



© Crown Copyright [and database rights Oxfordshire County Council] [2021] OS [0100023343]. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.

## KEY

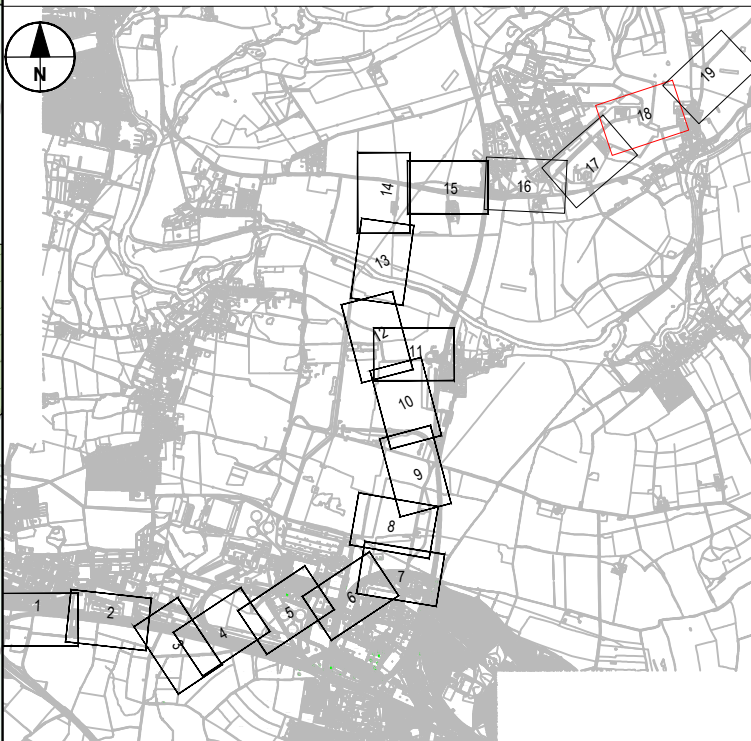
- |  |  |  |  |
|--|--|--|--|
|  | LE1.1 AMENITY GRASS                      |  | LE6.4 MARSH AND WET GRASSLAND              |
|  | LE1.2 GRASS WITH BULBS                   |  | SPECIES RICH GRASS WITH INTERMITTENT TREES |
|  | LE1.3 SPECIES RICH GRASS                 |  | HAWTHORN PLANTING                          |
|  | LE2.1 WOODLAND                           |  | POND                                       |
|  | LE2.2 WOODLAND EDGE/SCRUB                |  | RETAINED VEGETATION                        |
|  | LE2.4 LINEAR BELT OF SHRUBS AND TREES    |  | GROUNDCOVER/ SHRUBS                        |
|  | LE3.2 ORNAMENTAL SHRUBS                  |  | RIPARIAN PLANTING                          |
|  | LE4.4 NATIVE SPECIES HEDGEROW WITH TREES |  | GRASSCRETE                                 |
|  | LE5.1 INDIVIDUAL TREE                    |  | LIGHTING COLUMN                            |

INDICATIVE LOCATION OF ACOUSTIC BARRIER

IT IS ASSUMED THAT ALL WORKS ON THIS DRAWING WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROPRIATE METHOD STATEMENT.

THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT.

- THE LANDSCAPE DRAWINGS ARE ISSUED FOR INFORMATION AND TO SET OUT THE MAIN DESIGN INTENT AND MITIGATION STRATEGIES.
- THE RED LINE BOUNDARY SHOWN IS BASED ON DRAWING GEN-ACM-HGN-HIF1\_ZZ\_ZZ\_ZZ-DR-CH-0001-P17
- THE LANDSCAPE DESIGN LAYOUT IS BASED ON THE LATEST GENERAL ARRANGEMENT HIGHWAY LAYOUTS AS FOLLOWS:
  - A4130 WIDENING, HANDOVER REVISION P07
  - SCIENCE BRIDGE, HANDOVER REVISION P08
  - RIVER CROSSING, HANDOVER REVISION P08
  - CLIFTON BYPASS, HANDOVER REVISION P09
- THE PROPOSED LANDSCAPE DESIGN LAYOUTS TAKE INTO ACCOUNT THE EXISTING UTILITIES. UTILITIES DIVERSION AND REROUTING MIGHT IMPACT THE FINAL LANDSCAPE DESIGN LAYOUTS.
- FOR INFORMATION ON EXISTING VEGETATION PLEASE REFER TO THE DRAFT ARBORICULTURIST IMPACT ASSESSMENT (AIA) GEN\_PD-ACM-ELS-SW\_ZZ\_ZZ\_ZZ-RP-AB-0002



REVISION	By	Check	Date	Suffix
FIRST REVISION	JG	MAL	17/06/21	P01
SECOND REVISION	JG	MAL	25/08/21	P02
THIRD VERSION	JG	MAL	13/09/21	P03

Purpose of issue  
**FOR APPROVAL**

Client  
County Hall  
New Road  
Oxford  
OX1 1ND  
**OXFORDSHIRE COUNTY COUNCIL**

Project Title  
**DIDCOT GARDEN TOWN HOUSING INFRASTRUCTURE FUND (HIF 1)**

Drawing Title  
**FIGURE 8.72R PRELIMINARY LANDSCAPE MASTERPLAN SHEET 18 OF 19**

Designed TRB	Drawn JG	Checked MAL	Approved AGB	Date 13/09/21
Internal Project No. 60632497		Suitability S4		
Scale @ A1 1:1000		Discipline Landscape and Visual		

THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF AECOM'S APPOINTMENT BY ITS CLIENT. AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING AECOM'S EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.

AECOM  
63-77 Victoria Street  
St Albans  
Herts  
AL1 3ER  
Tel: +44 (0) 172 7535 000  
[www.aecom.com](http://www.aecom.com)  
**AECOM**  
AECOM Infrastructure & Environment UK Limited  
Registered in England Registered number: 880328  
Registered office: Midpoint, Alencon Link,  
Basingstoke, Hampshire RG21 7PP

Drawing Number	Work Package ID	Volume	Type	Number	Rev
GEN_PD-ACM-ELS -DGT_ZZ_ZZ_ZZ-DR-LV -0018					P03
Originator		Location		Role	





© Crown Copyright [and database rights Oxfordshire County Council] [2021] OS [0100023343]. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.

## KEY

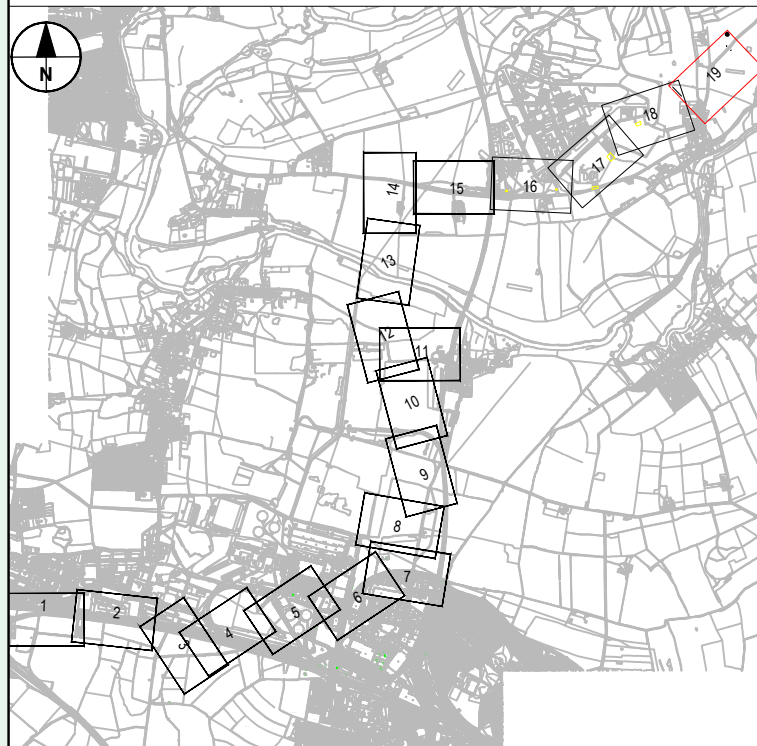
- |  |  |  |  |
|--|--|--|--|
|  | LE1.1 AMENITY GRASS                      |  | LE6.4 MARSH AND WET GRASSLAND              |
|  | LE1.2 GRASS WITH BULBS                   |  | SPECIES RICH GRASS WITH INTERMITTENT TREES |
|  | LE1.3 SPECIES RICH GRASS                 |  | HAWTHORN PLANTING                          |
|  | LE2.1 WOODLAND                           |  | POND                                       |
|  | LE2.2 WOODLAND EDGE/SCRUB                |  | RETAINED VEGETATION                        |
|  | LE2.4 LINEAR BELT OF SHRUBS AND TREES    |  | GROUNDCOVER/ SHRUBS                        |
|  | LE3.2 ORNAMENTAL SHRUBS                  |  | RIPARIAN PLANTING                          |
|  | LE4.4 NATIVE SPECIES HEDGEROW WITH TREES |  | GRASSCRETE                                 |
|  | LE5.1 INDIVIDUAL TREE                    |  | LIGHTING COLUMN                            |

INDICATIVE LOCATION OF ACOUSTIC BARRIER

IT IS ASSUMED THAT ALL WORKS ON THIS DRAWING WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROPRIATE METHOD STATEMENT.

THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT.

1. THE LANDSCAPE DRAWINGS ARE ISSUED FOR INFORMATION AND TO SET OUT THE MAIN DESIGN INTENT AND MITIGATION STRATEGIES.
2. THE RED LINE BOUNDARY SHOWN IS BASED ON DRAWING  
GEN-ACM-HGN-HIF1\_ZZ\_ZZ\_ZZ-DR-CH-0001-P17
3. THE LANDSCAPE DESIGN LAYOUT IS BASED ON THE LATEST GENERAL ARRANGEMENT HIGHWAY LAYOUTS AS FOLLOWS:
  - A4130 WIDENING, HANDOVER REVISION P07
  - SCIENCE BRIDGE, HANDOVER REVISION P08
  - RIVER CROSSING, HANDOVER REVISION P08
  - CLIFTON BYPASS, HANDOVER REVISION P09
4. THE PROPOSED LANDSCAPE DESIGN LAYOUTS TAKE INTO ACCOUNT THE EXISTING UTILITIES. UTILITIES DIVERSION AND REROUTING MIGHT IMPACT THE FINAL LANDSCAPE DESIGN LAYOUTS.
5. FOR INFORMATION ON EXISTING VEGETATION PLEASE REFER TO THE DRAFT ARBORICULTURIST IMPACT ASSESSMENT (AIA) GEN\_PD-ACM-ELS-SW\_ZZ\_ZZ\_ZZ-RP-AB-0002



REVISION DETAILS	By	Check	Date	Suffix
FIRST REVISION	JG	MAL	17/06/21	P01
SECOND REVISION	JG	MAL	25/08/21	P02
THIRD VERSION	JG	MAL	13/09/21	P03

Purpose of issue  
**FOR APPROVAL**

Client  
County Hall  
New Road  
Oxford  
OX1 1ND  
**OXFORDSHIRE  
COUNTY COUNCIL**

Project Title  
**DIDCOT GARDEN TOWN  
HOUSING INFRASTRUCTURE  
FUND (HIF 1)**

Drawing Title  
**FIGURE 8.72S  
PRELIMINARY LANDSCAPE  
MASTERPLAN  
SHEET 19 OF 19**

Designed TRB	Drawn JG	Checked MAL	Approved AGB	Date 13/09/21
Internal Project No. 60632497		Suitability S4		
Scale @ A1 1:1000		Discipline Landscape and Visual		

THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF AECOM'S APPOINTMENT BY ITS CLIENT. AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING AECOM'S EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.

