Biodiversity Net Gain Assessment

WC-372.1a

Queens Road, Barnsley S71 1AR

Woodsage Consulting Ltd

Unit 2, Hey End Farm, Luddendenfoot, Halifax,
West Yorkshire HX2 6JN

T: 07962401997
E: info@woodsage.co.uk
W: https://woodsage.co.uk

Report type:	Biodiversity Net Gain Assessment
Report reference:	WC-372.1
Revision:	a
Client:	Whitshaw Builders Ltd
Site address	Queens Road, Barnsley S71 1AR
OS Grid reference:	SE 34904 06480
Report prepared by:	Amy Reddick ACIEEM
Date:	21st March 2025

Contents

1. Introduction

1.1. Scope of Report

1.1.1. Woodsage Consulting Ltd have been instructed by Whitshaw Builders Ltd, to carry out a Biodiversity Net Gain (BNG) Assessment in relation to a proposed development of the land at Queens Road, Barnsley S71 1AR.

1.1.2. The purpose of this report will be to demonstrate compliance with statutory BNG as required by the Environment Act 2021.

1.1.3. This report will include:

- a Statutory Biodiversity Metric, with completed pre- and post-development sections;
- a scaled plan showing the existing onsite habitats and conditions at the date of application; and,
- a scaled plan showing the post-development habitats.

1.2. Site Details

1.2.1. The land to the rear of 32 Queens Street - hereafter referred to as 'the site' and shown in ***Fig. 1.1***, below - is located within the town of Barnsley and is centred on OS Grid Reference SE 34904 06480.

Figure 1.1: *Aerial imagery showing the approximate boundaries of the site, outlined in red.*

1.2.2. The site covers approximately 0.30 ha and currently comprises an area of hardstanding and ephemeral vegetation. The site was previously occupied by several brick industrial units until these were demolished between 2009 and 2011.

1.2.3. The site is bound by residential properties to the north and south, by unnamed access roads to the east and west.

1.3. Development Proposals

1.3.1. The development proposals are for four semi-detached residential bungalows with associated gardens and parking.

2. Methods

2.1. Survey Details

2.1.1. The site survey was carried out on Sunday the 9th of March 2025.

2.1.2. The weather at the time of the survey was fine and dry.

2.2. Survey Personnel

2.2.1. The survey was carried out by Amy Reddick. Amy is an Associate Member of CIEEM (Chartered Institute of Ecology and Environmental Management), and has worked in the ecology sector for over 8 years. Amy holds an MSc in Wildlife Conservation and has experience in conducting botanical surveys including UK Hab Surveys and Protected Species surveys (holding a Level 2 Class Licence to survey bats).

2.2.2. Amy is experienced in undertaking and reviewing Biodiversity Net Gain Metrics and Habitat Condition Assessments from both a consultancy and public sector perspective.

2.3. Desk Study

2.3.1. The Multi-Agency Geographic Information for the Countryside (MAGIC)[1] was consulted to carry out a desk-based review of nearby designated sites and priority habitats within 500 m of the site.

2.4. Survey Methods

2.4.1. A walkover survey was carried out at the site, during which the existing habitats were categorised and recorded using the UK Habitat Classification[2].

2.5. Constraints

2.5.1. The survey was constrained by the season in which it took place, certain species may only be readily identifiable during the flowering season (May – September). However, given the type of habitats present on the site it is not considered that this will have significantly altered the results of the survey.

2.5.2. Scrub and vegetation had been removed prior to the site survey. A combination of historic aerial imagery, Google Street view and historic maps were used to undertake a precautionary habitat and condition assessment of the habitats prior to their removal. Given the history of the site and the re-development of vegetation since removal, there was sufficient evidence to allow a robust habitat assessment. The assessment has assumed the habitat to be the highest biodiversity value which could be reasonably supported; therefore, it is not anticipated that this has constrained the conclusion of the report.

[1] DEFRA (2024). Magic Maps. [online]. Available at: > https://magic.defra.gov.uk/MagicMap < [accessed 18th March 2025].

[2] UKHab (2020). *UK Habitat Classification Basic Edition: Suggested Symbology for Maps*. [online]. Available at: > https://ukhab.org/ < [accessed 18th March 2025].

