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Technical Note

Project:	Land at Pineapple Farm, Mulberry Road, Congresbury
Title:	Technical Note: Evolution of strategy concerning North Somerset and Mendip Bats Special Area of Conservation (SAC)
Date:	14 August 2024
Client:	M7 Planning Limited
Reference:	240726_P1031_Technical_Note_Mulberry Rd_Congresbury_Final_Rev03: August 2024
Prepared:	Dr. R. Somers-Yeates BSc PhD ACIEEM, Principal Ecologist
Approved:	Dr. M. Cowley MSc PhD CEnv MCIEEM, Director

1 Introduction

1.1.1 EAD Ecology was commissioned by M7 Planning to prepare a Technical Note detailing the evolution of the mitigation strategy concerning loss of habitat for horseshoe bats from North Somerset and Mendip Bats Special Area of Conservation (SAC), for the proposed development at Land at Pineapple Farm, Mulberry Road, Congresbury (planning reference: 22/P/0459/OUT). The Technical Note also considers and details the potential implications of an updated Masterplan that is being submitted as part of the Planning Appeal, and proposed Environment Agency works within the proposed offsite mitigation area. The updated Masterplan differs slightly to that which was assessed as part of the Habitats Regulations Assessment (HRA) submitted with the original planning application, and the proposed works within the offsite mitigation area could potentially affect the extent of habitat enhancement that was proposed and assessed within the HRA. In addition, this Technical Note provides a commentary on the opportunities to deliver ecological enhancement and biodiversity gain on-site. We understand that this Technical Note has been requested by the Planning Inspector considering the appeal by M7 Planning against refusal of planning permission for development of the site.

1.1.2 Table 1.1 below details the evolution of the strategy, in chronological order. As can be seen, the evolution largely involved confirmation of, and subsequent changes to offsite land required to mitigate the loss of onsite horseshoe bat habitat. Changes were in response to comments from Natural England and North Somerset Council, but also due to change in the availability of certain offsite land. The final mitigation strategy was detailed in an Updated HRA, submitted February 2023, which was approved by Natural England subject to conditions.

Table 1.1. Evolution of the mitigation strategy concerning North Somerset and Mendip Bats Special Area of Conservation (SAC)

Submitted document	Date published to planning portal	Details	Responses
Ecological Impact Assessment (EcIA) (EAD Ecology, 2021)	02/03/2022	EcIA report following CIEEM 2019 guidance including: ecological baseline information (including horseshoe bat surveys as per North Somerset Council Planning Guidance[1]); assessment of impacts; and ecological avoidance, mitigation and enhancement strategy. The EcIA included quantification of losses and gains in habitat for horseshoe bats from North Somerset and Mendip Bats Special Area of Conservation (SAC) using the Habitat Evaluation Procedure (HEP) system[1]. A residual loss of habitat was identified, requiring offsite measures. No details of the offsite measures were provided in the EcIA.	Consultation responses from Natural England[2] and North Somerset Council[3] stated that there was insufficient information submitted to enable North Somerset Council to undertake Habitats Regulations Assessment (HRA) of the proposed development in relation to North Somerset and Mendip Bats SAC until details of offsite habitat creation/enhancement measures were provided. The letter from North Somerset Council (Sarah Dale) also requested a lighting Strategy, demonstrating habitats retained as dispersal corridors and foraging habitat for horseshoe bats would remain unlit/lit to below 0.5 lux, as well as details of the location of proposed offsite habitat, and confirmation of the quantity and quality of this habitat.

[1] In accordance with North Somerset and Mendip Bats Special Area of Conservation (SAC) Guidance on Development 2019; Burrows, L (2019) North Somerset and Mendip Bats Special Area of Conservation (SAC). Guidance on Development (Version 2.1).
[2] Natural England letter dated 07/04/2022; ref. 386874 and e-mail dated 15/08/2022.
[3] Letter dated 19/05/2022 from Sarah Dale, Temporary Natural Environment Officer, North Somerset Council.

Table 1.1. Evolution of the mitigation strategy concerning North Somerset and Mendip Bats Special Area of Conservation (SAC)

Submitted document	Date published to planning portal	Details	Responses
Habitats Regulations Assessment: September 2022	11/11/2022	EAD Ecology prepared a Shadow HRA concerning North Somerset and Mendip Bats SAC. The Shadow HRA sought to address all the comments received from Natural England and North Somerset Council (Sarah Dale) and included details of an external lighting strategy (The Lighting Bee Ltd: July 2022)[4]. The HRA included details of land to be used for offsite measures to provide additional habitat for horseshoe bats from North Somerset and Mendip Bats SAC and an updated HEP calculation. The updated HEP calculation demonstrated that in combination, the quantum of proposed on and offsite habitat creation/enhancement would be sufficient to mitigate loss of habitat for greater horseshoe bats associated with development. The proposed offsite land comprised three fields: Site A, Site B, and Site C. Site A was located less than 800m to the northeast of the proposed development site, to the south of King's Wood and Urchin Wood SSSI. Site B was located less than 400m to the east of the proposed development site, adjacent to the River Yeo. Site C was located approximately 500m to the north of the proposed development site.	A subsequent letter from Lichfields[5] (uploaded to the planning portal on 24/01/23) stated that two of the proposed offsite locations detailed within the HRA were no longer available/under the applicant's control, Sites B and C. The letter also stated that the applicant was now proposing two sites; Site A and a newly proposed site located south of Millennium Mews, Congresbury. A site meeting to discuss the newly proposed offsite location south of Millennium Mews Congresbury was held on 07/02/2023 (involving: Natural England (Alison Howell); EAD Ecology (Matt Cowley and Robin Somers-Yeates); and M7 Planning (Matt Reagan). A plan showing the new/additional potential offsite location (located south of Millennium Mews, Congresbury) was uploaded to the planning portal by M7 Planning on 28/02/2023 (refer to Figure 1).

