



Crossland
Ecology

Biodiversity Enhancement Plan

Site: 1-15 Queen Victoria Street and 145-148
Friar Street, Reading

Client: Thackeray Group

Date: October 2024



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Quality Assurance

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Site assessments / surveys (where required) have been restricted to a level of detail required to achieve the stated objectives of the work.

Due to the temporal nature of ecology, the findings of this report should not be relied upon if a significant amount of time has passed, as defined by the Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines.

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1.0 Summary

- 1.1** This report presents the Biodiversity Enhancement Plan (BEP) for the proposed development at 1-15 Queen Victoria Street and 145-148 Friar Street, Reading (the site). The proposals are for the approved re-development of the site (Planning Reference: 240442) with the provision of the BEP required to address Planning Condition 26 pertaining to biodiversity enhancements.
- 1.2** The site comprises the existing buildings of 1-15 Queen Victoria Street and 145-148 Friar Street, with proposals to include a brown roof, bird nesting and bat roosting features and log piles to provide biodiversity enhancements.
- 1.3** Details have been provided for appropriate biodiversity enhancements to be incorporated into the proposed development.
- 1.4** This document is considered sufficient to satisfy the requirements of Planning Condition 26.
- 1.5** Through incorporation of the measures set out in this report, it is considered that the proposals can deliver positive residual impacts in line with current wildlife legislation, chapter 15 of the NPPF (DLUHC, 2023); and local planning policies relevant to nature conservation.

2.0 Introduction

- 2.1** Crossland Ecology Ltd. was commissioned by Thackeray Group to provide a Biodiversity Enhancement Plan (BEP) for the proposed development at 1-15 Queen Victoria Street and 145-148 Friar Street, Reading (the site). The proposals are for the approved re-development of the site (Planning Reference: 240442) with the provision of the BEP required to address Planning Condition 26 whereby:

No development shall commence on site, barring any remaining demolition works and any remaining repair works to the 12 roof level gables at 1-15 Queen Victoria Street and 148 Friar Street (as per approved plans: P22018- FCH-BA-XX-DR-A-1140 Rev P01 – Existing Elevation 01; P22018-FCH-BA- XX-DR-A-1450 Rev P01 – Demolition Elevation 01, as both received on 26/08/2022; and, P22018-FCH-BA-XX- DR- A-1400 Rev P05 – Proposed Elevation 01, as received on 04/07/2024), until a scheme detailing the locations, elevations, specifications and subsequent maintenance of biodiversity enhancements, including log piles, integral bird nesting and bat roosting features, is submitted to and approved in writing by the Local Planning Authority. The measures shall be implemented in accordance with the approved scheme prior to the first occupation of the apart-hotel and shall be maintained as such thereafter.

- 2.2** This BEP aims to satisfy the above Planning Condition by providing details of the proposed biodiversity enhancements to be implemented. The BEP provides the required information in respect of the creation and management of biodiversity enhancements throughout the operational life of the proposed development.

Extent and Location of Proposed Works

- 2.3** The site comprises the existing buildings of 1-15 Queen Victoria Street and 145-148, centred at Ordnance Survey (OS) Grid Reference SU 7149 7356, with planning permission approved for the following:

Various demolition works and redevelopment for reconfigured basement/ground floor uses, apart-hotel, various extensions and new-build elements, public courtyard and associated works), including reconfiguration of 5-15 (Odd) Queen Victoria St from 6 to 3 units at basement /ground floor level and rear dormer alterations at 3rd floor level, increase in rooms and provision of apart-hotel entrance on Queen Victoria St, remodelling of the extent of new-build elements at 145-146 Friar St, together with dormer and roof level changes, and various other associated works.

- 2.4** The site currently has no biodiversity interest, comprising existing buildings containing retail units, office and residential accommodation. The site is located within an urban context, surrounded by existing retail buildings within Reading town centre. Proposals for the site include a brown roof, bird nesting and bat roosting features and log piles to provide biodiversity enhancements.

3.0 Enhancement Measures

- 3.1** This document has been prepared with reference to British Standards Institution (BSI) BS 42020:2013 'Biodiversity – code of practice for planning and development' (BSI, 2013) and The Chartered Institute of Ecology and Environmental Management's (CIEEM) and Technical Guidance Series 'Ecological Report Writing' (CIEEM, 2017a) and Code of Professional Conduct (CIEEM, 2022).
- 3.2** In addition to the provision of a brown roof, the Preliminary Ecological Appraisal (PEA) for the site (Skilled Ecology Consultancy Ltd., 2022) provided recommendations for the inclusion of biodiversity enhancements comprising bird nesting and bat roosting features and a log pile to be created on the brown roof.

Brown Roof

- 3.3** The proposed brown roof will comprise an area of c.34m² of an extensive brown roof substrate. This will be made up of a biodiverse substrate varying between 80-150mm depth. The following design features will be incorporated:
- Undulating substrate with localised areas of mounded substrate; and
 - Inclusion of habitat features such as logs, rocks and boulders.

Habitat Features

- 3.4** The log pile will be created using logs from native broad-leaved trees with bark retained. Different log girths (greater than 10cm diameter) and lengths (5-100cm) should be used with the lower logs buried into the substrate. The log pile can be secured in place through the placement of wooden stakes on either side of the logs. Plants should be allowed to grow around and over the log pile to facilitate moisture retention and shade for invertebrates and to increase the structural diversity.
- 3.5** Areas of rocks, boulders and larger aggregate (small rocks/pebbles) will also be provided within the green roof in addition to coiled rope. These features will be set out within the brown roof under the instruction of an ecologist.
- 3.6** The provision of such habitat features will increase the structural diversity across the brown roof, providing enhanced conditions for a variety of flora and increased habitat diversity for invertebrates (in particular). Examples of these habitat features are provided in Figure 1. A plan showing the suggested locations of these features is provided in Appendix 3; final locations will be subject to confirmation of loading allowances and under the direction of an ecologist.

