00		
Urban - Ground level planters	Urban	0.00	0.00	0.00	0.00	0.00		
Urban - Intensive green roof	Urban	0.00	0.00	0.00	0.00	0.00		
Urban - Introduced shrub	Urban	0.00	0.00	0.00	0.00	0.00		
Urban - Amenity grassland	Urban	0.00	45.93	45.93	0.00	45.93		
Urban - Rain garden	Urban	0.00	0.00	0.00	0.00	0.00		
Urban - Sand pit quarry or open cast mine	Urban	0.00	0.00	0.00	0.00	0.00		
Urban - Street Tree	Urban	0.00	0.00	0.00	0.00	0.00		
Urban - Suburban/ mosaic of developed/ natural surface	Urban	0.00	0.00	0.00	0.00	0.00		
Urban - Sustainable urban drainage feature	Urban	0.00	18.47	18.47	0.00	18.47		
Urban - Vacant/derelict land/ bareground	Urban	0.00	0.00	0.00	0.00	0.00		
Urban - Vegetated garden	Urban	0.00	31.36	31.36	0.00	31.36		
Woodland and forest - Other coniferous woodland	Urban	0.00	0.00	0.00	0.00	0.00		
Woodland and forest - Other coniferous woodland	Woodland and forest	0.00	0.00	0.00	0.00	0.00		
Rocky shore - Artificial high energy littoral rock	Rocky shore	0.00	0.00	0.00	0.00	0.00		
Rocky shore - Artificial moderate energy littoral rock	Rocky shore	0.00	0.00	0.00	0.00	0.00		
Rocky shore - Artificial low energy littoral rock	Rocky shore	0.00	0.00	0.00	0.00	0.00		
Rocky shore - Artificial features of littoral rock	Rocky shore	0.00	0.00	0.00	0.00	0.00		
Intertidal sediment - Artificial littoral coarse sediment	Intertidal sediment	0.00	0.00	0.00	0.00	0.00		
Intertidal sediment - Artificial littoral sand and muddy sand	Intertidal sediment	0.00	0.00	0.00	0.00	0.00		
Intertidal sediment - Artificial littoral mud	Intertidal sediment	0.00	0.00	0.00	0.00	0.00		
Intertidal sediment - Artificial littoral mixed sediments	Intertidal sediment	0.00	0.00	0.00	0.00	0.00		
Intertidal sediment - Artificial littoral sediments dominated by aquatic angiosperms	Intertidal sediment	0.00	0.00	0.00	0.00	0.00		
Intertidal sediment - Artificial littoral biogenic reefs	Intertidal sediment	0.00	0.00	0.00	0.00	0.00		
Intertidal sediment - Artificial features of littoral sediment	Intertidal sediment	0.00	0.00	0.00	0.00	0.00		
				-122.31		-122.31		-230.18

Low cumulative offset plus high and medium surplus, this number must be a positive when offsite compensation is factored in

411.83

Low Trading Acceptable

Trading Down Liability High Distinctiveness/Units

0.00

Cumulative Trading Error

0.00

Overall Trading Acceptable

South West Milton Keynes

A-1 Site Habitat Baseline

Condense / Show Columns

Condense / Show Rows

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Ref	Habitats and areas			Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Ecological baseline
	Broad Habitat	Habitat type	Area (hectares)	Distinctiveness	Condition	Ecological connectivity	Strategic significance		Total habitat units
1	Cropland	Cropland - Cereal crops	130.54	Low	N/A - Agricultural	N/A	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required	261.08
2	Grassland	Grassland - Other neutral grassland	10.2	Medium	Fairly Poor	Low	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required	61.20
3	Urban	Urban - Developed land; sealed surface	1.16	V.Low	N/A - Other	N/A	Area/compensation not in local strategy/ no local strategy	Compensation Not Required	0.00
4	Woodland and forest	Woodland and forest - Other woodland; broadleaved	1.02	Medium	Moderate	Medium	Within area formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	10.32
5	Woodland and forest	Woodland and forest - Other woodland; broadleaved	0.38	Medium	Moderate	Medium	Location ecologically desirable but not in local strategy	Same broad habitat or a higher distinctiveness habitat required	3.68
6	Woodland and forest	Woodland and forest - Lowland mixed deciduous woodland	1.39	High	Fairly Good	Medium	Location ecologically desirable but not in local strategy	Same habitat required	25.23
7	Lakes	Lakes - Ponds (Non- Priority Habitat)	0.07	High	Fairly Poor	Medium	Within area formally identified in local strategy	Same habitat required	0.80
8	Lakes	Lakes - Ponds (Priority Habitat)	0.03	High	Moderate	Medium	Within area formally identified in local strategy	Same habitat required	0.46
9	Lakes	Lakes - Ponds (Non- Priority Habitat)	0.06	High	Fairly Poor	Medium	Location ecologically desirable but not in local strategy	Same habitat required	0.65
10									
11									
12									
13									
14									
Total site area ha			144.85					Total Site baseline	363.42