[4] The Lighting Bee Ltd (July 2022), Mulberry Rd, Congresbury. Project number: 1034-LB-EX-XX-CA-E-7080-51.
[5] Planning Consultants working on behalf of M7 Planning, dated 20/01/23 Ref: /26008999v2.

Table 1.1. Evolution of the mitigation strategy concerning North Somerset and Mendip Bats Special Area of Conservation (SAC)

Submitted document	Date published to planning portal	Details	Responses
Updated Habitat Regulations Assessment: February 2023. Submitted to Alison Howell of Natural England, prior to upload to the planning portal, on 21/02/2023.	28/02/2023	An updated version of the HRA was prepared by EAD Ecology including revised offsite mitigation details (as discussed at the site meeting with Natural England on 07/02/2023) and an updated HEP calculation. The updated HEP calculation demonstrated that in combination, the quantum of proposed on and offsite habitat creation/enhancement measures would be sufficient to mitigate loss of habitat for horseshoe bats from North Somerset and Mendip Bats SAC associated with the development. Furthermore, the updated HEP calculations demonstrated, that the newly proposed offsite location, south of Millennium Mews, Congresbury (refer to Figure 1), in combination with onsite habitat measures, was sufficient, without Site A, to mitigate habitat losses associated with the development.	In a letter response to the updated HRA, Natural England withdrew their objection to the proposed development, subject to conditions[6]. The Environment Agency uploaded a letter on 27/07/2023[7] detailing concerns over what they considered to be planting proposals that may restrict access to the Congresbury Yeo at the proposed offsite habitat enhancement site south of Millennium Mews, Congresbury.
Technical Note: Response to ecological comments made by the Environment (EAD Ecology, August 2023)	16/08/2023	This report provided clarification for the Environment Agency, in response to their comments of 27/07/2023.	The Environment Agency uploaded a further letter on 22/09/23[8] withdrawing their objection. This was conditional, including that the 'Greater Horseshoe Bat Management Plan' for the offsite land was subject to consultation from the Environment Agency.

[6] Letter from Alison Howell dated 22/02/2023 ref 412521.
[7] 27th July 2023, Ref: WX/2023/137355/01-L01.
[8] 22nd September 2023, Ref: WX/2023/137355/02-L01.

2 Summary of final approved mitigation strategy submitted with planning application

2.1.1 The final mitigation/compensation strategy concerning impacts to horseshoe bats from North Somerset and Mendip Bats Special Area of Conservation (SAC), associated with the development that was detailed in the HRA dated February 2023. A summary is provided below:

On-site measures

2.1.2 *During construction:* retained habitats to be protected and dark corridors maintained to minimise potential lighting and disturbance impacts. Between April and October no lighting will be left on outside of construction periods. Any security lighting will be positioned at low height and motion-activated on short timers. A Construction Ecological Management Plan (CEcoMP) will be produced to detail measures to ensure habitat and species protection during construction, which could be approved by North Somerset Council and secured via condition.

2.1.3 *Post-construction:* creation/retention of substantial 'green/dark corridors' along the northern and eastern site boundaries, facilitated by a sensitive lighting design. The corridors will have minimum widths of approximately 13m and 15m respectively (substantially wider in places), and will remain dark (i.e., <0.5 lux). Planting within the corridors to include wildflower meadow with scattered scrub, trees, amenity grassland, a SuDs pond, and hedgerow creation. The grassland will be managed to have a long sward to maximise the abundance of moths, thus maximising the quality of the habitat as a bat foraging resource.

2.1.4 To maximise the chances that the proposed habitats function as intended for horseshoe bats, paths would be concentrated within the amenity grassland (and within POS outside of the dark zones) to discourage walking/trampling within the wildflower grassland, and a robust management and monitoring strategy will be implemented. The strategy will include monitoring surveys, with remedial action when surveys indicate that the created habitats are not as intended. Interpretation boards, wildlife leaflets, and web-based information will be provided to inform residents of the purpose of the neutral grassland and encourage users to stick to paths and use the POS areas responsibly. Detailed, in-perpetuity management and monitoring proposals for POS will be specified in a Landscape Ecological Management Plan (LEMP), which could be approved by North Somerset Council and secured via condition.

