APPENDIX F

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Biodiversity Net Gain Baseline & Feasibility Report: Proposed Orchard, Hampstead Garden Suburb

SUMMARY

This Biodiversity Net Gain baseline and feasibility report has been updated to support a proposed orchard within Hampstead Garden Suburb, London Borough of Barnet. It considers the statutory Biodiversity Net Gain framework, relevant national planning policy, Barnet conservation-area context, and the Hampstead Garden Suburb Trust's emphasis on preserving the Suburb's landscape character, trees, hedges, gardens and shared amenities.

The proposal is for the establishment of a small orchard with associated grassland and pollinator-friendly understorey planting. The orchard approach is consistent with the garden-suburb landscape tradition, including the use of fruit trees, hedges and planted gardens as part of the area's historic green character. The Statutory Biodiversity Metric has been used to describe the baseline habitats and the potential uplift from orchard creation, species-rich grassland, and appropriate long-term management.

A site visit was carried out on 16th November 2025 by Frank Hawkins a Chartered Horticulturalist and Professional Aboriculturalist of 40 years' experience.

The site lies within the Hampstead Garden Suburb conservation-area context, where landscape structure, domestic gardens, open space, hedges and trees contribute strongly to local character. The proposed orchard is therefore assessed not only as a biodiversity intervention, but also as a landscape-led enhancement capable of reinforcing the Suburb's established garden setting.

Where the orchard proposal is associated with a planning application, the statutory BNG requirement should be considered by the Local Planning Authority. If the proposal is exempt or outside the scope of mandatory BNG, the same assessment can still be used to demonstrate measurable biodiversity enhancement and good ecological design.

The following baseline calculation and feasibility commentary should therefore be read as a site-specific assessment for a proposed orchard in Hampstead Garden Suburb, with emphasis on on-site habitat creation, long-term management and compatibility with local landscape character.

Baseline habitat mapping should be confirmed from current site survey, recent aerial imagery, existing garden records and any available site plans. Particular attention should be given to existing trees, hedges, grassland, ornamental planting, hardstanding, and any areas of bare or disturbed ground so that the orchard proposal is assessed against the correct pre-intervention condition.

Subject to confirmation of the site area and baseline habitat condition, the orchard is expected to increase ecological value through the introduction of fruit trees, structurally varied vegetation, blossom and fruit resources, and a low-intensity grassland understorey managed for pollinators. The existing headline BNG figures should be recalculated once the final orchard layout and planting schedule are confirmed.

The potential Biodiversity Net Gain should be calculated from the final proposed orchard plan using the current Statutory Biodiversity Metric. The calculation should include the orchard trees, any retained trees or hedges if any, the grassland or meadow understorey, access paths, and any associated boundary or habitat features.

Appendices should be updated to include the final headline results, baseline habitat plan, proposed orchard layout, planting schedule, and representative site photographs.

1 INTRODUCTION

1.1 Background

HSGT prepared a Biodiversity Net Gain baseline and feasibility assessment for a proposed orchard within Hampstead Garden Suburb, London Borough of Barnet. The report has been prepared to support planning, design and management decisions by identifying the existing habitat baseline and the potential biodiversity uplift associated with orchard creation, species-rich grassland management and complementary planting.

1.2 Aim of the Report

The assessment considers national BNG requirements, the local planning and conservation-area context, and the design sensitivities of Hampstead Garden Suburb. Its purpose is to establish the baseline habitat position, identify opportunities for orchard-led habitat creation, and set out practical recommendations for achieving a measurable biodiversity enhancement while respecting the landscape character of the Suburb.

2. METHODOLOGY

2.1 Desk and Field study methods

Habitats are described using the UK Habitat Classification System methods and codes (converted from JNCC Phase 1 codes where necessary), and condition assessed according to the Statutory Biodiversity Net Gain Metric - Auditing and Accounting for Biodiversity Condition Assessment Sheets. Areas were measured by on-site physical measurements.
Surveys and assessment were carried out by Frank Hawkins Green Estate Manager PGCE D.H.E CHort MCIHort *MArborA* MLTOA IOSH.

