MKA
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Biodiversity Gain Plan

and Urban Greening Factor Review

81 Belsize Park Gardens, Belsize Park, London, NW3 4NJ

Site	81 Belsize Park Gardens, Belsize Park, London, NW3 4NJ
Project number	140623
Client name / Address	Fine Arts College Ltd, Centre Studios, 41-43 Englands Lane, London, NW3 4YD

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Declaration of compliance

The information which we have provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

We are a Chartered Institute of Ecology and Environmental Management (CIEEM) Registered Practice. All of our ecologists are members of CIEEM and between them carry licences for the majority of protected species.

Validity of data

Unless stated otherwise the information provided within this report is valid for a maximum period of 24 months from the date of survey. If works at the site have not progressed by this time an updated site visit may be required in order to determine any changes in site composition and ecological constraints.

This report contains recommendations on measures for how this project might deliver BNG. These recommendations do not constitute a design for BNG. In submitting these recommendations, MKA Ecology has no Design Liability associated with these recommendations for BNG.

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1. EXECUTIVE SUMMARY

In April 2023 MKA Ecology Ltd was commissioned to undertake a Biodiversity Net Gain assessment and Urban Greening Factor Review of 81 Belsize Park Gardens, Belsize Park, London, NW3 4NJ . This Biodiversity Net Gain assessment has been prepared to detail how the biodiversity enhancements in the proposed scheme will lead to an overall benefit to biodiversity. In addition, an Urban Greening Factor has also been calculated. This factor has been developed for London to encourage greening of new developments and a greening value is calculated from the proposed scheme.

The Site, which covers a total of 0.07 hectares, comprises a building with a ground-based green wall of dense ivy *Helix hedera* and associated hardstanding. The current proposals are for the refurbishment and remodelling of the existing building and associated hardstanding to create education and performing arts facilities for Hampstead Fine Arts College. Included within the soft landscaping is an area of flower-rich perennial planting and the planting of a new tree along with new green infrastructure in the form of green roofs, an area of which will form a biosolar roof, ground-based green walls and permeable paving.

To provide an objective assessment of the potential value of the proposed biodiversity enhancements, the Defra Biodiversity Metric 4.0 (Natural England, 2023) has been applied. The measures, a proxy for biodiversity that use habitat types and their areas, have compared the state of the Site before (the existing condition) and after the completion of the proposed development. An Urban Greening Factor has been applied to the proposed development following the methodology developed in the London Plan (Greater London Authority, 2021).

This assessment exercise has calculated that the proposed development is likely to lead to a net gain of 878.11%, equating to 0.17 biodiversity units, provided that these habitats are created, managed and maintained appropriately and in line with a detailed management plan, as required under the Environment Act. A net gain percentage for hedgerow units and river units has not been calculated as no hedgerows or watercourses are present within the Site prior to development.

It should be noted that the predicted net-gain in biodiversity is reliant on the successful restoration and/or creation of habitats and their maintenance for the foreseeable future. It will be critical to ensure that appropriate management activities are put in place in order to achieve the desired condition of the proposed habitats. In particular, the projected target condition for the green roofs, including the biosolar roof (good) is dependent on solar panels not making up more than 50% of the area, the provision of a varied vegetation structure, the absence of non-native species, ongoing management ensuring that butterfly-bush *Buddleja davidii* remains absent and the provision of additional habitat features such as exposed substrate (i.e., sand, gravel), rocks or logs.

It is recommended that measures to ensure the successful creation and long-term management of proposed habitats are outlined in a Landscape and Ecology Management Plan (LEMP) for the Site.

The Urban Greening Factor for the proposed development is 0.32. The London Plan sets out score requirements of 0.30 for predominately commercial developments and therefore the current development proposals achieve this target.

In addition to meeting the targets for Biodiversity Net Gain and the Urban Greening Factor, further ecological features, such as bird boxes and bat boxes, will be included within development. Whilst not considered within the current metrics, these features will further enhance the Site for priority species and help deliver a sustainable development.

