Bell Cabin, Long Lane, Earlsheaton



Ecological Impact Assessment

20/05/2024

Mr Paul Audley

Report reference	**ER-6645-03 EclAEr-6645-03 Ecia**
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Report duration	In accordance with CIEEM (2019), unless otherwise stated the findings of this report remain valid for a period of 18 months. After this period advice should be sought on the scope of any updating work required.

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Contents

Introduction 5
Method 6
Ecology Baseline 8
Description of the Proposed Development 12
Impacts and Effects of Development 13
Mitigation & Residual Effects 18
Biodiversity Net Gain 21
Timing Issues 22
Cumulative Effects 22
Off-Site Measures or Compensation 22
Enhancement 22
Monitoring 22
Policy and Legislation 22
Conclusion 22

Summary

The Site is primarily occupied by low distinctiveness, urban habitats; overgrown bramble scrub habitats provide the features of greatest ecological value. Clearance works will be required to facilitate development.

Using the Defra Statutory Metric Calculator tool, the scheme is expected to result in a gain in Habitat Units. Proposals currently have potential to deliver a 31.75% Net Gain in Habitat Units, however trading rules have not been met. In order to satisfy trading rules, a further 0.02ha of Mixed scrub habitat would need to be created on or off-Site.

The Site sits within a cleared area of broadleaved woodland, as part of the Kirklees Wildlife Habitat Network (KWHN). This adjacent sensitive habitat should be protected through the construction and post-development phases. The following mitigation is recommended to deal with residual significant effects both on-Site and on the adjacent habitats; these documents should be secured via standard conditions provided in the British Standard BS:42020.

- A BS:42020 Biodiversity Management Plan (BMP).
- A BS:42020 Construction Environmental Management Plan (CEMP: Biodiversity).

Introduction

1. Brooks Ecological Ltd was commissioned by Mr Paul Audley to carry out an Ecological Impact Assessment (EcIA) for their proposed development Site at Canal Mills, Armley, Leeds.
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.
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.
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).

CIEEM

Ecological Impact Assessment (EcIA) Checklist

ALGE Association of Local Government Ecologists

	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)[i], 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[ii, iii and iv]		
Surveys, Sites, Species and Habitats	3. Adequate[v] and up-to-date[vi]: a. Desk study has been undertaken[vii] b. Phase 1 habitat survey (or equivalent) has been undertaken[viii] c. Phase 2 ecology surveys have been undertaken (where necessary)[viii]		
	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[ix] 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[x]		
	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[xi] 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[xii]		
	19. All ecologists and surveyors hold appropriate species licences (where relevant) and/or have all necessary competencies to carry out the work undertaken		
Conclusions	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[xiii] based on sound professional judgement[xiv] 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		

Method

Scope of Assessment

5. The application site 'the Site' encompasses an occupied parcel of land, including access roads, vacant land, garden lawn and bramble scrub. The extent of this assessment is the development area within the red line boundary defined in Figure 2.1, opposite.
6. The assessment uses a 2km area of search around the Site for records of protected and notable species and locally or nationally designated wildlife sites.
7. Ecological surveys and reports informing this assessment comprise of the following:
    - Biodiversity Net Gain assessment and walkover, Brooks Ecological. Report Reference ER-6645-02. May 2024.
    - Preliminary Ecological Appraisal Report, Brooks Ecological. Report Reference ER-6645-01. February 2023.

Field Survey

8. Full details of the methodologies used, and the results obtained are contained in the relevant documents referenced opposite. Unless stated otherwise these followed the relevant survey guidelines refenced in reports.

Desk Study

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

Figure 1 Site area under assessment (red line boundary)



Assessment Method

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

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 or Habitats of Principal Importance, or presents any opportunities in this respect.

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.

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.

Ecology Baseline

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

Non-Statutory Designations

15. The Site is located within the Kirklees Wildlife Habitat Network (KWHN), which aims to protect and enhance wildlife connectivity across the region as well as identify areas for biodiversity improvements.