Site survey method and habitat classification follows guidance of UK Habitat Classification Documents V2.01. Habitat Condition Assessment was carried out using the methods and guidelines set out in The Statutory Metric User Guide (DEFRA, 2024). The data collected during the survey have been used to inform this report.

The potential Biodiversity Net Gain should be calculated from the final orchard layout, including proposed fruit trees, grassland or meadow understorey, retained or new hedgerow planting, access routes, and any areas of hardstanding. The calculation should use the current Statutory Biodiversity Metric and should be updated if the planting schedule or orchard footprint changes.

2.2 Approach to BNG

BNG Principles: BNG is achieved through 10 principles, the first of which is the Mitigation Hierarchy. This Hierarchy will be followed at each stage of the development.

The DEFRA Statutory Biodiversity Net Gain Metric aims to:

- Assess the biodiversity unit value of the area of land.
- Demonstrate biodiversity net gains or losses in a consistent way.
- Measure and account for direct impacts on biodiversity.
- Compare proposals for the site - such as creating or enhancing habitat on-site or off-site.

The metric assesses existing habitats and planned new habitats created by a development or land change.

BNG GOOD PRACTICE PRINCIPLES FOR DEVELOPMENT

BNG is achieved through 10 principles, the first of which is the Mitigation Hierarchy. This Hierarchy will be followed at each stage of the development.

Principle 1: Mitigation Hierarchy

1: Avoid Biodiversity Loss e.g. Finding alternative sites, changing development plans etc

2: Minimise any loss

3: Mitigate for any loss

4: Compensate

Principle 2: Avoid losing biodiversity that cannot be offset by gains elsewhere:

Avoid impacts on irreplaceable biodiversity – these impacts cannot be offset to achieve No Net Loss or Net Gain.

- No Priority Habitats or Irreplaceable habitats are present on site.
- Trading Rules for irreplaceable habitats will not apply.

Principle 3: Be Inclusive and Equitable

Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluating the approach to Biodiversity Net Gain. Achieve net gain in partnership with stakeholders where possible and share the benefits fairly among stakeholders.

- Further stakeholders could be engaged at the design stage.

Principle 4: Address Risk

- This is addressed within the metric and methodology set out within a Habitat Management and Monitoring Plan (HMMP) where necessary.

Principle 5: Make a measurable Net Gain Achievement

- This will be achieved through the landscape plan and Biodiversity Enhancement Plan.

Principle 6: Achieve the best outcomes for biodiversity.

- Retaining areas of habitat where possible, creating and enhancing habitats to a better condition or distinctiveness through the proposals

Principle 7: Be additional

- This proposal aims to achieve a greater BNG than the required 10%

Principle 8: Create a net gain legacy

- To be achieved through the “Next steps”:

Principle 9: Optimise sustainability & prioritise biodiversity

- By implementing the landscaping plan this development will improve the sustainability of the site.

Principle 10: Be transparent

- Communicate all Biodiversity Net Gain activities in a transparent and timely manner, sharing the learning with all stakeholders.

2.3 Limitations

There were no specific limitations to the field survey or this report.

3 BASELINE SITE CONDITIONS AND METRIC CALCULATIONS

Site Description

The proposed orchard site should be described by reference to its current land use, vegetation structure and relationship with neighbouring gardens, trees, hedges and open spaces. In the Hampstead Garden Suburb context, particular importance should be given to existing landscape character, boundary planting, mature trees, garden setting and any features that contribute to the conservation area. The baseline survey should record existing grassland, ornamental planting, bare ground, hardstanding, trees, hedges and any ecological features that may be retained or enhanced as part of the orchard design.

Important Ecological Features:

- Existing trees, hedges, species-rich vegetation, veteran fruit trees, nesting opportunities and any protected or priority species signs should be recorded and retained wherever practicable within the orchard design.

Fig.1 Google Earth Image from 2023, showing the disused tennis court.

