

CABBAGEFIELD ROW, LEIGH PARK, HAVANT

BIODIVERSITY NET GAIN ASSESSMENT

Final Document

July 2022

Preliminary Ecological Appraisals • Protected Species Surveys and Licensing • NVC • EclA • HRA • Management Plans
Habitats • Badger • Bats • Hazel Dormouse • Birds • Reptiles • Amphibians • Invertebrates • Riparian and Aquatic Species

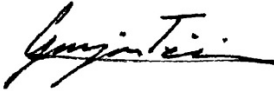
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CABBAGEFIELD ROW, LEIGH PARK, HAVANT

BIODIVERSITY NET GAIN ASSESSMENT

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EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by Portsmouth City Council to undertake a Biodiversity Net Gain Assessment to support a planning application for the redevelopment of Cabbagefield Row, Havant. The site is located on the outskirts of Havant and comprises an area of grassland and scrub, bordered on three sides by woodland. The proposals entail the construction of 150 dwellings.

The main findings of the Biodiversity Net Gain Assessment are:

- With the current proposals, the existing scheme will result in a net unit change of +1.24, which represents a biodiversity net gain of 1.86%.
- A plan showing the location of protective fencing will be produced to ensure that retained habitats are not damaged or lost during construction.
- A detailed landscape plan including plant specifications and establishment methods will be produced in order to ensure that the habitats proposed to be created within this metric calculation are delivered.
- An Ecological Management and Enhancement Plan will be produced to ensure the party/parties responsible for managing the site are maintaining the on-site habitats the achieve their target condition.
- Although an overall biodiversity net gain is being delivered at the site, the metric demonstrates there will be a net loss of 2.28 hectares of scrub habitat, which is of value to hazel dormouse and nesting birds. Principal 4 of the metric states that habitats important for notable species should be given broader consideration, therefore off-site compensation for the loss of scrub habitat will be required and will be discussed with the Local Planning Authority during the planning process.
- Rule 3 of the metric states that ‘trading down’ must be avoided. Other neutral grassland in the north of the site is being replaced by scrub habitat, which is not considered a ‘like for like’ or ‘like for better’ replacement. However, in this instance the benefit of new scrub planting to provide habitat and enhanced connectivity for notable and protected species is considered sufficient to justify non-compliance with Rule 3.

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed by Portsmouth City Council to prepare a Biodiversity Net Gain Assessment to support a planning application for the development of Cabbagefield Row, Leigh Park, Havant, hereafter referred to as the site.

This report presents the findings of the Biodiversity Net Gain Assessment, based on calculations using the DEFRA Metric 3.1.

1.2 The Site

The site is located immediately north of the settlement of Leigh Park, which forms the northern edge of the town of Havant in Hampshire, centred on National Grid Reference (NGR) SU 7066 0958 (**Map 1**).

The site consists of grassland and scrub, bordered on three sides by woodland. Immediately south of the site is Swanmore Road which forms the northern edge of Leigh Park. Further north and east from the site lies open countryside dominated by woodland and grassland associated with Havant Thicket and Staunton Country Park. To the west, the A3(M) road corridor passes approximately 700 metres away in a north-south direction, and to the west of this road is the town of Waterlooville. Further south of the site is the town of Havant.

1.3 Aims and Scope of Report

The aim of this document is to establish whether the proposals will be able to deliver measurable net gain in biodiversity through using a recognised biodiversity metric to calculate the value of the site before and after development. In this context biodiversity is specifically related to habitats rather than biodiversity as a whole, and the Ecological Impact Assessment (ECOSA, 2021) should be referred to for an assessment of impacts on individual ecological features.

This document is a stand-alone assessment of the pre- and post-development value of the site in terms of the biodiversity units. This does not supersede the Ecological Impact Assessment submitted as part of the planning application and should be read in conjunction with this document.

1.4 Site Proposals

The proposed development entails the construction of 150 residential units in the south of the site. Access will be gained from two locations on Swanmore Road through the southern site boundary. A significant area in the north of the site is proposed to be retained as open space (**Appendix 1**).

2.0 METHODOLOGY

2.1 Introduction

This section provides the methodology followed as part of the Biodiversity Net Gain Assessment.

2.2 Biodiversity Metric Assessment Methods

The Biodiversity Net Gain Assessment was undertaken using DEFRA's Biodiversity Metric 3.1 Calculation Tool (Natural England, 2022)

The calculator provides a score which represents the biodiversity value of each area of habitat by applying multipliers, which can have a positive or negative effect on the overall score, based on a number of components of biodiversity quality. These components are set out in the paragraphs below.

Once these calculations are completed a pre- management biodiversity value of the site is provided, which allows an assessment of the feasibility of delivering net biodiversity gains post-development to be made.

The pre-management biodiversity value of the site is based on the current state of the habitats on site as recorded on site during a condition assessment field survey undertaken of the site by Georgina Timmis, Principal Ecologist of ECOSA, on 20th May 2022.

The post-development biodiversity value of the site is informed by information provided by Portsmouth City Council and the Ecology, Soft Landscaping and Tree Plan produced by PDP Architecture (Drawing No. 28079-PD122 Rev. B, dated 14th March 2022) (**Appendix 1**).

2.2.1 Components of Biodiversity Quality

Habitat Type

Areas of existing habitat that make up the on-site baseline were identified during a Phase 1 habitat survey undertaken by Graeme Down, Senior Ecologist of ECOSA on 11th April 2019 and updated on 20th May 2022 by Georgina Timmis, Principal Ecologist of ECOSA. The Phase 1 habitat survey followed best practice methods set out by the Joint Nature Conservation Committee (JNCC, 2010). Subsequently, the updating survey on 20th May 2022 involved reclassifying on-site habitats using the UKHab method (UK Habitat Classification Work Group, 2018) as this is the classification system used (with some minor modifications) within DEFRA's Biodiversity Metric 3.1 Calculation Tool.

Habitat Area

Areas of existing habitats were mapped and measured by ECOSA using ArcGIS. The extents of existing habitats are based on information collected during the Phase 1 habitat survey, updating surveys, and using aerial photography and Ordnance Survey (OS) mapping resources (**Map 2**). Non-linear habitats are measured in hectares whilst linear features are measured by length in kilometres. Therefore, for the purposes of the calculation they are addressed separately with separate biodiversity units calculated for linear and non-linear features.

Habitat Distinctiveness

The distinctiveness of a habitat represents its relative quality and importance compared to other habitat types, based on an assessment of the distinguishing features of a habitat, including consideration of species richness, rarity and the degree to which a habitat supports species rarely found in other habitats. The Habitat Distinctiveness scores are automatically assigned by the calculator in accordance with the assessment methodology detailed in the Biodiversity Metric 3.1 Technical Supplement (Panks, et al., 2022).