Figure 1: Habitat Feature Examples



Image from © Hohenschlaeger (from www.zinco-greenroof.co.uk)

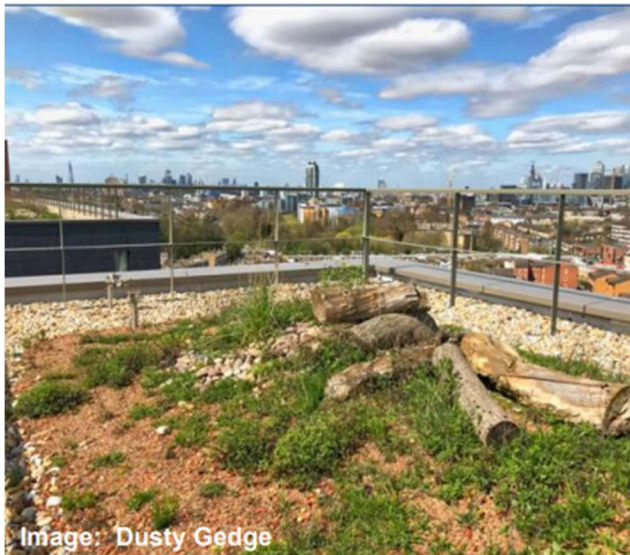


Image of Thurston Road green roof, Lewisham ©Dusty Gedge (from Grant and Gedge, 2019)



Image from <https://www.nomuraholdings.com/sdgs/article/008/>



Image from www.zinco-greenroof.co.uk/systems/biodiversity-green-roof



Image from www.axter.co.uk/range/green-roofs

Management and Maintenance

- 3.7** The brown roof will be managed and maintained in accordance with the schedule set out in Appendix 5. This includes regular inspections of soil substrate and vegetation, regular maintenance including replacement of any dead plants, removal of fallen leaves, debris and invasive vegetation, management of planting and removal of any vegetation arisings.

Green Walls

- 3.8** A green wall is proposed on the southern elevation of the central stairwell; it is specified to be a Scotscape green wall system (or similar approved) and will comprise a planting mix of 20-25 species. The species mix will incorporate a range of native and wildlife friendly species to provide biodiversity benefits (details are provided on the Detailed Hard & Soft Landscape Proposals [Liz Lake Associates, 2024] drawing no. 2828-LLA-ZZ-GF-DR-L-0101/P02).

Management and Maintenance

- 3.9** The green wall will be subject to management and maintenance as part of the general landscape schedule of implementation (Landscape Specification, Details & Maintenance [Liz Lake Associates, 2024] drawing no. 2828-LLA-ZZ-GF-DR-L-0102/P02). No further specific management or maintenance measures over and above those specified are considered necessary in respect of this BEP.

Bat Boxes

- 3.10** Four bat boxes will be provided within the proposed development, to comprise appropriate boxes installed onto the building. The bat boxes will be placed according to the following requirements:

- Located at a height of at least 4m above ground (preferably 5-7m) and close to the eaves if possible;
- Located at a minimum distance of 3m from any sources of artificial light (further if possible);
- Positioned in a sheltered location, avoiding strong winds; and
- Positioned to be exposed to the sun for at least part of the day – south, south-east or south-west facing.

- 3.11** Based on the above requirements the boxes would be best placed on the available southern façades as shown in Appendix 4. Whilst the PEA specified the bat boxes to be used should be Bat Brick by Bird Brick Houses, it will be necessary for the bat boxes to be externally mounted¹ and therefore the 1FQ Schwegler Bat Roost (for external walls), Beaumaris Woodstone Bat Box or Lela Bat Box (or similar approved) will be installed (shown in Figures 2-4 below).

- 3.12** The bat boxes will be installed as per the manufacturer's installation specifications.

¹ Due to the location and siting requirements for bat and bird boxes, it will not be possible to provide these as integrated features. The proposed development contains limited availability of appropriate facades for the installation of these features within the correct orientations or elevations. In order to ensure that the boxes are situated to maximise usage, and to fit in with the architectural and design requirements, the only way to provide bat and bird boxes will be to externally mount them; the surfaces with suitability for the boxes do not comprise an appropriate construction to allow integration. No features can be installed within the listed facades which further limits the possibility of providing integrated bat or bird boxes.

Figure 2: 1FQ Schwegler Bat Roost (For External Walls)



Figure 3: Beaumaris Woodstone Bat Box



Figure 4: Lela Bat Box



All images taken from www.nhbs.com

Management and Maintenance

- 3.13** The bat box examples provided above do not require any management or maintenance; the design and construction of the boxes ensure longevity and enables bat droppings to fall out, so no cleaning is required. Annual checks on fixtures and fittings will be required for safety purposes.

Bird Boxes

- 3.14** Four Vivara Pro Sparrow Terrace boxes and four swift boxes will be provided within the proposed development. Boxes will be placed according to the following requirements:

- Located away from direct sunlight, preferably facing between north and east (bird boxes should not be south facing);
- Located at a minimum height of 2.5m and a maximum height of 5m from ground level;
- Located away from windows and sources of artificial light;
- Swift boxes to be installed as per guidance provided in Leaflet 4 issued by Swift Conservation (Swift Conservation, 2019).

- 3.15** Based on the above requirements the boxes would be best placed as follows:

- Two number swift boxes and two number sparrow terraces on the northern façade of the Internal Plant Room (on the upper roof) and two of each on the eastern façade of the Internal Plant Room (see Appendix 4).

