

St Andrews Gardens, Gravesend, Kent

Biodiversity Net Gain Assessment

A report on behalf of

Gravesham Borough Council

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Site Details

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Central OS grid reference	TQ 6484 7443
Client	Gravesham Borough Council
Report title	Biodiversity Net Gain Assessment



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1 INTRODUCTION

This document has been produced by Ruth Testa MSc MCIEEM of Lakeway Ecological Consultancy Ltd. It presents a Biodiversity Net Gain Assessment for St Andrews Gardens, Gravesend, Kent (central OS grid reference: TQ 6484 7443). The works were commissioned by Gravesham Borough Council.

This report provides a summary of the results of a Biodiversity calculation using the Statutory Biodiversity Metric published by Natural England in November 2023 (updated July 2025). The UK Habitats data was extracted from QGIS and the results of this and the condition assessments were then entered into the Metric Calculation Tool along with data on the proposed habitat creation. The spreadsheet that contains the calculation is provided with the habitat condition sheets alongside this summary report.

The area within the application boundary is hereafter referred to as the 'Site'.

1.1 Context

The Statutory Biodiversity Metrics¹ are the standard methods in England for measuring biodiversity change from development in order to demonstrate that policy has been met. Furthermore, the metric is designed to quantify biodiversity to inform and improve planning, design and decision-making. It can support planning applications to calculate the losses and gains in biodiversity from development.

Proposals include the relandscaping of an area of public open space. Plans are shown on the accompanying drawings issued by Mei Loci Landscape Architects.

1.2 Aims and Objectives

This report aims to bring together the Ecological Impact Assessment (Lakeway Ecology, 2026a) and the Biodiversity Metric Calculations (Lakeway Ecology, 2026b), to provide a rationale for the approach decided upon and to demonstrate how a 10% Biodiversity Net Gain will be achieved on Site.

This report is based on guidance provided by CIEEM² and is tailored to the predicted impacts from the development described above. It is not an Ecological Impact Assessment, and addresses requirements related to Biodiversity Net Gain only.

1.3 Personnel

The habitat survey, site appraisal and reporting were carried out by Senior Ecologist Ruth Testa MSc. Ruth has 17 years professional experience of ecology and wildlife conservation in both the voluntary and private sectors. She has extensive experience of carrying out quantitative and qualitative ecological surveys, and both writing and peer reviewing ecological reports. Ruth is a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM) and is bound by their professional Code of Conduct. Ruth is registered to use the Level 1 class licence to survey for bats (Natural England reference 2025-86080-CL17-BAT).

¹<https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides#:~:text=The%20statutory%20biodiversity%20metric%20tool,the%20statutory%20biodiversity%20metric%20tool.>

² CIEEM (2021). Biodiversity Net Gain Report and Audit Templates Chartered Institute of Ecology and Environmental Management, Winchester, UK.

This report has been peer reviewed by Principal Ecologist Chris Turner BSc MCIEEM. Chris has 14 years professional experience as an ecological consultant. He has extensive experience in quantitative field surveys and assessments and with expertise in habitats, although primarily a specialist in the mitigation of impacts to legally protected species.

Chris is registered to use a Level 2 class licence to survey for bats (Natural England reference 2025-86083-CL18-BAT) a Level 1 class licence to survey for hazel dormouse (Natural England reference 2026-87639-CL10a-DOR) and a class licence to survey for barn owl (Natural England reference 2026-87640-CL29-OWL).

2 SITE DESCRIPTION

2.1 General

The Site comprises approximately 0.235ha of public open space, comprising trees, amenity grassland and hardstanding. It lies on the northern edge of Gravesend, with the Thames estuary forming the northern boundary (with a sea wall) and urban areas to all other aspects. The Site is poorly connected to semi-natural habitats due to its location; however, the blue corridor is well defined, and leads to the wider landscape. A location plan is provided as **Diagram 1** overleaf. Photographs are included within the text.