Retention category biodiversity value								Bespoke compensation agreed for unacceptable losses	Comments	
Area retained	Area enhanced	Area succession	Baseline units retained	Baseline units enhanced	Baseline units succession	Area lost	Units lost		Assessor comments	Reviewer comments
		15.45	0.00	0.00	30.90	115.09	230.18		Arable fields F1, F3, F6-F11, and F13- to F17	
			0.00	0.00	0.00	10.20	61.20		Poor SI fields F2, F4, F5, F12	
			0.00	0.00	0.00	1.16	0.00		Existing roads, buildings etc	
1.02			10.32	0.00	0.00	0.00	0.00		Woodland W1, W2 insideof Waldon Chase BOA	
			0.00	0.00	0.00	0.38	3.68		Woodland W3 outside of Waldon Chase BOA	
1.32			23.96	0.00	0.00	0.07	1.27		Woodland W4a+b and W5	
0.07			0.80	0.00	0.00	0.00	0.00		Pond P1a and P1b within Waldon Chase BOA	
0.03			0.46	0.00	0.00	0.00	0.00		Pond P1c (GCN present) within Waldon Chase BOA	
0.06			0.65	0.00	0.00	0.00	0.00		Pond P2	
2.50	0.00	15.45	36.19	0.00	30.90	126.90	296.33			

A-2 Site Habitat Creation

Condense / Show Rows

Instructions

Post development/ post intervention habitats										
Proposed habitat	Area (hectares)	Distinctiveness	Condition	Ecological	Strategic significance	Temporal multiplier	Difficulty	Habitat units delivered	Comments	
				Ecological connectivity	Strategic significance	Time to target condition/years	Difficulty of creation category		Assessor comments	Reviewer comments
Urban - Developed land; sealed surface	37.92	V.Low	N/A - Other	Low	Area/compensation not in local strategy/ no local strategy	0	Low	0.00	Development parcels (assumed 70% of 54.17ha)	
Urban - Vegetated garden	16.25	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	1	Low	31.36	Private gardens (assumed 30% of 54.17ha)	
Urban - Developed land; sealed surface	14.66	V.Low	N/A - Other	Low	Area/compensation not in local strategy/ no local strategy	0	Low	0.00	Other hardstanding (including infrastructure, employment, education, play areas extra care housing, GP practice)	
Urban - Amenity grassland	18.09	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	1	Low	34.91	Formal open space areas	
Urban - Amenity grassland	5.71	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	1	Low	11.02	Sports pitches (formal grassland)	
Urban - Allotments	1.6	Medium	Poor	Low	Area/compensation not in local strategy/ no local strategy	1	Low	6.18	Allotments	
Urban - Orchard	0.39	Medium	Poor	Low	Area/compensation not in local strategy/ no local strategy	5	Low	1.31	Community orchard	
Lakes - Ponds (Priority Habitat)	0.29	High	Moderate	Low	Area/compensation not in local strategy/ no local strategy	5	Medium	1.95	Wildlife ponds	
Grassland - Other neutral grassland	18.05	Medium	Poor	Low	Area/compensation not in local strategy/ no local strategy	1	Low	69.67	Wildflower grassland in a residential context (poor condition)	
Grassland - Modified grassland	6.27	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	1	Low	12.10	'Longer grassland' (along grid road reservation)	
Urban - Sustainable urban drainage feature	7.67	Low	Moderate	Low	Area/compensation not in local strategy/ no local strategy	3	Medium	18.47	SuDS basins (includes dry basins sown with chalk grassland, wet basins (incl. black poplar planting) with wet grassland and 10 micropools)	
Totals	126.90							186.98		