3. Results and Assessment

3.1. Desk-based survey

Designated Sites

3.1.1. There are no designated sites on-site or within 500 m of the site.

Irreplaceable Habitats

3.1.2. There are no irreplaceable habitats on the site.

Priority Habitats

3.1.3. There are no priority habitats on the site. The closest record of a priority habitat is of open mosaic habitat approximately 230 m to the northeast of the site. There are no anticipated impacts from the proposed development on this habitat.

Local Designations

There are no Local Wildlife Sites or Local Nature Reserves within 500 m of the site.

3.2. Existing Baseline Habitat Assessment

U1b Developed land, sealed surface

3.2.1. The south and north of the site is predominantly developed sealed surface (460 m^2) consisting of the previous buildings' foundations and parking areas. There were also areas of hard standing around the gated entrance to the site.

Figure 3.1: *Hardstanding to south of site.*

Figure 3.2: *Hardstanding to north of site.*

3.3. Habitat Degradation

3.3.1. The Environment Act 2021 makes special provisions for the calculation of the pre-development biodiversity value of onsite habitat when loss or impact to habitats (or 'degradation') has occurred prior to the submission of a planning application [3].

3.3.2. At the time of the survey, vegetation had been cleared from the entirety of the site. According to historic imagery of the site, this was completed between September 2021 and May 2022. As the works were not authorised in relation to a previous planning application or undertaken before the 30th January 2020, this habitat has been included within the baseline habitat assessment and Statutory Metric Calculations in place of the current habitat on-site. Therefore, the relevant date that the onsite pre-development biodiversity value was calculated is September 2021.

3.3.3. A combination of historic maps, historic aerial imagery, Google Street View and the current site condition were used to undertake a precautionary assessment of the habitat prior to its removal.

Figure 3.3: *Aerial imagery showing vegetation present on site in April 2021.*

3.3.4. According to historic maps, the buildings on-site were demolished between 2009 and 2011. Vegetation colonised the site from this point before being removed in 2021. Since this date, vegetation has been able to recolonise the site and therefore is anticipated to be of a similar composition, although at a less advanced stage of succession than prior to removal.

[3] Department for Levelling Up, Housing and Communities (2024). *Planning practice guidance on biodiversity net gain. Paragraph: 036 Reference ID: 74-036-20240214* [online]. Available at: >https://www.gov.uk/guidance/biodiversity-net-gain< [accessed 20th February 2025].

81 Ephemeral vegetation

3.3.5. Much of the site currently consists of tall ruderal and ephemeral vegetation, with small areas of scrub and young self-seeded saplings. According to aerial imagery and street view, this was also the dominant habitat type prior to removal, particularly to the centre and north of the site. The dominant tree species is willow *Salix* spp*.,* with occasional sycamore *Acer pseudoplatanus*. Forb and grass species composition is typical of disturbed land, with some woody species including frequent summer lilac *Buddleia davidii*, occasional orange ball tree *Buddleja globosa*, bramble *Rubus fruticosus* agg. and common ivy *Hedera helix*. There was frequent fly tipping observed throughout the site. Due to the dominant presence of *Buddleia sp,* which although not classified as a Schedule 9 Species by the Wildlife and Countryside Act 1981 is considered invasive, and the coverage of plants being over 50% the condition of this habitat was considered to be in poor condition. A full explanation for all condition criteria assigned is provided within the accompanying Condition Assessment Sheets.

Figure 3.4: *Ephemeral vegetation to central north of site.*

Figure 3.6: *Ephemeral vegetation to the south of the site.*

H3j Willow scrub

3.3.6. According to aerial imagery and Google Street View to the southwest boundary there was an area of scrub prior to removal. The dominant species here appears to have been willow with frequent buddleia and rare silver birch *Betula Pendula*, and this corresponds with the remaining saplings on site and evidence of felled willow stumps. Due to the high proportion of non-native invasive buddleia, this habitat was assessed as poor condition. A full explanation for all condition criteria assigned is provided within the accompanying Condition Assessment Sheets.

Figure 3.7: *Area of willow scrub to southwest boundary as seen in 2021 from Google Streetview*

Figure 3.8: *Evidence of removed scrub at southwest boundary of site.*

847 Introduced shrub

3.3.7. According to aerial imagery and Google Street View to the northeast and west boundaries were covered by dense saplings and scrub. The species mix in this area appeared to be variable, with Buddleia species dominant and frequent willow species and silver birch. A number of non-native evergreen saplings were also present. In the absence of a more suitable habitat type and given the high proportion of introduced species, these areas have been classified as introduced shrub with UK Hab. There is no habitat condition assessment applicable to this habitat type.