3.1 Baseline Metric Calculations

Using the Statutory Biodiversity Metric, the baseline habitat units should be calculated from the confirmed pre-intervention habitats on the proposed orchard site. The existing table should be updated following site survey to distinguish between grassland, garden planting, hardstanding, bare ground, trees and hedgerows as relevant.

A full site Habitat Baseline Plan is included at Appendix 2.

***Table 1**. Habitats at baseline calculation*

Ref	Habitat Type	UKHab code	Area (hectares)	Habitat units (hu)
1	Existing hardstanding (disused tennis court)	u1c	0.0648	0.03

3.2 Proposed Design & Potential Net Gain

The proposed design is an orchard-led landscape enhancement. It should include appropriately selected fruit trees, a species-rich grassland or meadow understorey, sensitive access arrangements, and complementary native or wildlife-friendly boundary planting where this is compatible with the Hampstead Garden Suburb landscape character.

The headline results should be updated once the final orchard plan is available. The appendices should include the baseline habitats map, proposed orchard plan, planting schedule, and site photographs.

***Table 2**. Proposed habitats*

Ref	Habitat Type	UKhab Classification	Area (hectares)	Habitat units (hu)
HGST1	Proposed tradition Orchard	gc7	0.064	0.45
HGST2	Species rich neutral grassland/Wildflower Meadow	g4	0.0550	0.3
HGST3	Native hedgerow	h2	0.0098	0.60

Subject to the final layout and metric calculation, the proposed orchard should be capable of delivering a measurable on-site biodiversity enhancement through fruit-tree planting, species-rich grassland /Wildflower creation and long-term low-intensity management.

This will be achieved by:

- Creating an orchard of fruit trees with a species-rich grassland or meadow understorey, managed through a low-intensity cutting regime that allows flowering and seed set. The orchard should provide blossom, fruit, structural diversity and habitat continuity, improving resources for pollinators, birds and invertebrates while reinforcing the garden landscape character of Hampstead Garden Suburb.

Assumptions made when calculating the BNG:

- The calculation assumes that orchard trees will be planted and maintained for long-term establishment, that the understorey will be managed as species-rich grassland or meadow, and that any retained trees, hedges or valuable boundary features will be protected during implementation.

The summary of the results is shown at Appendix 1.

The full Statutory Metric is to be submitted together with this report.

4 25-Year Maintenance and Monitoring Plan

This 25-year maintenance plan sets out the practical management required to establish and sustain the proposed traditional orchard, species-rich grassland understorey and associated hedgerow planting. The plan is intended to support delivery of the reported Biodiversity Net Gain outcomes by securing long-term habitat condition, tree health, structural diversity, flowering resources and landscape compatibility within Hampstead Garden Suburb.

4.1 Management Objectives

- Establish a healthy, resilient traditional orchard with good survival, balanced crown development and appropriate formative pruning.
- Create and maintain a species-rich grassland or wildflower meadow understorey through low-intensity cutting, removal of arisings and avoidance of fertiliser or herbicide use except where targeted control is necessary.
- Maintain new and existing hedgerow or boundary planting to provide shelter, nesting opportunities, blossom, berries and habitat connectivity.
- Protect retained trees, boundary vegetation and any wildlife features during implementation and routine maintenance.
- Monitor habitat condition, tree establishment, grassland diversity and management effectiveness, and adapt management where targets are not being met.

4.2 Management Responsibilities

The landowner or appointed management body should be responsible for implementation of the maintenance plan. Arboricultural operations should be undertaken by suitably competent personnel, and ecological monitoring should be undertaken by a competent ecologist or appropriately experienced habitat surveyor. Records of maintenance, replacement planting, pruning, grassland cuts, monitoring results and corrective actions should be retained for review.

4.3 25-Year Maintenance Schedule

Period	Orchard Trees	Grassland / Meadow	Hedgerow / Boundaries	Monitoring and Review
Years 1-2: Establishment	Water during dry periods; maintain mulch circles; check stakes, guards and ties quarterly; replace failed trees in the next planting season; carry out formative pruning in winter where appropriate.	Prepare and seed understorey as required; cut frequently in the first growing season to control annual weeds; remove arisings; avoid fertiliser and broad herbicide use.	Water new hedgerow plants in dry periods; control competing weeds; replace failures; maintain protective guards.	Inspect quarterly in year 1 and twice yearly in year 2; record survival, weed burden, damage, soil compaction and corrective actions.