South West Milton Keynes

A-4 Site Habitat Succession

Condense / Show Columns

Condense / Show Rows

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		Post development/ post intervention habitats												
Baseline ref	Baseline habitats	Proposed habitat	Change in distinctiveness and condition		Area ha	Distinctiveness	Condition	ecological connectivit	Strategic significance	Temporal multiplier	Difficulty	Habitat units delivered	Comments	
	Baseline habitat		Distinctiveness change	Condition change				Ecological connectivity score	Strategic significance		Difficulty of creation category		Assessor comments	Reviewer comments
1	Cropland - Cereal crops	Woodland and forest - Other woodland; Young Trees planted	Low - Medium	Lower Distinctiveness Habitat - Poor	15.45	Medium	Poor	Low	Area/compensation not in local strategy/ no local strategy	25	Low	256.27	Woodland and copse planting	
					Total site area	15.45						256.27		

South West Milton Keynes

B-1 Site Hedge Baseline

Condense / Show Columns

Condense / Show Rows

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Baseline ref	UK Habitats - existing habitats			Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Ecological baseline
	Hedge number	Hedgerow type	length KM	Distinctiveness	Condition	Ecological connectivity	Strategic significance		Total hedgerow units
1	H1	Native Hedgerow with trees	0.55	Low	Good	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	3.63
2	H2	Native Hedgerow with trees	0.39	Low	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.716
3	H3	Native Species Rich Hedgerow	0.18	Medium	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Like for like or better	1.584
4	H4	Native Hedgerow with trees	0.03	Low	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.132
5	H5	Native Hedgerow with trees	0.05	Low	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.22
6	H6	Native Species Rich Hedgerow	0.24	Medium	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Like for like or better	2.112
7	H7	Native Hedgerow with trees	0.22	Low	Good	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.452
8	H8	Native Hedgerow with trees - Associated with bank or ditch	0.09	Medium	Good	Medium	Area/compensation not in local strategy/ no local strategy	Like for like or better	1.188
9	H9	Native Species Rich Hedgerow with trees - Associated with bank or ditch	0.22	High	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Like for like	2.904
10	H10	Native Hedgerow with trees	0.55	Low	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	2.42
11	H11	Native Hedgerow	0.23	Low	Good	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.518
12	H12	Native Hedgerow with trees	0.12	Low	Good	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.792
13	H13	Native Hedgerow	0.2	Low	Good	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.32
14	H14	Native Hedgerow with trees	0.23	Low	Good	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.518
15	H15	Native Hedgerow with trees	0.2	Low	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.88
16	H16	Native Hedgerow	0.19	Low	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.836
17	H17	Native Hedgerow with trees	0.22	Low	Good	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.452
18	H18	Native Species Rich Hedgerow with trees	0.3	Medium	Good	Medium	Area/compensation not in local strategy/ no local strategy	Like for like or better	3.96
19	H19	Native Species Rich Hedgerow with trees	0.2	Medium	Good	Medium	Area/compensation not in local strategy/ no local strategy	Like for like or better	2.64
20	H20	Native Hedgerow	0.21	Low	Good	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.386
21	H21	Native Hedgerow with trees	0.44	Low	Good	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	2.904
22	H22	Native Species Rich Hedgerow with trees	0.23	Medium	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Like for like or better	2.024
23	H23	Native Hedgerow with trees	0.18	Low	Good	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.188
24	H24	Native Hedgerow	0.25	Low	Good	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.65
25	H25	Native Hedgerow	0.39	Low	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.716
26	H26	Native Species Rich Hedgerow	0.11	Medium	Good	Medium	Area/compensation not in local strategy/ no local strategy	Like for like or better	1.452
27	H27	Native Hedgerow with trees	0.79	Low	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	3.476
28	H28	Native Hedgerow with trees	0.36	Low	Good	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	2.376
29	H29	Native Species Rich Hedgerow with trees	0.29	Medium	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Like for like or better	2.552
30	H30	Native Hedgerow with trees	0.27	Low	Good	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.782
31	H31	Native Species Rich Hedgerow with trees	0.36	Medium	Good	Medium	Area/compensation not in local strategy/ no local strategy	Like for like or better	4.752
32	H32	Native Hedgerow with trees	0.44	Low	Good	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	2.904
33	H33	Native Hedgerow with trees - Associated with bank or ditch	0.21	Medium	Good	Medium	Area/compensation not in local strategy/ no local strategy	Like for like or better	2.772
34	H34	Native Hedgerow	0.11	Low	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.484
35	H35	Native Hedgerow with trees - Associated with bank or ditch	0.3	Medium	Good	Medium	Area/compensation not in local strategy/ no local strategy	Like for like or better	3.96
36	H36	Native Species Rich Hedgerow	0.41	Medium	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Like for like or better	3.608
37	H37	Native Hedgerow with trees	0.24	Low	Good	Medium	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.584
38									
39									
40									
41									
42									
Total Site length/KM			10.00					Total Site baseline	74.84