Habitats

16. The BNG walkover survey was conducted in February 2023 and the current baseline habitats are mapped in Figure 2 opposite.

Potential future changes to the baseline

17. The Site's use and ecological baseline will likely be unchanged until the time of the proposed development.

18. In the absence of re-development, it is assumed that the mixed scrub and ephemeral vegetation within vacant/derelict land would continue to mature and grow, and eventually succeed into woodland habitat.

Figure 2 The Site's habitat baseline.



19. The table below sets out the habitats at this Site and their relevance in this assessment.

Table 1 Site Habitats Summary.

Habitat Feature	Notes	Valued at what scale
Artificial unvegetated; unsealed surface	Compacted gravel. Devoid of significant vegetation.	None – Negligible value
Developed Land; sealed surface	Hardstanding access roads and vacant buildings. Devoid of significant vegetation.	None – Negligible value
Bramble scrub	Low lying bramble dominated scrub covers much of the Site. Additional species included nettle, cocksfoot, cleavers, and hedge bindweed.	Site value
Modified grassland	A mix of managed and unmanaged amenity grassland. Predominately perennial rye grass with some creeping bent, Yorkshire fog and cock's-foot. Forb species included daisy, white clover and creeping buttercup.	Site Value

20. The table below shows the site's habitats in terms of their measured Extent (ha or km) and Biodiversity Value (Habitat Units)- this is an excerpt from the DEFRA Biodiversity Statutory Metric Spreadsheet Calculator.

Figure 3 Site Habitats as defined in Biodiversity Net Gain calculations – Site Baseline[1].

Project Name:	Map Reference:
A-1 On-Site Habitat Baseline	

Condense / Show Columns | Condense / Show Rows | Main Menu

Area habitat summary	
Total Net Unit Change	0.10
Total Net % Change	31.75%
Trading Rules Satisfied	No – check trading summaries ▲

	Existing area habitats				Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Ecological baseline							
Ref	Broad Habitat	Habitat Type	Irreplaceable habitat	Area (hectares)	Distinctiveness	Condition	Strategic significance		Total habitat units	Area retained	Area enhanced	Baseline units retained	Baseline units enhanced	Area habitat lost	Units lost
1	Grassland	Modified grassland	No	0.0766	Low	Poor	Formally identified in local strategy	Same distinctiveness or better habitat required≥	0.18	0	0	0.00	0.00	0.08	0.18
2	Heathland and shrub	Bramble scrub	No	0.0334	Medium	Condition Assessment N/A	Formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required (≥)	0.15	0	0	0.00	0.00	0.03	0.15
3	Urban	Artificial unvegetated, unsealed surface	No	0.0236	V.Low	N/A - Other	Formally identified in local strategy	Compensation Not Required	0.00	0	0	0.00	0.00	0.02	0.00
4	Urban	Developed land; sealed surface	No	0.02781	V.Low	N/A - Other	Formally identified in local strategy	Compensation Not Required	0.00	0	0	0.00	0.00	0.03	0.00
5										0	0				
6															
7															
		Total habitat area		0.16					0.33	0.00	0.00	0.00	0.00	0.16	0.33
		Site Area (Excluding area of individual trees, green walls, intertidal hard structures)		0.16											

[1] Our report provides an estimate of the sites value in Biodiversity Units. This is based on thorough assessment at the time of survey and using the information available at this time. In this assessment we have used the latest version of DEFRA's Biodiversity Metric Tool, the UK Habitats Classification and relevant guidance. This assessment requires subjective judgments to be made in terms of habitat type and condition and could be open to other interpretations. Reliance on the Unit Score, or conversion of this into a monetary value, would be at the developer's own risk. Where conversion to monetary value is required, it is always advisable to get calculations checked independently.

Species and Species Groups

21. Potential constraints relating to relevant groups were investigated through the surveys listed above. Those highlighted are of relevance to the Site and are referenced later in the assessment.

