

Ecological Impact Assessment
Land South of Halifax Road, Penistone

Barratt and David Wilson Homes Yorkshire West

Report Reference: ER-4578-04

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Report Title:	Ecological Impact Assessment Land South of Halifax Road, Penistone
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Summary

The proposals have engaged with the NPPF Mitigation Hierarchy and have been able to avoid most potential significant effects at the Site. This includes retaining most hedgerows and a veteran ash tree.

Most residual significant effects can be mitigated and compensated on site through measures outlined in the Construction Environmental Management Plan (ER-4578-05 CEMP) and Biodiversity Management Plan (ER-4578-06 BMP).

Despite mitigation, the development is predicted to result in an overall net loss in biodiversity units. Biodiversity offsetting will be required to achieve no net loss at the Site.

1. Introduction

- 1.1.1. Brooks Ecological Ltd was commissioned by Barratt and David Wilson Homes Yorkshire West to carry out an Ecological Impact Assessment (EcIA) for a Site referred to as land south of Halifax Road in Penistone.
- 1.1.2. The British Standard BS:42020 recommends that a proportional assessment of ecological impacts should be made - such that decision making relating to the NPPF 'mitigation hierarchy', the planning balance', and the use of conditions is suitably informed.
- 1.1.3. The purpose of the EcIA report is to use the information gathered, alongside the proposals for the Site, to:
- identify any significant effects associated with the proposed development,
 - set out any mitigation (including monitoring) required to address these effects, and to ensure compliance with legislation and policy,
 - identify suitable enhancement,
 - identify measures required to secure mitigation and enhancement,
 - identify and assess any residual effects and their legal, policy and development management consequences.
- 1.1.4. This report adapts the format set out in the Chartered Institute for Ecology and Environmental Management (CIEEM) guidelines for Ecological Report Writing (December 2017).



Ecological Impact Assessment (EcIA) Checklist



EcIA Criteria (to ensure decisions are based on adequate information in accordance with Clauses 6.2 and 8.1 of BS42020:2013)		Yes No n/a	Paragraph reference number(s)
Pre-app/ scope	1. Where pre-application advice has been received from the Local Planning Authority and/or an NGO and/or statutory body (e.g. NE DAS, NRW DAS), it has been fully accounted for in the EcIA		
	2. The scope, structure and content of the EcIA is in accordance with published good practice ^{iii, iii and iv}		
Surveys, Sites, Species and Habitats	3. Adequate* and up-to-date ^{vi} : a. Desk study has been undertaken ^{vi} b. Phase 1 habitat survey (or equivalent) has been undertaken ^{vi} c. Phase 2 ecology surveys have been undertaken (where necessary) ^{vi}		
	4. All statutory and non-statutory sites likely to be significantly affected are clearly and correctly identified		
	5. All protected or priority species and priority habitats ^{vi} likely to be significantly affected are clearly and correctly identified, and adequate surveys have been undertaken to inform the baseline		
	6. Any invasive non-native plant species present are clearly and correctly identified		
	7. Where a separate PEA Report states that Phase 2 ecology surveys are required, these have been undertaken in full and results submitted with the application (or lack of such surveys is justified)		
Impacts and Effects	8. The assessment is based on clearly defined development proposals along with relevant drawings/plans (and any plans used are the same version number as those submitted with the application) or		
	9. The residual ecological effects are considered to be not significant at any geographical scale irrespective of the detailed development proposals, and the assessment is based on a worst-case-scenario		
	10. The report describes and assesses all likely significant ecological effects (including cumulative effects) clearly stating the geographical scale of significance (where relevant)		
Mitigation, Compensation and Enhancement	11. The mitigation hierarchy has been clearly followed ^{vi}		
	12. The report: a. Clearly identifies the proposed mitigation and compensation measures, and explains how these will adequately address all likely significant adverse effects b. Includes, where necessary, proposals for post-construction monitoring c. Recommends how proposed measures may be secured through planning conditions/obligations and/or necessary licences		
	13. A summary table of proposed mitigation and compensation measures has been provided		
	14. The need for any mitigation licences required in relation to protected species is clearly identified		
	15. Proposals to deliver ecological enhancement/Biodiversity Net Gain have been provided		
Competence/Good Practice	16. Limitations ^{vi} of the ecological work have been correctly identified and the implications explained		
	17. All relevant key timing issues (e.g. site vegetation clearance or roof removal) that may constrain or adversely affect the proposed timing of development have been identified		
	18. All ecological work and surveys accord with published good practice methods and guidelines OR deviation from such guidelines is made clear and fully justified, and the implications for subsequent conclusions and recommendations made explicit in the report ^{vi}		
Conclusions	19. All ecologists and surveyors hold appropriate species licences (where relevant) and/or have all necessary competencies to carry out the work undertaken		
	20. The report clearly identifies where the proposed development complies with relevant legislation and policy, highlighting any possible non-compliance issues, and highlighting circumstances where a conclusion cannot be drawn as it requires an assessment of non-ecological issues (such as socio-economic ones)		
	21. The report provides a clear summary of losses and gains for biodiversity, and a justified conclusion of an overall net gain for biodiversity		
	22. Justifiable conclusions ^{vi} based on sound professional judgement ^{vi} have been drawn as to the significance of effects on any designated site, protected or priority habitat/species or other ecological feature, and a justified scale of significance has been stated		