Diagram 1: Site Location (© Bing)

3 METHODS

3.1 Condition Assessment

The surveyor visited the site in January 2026 and recorded all identifiable plant species with an indication of their relative abundance following the DAFOR scale. The purpose of the survey was to complete a baseline habitat survey of the Site using the UK Habitats Classification system. The UKHab-Professional system was used as reference with habitats assigned to either Level 3 or to Level 4 where applicable, the



minimum mapping unit used was 25m² and all Secondary Codes were utilised where the relevant conditions pertained.

Using the open-source software QGIS, the habitats were then digitally mapped according to UK Habitats Classification to allow accurate quantification of area in hectares (ha) and for a baseline habitat map to be produced for the PEA and this subsequent BNG summary report (**Figure 1**).

3.2 Biodiversity Net-Gain Calculation

The UK Habitats data was extracted from QGIS and the results of this were entered into the Statutory Metric along with data on the proposed habitat creation. The spreadsheet that contains the calculation is provided alongside this summary report.

3.3 Information to Inform the Assessment

The calculation for post development habitat areas and created habitats has been informed by the soft landscaping scheme provided by the client. The habitat types within the landscaping scheme were re-classified during the calculation exercise with an explanation provided in the results section of this report. The Local Plan was consulted to determine if the site fell in any policy areas that could construe a level of Strategic Significance, a variable described within the metric.

3.4 Constraints

Care has been taken to ensure that balanced advice is provided on the information available and collected during the study periods, and within the resources available for the project. However, the possibility of important ecological features being missed due to survey timings, absence during surveys or the year of survey cannot be ruled out. In addition, the lack of evidence or records of protected species on Site does not preclude their presence from Site.

All areas of the Site were accessible to survey. Whilst the survey was undertaken during the winter, the trees were fully visible without their leaves, and it was possible to obtain an accurate assessment of both grassland type and condition.

3.5 BNG Hierarchy

In line with guidance, the development meets the BNG hierarchy as follows:

- 🌳 A single irreplaceable habitat (veteran willow tree) is present and this will be retained.
- 🌳 All medium, high and very high distinctiveness habitats within the Site will be retained.
- 🌳 All required gains will be delivered on Site, by creation of new habitats.

It has not been possible to enhance existing habitats due to the public nature and management options of the Site.

4 HABITAT BASELINE, CREATION & ENHANCEMENT

4.1 Baseline Habitat Descriptions

The Site extends to 0.235ha of public open space, comprising trees, amenity grassland and hardstanding. It lies on the northern edge of Gravesend, with the Thames estuary forming the northern boundary (with a sea wall) and urban areas to all other aspects as described in **Table 1**.

Table 1: Habitat Descriptions

Habitat Description	Photograph
Modified grassland The Site is an area of public open space with amenity grassland (modified grassland g4) being the dominant habitat. Species present include; perennial rye <i>Lolium perenne</i>, Yorkshire fog <i>Holcus lanatus</i>, ribwort plantain <i>Plantago lanceolata</i>, common daisy <i>Bellis perennis</i>, smooth sow thistle <i>Sonchus oleraceus</i>, bittercress <i>Cardamine</i> sp., rough hawkbit <i>Leontodon hispidus</i> and dandelion <i>Taraxacum</i> agg. The sward was varied in height, with an average of 3 species per m², and large areas of bare ground.	
Individual trees Eight individual trees are present within the Site boundary. These include silver birch <i>Betula pendula</i>, Norway maple <i>Acer platanoides</i> and weeping willow <i>Salix babylonica</i>. The trees varied in size from small (7.5-30cm diameter at breast height), medium (30-60cm diameter at breast height) to large (60-90cm diameter at breast height). The condition of the trees varied from moderate to good. The willow is classed as a veteran tree, and is therefore an irreplaceable habitat. This is due to its size, decay and management.	 

Habitat Description	Photograph
Non-native hedgerow A non-native hedgerow c. 1.5m high is present to the southern boundary, on the western end of the Site.	
Ornamental planting/Introduced shrub An area of ornamental planting is present in the west of the Site. Species include holly <i>Ilex aquifolium</i> and dog rose <i>Rosa canina</i>, amongst other non-native species.	
Hard standing Areas of hardstanding and paving are present throughout the Site.	

4.2 Habitat Retention, Enhancement & Creation

Details on habitat creation and management are contained within **Appendix 1**.