Habitat Condition

The condition of a habitat represents its relative quality judged against the perceived ecological optimum state for that particular habitat type. Therefore, habitat condition is specific to the habitat type and not comparable between habitat types (unlike Habitat Distinctiveness). The condition of existing habitats was assessed during the Condition Assessment Field Survey undertaken on 20th May 2022. The condition assessment was based on the criteria within the Biodiversity Metric 3.1 Technical Supplement (Panks, et al., 2022). Some habitat types (for example most agricultural habitats and hardstanding) are not subject to assessment and are assigned default scores by the calculation tool. For proposed habitat creation a 'Target Condition' is assigned, this is the condition that it is proposed the habitat will achieve post-development and is based on the same criteria as the condition assessment. Further details of the Condition Assessment are found within **Appendix 2**.

Strategic Significance

The Strategic Significance multiplier gives additional unit value to habitats that are located in preferred locations for biodiversity and other environmental objectives. For the purposes of this assessment non-statutory designated, sites such as Sites of Importance for Nature Conservation (SINCs), and areas identified within the Hampshire Biodiversity Information Centre (HBIC) 'Eco-Network Map', termed Ecological Network Opportunity areas, are considered to be areas formally identified in the local strategy, and on-site habitats adjacent or connected to these areas are considered to be 'ecologically desirable'.

2.2.2 Additional Factors for Habitat Creation and Enhancement

In addition to the above components, several additional multipliers are assigned to habitats which are proposed to be created or enhanced post-development. These factors take into account the risks associated with attempting to establish new habitats and are detailed below.

Difficulty Risk

This is the risk associated with the delivery of biodiversity creation or enhancement due to uncertainty in the effectiveness of techniques to create or restore a particular habitat type. For some habitat types it is much more difficult to replicate habitat losses because of the unique physical and ecological features of the habitat.

Temporal Risk

For some habitat types, it can take a long time to achieve the Target Condition (see Habitat Condition paragraph above). If there is a significant time lag between initial habitat loss and establishing new habitats of adequate condition to compensate for this loss, there will be lower levels of biodiversity for this period of time. The temporal risk multiplier reflects this temporary reduction in quality.

Spatial Risk

Where habitat creation is being undertaken to offset habitat loss as a result of the proposals, it is beneficial for such offsetting to be delivered in proximity to the original loss, ideally within the site itself, so that the ecosystem services provided by such habitat will benefit receptors that are affected by the proposals. Where this is not possible, it is considered that locating off-site compensation within the local planning authority area or the same National Character Area represents a minimal risk. For offsetting delivered further afield a negative multiplier is applied.

2.3 Limitations

There were no significant limitations to the Biodiversity Net Gain Assessment.

3.0 RESULTS

3.1 Introduction

The areas and location of the baseline habitats is provided in **Map 2**, with the condition assessment details noted within **Appendix 2** for habitats. This information is then fed into the Biodiversity Metric 3.1 Calculation Tool which has been provided in PDF format in **Appendix 3**. The metric is available in Excel spreadsheet format on request.

3.2 Baseline Habitats

The current on-site baseline units are 66.81 habitat units.

Habitats are classified according to the UKHab classification (UK Habitat Classification Work Group, 2018). The habitats on site comprise other neutral grassland, mixed scrub, bracken and bramble scrub.

A number of habitats on site are formally identified within a local strategy either because they lie within the area in the south-west of the site which is designated as an Enhancement Network Opportunity area, or within the area in the north of the site, which is designated as a Site of Importance for Nature Conservation (SINC).

The SINC is designated for supporting semi-improved grasslands which retain a significant element of unimproved grassland, however, a recent NVC survey identified that there is no significant element of unimproved grassland remaining (ECOSA, 2021) and classified the grassland as MG1 *Arrhenatherum elatius* grassland and MG11 *Lolium perenne* sub community. Using the UKHab Classification (UK Habitat Classification Work Group, 2018), the grassland within this area meets the criteria for 'other neutral grassland' in good condition.

3.3 Post-Development Habitats

The post-development biodiversity units are 68.06 habitat units.

3.3.1 Habitat Loss/Retention

The majority of the grassland in the north of the site, falling within the SINC designation, will be retained, although small areas will be lost temporarily to create a traditional orchard and to accommodate the proposed Sustainable Urban Drainage System (SUDS) (Paragraph 3.3.2). In order to minimise the temporary loss of grassland in these areas, track matting will be used for vehicle access to excavate the SUDS and the excavations for the drainage pipes will be stored in the layers they were excavated, for example turf/vegetation followed by topsoil/subsoil. All excavated materials will then be replaced in the layers they were removed. The fruit trees in the traditional orchard will be planted by hand. Mixed scrub habitat on the borders of the site will be retained.

The majority of the bramble scrub, and the other neutral grassland and bracken in the south of the site will be lost in order to accommodate the development.

3.3.2 Habitat Creation

The proposals will create 2.35 hectares of 'Developed land; sealed surface' in the form of buildings and hardstanding associated with the residential development. There will also be areas of introduced shrubs as part of ornamental landscaping within the scheme and vegetated gardens.

Modified grassland will be created in communal spaces within the residential area, including a natural play space that is proposed to the north-west of the residential area. This will comprise a species-rich lawn turf such as Wildflower Turf Original Species Rich Lawn Turf. Although this grassland will be more diverse than a typical amenity grassland mix, the mix does contain perennial ryegrass *Lolium perenne* and will be subject to regular management, as the exact level of improvement of the grassland is difficult to predict, this has been classified as modified grassland, rather than other neutral grassland as a precaution. A moderate condition will be targeted.

Some of these habitats will lie within the area designated as Enhancement Opportunity Network and slightly overlap the southern boundary of the SINC designation.

A new SUDS will be created within the SINC designation and a good condition will be targeted (**Appendix 3**).

A traditional orchard is also proposed within the SINC designation and a moderate condition will be targeted.

Additional mixed scrub will be planted along the boundaries of the site providing additional connectivity and deterring access to adjacent off-site woodland. The new mixed scrub will tie in with retained mixed scrub and bramble scrub (which will be enhanced to mixed scrub, see Paragraph 3.3.3 for details). A good condition for mixed scrub will be targeted.

Further details and justification for the condition levels targeted for newly created habitats are provided in **Appendix 5**.

