APPENDIX 8.3: BIODIVERSITY IMPACT ASSESSMENT

Greengage

QA

Royal Brunswick Park – Biodiversity Impact Assessment

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1.0   EXECUTIVE SUMMARY

1.1   Greengage Environmental Ltd was commissioned by Comer Homes to undertake a Biodiversity Impact Assessment for the proposed development at Royal Brunswick Park, New Southgate in the London Borough of Barnet.

1.2   This document is a report of this assessment and has been produced to support a planning submission for the site which seeks a residential led scheme with educational facility.

1.3   This assessment aimed to quantify the potential change in ecological value of the site in light of the proposed development to assess compliance against emerging planning policy and legislation.

1.4   The baseline ecological value of the site is **21.24** habitat biodiversity units and **0.43** hedgerow units. Under the current development proposals, and additional enhancement measures and habitat creation, the development stands to result in a net gain of **1.10** habitat biodiversity units and **0.33** hedgerow units from pre-development levels. This is equivalent to a total **net gain** of **4.06 %** for area-based units and a **net gain** of **77.70%** for hedgerow units.

1.5   Detail relating to the proposed ecological compensation and enhancement actions in relation to habitat creation and management should be provided at the detailed design stage and could be set out in an Ecological Management Plan (secured by planning condition).

2.0 INTRODUCTION

2.1   Greengage was commissioned by Comer Homes to undertake a Biodiversity Impact Assessment of a site known as the Royal Brunswick Park, New Southgate in the London Borough of Barnet.

2.2   This document is a report of this assessment and has been produced to support a planning submission for the site which seeks a residential led scheme with educational facility.

2.3   This survey aimed to establish the change in ecological value of the site in light of the proposed development, taking into account direct and indirect impacts.

SITE DESCRIPTION

2.4   The survey area extends to approximately 16 hectares and is centred on National Grid Reference TQ280935, OS Co-ordinates 528019, 193504.

2.5   There are ten buildings on the site with the largest being office buildings and an associated car park, additional buildings include a nursery, a school, site security offices and storage sheds. Surrounding these buildings are areas of hardstanding roads and car parking as well as landscaping in the form of amenity grassland, introduced shrubs, a pond and scattered trees. There is an expanse of rough grassland and scattered scrub to the north of the site.

2.6   The site is situated in a residential area in south Barnet and is surrounded by residential streets with terraced houses in all directions. It is bounded by the Southern Railway line to the west which runs from north to south.

2.7   The surrounding landscape is mainly comprised of parks and green open spaces including New Southgate Cemetery ~200m south east of the site, Brunswick Park ~200m east, Friary Park ~900m south west and Oak Hill Park ~1km north.

2.8   The survey area is shown in Figure 2.1 below.

Figure 2.1 Survey area

3.0 METHODOLOGY

DEFRA METRIC 3.0

3.1   To calculate the ecological value of the pre- and post-development sites, the DEFRA Metric 3.0 methodology was utilised, following best practice guidance from DEFRA[1,2] and joint guidance from CIEEM, IEMA and CIRIA[3].

3.2   This metric uses Biodiversity Units as a proxy for the ecological value of area or linear based habitats. The areas of each habitat parcel are measured, with each parcel assigned a 'Distinctiveness' and 'Condition' score. Distinctiveness is a default score for that habitat classification, representing its inherent ecological value, whereas condition refers to the state each parcel is in relative to predetermined set of criteria outlined in the supplementary Defra Metric 3.0 guidance.

3.3   For post-development habitat areas, additional multipliers are applied taking into account the time taken to reach maturity and difficulty of creation of the habitats, and whether the habitat creation is in a strategically beneficial location.

3.4   An assessment of the predicted change in ecological value is undertaken comparing the Biodiversity Units and assessing percentage change. Changes in broader habitat types (for example, 'Urban', 'Woodland' and 'Grassland' habitats) are also tracked, and trading habitats is discouraged unless specifically targeted within a local strategy. Trading down of habitats is not permitted.

PRE-DEVELOPMENT CALCULATION

3.5   To calculate pre-development Biodiversity Units, data collected during a Preliminary Ecological Appraisal (PEA) undertaken by Greengage on the 8th and 9th April 2021 was assessed (document ref: 551510ogJul21FV01_PEA). Areas of each habitat type were taken from the Phase 1 Habitat Map (Figure 1) and data relating to the condition of habitat parcels was collected in the field.