4.2.1 Modified grassland

0.0632ha of poor condition modified grassland will be retained, and a further 0.0368ha will be created.

4.2.2 Individual trees

The existing trees will be retained, and a further 16 planted. The veteran willow (irreplaceable habitat) will be retained.



4.2.3 Ornamental planting/Introduced scrub

0.0033ha of planting will be retained, and a further 0.0301ha created.

4.2.4 Hedgerows

The existing non-native hedgerow will be lost. A new native hedgerow will be planted, measuring 10m.

4.2.5 Developed land, sealed surface

0.1004ha of paving and hard surfacing will be present following the redevelopment.

5 BNG CALCULATIONS

Table 2 summarises the results of the BNG calculations.

Table 2 – BNG Headline Results

	Units	Value	
On-site baseline	Habitat units	0.82	
	Linear units	0.01	
	River units	n/a	
On-site post intervention	Habitat units	0.95	
	Linear units	0.02	
	River units	n/a	% Change
On-site net change	Habitat units	0.13	15.29
	Linear units	0.01	60.83
	River units	n/a	0

6 NEXT STEPS

Whilst the net gain calculations have demonstrated that a 15.29% BNG can be achieved for area habitats, and 60.83% for linear habitats, the implementation and future management of these habitats is necessary to ensure that the strategy is effective in the long term.

The applicants will deliver the strategy as they will have ownership of the public open space.

Owing to the relatively minor nature of the proposals, it is expected that there will be minimal delay to the creation of habitats and implementation of habitat condition improvements such that gains should be noticed in the first growing season after completion of works.

The plan and habitat condition should be monitored yearly by the applicants, and an adaptive approach will be taken to ensuring that the habitats develop as prescribed.

7 CONCLUSIONS

The existing habitats are of low-moderate ecological value currently, and the enhancements proposed have meant that it is possible to achieve 15.29% (area habitats) and 60.83% (linear habitats) biodiversity net-gain within the redline boundary. This is in line with local and national policy.



8 REFERENCES

BSI (2013) BS42020: 2013 *Biodiversity. Code of practice for planning and development*. British Standards Institution, London, UK.

CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal* version 1.2. Chartered Institute of Ecology and Environmental Management, Winchester.

DEFRA (2011) *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*.

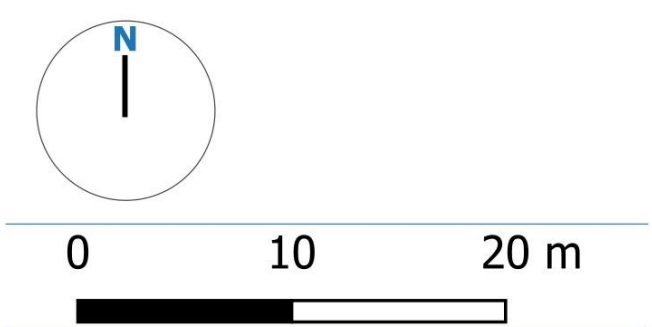
Lakeway Ecology (2026a) 25-1301-EclA-RT *Ecological Impact Assessment – St Andrews Gardens Rev 2*

Lakeway Ecology (2026b) 25-1301 *The Statutory Biodiversity Metric Calculation Tool – St Andrews Gardens Rev 2*

Lakeway Ecology (2026c) 25-1301 *Statutory Condition Assessment Sheets – St Andrews Gardens*



- Key**
- Site Boundary
 - Scattered Broadleaved Trees
 - Non-native hedgerow
 - g4 - modified grassland
 - u1 - ornamental planting
 - u1b6 - other developed land
 - Veteran tree (irreplaceable habitat)



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Scale 1:500 @A4

Figure 1:
Baseline UK Habitat Classification Plan

Project:
St Andrews Gardens

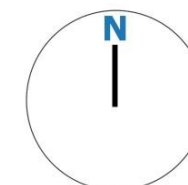
Client:
Gravesham Borough Council

Date: 27/01/2026	Drawn by: RT
Ref: 25-1301-P1	Revision: 2



Key

- Site Boundary
- Native hedgerow
- New broadleaved trees
- Scattered Broadleaved Trees
- g4 - modified grassland
- u1 - ornamental planting
- u1b6 - other developed land