- 3.16** Whilst the PEA specified that the Ibstock Swift brick should be used, this is an integrated feature and it will be necessary for the swift boxes to be externally mounted¹, therefore a suitable alternative will be to use the Vivara Pro Woodstone Swift Nest Box (or similar approved). The bird boxes to be used are shown in Figures 5 and 6 below and will be installed as per the manufacturer's installation specifications.

Figure 5: Vivara Pro Woodstone House Sparrow Nest Box



Image from <https://www.nhbs.com>

Figure 6: Vivara Pro Woodstone Swift Nest Box

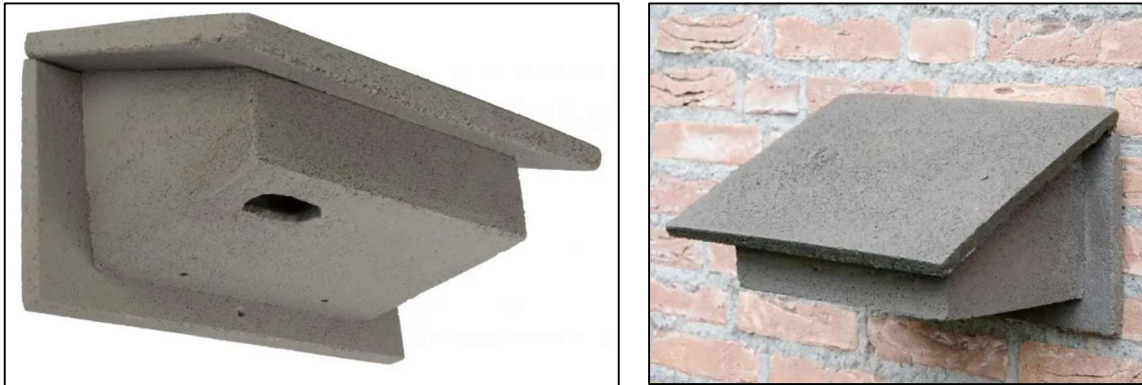


Image from <https://www.nhbs.com>

Management and Maintenance

- 3.17** The bird box examples provided above require minimal management and maintenance; the design and construction of the boxes ensure longevity. Annual clearing of nests (during the autumn, once nesting is finished but before winter) will be required. Annual checks on fixtures and fittings will also be necessary for safety purposes.

4.0 Management, Monitoring and Delivery

Management

- 4.1** The long-term management of the brown roof habitats and log pile would be undertaken by an appropriately qualified Management Company.
- 4.2** Annual checks on fixtures and fittings of all bat and bird boxes will be required for safety purposes. Annual clearing of bird boxes of any old nests/nesting material will also be necessary (to be undertaken during the autumn, once nesting is finished but before the start of winter).
- 4.3** All boxes should be checked (and bird boxes only should be cleared out) by a suitably experienced ecologist; bat box checks should be carried out by a licenced ecologist (holder of a Natural England Class licence for bats – Level 1) to ensure boxes, fixtures and fittings are in good condition and remain *in situ*. Any missing boxes will be replaced.

Personnel

- 4.4** If deemed appropriate, a biodiversity champion can be nominated by the main contractor to be the initial point of contact for any onsite wildlife related matters. It is also recommended that a suitably qualified ecologist is engaged where necessary to liaise with and provide any additional advice and input regarding the delivery of the ecological enhancements.

5.0 Conclusions

- 5.1** This BEP has been prepared for the proposed development at 1-15 Queen Victoria Street and 145-148 Friar Street, Reading, to satisfy Planning Condition 26 pertaining to biodiversity enhancements.
- 5.2** Information is provided with regards to the provision of ecological enhancements including the specification and proposed locations for bat and bird boxes and a log pile and recommendations in respect of the proposed brown roof, in addition to management and maintenance information.
- 5.3** This document is considered sufficient to satisfy the requirements of Planning Condition 26.
- 5.4** Through incorporation of relevant recommendations, it is considered that the proposals can deliver positive residual impacts in line with current wildlife legislation, chapter 15 of the NPPF (DLUHC, 2023); and local planning policies relevant to nature conservation.

6.0 **References**

British Standards Institution (2013) *BS 42020: 2013 Biodiversity – Code of Practice for Planning and Development*. British Standards Institution: London.

CIEEM (2017a) *Guidelines on Ecological Report Writing 2nd Edition*. Chartered Institute of Ecology and Environmental Management: Winchester.

CIEEM (2022) *Code of Professional Conduct*. Chartered Institute of Ecology and Environmental Management: Winchester.

DLUHC (2023) Department for Levelling Up, Housing and Communities *National Planning Policy Framework*. [Online]. Available at:
<https://www.gov.uk/government/publications/national-planning-policy-framework-2>

Grant, G. and Gedge, D. (2019) *Living Roofs and Walls from policy to practice. 10 years of urban greening in London and beyond*. European Federation of Green Roof and Green Wall Associations (EFB) and Livingroofs.org (on behalf of the Greater London Authority). London.

Liz Lake Associates (2024) *Detailed Hard & Soft Landscape Proposals*. Drawing no. 2828-LLA-ZZ-GF-DR-L-0101/P02.