Retention category biodiversity value						Comments	
Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	Assessor comments	Reviewer comments
	0.5	0	3.3	0.05	0.33	Enhance to species-rich hedgerow through additional planting	
	0.39	0	1.716	0	0	Enhance condition Moderate>Good through management	
	0.18	0	1.584	0	0	Enhance condition Moderate>Good through management	
	0.03	0	0.132	0	0	Enhance condition Moderate>Good through management	
	0.05	0	0.22	0	0	Enhance condition Moderate>Good through management	
	0.24	0	2.112	0	0	Enhance condition Moderate>Good through management	
	0.2	0	1.32	0.02	0.132	Enhance to species-rich hedgerow through additional planting	
	0.05	0	0.66	0.04	0.528	Enhance to species-rich hedgerow through additional planting	
	0.21	0	2.772	0.01	0.132	Enhance condition Moderate>Good through management	
	0.27	0	1.188	0.28	1.232	Enhance condition Moderate>Good through management	
	0.21	0	1.386	0.02	0.132	Enhance to species-rich hedgerow through additional planting	
	0.12	0	0.792	0	0	Enhance to species-rich hedgerow through additional planting	
	0.2	0	1.32	0	0	Enhance to species-rich hedgerow through additional planting	
	0.23	0	1.518	0	0	Enhance to species-rich hedgerow through additional planting	
	0.16	0	0.704	0.04	0.176	Enhance condition Moderate>Good through management	
	0.16	0	0.704	0.03	0.132	Enhance condition Moderate>Good through management	
	0.22	0	1.452	0	0	Enhance to species-rich hedgerow through additional planting	
0.26		3.432	0	0.04	0.528		
0.2		2.64	0	0	0		
	0.17	0	1.122	0.04	0.264	Enhance to species-rich hedgerow through additional planting	
	0.44	0	2.904	0	0	Enhance to species-rich hedgerow through additional planting	
	0.23	0	2.024	0	0	Enhance condition Moderate>Good through management	
	0.09	0	0.594	0.09	0.594	Enhance to species-rich hedgerow through additional planting	
	0.2	0	1.32	0.05	0.33	Enhance to species-rich hedgerow through additional planting	
	0.3	0	1.32	0.09	0.396	Enhance condition Moderate>Good through management	
0.11		1.452	0	0	0		
	0.74	0	3.256	0.05	0.22	Enhance condition Moderate>Good through management	
	0.34	0	2.244	0.02	0.132	Enhance to species-rich hedgerow through additional planting	
	0.21	0	1.848	0.08	0.704	Enhance condition Moderate>Good through management	
	0.23	0	1.518	0.04	0.264	Enhance to species-rich hedgerow through additional planting	
0.29		3.828	0	0.07	0.924		
	0.39	0	2.574	0.05	0.33	Enhance to species-rich hedgerow through additional planting	
	0.17	0	2.244	0.04	0.528	Enhance to species-rich hedgerow through additional planting	
	0.11	0	0.484	0	0	Enhance condition Moderate>Good through management	
	0.28	0	3.696	0.02	0.264	Enhance to species-rich hedgerow through additional planting	
	0.41	0	3.608	0	0	Enhance condition Moderate>Good through management	
	0.24	0	1.584	0	0	Enhance to species-rich hedgerow through additional planting	
0.86	7.97	11.35	55.22	1.17	8.27		