Off-site measures

2.1.5 Habitat at land located south of Millennium Mews, Congresbury (refer to Figure 1), to be enhanced and managed to improve its suitability for horseshoe bats. Two habitat enhancement prescriptions are proposed within separate areas of the site.

2.1.6 To the east of the existing footpath/ Public Right of Way (PRoW), habitat enhancement through conservation grazing is proposed; this area will be fenced off. Enhancement within this area will be implemented through low intensity conservation grazing, and retention/enhancement of the boundary habitats, including planting of scattered shrubs and trees adjacent to the northeast boundary to provide sheltered habitat for invertebrates.

2.1.7 To the west of the existing footpath/PRoW, the grassland will be enhanced through management to produce a long sward to support an abundance of noctuid moths and other invertebrate prey species for horseshoe bats. Public access will be retained in this area with existing footpaths maintained, and signage provided, to discourage walkers from trampling the conservation grassland. Habitat management/enhancement measures in both areas will be undertaken in

accordance with the habitat creation prescriptions detailed within Annex 6 of the North Somerset Council Planning Guidance[1]. Detailed, in-perpetuity management and monitoring proposals for the offset site to be specified in a Greater Horseshoe Bat Management Plan, which would be submitted for approval by North Somerset Council and secured through S.106 agreement.

2.1.8 The quantum of both on-site and off-site habitat compensation measures was qualified as suitable in line with the Habitat Evaluation Procedure (HEP), as detailed within the North Somerset Council Planning Guidance[1].

Conditions advised by consultees

2.1.9 Natural England specified that conditions would be required to secure the following:

- Submission of a Construction and Ecological Management Plan, to protect existing habitats on site and ensure the protection of Priority Species;
- Submission of a Landscape and Ecological Management Plan for the development site, to ensure implementation of the commitments in the Ecological Constraints and Opportunities Plan and planting of new landscaping at the earliest opportunity following Commencement of Development;
- Submission of a Greater Horseshoe Bat Management Plan to ensure implementation of the objectives for off-site mitigation at the earliest opportunity, following the grant of any planning permission.

2.1.10 The Environment Agency specified that the 'Greater Horseshoe Bat Management Plan' for the offsite land must be subject to consultation from the Environment Agency.

3 Potential implications of updated Masterplan and proposed Environment Agency works within the proposed offsite mitigation area.

3.1.1 It is understood that, to address issues relating to an existing Public Right of Way on the proposed development site, there have been minor modifications to the illustraive Masterplan that was submitted as part of the original planning application; refer to Figure 2 for the original Masterplan submitted and assessed as part of the original planning application, and Figure 3 for the updated Masterplan to be submitted with the planning appeal. In additon, the Environment Agency are now proposing works to lower the river embankment by approximately 60cm, for a length of around 15-20 metres, within the proposed off-site habitat enhancement area; refer to Figure 4 for the area where the proposed Environment Agency works interesect the proposed offsite habitat enhnacement area. These ammendments will affect the details of the horseshoe bat mitigation/compensation measures described in the submitted HRA.

3.1.2 With regards to the on-site changes, they are considered unlikely to make a material difference to the funtionality of the on-site mitigation strategy (refer to paragraph 2.13 above for details of this strategy). Given that the layouts are broadly similar, there will be substantial 'green/dark' corridors along the northern and eastern boundary, and there will be the same opportunities for habitat creation/enhancement as previously identifed. Should there be a minor reduction in the quantum of habitat provided, as detailed in paragraphs 3.1.5 and 3.1.6, this could be adressesed via the offsite habitat enhancment measures, which provide a surplus of habitat, as measured using the HEP system.

3.1.3 With respect to the proposed Environment Agency works at the offsite habitat enhnacement area, there is potential that their works would conflict with habitat enhancement measures