2. INTRODUCTION

2.1. Purpose

The purpose of this assessment is to review the existing biodiversity value of 81 Belsize Park Gardens, Belsize Park, London, NW3 4NJ, comparing this to the proposed development designs and calculating an overall biodiversity net change for the Site. The primary method of calculating this change is through a Biodiversity Net Gain (BNG) assessment, which follows the Defra Biodiversity Metric 4.0 (Natural England, 2023). As stated within the Environment Act (2021), BNG assessments must be accompanied by a Biodiversity Gain Plan (BGP) as part of the planning application. The aims of this BGP are to cover:

- How adverse impacts on habitats have been minimised;
- The pre-development biodiversity value of the onsite habitat;
- The post-development biodiversity value of the onsite habitat;
- The biodiversity value of any offsite habitat provided in relation to the development; and
- Any statutory biodiversity credits purchased.

In addition, an Urban Greening Factor (UGF) has been calculated based on the methodologies set out in the London Plan (Greater London Authority, 2021). The UGF is a tool to evaluate the quality and quantity of urban greening. It enables developments to demonstrate how they have included urban greening as a fundamental element of site and building design in order to meet the criteria of Policy G5 Urban Greening of the London Plan. The Plan sets out score requirements of 0.4 for predominately residential and 0.3 for predominately commercial developments. UGF target scores should be considered the minimum benchmark, not the maximum required.

2.2. Site description and context

The Site is shown on the map in Figure 1, in which the red line boundary reflects the extent of land ownership. Within this report this area is referred to as the Site or 81 Belsize Park Gardens, London. The Site is located in Belsize Park residential area south of Hampstead, London and is under the authority of the London Borough of Camden. The area of land ownership encompasses 0.07 hectares (ha) and is dominated by a four-storey building, of which an area of the eastern wall is covered with ivy to form a natural ground-based green wall, along with a small area of hardstanding at the north end of the Site. The Site is surrounded by urban infrastructure and residential buildings; there is a garden with a number of mature trees Immediately adjacent on the eastern boundary. This assessment relates to the area of land under site ownership (Figure 1), as the Biodiversity Net Gain assessment requires that management be guaranteed at the Site for a minimum of 30 years. Therefore, the small area of hardstanding in the north, including a bird cherry tree, and strips of the neighbouring garden that fall

within the planning application Red Line Boundary but outside the ownership boundary are not considered in this assessment.

2.3. Proposed development

The proposed development is shown on the map in Figure 2. The proposed development will include the remodelling of the existing building (i.e., B1) and the demolition of a ground floor corridor, along with associated access, hard and soft landscaping.

3. HABITATS

3.1. Present – baseline condition

The Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA), carried out by MKA Ecology Ltd on 25th April 2023 (MKA Ecology Ltd, 2023), identified that the Site comprised predominantly built infrastructure, in the form of a building and an associated area of hardstanding. Ruderal and ephemeral vegetation was scattered within the Site. There is a large area of wall which is covered by dense ivy, forming a natural ground-based green wall. The PEA/PRA survey identified a bird cherry *Prunus padus* tree located to the north of the building; however, this tree falls outside the area of land ownership for the site and so has been excluded from the baseline calculation.

The habitats at the Site were mapped during the Preliminary Ecological Appraisal and are presented in Figure 1. The areas occupied by each habitat type are detailed in Table 4 in the next section.

A condition assessment of the baseline habitats was conducted on 25th April 2023. More information on how habitat conditions were assigned is provided in Appendix .

There are no irreplaceable habitats within the redline boundary. Please note that any impacts on designated sites and protected species that may result from the development have been addressed in the Preliminary Ecological Appraisal, which also outlines plans for mitigation and enhancement, where required (MKA Ecology Ltd, 2023).

3.2. Future – proposed landscape and enhancements

The proposed development will include the remodelling of the existing building (i.e., B1) and the demolition of a ground floor corridor, along with associated access, hard and soft landscaping and associated works. Included within the soft landscaping is an area of flower-rich perennial planting and the planting of a new tree, along with new green infrastructure in the form of green roofs, an area of which will form a biosolar roof, ground-based green walls and permeable paving.