PROPOSED DEVELOPMENT CALCULATION

3.6   Drawings of the proposed development used for this assessment were:

- HED-1140-RBP-LA-1011 Urban Greening Factor.pdf;
- HED-1140-RBP-LA-1008 Trees for Retention, Proposed & Removal.pdf;
- HED-1140-RBP-LA-1008.dwg; and
- 551510_North London Business Park_Phase 1 Habitat Map.pdf

3.7   Areas of each habitat type were measured from this plan and targeted condition scores used, taking into account the likely future use of each area.

COMPETENCIES

3.8   James Bumphrey, who undertook the badger and roosting bat scoping survey and reviewed this report, has an undergraduate degree in Environmental Sciences (BSc Hons), a Master's degree in Environmental Consultancy, a Natural England Great Crested Newt Licence (2018-35160-CLS-CLS). James has 8 years' experience in ecological surveying and has undertaken and managed numerous ecological surveys and assessments.

3.9   Olivia Guindon, who undertook the site visit and wrote this report, has a Bachelor's degree in Ecology and Wildlife Conservation (BSc Hons), a Master's degree in Species Identification and Survey Skills and is a Qualifying member of CIEEM. Olivia has over three years' experience in the commercial sector.

3.10   Molly Crookshank, who undertook the BNG calculations of this report, has a Bachelor's degree in Animal Biology (BSc Hons), a Master's degree in Wildlife Biology and Conservation (MSc) and is a Qualifying member of CIEEM.

3.11   This report was written by Olivia Guindon and reviewed and verified by James Bumphrey who confirms in writing (see the QA sheet at the front of this report) that the report is in line with the following:

- Represents sound industry practice;

- Reports and recommends correctly, truthfully and objectively;

- Is appropriate given the local site conditions and scope of works proposed; and

- Avoids invalid, biased and exaggerated statements.

CONSTRAINTS

3.12   The assessment methodology does not incorporate ecological features beyond area and linear based habitats. The potential for the site to support protected species, for example, is not captured by this assessment. As such this report should be read in conjunction with all other ecological reports for the site. The mitigation hierarchy in relation to protected and notable habitats and species must be followed. This report should accordingly be read in conjunction with the PEA and any other appropriate protected species surveys.

3.13   The BNG assessment at this stage is predictive in nature. To ensure delivery of BNG, requirements outlined within this report must be adhered to with further details provided at detail design stage. A rigorous programme of monitoring and maintenance must also be implemented.

4.0 RESULTS

AREA HABITATS

Baseline Conditions

4.1   The baseline biodiversity value of the site is calculated to be **27.08** biodiversity units. A breakdown of this calculation is provided in Table 4.1 below:

Table 4.1 Baseline Biodiversity Units

Habitat Type	Area (Hectares)	Distinctiveness	Condition	Biodiversity Units
Heathland and scrub – Bramble scrub	1.46400556	Medium	Poor	5.86
Grassland – Modified grassland	0.814489	Low	Moderate	3.26
Sparsely vegetated land – Ruderal / Ephemeral	0.234434017	Low	Poor	0.47
Lakes – Ponds (Non-priority habitat)	0.335100507	Medium	Poor	1.34
Grassland – Modified Grassland (Amenity)	0.476582	Low	Poor	0.95
Urban – Tree	1.37	Medium	Fairly Good	15.07
Urban – Introduced shrubs	0.068661	Low	Poor	0.14
Urban – Developed land; sealed surface	7.607035	Very low	N/A – other	0.00
	11		**Total:**	**27.08**

4.2   The trees on site has been classified as 'ecologically desirable but not in local strategy'. These trees, particularly the mature trees, acts as a wildlife corridor across the site to the tree-line located on the railway embankment which is desirable for wildlife including foraging bats and also as a noise barrier. The site is also a strong connectivity to for Brunswick Park to Bethune Park. All other habitats pre- and post-development have no multiplier added for strategic significance as the area is not located within a local strategy.

4.3   The bramble scrub habitat was given a condition rating of 'poor' as bramble (*Rubus fruticosus)* covers more than 75% of this habitat and is the only woody species.

4.4   The semi-improved grassland has been given a condition score of 'Moderate' due to the high diversity of species and passes 5 of 7 criteria given in Appendix 1.

4.5   The ruderal habitat has been given a condition score of 'poor' as it passes one of the core criteria's, Appendix 1.

4.6   The pond on site has been given a condition score of 'poor'. This is due mostly to the fact that the water quality is considered to be poor, due mostly to the quantity of Canada goose and turbidity of the water. The vegetation present within the pond, both emergent and marginal is also considered to be species poor. Assessment Criteria for the above habitats is given in the Appendix 1.

4.7   The amenity grassland was classified as 'modified grassland'. This was given a condition score of 'poor' as it is characterised by a sward with a low diversity of grasses and wildflowers, and an abundance of fast-growing common species.