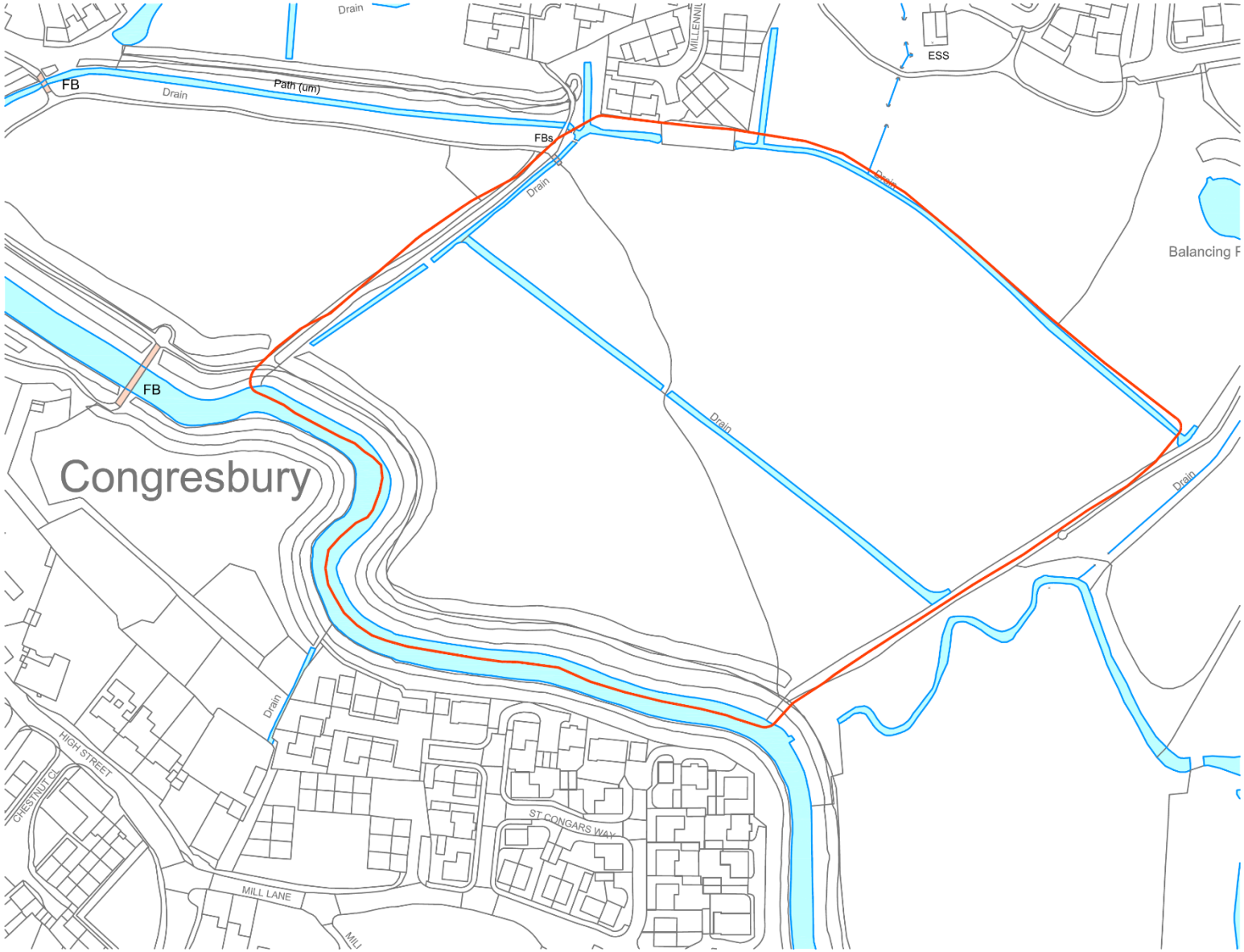
proposed/described in the HRA. However, even if the area where the Environment Agency red line boundary overlaps the offsite habitat enhancement (approx 0.25ha; refer to Figure 4), is excluded from the habitat enhancement area, an updated HEP calculation shows that the quantum of habitat enhancement within the remainder of the site would still be suffcient to offset the on-site horseshoe bat habitat losses associated with the proposed development. The result of a HEP calculation provides a result as a gain/deficit in 'habitat units'; the updated HEP reduces the gain in the original HEP from 0.51 to 0.43 (refer to Appendix 1 for the original HEP assessment and an updated HEP assessment with a reduced area of offsite habitat enhancement); the updated assessment has not factored in onsite changes as a result of the updated Masterplan. Furthermore, even if the area of offsite habitat enhancement was reduced by a further 0.5ha, there would still be a surplus of compensation habitat as quantified with the HEP, with the gain in habitat units reduced to 0.25. This indicate that the offsite habitat enhancement proposals are providing ample compensation habitat, with room to absorb minor changes to onsite habitat creation proposals.

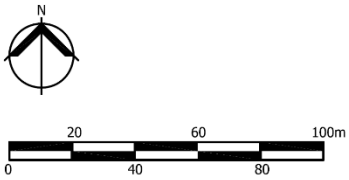
3.1.4 To ensure due process, an updated HRA based on the amended illustrative masterplan will be prepared.

4 Biodiversity Net Gain

4.1.1 At the time of the submission of the original planning application, biodiversity net-gain was not mandatory, and as such, a BNG metric assessment were not carried out. Whilst no habitat condition assessment was carried out to inform BNG assessment, the on-site baseline habitats identified during the Phase 1 habitat survey largely comprised poor semi-improved grassland, which in biodiversity net gain terms would likely translate to a 'low distinctiveness' habitat. The proposed Masterplan, with its substantial areas of green infrastructure provides opportunity for the creation of a variety of habitats, including, wildflower meadow, mixed native scrub, native trees, and species-rich native hedgerow. Provision of such habitats would provide ecological enhancement and in net gain terms these habitat are likely to represent 'medium distinctiveness' habitat; thus increasing biodiversity value. Additional measures proposed, such as the incorporation of bat and bird boxes within retained trees and proposed buildings would further enhance the biodiversity value of the site.