The areas for the proposed habitats were estimated from the proposed landscape plan (CDC Studio, 2023), presented within Figure 2 below, and it is these proposed habitats that will form the basis of the calculation of 'net-change' in biodiversity using the Defra metric and the calculation of the UGF value based on the methodology set out in the London Plan.

Figure 1: Baseline habitats at 81 Belsize Park Gardens, London

Figure 2: Proposed landscaping plans 81 Belsize Park Gardens, London (plan courtesy of CDC Studio, 2023)

4. METHODOLOGIES

4.1. Biodiversity net gain

This Biodiversity Net Gain assessment was conducted by Alisa Davies Qualifying CIEEM, Graduate Ecologist at MKA Ecology Ltd. Alisa has had one season's experience conducting Biodiversity Net Gain assessments and is considered a competent assessor under the Biodiversity Metric 4.0 requirements (Natural England, 2023). The Biodiversity Net Gain Plan was reviewed by Lydia Ennis ACIEEM, Senior Ecologist at MKA Ecology Ltd. Lydia has two years' experience conducting Biodiversity Net Gain assessments and is considered a competent assessor under the Biodiversity Metric 4.0 requirements (Natural England, 2023).

The process of achieving and assessing Biodiversity Net Gain should follow the following principles and rules, as set out within *Biodiversity Net Gain, Good Practice Principles for Development* (Baker *et al.,* 2019) (Table 1) and *The Biodiversity Metric 4.0. User guide* (Natural England, 2023) (Table 2).

Table 1: The UK's good practice principles for biodiversity net gain (Baker *et al.,* 2019)

Principle	In practice
1. Apply the mitigation hierarchy	Do everything possible to first avoid and then minimise impacts on biodiversity. Only as a last resort, and in agreement with external decision makers where possible, compensate for losses that cannot be avoided. If compensating for losses within the development footprint is not possible or does not generate the most benefits for nature conservation, then offset biodiversity losses by gains elsewhere.
2. Avoid losing biodiversity that cannot be offset elsewhere	Avoid impacts on irreplaceable biodiversity – these impacts cannot be offset to achieve NNL/net gain.
3. Be inclusive and equitable	Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluating the approach to net gain. Achieve net gain in partnership with stakeholders where possible.
4. Address risk	Mitigate difficulty, uncertainty and other risks to achieving net gain. Apply well-accepted ways to add contingency when calculating biodiversity losses and gains in order to account for any remaining risks, as well as to compensate for the time between losses occurring and gains being fully realised.
5. Make a measurable net gain contribution	Achieve a measurable, overall gain1 for biodiversity and the services ecosystems provide while directly contributing towards nature conservation priorities

Principle	In practice
6. Achieve the best outcomes for biodiversity	Achieve the best outcomes for biodiversity by using robust, credible evidence and local knowledge to make clearly-justified choices when: • Delivering compensation that is ecologically equivalent in type, amount and condition, and that accounts for the location and timing of biodiversity losses • Compensating for losses of one type of biodiversity by providing a different type that delivers greater benefits for nature conservation • Achieving Net Gain locally to the development while also contributing towards nature conservation priorities at local, regional and national levels • Enhancing existing or creating new habitat • Enhancing ecological connectivity by creating more, bigger, better and joined areas for biodiversity
7. Be additional	Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e. do not deliver something that would occur anyway).
8. Create a Net Gain legacy	Ensure Net Gain generates long-term benefits by: • Engaging stakeholders and jointly agreeing practical solutions that secure Net Gain in perpetuity • Planning for adaptive management and securing dedicated funding for long-term management • Designing Net Gain for biodiversity to be resilient to external factors, especially climate change • Mitigating risks from other land uses • Avoiding displacing harmful activities from one location to another and • Supporting local-level management
9. Optimise sustainability	Prioritise Biodiversity Net Gain and, where possible, optimise the wider environmental benefits for a sustainable society and economy.
10. Be transparent	Communicate all Net Gain activities in a transparent and timely manner, sharing the learning with all stakeholders.