Figure 3.9: *Area of removed introduced shrubs to northwest boundary as seen in 2021 from Google Streetview*

Figure 3.10: *Area of removed introduced scrub to northwest.*

Table 3.1: *Bryophyte, plant, tree, and shrub species identified within the site.*

Common name	Scientific name
Willow species	*Salix* spp.
Sycamore	*Acer pseudoplatanus*
Silver birch	*Betula pendula*
Buddleia	*Buddleia davidii*
Orange ball tree	*Buddleia glabosa*
Common bramble	*Rubus fruticosus* agg.
Common ivy	*Hedera helix*
Hoary mustard	*Hirschfeldia incana*
Red valerian	*Valeriana rubra*
Feverfew	*Tanacetum parthenium*
Purple toadflax	*Linaria purpurea*
Common toadflax	*Linaria vulgaris*
Ivy leaved speedwell	*Veronica hederifolia*
Herb Robert	*Geranium robertianum*
Smooth catsear	*Hypochaeris glabra*

Rosebay willowherb	*Chamerion angustifolium*
Common nettle	*Urtica dioica*
Ribwort plantain	*Plantago lanceolata*
Common ragwort	*Jacobaea vulgaris*
Cleavers	*Galium aparine*
Creeping bent	*Agrostis stolonifera*
Yorkshire fog	*Holcus lanatus*
False oat-grass	*Arrhenatherum elatius*
Common dandelion	*Taraxacum officinale* agg.
Mugwort	*Artemisia vulgaris*
Spear thistle	*Cirsium vulgare*
Broad leaved dock	*Rumex obtusifolius*
Groundsel	Senecio vulgaris
Lesser trefoil	*Trifolium dubium*
Wavy bittercress	*Cardamine flexuosa*
Common sorrel	*Rumex acetosa*
Hawkweed oxtongue	*Picris hieracioides*
Grey-cushioned Grimmia	*Grimmia pulvinata*
Rough-stalked Feather-moss	*Brachythecium rutabulum*

3.3.8. A ***Baseline Habitat Map*** is provided in ***Appendix 1***, which shows the baseline UK Habitat Classifications and other land-uses at the site. ***Habitat Condition Assessment Sheets*** for the ephemeral vegetation and willow scrub are provided separately as an Excel Spreadsheet to be submitted alongside this report.

3.4. Post-development

3.4.1. Creation of the dwellings will result in an additional 392m^2 of developed land and the permanent loss of all the habitats on-site. New gardens within the curtilage of the new dwellings will result in the creation 1159m^2 of vegetated garden habitat. There is no habitat condition assessment applicable to this habitat type and therefore no specific condition for these is targeted.

3.4.2. A ***Post-Development Habitat Map*** is provided in ***Appendix 2***, which shows the habitats which will be lost, and the corresponding habitat units for each parcel.

3.5. Net Gain Summary

3.5.1. The baseline and post-development biodiversity values of the site are summarised in ***Tab. 3.2***, below. The Statutory Metric Calculations have been provided separately as an Excel Spreadsheet to be submitted alongside this report.

Table 3.2: *Summary of baseline and post-development biodiversity values.*

Parcel ref.	Habitat	Baseline area (m^2)	Baseline BU	Post-development area (m^2)	Post-development BU	Net Change in BUs
H1	Willow scrub	300	0.12	0	0	-0.12
SV 2	Sparsely vegetated land	1242	0.24	0	0	-0.24
IS 3	Introduced shrub	252	0.05	0	**0**	-0.05
IS 4	Introduced shrub	308	0.06	0	**0**	-0.06
DL 5	Developed land	935	0	1327	0.22	N/A
VG 6	Vegetated garden	0	0	1159	0.02	+0.22

4. Summary and Recommendations

4.1. Summary

4.1.1. The proposals will result in a biodiversity net change of **- 53.44% (- 0.26 Habitat Units)**.

4.1.2. Therefore, the Statutory Metric does not demonstrate achievement of the Biodiversity Objective to deliver a 10% biodiversity net gain, as set out by the Environment Act 2021. The shortfall in habitat units required to achieve 10% net gain is **0.30 Habitat Units**. To meet the trading rules associated with the Statutory Metric (Rule 1), 0.12 of these must be medium distinctiveness scrub units or a habitat of higher distinctiveness.