Years 3-5: Early Development	Continue formative pruning to develop strong framework branches; remove crossing, damaged or diseased material; adjust or remove stakes when trees are stable; retain selected low-risk deadwood only where it does not compromise tree health or safety.	Move to a meadow regime with one main late-summer cut after flowering and seed set; remove arisings; use a spring cut if fertility or vigorous grass growth remains high.	Lightly trim hedgerow outside the bird nesting season; allow flowering and berrying where possible; maintain gaps by replacement planting.	Annual review of tree establishment, sward diversity and hedgerow condition; update management if target condition is not progressing.
Years 6-10: Habitat Consolidation	Undertake maintenance pruning on a 2-3 year cycle; retain balanced crowns and fruiting wood; inspect for pests, disease, bark damage and drought stress; avoid unnecessary chemical inputs.	Maintain late-summer hay cut and removal of arisings; vary small uncut refuge areas annually for invertebrates; control invasive or dominant species by targeted cutting or hand removal.	Manage hedgerow on a rotational cycle so some sections flower and fruit each year; maintain connectivity and prevent encroachment over access routes.	Formal condition review in year 10 to compare habitat condition with BNG targets and determine whether remedial planting, reseeding or altered cutting is required.
Years 11-15: Maturing Orchard	Continue maintenance pruning; retain safe standing and fallen deadwood habitat where compatible with public safety; replace trees only where losses affect orchard continuity or biodiversity function.	Continue low-intensity meadow management; maintain low soil fertility by removing cut material; review species composition and introduce local wildflower seed or plug plants if diversity declines.	Continue rotational cutting; lay or rejuvenate short sections if the hedge becomes gappy or over-mature, subject to site suitability.	Formal condition review in year 15, including tree health, canopy continuity, grassland indicator species, scrub encroachment and hedgerow structure.
Years 16-20: Long-Term Resilience	Inspect for structural defects, disease and storm damage; undertake sensitive pruning only where needed; plan phased replacement planting to maintain age diversity.	Maintain established meadow cutting regime; adapt timing to seasonal conditions while ensuring flowering and seed set; prevent nutrient enrichment and excessive shading.	Maintain hedgerow structure, flowering and berry production; control invasive climbers or woody growth where it suppresses orchard trees or meadow habitat.	Formal condition review in year 20, including assessment of whether management remains sufficient to sustain target habitat condition.
Years 21-25: Renewal and Continuity	Implement renewal planting where necessary; continue maintenance pruning; retain	Continue meadow management and arisings removal; review whether additional	Continue rotational hedge management; gap up any losses and maintain	Complete a year 25 review setting out habitat condition, management success, outstanding risks and

	veteranising features where safe; maintain records of tree age, variety, condition and replacements.	enhancement is needed to maintain species richness and structural variation.	boundary habitat continuity.	recommendations for the following management period.

4.4 Annual Maintenance Operations

- **Winter:** undertake formative or maintenance pruning of apple and pear trees in dry, frost-free conditions; inspect stakes, guards, tree ties and mulch; plant replacement trees or hedgerow whips where required.
- **Spring:** check blossom, tree health, rabbit or squirrel damage, weed competition and soil moisture; avoid cutting all flowering areas at once.
- **Summer:** water young trees during prolonged dry weather; undertake a high cut or weed control cut where grass growth is suppressing establishing wildflowers; monitor pollinator use and invasive species.
- **Late summer / early autumn:** cut meadow after flowering and seed set; remove arisings; retain small uncut refuge strips on rotation; collect fruit where appropriate and remove diseased fruit if it presents a disease risk.
- **Autumn:** review survival, growth, canopy development and meadow composition; order replacement planting and update the maintenance log.