3.3.3 Habitat Enhancement

The grassland in the north of the site has been historically designated for supporting semi-improved grassland which retains a significant element of unimproved grassland, however, currently there is not a significant element of unimproved grassland, likely due to the lack of positive management of the site in previous years. Therefore it is anticipated that bringing the grassland back into positive ecological management would allow a higher quality of grassland to be established. The grassland lies on a steep

slope with plants indicative of wetter soils occurring at the lowest levels in the north. Management will focus on creating lowland meadow grassland from the existing other neutral grassland. This will be achieved by decreasing the cover of species indicative of improvement such as rye grass and white clover (where present) and increasing the overall diversity of herbaceous species to more than 15 species per square metre including encouraging the development of desirable species including meadow vetchling *Lathyrus pratensis*, bird's-foot trefoil *Lotus corniculatus*, ox-eye daisy *Leucanthemum vulgare*, lady's bedstraw *Galium verum*, cowslip *Primula veris*, black knapweed *Centaurea nigra*, rough hawkbit *Leontodon hispidus*, and bulbous buttercup *Ranunculus bulbosus*, and in wetter areas in the north, species such as meadowsweet *Filipendula ulmaria*. Some of these species are already present within the existing sward.

The bramble scrub in the west of the site will be retained but subject to supplemental and replacement planting, where discrete areas of bramble will be cleared and replaced with a more diverse range of species, ensuring no species comprises more than 75% of the total cover. In order to maintain the overall cover of scrub habitat during enhancement the clearance of bramble scrub and replacement planting will be undertaken over several years allowing a diverse age range within the scrub to develop. Once the mixed scrub has been established, it will be maintained targeting good condition

Further details and justification for the condition levels targeted for newly created habitats are provided in **Appendix 5**.

4.0 CONCLUSION

With the current proposals, the existing scheme will result in a net unit change of +1.24, which represents a biodiversity net gain of 1.86%.

This unit delivery is based on the proposed habitats being created and enhancement works beginning as soon as construction commences and once established being maintained to achieve the target condition identified within this document. A plan showing the location of protective fencing will be produced to ensure that retained habitats are not damaged or lost during construction. A detailed landscape plan including plant specifications and establishment methods will be produced in order to ensure that the habitats proposed to be created within this metric calculation are delivered. An Ecological Management and Enhancement Plan will be produced to ensure the party/parties responsible for managing the site are maintaining the on-site habitats the achieve their target condition, this will include detailed management prescriptions, regular monitoring surveys by a suitably qualified ecologist to determine the success of the management prescriptions and to make any necessary amendments.

Although an overall biodiversity net gain is being delivered at the site, the metric demonstrates there will be a net loss of 2.11 hectares of scrub habitat, which is an important habitat for a number of protected species that are known to be present on site, including hazel dormouse and nesting birds. Principal 4 of the Biodiversity Net Gain Assessment (Panks, et al., 2022) states “*The metric focuses on typical habitats and widespread species; important or protected habitats and features should be given broader consideration.*” Therefore the net loss of scrub habitat important for these species/species groups should also be compensated. There is no scope for on-site compensation as the south of the site is needed to facilitate the development and it is desirable to retain the grassland in the north of the site due to it’s SINC designation and the potential to create Lowland Meadow habitat through positive management. Therefore an alternative measure will be sought to specifically offset the loss of this particular habitat type. This will be discussed with the Local Planning Authority during the planning process.

The Trading Summary details the trading between habitat types and whether the development has abided by the trading rules. Rule 3 of the Biodiversity Metric Assessment (Panks, et al., 2022) states that ‘trading down’ must be avoided, losses of habitats are to be compensated for on a ‘like for like’, or a ‘like for better’ basis. New or restored habitats should aim to achieve a higher distinctiveness and/or condition than those lost. In the case of this site, the Rule 3 has not been satisfied as there will be a loss of grassland that is compensated for with scrub, which is not considered to be ‘like for like’ or ‘like for better’. However, the scrub habitat on the margins of the site is

important both for protected and notable species such as hazel dormouse and breeding birds, and for deterring informal access by local residents, both existing and occupying the new development, to the important woodland habitats adjacent to the site. Therefore, in order to accord with Principal 4 of the metric, the current proposal is deemed preferable for the overall delivery of biodiversity net gain, even though the trading rules have not by the metric's trading rules.

5.0 REFERENCES

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Map 1 Site Location Plan



**CABBAGEFIELD ROW, SWANMORE
ROAD, LEIGH PARK, HAVANT,
HAMPSHIRE**

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Map 1 - Site Location Plan

Client:	PDP Architecture LLP
Date:	May 2022
Status:	Final

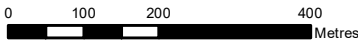
KEY

 Site Boundary



Source: Esri, DigitalGlobe,
GeoEye, Earthstar
Geographics, CNES/Airbus
DS, USDA, USGS,

Scale at A4: 1:10,000



Prepared by: EV	Date: 030522
Last amended by: N/A	Date: N/A

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Map 2 Baseline Habitats

**CABBAGEFIELD ROW, SWANMORE
ROAD, LEIGH PARK, HAVANT,
HAMPSHIRE**

BIODIVERSITY NET GAIN ASSESSMENT

Map 2 - Baseline Habitats

Client: PDP Architecture LLP

Date: July 2022

Status: Draft

KEY

-  Site Boundary
-  Ecological Network Opportunity
-  Site of Importance for Nature Conservation (SINC)
-  Bracken
-  Other Neutral Grassland
-  Bramble Scrub
-  Mixed Scrub

Scale at A4: 1:2,400

0 20 40 80 Metres



Prepared by: EV	Date: 010622
Last amended by: EV	Date: 130722

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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,
USGS, AeroGRID, IGN, and the GIS User Community

Map 3 Post-Development Habitats



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

CABBAGEFIELD ROW, SWANMORE ROAD, LEIGH PARK, HAVANT, HAMPSHIRE

BIODIVERSITY NET GAIN ASSESSMENT

Map 3 - Post-Development Habitats

Client:	PDP Architecture LLP
Date:	July 2022
Status:	Draft

KEY

-  Site Boundary
-  Ecological Network Opportunity
-  Site of Importance for Nature Conservation (SINC)
-  Traditional Orchard
-  Lowland Meadow
-  Amenity Grassland
-  Bramble Scrub
-  Mixed Scrub
-  SuDS
-  Introduced Shrub
-  Developed Land; Sealed Surface
-  Vegetated Garden

Scale at A4: 1:2,500
0 25 50 100 Metres



Prepared by: EV	Date: 110522
Last amended by: EV	Date: 130722

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Appendix 1 Landscape Plan



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figured dimensions are to be used in preference to scaled dimensions.

no deviation from this drawing will be permitted without prior consent of the architect.

all drawings are prepared subject to a full measured and structural survey of the buildings and site.

all structural work is subject to the appointment of a structural engineer to confirm and agree the structural proposals.