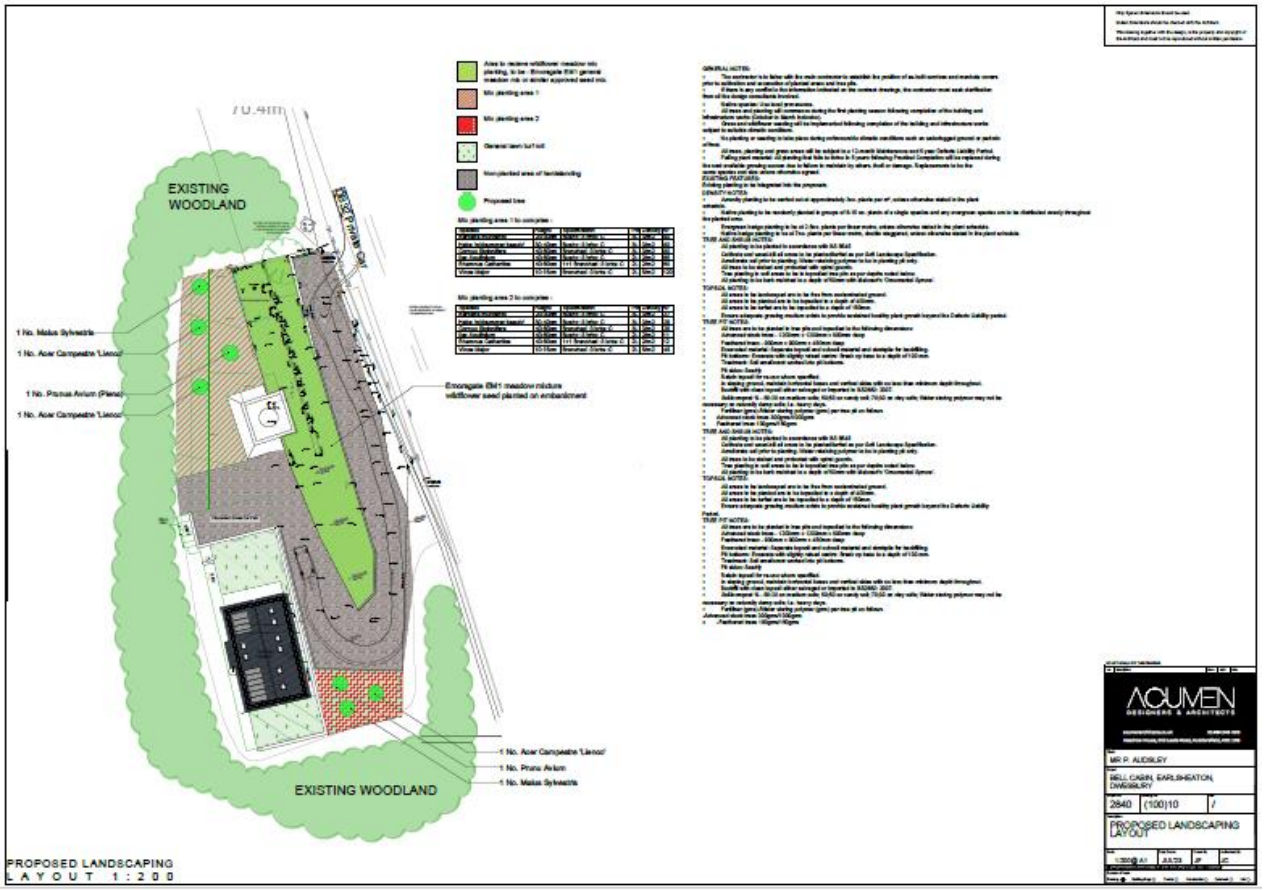
Table 2 Summary of relevant faunal issues.