4.2. BNG 10 Good Practice Principles

4.2.1. In accordance with the Environment Act, proposals must demonstrate consideration of the Biodiversity Gain Hierarchy to inform the design.

4.2.2. Proposals are also encouraged to document how they adhere to the 10 BNG Good Practice Principles[4]. Given the scale and scope of the proposals it is not considered that all of these are relevant in this case, however Table 4.1 below outlines how these have been met where relevant.

Table 4.1 *Overview of adherence to relevant BNG Good Practice Principles.*

Principle	
1. Apply the Mitigation Hierarchy	The Biodiversity Gain Hierarchy requires retention of habitats of medium distinctiveness on-site in the first instance however, given that the habitat was removed before the proposed development, this is not feasible. As there is no space outside of the residential curtilages it is not viable to plant new trees or create any other habitat of higher value on-site, in accordance with the Statutory Metric User Guide. No new habitats other than Vegetated Garden may be recorded within the curtilage of a dwelling as these measures cannot be legally secured. Therefore, offsetting the net gain will have the highest benefit to biodiversity.
2. Avoid losing biodiversity that cannot be offset by gains elsewhere	There are no irreplaceable or priority habitats lost from the site.
3. Address risks	A precautionary assessment of the habitat on the site has been undertaken using the available evidence. The delay between the loss of these habitats and the creation of any off-site biodiversity units will be considered when submitting the final Statutory Metric alongside the Biodiversity Gain Plan.

[4] CIEEM, IEMA and CIRIA. (2016). *Biodiversity Net Gain: Good Practice Principles for Development* [online]. Available at: > https://cieem.net/wp-content/uploads/2019/02/Biodiversity-Net-Gain-Principles.pdf < [accessed 20th March 2025].

4.3. Recommendations

Achievement of Biodiversity Net Gain

4.3.1. As new habitat, other than vegetated garden, cannot be created within the site, the following options are proposed to deliver the required **0.30 Habitat Units** and achieve a 10% biodiversity net gain:

1. Purchase of Habitat Units from a third-party habitat bank
2. Purchase of Statutory Credits from the Secretary of State

4.3.2. The finalised strategy to deliver off-site biodiversity net gain will be confirmed upon submission of the Biodiversity Gain Plan pre-commencement of the development to discharge the Biodiversity Gain Condition.

On-site Biodiversity Enhancement

4.3.3. As post-development on-site habitats are limited to vegetated gardens, which are not considered to constitute a "significant on-site habitat enhancement", a 30-year Management and Monitoring Plan is not proposed.