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exceptional risks involving specific methods of construction or exceptional maintenance issues can be found within the designers risk assessment.

scale width 50 mm @ a1 - 25 mm @ a3

revision	notes	date	drawn	checked
A	Plan amended to revised layout	26.01.22	MAS	IR
B	Resubmission to planners	14.03.22	MAS	IR

client

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project

Proposed Development Cabbagefield Row Swanmore Rd, Leigh Park

detail

Ecology, Soft Landscaping & Tree Plan

drawn

checked

MAS IR

date

status

July 2021 Planning

a1 scale a3 scale

1:500 1:1000

28079-PD122

B

Appendix 2 Pre-Development Habitat Condition Assessment

Broad Habitat	Grassland (g)		
Habitat Type	Other neutral grassland (g3c)		
 View of grassland in the north of the site			
	Indicator	Condition	Score
1	The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward. NB - This criterion is essential for achieving moderate condition for non-acid grassland types only.	TRUE	1
2	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.	TRUE	1
3	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	TRUE	1
4	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.	TRUE	1
5	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of species indicative of sub-optimal condition ¹ 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 total area.	TRUE	1
6	There are greater than 9 species per metre squared. NB - This criterion is essential for achieving good condition (non-acid grassland types only).	TRUE	0
Total Score			5
All Essential Criteria Met?			No
Condition			Good

Broad Habitat	Heathland and shrub (h)		
Habitat Type	Mixed scrub (h3h)		
 Scrub on western site boundary			
	Indicator	Condition	Score
1	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).	TRUE	1
2	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.	FALSE	0
3	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover.	FALSE	0
4	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).	TRUE	1
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.	TRUE	1
Total Score			3
Condition			Moderate

Broad Habitat	Heathland and shrub (h)		
Habitat Type	Mixed scrub (h3h)		
 Small area of scrub on northern site boundary			
	Indicator	Condition	Score
1	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).	TRUE	1
2	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.	FALSE	0
3	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover.	FALSE	0
4	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).	TRUE	1
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.	TRUE	1
Total Score			3
Condition			Moderate

Broad Habitat	Heathland and shrub (h)		
Habitat Type	Mixed scrub (h3h)		
 Mixed scrub on eastern site boundary  Well-developed scrub edge			
	Indicator	Condition	Score
1	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).	TRUE	1
2	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.	TRUE	1
3	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover.	TRUE	1
4	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).	TRUE	1
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.	TRUE	1
Total Score			5
Condition			Good

Broad Habitat	Grassland (g)
Habitat Type	Bracken (g1c)
  View of grassland in the north of the site View of grassland in the north of the site	
This habitat type is given a default condition score of 1.	

Broad Habitat	Grassland (g)		
Habitat Type	Other neutral grassland (g3c)		
 View of grassland in the north of the site View of grassland in the north of the site			
	Indicator	Condition	Score
1	The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward. NB - This criterion is essential for achieving moderate condition for non-acid grassland types only.	FALSE	0
2	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.	TRUE	1
3	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	TRUE	1
4	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.	TRUE	1

5	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of species indicative of sub-optimal condition ¹ 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 total area.	TRUE	1
6	There are greater than 9 species per metre squared. NB - This criterion is essential for achieving good condition (non-acid grassland types only).	FALSE	0
Total Score			4
All Essential Criteria Met?			No
Condition			Moderate

Broad Habitat	Heathland and shrub (h)
Habitat Type	Bramble scrub (h3d)
  View of grassland in the north of the site View of grassland in the north of the site	
This habitat type is given a default condition score of 1.	

Appendix 3 Metric Calculation

Headline Results

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On-site baseline	Habitat units	66.81
	Hedgerow units	0.00
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	68.06
	Hedgerow units	0.00
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	Habitat units	1.86%
	Hedgerow units	0.00%
	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)	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 & enhancement)	Habitat units	1.24
	Hedgerow units	0.00
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	1.86%
	Hedgerow units	0.00%
	River units	0.00%
Trading rules Satisfied?	No - Check Trading Summary ▲	

Detailed Results

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Summary Figures

Net project biodiversity units (including all on-site & off-site habitat retention/enhancement)	Baseline	1.41
	Proposed	0.92
	Loss	0.49
Total project biodiversity % change (including all on-site & off-site habitat retention/enhancement)	Baseline	1.00%
	Proposed	0.65%
	Loss	0.35%

Combined habitat retention and enhancement			
Habitat type	Baseline	Proposed	Loss
Forest on-site and off-site habitats areas (length)	10.0	10.0	0.0
Forest on-site and off-site habitats units	10.0	10.0	0.0
Forest on-site and off-site habitats areas (length)	10.0	10.0	0.0
Forest on-site and off-site habitats units	10.0	10.0	0.0
Forest on-site and off-site habitats areas (length)	10.0	10.0	0.0
Forest on-site and off-site habitats units	10.0	10.0	0.0
Forest on-site and off-site habitats areas (length)	10.0	10.0	0.0
Forest on-site and off-site habitats units	10.0	10.0	0.0
Forest on-site and off-site habitats areas (length)	10.0	10.0	0.0
Forest on-site and off-site habitats units	10.0	10.0	0.0

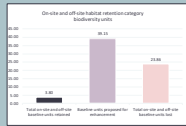
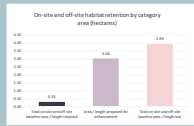
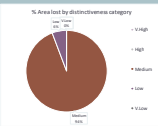
Area habitats

On-site change by broad habitat type						
Habitat group	Baseline	Proposed	Loss	Gain	Net change	Quality change
Forest	10.0	10.0	0.0	0.0	0.0	0.0
Grassland	10.0	10.0	0.0	0.0	0.0	0.0
Wetland	10.0	10.0	0.0	0.0	0.0	0.0
Water	10.0	10.0	0.0	0.0	0.0	0.0
Urban	10.0	10.0	0.0	0.0	0.0	0.0
Other	10.0	10.0	0.0	0.0	0.0	0.0
Total	10.0	10.0	0.0	0.0	0.0	0.0