0 10 20 m

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Scale 1:500 @A4

Figure 2:
Post Intervention UK Habitat Classification Plan

Project:
St Andrews Gardens

Client:
Gravesham Borough Council

Date:
30/01/2026
Ref:
25-1301-P2

Drawn by:
RT
Revision:
3



Appendix 1 – Creation, Management and Maintenance

Summary of Ecological Features

Habitat	Area	Details
Modified grassland	0.1ha	Modified grassland will be retained / created in various areas of the park. The targeted condition will be poor due to public access. Species sown will include perennial rye grass, common daisy, creeping buttercup, white clover and ribwort plantain.
Native hedgerow	10m	A new hedgerow will be created.
Individual trees	16	16 new trees will be planted (species as per the landscaping plan)

Management Mechanism

The Applicant will be the person responsible for the delivery of the provisions of the BNG report. In the long term this is anticipated to be Gravesham Borough Council (the client). The client will be responsible for funding the costs of compliance with the BNG report, and for ensuring that the details of the Biodiversity Net Gain report are delivered.

Habitat Creation and Management (establishment and five years post completion)

Ecological Feature	Objective/ Target	Prescription/ Action	Enabling/ construction phase	Year Post Completion					Responsibility
				1	2	3	4	5	
Modified grassland	Establish new areas of modified grassland	Topsoil to be handled (i.e. excavated and/or imported, stored, spread, cultivated) in accordance with BS3882. If poor drainage is suspected in existing soil surfaces, these should be broken up prior to planting and seeding to a depth of 300mm to remove likelihood of compaction and damage to new planting.	✓	-	-	-	-	-	Client



Ecological Feature	Objective/ Target	Prescription/ Action	Enabling/ construction phase	Year Post Completion					Responsibility
				1	2	3	4	5	
		Seeding shall be carried out only during appropriate seasons (spring and autumn) and while soil and weather conditions are suitable for the relevant operations. Only machinery and tools suitable for the site conditions and the work to be carried out shall be used. Hand tools shall be used around trees, plants and in confined spaces where it is impractical to use machinery. The soil shall be weed free prior to seeding. Management of weeds by hand or strimmer (without chemicals) is preferred but a targeted spot treatment of a Glyphosate-based herbicide can be used, as specified, and should be applied to all areas of weed growth 4-6 weeks before grassing and repeated if necessary to maintain a weed free bed.	✓	-	-	-	-	-	Client
	Protect and manage modified grassland	The Client will protect newly seeded areas where appropriate to prevent seedling destruction.	-	✓	✓	✓	✓	✓	Client
		Remove by hand or use of strimmer to remove persistent pernicious weeds (preferred) or spot treat using herbicide following the first season's growth and/or manual hand strimming of target areas either in late summer when adjacent grassland is mown or in early spring.	-	✓	✓	✓	✓	✓	Client
		Following establishment, grassland will be mown once during early spring (March) or autumn (October). A later cut will benefit moth species by providing a food source for longer, and subsequently provide increases foraging opportunities for bats in their active season of April to October. Leave arisings for 48 hours to allow seed to fall prior to removal. Regular removal of litter and fallen leaves to maintain a neat appearance. No fertilisers should be added to the area.	-	✓	✓	✓	✓	✓	Client