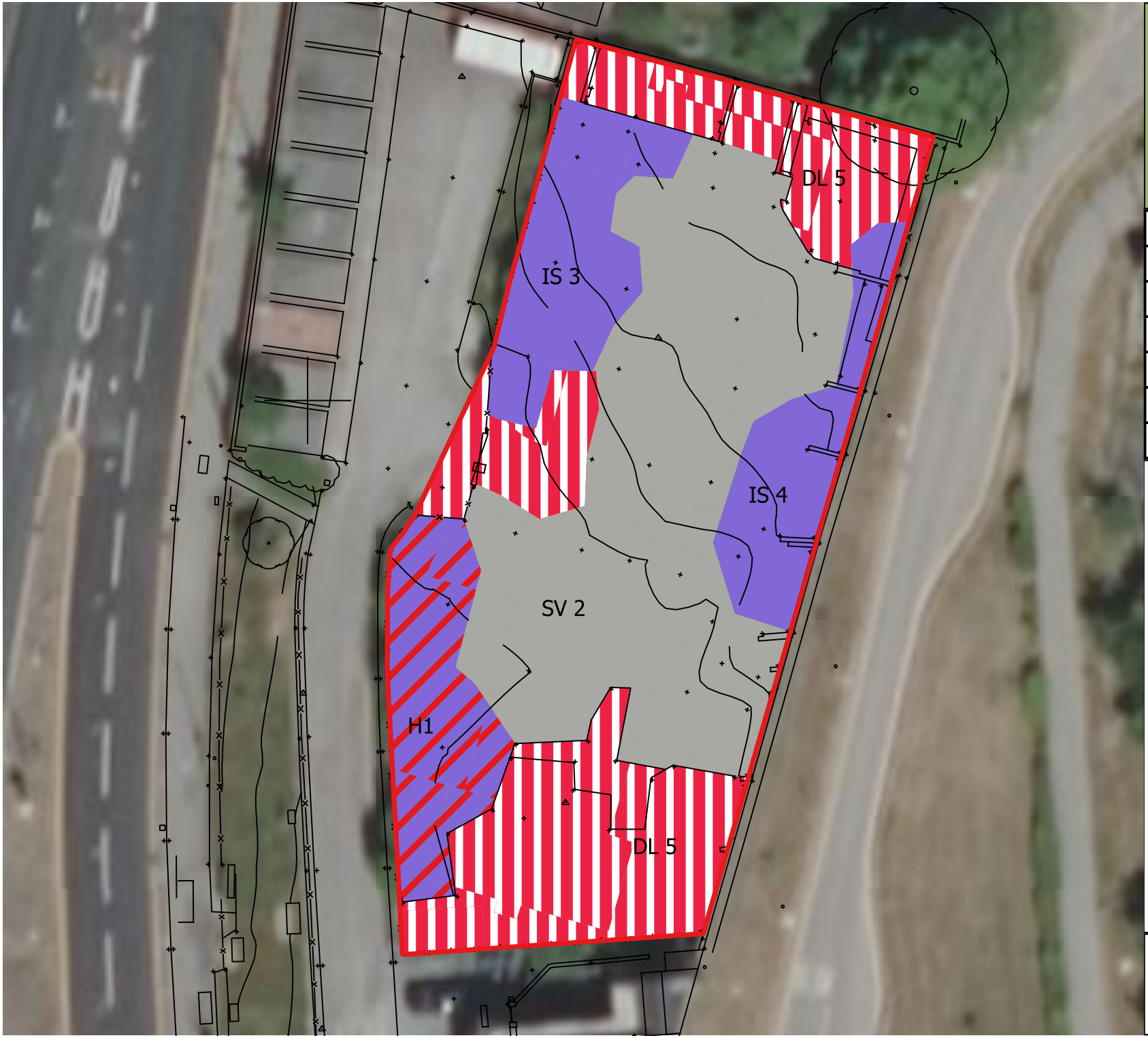
4.3.4. **Barnsley Metropolitan Borough Council's Supplementary Planning Document: Biodiversity and Geodiversity** states that 100% of new dwellings are to include bat roosting or bird nesting features[5]. Therefore, one bat box and three sparrow terraces will be incorporated into the new dwellings.

4.3.5. The boxes will be constructed of long-lasting material (such as woodcrete) and be integral to the new dwellings. Suitable models for the bat box include the **Schwegler 1FR Bat Tube** or **Vivara Pro Build-in Wood Tube**. It should be situated as close to the apex of the south gable as possible. Suitable models for the sparrow terrace include the **Vivara Pro Sparrow Nest** or the **Schwegler1SP Sparrow Terrace**. These should be installed at least 2m above ground level.

4.3.6. The approximate location of the boxes is indicated on the ***Post-Development Habitat Map*** provided in ***Appendix 2.***

[5] Barnsley Metropolitan Borough Council (2024) [online]. *Supplementary Planning Document: Biodiversity and Geodiversity*. Available at: > https://www.barnsley.gov.uk/media/uqcn3wiv/biodiversity-and-geodiversity-spd-2024.pdf < [accessed 20th March 2025]

Appendices



Appendix 1: Baseline Habitat Map

Site Name:	Queens Road
Drawing No.:	WC 372.2a 1
Client:	Whitshaw Builders
Revision:	1
Drawn by:	Amy Reddick
Date:	20/03/2025
Scale:	1:500 @ A4

Map key:

Red Line Boundary

Baseline Habitats:

- U1b - Developed land; sealed surface
- 847 - Introduced shrub
- 81- Ruderal Ephemeral
- H3j - Willow scrub