4.5 Monitoring, Triggers and Corrective Action

Monitoring Item	Target	Trigger for Action	Corrective Action
Tree survival	At least 90% survival during establishment, with losses replaced promptly.	More than 10% tree failure or repeated failure in the same location.	Replace in the next dormant season; review soil, watering, species choice, vandalism and protection measures.
Tree condition	Healthy extension growth, balanced crowns and no avoidable damage from guards, ties or mowing.	Poor growth, bark damage, disease, unstable stakes or constricting ties.	Adjust protection, improve mulching and watering, prune sensitively, or seek arboricultural advice.
Grassland diversity	Increasing wildflower presence and varied sward structure with low nutrient input.	Dominance by coarse grasses, nettle, bramble, scrub or persistent bare ground.	Increase arisings removal, add spring cut, undertake targeted weed control, scarify and overseed with suitable native mix if required.
Hedgerow condition	Continuous, structurally varied boundary habitat with flowering and fruiting sections.	Gaps, dieback, excessive trimming, suppression by invasive species or loss of flowering.	Gap up, adjust cutting cycle, control invasive growth and protect young plants.
BNG condition	Habitats remain on trajectory to meet or maintain the target condition used in the metric.	Monitoring indicates habitat condition is below target or declining.	Review management prescriptions, agree remedial works and record changes in the monitoring log.

4.6 Review Programme

Monitoring should be proportionate to the small scale of the site but sufficient to demonstrate that the orchard, meadow and hedgerow habitats remain on a positive trajectory. Establishment monitoring should be undertaken in years 1, 2, 3 and 5, followed by formal reviews in years 10, 15, 20 and 25. Each review should record habitat condition, management completed, issues identified, remedial action taken and any recommended changes to the maintenance schedule.

References

- CIEEM (2021). Biodiversity Net Gain Report and Audit Templates Chartered Institute of Ecology and Environmental Management, Winchester, UK.
- CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester. http://www.cieem.net/data/files/Publications/EcIA_Guidelines_Terrestrial_Freshwater_and_Coastal_Jan_2016.pdf
- CIEEM (2013) Guidelines for Preliminary Ecological Appraisal Institute of Ecology and Environmental Management http://www.cieem.net/data/files/Resource_Library/Technical_Guidance_Series/GPEA/GPEA_April_2013.pdf
- DEFRA Statutory Biodiversity Metric User Guide, 2024 https://assets.publishing.service.gov.uk/media/65c60e0514b83c000ca715f3/The_Statutory_Biodiversity_Metric_-_User_Guide_.pdf
- London Borough of Barnet. Hampstead Garden Suburb conservation area and character appraisal documents.
- Hampstead Garden Suburb Trust. Design Guidance and guidance on works to trees, hedges and gardens within the Suburb.

Appendix 1: Headline results

Biodiversity Net Gain Summary

The Biodiversity Metric assessment for the disused tennis courts at Central Square demonstrates that the proposed development will deliver a significant and measurable Biodiversity Net Gain (BNG) through the creation and enhancement of habitats within the site.

The existing site supports a baseline value of 0.03 habitat units, with no existing hedgerow or watercourse units recorded. Following implementation of the proposed habitat creation and enhancement measures, the site is predicted to support 0.45 habitat units and 0.60 hedgerow units, while watercourse units remain unchanged at zero.

This equates to a net gain of 0.42 habitat units and 0.60 hedgerow units, together with the creation of 0.30 ha of species-rich grassland. No watercourse units will be lost or created. As all biodiversity enhancements are delivered within the application site, no off-site habitat compensation or biodiversity credits are required.

Overall, the proposals achieve a 3,000% increase in habitat units relative to the baseline condition, substantially exceeding the statutory 10% Biodiversity Net Gain requirement established under the Environment Act 2021. The biodiversity trading rules have been satisfied, with no deficits identified in habitat, hedgerow or watercourse units. The development is therefore fully compliant with the statutory Biodiversity Net Gain requirements.