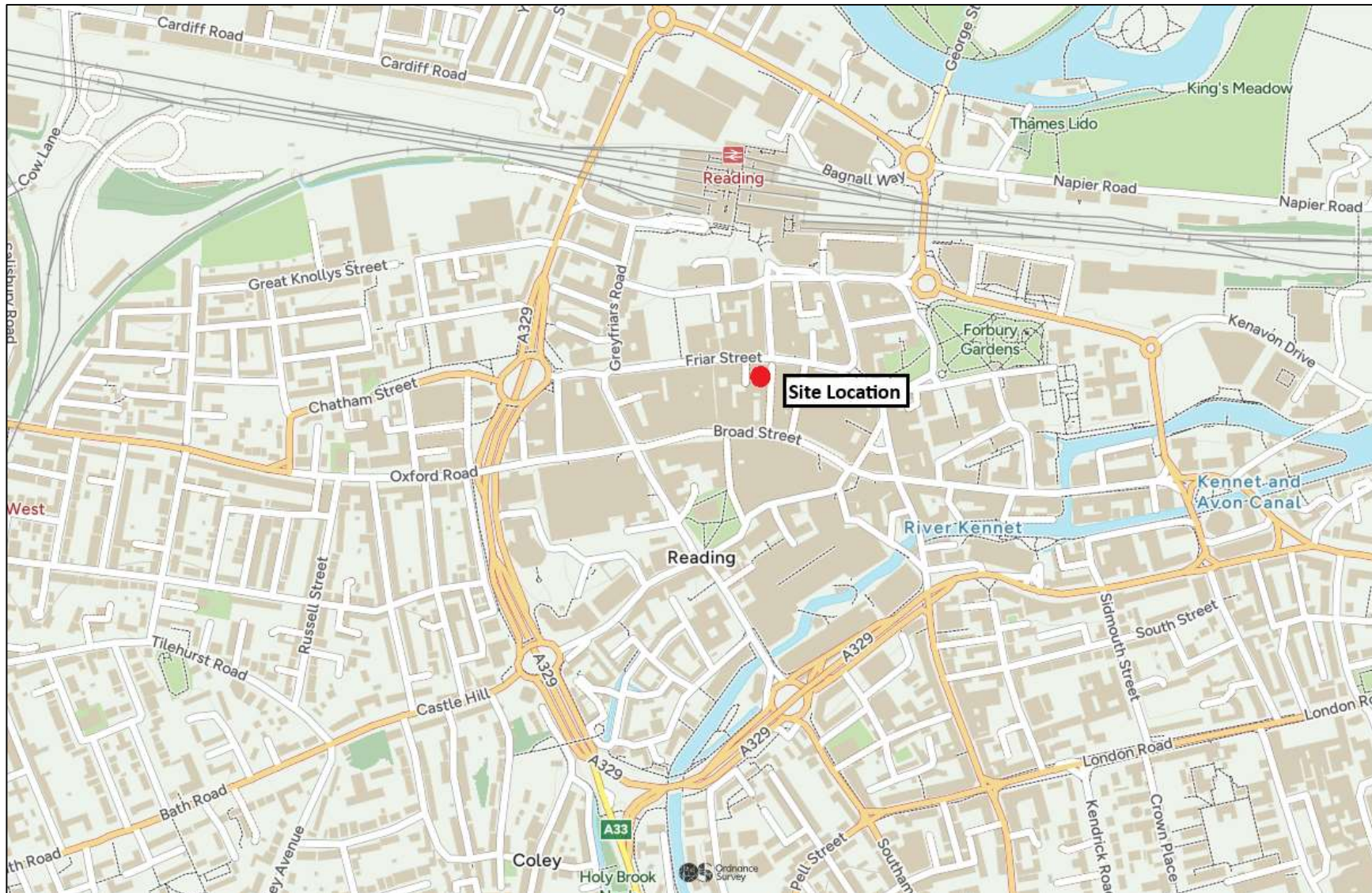
Liz Lake Associates (2024) *Landscape Specification, Details & Maintenance*. Drawing no. 2828-LLA-ZZ-GF-DR-L-0102/P02.

Skilled Ecology Consultancy Ltd. (2022) *Preliminary Ecological Appraisal Including a Protected Species Appraisal & BREEAM Assessment for Proposed Development at: 145-148 Friar Street, 1-15 Queen Victoria Street, Reading*.

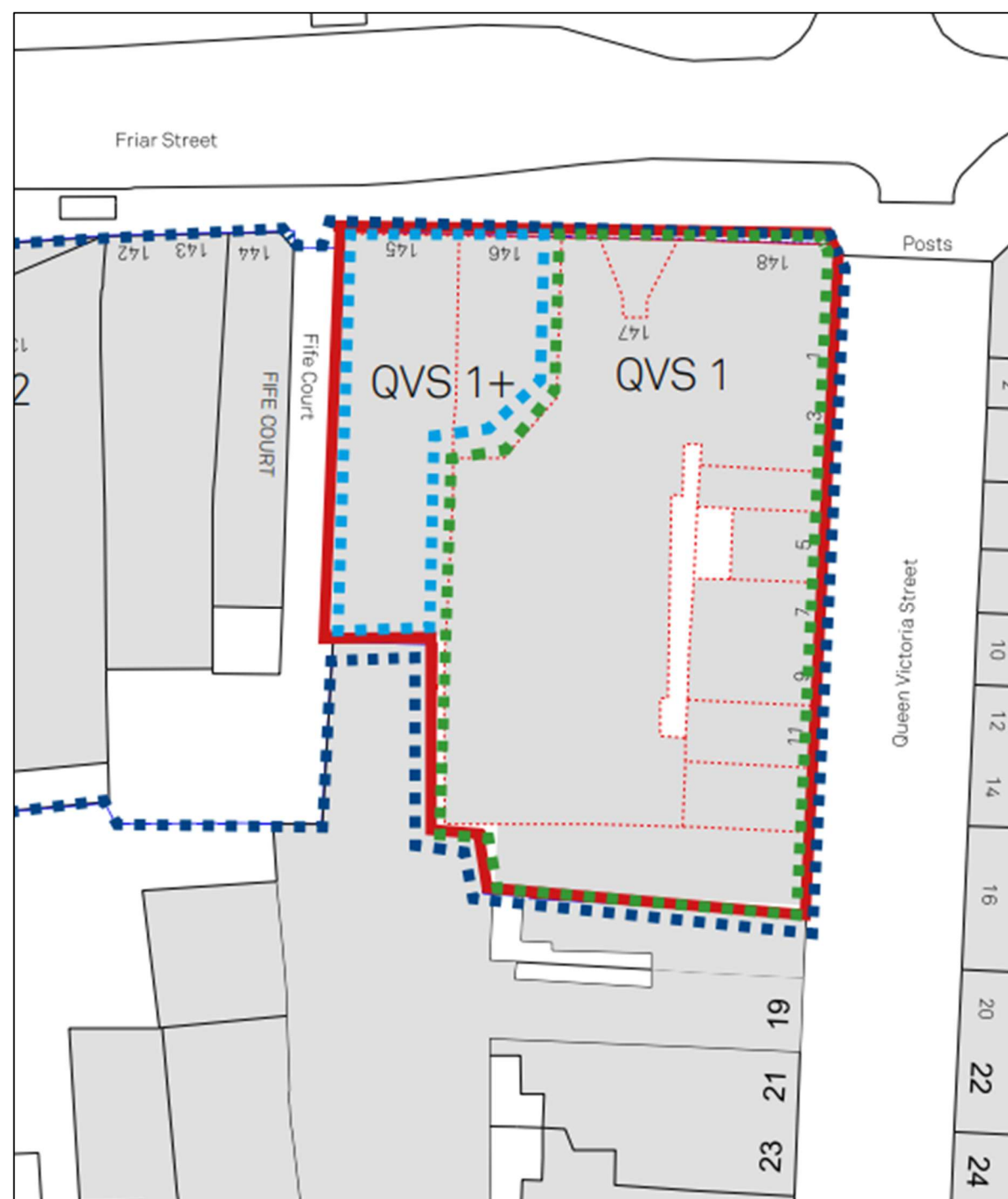
Swift Conservation (2019) *Leaflet 4: Swift net Box installation and Suppliers* [online] Available at: <https://www.swift-conservation.org/Leaflet%204%20-%20Swift%20Nest%20Bricks%20-%20installation%20&%20suppliers-small.pdf>