4.8   The urban trees on site were given a condition score of 'fairly good' as it passes 4 of 6 criteria in Appendix 1. There are micro habitats across the site including deadwood and cavities and more than 70% of the trees are native species.

4.9   Introduced shrub has been assigned 'poor' condition as design aspirations are focused on amenity value as opposed to biodiversity.

Retained

Table 4.2 Baseline Biodiversity Units Retained

Habitat Type	Area (Hectares)	Distinctiveness	Condition	Biodiversity Units retained
Lakes – Ponds (Non-priority habitat)	0.063	Medium	Poor	0.25
Urban – Street tree	0.508	Medium	Fairly Good	5.59
	0.571		**Total:**	**5.84**

Proposed Site Layout

4.10   Based on masterplan drawings, the proposed development is predicted to provide **28.18 area-based biodiversity units** (**22.34** units from post development construction + **5.84** units from areas being retained) for area-based habitats.

Table 4.3 Post-Development Biodiversity Units

Proposed habitat	Area (Hectares)	Distinctiveness	Condition	Biodiversity Units
Urban - Extensive green roof	2.6037	Low	Fairly Poor	7.27
Urban - Urban Tree	0.6584	Medium	Moderate	2.01
Urban-Rain Garden	0.176	Low	Fairly Poor	0.49
Grassland - Modified grassland	2.6102	Low	Moderate	9.05
Urban - Urban Tree	0.5026	Medium	Fairly Poor	1.77
Grassland - Modified grassland	0.9033	Low	Poor	1.74
Urban - Developed land; sealed surface	4.71	V.Low	N/A - Other	0.00
	11		Total:	22.34

4.11   All habitats pre- and post-development have no multiplier added for strategic significance as the area is not located within a local strategy.

4.12   Extensive green roof will be on the flat proposed buildings. It was given a condition score of 'fairly poor' as it will be substrate based seeded and plug planted with a suitable native wildflower mix which will attract insects and butterflies. The seed mix will be Bauder Flora 3 mix.

4.13   Standard trees planted in connected tree pits with a minimum soil volume equivalent to at least two thirds of the projected canopy area of the mature tree was given a score as 'moderate', this is due to the connecting canopy increase ecological value.

4.14   The condition of the rain garden has been given 'fairly poor'.

4.15   The flower rich perennial planting was assessed under modified grassland habitat type and given a condition of 'moderate' due to the biodiversity value, especially for pollinators.

4.16   Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature trees was given a score of 'fairly poor'.

4.17   The second area of modified grassland is the amenity grassland has been assigned a condition of 'poor' as this will be species poor and heavily mowed.

4.18   Proposals will result in a net gain of **1.10 biodiversity units** (+4.06%) for area-based habitats.

HEDGEROWS

Baseline Conditions

4.19   A single hedge which is situated north of the carpark 0.43 hedgerow units:

Table 4.4 Pre-Development Hedgerow Units

Habitat	Length (km)	Distinctiveness	Condition	Hedgerow Units
Hedge Ornamental Non Native	0.429	V.Low	Poor	0.43

4.20   The ornamental hedge was given a condition score of 'poor' as it fails a total of more than 5 attributes. Assessment Criteria for hedgerow condition is given in the Appendix 1.

Proposed Site Layout

Table 4.5 Post-Development Hedgerow Units

| Habitat	Length (km)	Distinctiveness	Condition	Hedgerow Units
Native Hedgerow	0.395	Low	Poor	0.76

4.21   The native hedgerow, hornbeam, was given a condition score as 'poor' as it fails a total of more than 5 attributes. Assessment Criteria for hedgerow condition is given in the Appendix 1.

5.0 DISCUSSION AND CONCLUSIONS

5.1 Greengage Environmental Ltd was commissioned by Comer Homes to undertake a Biodiversity Impact Assessment for the proposed development at Royal Brunswick Park, New Southgate in the London Borough of Barnet. This assessment sought to quantify the change in ecological value of the site as a consequence of the proposed development.

5.2 This report demonstrates that the development proposals have the potential to result in a **net gain of 1.10 habitat units**. This equates to a **4.06% increase**. In addition, the development will result in a net gain of 0.33 hedgerow units. This equates to a **77.70 % increase**.

5.3 To ensure gain is delivered on site an Ecological Management Plan (EMP) should be produced at the detail design stage and secured through planning condition. This should also detail all protection/mitigation measures required for the proposed development.