2. Method

Scope of Assessment

- 2.1.1. The application site 'the Site' comprises three large agricultural grassland fields. The extent of this assessment is the development area within the red line boundary defined in Figure 2.1 overleaf.
- 2.1.2. The assessment uses a 2 km area of search around the Site for records of protected and notable species and locally or nationally designated wildlife sites.
- 2.1.3. To provide information on the Site's ecological value, the following studies have been carried out; with the relevant reports produced being:
 - Preliminary Ecological Appraisal. Brooks Ecological Ltd. R-4578-01. June 2020.
 - Hedgerow Assessment & Report. Brooks Ecological Ltd. R-4578-02. June 2020.
 - Bat Activity Survey. Brooks Ecological Ltd. R-4578-03. June 2020.
 - eDNA survey. Brooks Ecological Ltd. SI-4578-01. May 2020.
 - Wintering Bird Report. FPCR. August 2020.
 - Wintering Bird Report Addendum. FPCR. December 2018.

Desk Study

- 2.1.4. A full desk study including consideration of local biological records, aerial photographs, local designations and planning guidance has been carried out.

Field Survey

Walkover – Extended Phase 1 Habitat Survey

- 2.1.5. The initial walkover survey was carried out during May 2020 and followed Phase 1 Habitat Survey Methodology (JNCC, 2010).

Bat Activity Survey

- 2.1.6. A single survey, including activity transect and remote monitoring, was carried out in peak survey season to Bat Conservation Trust Best Practice Guidelines (2016).

Hedgerow Assessment

- 2.1.7. Survey followed the methodology set out in the Hedgerow Regulations (1997) and the Hedgerow Survey Handbook (DEFRA, 2007).

eDNA survey

- 2.1.8. Water samples were collected on the 16th April 2020, using sterile kits supplied by Surescreen Scientifics laboratory and survey followed methodology as advised in the Natural England Technical Advice Note (WC1067).

Wintering birds

- 2.1.9. Surveys were undertaken during November and December 2017, and in January and March 2018 and November 2019. The survey methodology employed was broadly based on that of territory mapping as developed by the British Trust for Ornithology (BTO). Standard BTO species codes and symbols for bird activities were used to identify birds and denote activity, sex and age where appropriate.

Figure 2.1 Site area under assessment (red line).**Assessment Method**

- 2.1.10. In assessing the significance of effects, we refer to Section 5 of CIEEM (2018) - that a 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. In relation to ecological features we consider the following factors in combination, including;
- the feature's value on an ascending scale from Site, to international value
 - the site's position in the local landscape,
 - its current management and
 - its size, rarity or threats to its integrity
- 2.1.11. There are several tools available to aid this consideration, including established frameworks such as Ratcliffe Criteria or concepts such as Favourable Conservation Status. Also of help is reference to Biodiversity Action Plans in the form of the Local BAP and Section 41 of the NERC Act (2006) to determine if the site supports any Priority Habitats, Habitats of Principal Importance or presents any opportunities in this respect.
- 2.1.12. The assessment considers the development proposals set out below; from which the potential impacts can be summarised as:
- Vegetation and habitat removal
 - Disturbance, pollution or interference arising from the Site's construction
 - Disturbance, pollution or interference arising from the Site's operation
- 2.1.13. This report deals with any significant effects potentially arising from these impacts. It looks at how the mitigation hierarchy can be applied to any effects and the implications of any residual significant effects.