Appendix 1: Site Location Plan

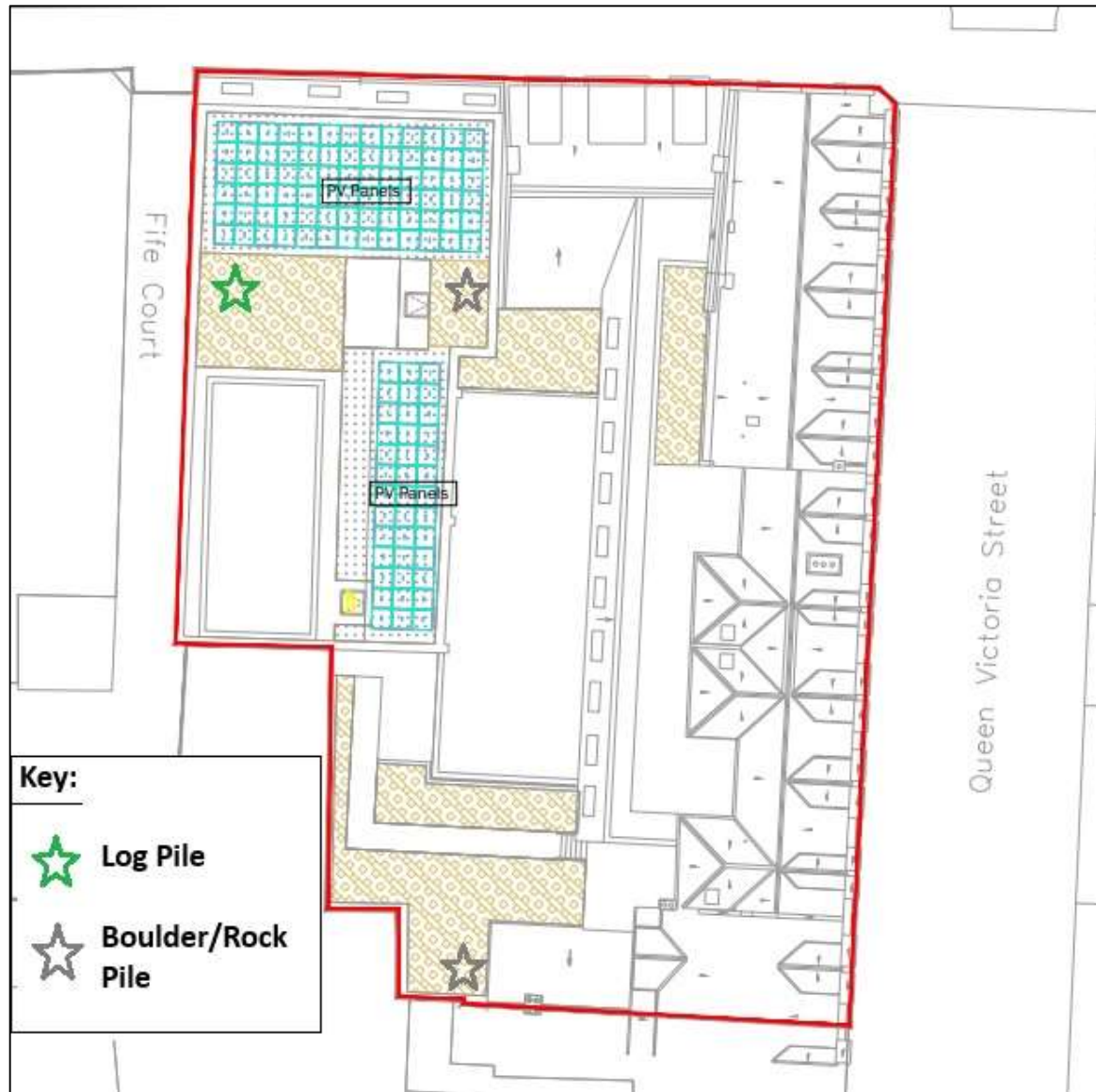
(Reproduced from Ordnance Survey maps online)