AECOM  
63-77 Victoria Street  
St Albans  
Herts  
AL1 3ER  
Tel: +44 (0) 172 7535 000  
[www.aecom.com](http://www.aecom.com)

**AECOM**  
AECOM Infrastructure & Environment UK Limited  
Registered in England Registered number: 880328  
Registered office: Midpoint, Alencon Link,  
Basingstoke, Hampshire RG21 7PP

Drawing Number	Work Package ID	Volume	Type	Number	Rev
GEN_PD-ACM-ELS-DGT_ZZ_ZZ_ZZ-DR-LV-0019					P03
Originator	Location	Role			



## Appendix C Strategic Significance Policy

Plan	Policy
Biodiversity and Planning in Oxfordshire	<p><b>Legal protection for the following biodiversity features varies, but all are protected through the planning system:</b></p> <p>Local Wildlife Sites (LWS) Local Geological Sites (LGS) Irreplaceable Habitats (e.g. Ancient Woodland) Veteran trees Priority Habitats and Priority Species Grasslands (<i>Lowland meadows, Lowland calcareous grassland and Lowland heathland</i>), Woodlands (<i>Lowland wood pasture &amp; parkland, Lowland beech and yew woodland; Lowland Mixed Deciduous Woodland; wet woodland; traditional orchards</i>), Wetlands and others such as hedgerows and arable field margins</p>
Oxfordshire Plan 2050 – Securing Nature’s Benefits	<p><b>Potential considerations for the Oxfordshire Plan 2050 include:</b></p> <p><i>‘Protect, enhance, expand and link key wildlife areas to achieve a measurable net gain in biodiversity and other environmental services, avoiding further fragmentation’</i></p> <p><i>‘Deliver new and enhanced green infrastructure assets to meet the needs of the expanding population in locations and ways that deliver multiple benefits, including for biodiversity, flood risk, air quality and climate change’</i></p>
Oxfordshire Biodiversity Action Plan (Wild Oxfordshire)	<p><b>Habitats that are present on site and are included within the Oxfordshire Plan include:</b></p> <p><i>Ponds:</i> found throughout Oxfordshire, may be rich in plants and invertebrates. Likely to be breeding sites for amphibians, including great crested newt. Sensitive to changes in hydrology and nutrient status.</p> <p><i>Reedbeds:</i> of restricted distribution in Oxfordshire, important for birds, may support water voles or rare plants. Sensitive to changes in hydrology.</p> <p><i>Rivers:</i> found throughout Oxfordshire, provide important wildlife corridors. Likely to support water vole, otter, and a variety of invertebrates.</p> <p><i>Lowland Mixed Deciduous Woodland:</i> found across Oxfordshire, those with rich ground flora are of particular biodiversity interest. Also important for bats, woodland birds and butterflies, occasionally support dormice.</p> <p><i>Hedgerows:</i> an important linking habitat found throughout Oxfordshire, of particular biodiversity value when they consist of a large proportion of native woody species, used by foraging birds and bats, dormice and a range of invertebrates. (Subject to the Hedgerow Regulations 1997).</p>
VoWHD Local Plan 2031 Part 1	<p><b>Strategic Objective (SO): Protecting the environment and responding to climate change</b></p> <p><b>SO10:</b> Maintain and improve the natural environment including biodiversity, landscape, Green Infrastructure and waterways.</p> <p><b>Core Policy 44: Landscape</b> – The key features that contribute to the nature and quality of the Vale of White Horse District’s landscape will be protected from harmful development and where possible enhanced, in particular, features such as trees, hedgerows, woodland, field boundaries, watercourses and waterbodies</p>

Plan	Policy
	<p><b>Core Policy 45: Green Infrastructure</b> – a net gain in green infrastructure including biodiversity will be sought either through on-site provision or off-site contributions and targeted use of other funding sources</p> <p><b>Core Policy 46: Conservation and Improvement of Biodiversity</b> – which seeks to protect and enhance biodiversity across the district.</p>
SODC Local Plan 2035	<p><b>Chapter 7: Natural and Historic Environment</b></p> <p><b>Policy ENV1: Landscape and Countryside</b> - South Oxfordshire's landscape, countryside and rural areas will be protected against harmful development. Development will only be permitted where it protects and, where possible enhances, features that contribute to the nature and quality of South Oxfordshire's landscapes, in particular: i) trees (including individual trees, groups of trees and woodlands), hedgerows and field boundaries; ii) irreplaceable habitats such as ancient woodland and aged or veteran trees found outside ancient woodland; iii) the landscapes, waterscapes, cultural heritage and user enjoyment of the River Thames, its tributaries and flood plains; iv) other watercourse and water bodies.</p> <p>It also states that "The Council will seek the retention of important hedgerows. Where retention is not possible and a proposal seeks the removal of a hedgerow, the Council will require compensatory planting with a mixture of native hedgerow species."</p> <p><b>Policy ENV3: Biodiversity</b></p> <p>South Oxfordshire supports a rich variety of natural habitats and species. Many of these habitats are of national and international significance. These include: Special Areas of Conservation (SAC), Site of Special Scientific Interest (SSSI), confirmed or proposed Local Wildlife Sites, Local Nature Reserves, Local Geological Sites.</p> <p>In addition, there are numerous other important natural habitats, which are priority habitats of principal importance for the purpose of conserving biodiversity (under Section 41 of the Natural Environment and Rural Communities Act)</p> <p><b>Policy ENV4: Watercourses</b></p> <p>"Watercourses are vital to biodiversity, provide a unique range of habitats, act as wildlife corridors, and form an important element of South Oxfordshire's ecological network. They make a significant contribution towards the character of our landscape and form an important part of Green Infrastructure. They provide vital ecosystem services, help improve water quality, provide drainage and flood management and provide green space for informal recreation. Of specific note are South Oxfordshire's globally rare chalk streams which support special wildlife habitats and species"</p>

## Appendix D Condition Assessment Rationale

Habitat type	Habitat condition assessment	Survey data reference	Habitat condition sheet	Assessment	Assigned condition
Urban - Developed land; sealed surface	No assessment required; condition is pre-set.	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Urban habitat type	Pre-set	N/A - Other
Grassland – other neutral grassland	Criteria met – Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed; cover of bracken less than 20% and cover of scrub (including bramble) less than 5%; There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of undesirable species and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of the total area. Total: 3/5	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Grassland Habitat Type (low distinctiveness)	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Moderate
Grassland - Modified grassland	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed; Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Grassland Habitat Type (low distinctiveness)	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Poor

Habitat type	Habitat condition assessment	Survey data reference	Habitat condition sheet	Assessment	Assigned condition
	should be classified as the relevant scrub habitat type; Cover of bracken less than 20%. Total: 3/7				
Cropland - Cereal crops	No assessment required; condition is pre-set.	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Pre-set	Pre-set	N/A – Agricultural
Heathland and scrub – Mixed scrub	Criteria met - There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species make up less than 5% of ground cover. Total: 1/5	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Scrub Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Poor
Heathland and scrub – Mixed scrub	Criteria met – There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs; The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s); There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species make up less than 5% of ground cover. Total: 3/5	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Scrub Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Moderate
Sparsely vegetated land - Ruderal/ephemeral	Criteria met - There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife. Total 1/3	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Urban Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Poor

Habitat type	Habitat condition assessment	Survey data reference	Habitat condition sheet	Assessment	Assigned condition
Wetland - Reedbeds	Criteria met – Cover of bare ground less than %; There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species make up less than 5% of ground cover. Total – 2/6	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Wetland Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Poor
Woodland and forest - Lowland mixed deciduous woodland	Age distribution of trees (2); Wild, domestic and feral herbivore damage (2); No invasive species present in woodland (3); Five or more native tree or shrub species found across woodland parcel (3); 50-80% of canopy trees and 50-80% of understory shrubs are native (2); Open space within woodland (2); Woodland regeneration (2); Tree health (no evidence, assumed 2); No recognisable NVC community (1); Woodland vertical structure (no evidence, assumed 2); No Veteran trees present (1); Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps (1); No nutrient enrichment or damaged ground (3). Total 26/39	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Woodland Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Moderate
Woodland and forest - Other woodland; broad-leaved	Age distribution of trees (1); Wild, domestic and feral herbivore damage (2); No invasive species present in woodland (3); Three to four native tree or shrub species found across woodland parcel (2); 50-80% of canopy trees and 50-80% of understory shrubs are native (2); Open space within woodland (2); Woodland regeneration (1); Tree health (no evidence, assumed 2); No recognisable NVC community (1); Woodland vertical structure (no	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Woodland Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Poor

Habitat type	Habitat condition assessment	Survey data reference	Habitat condition sheet	Assessment	Assigned condition
	evidence, assumed 2); No Veteran trees present (1); Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps (1); More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground (1). Total 21/39				
Woodland and forest - Other woodland; mixed	Age distribution of trees (1); Wild, domestic and feral herbivore damage (2); No invasive species present in woodland (3); Three to four native tree or shrub species found across woodland parcel (2); 50-80% of canopy trees and 50-80% of understory shrubs are native (2); Open space within woodland (2); Woodland regeneration (1); Tree health (no evidence, assumed 2); No recognisable NVC community (1); Woodland vertical structure (no evidence, assumed 2); No Veteran trees present (1); Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps (1); More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground (1). Total 21/39	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Woodland Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Poor
Native Species Rich Hedgerow with trees/ Native Species Rich Hedgerow/ Native Hedgerow	Limited evidence for assessment, with this information recorded: Dominant species recorded within the hedgerows included blackthorn ( <i>Prunus spinosa</i> ) and hawthorn ( <i>Crataegus mongyna</i> ) with frequent field maple ( <i>Acer campestre</i> ), bramble ( <i>Rubus fruticosus</i> agg.) and occasional sycamore ( <i>Acer pseudoplatanus</i> ), and rose ( <i>Rosa</i> sp.).	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Hedgerow Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Good to poor



Habitat type	Habitat condition assessment	Survey data reference	Habitat condition sheet	Assessment	Assigned condition
	Intact species rich hedgerows with trees were also recorded. Mature tree species recorded included frequent, oak ( <i>Quercus robur</i> ), ash ( <i>Fraxinus excelsior</i> ), and occasional white polar ( <i>Populus alba</i> ). Assumed species rich hedgerows with trees good condition on a precautionary basis; Intact species rich hedgerows moderate condition on a precautionary basis and species poor hedgerows poor condition.				