3. Ecology Baseline

- 3.1.1. A summary of the points salient to this assessment are set out below:

Designated Sites and Conservation Areas

- 3.1.2. Impacts on both Statutory (International and National) and Non-Statutory designations or their interests have been ruled out at PEA Stage.

Habitats

- 3.1.3. The Site comprises habitats mapped opposite and described in the table overleaf.

Potential future changes to the baseline

- 3.1.4. The Site's use and ecological baseline will likely be unchanged until the time of the proposed development.
- 3.1.5. In the absence of re-development, it is assumed that the Site will continue to be managed as improved agricultural grassland.

Figure 3.1 The Site's habitats



Table 3.1 Summary of habitats present

Code	Habitat Feature	Extent	Bio. Unit Score*	Notes
g4	Modified grassland	15.08 ha	30.16	<p>Three large agricultural grassland fields situated on a gentle hillside on the edge of Penistone. All three fields were surveyed and found to support a species-poor neutral grassland community which has been greatly improved for agricultural purposes, whether it be pasture or silage.</p> <p>All three fields meet the criteria for classification of 'Modified grassland', as defined in the UK Habitat Classification Working Group (2018) <i>UK Habitat Classification – Habitat Definitions</i> V1.0 handbook.</p> <p>Furthermore, the Biodiversity Metric 2.0 Calculation Tool Betas Test (Dec 2019) - Technical Data – UK Habitat/Phase 1 translation table also confirms that habitats previously described under JNCC as improved, species-poor semi-improved or semi-improved neutral grassland (poor condition), should be taken through the calculator as Modified Grassland.</p> <p><u>Site level importance</u></p>
1171	Mature tree	0.01 ha	0.04	<p>A single mature ash tree is present along the field boundary to the south-west corner. This is likely to qualify as an early ancient tree or fully mature transitional veteran.</p> <p><u>District level importance</u></p>
	Total area	15.09 ha	30.20	Habitat Units
h2b	Native hedgerow	1.48 km	0.39	<p>Three species-poor native hedgerows greatly affected by sheep grazing. None of the hedgerows meet the criteria for Important status under the Hedgerow Regulations 1997.</p> <p>Two sections qualify as Habitat of Principle Importance under Section 41 of the NERC Act 2006.</p> <p><u>Local level importance</u></p>
	Total linear features	1.48 km	0.39	Hedgerow Units