Ecological Feature	Objective/ Target	Prescription/ Action	Enabling/ construction phase	Year Post Completion					Responsibility
				1	2	3	4	5	
New hedgerows	Create new hedgerow	Plants to be feathered. Planted in double staggered rows with 330mm between plants and 400mm between rows. Plants to be notched into the ground. All single stem thicket transplants to be protected by min. 450mm high x 50mm proprietary plastic spiral guards secured with min. 12-14lb x 900mm long bamboo cane. Recommended species percentages for planting: - Hawthorn (<i>Crataegus monogyna</i>) 25% - Wild Privet (<i>Ligustrum vulgare</i>) 25% - Hazel (<i>Corlyus avellana</i>) 25% - Beech (<i>Fagus sylvatica</i>) 25% Additional planting of a selection of the following will be undertaken to further enhance the hedgerows as appropriate: - Honeysuckle (<i>Lonicera</i>) - Dogwood (<i>Cornus sanguinea</i>) - Guelder rose (<i>Viburnum opulus</i>)	✓ Nov - March	-	-	-	-	-	Client
	Maintain/ improve structure	Cut yearly to attain height of 1.5m and width of 1-1.5m (Nov – Feb)	-	✓	✓	✓	✓	✓	Client
	Ensure new woody vegetation is well established	It is essential to build up a supply of shoots at the base. This can be encouraged by pruning long straggly growth after the first growing season. Until the hedge has reached its optimum height it is important to lightly clip the hedge every autumn to encourage new growth, ensuring a good density and shape.	-	✓	✓	✓	✓	✓	Client
	Sensitive management	Following planting, water hedgerows, in periods of extreme drought (2 or more weeks without substantial rainfall). Examine all guards and replace or adjust as appropriate. Remove guards once plants are established.	-	✓	✓	✓	✓	✓	Client
		Replace any dead, diseased or damaged stock.	✓	✓	✓	-	-	-	Client
		All tree and hedgerow management will be conducted outside of the bird breeding season (Sept-Feb) unless checked by a qualified Ecologist.	-	✓	✓	✓	✓	✓	Client



Ecological Feature	Objective/ Target	Prescription/ Action	Enabling/ construction phase	Year Post Completion					Responsibility
				1	2	3	4	5	
New trees	Plant new trees	Trees planted will be 6/8cm standards (unless specified otherwise in the landscaping plans). All tree planting works & tree husbandry should be carried out in accordance with BS8545 2014: Trees from nursery to independence in the landscape. All small / feathered trees to be protected by min. 1200mm high x 80-110mm dia. proprietary biodegradable tree guard/shelter and secured in place with min. 25mm square treated softwood timber stake and fixed with plastic cable ties. Larger/half-standard trees should be staked and tied in at 1/3 height of the tree.	✓	-	-	-	-	-	Client
	Ensure new trees are well established	Replace any dead, diseased or damaged stock.	✓	✓	✓	-	-	-	Client
		Maintain a weed-free area around the tree (check during eight-weekly intervals). When trees have reached independence, the sward can be allowed to grow up to the trunk, although tall weeds, bramble and ivy will be removed from around the trees.	-	✓	✓	✓	✓	✓	Client
		Where periods of extreme drought occur, trees that have not yet established (not healthy, not in full leaf, suppressed growth) need to be watered where their tolerance to drought is deemed to be insufficient.	-	✓	✓	✓	✓	✓	Client
	Ensure planted trees are protected and supported during early stages.	Regularly check ties and stakes, adjusting as needed. Remove stakes and ties after two years.	-	✓	✓	-	-	-	Client
	Maintain healthy trees with good structure and form.	Tree works will follow best practice procedures as set out in BS 3998: 2010.	-	✓	✓	✓	✓	✓	Client



Monitoring

Modified grassland

By year 1, the grassland should be present.

Hedgerow

By year 5, the hedge should be;

- An average of 1.5m in height.
- At least 1m wide.
- The gap between the ground and base of the canopy should be less than 0.5m.
- At least 1m of undisturbed ground should be present on the southern side of the hedgerow.
- The hedgerow should be free of damage caused by human activities.

Monitoring will comprise the completion of the checklist below, with photographic evidence retained to show the habitat development. This will be submitted to the LPA.

Attribute	Survey result	Notes
An average of 1.5m in height.		
At least 1.5m wide.		
The gap between the ground and base of the canopy should be less than 0.5m.		
At least 1m of undisturbed ground should be present on the southern side of the hedgerow.		
The hedgerow should be free of damage caused by human activities.		

Individual trees

Annual photographs will be taken of all new trees, during the growing season, with photographs retained and sent to the LPA.

Adaptive management

If, by Year 4, monitoring shows that any of the habitats are not establishing as they should, advice should be sought from an ecologist as to how to rectify the problem.

Plan review

The management plan will be reviewed during Year 5, and a new management plan, covering at least a further five years will be produced, guided by this document and knowledge of the habitats and species present on Site at that time.



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