## Appendix E Habitat Classification

### Habitat classification conversion

Phase 1 habitat classification	UK Habitat Classification
Hardstanding	Urban - Developed land; sealed surface
Buildings	Urban - Developed land; sealed surface
Bareground	Urban – Vacant/ derelict/bareground
Cultivated/disturbed land - amenity	Grassland - Modified grassland
Cultivated/disturbed land - arable	Cropland - Cereal crops
Improved grassland	Grassland - Modified grassland
Grassland -semi improved	Grassland – other neutral grassland
Other tall herb and fern - ruderal	Sparsely vegetated land - Ruderal/ephemeral
Broadleaved woodland - semi natural	Woodland and forest - Lowland mixed deciduous woodland
Mixed woodland - plantation	Woodland and forest - Other woodland; mixed
Scrub - scattered	Heathland and shrub - mixed scrub
Broadleaved parkland/scattered trees	Line of trees
Hedge with trees - native species-rich	Native Species Rich Hedgerow with trees
Hedge with trees – species poor	Native Hedgerow with trees
Intact hedge – species poor	Native Hedgerow
Dry ditch	Ditches
Broadleaved parkland/scattered tree	Urban Tree
Marsh/Marshy Background	Other improved grassland
Standing Water	Lakes – Ponds (Non- Priority Habitat)
Standing Water	Lakes - Ponds (Priority Habitat)
Swamp	Wetland - Reedbeds
Running Water	Rivers



## Appendix F Habitat Management Required to Achieve Target Condition

Habitat type	Habitat measure	Target condition	Time to target condition (years)	Habitat Condition Sheet	Condition Criteria	Associated habitat management requirements
Grassland – Modified grassland	Created	Poor	1	Grassland Habitat Types	Target condition is 'Poor' in one year. This will require the area to be seeded with an amenity grassland seed mix following ground preparation and regularly cut for amenity and security purposes.	Plant an appropriate seed mix. Manage as amenity grassland.
Grassland – Other neutral grassland	Created	Moderate	5	Grassland Habitat Types	Target condition is 'Moderate' in five years. Undesirable species and physical damage are below 5% cover. Cover of bracken less than 20% and cover of scrub and bramble less than 5% Variation of sward height with at least 20% being more than 7cm and 20% being less than 20%.	Year 1: June – Spray off or remove competitive/ruderal growth July – power/disc harrow August - Spray off or remove competitive/ruderal growth September to October – Seed with seed mix (Emorsgate EM5 or similar with additional yellow rattle @ 0.1g/m <sup>2</sup> )  Year 2: April to June/July – control annual weeds by pulling or pot treatment July to September – Mow to 5-10cm  Year 3 onwards Cut and collect arisings late July early August
Heathland and shrub – Mixed scrub	Created	Moderate	5	Grassland Habitat Types	Target condition is 'Moderate' in five years. Undesirable species to make up less than 5% of ground cover. Absence of invasive non-native species.	Ensure absence of invasive non-natives, undesirables to be <5% ground cover.

Habitat type	Habitat measure	Target condition	Time to target condition (years)	Habitat Condition Sheet	Condition Criteria	Associated habitat management requirements
					Representative of UKHab description and at least 3 woody species with not one comprising more than 75% of the cover. Good age range with seedlings, young shrubs and mature shrubs.	At least 3 woody species should be present with not one being more than 75% cover. Clearing glades or rides present within the scrub. Good age range- seedlings, young and mature shrubs present.
Lakes – Ponds (Non-Priority Habitat)	Created	Moderate	3	Lakes Habitat Types	Target condition is 'Moderate' in 3 years. Create semi-natural habitat (ie. Moderate distinctiveness or above) for at least 10m from the pond edge. Less than 10% of the pond is covered with duckweed or filamentous algae. No connection to other waterbodies, either via streams, ditches or artificial pipework. Absence of non-native plant and animal species. No artificial presence of fish – naturally occurring numbers to be low density.	Create semi-natural habitat (ie. Moderate distinctiveness or above) for at least 10m from the pond edge. Ensure less than 10% of the pond is covered with duckweed or filamentous algae. There should be no connection to other waterbodies, either via streams, ditches or artificial pipework. Non-native invasive species should be removed.
Lakes – Ponds (Priority Habitat)	Created	Moderate	3	Lakes Habitat Types	Target condition is 'Moderate' in 3 years. Create semi-natural habitat (ie. Moderate distinctiveness or above) for at least 10m from the pond edge. Less than 10% of the pond is covered with duckweed or filamentous algae. No connection to other waterbodies, either via streams, ditches or artificial pipework. Absence of non-native plant and animal species. No artificial presence of fish – naturally occurring numbers to be low density.	Manged to remove non-native species regularly. 10% of the pond should be covered with duckweed or filamentous algae. Should not be shaded more than 50% The water body should have semi natural riparian land for at least 10 m from the pond edge. Ponds will be fishless.



Habitat type	Habitat measure	Target condition	Time to target condition (years)	Habitat Condition Sheet	Condition Criteria	Associated habitat management requirements
Urban – Developed land; sealed surface	Created	N/A – Other	0	Urban Habitat Types	No assessment required; condition is pre-set.	N/A
Urban – Introduced Shrub	Created	N/A – Other	1	Urban Habitat Types	No assessment required; condition is pre-set.	N/A
Urban – Vacant/Derelict/Bareground	Created	N/A – Other	1	Urban Habitat Types	No assessment required; condition is pre-set.	N/A
Reed beds	Created	Good	12	Wetland Habitat Types	Dominated by common reeds being an early successional, less developed stage in the development of fens habitats	Year 1: Sow with wetland seed mix following ground preparation. Year 1 to 12+: Maintain reedbeds to include at least 60% common reeds. Manage weeds
Woodland and forest – Lowland mixed deciduous woodland	Created	Moderate	30+	Woodland Habitat Types	Target condition of 'Moderate' in 30+ years. Three age classes present. Erect fencing to prevent significant browsing damage evident in woodland. No invasive species present in the woodland. >80% of canopy trees and >80% of understorey shrubs are native. Five or more native tree or shrub species found across the woodland parcel. Open space within the woodland is 20-40% of woodland has areas of temporary open space. Woodland managed to ensure there is low risk pest or disease present. Less than 1 hectare in total nutrient enrichment across woodland area and/or less than 20% of woodland has damaged ground.	Seclude the area with fencing to prevent herbivore damage. This will also decrease woodland disturbance. Planting of saplings to give woodland regeneration. Fill in areas of open space.

Habitat type	Habitat measure	Target condition	Time to target condition (years)	Habitat Condition Sheet	Condition Criteria	Associated habitat management requirements
Woodland and forest – Other woodland; broadleaved	Created	Moderate	15	Woodland Habitat Types	<p>Target condition of 'Moderate' in 15 years.</p> <p>Three age classes present.</p> <p>Erect fencing to prevent significant browsing damage evident in woodland.</p> <p>No invasive species present in the woodland.</p> <p>&gt;80% of canopy trees and &gt;80% of understorey shrubs are native.</p> <p>Five or more native tree or shrub species found across the woodland parcel.</p> <p>Open space within the woodland is 20-40% of woodland has areas of temporary open space.</p> <p>Woodland managed to ensure there is low risk pest or disease present.</p> <p>Less than 1 hectare in total nutrient enrichment across woodland area and/or less than 20% of woodland has damaged ground.</p>	<p>Seclude the area with fencing to prevent herbivore damage. This will also decrease woodland disturbance.</p> <p>Year 0 to 5: Prepare ground, plant saplings and manage weeds and undesirable species.</p> <p>Year 5- 15: Selective thinning and coppicing to allow sunlight to the field layer – rotationally every two to three years. This will also create deadwood</p>
Native Species Rich Hedgerow	Created	Moderate	5	Hedgerow	<p>The condition criteria for hedgerows are as follows:</p> <p>Gap between ground and base of canopy &lt;0.5 m for &gt;90% of length;</p> <p>Gaps make up &lt;10% of total length and no canopy gaps &gt;5m;</p> <p>&gt;90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species;</p> <p>Plant species indicative of nutrient enrichment of soils dominate &lt;20% cover of the area of undisturbed ground;</p> <p>Height and width &gt;1.5 m average along length</p>	<p>To meet target condition, it will be necessary to:</p> <p>Carry out planting according to the specification in the Landscape Plan;</p> <p>Carry out planting to appropriate standards;</p> <p>Carry out planting with due diligence and do not introduce neophyte or invasive non-native species;</p> <p>Ensure gaps do not appear between the ground and base of the canopy, and along the length of the hedge;</p> <p>Monitor planting to ensure correct establishment, and take remedial action if growth fails.</p>



Habitat type	Habitat measure	Target condition	Time to target condition (years)	Habitat Condition Sheet	Condition Criteria	Associated habitat management requirements
Line of Trees	Created	Moderate	20	Hedgerow	The condition criteria for lines of trees are as follows: Continuous canopy Definition: trees < 1/3 expected fully mature height gaps make up <10% of total length and there are no canopy gaps >5 m	To meet target condition, it will be necessary to: Plant native tree species to create a continuous canopy and where gaps make up <10% of the total length and there are no canopy gaps >5m.
Other Rivers and streams	Created	Moderate	5	Rivers	Physical habitat features such as riparian cover, channel substrate, habitat type and in-stream vegetation. These features were used to assess the potential for waterbodies to support protected or notable species.	Multi-parameter water quality meter check to determine the physico-chemical quality (dissolved oxygen, pH, temperature and conductivity) of the watercourse. Removal of any invasive species. Future monitoring to be carried out to quantify the successful establishment of the habitat including the riparian zone.

# Appendix G Biodiversity Metric 3.0 Calculation

On-site baseline	<i>Habitat units</i>	558.37
	<i>Hedgerow units</i>	32.32
	<i>River units</i>	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	620.42
	<i>Hedgerow units</i>	36.64
	<i>River units</i>	0.00
On-site net % change (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	11.11%
	<i>Hedgerow units</i>	13.37%
	<i>River units</i>	0.00%
Off-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	62.05
	<i>Hedgerow units</i>	4.32
	<i>River units</i>	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	11.11%
	<i>Hedgerow units</i>	13.37%
	<i>River units</i>	0.00%
Trading rules Satisfied?	No - Check Trading Summary	



Didcot Garden Town HIF 1 Scheme

Detailed Results

Return to results menu

Summary Figures

Net project biodiversity units (including all on-site & off-site habitat retention/creation)	Habitat units	62.05
	Hedgerow units	4.32
	River units	0.00

Total project biodiversity % change (including all On-site & Off-site Habitat Creation + Retained Habitats)	Habitat units	11.11%
	Hedgerow units	13.37%
	River units	0.00%

Combined habitat retention and enhancement			
	Habitats	Hedgerows	Rivers
Total area / length	154.96	9.11	0.00
Total units	559.57	32.32	0.00
Area / length retained	54.96	3.79	0.00
Units Retained	243.68	14.95	0.00
Area / length proposed for enhancement	0.00	0.00	0.00
Baseline units proposed for enhancement	0.00	0.00	0.00
Area / length lost	100.00	5.32	0.00
Units lost	314.69	17.37	0.00