Table 2: Biodiversity net gain rules (Natural England, 2023)

Rule	In practice
1	Competency requirements must be complied with.
2	Biodiversity unit outputs are unique to this metric. The results of other metrics, including previous versions of this metric, are not comparable to those of this metric. The three types of biodiversity units generated by this metric (area, hedgerow and watercourse) cannot be summed, traded, or converted between modules.
3	Trading rules must be followed; 'trading down' must be avoided. Losses of habitat are to be compensated for on a 'like for like' or 'like for better' basis. New or restored habitats should aim to achieve a higher distinctiveness and/or condition than those lost. Losses of irreplaceable or very high distinctiveness habitat cannot adequately be accounted for through the metric.
4	Losses and deterioration of irreplaceable or very high distinctiveness habitat cannot be accounted for through this metric.
5	In exceptional ecological circumstances, deviation from this metric methodology may be permitted by the relevant consenting body or planning authority. Any deviation must be fully justified and evidenced following advice set out in the User Guide (Natural England, 2023)

4.2. Assignment of habitats

To establish whether the proposed development will contribute positively to biodiversity we use the Natural England Biodiversity Metric 4.0 (Natural England, 2023). This method uses habitat as a proxy for biodiversity and its primary application is to provide planners and developers with a method of establishing how much and what type of habitats should be created or enhanced in order to ensure that the impacts of a development do not result in a net loss of biodiversity. Habitats are assigned the following scores:

- Distinctiveness: A measure of the type and importance of a habitat.
- Condition: A measure of the present or predicted condition of a habitat type.
- Strategic significance: How a habitat is regarded within Local Planning Policy.

For proposed habitats, where there is an attempt to predict the habitat type following establishment additional handicaps or risk scores are imposed representing the following factors:

- Difficulty: More difficult habitats incur a greater risk.
- Time to condition: In general, it takes longer for habitats to reach a better condition, plus certain habitats by their very nature take longer to create or restore.
- If habitats are created off-site, an additional risk score is applied. This will not apply in the present case.

The multipliers used in habitat assignment in the Biodiversity Net Gain Metric are detailed further in Table 3 below.

Table 3: Multipliers used in the calculation of Biodiversity Net Gain

Multiplier	When applied	Description
Distinctiveness	Before and after	A measure of the type of habitat, automatically assigned within the Metric 2.0. Habitats with greater value are assigned a higher score
Condition	Before and after	The condition of the habitat. Uses the Technical Supplement (*Crosher et al. 2019a*); Higher levels of condition give rise to greater values. In some cases, no condition assessment is required and these habitats are automatically allocated a score.
Strategic significance	Before and after	Whether a habitat is important within its local context.
Time to target condition	After	Used to account for the fact that habitat creation as part of a development is rarely instant. A 'handicap' is applied, with habitats that take longer to establish resulting in a greater reduction.
Difficulty of creation/restoration	After	Habitats that are more difficult to create/restore cause a reduction in the biodiversity unit as they are associated with a greater risk of failure.
Spatial risk	After	Habitat that is created at a greater distance away from the development site carries a greater risk of removing other natural habitats.

Multiplier	When applied	Description
Advanced and delayed habitat creation	After	Used to account for situations where there is a mismatch between a negative impact on biodiversity and work to create or enhance the 'post-intervention habitats'. This can either be in the form of habitat creation occurring in advance or being delayed beyond the point of baseline losses.

Further detail on how the metric is calculated is provided in the aforementioned publications, with more details for this specific assessment provided in Appendix 1 and Appendix 2.

4.3. Trading Summary

The Defra Biodiversity Metric 4.0 includes a Trading Summary which must be satisfied to achieve a positive outcome in the Net Gain assessment. The trading rules ensures that habitat losses are compensated for on a "like for like" or "like for better" basis. Newly created or enhanced habitats should achieve a higher distinctiveness and/or condition than those lost. More information is provided in Table 2 (see Rule 3).

Further details on how the metric is calculated is provided in the aforementioned publications, with more site-specific detail provided in Appendix 1 and Appendix 2.

4.4. Mapping habitats

Current habitats were mapped and areas calculated using QGIS during the Preliminary Ecological Appraisal (see Table 4 for details of habitat types). The proposed habitats were calculated in QGIS using digitised and geo-referenced versions of the proposed landscape plans developed by CDC Studio (2023), as shown on Figure 2 above.