South West Milton Keynes

B-2 Site Hedge Creation

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		Proposed habitats		Habitat distinctiveness	Habitat condition	Multipliers		Temporal multiplier	Hedge units delivered	Comments	
Baseline ref	New hedge number	Habitat type	Length km	Distinctiveness	Condition	Ecological connectivity	Spatial quality			Assessor comments	Reviewer comments
						Ecological connectivity	Strategic significance	Time to target condition/years			
1		Native Species Rich Hedgerow	0.7	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	10	3.94	New hedgerow along grid road reserve	
2		Native Species Rich Hedgerow	0.1	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	10	0.56	New hedgerow west of allotments	
3											
4											
5											
6											
7											
		Creation Length/KM	0.80							4.50	

South West Milton Keynes														
B-3 Site Hedge Enhancement														
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		Post development/ post intervention habitats												
	Baseline Habitats	Proposed	Change in distinctiveness and condition		Length KM	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Temporal multiplier	Difficulty Multipliers	Hedge units delivered	Comments	
Baseline ref	Baseline habitat		Distinctiveness movement	Condition movement					Strategic significance	Time to target condition/years	Difficulty of enhancement Category		Assessor comments	Reviewer comments
1	Native Hedgerow with trees	Native Species Rich Hedgerow with trees	Low - Medium	Lower Distinctiveness Habitat - Good	0.5	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	3.99	Enhance to species-rich hedgerow through additional planting	
2	Native Hedgerow with trees	Native Hedgerow with trees	Low - Low	Moderate - Good	0.39	Low	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Low	1.94	Enhance condition Moderate>Good through management	
3	Native Species Rich Hedgerow	Native Species Rich Hedgerow	Medium - Medium	Moderate - Good	0.18	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	10	Medium	1.78	Enhance condition Moderate>Good through management	
4	Native Hedgerow with trees	Native Hedgerow with trees	Low - Low	Moderate - Good	0.03	Low	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Low	0.15	Enhance condition Moderate>Good through management	
5	Native Hedgerow with trees	Native Hedgerow with trees	Low - Low	Moderate - Good	0.05	Low	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Low	0.25	Enhance condition Moderate>Good through management	
6	Native Species Rich Hedgerow	Native Species Rich Hedgerow	Medium - Medium	Moderate - Good	0.24	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	10	Medium	2.37	Enhance condition Moderate>Good through management	
7	Native Hedgerow with trees	Native Species Rich Hedgerow with trees	Low - Medium	Lower Distinctiveness Habitat - Good	0.2	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	1.59	Enhance to species-rich hedgerow through additional planting	
8	Native Hedgerow with trees - Associated with bank or ditch	Native Species Rich Hedgerow with trees - Associated with bank or ditch	Medium - High	Lower Distinctiveness Habitat - Good	0.05	High	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	0.70	Enhance to species-rich hedgerow through additional planting	
9	Native Species Rich Hedgerow with trees - Associated with bank or ditch	Native Species Rich Hedgerow with trees - Associated with bank or ditch	High - High	Moderate - Good	0.21	High	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	2.93	Enhance condition Moderate>Good through management	
10	Native Hedgerow with trees	Native Hedgerow with trees	Low - Low	Moderate - Good	0.27	Low	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Low	1.34	Enhance condition Moderate>Good through management	
11	Native Hedgerow	Native Hedgerow	Low - Low	Error - No enhancement	0.21	Low	Good	Low	Area/compensation not in local strategy/ no local strategy	10	Low	1.26	Enhance to species-rich hedgerow through additional planting	
12	Native Hedgerow with trees	Native Species Rich Hedgerow with trees	Low - Medium	Lower Distinctiveness Habitat - Good	0.12	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	0.96	Enhance to species-rich hedgerow through additional planting	
13	Native Hedgerow	Native Species Rich Hedgerow	Low - Medium	Lower Distinctiveness Habitat - Good	0.2	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	10	Medium	1.76	Enhance to species-rich hedgerow through additional planting	
14	Native Hedgerow with trees	Native Species Rich Hedgerow with trees	Low - Medium	Lower Distinctiveness Habitat - Good	0.23	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	1.83	Enhance to species-rich hedgerow through additional planting	