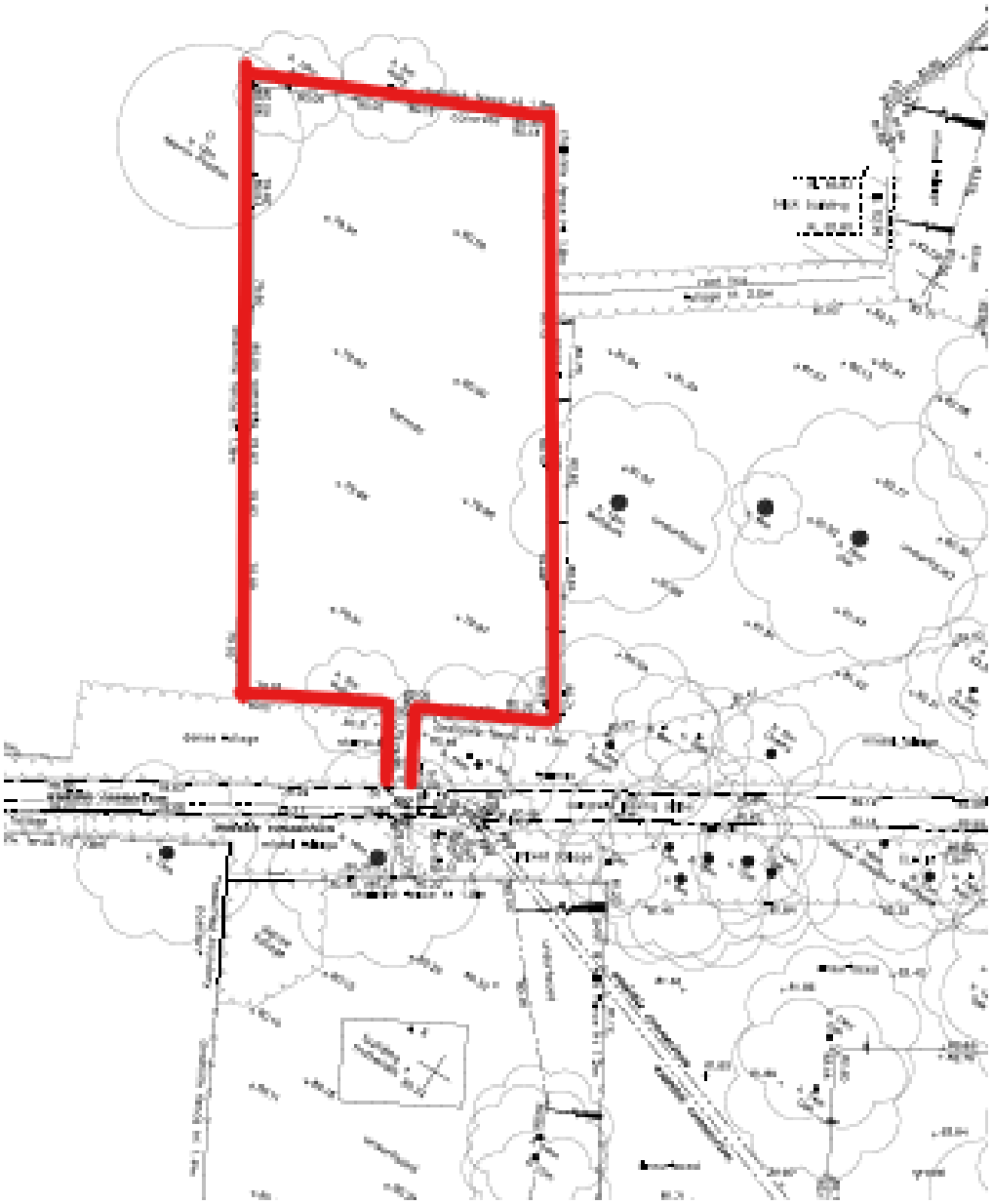
Summary of Biodiversity Metric Results

Metric	Habitat Units	Hedgerow Units	Watercourse Units	Species-rich Grassland (ha)
Baseline (On-site)	0.03	0.00	0.00	0.00
Post-development (On-site)	0.45	0.60	0.00	0.30
Net Change	+0.42	+0.60	0.00	+0.30
Off-site Contribution	0.00	0.00	0.00	0.00
Combined Net Change	+0.42	+0.60	0.00	+0.30