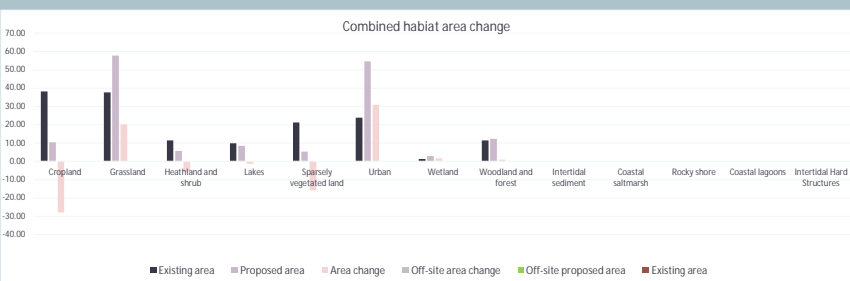
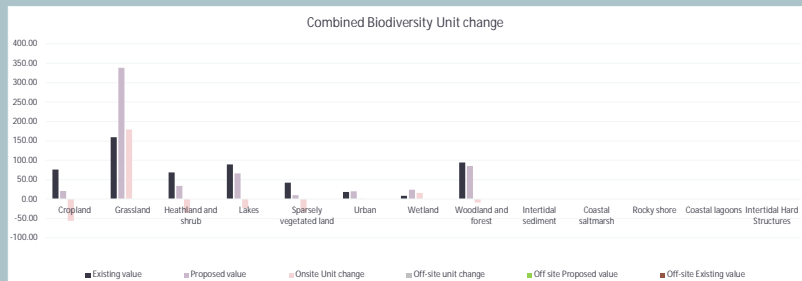
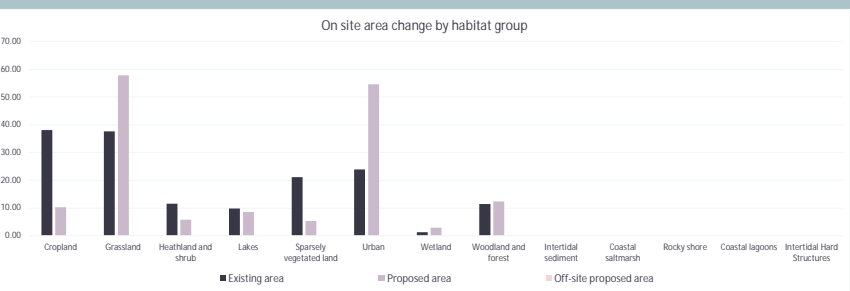
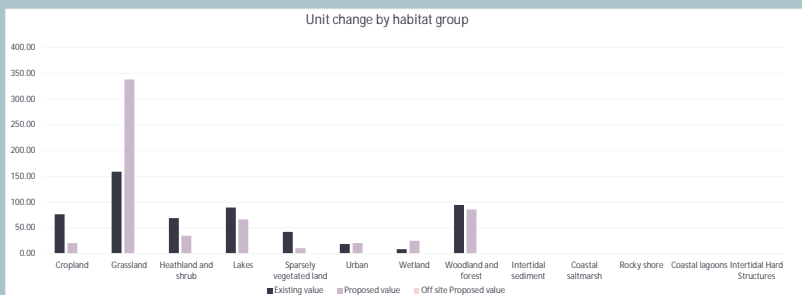
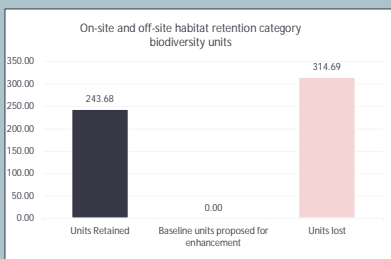
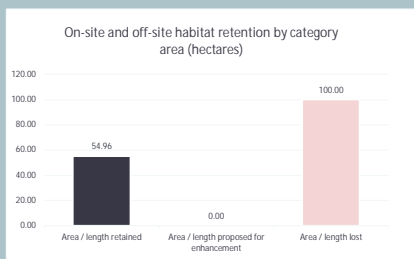
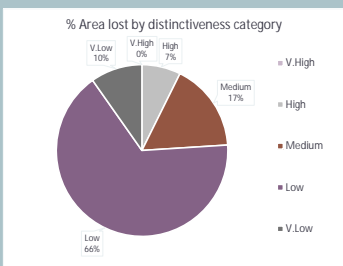
## Area habitats

On site change by broad habitat type						
Habitat group	Baseline		Post development on site		Onsite Change	
	Existing area	Existing value	Proposed area	Proposed value	Area change	Onsite Unit change
Cropland	38.14	76.28	10.31	20.62	-27.83	-55.66
Grassland	37.71	159.33	57.84	338.36	20.13	179.04
Heathland and shrub	11.62	68.90	5.74	34.62	-5.78	-34.28
Lakes	9.80	89.43	8.51	66.78	-1.29	-22.66
Sparsely vegetated land	21.17	42.34	5.32	10.64	-15.85	-31.70
Urban	23.89	18.90	54.68	20.34	30.79	1.44
Wetland	1.26	8.69	2.95	24.65	1.69	15.97
Woodland and forest	11.47	94.50	12.37	85.50	0.90	-9.00
Intertidal sediment	0.00	0.00	0.00	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00	0.00	0.00	0.00
Coastal lagoons	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal Hard Structures	0.00	0.00	0.00	0.00	0.00	0.00

Off site change by broad habitat type						
Habitat group	Baseline		Post development Off-site		Off-site Change	
	Existing area	Off-site Existing value	Off-site proposed area	Off site Proposed value	Off-site area change	Off-site unit change
Cropland	0.00	0.00	0.00	0.00	0.00	0.00
Grassland	0.00	0.00	0.00	0.00	0.00	0.00
Heathland and shrub	0.00	0.00	0.00	0.00	0.00	0.00
Lakes	0.00	0.00	0.00	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00	0.00
Urban	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0.00	0.00	0.00	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00	0.00	0.00	0.00
Coastal lagoons	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal Hard Structures	0.00	0.00	0.00	0.00	0.00	0.00

Combined on site and off site change by broad habitat type						
Habitat group	Baseline		On-site and Off-site post development		Combined change	
	Existing area	Existing value	Combined proposed area	Combined proposed value	Proposed area	Proposed value
Cropland	38.14	76.28	10.31	20.62	-27.83	-55.66
Grassland	37.71	159.33	57.84	338.36	20.13	179.04
Heathland and shrub	11.62	68.90	5.74	34.62	-5.78	-34.28
Lakes	9.80	89.43	8.51	66.78	-1.29	-22.66
Sparsely vegetated land	21.17	42.34	5.32	10.64	-15.85	-31.70
Urban	23.89	18.90	54.68	20.34	30.79	1.44
Wetland	1.26	8.69	2.95	24.65	1.69	15.97
Woodland and forest	11.47	94.50	12.37	85.50	0.90	-9.00
Intertidal sediment	0.00	0.00	0.00	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00	0.00	0.00	0.00
Coastal lagoons	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal Hard Structures	0.00	0.00	0.00	0.00	0.00	0.00

Combined area lost by distinctiveness band		
Category	Area lost (hectares)	Area lost (%)
V High	0	
High	7.31	7
Medium	16.07	17
Low	66.26	66
V.Low	9.76	10



## Hedgerows and Lines of Trees

## Hedgerows and Lines of Trees

Hedgerows and Lines of TreesRivers and Streams

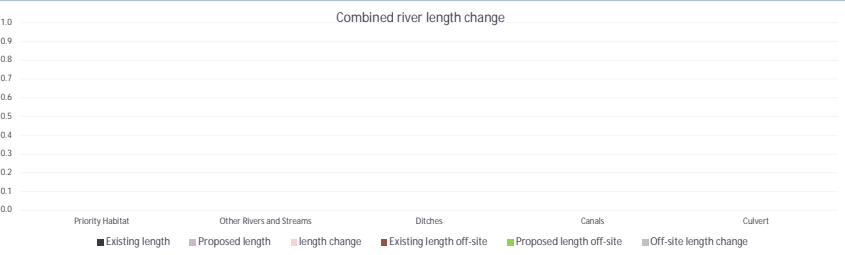
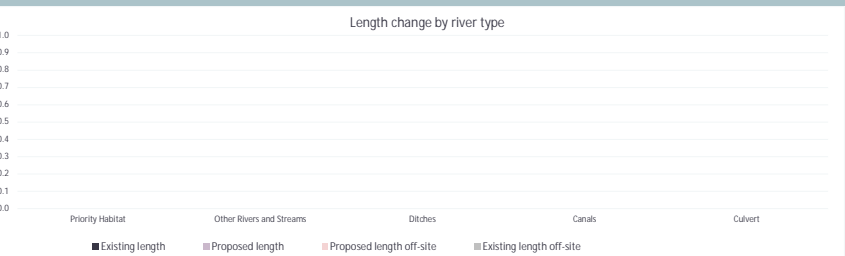
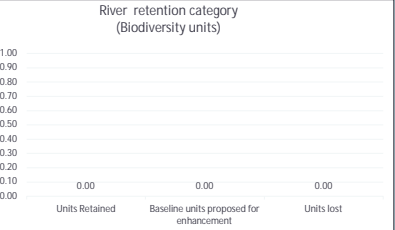
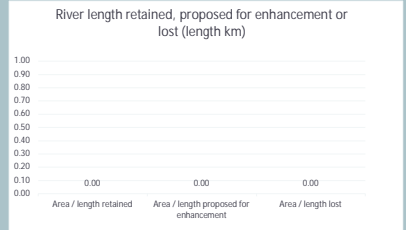
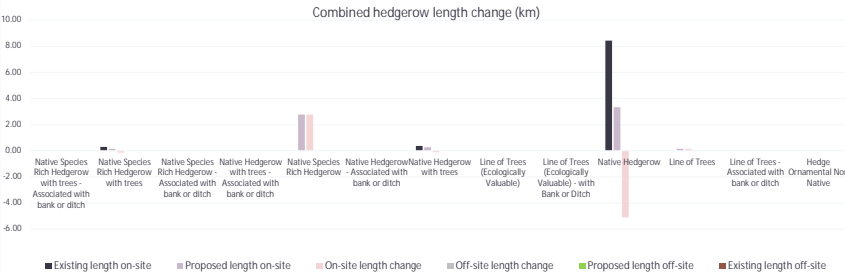
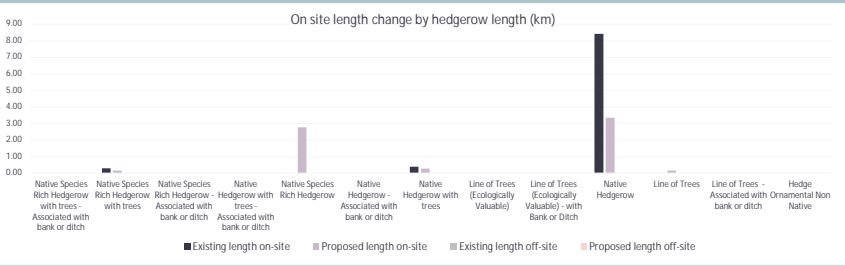
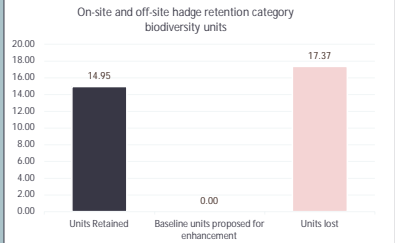
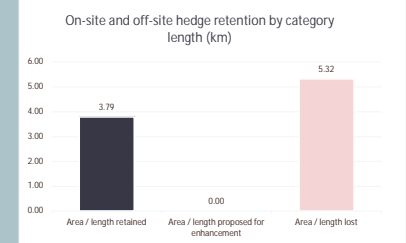
## Rivers and Streams

## ivers and Streams

Combined on and off site change by river type						
River type	Baseline		Post development on site		Onsite Change	
	Existing length	Existing value	Proposed length	Proposed value	length change	Onsite Unit change
Priority Habitat	0.0	0.0	0.0	0.0	0.0	0.0
Other Rivers and Streams	0.0	0.0	0.0	0.0	0.0	0.0
Ditches	0.0	0.0	0.0	0.0	0.0	0.0
Canals	0.0	0.0	0.0	0.0	0.0	0.0
Culvert	0.0	0.0	0.0	0.0	0.0	0.0

**% Length lost by distinctiveness category**

Distinctiveness Category	Percentage
V.Low	95%
Low	2%
Medium	2%
High	2%
V.High	0%



## Didcot Garden Town HIF 1 Scheme

## A-1 Site Habitat Baseline

[illegible][illegible]



[illegible]