Species and Species Groups

3.1.6. Potential constraints relating to relevant groups were investigated through the surveys carried out.

Table 3.2 Summary of relevant faunal issues

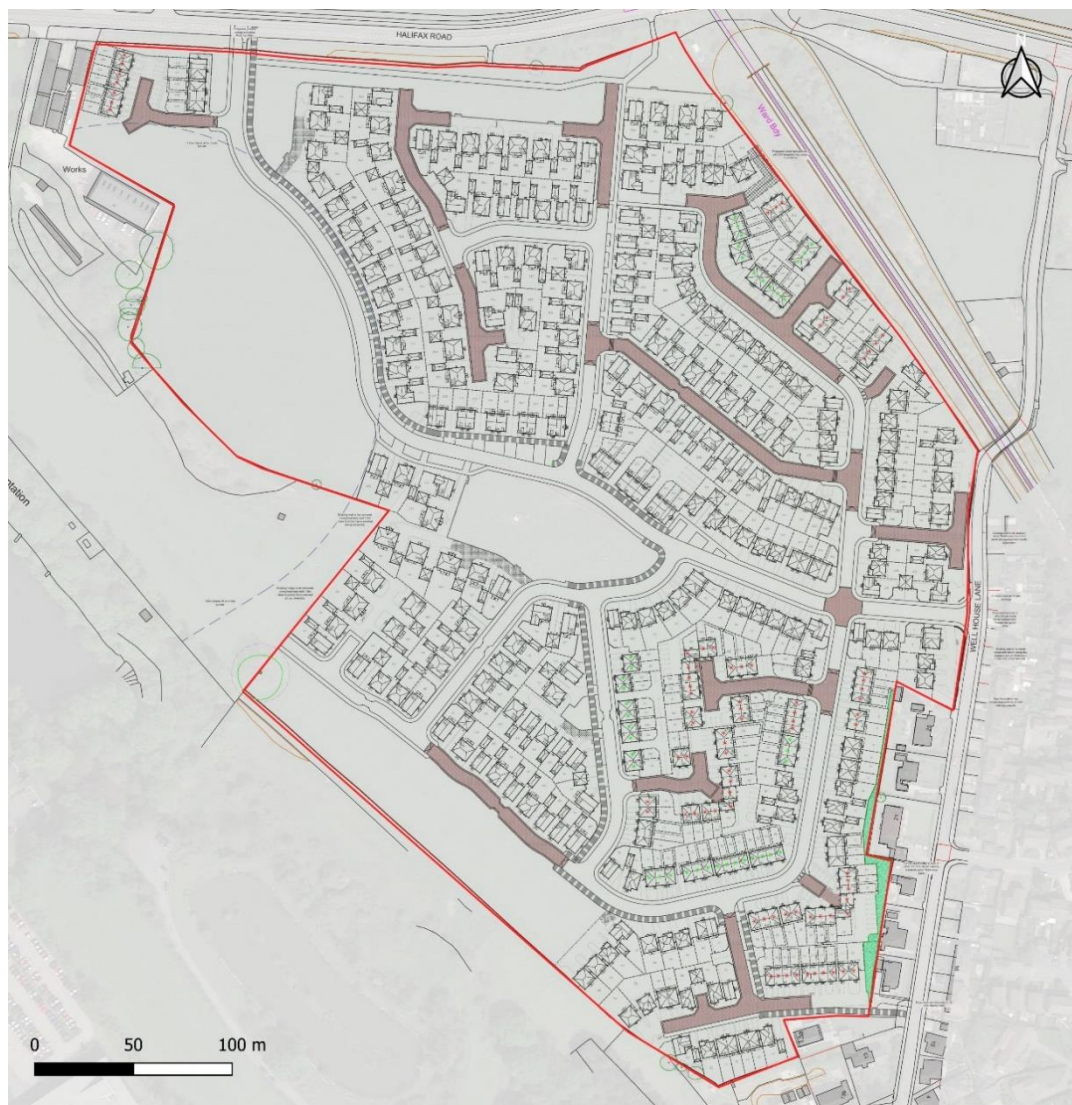
Species/ Group	Presence	Notes
Bats	<p><u>Foraging and Commuting</u>: Site is unlikely to be of significant importance to any local bat populations.</p> <p><u>Bat Roost Suitability</u>: Single mature ash tree found to contain features with bat roost suitability.</p>	<p>Dedicated bat activity survey found the site to be used consistently by small numbers of common pipistrelle bats for foraging, with a limited range of other bat species recorded at negligible levels.</p> <p>Tree with roost suitability will not be impacted upon by the proposals.</p> <p><u>Site level importance</u></p>
Great crested newt	Likely absence confirmed.	eDNA testing returned negative results for all ponds within the Sites ecological zone of influence (EZol).
Breeding birds	<p>Hedgerows and mature trees along the field boundaries are likely to support a small number of common garden and farmland bird territories.</p> <p>Field interiors could support a number of ground nesting bird territories, such as skylark.</p>	<p>Given the small extent of hedgerows, and the abundance of similar agricultural fields locally, the Site is unlikely to be of significance for nesting birds.</p> <p><u>Site level importance</u></p> <p>Standard precaution applies regarding clearance of vegetation.</p>
Wintering birds	<p>A total of 24 bird species were recorded within the site during the wintering bird surveys, of which 8 were considered 'notable' species. These are:</p> <p><u>Red list species</u>: Herring gull, Starling, Mistle thrush.</p> <p><u>Amber list species</u>: Greylag goose, Black headed gull, Stock dove, Kestrel, Bullfinch.</p>	<p>The wintering bird assemblage making use of the site was typical of the habitats present, comprising for the most part common and widespread species, and was therefore considered to be of <u>Local level importance</u>.</p> <p>Golden plover were not recorded on site, nor were they recorded within 2km of the site.</p>
Other fauna	The Sites potential to support other protected or notable fauna was scoped out at the PEA stage.	Direct or indirect impacts considered unlikely.
Invasive non-native plant species	No INNS have been identified on site, either on the walkover survey or subsequent visits.	No direct or indirect impacts expected*.