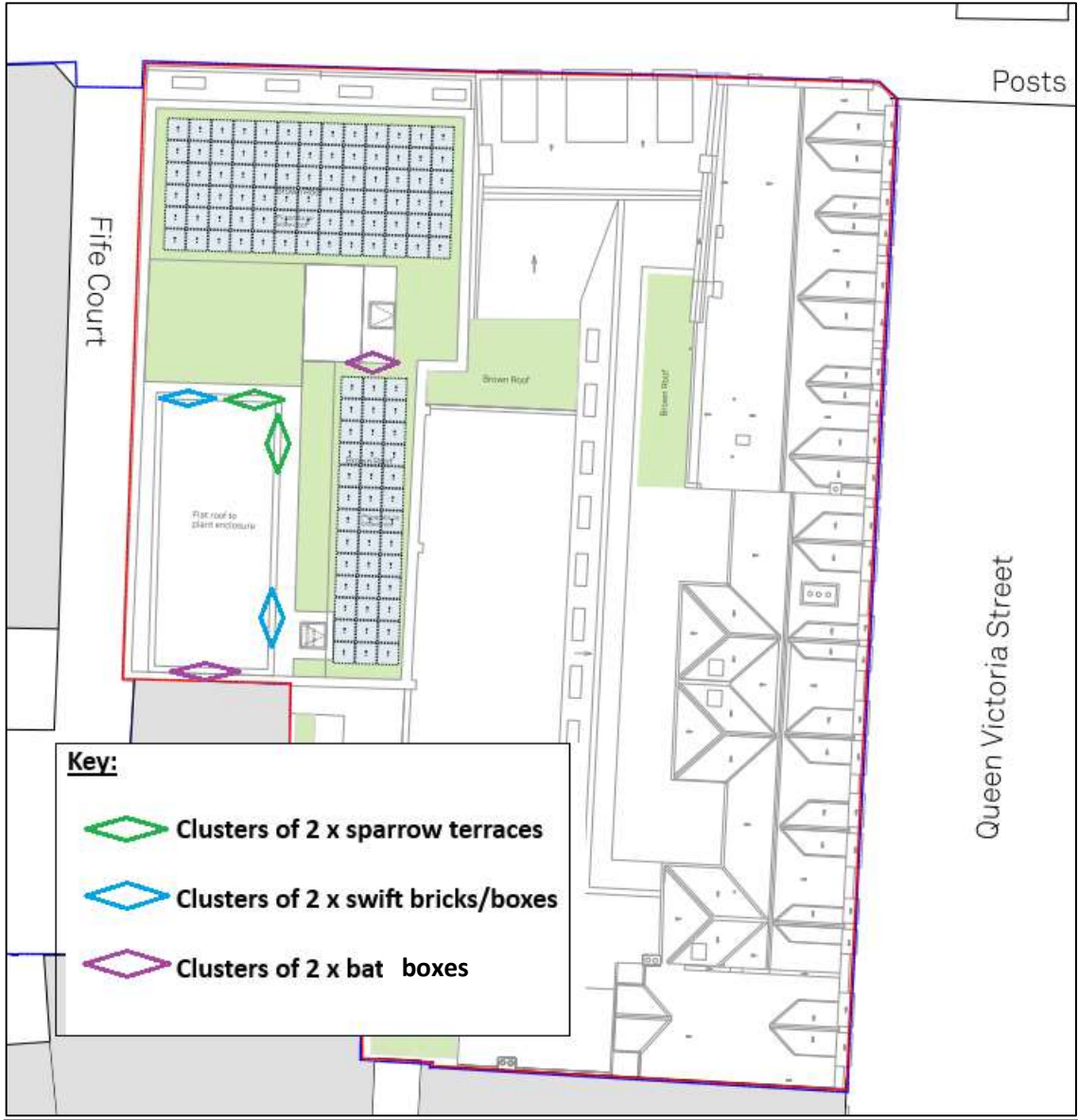
Appendix 2: Red Line Boundary Plan



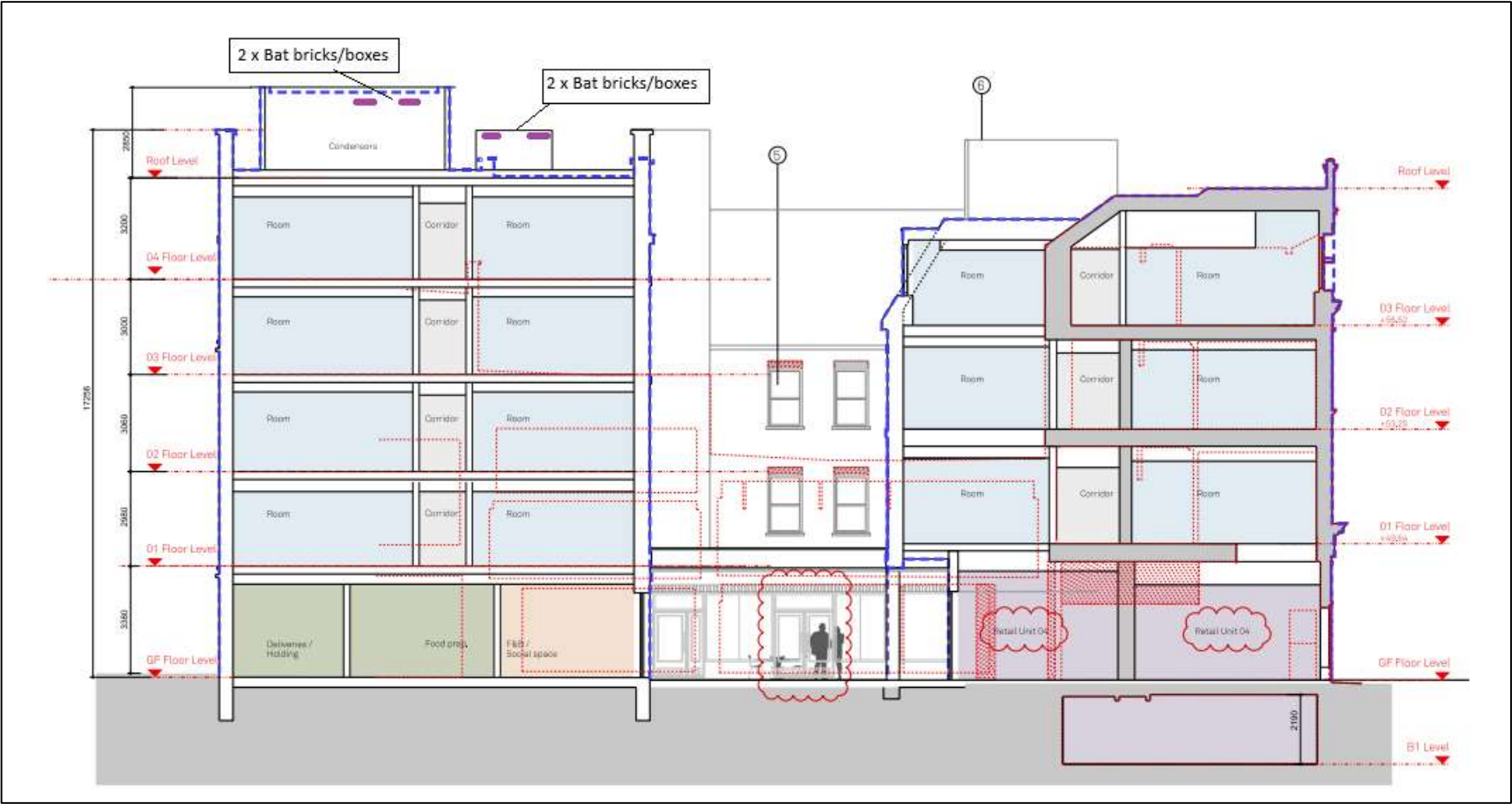
Appendix 3: Indicative Locations for