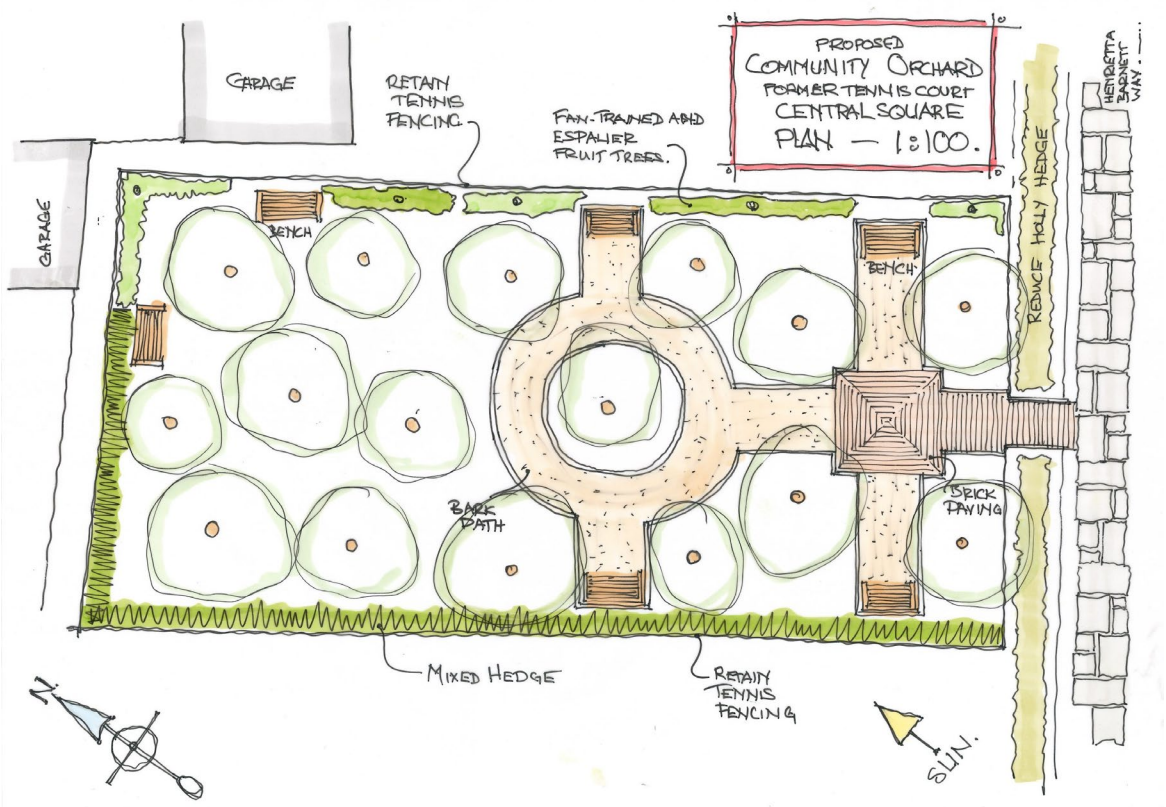
Compliance Summary

Assessment Criterion	Result
Habitat Unit Baseline	0.03
Habitat Unit Net Gain	+0.42
Percentage Net Gain	3,000%
Statutory Target	≥10%
Off-site Units Required	No
Trading Rules Satisfied	Yes
Overall Compliance	Compliant with the statutory Biodiversity Net Gain requirements

Appendix 2: Baseline habitats map



Appendix 3: Proposed Site plan



Appendix 4: Site photos

	Photo 1: Boundary ivy to Chain-link fencing
	Photo 2: Area of modified hardcore base to that of the asphalt with self-seeded grass mix; Timothy)Phleum pratense Rye (Lolium perenne), and Annual meadow grass (Poa annua).

Photo 3: Boundary ivy to Chainlink fencing