Didcot Garden Town HIF 1 Scheme

A-2 Site Habitat Creation

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

**Note; Habitat selected has a time to target condition greater than 30 years. Non standard agreement may be required.**

**Check Areas - Area of development footprint and habitat creation exceeds the area of habitats lost**

Post development/ post intervention habitats																						
Broad Habitat	Proposed habitat	Area (hectare s)	Distinctiveness		Condition		Strategic significance			Temporal multiplier				Difficulty multipliers				Habitat units delivered	Comments			
			Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiple	Standard time to target	Habitat created in advance/yes	Delay in starting habitat	Standard or adjusted time to target condition	Final time to target condition/yes	Final time to target multiplier	Standard difficulty of	Applied difficulty multiplier		Final difficulty of	Difficulty multiplier applied	Assessor comments	Reviewer comments
Grassland	Other neutral grassland	1.97	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	14.51	Marsh/Marshy grassland. Habitat not listed in local plans however, it is considered significant for nature and therefore assigned medium strategic significance	
Grassland	Other neutral grassland	1.38	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	10.16	Marsh/Marshy grassland. Habitat not listed in local plans however, it is considered significant for nature and therefore assigned medium strategic significance	
Grassland	Modified grassland	1	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	1.93		
Grassland	Modified grassland	0.07	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.14		
Grassland	Modified grassland	0.01	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.02		
Urban	Developed land; sealed surface	3.82	Very Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	0			Standard time to target condition applied	0	1.000	Low	Standard difficulty applied	Medium	0.67	0.00		
Urban	Introduced shrub	0.26	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.50		
Urban	Vacant/derelict land/ bareground	0.94	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	1.81		
Wetland	Reedbeds	0.02	High	6	Good	3	Within areas for formally identified in local strategy	High strategic significance	1.15	12			Standard time to target condition applied	12	0.652	Medium	Standard difficulty applied	Medium	0.67	0.18	Habitat listed in local plans, therefore assigned high strategic significance	
Grassland	Other neutral grassland	16.91	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	124.53	Marsh/Marshy grassland. Habitat not listed in local plans however, it is considered significant for nature and therefore assigned medium strategic significance	
Grassland	Other neutral grassland	14	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	101.10	Marsh/Marshy grassland. Habitat not listed in local plans however, it is considered significant for nature and therefore assigned medium strategic significance	
Grassland	Other neutral grassland	0.3	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	2.21	Marsh/Marshy grassland. Habitat not listed in local plans however, it is considered significant for nature and therefore assigned medium strategic significance	
Heathland and shrub	Hawthorn scrub	0.98	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	0.94		
Lakes	Ponds (Non- Priority Habitat)	0.09	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	3			Standard time to target condition applied	3	0.899	Low	Standard difficulty applied	Low	1	0.06		
Lakes	Ponds (Non- Priority Habitat)	0.34	Medium	4	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	3.41		
Lakes	Ponds (Priority Habitat)	1.39	High	6	Moderate	2	Within areas for formally identified in local strategy	High strategic significance	1.15	3			Standard time to target condition applied	3	0.899	Medium	Standard difficulty applied	Medium	0.67	11.85	Large green infrastructure with landscaping designed to function both for drainage and biodiversity. Habitat listed in local plans, therefore assigned high strategic significance	
Lakes	Ponds (Priority Habitat)	0.14	High	6	Moderate	2	Within areas for formally identified in local strategy	High strategic significance	1.15	3			Standard time to target condition applied	3	0.899	Medium	Standard difficulty applied	Medium	0.67	1.16	Habitat listed in local plans, therefore assigned high strategic significance	
Grassland	Modified grassland	9.29	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	17.93		
Grassland	Modified grassland	0.16	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.31		
Grassland	Modified grassland	0.9	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	1.74		
Urban	Developed land; sealed surface	22	Very Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	0			Standard time to target condition applied	0	1.000	Low	Standard difficulty applied	Medium	0.67	0.00		
Urban	Introduced shrub	0.48	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.93		
Urban	Vacant/derelict land/ bareground	0.52	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	1.00		
Urban	Vacant/derelict land/ bareground	13.75	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	26.54		
Urban	Vacant/derelict land/ bareground	0.08	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.15		
Wetland	Reedbeds	1.81	High	6	Good	3	Within areas for formally identified in local strategy	High strategic significance	1.15	12			Standard time to target condition applied	12	0.652	Medium	Standard difficulty applied	Medium	0.67	18.37	Habitat listed in local plans, therefore assigned high strategic significance	
Wetland	Reedbeds	0.18	High	6	Good	3	Within areas for formally identified in local strategy	High strategic significance	1.15	12			Standard time to target condition applied	12	0.652	Medium	Standard difficulty applied	Medium	0.67	1.63	Habitat listed in local plans, therefore assigned high strategic significance	
Lakes	Ponds (Priority Habitat)	0.47	High	6	Moderate	2	Within areas for formally identified in local strategy	High strategic significance	1.15	3			Standard time to target condition applied	3	0.899	Medium	Standard difficulty applied	Medium	0.67	3.91	Habitat listed in local plans, therefore assigned high strategic significance	
Woodland and forest	Lowland mixed deciduous woodland	0.34	High	6	Moderate	2	Within areas for formally identified in local strategy	High strategic significance	1.15	30+			Standard time to target condition applied	30+	0.320	High	Standard difficulty applied	High	0.33	0.35	Habitat listed in local plans, therefore assigned high strategic significance	
Woodland and forest	Other woodland; broadleaved	5.94	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	15			Standard time to target condition applied	15	0.596	Low	Standard difficulty applied	Low	1	27.85		
Lakes	Ponds (Priority Habitat)	0.09	High	6	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	3			Standard time to target condition applied	3	0.899	Medium	Standard difficulty applied	Medium	0.67	0.40		
Grassland	Other neutral grassland	0.08	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	0.59	Marsh/Marshy grassland. Habitat not listed in local plans however, it is considered significant for nature and therefore assigned medium strategic significance	
Grassland	Other neutral grassland	0.02	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	0.16	Marsh/Marshy grassland. Habitat not listed in local plans however, it is considered significant for nature and therefore assigned medium strategic significance	
Grassland	Other neutral grassland	0.07	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	0.52	Marsh/Marshy grassland. Habitat not listed in local plans however, it is considered significant for nature and therefore assigned medium strategic significance	

[illegible]

B-1 Site Hedge Baseline

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

UK Habitats - existing habitats				Habitat distinctiveness		Habitat condition		Strategic significance			Suggested action to address habitat losses	Ecological baseline Total hedgerow units	Retention category biodiversity value						Comments	
Baseline ref	Hedge number	Hedgerow type	Length KM	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier			Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	Assessor comments	Reviewer comments
1	1	Native Hedgerow	4.4	Low	2	Poor	1	Within area formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	10.12	1.78		4.09	0.00	2.62	6.03	Habitat listed in local plans, therefore assigned high strategic significance	
2	2	Native Hedgerow	1.48	Low	2	Poor	1	Within area formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	3.40	0.53		1.22	0.00	0.95	2.19	Habitat listed in local plans, therefore assigned high strategic significance	
3	3	Native Hedgerow	1.24	Low	2	Moderate	2	Within area formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	5.70	0.56		2.58	0.00	0.68	3.13	Habitat listed in local plans, therefore assigned high strategic significance	
4	4	Native Hedgerow	0.05	Low	2	Moderate	2	Within area formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	0.23	0.01		0.05	0.00	0.04	0.18	Habitat listed in local plans, therefore assigned high strategic significance	
5	5	Native Hedgerow	1.25	Low	2	Poor	1	Within area formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	2.88	0.47		1.08	0.00	0.78	1.79	Habitat listed in local plans, therefore assigned high strategic significance	
6	6	Native Hedgerow with trees	0.01	Medium	4	Poor	1	Within area formally identified in local strategy	High strategic significance	1.15	Like for like or better	0.05	0.01		0.05	0.00	0.00	0.00	Habitat listed in local plans, therefore assigned high strategic significance	
7	7	Native Hedgerow with trees	0.05	Medium	4	Good	3	Within area formally identified in local strategy	High strategic significance	1.15	Like for like or better	0.69	0.02		0.28	0.00	0.03	0.41	Habitat listed in local plans, therefore assigned high strategic significance	
8	8	Native Hedgerow with trees	0.33	Medium	4	Moderate	2	Within area formally identified in local strategy	High strategic significance	1.15	Like for like or better	3.04	0.25		2.30	0.00	0.08	0.74	Habitat listed in local plans, therefore assigned high strategic significance	
9	9	Native Species Rich Hedgerow with trees	0.3	High	6	Good	3	Within area formally identified in local strategy	High strategic significance	1.15	Like for like or better	8.21	0.16		3.31	0.00	0.14	2.90	Habitat listed in local plans, therefore assigned high strategic significance	
10																				
11																				
12																				
13																				
14																				
			9.11									32.32	3.79	0.00	14.95	0.00	5.32	17.37		



## B-2 Site Hedge Creation

[Main Menu](#)

Instructions

		Proposed habitats		Habitat distinctiveness		Habitat condition		Strategic significance			Temporal multiplier					Difficulty risk multipliers				Hedge units delivered	Comments		
Baseline ref	New hedge number	Habitat type	Length km	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position	Standard Time to target	Habitat created in advance/years	Delay in starting habitat	Standard or adjusted time to target condition	Final time to target condition/years	Final Time to target multiplier	Standard difficulty of	Applied difficulty multiplier	Final difficulty of	Difficulty multiplier		Assessor comments	Reviewer comments
1	1	Native Species Rich Hedgerow	0.07	Medium	4	Minor site	2	Within or on for fully identified in local strategy	High strategic significance	1.15	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	0.54	Habitat listed in local plans, therefore assigned high strategic significance	
2	2	Line of Trees	0.16	Low	2	Minor site	2	Within or on for fully identified in local strategy	High strategic significance	1.15	20			Standard time to target condition applied	20	0.490	Low	Standard difficulty applied	Low	1	0.36	Habitat listed in local plans, therefore assigned high strategic significance	
3	3	Native Species Rich Hedgerow	2.7	Medium	4	Minor site	2	Within or on for fully identified in local strategy	High strategic significance	1.15	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	20.79	Habitat listed in local plans, therefore assigned high strategic significance	
4																							
5																							
6																							
7																							
8																							
			2.93																		21.69		

Didcot Northern Perimeter Road

## Headline Results

[Return to  
results menu](#)

On-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	20.97
On-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	21.23
On-site net % change (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00%
	<i>Hedgerow units</i>	0.00%
	<i>River units</i>	1.26%
Off-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.26
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00%
	<i>Hedgerow units</i>	0.00%
	<i>River units</i>	1.26%
Trading rules Satisfied?	Yes	

Didcot Northern Perimeter Road
Detailed Results

[Return to results menu](#)

## Summary Figures

Net project biodiversity units (including all on-site & off-site habitat retention/creation)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.26

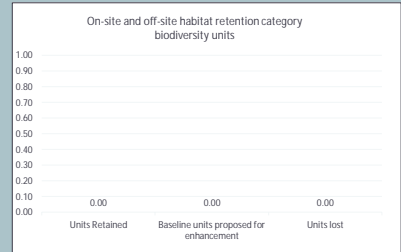
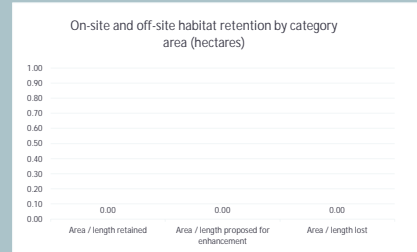
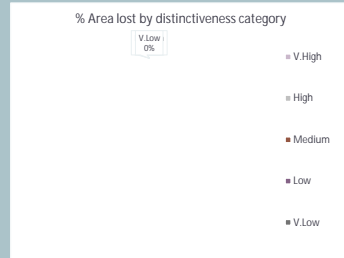
Total project biodiversity % change (including all On-site & Off-site Habitat Creation + Retained Habitats)	Habitat units	0.00%
	Hedgerow units	0.00%
	River units	1.26%