* Should further assurances be needed in relations to INNS you should commission a dedicated Invasive Weed Survey

4. Description of the Proposed Development

- 4.1.1. Proposals are for the construction of 402 new dwellings, with associated infrastructure and Public Open Space as shown in Figure 4.1 opposite.
- 4.1.2. Most of the Site will be cleared of existing vegetation, to allow the necessary ground works. Only land behind tree protection fencing will be retained.
- 4.1.3. Existing boundary hedgerows and the mature transitional veteran tree will be retained (embedded mitigation).

Figure 4.1 Planning Layout (STEN Architecture dwg 2001.01)



5. Impacts and Effects on the Proposed Development

- 5.1.1. Figure 5.1 shows the development footprint (black hatch) in relation to the mapped habitats.
- 5.1.2. The development footprint shows the sum extent of vegetation clearance and ground works – which will result in the loss of baseline habitat. This land will then either be occupied by built development or POS.

Figure 5.1 Development footprint in relation to existing on-Site habitats.



- 5.1.3. Figure 5.2 (opposite) summarises the impact of development on the baseline habitats.
- 5.1.4. Areas marked red will be built out with hard surfaces (roads and footpaths) or residential development (houses, gardens and driveways). The later will have some ecological benefit post development.
- 5.1.5. Areas marked orange will be soil stripped during the early stages of construction, but later reprofiled and used for greenspace. This provides opportunities for ecological enhancement.
- 5.1.6. Areas marked green will be protected during construction, and baseline habitats retained in situ. These will again be available for ecological enhancement post-development.

Figure 5.2 Summary of impacts on existing habitats (permanent and temporary loss)