Species/ Group (Feature)	Notes	Valued at what scale
Bats	The Site and adjacent habitat was deemed suitable for foraging and commuting bats, however bats were ruled out of further survey at the PEA stage due to the predictability of the bat activity. A sensitive lighting scheme should be produced to minimise light spill onto the canal and wildlife habitat network habitats.	Site level
Birds	The Site is likely to support a small number of common urban species during the breeding season, within scrub habitats and vacant buildings. Standard precautions apply regarding clearance of vegetation and demolition. The Site is also likely to provide limited foraging habitat.	Site Level
Badger	The Site and adjacent woodland are suitable for badger, but no evidence of badger could be found at the time of survey. Pre-commencement check for badgers is recommended within two weeks of the start of works.	Likely absent

Description of the Proposed Development

22. Proposals are for the Site's re-development to residential use (single dwelling).
23. The following sections examine impacts resulting from the proposals which could not be avoided.
24. Impacts are assessed on the basis of the effects impacting the valued habitats, species, or sites which have been identified above.
25. The following plans have been provided by the client to inform this assessment:
    - Proposed Landscaping Layout dwg. (100)10 (Acumen, July 2023).

Figure 4 Proposed Landscaping Layout dwg. (100)10 (Acumen, July 2023).



Impacts and Effects of Development

26. Figure 5 shows the development footprint (black hatch) in relation to the mapped habitats.
27. The development footprint shows the sum extent of proposed built development and associated clearance works.
28. Proposals will see developed land, artificial unvegetated land, modified grassland and bramble scrub habitats removed to facilitate development.

Figure 5 Development footprint in relation to existing on-Site habitats.



29. Figure 6 summarises the impacts of development on existing vegetation.
30. Areas shown in red, and orange will be cleared of existing vegetation and subject to extensive earthworks, which will result in the permanent loss of baseline habitats.
31. Areas marked red will then be built out, either as residential units or sealed surfaces.
32. Following development, areas marked orange will be landscaped.

Figure 6 Summary of impacts on existing habitats.



Table 3 Lists the anticipated Impacts and Effects associated with the proposals.

	Impacts during Site Clearance	**Stage**
1	**Habitat will be removed** from the Site by clearance and soil stripping using heavy machinery.	*Clearance*

	Significant Effects - in the absence of mitigation	**Acting on**	**Acting at scale (Maximum)**
1a	**Direct habitat loss**. There will be a loss of habitat generally which will be managed through the Biodiversity Net Gain process. Most of the habitats that will be impacted by clearance works are urban, species-poor and of low ecological value. These habitats have limited value to any notable or protected fauna, other than nesting birds. No Off-Site habitats will be directly affected.	Bramble scrub Modified grassland Nesting Birds	Site
1b	**Damage to adjacent habitats** in the absence of a well-defined and enforceable clear red line boundary and the production of an Arboricultural Method Statement (AMS), adjacent woodland edge trees could be damaged by contractors clearing the Site, such as root compaction.	Adjacent woodland	Site
1c	**Disturbance**. The noise and activity at the Site will render it and areas immediately off-site inhospitable to wildlife during this period.	Nesting Birds Bats Badger	Site
1d	Potential effects on **Protected Species**. Precautions will be required to ensure that impacts on nesting birds, badger and bats can be avoided.	Protected Species	Criminal Offence

	Impacts during Construction	Stage
2	**Construction activities** will take place over a 1-2 year period.	*Construction*

	Significant Effects - in the absence of mitigation	Acting on	Acting at scale (Maximum)
2a	**Damage to adjacent habitat**. In the absence of a well-defined and enforceable clear red line boundary and produced Arboricultural method statement, adjacent woodland habitats could be damaged or destroyed by contractors working on-Site.	Adjacent woodland	Site
2b	**Disturbance**. The noise and activity at the Site will render it and areas immediately off-Site inhospitable to wildlife during this period.	Nesting Birds Bats Badger	Site

	Impacts during Construction	Stage
3	**Landscaping activities** will take place period during the construction period.	*Construction*

	Significant Effects - in the absence of mitigation	Acting on	Acting at scale (Maximum)
3a	**Inappropriate habitat creation or management** techniques could mean that the proposals fail to deliver on BNG commitments.	All habitats and species	Local