Combined habitat retention and enhancement			
	Habitats	Hedgerows	Rivers
Total area / length	0.00	0.00	1.77
Total units	0.00	0.00	20.97
Area / length retained	0.00	0.00	0.68
Units Retained	0.00	0.00	6.19
Area / length proposed for enhancement	0.00	0.00	0.94
Baseline units proposed for enhancement	0.00	0.00	12.60
Area / length lost	0.00	0.00	0.16
Units lost	0.00	0.00	2.28

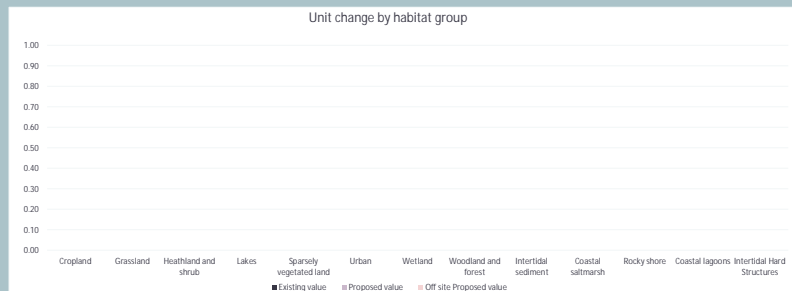
## Area habitats

On site change by broad habitat type						
Habitat group	Baseline		Post development on site		Onsite Change	
	Existing area	Existing value	Proposed area	Proposed value	Area change	Onsite Unit change
Cropland	0.00	0.00	0.00	0.00	0.00	0.00
Grassland	0.00	0.00	0.00	0.00	0.00	0.00
Heathland and shrub	0.00	0.00	0.00	0.00	0.00	0.00
Lakes	0.00	0.00	0.00	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00	0.00
Urban	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0.00	0.00	0.00	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00	0.00	0.00	0.00
Coastal lagoons	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal Hard Structures	0.00	0.00	0.00	0.00	0.00	0.00

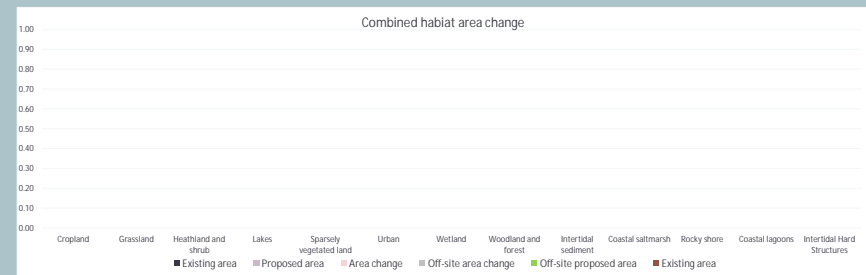
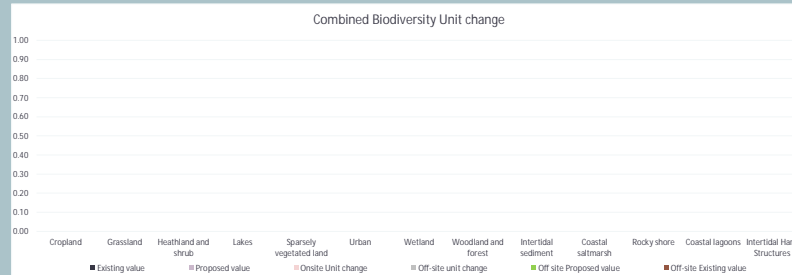
Combined area lost by distinctiveness band		
Category	Area lost (hectares)	Area lost (%)
VHigh	0	
High	0	
Medium	0	
Low	0	
VLow	0	



Off site change by broad habitat type						
Habitat group	Baseline		Post development Off-site		Off-site Change	
	Existing area	Off-site Existing value	Off-site proposed area	Off site Proposed value	Off-site area change	Off-site unit change
Cropland	0.00	0.00	0.00	0.00	0.00	0.00
Grassland	0.00	0.00	0.00	0.00	0.00	0.00
Heathland and shrub	0.00	0.00	0.00	0.00	0.00	0.00
Lakes	0.00	0.00	0.00	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00	0.00
Urban	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0.00	0.00	0.00	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00	0.00	0.00	0.00
Coastal lagoon	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal Hard Structures	0.00	0.00	0.00	0.00	0.00	0.00



Combined on site and off site change by broad habitat type						
Habitat group	Baseline		On-site and Off-site post development		Combined change	
	Existing area	Existing value	Combined proposed area	Combined proposed value	Proposed area	Proposed value
Cropland	0.00	0.00	0.00	0.00	0.00	0.00
Grassland	0.00	0.00	0.00	0.00	0.00	0.00
Heathland and shrub	0.00	0.00	0.00	0.00	0.00	0.00
Lakes	0.00	0.00	0.00	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00	0.00
Urban	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0.00	0.00	0.00	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00	0.00	0.00	0.00
Coastal lagoons	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal Hard Structures	0.00	0.00	0.00	0.00	0.00	0.00



## Hedgerows and Lines of Trees

## Hedgerows and Lines of Trees

## Hedgerows and Lines of Trees

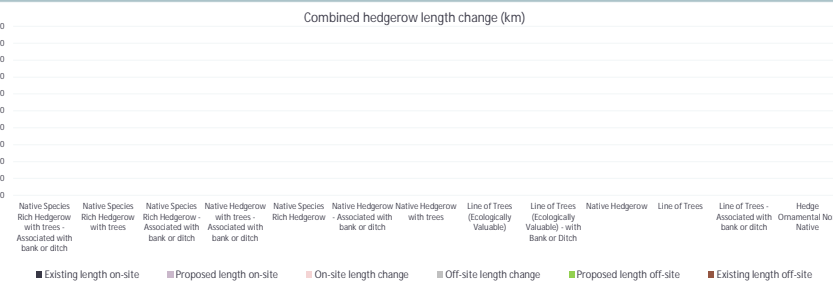
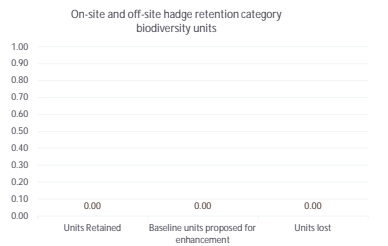
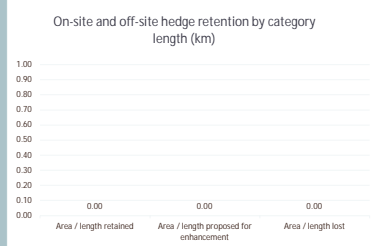
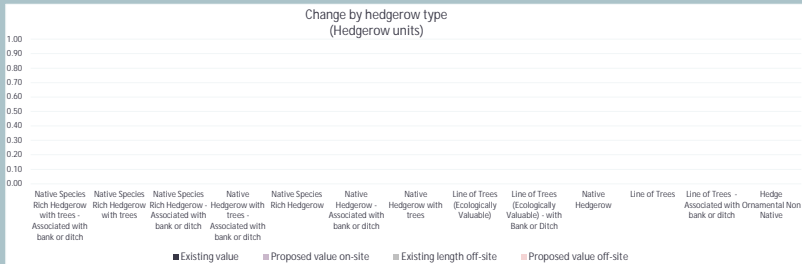
Rivers and Streams

## Rivers and Streams

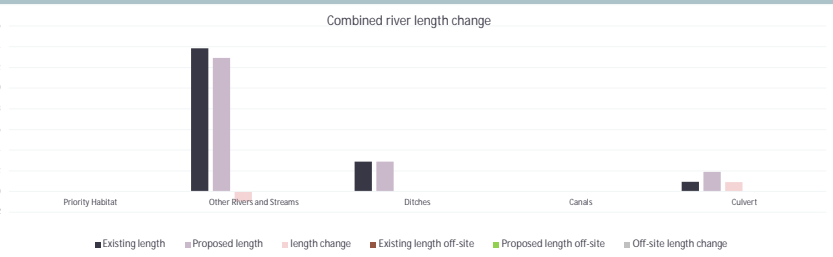
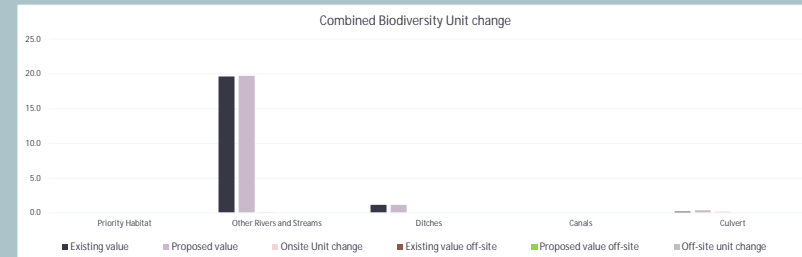
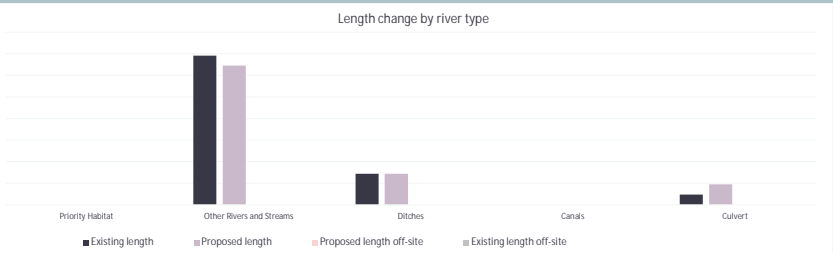
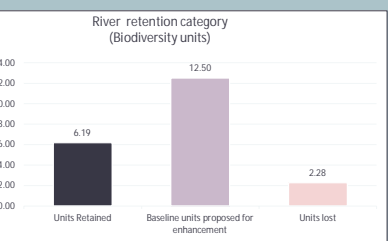
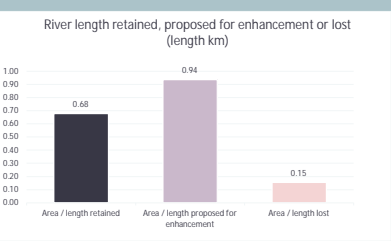
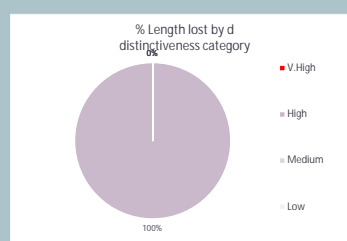
## Rivers and Streams

## Rivers and Streams

Combined length lost by distinctiveness band		
Category	Length lost (KM)	Length lost (%)
V.High	0	
High	0	
Medium	0	
Low	0	
V.Low	0	



Combined length lost by distinctiveness band		
Category	Length lost (KM)	Length lost (%)
V/High	0	
High	0.154	#DIV/0!
Medium	0	
Low	0	