4.5. Hedgerows

Hedgerows, given their unique linear characteristic and their position as 'edge habitats' are treated as linear features in the Biodiversity Metric calculator and are calculated as 'biodiversity metres'. The metrics calculated for hedgerows have therefore been calculated and presented separately. No hedgerows are present on site and therefore this category is omitted in this assessment.

4.6. Rivers and streams

Rivers and streams, given their linear form and important role in habitat connectivity, are treated as linear features in the Biodiversity Metric calculator and are calculated as 'biodiversity metres'. The metrics calculated for rivers and streams have therefore been calculated and presented separately. No rivers are present on site and therefore this category is omitted in this assessment.

4.7. Sharing data

Relevant ecological data collected during baseline habitat and protected species surveys at the Site will be shared with Greenspace Information for Greater London (GiGL) following acceptance of this Biodiversity Net Gain Plan.

4.8. Assumptions and constraints

Several assumptions are made to enable this biodiversity net gain assessment. The primary assumptions are listed below:

- The net gains in biodiversity that are estimated are reliant on the successful restoration and/or creation of habitats and their maintenance for the foreseeable future; this is particularly true of the creation of biodiverse green roofing and planting of urban trees.
- It is assumed that there will be no time delay in establishing the habitats.
- The area assigned to the baseline ground-based ivy green wall is a close approximation based on site photography and measuring approximate coverage on existing elevation drawings. However, deviation from the true extent is likely to be small and would not affect the overall conclusions or outcome of the Biodiversity Net Gain assessment.

Table 4: Attribution of multiplier levels to each habitat type for the existing and proposed development

Habitat type and area (onsite)	Multiplier (and score)					
	Distinctiveness (automatically assigned)	Condition	Strategic significance	Time to target condition (years)	Difficulty of creation/ enhancement	Spatial risk
Current habitats						
Developed land; sealed surface 0.0723ha	Very low (0)	N/A	Low (1)	-	-	-
Ground-based green wall 0.0085ha	Low (2)	Poor (1)	High (1.15)	-	-	-
Proposed habitats (newly created)						
Biodiverse green roof 0.0282ha	Medium (4)	Good (3)	High (1.15)	10 (0.7)	Medium (0.67)	Within site
Urban tree 0.001ha	Medium (4)	Moderate (2)	High (1.15)	27 (0.382)	Low (1)	Within site
Vegetated garden 0.0013ha	Low (2)	N/A	High (1.15)	1 (0.965)	Low (1)	Within site
Ground-based green wall 0.0015ha	Low (2)	Poor (1)	High (1.15)	1 (0.965)	Medium (0.67)	Within site

4.9. Urban greening factor

The Urban Greening Factor (UGF) is calculated using the methodology set out within the London Plan (Greater London Authority, 2021). The methodology enables a value to be placed on the greening value of the proposed development based on the habitat types that will be present. Habitat types and land uses are assigned a predefined factor value based upon their potential to provide ecological and environmental benefits such as biodiversity conservation, well-being and climate change adaptation.

The urban greening factor considers a range of habitats and land uses, such as trees, green roofs, green walls and rain gardens. Table 5 below provides a list of the surface cover types and their associated urban greening factor.

Table 5: Surface cover types and associated urban greening factor

Surface cover type	Urban greening factor
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1.0
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1.0
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8
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.	0.8
Extensive green roof with substrate of minimum settled depth of 80mm (or 60mm beneath vegetation blanket) – meets the requirements of GRO Code 2014.	0.7
Flower-rich perennial planting.	0.7
Rain gardens and other vegetated sustainable drainage elements.	0.7
Hedges (line of mature shrubs one or two shrubs wide).	0.6
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6
Green wall –modular system or climbers rooted in soil.	0.6
Groundcover planting.	0.5
Amenity grassland (species-poor, regularly mown lawn).	0.4
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3
Water features (chlorinated) or unplanted detention basins.	0.2
Permeable paving.	0.1
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0.0

The urban greening factor for a development is calculated in the following way;

(Factor A x Area) + (Factor B x Area) + (Factor C x Area) etc. divided by the total site area.