15	Native Hedgerow with trees	Native Hedgerow with trees	Low - Low	Moderate - Good	0.16	Low	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Low	0.80	Enhance condition Moderate>Good through management	
16	Native Hedgerow	Native Hedgerow	Low - Low	Moderate - Good	0.16	Low	Good	Low	Area/compensation not in local strategy/ no local strategy	10	Low	0.86	Enhance condition Moderate>Good through management	
17	Native Hedgerow with trees	Native Species Rich Hedgerow with trees	Low - Medium	Lower Distinctiveness Habitat - Good	0.22	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	1.75	Enhance to species-rich hedgerow through additional planting	
20	Native Hedgerow	Native Species Rich Hedgerow	Low - Medium	Lower Distinctiveness Habitat - Good	0.17	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	10	Medium	1.50	Enhance to species-rich hedgerow through additional planting	
21	Native Hedgerow with trees	Native Species Rich Hedgerow with trees	Low - Medium	Lower Distinctiveness Habitat - Good	0.44	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	3.51	Enhance to species-rich hedgerow through additional planting	
22	Native Species Rich Hedgerow with trees	Native Species Rich Hedgerow with trees	Medium - Medium	Moderate - Good	0.23	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	2.14	Enhance condition Moderate>Good through management	
23	Native Hedgerow with trees	Native Species Rich Hedgerow with trees	Low - Medium	Lower Distinctiveness Habitat - Good	0.09	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	0.72	Enhance to species-rich hedgerow through additional planting	
24	Native Hedgerow	Native Species Rich Hedgerow with trees	Low - Medium	Lower Distinctiveness Habitat - Good	0.2	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	1.59	Enhance to species-rich hedgerow through additional planting	
25	Native Hedgerow	Native Hedgerow	Low - Low	Moderate - Good	0.3	Low	Good	Low	Area/compensation not in local strategy/ no local strategy	10	Low	1.62	Enhance condition Moderate>Good through management	
27	Native Hedgerow with trees	Native Hedgerow with trees	Low - Low	Moderate - Good	0.74	Low	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Low	3.69	Enhance condition Moderate>Good through management	
28	Native Hedgerow with trees	Native Species Rich Hedgerow with trees	Low - Medium	Lower Distinctiveness Habitat - Good	0.34	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	2.71	Enhance to species-rich hedgerow through additional planting	
29	Native Species Rich Hedgerow with trees	Native Species Rich Hedgerow with trees	Medium - Medium	Moderate - Good	0.21	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	1.96	Enhance condition Moderate>Good through management	
30	Native Hedgerow with trees	Native Species Rich Hedgerow with trees	Low - Medium	Lower Distinctiveness Habitat - Good	0.23	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	1.83	Enhance to species-rich hedgerow through additional planting	
32	Native Hedgerow with trees	Native Species Rich Hedgerow with trees	Low - Medium	Lower Distinctiveness Habitat - Good	0.39	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	3.11	Enhance to species-rich hedgerow through additional planting	
33	Native Hedgerow with trees - Associated with bank or ditch	Native Species Rich Hedgerow with trees - Associated with bank or ditch	Medium - High	Lower Distinctiveness Habitat - Good	0.17	High	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	2.38	Enhance to species-rich hedgerow through additional planting	
34	Native Hedgerow	Native Hedgerow	Low - Low	Moderate - Good	0.11	Low	Good	Low	Area/compensation not in local strategy/ no local strategy	10	Low	0.59	Enhance condition Moderate>Good through management	
35	Native Hedgerow with trees - Associated with bank or ditch	Native Species Rich Hedgerow with trees - Associated with bank or ditch	Medium - High	Lower Distinctiveness Habitat - Good	0.28	High	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	3.91	Enhance to species-rich hedgerow through additional planting	
36	Native Species Rich Hedgerow	Native Species Rich Hedgerow	Medium - Medium	Moderate - Good	0.41	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	10	Medium	4.05	Enhance condition Moderate>Good through management	
37	Native Hedgerow with trees	Native Species Rich Hedgerow with trees	Low - Medium	Lower Distinctiveness Habitat - Good	0.24	Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	20	Medium	1.91	Enhance to species-rich hedgerow through additional planting	

APPENDIX 8.1:

FLOOD RISK ASSESSMENT AND SURFACE WATER DRAINAGE

STRATEGY

[PROVIDED IN SEPARATE DOCUMENT]