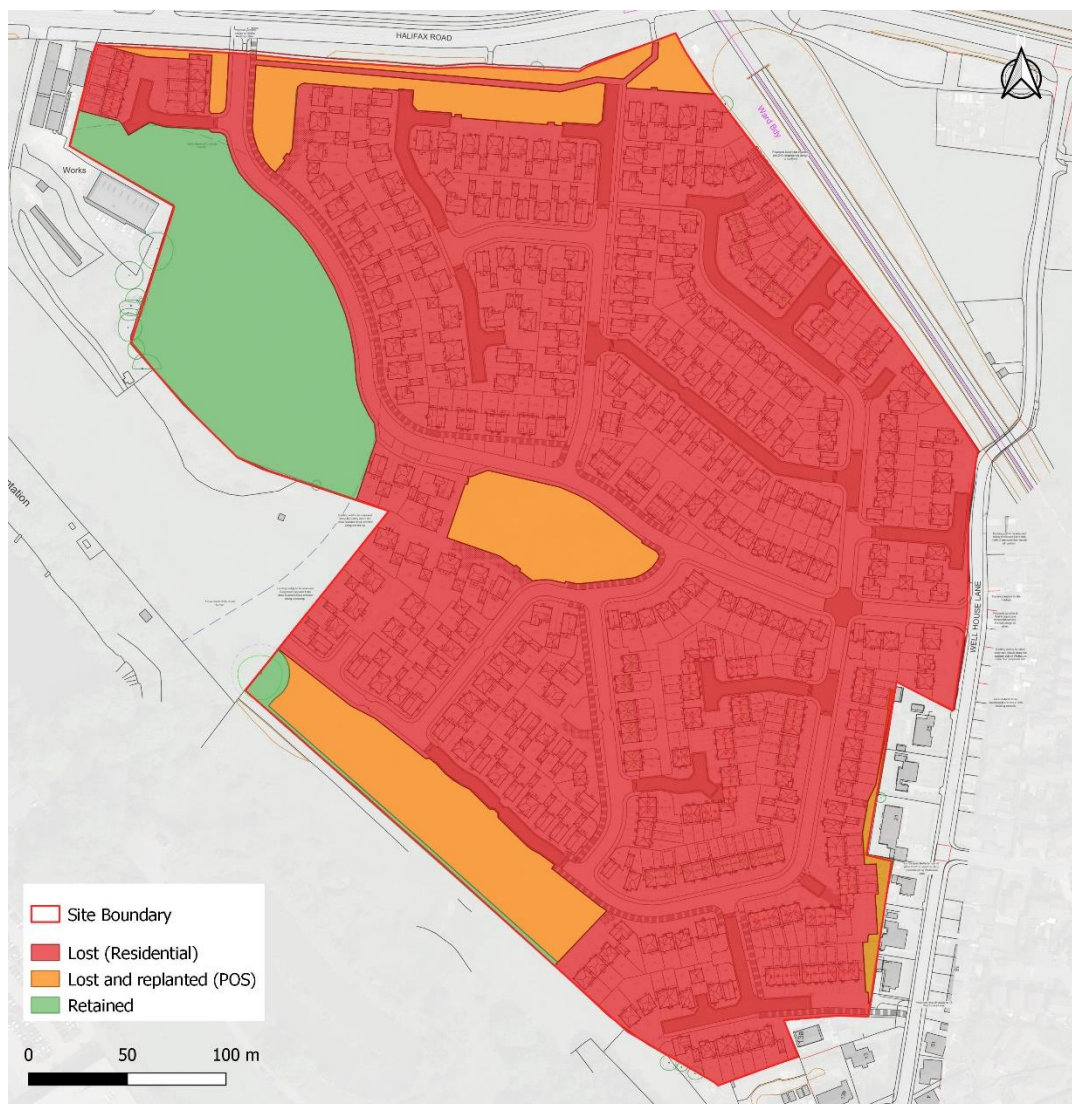


Table 5.1 Summary of impacts and effects.

Feature	Impact	Stage	Significant Effects
Modified grassland	Approximately 9.19ha of modified grassland will be lost during Site preparation works, with circa. 8.37ha of this being occupied by residential development post-construction.	<i>Clearance</i>	Large scale loss of low value, degraded, agricultural habitat. Significant at Site level only. <u>Moderate negative effect.</u> Mitigation/Compensation will be required to ensure a no-net loss in biodiversity.
Veteran tree	Retained in situ (embedded mitigation). Potential for indirect impacts during construction.	<i>Clearance, Construction</i>	Potential to damage retained veteran tree. <u>Major Negative effect</u> at District level.
Hedgerows	The majority of the hedgerow network will be retained. A single small break will be required in the hedgerow along the western boundary.	<i>Clearance, Construction</i>	Small-scale loss of species-poor native field hedgerows. Although habitat is of Local importance, the effect of this impact will be felt at only a Site level. <u>Minor negative effect.</u> Mitigation/Compensation will be required to ensure a no-net loss in hedgerow cover and biodiversity units.
Breeding birds	Reduction in grassland extent will remove ground nesting habitat. Construction activities likely to cause short-term displacement of birds using retained hedgerows and trees.	<i>Clearance, Construction, Operation</i>	Will result in displacement of small number of bird territories to wider area. Potential direct impacts include the destruction of bird's nests, if vegetation is cleared during the nesting bird season. <u>Minor Negative</u> at Site level
Wintering birds	Loss of foraging habitat.	<i>Clearance, Construction, Operation</i>	Development will result in displacement of wintering birds into the wider area. There is an abundance of similar, or higher value, agricultural land present within the wider landscape. Displacement is not expected to have any significant effect on the observed assemblage. <u>Negligible effect</u>
Bats	Loss (permanent and temporary) of low value foraging habitat used by a small number of common and widespread species of bat. Favoured habitat (hedgerows and mature trees) are to be retained (embedded mitigation). Lighting from the development may deter bats from using retained and created features.	<i>Clearance, Construction, Operation</i>	Areas given over to development currently offer very low value foraging habitat. Short term displacement during construction. New gardens and POS will offer higher value foraging habitat post development. <u>Negligible effect</u>