Figure 1: Proposed offset site location at land south of Millennium Mews, Congresbury.





Job.No|Drawing No.|Project

Land Adjacent to Congresbury Yeo

Drawing Title

Offset Site Location

Date: 22/02/2023 Scale: 1:2500@A4 Drawn by: TF

M7 Design

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Figure 2: Masterplan assessed as part of HRA, submitted with original planning application.

MR50001
Pineapple Farm, Mulberry Farm, Congresbury

Masterplan

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Figure 3: Masterplan to be submitted with planning appeal.

KEY

- Application Boundary
- Existing trees
- Proposed trees
- Proposed hedging
- Wildflower meadow
- Amenity grassland
- Scrub planting
- SuDs Basin
- Hard surfacing
- Informal path
- Feature paving

Rev.	Date	Description	Drawn	Checked
P1	19/07/24	First Issue	JE	PG

Status: **DRAFT**

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Client: **M7 PLANNING**

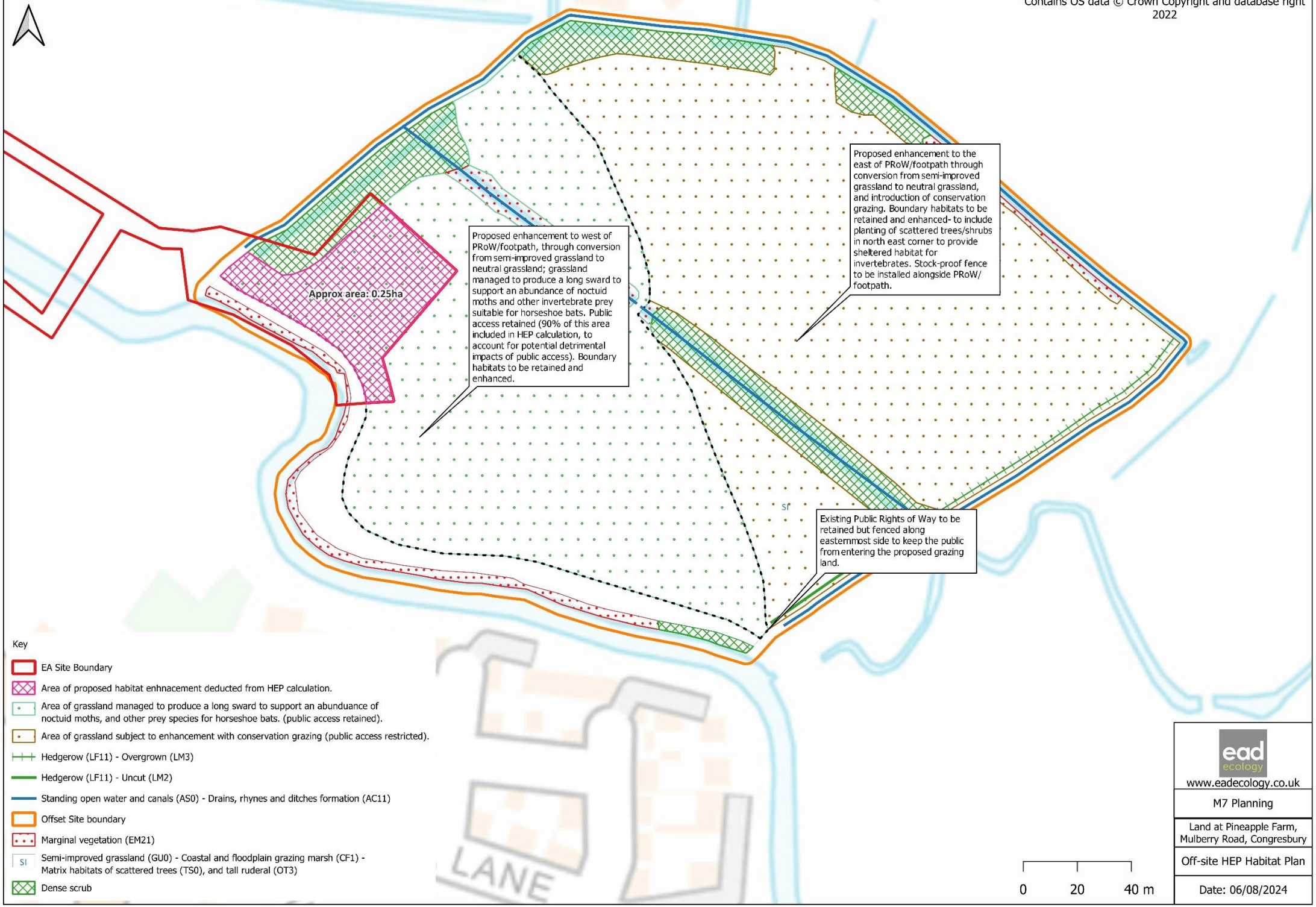
Project: **LAND NORTH OF MULBERRY ROAD, CONGRESBURY**

Drawing Title: **LANDSCAPE STRATEGY**

Scale	Sheet Size	Date
1:1000	A3	19/07/24

Client Ref.	Drawing Ref.	Drawing No.	Status
	3265-4-6	0003	S0-P1

Figure 4: Intersection between Environment Agency proposed works site boundary and proposed offsite habitat enhancement area.