Off-site change by broad habitat type						
Habitat group	Baseline	Proposed	Loss	Gain	Net change	Quality change
Forest	10.0	10.0	0.0	0.0	0.0	0.0
Grassland	10.0	10.0	0.0	0.0	0.0	0.0
Wetland	10.0	10.0	0.0	0.0	0.0	0.0
Water	10.0	10.0	0.0	0.0	0.0	0.0
Urban	10.0	10.0	0.0	0.0	0.0	0.0
Other	10.0	10.0	0.0	0.0	0.0	0.0
Total	10.0	10.0	0.0	0.0	0.0	0.0

Combined on-site and off-site change by broad habitat type						
Habitat group	Baseline	Proposed	Loss	Gain	Net change	Quality change
Forest	10.0	10.0	0.0	0.0	0.0	0.0
Grassland	10.0	10.0	0.0	0.0	0.0	0.0
Wetland	10.0	10.0	0.0	0.0	0.0	0.0
Water	10.0	10.0	0.0	0.0	0.0	0.0
Urban	10.0	10.0	0.0	0.0	0.0	0.0
Other	10.0	10.0	0.0	0.0	0.0	0.0
Total	10.0	10.0	0.0	0.0	0.0	0.0

Combined area lost by distinctiveness band		
Category	Area lost (hectares)	Area lost (%)
High	0.1	0.1
Medium	0.1	0.1
Low	0.1	0.1
Total	0.3	0.3



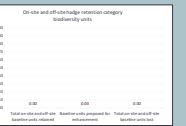
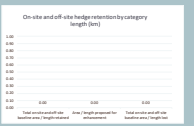
Hedgerows and lines of trees

On-site change by hedgerow type						
Hedgerow type	Baseline	Proposed	Loss	Gain	Net change	Quality change
Forest	10.0	10.0	0.0	0.0	0.0	0.0
Grassland	10.0	10.0	0.0	0.0	0.0	0.0
Wetland	10.0	10.0	0.0	0.0	0.0	0.0
Water	10.0	10.0	0.0	0.0	0.0	0.0
Urban	10.0	10.0	0.0	0.0	0.0	0.0
Other	10.0	10.0	0.0	0.0	0.0	0.0
Total	10.0	10.0	0.0	0.0	0.0	0.0

Off-site change by hedgerow type						
Hedgerow type	Baseline	Proposed	Loss	Gain	Net change	Quality change
Forest	10.0	10.0	0.0	0.0	0.0	0.0
Grassland	10.0	10.0	0.0	0.0	0.0	0.0
Wetland	10.0	10.0	0.0	0.0	0.0	0.0
Water	10.0	10.0	0.0	0.0	0.0	0.0
Urban	10.0	10.0	0.0	0.0	0.0	0.0
Other	10.0	10.0	0.0	0.0	0.0	0.0
Total	10.0	10.0	0.0	0.0	0.0	0.0

Combined on-site and off-site change by hedgerow type						
Hedgerow type	Baseline	Proposed	Loss	Gain	Net change	Quality change
Forest	10.0	10.0	0.0	0.0	0.0	0.0
Grassland	10.0	10.0	0.0	0.0	0.0	0.0
Wetland	10.0	10.0	0.0	0.0	0.0	0.0
Water	10.0	10.0	0.0	0.0	0.0	0.0
Urban	10.0	10.0	0.0	0.0	0.0	0.0
Other	10.0	10.0	0.0	0.0	0.0	0.0
Total	10.0	10.0	0.0	0.0	0.0	0.0

Combined length lost by distinctiveness band		
Category	Length lost (km)	Length lost (%)
High	0.1	0.1
Medium	0.1	0.1
Low	0.1	0.1
Total	0.3	0.3



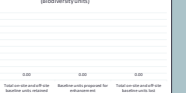
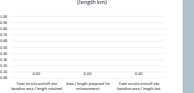
Rivers and Streams

On-site change by river type						
River type	Baseline	Proposed	Loss	Gain	Net change	Quality change
Forest	10.0	10.0	0.0	0.0	0.0	0.0
Grassland	10.0	10.0	0.0	0.0	0.0	0.0
Wetland	10.0	10.0	0.0	0.0	0.0	0.0
Water	10.0	10.0	0.0	0.0	0.0	0.0
Urban	10.0	10.0	0.0	0.0	0.0	0.0
Other	10.0	10.0	0.0	0.0	0.0	0.0
Total	10.0	10.0	0.0	0.0	0.0	0.0

Off-site change by river type						
River type	Baseline	Proposed	Loss	Gain	Net change	Quality change
Forest	10.0	10.0	0.0	0.0	0.0	0.0
Grassland	10.0	10.0	0.0	0.0	0.0	0.0
Wetland	10.0	10.0	0.0	0.0	0.0	0.0
Water	10.0	10.0	0.0	0.0	0.0	0.0
Urban	10.0	10.0	0.0	0.0	0.0	0.0
Other	10.0	10.0	0.0	0.0	0.0	0.0
Total	10.0	10.0	0.0	0.0	0.0	0.0

Combined on-site and off-site change by river type						
River type	Baseline	Proposed	Loss	Gain	Net change	Quality change
Forest	10.0	10.0	0.0	0.0	0.0	0.0
Grassland	10.0	10.0	0.0	0.0	0.0	0.0
Wetland	10.0	10.0	0.0	0.0	0.0	0.0
Water	10.0	10.0	0.0	0.0	0.0	0.0
Urban	10.0	10.0	0.0	0.0	0.0	0.0
Other	10.0	10.0	0.0	0.0	0.0	0.0
Total	10.0	10.0	0.0	0.0	0.0	0.0

Combined length lost by distinctiveness band		
Category	Length lost (km)	Length lost (%)
High	0.1	0.1
Medium	0.1	0.1
Low	0.1	0.1
Total	0.3	0.3



A-1 Site Habitat Baseline

Condense / Show Columns

Condense / Show Rows

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Instructions

Habitats and areas				Distinctiveness		Condition		Strategic significance			Suggested action to address habitat losses	Ecological baseline
Ref	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic Significance multiplier		Total habitat units
1	Grassland	Other neutral grassland	0.65	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same broad habitat or a higher distinctiveness habitat required (≥)	5.72
2	Grassland	Other neutral grassland	3.05	Medium	4	Good	3	Formally identified in local strategy	High strategic significance	1.15	Same broad habitat or a higher distinctiveness habitat required (≥)	42.09
3	Heathland and shrub	Mixed scrub	0.2	Medium	4	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	Same broad habitat or a higher distinctiveness habitat required (≥)	1.84
4	Heathland and shrub	Mixed scrub	0.16	Medium	4	Good	3	Formally identified in local strategy	High strategic significance	1.15	Same broad habitat or a higher distinctiveness habitat required (≥)	2.21
5	Heathland and shrub	Mixed scrub	0.08	Medium	4	Good	3	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same broad habitat or a higher distinctiveness habitat required (≥)	1.06
6	Heathland and shrub	Bramble scrub	0.7	Medium	4	Condition Assessment N/A	1	Formally identified in local strategy	High strategic significance	1.15	Same broad habitat or a higher distinctiveness habitat required (≥)	3.22
7	Heathland and shrub	Bramble scrub	2.31	Medium	4	Condition Assessment N/A	1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same broad habitat or a higher distinctiveness habitat required (≥)	10.16
8	Grassland	Bracken	0.09	Low	2	Condition Assessment N/A	1	Formally identified in local strategy	High strategic significance	1.15	Same distinctiveness or better habitat required ≥	0.21
9	Grassland	Bracken	0.14	Low	2	Condition Assessment N/A	1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same distinctiveness or better habitat required ≥	0.31
10												
11												
12												
13												
14												
			Total habitat area	7.38								66.81