5. RESULTS

5.1. Biodiversity net gain

The overall comparison of biodiversity units is presented in Table 6 below. The calculator used to derive these figures is provided in Appendix 2. Under the current proposals, there will be an overall net gain in biodiversity of 878.11%, equivalent to 0.17 biodiversity units. These gains are dependent on the proposed habitats being subject to appropriate management and maintenance. As set out within the Environment Act, a management plan should provide guidance on habitat creation, management and maintenance for 30 years.

Table 6: Results of biodiversity metric calculations

Habitat	Biodiversity units (current)*	Biodiversity units (proposed)*	Biodiversity net-change*	Net percentage change
Habitats	0.02	0.19	0.17	878.11%

* Habitat areas are calculated as biodiversity hectares, hedgerows and rivers as biodiversity metres

The largest number of units generated within area habitats is due to the creation of biodiverse green roofs. Note that the above calculations are modelled on a proposed 0.0282ha of green roof, including a proposed gravel border and area under photovoltaic units which will provide variation in habitat for invertebrates within the context of the green roof, at 'good' condition. In order to achieve a good condition, the green roofs will have to provide varied vegetation structure, a range of flowering plants with no non-native species and other habitat types, such as exposed substrate, rocks or logs (see Appendix 1).

5.2. Urban Greening Factor

The Urban Greening Factor scores for the Site are shown in Table 7 below. The calculator used to derive these figures is provided at Appendix 3.

Table 7: Urban Greening Factor scores for the proposed development

Surface cover type	Urban greening factor	Site area (m²)	Site urban greening factor
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained on site (retained trees, area calculated by using the street tree calculator in the Biodiversity Metric 3.0)	1	0	0
Wetland or open water (semi-natural; not chlorinated) maintained or established on site	1	0	0
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm – see livingroofs.org for descriptions	0.8	0	0
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	0.8	10	8
Extensive green roof with substrate of minimum settled depth of 80mm (or 60mm beneath vegetation blanket) – meets the requirements of GRO Code 2014	0.7	282	197.4
Flower-rich perennial planting – see RHS perennial plants for guidance	0.7	13	9.1
Rain gardens and other vegetated sustainable drainage elements	0.7	0	0
Hedges (line of mature shrubs one or two shrubs wide)	0.6	0	0
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree	0.6	0	0
Green wall – modular system or climbers rooted in soil	0.6	15	9
Groundcover planting	0.5	0	0
Amenity grassland (species-poor, regularly mown lawn)	0.4	0	0
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014	0.3	0	0
Water features (chlorinated) or unplanted detention basins.	0.2	0	0
Permeable paving	0.1	98	9.8
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone)	0	330	0
Total area		**723**	
Total site greening factor			**233.3**
Urban greening factor of proposed development (total site greening factor/total area)			**0.32**

The calculated urban greening factor for the proposed development is 0.32. The London Plan sets out score requirements of 0.30 for predominately commercial developments and therefore the current development proposals achieve this target.

The largest contributor to the urban greening factor is the area of green roofs which have been assigned under the category 'Extensive green roof with substrate of minimum settled depth of 80mm (or 60mm beneath vegetation blanket) – meets the requirements of GRO Code 2014'. Under current plans, all green roof areas will be designed as 'Biodiverse green roof' to in alignment with the Biodiversity Net Gain metric, with a substrate depth of between 80 - 150mm, with at least 50% at 150mm.

5.3. Recommendations

The overall net gain in biodiversity units predicted in this assessment is reliant on the successful restoration and/or creation of habitats and their maintenance for the foreseeable future. It is important that habitats meet the target condition estimated in this assessment and this will require careful consideration during both the planning and construction phase. It is particularly important that the green roofs reach and maintain their respective target structure and condition.

It is recommended that a Landscape and Ecology Management Plan (LEMP) is produced for the Site. This will outline measures for the successful creation and management of habitats for a minimum of 30 years to ensure the target conditions for each habitat type is reached as outlined in this assessment.

> **Recommendation 1**
> Produce a Landscape and Ecology Management Plan (LEMP) for the Site covering a minimum of 30 years post-development.