APPENDIX 9.1:

CSA METHODOLOGY TABLES

Table LE 1

LANDSCAPE / TOWNSCAPE QUALITY AND VALUE

	Very High	High	Medium	Low
Description of Landscape/Townscape Quality and Value	<p>Landscape Quality: Intact and very attractive landscape which may be nationally recognised/designated for its scenic beauty. e.g. National Park, Area of Outstanding Natural Beauty or World Heritage Site.</p> <p>Townscape Quality: A townscape of very high quality which is unique in its character, and recognised nationally/internationally. e.g. World Heritage Site</p> <p>Value: Very high quality landscape or townscape with Statutory Designation for landscape/townscape quality/ value, e.g. National Park, World Heritage Site, Registered Park or Garden. Contains rare elements or significant cultural/historical associations.</p>	<p>Landscape Quality: A landscape, usually combining varied topography, historic features and few visual detractors. A landscape known and cherished by many people from across the region. e.g. County Landscape Site such as a Special Landscape Area.</p> <p>Townscape Quality: A well designed townscape of high quality with a locally recognised and distinctive character e.g. Conservation Area</p> <p>Value: High quality landscape/townscape or lower quality landscape with un-fettered public access, (e.g. commons, public park) or with strong cultural associations. May have important views out to landmarks/designated landscapes and few detracting features. May possess perceptual qualities of tranquility or wildness.</p>	<p>Landscape Quality: Non-designated landscape area, generally pleasant but with no distinctive features, often displaying relatively ordinary characteristics. May have detracting features.</p> <p>Townscape Quality: A typical, pleasant townscape with a coherent urban form but with no distinguishing features or designation for quality.</p> <p>Value: An ordinary landscape/townscape of local value which may have some detracting features. No recognised statutory designations for landscape/townscape quality. A landscape which may have limited public access and/ or have pleasant views out, or be visible in public views.</p>	<p>Landscape / Townscape Quality: Unattractive or degraded landscape/townscape, affected by numerous detracting elements e.g. industrial areas, infrastructure routes and un-restored mineral extractions.</p> <p>Value: Landscape/townscape generally of lower quality. A landscape with limited public access, no designations or recognised cultural significance. Limited public views.</p>

Table LE 2

LANDSCAPE / TOWNSCAPE SENSITIVITY

	Very High	High	Medium	Low
Description of Sensitivity	<p>A landscape/townscape with a very low ability to accommodate change such as a nationally designated landscape.</p>	<p>A landscape/townscape with limited ability to accommodate change because such change may lead to some loss of valuable features or elements. Development of the type proposed could potentially be discordant with the character of the landscape/townscape.</p>	<p>A landscape/townscape with reasonable ability to accommodate change. Change may lead to a limited loss of some features or characteristics. Development of the type proposed would not be discordant with the character of the landscape/townscape.</p>	<p>A landscape/townscape with good ability to accommodate change. Change would not lead to a significant loss of features or characteristics, and there would be no significant loss of character or quality. Development of the type proposed would not be discordant with the landscape/townscape in which it is set and may result in a beneficial change.</p>

Table LE 3 LANDSCAPE / TOWNSCAPE MAGNITUDE OF CHANGE

	Substantial	Moderate	Slight	Negligible	Neutral
Description of the Change predicted	Total loss of or significant impact on key characteristics, features or elements				
		Partial loss of or impact on key characteristics, features or elements			
			Minor loss of or alteration to one or more key landscape/ townscape characteristics, features or elements		
				Very minor loss or alteration to one or more key landscape/ townscape characteristics, features or elements	
					No loss or alteration of key landscape/ townscape characteristics, features or elements