6. Mitigation & Residual Effects

- 6.1.1. Any possible **avoidance** of unnecessary impacts has already been designed into the plan at this stage, such as retaining hedgerows and trees.
- 6.1.2. The proposals will incorporate the following **mitigation** in relation to the identified **effects** above, as set out in Table 6.1 below. These have been produced and will be submitted alongside the planning submission.
- A BS:42020 Construction Environmental Management Plan (CEMP: Biodiversity) – see Brooks Ecological Report ER-4578-05.
 - A BS:42020 Biodiversity Management Plan (BMP) – see Brooks Ecological Report ER-4578-06.

Table 6.1 Summary of Mitigation and Residual Effects.

Effect	Mitigation	NPPF Hierarchy	Residual Effect
Loss of low value habitat	The BMP will show: <ul style="list-style-type: none"> • The creation of new semi-natural habitat within public open space. This will include planting schemes incorporating native species, and how habitats will be retained in good condition. • Installation of faunal boxes for birds, bats and invertebrates, as well as creating connectivity for hedgehogs. 	Compensation and Enhancement	Minor Negative Net loss in Habitat Units anticipated
Damage to retained habitat	The CEMP will outline the measures that will be put in place to protect retained habitat during clearance and construction.	Mitigation	Neutral
Reduction in extent of hedges	As above, the BMP will show: <ul style="list-style-type: none"> • The enhancement of retained hedgerows (species-poor and defunct), by beating up gaps and underplanting with a range of native woody species. • The creation of a new hedgerows wherever possible. • Use of native species hedges within gardens – rather than ornamental species. 	Mitigation and Enhancement	Minor Positive Net gain in Hedgerow Units anticipated
Loss of bird nesting opportunities	Much of the hedgerow and tree network will be retained. New planting within POS and gardens will provide new nesting opportunities. Additional opportunities for nesting birds will be provided within the BMP through integrated faunal boxes.	Mitigation	Minor Positive for garden birds Minor Negative for ground-nesting birds
Loss of bat foraging habitat	BMP will maximise value of POS for foraging bats. The CEMP will outline sensitive areas that will need to remain dark – which will then be incorporated into a Sensitive Lighting Strategy.	Mitigation	Minor Positive Greater opportunities for foraging post development.