Key

- EA Site Boundary
- Area of proposed habitat enhnacement deducted from HEP calculation.
- Area of grassland managed to produce a long sward to support an abunduance of noctuid moths, and other prey species for horseshoe bats. (public access retained).
- Area of grassland subject to enhancement with conservation grazing (public access restricted).
- Hedgerow (LF11) - Overgrown (LM3)
- Hedgerow (LF11) - Uncut (LM2)
- Standing open water and canals (AS0) - Drains, rhynes and ditches formation (AC11)
- Offset Site boundary
- Marginal vegetation (EM21)
- SI Semi-improved grassland (GU0) - Coastal and floodplain grazing marsh (CF1) - Matrix habitats of scattered trees (TS0), and tall ruderal (OT3)
- Dense scrub

0 20 40 m

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Land at Pineapple Farm, Mulberry Road, Congresbury

Off-site HEP Habitat Plan

Date: 06/08/2024

Appendix 1: (a) Habitat Evaluation Procedure (HEP) submitted with original planning application. (b) Updated HEP with area of off-site enhancement reduced to reflect potential impact of proposed Environment Agency at off-site enhancement area.

(a) Original HEP Worksheet: On-site habitat loss and results.

Field No	Habitat	Primary Habitat Code	Primary Habitat Score	Matrix Code	Matrix Score	Formation Code	Formation Score	Management / Land use Code	Management / Land use Score	HSI Score	Density Band Score	Hectares	Habitat Units	Species / Notes	Band
		GU0								2.60			25.81	The site is within the North Somereset and Mendip Bats SAC Consultation Zone Band A for greater horseshoe bats. The primary habitat within the site is poor semi-improved grassland with matrix habitats of scattered scrub and tall ruderal. Consultation with the landowner established that the grassland was managed for haylage, with subsequent grazing by sheep. As the land management did not precisely fit with the management codes within the SAC guidance,a bespoke multiplier of 0.65 was agreed with Larry Burrows (email dated 15/10/2021 available on request).	
On site field	Semi-improved grassland		4	OT3 (Tall ruderal)	0	N/A	1.00	Bespoke (Haylage with subsequent sheep/horse grazing)	0.65		3.0	3.309			A
On site field	Hedgerow	LF11Z	6	-	0	N/A	1.00	LM2 (Uncut hedge (height 2-3m))	0.90	5.40	3.0	0.07	1.13		A
On site field	Hedgerow	LF11Z	6	-	0	N/A	1.00	LM1 (Cut hedge (height <2m))	0.30	1.80	3.0	0	0.00		A
							1.00			0.00	3.0	0	0.00		A
							1.00			0.00	3.0	0	0.00		A
												3.379			
											Habitat Units		26.94		
											Hectares Required		**1.50**		
								Value from 'Replacement Habitat' worksheet			**Equivalent Hectares Provided**		**3.88**		
											Equivalent Hectares of Existing Habitat on Receptor Site		**1.87**		
								If required, Value from Receptor Habitat Worksheet							
								If deficit then further input is required into either 'Replacement Habitat' and/or Off-site Replacement Habitat' worksheets until an equal or gain is provided. (Non-significant amounts of loss need to be agreed with planning authority ecologist)			**Gain/ Deficit**		**0.51**		

Note: Where there is significant residual replacement habitat that cannot be accommodated within the proposed development site off site enhancement will be needed. The amount required will be increased by the value of the existing habitat on the receptor site (see A5.54 in the Technical Guidance)

(a) Original HEP Worksheet: Receptor Habitat: Off-site baseline habitat information.

Habitat	Primary Habitat		Matrix		Formation		Management / Land use		HSI Score	Development site	Receptor Site	Hectares	Equivalent Hectares
	IHS Code	Score	Code	Score	Code	Score	Code	Score		Density Band Score	Density Band Score		
Offset site	GU0 (Semi-improved grassland)	4	TS0 (Scattered trees - 0) OT3 (Tall ruderal - 0)	0	N/A	1.00	CF21 (Coastal and floodplain grazing marsh - Management HSI score adjusted down from 1 to 0.7 to reflect the fact that the site is not grazed, but managed for hay/silage)	0.70	2.80	3.00	3.00	4.010	1.87
											Equivalent Value of Habitat on Receptor Site		1.87

Use this sheet where some or all of the replacement habitat is not provided within the development site. The value of the exisitng off site habitat needs to be taken away from the value of that provided.