Table LE 4 LANDSCAPE / TOWNSCAPE EFFECTS

	Substantial	Moderate	Slight	Negligible	Neutral
Description of the Effect	<p>The proposals will alter the landscape/ townscape in that they:</p> <ul style="list-style-type: none">• will result in substantial change in the character, landform, scale and pattern of the landscape/townscape;• are visually intrusive and would disrupt important views;• are likely to impact on the integrity of a range of characteristic features and elements and their setting;• will impact a high quality or highly vulnerable landscape;• cannot be adequately mitigated.	<p>The proposals:</p> <ul style="list-style-type: none">• noticeably change the character, scale and pattern of the landscape/townscape;• may have some impacts on a landscape/townscape of recognised quality or on vulnerable and important characteristic features or elements.• are a noticable element in key views;• not possible to fully mitigate.	<p>The proposals:</p> <ul style="list-style-type: none">• do not quite fit the landform and scale of the landscape/townscape and will result in relatively minor changes to existing landscape character;• will impact on certain views into and across the area;• mitigation will reduce the impact of the proposals but some minor residual effects will remain.	<p>The proposals:</p> <ul style="list-style-type: none">• complement the scale, landform and pattern of the landscape/townscape;• development may occupy only a relatively small part of the Site;• maintain the majority of landscape features;• incorporates measures for mitigation to ensure the scheme will blend in well with the landscape/townscape and mitigates any loss of vegetation.	<p>The proposals:</p> <ul style="list-style-type: none">• maintain existing landscape/townscape character;• has no impact on landscape features, such as trees, hedgerows, watercourses, etc.;• utilises a highly degraded landscape or brownfield site.

Footnote:

1. Each level (other than neutral) of change identified can be either regarded as 'beneficial' or 'adverse'. The above table relates to adverse landscape effects, however where proposals complement or enhance landscape character, these will have a comparable range of beneficial landscape effects.

Table VE 1

VISUAL SENSITIVITY

		High	Medium	Low
Description of the Receptor		<p>Residential properties with predominantly open views from windows, garden or curtilage. Views will normally be from ground and first floors and from two or more windows of rooms mainly in use during the day.</p> <p>Users of Public Rights of Way in sensitive or generally unspoilt areas.</p> <p>Predominantly non-motorised users of minor or unclassified roads in the countryside.</p> <p>Views from within an Area of Outstanding Natural Beauty, National Park, World Heritage Site or Conservation Area and views for visitors to recognised viewpoints or beauty spots.</p> <p>Users of outdoor recreational facilities with predominantly open views where the purpose of that recreation is enjoyment of the countryside - e.g. Country Parks, National Trust or other access land etc.</p>		
			<p>Residential properties with partial views from windows, garden or curtilage. Views will normally be from first floor windows only, or an oblique view from one ground floor window, or may be partially obscured by garden or other intervening vegetation.</p> <p>Users of Public Rights of Way in less sensitive areas or where there are significant existing intrusive features.</p> <p>Users of outdoor recreational facilities with restricted views or where the purpose of that recreation is incidental to the view e.g. sports fields.</p> <p>Schools and other institutional buildings, and their outdoor areas.</p> <p>Users of minor or unclassified roads in the countryside, whether motorised or not.</p>	
				<p>People in their place of work.</p> <p>Users of main roads or passengers in public transport on main routes.</p> <p>Users of outdoor recreational facilities with restricted views and where the purpose of that recreation is unrelated to the view e.g. go-karting track.</p>

Table VE 2 VISUAL MAGNITUDE OF CHANGE					
Description of the Change predicted	Substantial	Moderate	Slight	Negligible	Neutral
	Large and dominating changes which affect a substantial part of the view.				
		Clearly perceptible and noticeable changes within a significant proportion of the view.			
			Small changes to existing views, either as a minor component of a wider view, or smaller changes over a larger proportion of the view(s).		
				Very minor changes over a small proportion of the view(s).	
					No discernible change to the view(s).

Table VE 3 VISUAL EFFECTS					
Description of the Effects	Substantial	Moderate	Slight	Negligible	Neutral
	The proposals would have a significant impact on a view from a receptor of medium sensitivity, or less damage (or improvement) to a view from a highly sensitive receptor, and would be an obvious or dominant element in the view.				
		The proposals would impact on a view from a medium sensitive receptor, or less harm (or improvement) to a view from a more sensitive receptor, and would be a readily discernible element in the view.			
			The proposals would have a limited effect on a view from a medium sensitive receptor, but would still be a visible element within the view, or a greater effect on a view from a receptor of lower sensitivity.		
				The proposals would result in a negligible change to the view but would still be discernible.	
					No change in the view.

Footnote:

1. Each level (other than neutral) of change identified can be either regarded as 'beneficial' or 'adverse'.