C-1 Site River Baseline

Condense / Show Columns

Condense / Show Rows

Map Menu

Instructions

Existing river type			Habitat distinctiveness			Habitat condition		Strategic significance			Watercourse encroachment		Riparian encroachment		Suggested action	Ecological baselining	Retention category biodiversity value						Comments	
Baseline ref	River type	Length km	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Extent of encroachment	Multiplier	Extent of encroachment	Multiplier	Action	Total river units	Length retained	Length enhanced	Units retained	Units enhanced	Length Lost	Units Lost	Assessor Comments	Reviewer comments	
1	Chubert	0.074	Low	2	Poor	1	Low potential/action not identified in any plan	Low Strategic Significance	1	N/A - Chubert	1	No Eencroachment	1	Restore	0.15	0.04	0.034	0.08	0.07	0.00	0.00	Moor Ditch Disinting Chubert		
2	Other Rivers and Streams	0.04	High	5	Moderate	2	Low potential/action not identified in any plan	Low Strategic Significance	1	No Eencroachment	1	Major	0.75	Restore	0.36	0	0.038	0.00	0.34	0.00	0.02	Moor Ditch		
3	Chubert	0.003	Low	2	Poor	1	Low potential/action not identified in any plan	Low Strategic Significance	1	N/A - Chubert	1	No Eencroachment	1	Restore	0.01	0.003	0	0.01	0.00	0.00	0.00	Meadow Ditch Disinting Chubert in middle of field (access track to cross open field to the road)		
4	Other Rivers and Streams	0.88	High	5	Fairly Good	2.5	Low potential/action not identified in any plan	Low Strategic Significance	1	No Eencroachment	1	No Eencroachment	1	Restore	8.28	0.381	0.15	4.37	2.25	0.11	1.64	Meadow Ditch		
5	Other Rivers and Streams	0.057	High	6	Fairly Good	2.5	Low potential/action not identified in any plan	Low Strategic Significance	1	No Eencroachment	1	No Eencroachment	1	Restore	0.86	0.033	0	0.50	0.00	0.03	0.36	Chert Ditch		
6	Other Rivers and Streams	0.023	High	6	Moderate	3	Within River Basin Management Plan	High Strategic Significance	1.15	No Eencroachment	1	No Eencroachment	1	Restore	0.32	0.004	0	0.06	0.00	0.03	0.28	River Thames		
7	Chubert	0.019	Low	2	Poor	1	Low potential/action not identified in any plan	Low Strategic Significance	1	N/A - Chubert	1	No Eencroachment	1	Restore	0.04	0.015	0	0.01	0.00	0.00	0.00	Chert Ditch - meadow Chubert under road (water course not - no river as right on river would have been present as they seemed to be drainage ditches / man made)		
8	Ditches	0.288	Medium	4	Poor	1	Low potential/action not identified in any plan	Low Strategic Significance	1	No Eencroachment	1	No Eencroachment	1	Restore	1.15	0.288	0	1.15	0.00	0.00	0.00	Thames riparian planting		
9	Other Rivers and Streams	0.713	High	6	Moderate	2	Within River Basin Management Plan	High Strategic Significance	1.15	No Eencroachment	1	No Eencroachment	1	Restore	9.84	0	0.713	0.00	9.84	0.00	0.00			
10																								
11																								
															25.47	0.68	0.94	0.19	12.80	0.18	8.88			

### C-2 Site River Creation

Proposed habitats			Habitat distinctiveness		Habitat condition		Strategic significance			Temporal multiplier					Difficulty multipliers				Watercourse encroachment		Riparian encroachment		River units delivered	Comments		
Baseline ref	River type	Length km	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Standard Time to target condition/years	Habitat created in advance/years	Delay in starting habitat creation/years	Standard or adjusted time to target condition	Final time to target condition/years	Final Time to target multiplier	Standard difficulty of creation	Applied difficulty multiplier	Final difficulty of creation	Difficulty multiplier applied	Extent of encroachment	Multiplier	Extent of encroachment		Multiplier	Assessor comments	Reviewer comments
1	Other Rivers and Streams	0.03	High	6	Medium	2	Low potential/action not identified in any plan	Low Strategic Significance	1	5	0	0	Shade'd time to target condition applied	5	0.337	High	Shade'd difficulty applied	High	0.33	No Effect encroachment	1	Major	0.75	0.00	Moor Ditch - 1 pipe (HW01) - encroachment at the bank top (i.e. 0-4m from the bank top, thereafter major). Assumed to be flush with the bank (i.e. not jutting out into the water course) and therefore no encroachment into the water course.	
2	Other Rivers and Streams	0.019	High	6	Medium	2	Delivery within River Basin Management Plan	High Strategic Significance	1.15	5	0	0	Shade'd time to target condition applied	5	0.337	High	Shade'd difficulty applied	High	0.33	No Effect encroachment	1	Medium	0.85	0.06	River Thames - crossing point - moderate encroachment due to 25% of the bridge piers within the riparian zone zone. 4m from the bank top.	
3	Culvert	0.103	Low	2	Poor	1	Low potential/action not identified in any plan	Low Strategic Significance	1	1	0	0	Shade'd time to target condition applied	1	0.965	Low	Shade'd difficulty applied	Low	1	N/A - Culvert	1	No Effect encroachment	1	0.20	Meadow Brook - creation of 2 culverts - assuming no impact in the riparian zone.	
4	Other Rivers and Streams	0.006	High	6	Good	3	Low potential/action not identified in any plan	Low Strategic Significance	1	10	0	0	Shade'd time to target condition applied	10	0.700	High	Shade'd difficulty applied	High	0.33	No Effect encroachment	1	Major	0.75	0.03	Meadow Brook - 3 pipes (HW33,HW38,HW39) - encroachment at the bank top (i.e. 0-4m from the bank top, thereafter major). Assumed to be flush with the bank (i.e. not jutting out into the water course) and therefore no encroachment into the water course.	
5													Shade'd time to target condition applied				Shade'd difficulty applied			N/A	1	No Effect encroachment	1	0.05	Brent Brook - creation of a culvert - assuming no impact in the riparian zone.	
6	Culvert	0.034	Low	2	Poor	1	Low potential/action not identified in any plan	Low Strategic Significance	1	1	0	0	Shade'd time to target condition applied	1	0.965	Low	Shade'd difficulty applied	Low	1	N/A - Culvert	1	No Effect encroachment	1	0.05	Brent Brook - creation of a culvert - assuming no impact in the riparian zone.	
7																										
8																										
9																										
10																										
11																										
		0.18																				0.33				

C-3 Site River Enhancement

[Continue / Show Details](#)

Continue / Close Book

Main Menu

### Instructions

[illegible]

F-1 Off Site River Baseline

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Existing river type			Habitat distinctiveness		Habitat condition		Strategic significance			Watercourse encroachment		Riparian encroachment		Suggested action	Ecological	Retention category biodiversity value						Comments	
Baseline ref	River type	Length KM	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiple	Extent of encroachment	Multiple r	Extent of encroachment	Multiple r		Total river units	Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	Assessor comments	Reviewer comments
1																						river crosses riparian enhancement - outside of 20 m RL3 Have you any other sites to follow?	
2																							
3																							
4																							
5																							
6																							
		0.00														0.00	0.00	0.00	0.00	0.00	0.00		



[illegible]

# Appendix H MoRPh Survey Proforma

## Modular River Physical (MoRPh) Field Survey (ver 12)

### Sheet 1 - GENERAL INFORMATION

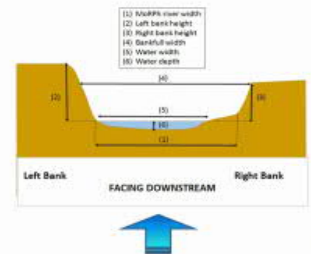
**RECORD WHAT YOU SEE NOT WHAT YOU KNOW**

PROJECT DETAILS (Optional)	
Project name	
Project code	

1.1 SURVEYOR AND SURVEY CONDITIONS	
Surveyor	
Survey date and time	
Module surveyed from?	left / right / both banks
Bed visible?	Yes / No
Adverse conditions?	Yes / No
If yes, describe e.g. elevated flow, turbid water, etc	

1.3 CHANNEL DIMENSIONS (m)	
Cross section GPS	
1. MoRPh river width	
2. Left bank height	
3. Right bank height	
4. Bankfull width	
5. Water width	
6. Water depth	

**Multi-MoRPh Channel Dimensions**  
If surveying multiple adjoining modules a minimum of **ONE (REPRESENTATIVE) SET OF CHANNEL DIMENSIONS** should be measured for each group - up to 10 modules.  
**TIP:** Bridges provide a good location for estimating dimensions of larger rivers.



PROJECT DETAILS (Optional)	
WFD Water Body ID	
Survey type (monitoring, pre-project, post-project, post-recovery, scenario, training)	

1.2 MODULE NAME AND LOCATION	
River name	
Location/Reach name	
Subreach name	
(used to reference a sub-reach of contiguous modules)	
Module number (1, 2, 3... number from upstream to downstream within Subreach)	
Riverfly site reference (optional)	
Module length (m) (I)	
NGR / GPS - Midpoint	

(I) Determining your Module Length	
River width (m) (II)	Module length (m)
< 5 m	10 m
5 to < 10 m	20 m
10 to < 20 m	30 m
20 to < 30 m	40 m
Large & navigable rivers and canals	50 m

**(II) Predominant MoRPh river width** is used to determine module length. It is estimated as the **typical water width plus any area of bare sediment or emergent aquatic plants at the water edge**.  
If river  $\geq 30$  m wide it is usually too large for a full MoRPh Survey. For Large & navigable rivers and canals a reduced MoRPh survey is possible, focusing on the banktops and faces and those bed features that are visible.

**Identifying the LEFT AND RIGHT BANK**  
The **LEFT** and **RIGHT BANK** of a river are on the left and right sides of the channel **when facing in a downstream direction with the water flowing away from you**.

1.4 PHOTOGRAPHS (max 4)	
Fixed point photograph taken with NGR / GPS? (Y/N)	
Photo ref 1 (iv)	
Photo ref 2	
Photo ref 3	
Photo ref 4	
We recommend 3 photos from the midpoint, one across, one looking upstream and one downstream to cover entire module. Photo 4 could be of special features or to support notes/queries.	