FIGURE 1 EXISTING SITE PLAN

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North London Business Park

Legend
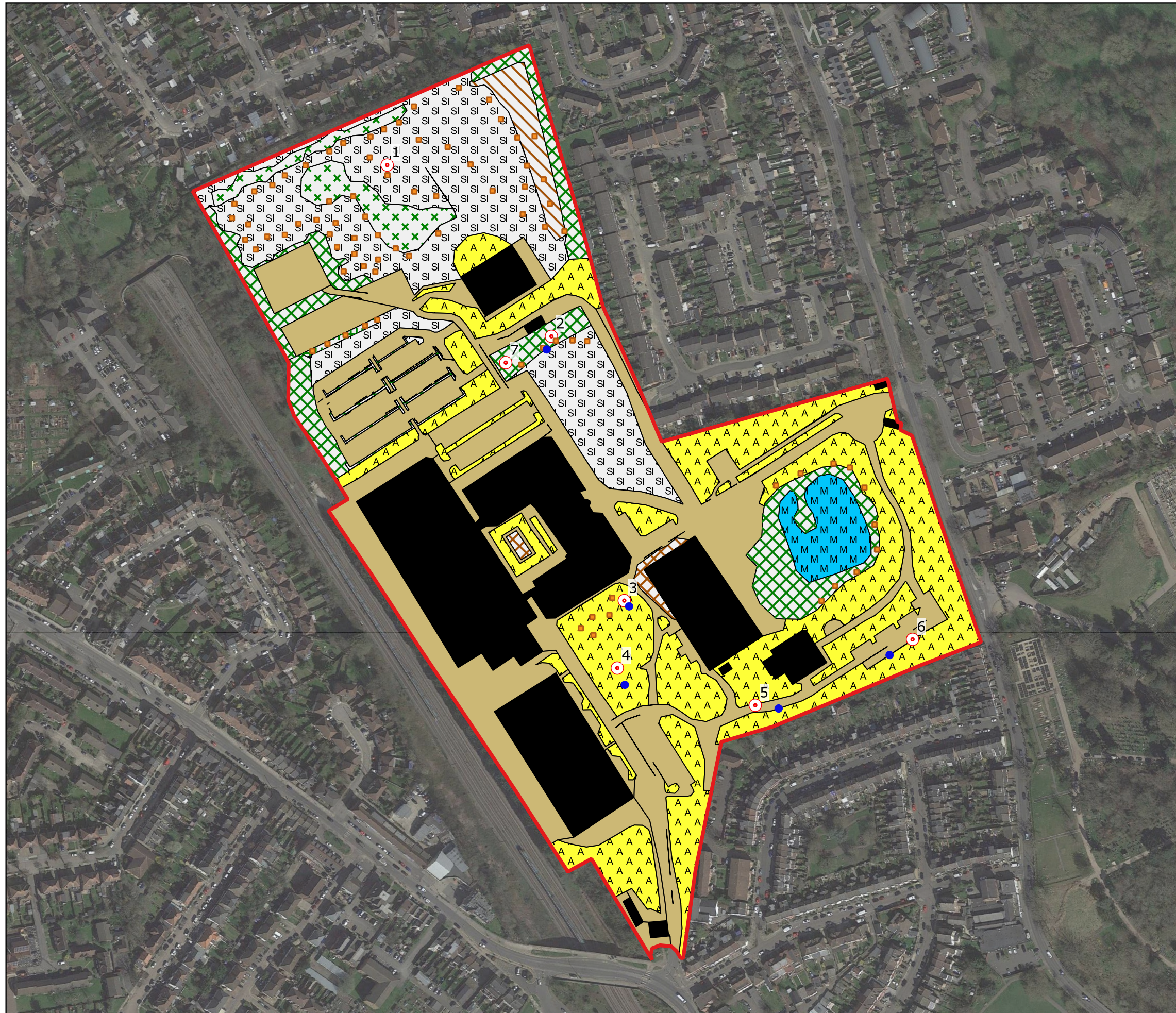
- Approximate Site Boundary
- ⊙ Target Notes
- ● Surveyor locations
- ■ Reptile mats

Habitats
- A2.1 - Dense Continuous Scrub
- A2.2 - Scattered Scrub
- B6 - Semi-Improved Grassland
- C3.1 - Tall Ruderal
- G1.2 - Standing Water - Mesotrophic
- J1.2 - Amenity Grassland
- J1.4 - Introduced Shrub
- J2.1.2 - Intact Hedge - Species Poor
- J2.3.2 - Hedge with Trees - Species Poor
- J3.6 - Buildings
- J5 - Hardstanding

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Fig 1.0 Site Plan and Habitat Map

0   100   200   300   400   500 m

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