Retention category biodiversity value						Bespoke compensation agreed for unacceptable losses	Comments	
Area retained	Area enhanced	Baseline units retained	Baseline units enhanced	Area habitat lost	Units lost		Assessor comments	Reviewer comments
		0.00	0.00	0.65	5.72			
	2.64	0.00	36.43	0.41	5.66			
0.03	0.17	0.28	1.56	0.00	0.00			
0.16		2.21	0.00	0.00	0.00			
0.08		1.06	0.00	0.00	0.00			
	0.25	0.00	1.15	0.45	2.07			
0.06		0.26	0.00	2.25	9.90			
		0.00	0.00	0.09	0.21			
		0.00	0.00	0.14	0.31			
0.33	3.06	3.80	39.15	3.99	23.86			

Total area lost (excluding area of Urban trees and Green walls)	3.99
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A-2 Site Habitat Creation

Condense / Show Columns

Condense / Show Rows

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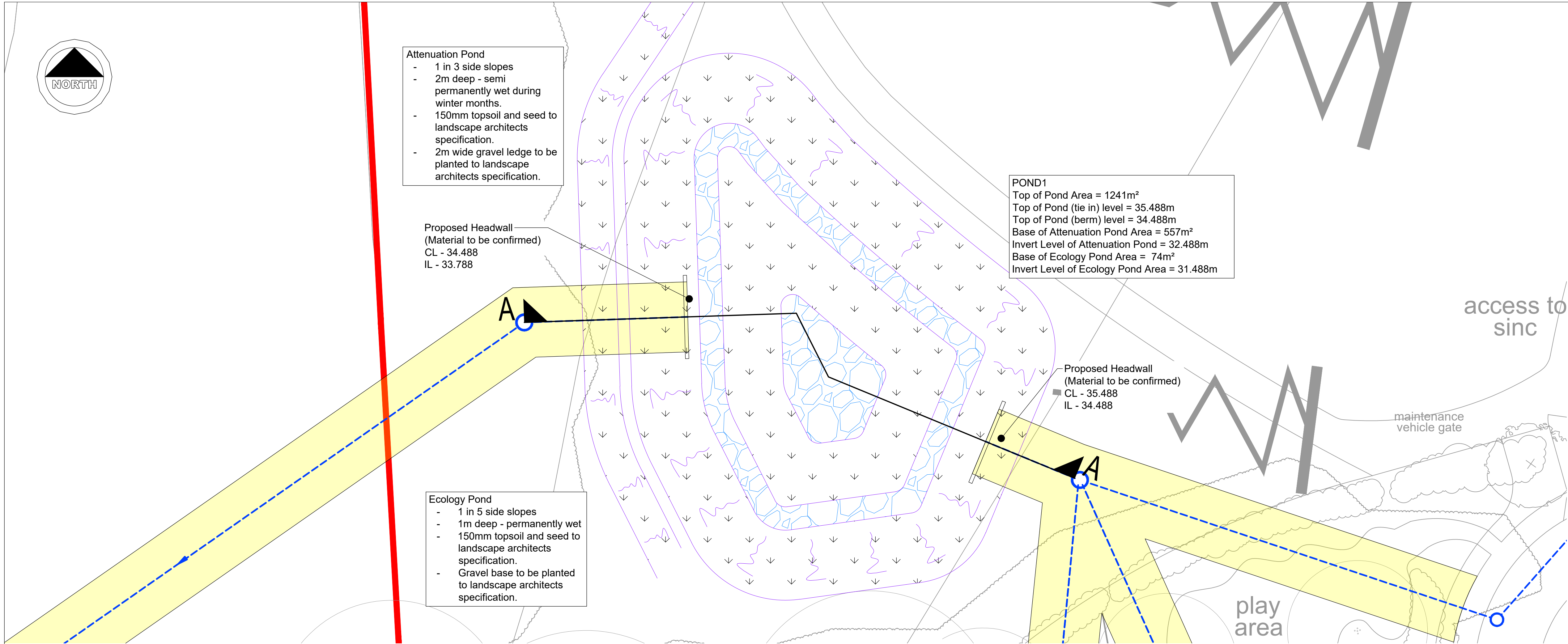
Instructions

Broad Habitat	Proposed habitat	Area (hectares)	Post development/ post intervention habitats																			
			Distinctiveness		Condition		Strategic significance			Temporal multiplier					Difficulty multipliers					Habitat units delivered	Comments	
			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		Assessor comments	Reviewer comments
Urban	Developed land; sealed surface	0.41	V.Low	0	N/A - Other	0	Formally identified in local strategy	High strategic significance	1.15	0	0	0	Standard time to target condition applied	0	1.000	Low	Standard difficulty applied	Medium	0.67	0.00		
Urban	Developed land; sealed surface	1.94	V.Low	0	N/A - Other	0	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	0	0	0	Standard time to target condition applied	0	1.000	Low	Standard difficulty applied	Medium	0.67	0.00		
Grassland	Modified grassland	0.09	Low	2	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	4	0	0	Standard time to target condition applied	4	0.867	Low	Standard difficulty applied	Low	1	0.36		
Grassland	Modified grassland	0.1	Low	2	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	4	0	0	Standard time to target condition applied	4	0.867	Low	Standard difficulty applied	Low	1	0.38		
Urban	Introduced shrub	0.09	Low	2	Condition Assessment N/A	1	Formally identified in local strategy	High strategic significance	1.15	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.20		
Urban	Introduced shrub	0.32	Low	2	Condition Assessment N/A	1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.68		
Heathland and shrub	Mixed scrub	0.59	Medium	4	Good	3	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	10	0	0	Standard time to target condition applied	10	0.700	Low	Standard difficulty applied	Low	1	5.45		
Urban	Vegetated garden	0.02	Low	2	Condition Assessment N/A	1	Formally identified in local strategy	High strategic significance	1.15	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.04		
Urban	Vegetated garden	0.3	Low	2	Condition Assessment N/A	1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.64		
Grassland	Traditional orchards	0.08	High	6	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	20	0	0	Standard time to target condition applied	20	0.490	Low	Standard difficulty applied	Low	1	0.54		
Urban	Sustainable urban drainage feature	0.05	Low	2	Good	3	Formally identified in local strategy	High strategic significance	1.15	5	0	0	Standard time to target condition applied	5	0.837	Medium	Standard difficulty applied	Medium	0.67	0.19		
														</								