(a) Original HEP worksheet: Replacement Habitat: On-site and off-site habitat creation/enhancement

Habitat	Primary Habitat		Matrix		Formation		Management / Land use		HSI Score	Hectares	Delivery Risk	Temporal Risk	Spatial Risk		Equivalent Hectares	Notes
	IHS Code	Score	Code	Score	Code	Score	Code	Score					Development Site Band Score	Replacement Site Band Score		
Neutral grassland	GN0	6	SC21 (Open/scattered scrub:native shrubs) TS0 (Scattered trees) BG1 (Bare ground)	1	-	1.00	GL2 (Non-amenity)	1.00	6.00	0.620	1.00	0.83	3.0	3.0	3.09	Non-amenity, neutral grassland with scattered scrub and trees: 70% of dark POS (excluding SuDS and where external lighting strategy indicates illuminance of <0.5lux - as per drawing number: 1034-LB-EX-XX-DR-E-7080-41). Bare ground matrix code included to account for pathways. Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of 'other neutral grassland' in 'moderate' condition.
Improved grassland	GI0	3	BG1 (Bare ground)	0	-	1.00	GL1 (Amenity grassland)	0.10	0.30	0.222	1.00	0.83	3.0	3.0	0.06	Improved, amenity grassland: 25% of dark POS (excluding SuDS and where external lighting strategy indicates illuminance of <0.5lux - as per drawing number: 1034-LB-EX-XX-DR-E-7080-41). Bare ground matrix code included to account for pathways. Remaining 5% of POS is considered to be play areas/hard surfaces unavailable for bats. Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of modified grassland in moderate condition.
Other standing open water and canals	ASZ	2	-	0	AP1Z (Other pond)	0.10	LT15 (Canal-side with grassland)	0.50	0.10	0.138	0.67	0.83	3.0	3.0	0.01	SUDs pond (other standing open water and canals with other pond formation code, and canal-side with grassland) - lighting strategy indicates illuminance at SuDS of <0.5lux - as per drawing number: 1034-LB-EX-XX-DR-E-7080-41). Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of sustainable urban drainage feature in good condition.
Hedgerow	LF11	6	-	0	-	1.00	Uncut hedge (height 2-3m) (LM2)	0.90	5.40	0.045	1.00	0.71	3.0	3.0	0.17	150m of native species-rich hedgerow (3m width assumed for calculation of area). Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of native species-rich hedgerows in good condition.
Offset- Semi-improved grassland - Neutral grassland with introduction of conservation grazing (Public access restricted).	GN0	6		0	-	1.00	CF1/GM1 (Coastal and floodplain grazing marsh/conservation grazing)	1.00	6.00	2.300	1.00	0.83	3.0	3.0	11.45	Enhancement through conversion from semi-improved grassland to neutral grassland, and introduction of conservation grazing. Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of 'other neutral grassland' in 'moderate' condition.
Offset- Semi-improved grassland - Neutral grassland managed to produce long sward (public access retained)	GN0	6		0	-	1.00	CF1/GL2 (Coastal and floodplain grazing marsh/non-amenity grassland)	1.00	6.00	1.710	1.00	0.83	3.0	3.0	8.52	Enhancement through conversion from semi-improved grassland to neutral grassland, managed to produce a long sward to support an abundance of Noctuid moths and other invertebrate prey suitable for horseshoe bats - area included within calculation is 90% of the area mapped on offset sites plan (this is to account for the potential detrimental impacts of public access in localised areas). Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of 'other neutral grassland' in 'moderate' condition.
										5.035						
					Value of Habitat Provided in Hectares										3.883	

(b) Updated HEP Worksheet: On-site habitat loss and results.

Field No	Habitat	Primary Habitat Code	Primary Habitat Score	Matrix Code	Matrix Score	Formation Code	Formation Score	Management / Land use Code	Management / Land use Score	HSI Score	Density Band Score	Hectares	Habitat Units	Species / Notes	Band
		GU0								2.60			25.81	The site is within the North Somereset and Mendip Bats SAC Consultation Zone Band A for greater horseshoe bats. The primary habitat within the site is poor semi-improved grassland with matrix habitats of scattered scrub and tall ruderal. Consultation with the landowner established that the grassland was managed for haylage, with subsequent grazing by sheep. As the land management did not precisely fit with the management codes within the SAC guidance,a bespoke multiplier of 0.65 was agreed with Larry Burrows (email dated 15/10/2021 available on request).	
On site field	Semi-improved grassland		4	OT3 (Tall ruderal)	0	N/A	1.00	Bespoke (Haylage with subsequent sheep/horse grazing)	0.65		3.0	3.309			A
On site field	Hedgerow	LF11Z	6	-	0	N/A	1.00	LM2 (Uncut hedge (height 2-3m))	0.90	5.40	3.0	0.07	1.13		A
On site field	Hedgerow	LF11Z	6	-	0	N/A	1.00	LM1 (Cut hedge (height <2m))	0.30	1.80	3.0	0	0.00		A
							1.00			0.00	3.0	0	0.00		A
							1.00			0.00	3.0	0	0.00		A
												3.379			
											Habitat Units		26.94		
											Hectares Required		**1.50**		
								Value from 'Replacement Habitat' worksheet			**Equivalent Hectares Provided**		**3.70**		
Note: Where there is significant residual replacement habitat that cannot be accommodated within the proposed development site off site enhancement will be needed. The amount required will be increased by the value of the existing habitat on the receptor site (see A5.54 in the Technical Guidance)								If required, Value from Receptor Habitat Worksheet			**Equivalent Hectares of Existing Habitat on Receptor Site**		**1.77**		
								If deficit then further input is required into either 'Replacement Habitat' and/or Off-site Replacement Habitat' worksheets until an equal or gain is provided. (Non-significant amounts of loss need to be agreed with planning authority ecologist)			**Gain/ Deficit**		**0.43**		

(b) Updated HEP Worksheet: Receptor Habitat: Off-site baseline habitat information.