**NOTES**  
Use this box to enter details where you are unsure of any measurements / records you have made.

## River Survey (MoRPh ver 12)

### Sheet 2 - BANK TOP: FLOODPLAIN MEASUREMENTS

#### MEASUREMENTS

**RECORD WHAT YOU SEE NOT WHAT YOU KNOW (within 10 m of bank edge)**

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE	ABUNDANCE	NOTES	
2.1 BANK TOP - ARTIFICIAL / MANAGED GROUND COVER	Artificial ground cover (Fp, Tr, Ic, Re, Sy, Ld, Ar, Pv, Pr, Pw, Dw)				SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% of area within 10m of bank edge
	Dominant Type (see (I))		A / T / P / E	A / T / P / E	

2.2 BANK TOP - NATURAL / LIGHTLY MANAGED GROUND COVER		LB	RB
Terrestrial vegetation	Unvegetated (bare soil / rock)	A / T / P / E	A / T / P / E
	Mosses / lichens	A / T / P / E	A / T / P / E
	Short/creeping herbs/grasses	A / T / P / E	A / T / P / E
	Tall herbs/grasses	A / T / P / E	A / T / P / E
	Scrub or shrubs	A / T / P / E	A / T / P / E
	Saplings or trees	A / T / P / E	A / T / P / E
	Fallen trees (ONLY those with a significant proportion on bank top)	A / T / P / E	A / T / P / E
	Leaning trees	A / T / P / E	A / T / P / E
	J-shaped trees	A / T / P / E	A / T / P / E
	Tree/shrub branches trailing into channel	A / T / P / E	A / T / P / E
Large wood (wood pieces > 1m long, > 10 cm diameter)	A / T / P / E	A / T / P / E	
Predominant tree type (Absent, Deciduous, Coniferous, Mixed)	A / D / C / M	A / D / C / M	

Non-native invasive plant species		LB	RB
Himalayan balsam		A / T / P / E	A / T / P / E
Japanese knotweed		A / T / P / E	A / T / P / E
Giant hogweed		A / T / P / E	A / T / P / E
Floating pennywort		A / T / P / E	A / T / P / E
Other: NAME SPECIES		A / T / P / E	A / T / P / E
Other: NAME SPECIES		A / T / P / E	A / T / P / E

2.3 BANK TOP - WATER RELATED FEATURES		LB	RB
Water-related features	Pond		
	Disconnected from river at time of survey	A / T / P / E	A / T / P / E
	Connected to river by water-filled channel at time of survey	A / T / P / E	A / T / P / E
	Side channel - free flowing separate channel including tributaries and fish passes	A / T / P / E	A / T / P / E
Wetland (recorded by dominant vegetation type)	Short non-woody vegetation (e.g. mosses, sedges)	A / T / P / E	A / T / P / E
	Tall, non-woody vegetation (e.g. reeds, rushes)	A / T / P / E	A / T / P / E
	Shrubs and trees (e.g. alder / willow carr)	A / T / P / E	A / T / P / E

**NOTES (ctd.)**

River Survey (MoRPh ver 12)

### Sheet 3 - BANK FACE AND CHANNEL MARGIN MEASUREMENTS

#### RECORD WHAT YOU SEE NOT WHAT YOU KNOW

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE	ABUNDANCE	NOTES
<b>3.1 BANK FACE - PROFILE</b>				
Bank face - Profile	Natural / artificial bank profile	DOMINANT TYPE (V, VO, VU, VS, ST, ST, CM, RA, 7A, 8m, Sm, P)	Bank profile type	SUB-DOMINANT TYPE ONLY RECORD IF it occupies > 20% of the bank length
		SUB-DOMINANT TYPE (see [II])	Bank profile type	

<b>3.2 BANK FACE - MATERIALS</b>				
Bank face - Natural materials	Bank face sediment (AR, BE, BG, CO, GP, MA, SC, LL, UR, *L, BA, NW)	Sediment size (top 2/3)	LB	WHICH PART OF THE BANK IS REINFORCED? A = absent T = mainly the top B = mainly the bottom W = Whole bank face
		Sediment size (bottom 2/3)	RB	

Bank face - Reinforcement	Which part of the bank is reinforced? (NOTE SPECIFIC CODES IN BOX [ii])		A / T / B / W	A / T / B / W
	How extensive is the reinforcement horizontally along the module?		A / T / P / E	A / T / P / E
Bank reinforcement	DOMINANT TYPE (CC, CB, BR, SP, WP, BW, RA, GA, WS, RC, BC, WD)	Reinforcement type		SUB-DOMINANT TYPE ONLY RECORD IF it occupies > 20% reinforced area
		SUB-DOMINANT TYPE (see [II])	Reinforcement type	

<b>3.3 BANK FACE / CHANNEL MARGIN - FEATURES</b>				
Natural physical features	Bare / unvegetated side bar (< 50% vegetation cover)	Sediment size	LB	RB
		Vegetated side bar (>50% vegetation cover)	A / T / P / E	A / T / P / E
		Berm (if unsure whether berm/bench record as berm)	A / T / P / E	A / T / P / E
		Bench (if unsure whether berm/bench record as berm)	A / T / P / E	A / T / P / E
		Shallow silt (< 0.5 m)	A / T / P / E	A / T / P / E
		Eroding cliff (> 0.5 m)	A / T / P / E	A / T / P / E
		Tip	A / T / P / E	A / T / P / E
		Nest holes or animal burrows	A / T / P / E	A / T / P / E
		Marginal backwater	A / T / P / E	A / T / P / E
		Tributary junction / confluence: RECORD AS COUNT		
Artificial physical features	Pipes / outfalls (if appear potentially functional): RECORD AS COUNT	Jetty	Maj / Int / Min	Maj / Int / Min
		Deflector	Maj / Int / Min	Maj / Int / Min
		Other: INSERT FEATURE NAME	Maj / Int / Min	Maj / Int / Min

MEASUREMENT CATEGORY	MEASUREMENT TYPE	ABUNDANCE		MEASUREMENT TYPE	ABUNDANCE	
3.4 BANK FACE / CHANNEL MARGIN - VEGETATION						
Terrestrial vegetation on bank face	Unvegetated (bare earth or rock)	A / T / P / E	A / T / P / E	Fallen trees (ONLY those with a significant proportion on bank face)  Leaning trees J-shaped trees  Tree/shrub branches trailing into channel  Exposed tree roots Discrete organic accumulation (e.g. leaves, twigs)	A / T / P / E	A / T / P / E
	Mosses / lichens	A / T / P / E	A / T / P / E		A / T / P / E	A / T / P / E
	Short/erecting herbs/grasses	A / T / P / E	A / T / P / E		A / T / P / E	A / T / P / E
	Tall herbs/grasses	A / T / P / E	A / T / P / E		A / T / P / E	A / T / P / E
	Scrub or shrubs	A / T / P / E	A / T / P / E		A / T / P / E	A / T / P / E
	Saplings or trees	A / T / P / E	A / T / P / E		A / T / P / E	A / T / P / E
	Large wood (pieces > 1m long, > 10 cm diameter)	A / T / P / E	A / T / P / E		A / T / P / E	A / T / P / E
Aquatic vegetation at bank-water margin	Liverworts, mosses, lichens	A / T / P / E	A / T / P / E	Amphibious	A / T / P / E	A / T / P / E
	Emergent broad-leaved	A / T / P / E	A / T / P / E	Filamentous algae	A / T / P / E	A / T / P / E
	Emergent linear-leaved (incl horsetails)	A / T / P / E	A / T / P / E			
Non-native invasive plant species	Himalayan balsam	A / T / P / E	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E	A / T / P / E
	Japanese knotweed	A / T / P / E	A / T / P / E			
	Giant hogweed	A / T / P / E	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E	A / T / P / E
	Floating pennywort	A / T / P / E	A / T / P / E			

River Survey (MoRPh ver 12)

### Sheet 4 - CHANNEL BED MEASUREMENTS

#### RECORD WHAT YOU SEE NOT WHAT YOU KNOW

MEASUREMENT CATEGORY	MEASUREMENT TYPE		ABUNDANCE	MEASUREMENT TYPE		ABUNDANCE
4.1 CHANNEL BED - MATERIALS						
Channel bed - Natural materials	Bed sediment size	Bedrock (BE)	A / T / P / E	Silt (and finer non-sticky particles, S)	A / T / P / E	
		Boulder (BO)	A / T / P / E	Clay (CL)	A / T / P / E	
		Cobble (CO)	A / T / P / E	Organic (leaves, twigs, etc. not fully decomposed) (OR)	A / T / P / E	
		Gravel-Pebble (GP)	A / T / P / E			
	Silt overlying coarser sediments	Sand (SA)	A / T / P / E	Peat (PE)	A / T / P / E	
		Continuous silt layer (the form of underlying coarser sediment is visible)	A / T / P / E	Patchy thin layer (some coarser particles protrude through the silt layer)	A / T / P / E	

Channel bed - Reinforcement	Bed reinforcement extent		A / T / P / E	(i) SUB-DOMINANT REINFORCEMENT TYPE: ONLY RECORD IF it occupies > 20% reinforced area
	Bed reinforcement materials		CODE / DESCRIPTION reinforcement type	

4.2 WATER SURFACE					
Water surface flow patterns	Flow types	Free fall (FF)	A / T / P / E	Rippled (RP)	A / T / P / E
		Chute (CH)	A / T / P / E	Smooth (SM)	A / T / P / E
		Broken standing waves (BW)	A / T / P / E		
		Unbroken standing waves (UW)	A / T / P / E	No perceptible flow (NP)	A / T / P / E
		Upwelling (UP)	A / T / P / E	Dry (DR)	A / T / P / E

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE / DESCRIPTION	ABUNDANCE	NOTES
<b>4.3 CHANNEL BED - FEATURES</b>				
Channel bed - Natural physical features	Exposed bedrock		A / T / P / E	ABUNDANCE CODES A/T/P/E abundance codes on sheet 4 refer to proportion of the <b>area</b> of the river bed within the module length. Circle one off: A = absent, T = trace (< 5%), P = present (5% - < 33%), E = extensive (> 33%)
	Exposed unvegetated boulders / rocks (< 50% vegetation cover)		A / T / P / E	
	Exposed vegetated boulders / rocks (> 50% vegetation cover)		A / T / P / E	
	Bare / unvegetated mid channel bar (< 50% vegetation cover)	Sediment size	A / T / P / E	
		Vegetated mid channel bar (> 50% vegetation cover)	A / T / P / E	
	Island		A / T / P / E	
	Cascade		A / T / P / E	
	Pool: RECORD AS COUNT			
	Riffle: RECORD AS COUNT			
	Step (steep boulder/bedrock feature < 2m high, mainly chute and free fall): RECORD AS COUNT			
Channel bed - Artificial features	Waterfall (steep boulder/bedrock feature > 2m high, mainly free fall): RECORD AS COUNT			WEIR TYPES / SIZES <b>Major:</b> permanent, impermeable, impounding structure across entire channel width. <b>Intermediate:</b> semi-permeable, loose stone / wood structure across entire channel width. <b>Minor:</b> highly permeable, transient feature across entire channel width
	Large trash (car parts, trolleys, traffic cones etc)		A / T / P / E	
	Major weir (see [II]): RECORD AS COUNT			
	Intermediate weir (see [II]): RECORD AS COUNT			
	Minor weir (see [II]): RECORD AS COUNT			
	Bridge piers in river bed: RECORD AS COUNT			
	Bridge shadow (see [II]): RECORD AS COUNT		Wide / Int / Narr	
	Culvert: RECORD AS COUNT			

MEASUREMENT CATEGORY	MEASUREMENT TYPE	ABUNDANCE	MEASUREMENT TYPE	ABUNDANCE
<b>4.4 CHANNEL BED - VEGETATION</b>				
Vegetation within wetted channel (aquatic vegetation)	Unvegetated (bare river bed)	A / T / P / E	Amphibious	A / T / P / E
	Uterworts, mosses, lichens	A / T / P / E	Submerged broad-leaved	A / T / P / E
	Emergent broad-leaved	A / T / P / E	Submerged linear-leaved	A / T / P / E
	Emergent linear-leaved (incl horsetails)	A / T / P / E	Submerged fine-leaved	A / T / P / E
	Floating-leaved (rooted)	A / T / P / E	Filamentous algae	A / T / P / E
	Free floating	A / T / P / E	Channel choked with plants?	YES/NO
	Vegetation shading channel	A / T / P / E	Large wood dam (in channel and across entire channel): RECORD AS COUNT	
	Submerged tree roots	A / T / P / E		
	Trees/shrubs/saplings growing on river bed	A / T / P / E	Fallen trees (ONLY those with a significant proportion in channel): RECORD AS COUNT	
	Large wood in channel (pieces > 2m long, > 10 cm wide)	A / T / P / E		
Non-native invasive plant species	Discrete accumulations of organic material in channel (e.g. twigs, leaves)	A / T / P / E		
	Himalayan balsam	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E
	Japanese knotweed	A / T / P / E		
	Giant hogweed	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E