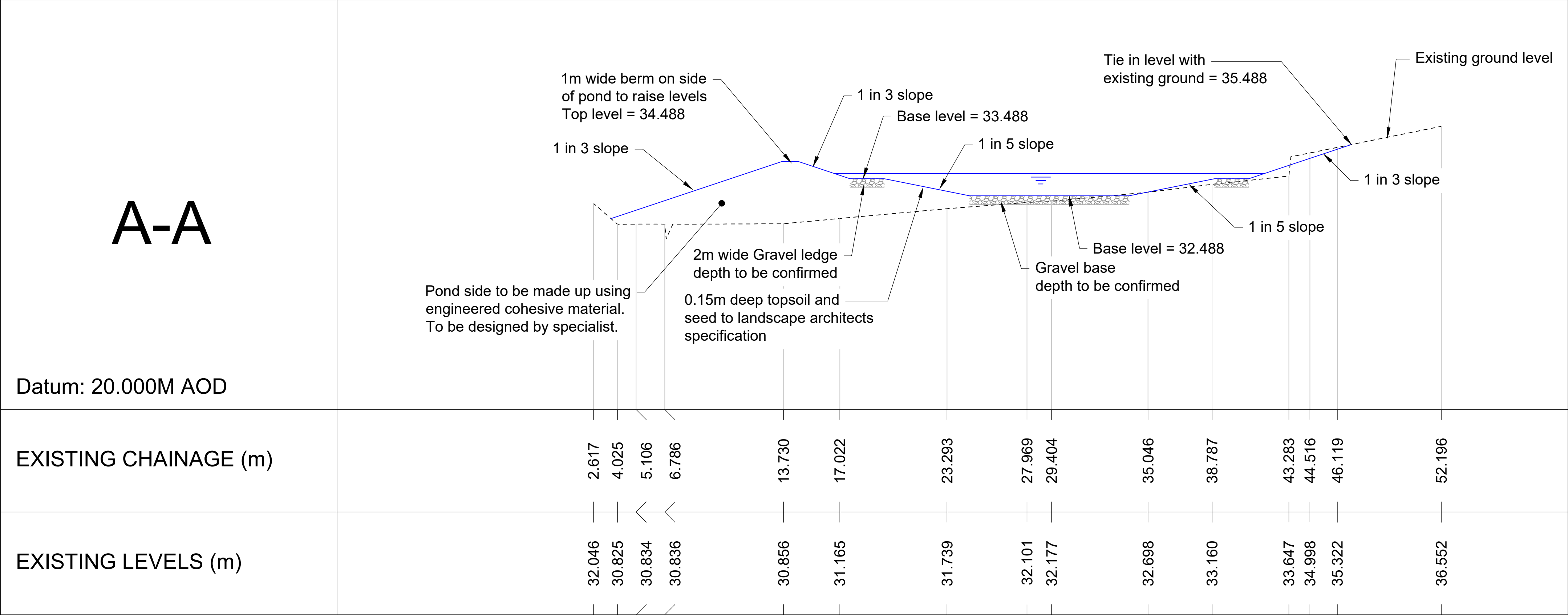
Total Units 8.49

A-3 Site Habitat Enhancement																																		
Overlookers (Stone Outcrops)					Overlookers (Stone Boulders)																													
Main Mounds					Rock outcrops																													
Baseline ref	Baseline habitat	Total habitat area (hectares)	Baseline habitats				Post development post restoration habitats										Habitat delivery	Comments																
			Baseline disturbance score	Baseline disturbance category	Baseline condition score	Baseline strategic significance category	Baseline strategic significance score	Baseline habitat area (hectares)	Proposed action to address baseline issues	Proposed Broad Habitat	Disturbance change	Condition change	Area (hectares)	Disturbance	Score	Condition		Score	Strategic significance	Strategic significance	Strategic priority multiplier	Standard time to target condition years	Habitat enhanced in advance/year	Delay in meeting target multiplier	Standard or adjusted time to target condition	Final time to target condition years	Final time to target multiplier	Standard difficulty of action/score	Applied difficulty multiplier	Final difficulty of enhancement	Difficulty multiplier applied	Assessor comments	Reviewer comments	
1	Overlookers (Other natural grassland)	0.05	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
2	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
3	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
4	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
5	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
6	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
7	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
8	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
9	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
10	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
11	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
12	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
13	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
14	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
15	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
16	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
17	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
18	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
19	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
20	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
21	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
22	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
23	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
24	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
25	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
26	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
27	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
28	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
29	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
30	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
31	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
32	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
33	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
34	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
35	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
36	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
37	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
38	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
39	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
40	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
41	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
42	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
43	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
44	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
45	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
46	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
47	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium	V/High	8	Good	3	Formerly identified as low strategic significance	1.0	10	0	0	0	0	10	0.000	Low	Standard difficulty applied	Medium	0.01	0.010		
48	Overlookers (Other natural grassland)	0.1	Medium	4	Good	3	High	1.00	10.00			Overlookers	Lowland woodlands	Medium</																				

Appendix 4 SUDS Design



Attenuation and Ecology Pond Layout
Scale 1:200



Attenuation and Ecology Pond Profile
Scale 1:200

- Notes**
- GENERAL**
- This drawing is to be read in conjunction with all relevant Engineers and Architects drawings and with the Specification.
 - For setting out refer to Architects drawings.
 - All dimensions are in millimetres and levels are in metres unless noted otherwise.
 - Contractor to take all relevant dimensions on site. Any discrepancies to be advised to the Engineer.
 - Contractor to check/scan for services prior to construction to avoid any damage during works.
 - This drawing is based on PDP Architects plan dated May 2022

PRELIMINARY - NOT FOR CONSTRUCTION

P02	Attenuation / ecology pond layout and profile updated.	TK	TK	IL	15.06.22
P01	Preliminary Issue	TK	TK	IL	01.06.22
Rev	Amendment	Drm	Chkd	Appd	Date

Project
Cabbagefield Row
Leigh Park

Drawing
Drainage Strategy
Attenuation and Ecology Pond Layout
and Profile.
Client
Portsmouth City Council

Scott White and Hookins
Structural Engineering Civil Engineering Sustainability and BREEAM CDM Consultancy

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Scale at A1 - 1:200
303795-SWH-XX-XX-DR-C-0505-P02
Project | Originator | Zone | Level | Type | Role | Number | Rev.