Brown Roof Habitat Features



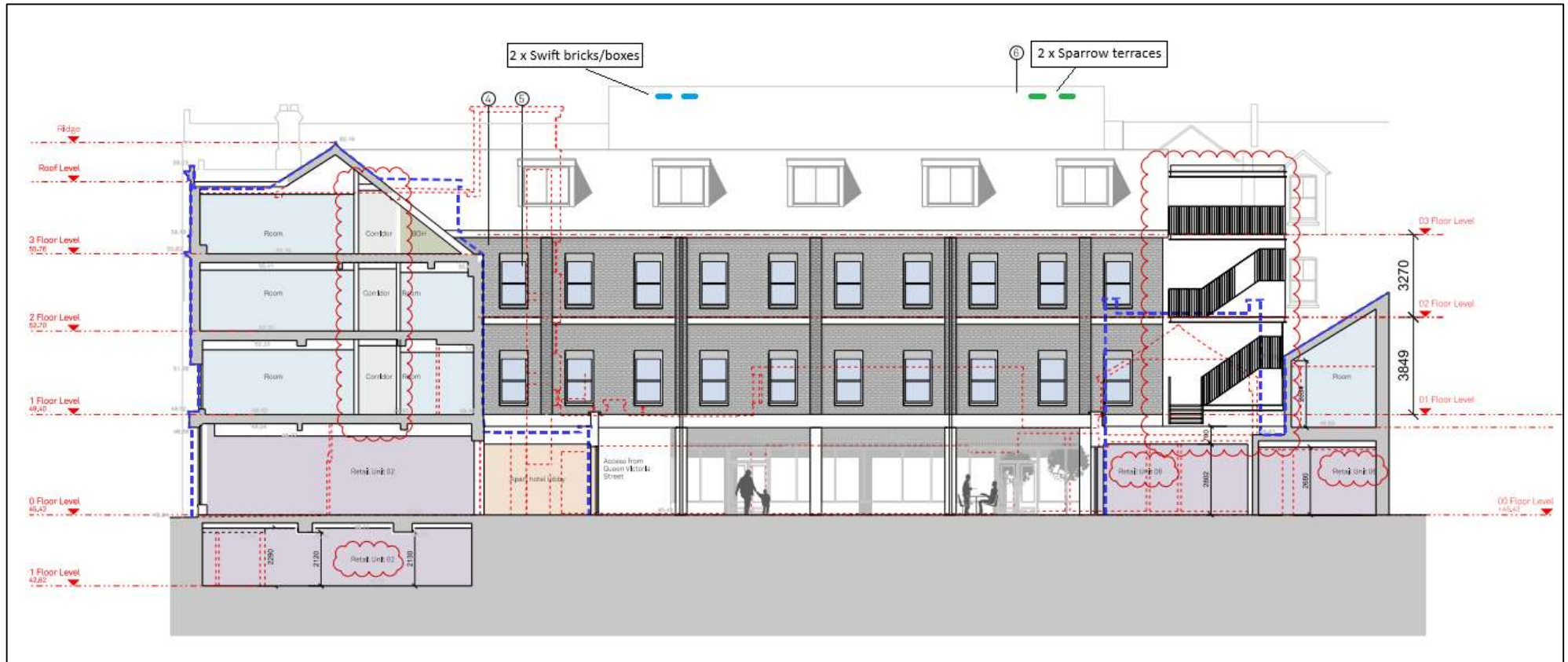
Appendix 4: Suggested Locations for Ecological Enhancements (Bat and Bird Boxes)