	Impacts during Operation	**Stage**
4	**The Site will be populated.** The dwelling will be inhabited, and traffic and services will access the Site regularly. Presence of domestic pets may increase. Retained and created habitat will be managed by the homeowner.	*Operation*

	Significant Effects - in the absence of mitigation	**Acting on (feature)**	**Acting at scale (Maximum)**
4a	**Damage** to retained and created habitat such as by inappropriate use, littering, release of invasive species.	New habitats Adjacent woodland	Local
4b	**Disturbance**. Noise, lighting and increased human activity at the Site will be present of a lower order and will likely be tolerable to species habituated to the urban conditions prevailing locally. The potential presence of dogs and cats will result in some predation and displacement, but this area will already be affected by these species to a lesser degree.	Nesting birds Bats Badger Adjacent woodland	Local
4c	In the **absence of correct management**, retained and created habitats will not provide the necessary biodiversity units committed to through the BNG process.	New habitats	Site

Mitigation & Residual Effects

33. Where feasible, the **avoidance** of unnecessary impacts has been considered at the design stage and worked into the Site Layout plan. The proposals will incorporate the following **mitigation** in relation to the identified **effects** above, as set out in the table below.
34. Habitat creation and management will need to be applied to the proposals, to achieve the calculated BNG position set out, seen in Figure 7 below. These themes would need to be the subject of a suitable Biodiversity Management Plan which would provide a means of achieving the required habitats and condition.
35. Achieving the required Biodiversity Net Gain position will ensure that effects relating to habitat loss are addressed - both in respect to the habitats identified as valued features, and also the lower value habitats which would previously have been scoped out of Impact Assessments. Our impact assessment therefore only highlights where habitats present place a particular constraint on the protection of, or delivery of habitats on-Site; or on off-set agreements.

Table 4 lists the mitigation put in place to address the effects identified in Table 5.1.

	Mitigation during Site Clearance	**Stage**
1	**Habitat will be removed** from the Site by clearance and soil stripping using heavy machinery.	*Clearance*

	Significant Effects - in the absence of mitigation	**Mitigation / Compensation**	**Residual Magnitude**
1a	**Direct habitat loss**.	Kirklees Council require all developments schemes to demonstrate a gain in biodiversity. By complying with the Biodiversity Net Gain policy, the scheme will ensure that overall, the impacts of habitat loss will be fully addressed on-Site. The Landscape plan should detail the creation and management of new habitats, ensuring on-site habitats meet their target habitat types and condition scores, as shown in the Defra Metric.	Minor Positive
1b	**Damage to adjacent habitats**	The AMS will detail the installation of barrier fencing around the 'No Works Area' to protect adjacent habitats.	Neutral
1c	**Disturbance**. The noise and activity at the Site will render it, and areas immediately off-Site, inhospitable to wildlife during this period.	The main contractors CEMP will detail time limits to work on-Site and the installation of screened fencing to limit visual disturbance of sensitive habitat. However, some level of disturbance it unavoidable.	Minor Negative
1d	Potential effects on **Protected Species**. Precautions will be required to ensure that impacts on nesting birds and badger can be avoided.	A pre-commencement check for badgers is recommended within two weeks of the start of works. This would focus on land within the construction footprint and a 30m buffer.	Avoided entirely

	Significant Effects - in the absence of mitigation	Mitigation / Compensation	Residual Magnitude
		Standard precautions apply in respect of restrictions on clearing vegetation during the nesting season. (March-September) vegetation needs to be checked up to 48 hours prior to clearance. If active nesting birds are identified, clearance work should be postponed within a buffer area until the nest is no longer active.	