6. CONCLUSIONS

The Site at 81 Belsize Park Gardens, Belsize Park, London, NW3 4NJ is being proposed for redevelopment to refurbish and remodel the existing building and associated hardstanding to provide education and performing arts facilities for Hampstead Fine Arts College, along with the creation associated access, hard and soft landscaping and associated works. The proposals include several biodiversity enhancement measures, including flower-rich perennial planting and a new tree, along with new green infrastructure in the form of green roofs, an area of which will form a biosolar roof, ground-based green walls and permeable paving.

The use of the Defra Biodiversity Metric 4.0 to calculate measures of biodiversity for the existing and proposed habitats confirm that the proposed development is likely to lead to the gain of 0.17 units, which equates to an overall net gain of 878.11% due to the overall absence of ecologically valuable habitats in the baseline, and the creation of a number of green infrastructure elements in the proposed design. Gains are contingent on habitats being created, managed and maintained appropriately and in line with a detailed management plan, as required under the Environment Act.

The Urban Greening Factor for the proposed development is 0.32. The London Plan sets out score requirements of 0.30 for predominately commercial developments. Accordingly, it can be seen that the current development proposals meet this target.

Other ecological features, such as bird boxes and bat boxes, are proposed to be included within development. Whilst not considered within the current metrics, these features will further enhance the Site for priority species and help deliver a sustainable development.

7. REFERENCES

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CDC Studio (2023c) *Proposed Roof Plan. 4279 CDC XX RL DR A (GA) 110. Rev H.* CDC Studio: Cambridge

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Greater London Authority (2021) *The London Plan.* Greater London Authority: London.

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8. APPENDICES

Appendix 1: Assignment of biodiversity metric multipliers

Strategic significance

The Site does not fall in a formally recognised strategic area for nature recovery, either within Camden or the wider London context. Strategic significance was set to a baseline of low for baseline and newly created 'developed land; sealed surface' habitats (i.e. buildings and hardstanding).

Urban greening, including green roofs, green walls, street trees and flower-rich planting in gardens are all formally identified and targeted within the Camden Biodiversity Action Plan (2017), while urban trees, green roofs and green walls are identified as priority habitats in the London Plan (2021). Therefore, all were assigned high strategic significance.

Condition

The below tables detail the rationale for the condition assessments made for each habitat type.

Current habitats

Urban – Ground-based green wall

	Condition Assessment Criteria	Met?	
1	*Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e. scrub, grassland, herbs) should not account for more than 80% of the total habitat area.*	The green wall comprises entirely of ivy *Helix hedera,* with neighbouring occurrence of Virginia creeper *Parthenocissus quinquefolia* and so does not provide a varied vegetation structure with more than a single ecotone.	x
2	*There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife.* *NB - To achieve GOOD condition, criterion 2 must be satisfied by native species only (rather than non-natives beneficial to wildlife).*	Ivy provides a valuable source of nectar but the green wall as a whole does not provide a range of flowering plants to support insects at multiple times of year.	x
3	*Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total vegetated area.* *NB - To achieve GOOD condition, criterion 3 must be satisfied by a complete absence*	There are occurrences of Virginia creeper, listed on Schedule 9 of the Wildlife and Countryside Act 1981, and butterfly bush close to the area of dense ivy; it is unclear whether the area of green wall also contains Virginia creeper.	x

	of invasive non-native species (rather than <5% cover).	
*	**Target Condition: Poor** Meets none of the three criteria.	

Other habitats

Habitat	Condition	Comments
Urban - Developed land; sealed surface (buildings and hardstanding)	NA	Pre-assigned condition in metric.