Habitat	Primary Habitat		Matrix		Formation		Management / Land use		HSI Score	Development site	Receptor Site	Hectares	Equivalent Hectares
	IHS Code	Score	Code	Score	Code	Score	Code	Score		Density Band Score	Density Band Score		
Offset site	GU0 (Semi-improved grassland)	4	TS0 (Scattered trees - 0) OT3 (Tall ruderal - 0)	0	N/A	1.00	CF21 (Coastal and floodplain grazing marsh - Management HSI score adjusted down from 1 to 0.7 to reflect the fact that the site is not grazed, but managed for hay/silage)	0.70	2.80	3.00	3.00	3.785	1.77
											Equivalent Value of Habitat on Receptor Site		**1.77**

(b) Updated HEP Worksheet: Replacement Habitat: On-site and off-site habitat creation/enhancement

Habitat	Primary Habitat		Matrix		Formation		Management / Land use		HSI Score	Hectares	Delivery Risk	Temporal Risk	Spatial Risk		Equivalent Hectares	Notes
	IHS Code	Score	Code	Score	Code	Score	Code	Score					Development Site Band Score	Replacement Site Band Score		
Neutral grassland	GN0	6	SC21 (Open/scattered scrub:native shrubs) TS0 (Scattered trees) BG1 (Bare ground)	1	-	1.00	GL2 (Non-amenity)	1.00	6.00	0.620	1.00	0.83	3.0	3.0	3.09	Non-amenity, neutral grassland with scattered scrub and trees: 70% of dark POS (excluding SuDS and where external lighting strategy indicates illuminance of <0.5lux - as per drawing number: 1034-LB-EX-XX-DR-E-7080-41). Bare ground matrix code included to account for pathways. Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of 'other neutral grassland' in 'moderate' condition.
Improved grassland	GI0	3	BG1 (Bare ground)	0	-	1.00	GL1 (Amenity grassland)	0.10	0.30	0.222	1.00	0.83	3.0	3.0	0.06	Improved, amenity grassland: 25% of dark POS (excluding SuDS and where external lighting strategy indicates illuminance of <0.5lux - as per drawing number: 1034-LB-EX-XX-DR-E-7080-41). Bare ground matrix code included to account for pathways. Remaining 5% of POS is considered to be play areas/hard surfaces unavailable for bats. Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of modified grassland in moderate condition.
Other standing open water and canals	ASZ	2	-	0	AP1Z (Other pond)	0.10	LT15 (Canal-side with grassland)	0.50	0.10	0.138	0.67	0.83	3.0	3.0	0.01	SUDs pond (other standing open water and canals with other pond formation code, and canal-side with grassland) - lighting strategy indicates illuminance at SuDS of <0.5lux - as per drawing number: 1034-LB-EX-XX-DR-E-7080-41). Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of sustainable urban drainage feature in good condition.
Hedgerow	LF11	6	-	0	-	1.00	Uncut hedge (height 2-3m) (LM2)	0.90	5.40	0.045	1.00	0.71	3.0	3.0	0.17	150m of native species-rich hedgerow (3m width assumed for calculation of area). Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of native species-rich hedgerows in good condition.
Offset- Semi-improved grassland - Neutral grassland with introduction of conservation grazing (Public access restricted).	GN0	6		0	-	1.00	CF1/GM1 (Coastal and floodplain grazing marsh/conservation grazing)	1.00	6.00	2.300	1.00	0.83	3.0	3.0	11.45	Enhancement through conversion from semi-improved grassland to neutral grassland, and introduction of conservation grazing. Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of 'other neutral grassland' in 'moderate' condition.
Offset- Semi-improved grassland - Neutral grassland managed to produce long sward (public access retained)	GN0	6		0	-	1.00	CF1/GL2 (Coastal and floodplain grazing marsh/non-amenity grassland)	1.00	6.00	1.485	1.00	0.83	3.0	3.0	7.40	Enhancement through conversion from semi-improved grassland to neutral grassland, managed to produce a long sward to support an abundance of Noctuid moths and other invertebrate prey suitable for horseshoe bats - area included within calculation is 90% of the area mapped on offset sites plan (this is to account for the potential detrimental impacts of public access in localised areas). Delivery and temporal risk multipliers informed by BNG 3.1 multipliers for creation of 'other neutral grassland' in 'moderate' condition.
										4.810						
					Value of Habitat Provided in Hectares										3.696	