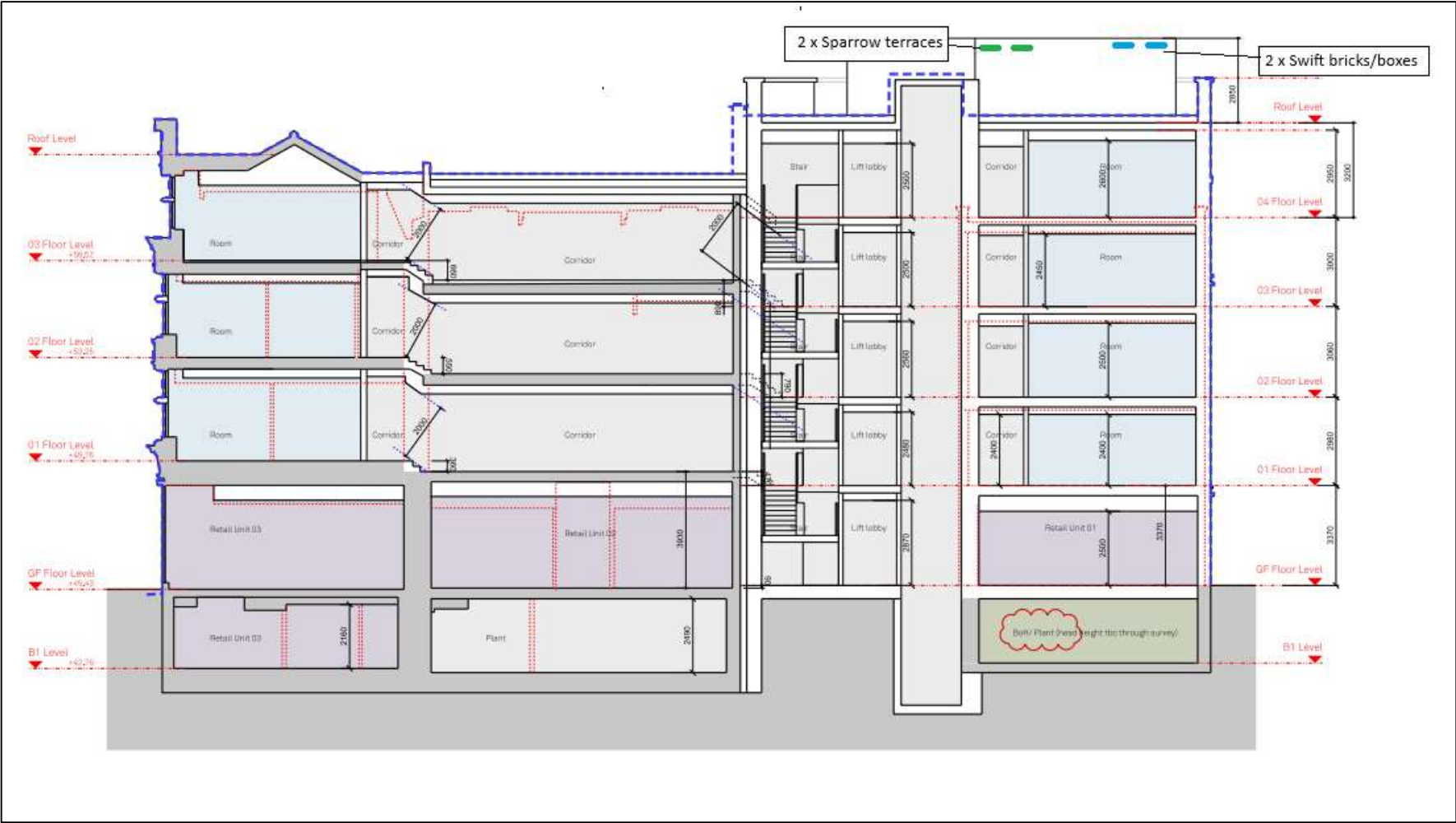
Bat Brick Suggested Locations – Externally Mounted Bat Boxes – South-Facing



Swift Box and Sparrow Terrace Suggested Locations – Eastern Façade



Swift Box and Sparrow Terrace Suggested Locations – Northern Façade



Appendix 5: Outline Management Plan

Feature	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6 onwards
Brown Roof	Installation in accordance with manufacturer's specifications and under the direction of the ecologist.	Inspect all components – substrate, vegetation and features (annually or after severe storms). Removal of debris and litter (six monthly or as required). Removal of fallen leaves and dead plant matter, and any invasive plant species (six monthly or as required).	Repeat as for year 1.	Repeat as for year 1.	Repeat as for year 1.	Repeat as for year 1.	Annually.
Bat Bricks	Installation in accordance with manufacturer's instructions.	Check fixtures and fittings of externally mounted bat boxes.	Check fixtures and fittings of externally mounted bat boxes.	Check fixtures and fittings of externally mounted bat boxes.	Check fixtures and fittings of externally mounted bat boxes.	Check fixtures and fittings of externally mounted bat boxes.	Repeat annually.
Bird Boxes	Installation in accordance with manufacturer's instructions.	Clear old nests during autumn (after nesting has finished and before winter).	Check fixings are in good order. Repeat year 1 maintenance.	Repeat as for year 2.	Repeat as for year 2.	Repeat as for year 2.	Repeat annually.
Log Pile	Installation under the direction of the ecologist.	Monitor fixings to ensure safety.	Repeat as for year 1.	Repeat as for year 1.	Repeat as for year 1.	Repeat as for year 1.	Repeat annually.