Proposed habitats: newly created

Urban – Biodiverse green roof

	Condition Assessment Criteria	Met?	
1	*Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e., scrub, grassland, herbs) should not account for more than 80% of the total habitat area.*	This criterion will be achieved if green roof areas, including those around and underneath the solar panels, are designed and managed with varied physical structure and plant species. Further measures will be detailed to ensure the creation of a varied ecotone within the LEMP to be produced.	✓
2	*There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife.* *NB - To achieve GOOD condition, criterion 2 must be satisfied by native species only (rather than non-natives beneficial to wildlife).*	This criterion will be achieved if the areas of green roof are designed and managed appropriately with native wildflower species. Further measures relating to the species composition will be detailed within the LEMP to be produced.	✓
3	*Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total vegetated area.* *NB - To achieve GOOD condition, criterion 3 must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).*	Considered to be achievable with appropriate and active management. Invasive species, including butterfly-bush and Virginia creeper, need to be absent to achieve this condition. These species are currently present onsite and so site substrate should not be used in construction of the green roof. Even so, given the likely high density of buddleia in the local area, active management will be needed to keep the roof free of this species. Such measures will be detailed within the LEMP to be produced.	✓
	The roof has a varied depth of 80 – 150mm; at least 50% is at 150mm and is planted and seeded with wildflowers and sedums or is pre-prepared with sedums and wildflowers. *NB – To achieve Good condition some additional habitat, such as sand piles, stones, logs etc are present.*	Should be achieved if coverage of solar panels does not exceed 50% of the total green roof area. Current estimated coverage of solar panels is under 50%. The green roofing areas are planned to have a varied depth of 80 – 150mm with at least 50% at 150mm. Each green roof area will have a border of gravel which will provide additional variety in habitat to support invertebrates.	✓
*	**Target Condition: Good**		

	Predicted to meet all core criteria, along with the additional criterion for biodiverse green roofs. This is contingent on a) providing a varied vegetative structure; b) non-native species, including butterfly-bush and Virginia creeper, being completely absent from the green roof; c) the solar panels not occupying more than 50% of the total green roof area; and d) the provision of additional habitat features such as exposed sand, gravel, rocks or logs.	

Urban – Ground-based green wall

	Condition Assessment Criteria	Met?	
1	*Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e. scrub, grassland, herbs) should not account for more than 80% of the total habitat area.*	Given the nature of green walls, a varied vegetation structure is likely to be difficult to achieve and the green wall will likely form a single ecotone.	x
2	*There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife.* *NB - To achieve GOOD condition, criterion 2 must be satisfied by native species only (rather than non-natives beneficial to wildlife).*	Conservative prediction: a diverse range of native flowering plant species may be difficult to achieve for a green wall.	x
3	*Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total vegetated area.* *NB - To achieve GOOD condition, criterion 3 must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).*	Maintenance of this habitat is to be provided within a future management plan, with recommendations relating to the removal of non-native species that develop within these areas. Provided this is followed, it is considered that this criterion can be met.	✓
*	**Target Condition: Poor** Predicted to meet one criterion.		

Urban – Urban trees

	Condition Assessment criteria	Met?	
1	*More than 70% of trees are native species.*	The tree will be a native species. The species recommended within Camden Biodiversity Action Plan for urban tree planting are recommended in the Preliminary Ecological Appraisal report (MKA Ecology Ltd, 2023)	✓
2	*Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.*	The tree automatically passes as an individual tree.	✓
3	*More than 50% of trees are mature or veteran.*	The tree will initially be young but it is anticipated that these trees will be allowed to mature. However, this will extend beyond the thirty-year guidance provided within the Biodiversity Gain Plan and future management plan.	x
4	*There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or*	It is unclear whether the tree will need to be pollarded or regularly pruned as it may partially be	x

	herbicide use. There is no current regular pruning regime so the trees retain >75% of expected canopy for their age range and height.	oversailing the adjacent road. Therefore, it is conservatively predicted that this criterion will not be met.	
5	*Management regime has encouraged micro habitat sites for birds, mammals and insects e.g. presence of deadwood, cavities or loose bark etc.*	Given the location of the trees within the public spaces, the inclusion of deadwood within the tree canopy is considered to be a health and safety concern such that the inclusion of this type of feature is not considered possible.	x
6	*More than 20% of the tree canopy area is oversailing vegetation beneath.*	Under current plans, the tree will be planted oversailing an area of flower-rich perennial planting.	✓
*	**Condition: Moderate** Predicted to meet the conditions of criteria 1, 2 and 6.		

Appendix 2: Biodiversity Net Gain calculator

As attachment.

Appendix 2: Biodiversity Net Gain calculator

Appendix 3: Urban Greening Factor calculator

As attachment.

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