	Mitigation during Construction	Stage
2	**Construction activities** will take place over a 1-2 year period.	*Construction*

	Significant Effects - in the absence of mitigation	Mitigation / Compensation	Residual Magnitude
2a	**Damage to adjacent habitat** such as by storage of machinery or materials in these areas.	The Arboricultural Method Statement will detail the installation of barrier fencing around the 'No Works Area' to protect adjacent habitat.	Neutral
2b	**Disturbance**. The noise and activity at the Site will render it, and areas immediately off-Site, inhospitable to wildlife during this period.	The main contractors CEMP will detail time limits to work on-Site and the installation of screened fencing to limit visual disturbance of sensitive habitats. However, some level of disturbance is unavoidable.	Minor Negative

	Mitigation during Construction	Stage
3	**Landscaping activities** will take place during the construction period and will, be phased around completion of roads and housing.	*Construction*

	Significant Effects - in the absence of mitigation	Mitigation / Compensation	Residual Magnitude
3a	**Inappropriate habitat creation or management** techniques could mean that the proposals fail to deliver on BNG commitments	The landscape plan will specify preparation and establish works for all new and retained habitats covered by the Defra Metric.	Neutral

	Mitigation during Operation	**Stage**
4	**The Site will be populated.** Units will be inhabited, and traffic and services will access the Site regularly. Presence of domestic pets may increase.	*Operation*

	Significant Effects - in the absence of mitigation	**Mitigation/Compensation**	**Residual Magnitude**
4a	**Damage** to retained and created habitat such as by inappropriate use, littering, release of invasive species.	One dwelling will be inhabited. The future homeowner has been involved in the creation of the landscape plan and plans to manage the habitats as they have been proposed in the BNG assessment and landscape plans.	Neutral
4b	**Disturbance**. The noise and activity at the Site will be present of a lower order and will likely be acceptable to species habituated to the urban conditions prevailing locally. The presence of dogs and cats will result in some predation and displacement.	The sensitive lighting plan should specify the creation of dark zones around higher value habitats during both construction and operation.	Neutral
4c	In the **absence of correct management** retained and created habitats may not provide the necessary biodiversity units committed to through the BNG process.	The landscape plan will provide full details of habitats to be created and their suitable management suitable management.	Neutral

Biodiversity Net Gain

36. There will be a requirement for the proposals to secure a **Biodiversity Net Gain (BNG)** (in accordance with BS:8683) at a level determined by the Local Planning Authority (LPA in line with their own policies and guidance in the NPPF).

37. Calculations setting out the position of the proposals in relation to BNG are set out below. These are based on the Proposed Landscaping Layout available at this time. Habitat types which will need to be applied to the proposals to achieve the calculated BNG position are set out (and committed to) in the plan opposite. These are considered realistic and achievable.

38. Achieving the required Biodiversity Net Gain position will ensure that effects relating to habitat loss are addressed - both in respect of the habitats identified as valued features, and also the lower value habitats which would historically have been scoped out of Impact Assessments.

Net Gain Calculations

39. The proposals will lead to an overall gain in habitat units of 0.10 Habitat Units (+31.75%).

40. The proposals fail to satisfy the Trading Rules, with a deficit in Medium Distinctiveness habitats, caused by the loss of existing bramble scrub.

41. The client has been provided with a full copy of the Statutory Metric Calculation Tool (BM-6645-01).

Figure *7* Biodiversity Metric Summary.

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	0.10
	Hedgerow units	0.00
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	31.75%
	Hedgerow units	0.00%
	Watercourse units	0.00%
Trading rules satisfied?	No - Check Trading Summaries ▲	

Figure 8 Post development habitat types.



Timing Issues

42. Standard constraints will apply to nesting birds and vegetation clearance.

43. A badger walkover should be conducted within two weeks of the start of works. This would focus on land within the construction footprint and a 30m buffer (access dependent).

Cumulative Effects

44. This development is a single stand-alone development and not part of any wider or phased development.

Off-Site Measures or Compensation

45. The scheme is expected to result in a 31.75% net gain for biodiversity on-Site.

Enhancement

46. Opportunities to provide enhancement will be detailed in the Landscaping Plan documents.

Monitoring

47. The LPA will require regular Monitoring Reports for the Site, to demonstrate that on-Site habitats are meeting the condition scores targeted.

Policy and Legislation

48. 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.

Conclusion

49. The scheme is expected to result in a minor net gain for biodiversity on-Site.

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