DO NOT SCALE FROM THIS DRAWING

Appendix 5 Post-Development Habitat Condition Target

Broad Habitat	Grassland (g)		
Habitat Type	Modified grassland (g4)		
Notes	The modified grassland will comprise a species-rich turf. It will be managed to maintain an even cover of grassland throughout the year, prevent physical damage and prevent the development of bracken, scrub or invasive and non-native species. Due to its use, it will not be possible to maintain a varied sward height and although a species-rich seed mix will be used, a conservative assumption that fewer than 6-8 species per square metre will be present has been made.		
	Indicator	Targeted	Score
1	There must be 6-8 species per m ² . Note - if a grassland has 9 or more species per m ² it should be classified as a moderate distinctiveness grassland habitat type. NB - this criterion is non-negotiable for achieving good condition.	No	1
2	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.	No	1
3	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 should be classified as the relevant scrub habitat type.	Yes	1
4	Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.	Yes	1
5	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Yes	1
6	Cover of bracken less than 20%.	Yes	1
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species ¹ make up less than 5% of ground cover.	Yes	1
Total Score			5
All Essential Criteria Met?			No
Target Condition			Moderate

Broad Habitat	Heathland and shrub (h)		
Habitat Type	Mixed scrub (h3h)		
Notes	New scrub planting will include a diverse range of species and will be managed to ensure that no single species becomes dominant (i.e. more than 75% cover) and that invasive non-native species are suppressed/eradicated where they occur. New planting will be combined with the existing mature shrubs to ensure a good age range and the grassland directly adjacent will be left to develop a long sward, even where it occurs adjacent to residential development. The scrub margin will be a minimum of seven metres wide and a maximum of 30 metres wide, therefore it is considered that there is scope to incorporate glades and clearings into the scrub margin to provide additional sheltered edges.		
	Indicator	Targeted	Score
1	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).	Yes	1
2	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.	Yes	1

3	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover.	Yes	1
4	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).	Yes	1
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Yes	1
Total Score			5
Target Condition			Good

Broad Habitat	Urban (u)		
Habitat Type	Sustainable Urban Drainage Feature (No UKHab classification)		
Notes	The SUDS has been designed to hold water throughout the year (Appendix 3). The banks and gravel base and ledges will be planted with a variety of wildlife friendly plants, suitable for the level of inundation likely at each location. The planting will include grasses, herbs and low level shrubs in a suitably designed mosaic. The SUDS will be managed in the long term to prevent the encroachment of invasive non-native species.		
	Indicator	Targeted	Score
1	Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e. scrub, grassland, herbs) should not account for more than 80% of the total habitat area.	Yes	1
2	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. NB - To achieve GOOD condition, criterion 2 must be satisfied by native species only (rather than non-natives beneficial to wildlife).	Yes	1
3	Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total vegetated area. NB - To achieve GOOD condition, criterion 3 must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	Yes	1
4	The water table is at or near the surface throughout the year. This could be open water or saturation of soil at the surface.	Yes	1
Total Score			5
Meets requirements for Good Condition within Criteria 2 and 3			Yes
Target Condition			Good

Broad Habitat	Grassland (g)		
Habitat Type	Traditional Orchard (No UKHab classification)		
Notes	An orchard will be created within the SINC adjacent to the residential area. The trees will be newly planted, so there will be no ancient or veteran trees for a long time, and there is unlikely to be a significant presence of standing or falling deadwood. However, the trees will be subject to routine management which will ensure the longevity of the trees, prevent scrub encroachment, ensure actions are taken to avoid damage from humans and animals and maintain the quality of the associated grassland, including the removal of invasive species if they occur.		
	Indicator	Targeted	Score
1	Presence of ancient and / or veteran trees. NB - this criterion is non-negotiable for achieving good condition.	No	0
2	Less than 5% of fruit trees are smothered by scrub. Small patches of dense scrub and/or scattered scrub growing between trees can be beneficial to biodiversity, however these should occupy less than 10% of ground cover.	Yes	1
3	There is evidence of formative and/or restorative pruning to maintain longevity of trees.	Yes	1
4	Presence of standing and/or fallen dead wood: all mature trees have standing or fallen branches, stems and stumps greater than 10 cm diameter associated with them.	No	0
5	At least 95% of the trees are free from damage caused by humans or animals e.g. browsing, bark stripping or rubbing on non-adjusted ties.	Yes	1
6	Sward height is varied (between 5 cm and 30 cm) and small patches of bare ground are present creating structural diversity. Up to 10% cover of patches of tall herb vegetation may be present.	Yes	1
7	Species richness of the grassland is equivalent to a medium, high, or very high distinctiveness grassland.	Yes	1
8	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species make up less than 10% of ground cover.	Yes	1
Total Score			6
All Essential Criteria Met?			No
Target Condition			Good

Broad Habitat	Grassland (g)		
Habitat Type	Lowland Meadows		
Notes	The existing grassland within the SINC will be brought into positive management with the aim of re-establishing the historic unimproved grassland that would meet the criteria for classification as Lowland Meadow under the UKHab system. The aim of the initial establishment will be to increase the diversity of plants within the sward with a particular focus on achieving conditions for the success of wildflowers, sedges and indicator species. The grassland will be managed only at appropriate times of year, with a particular focus on balancing it's use as a green open space with it's purpose as an unimproved grassland. Paths will be cut through the grassland to create a varied sward and deter residents from excessive trampling of the remaining grassland. An interpretation board, to explain the importance of the grassland and appropriate behaviour, and dog bins will be provided at all access points between the residential development and the grassland. Measures will be put in place to prevent vehicular access. Regular management will be undertaken to deter and mitigate for recreational impacts such as littering and dog fouling, as well as to prevent the encroachment of bracken, scrub and invasive species.		
	Indicator	Targeted	Score
1	The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward.	Yes	1
2	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.	Yes	1
3	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Yes	1
4	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.	Yes	1
5	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of undesirable species ¹ 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 total area.	Yes	1
Total Score			5
Target Condition			Good