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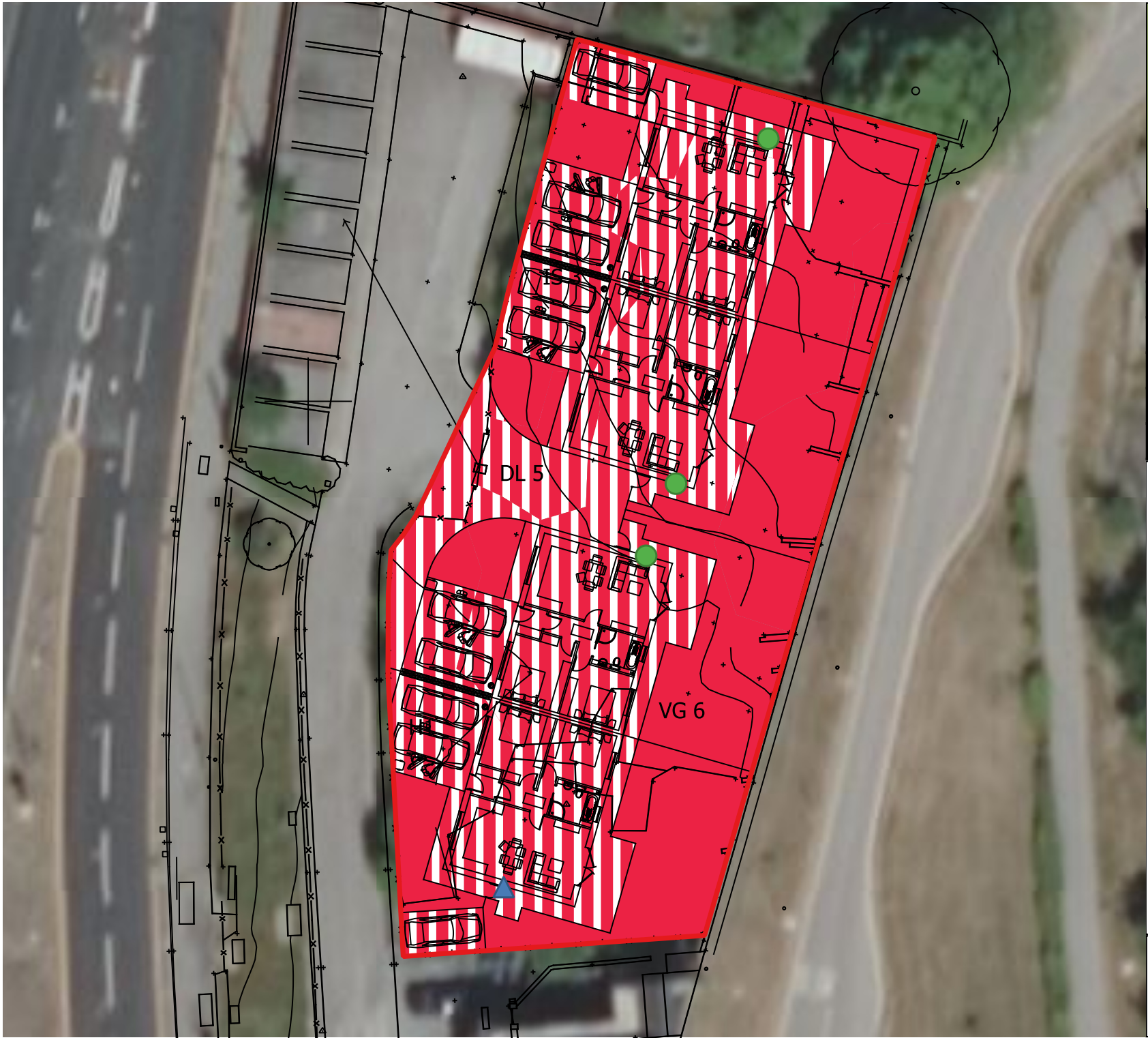

Appendix 2: Post-Development Habitat Map

Site Name:	Queens Road
Drawing No.:	WC 372.2a 2
Client:	Whitshaw Builders
Revision:	1
Drawn by:	Amy Reddick
Date:	20/03/2025
Scale:	1:500 @ A4

Map key:

Red Line Boundary

Post-Development Habitats:

U1b - Developed land; sealed surface

828 - Vegetated garden

Bat and bird boxes:

Bat box

Sparrow terrace

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