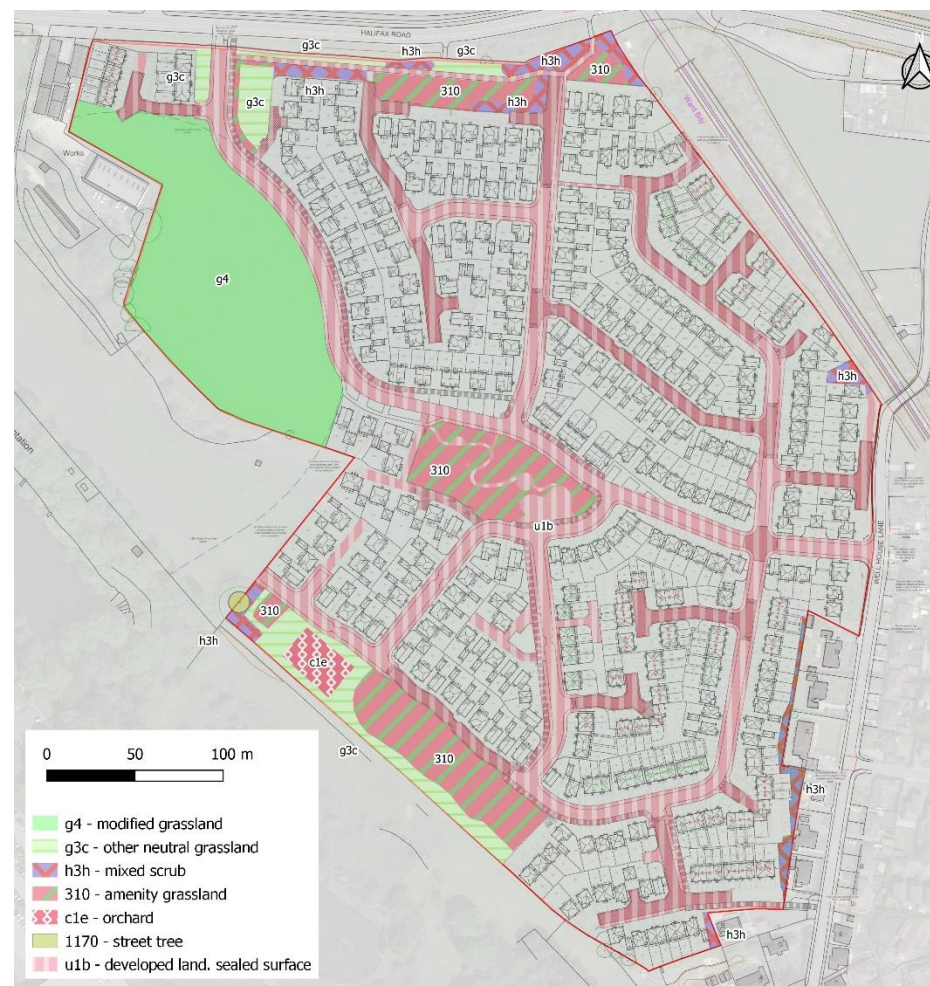
7. Biodiversity Net Gain

7.1.1. The proposed development is expected to result in an overall net loss of Habitat Units and a net gain in Hedgerow Units. Full details can be found in the Biodiversity Metric 2.0 Calculator tool – a copy of which has been provided to the client and can be made available for review. The Headline Summary Table is shown below.

On-site baseline	Habitat units	30.20
	Hedgerow units	1.40
	River units	0.00
On-site post-intervention (Including habitat retention, creation, enhancement & succession)	Habitat units	26.38
	Hedgerow units	2.19
	River units	0.00
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation, enhancement & succession)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention/creation)	Habitat units	-3.82
	Hedgerow units	0.79
	River units	0.00
Total net % change (including all on-site & off-site habitat creation + retained habitats)	Habitat units	-12.65%
	Hedgerow units	56.41%
	River units	0.00%

7.1.2. Post development calculations are based on the habitat types mapped in the figure opposite. Residential development has been mapped under the habitat code u1d – Suburban mosaic of developed and natural surfaces.

Figure 7.1 Post development habitats



8. Timing Issues

- 8.1.1. Other than the standard constraint surrounding nesting birds and vegetation clearance, no specific timing issues are foreseen.

9. Cumulative Effects

- 9.1.1. No in-combination effects have been identified.

10. Offsite Measures or Compensation

- 10.1.1. The scheme is predicted to result in an overall net loss for habitat units on-site. This is despite on-site mitigation and compensation.
- 10.1.2. In order to achieve a net gain, the scheme will have to make use of Biodiversity Offsetting.

11. Enhancement

- 11.1.1. Opportunities to provide enhancement, and how to secure this, have been identified in Figure 6.1 and Table 6.1 above and will be detailed in the BMP; see Brooks Ecological Report ER-4578-05.

12. Monitoring

- 12.1.1. The CEMP document will detail the role of an Ecological Clerk of Works (ECOW) in overseeing protection measures.
- 12.1.2. The BMP document will identify any management specific monitoring which might be required in respect of habitat enhancement proposed.

13. Policy and Legislation

- 13.1.1. Given the implementation of the mitigation set out above, it is anticipated that the proposals will comply with the relevant policy and legislation relating to wildlife and ecology.

14. Conclusion

- 14.1.1. Mitigation, outlined in the CEMP (ER-4578-05) and BMP (ER-4578-06), will be able to address most significant effects resulting from the development.
- 14.1.2. Despite on-site mitigation/compensation, the development will result in an overall net loss in biodiversity units. This will need to be addressed through offsetting.

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