

Draft Biodiversity Net Gain Report

**On Behalf of
Braewood Ltd
Proposed Dog Village
Knowsley**

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1.0 Introduction

1.1 Background

PWS Environmental Ltd has been commissioned by Braewood Ltd to complete a Biodiversity Net Gain (BNG) calculation and associated BNG feasibility report. This will be completed and submitted to support a planning application for a new development on lands previously occupied by a sewage works, situated on Norlands Lane Widnes.

The proposed development subject of the planning application comprises a Dog Village with associated kennels, café and general activity area.

The BNG forms part of a pre-application and details the area within the red line application boundary as found in Appendix A ***Title Plan 22/05/2024***.

The boundary for the BNG calculation is based on the red line application site boundary as per Appendix A for the proposed development site and grassland site. The BNG baseline is based on data from UK Habitat Classification (UKHab) survey methodology (Butcher et al., 2020) of the land within this area, in reference to UKHab guidance, as part of the PEA. This site visit was undertaken on 16th December 2024. This data is also used to quantify the baseline conditions to achieve the required biodiversity net gain.

1.2 Biodiversity Net Gain Best Practice Guidance, Legislation and Policy

1.2.1 Guidance

This report has been produced in line with the template for a 'BNG Feasibility Report' in the CIEEM Biodiversity Net Gain Report and Audit Templates (CIEEM, 2021). It utilises the BNG Good Practice Principles for Development (CIRIA, 2019) (including the checklist for Biodiversity Net Gain design) and BS8683, the British Standard for Biodiversity Net Gain (British Standards Institute, 2021), to inform outputs and recommendations.

1.2.2 Legislation

The Environment Act 2021 was granted Royal Assent on 9 November 2021 and contains provisions which will mandate achieving a 10% BNG for most developments (including Nationally Significant Infrastructure Projects). These provisions are expected to come into effect in November 2023 for developments requiring planning permission and in 2025 for Nationally Significant Infrastructure Projects. They will legally require developers to ensure sites are improved for biodiversity, with a 10% increase in habitat value for wildlife compared with the pre-development baseline. This BNG can be achieved through habitat creation or enhancements to existing habitats. All biodiversity enhancements will be required to be maintained for a minimum of 30 years (UK Parliament, 2021).

1.2.3 Planning Policy

The legal requirement for BNG is embedded in national planning policy, the National Planning Policy Framework (Ministry of Housing, Communities & Local Government, 2021a) states that "planning policies and decisions should...identify and pursue opportunities for securing measurable net gains for biodiversity" although no definition of significant gain is provided.

1.2.4 Local Planning Policy

The local planning authority, Knowsley Council has requested that a BNG policy be conducted as part of the pre-planning consultation.

1.3 Glossary

The following terms are used in relation to BNG and are based on the terminology and descriptions used in the User Guide and Technical Supplement for Biodiversity Metric 4.0.

Baseline value	This refers to the pre-development biodiversity value which is the biodiversity value when development permission is granted (on application or on appeal).
Condition	The BNG metric calculations require that all land parcels undergo a condition assessment. This prescribed process is carried out by assessing several criteria, as defined in the habitat condition assessment worksheets in the Technical Supplement for Biodiversity Metric 4.0. The criteria are habitat-specific, and are assessed as being either Good, Moderate, or Poor.
Distinctiveness	In the Biodiversity Metric 4.0, habitats are assigned to distinctiveness bands based on the following criteria: • Total remaining amount of this habitat type in England (rarity) • Proportion of habitat protected in a Site of Special Scientific Interest (SSSI) (where less of this habitat type is protected in SSSI's, it is considered of higher distinctiveness) • UK Priority Habitat Status (Priority Habitats are generally classed as High or Very High distinctiveness) • European Red List Categories. Each habitat types is classified in the metric as Low, Medium, High or Very High distinctiveness.
Post development value	The post-development biodiversity value of the on Site habitat is the projected value of the on Site habitat at the time the development is completed. This value can only be accepted if the applicant can demonstrate that the gain will be maintained for at least 30 years. This is through one of three options: a planning condition, a planning obligation or a conservation covenant.
Trading rules	The metric includes rules in relation to replacement of existing habitat with a new habitat. These are termed trading rules whereby the replacement of lost habitat should be on a 'like for like' or 'like for better' basis in terms of distinctiveness, condition, and total units. The plan should include new or restored habitats that aim to achieve a higher distinctiveness and/or condition than the habitat to be lost.

2.0 Methodology

2.1 Methodology

The pre-development (baseline) and post-development (proposed) value of the habitats on the two sites (the proposed development site and the grassland site) have been calculated using DEFRA/Natural England's Biodiversity Metric 4.0 calculator. The methodology for determining habitat distinctiveness and condition values follows the guidelines set out by the User Guide and Technical Supplement for Biodiversity Metric 4.0.

2.2 Mitigation Hierarchy

The ecological mitigation hierarchy is central to the BNG process and is the first of the BNG Good Practice Principles. The ecological mitigation hierarchy, as set out in the National Planning Policy Framework (NPPF, 2021), and the National Planning Practice Guidance (NPPG) sets out the order in which the following measures should be implemented, in which avoidance of impacts should always be the priority:

Avoidance – development should be designed to avoid significant harm to valuable wildlife habitats and species.

Mitigation – where significant harm cannot be wholly or partially avoided, it should be minimised by design or through the use of effective mitigation measures.

Compensation – where, despite whatever mitigation would be effective, there would still be significant residual harm, as a last resort, compensation should be used to provide an equivalent value of biodiversity.

2.3 Data Sources

The following data sources have been used to define the boundary for the BNG calculation and determine the relevant attributes for BNG (e.g. size, habitat type and condition) for the pre and post-development habitats.

2.3.1 Boundary

The boundary used for the BNG assessment is the red line application boundary for the project (plan 2010), shown in Appendix A at the rear of this document.

The location of the potential field for enhancement is also shown in Appendix A and is marked on plan 2010 as 'the grassland site'.

2.3.2 Baseline Habitats

In order to generate the Site baseline habitat data (e.g. habitat type, condition) the following survey data were used:

An extended habitat survey of the land within the Site using UKHabs guidance was undertaken on 16th December 2024. The survey followed the UK Habitat Classification User Manual Version 1.1 (2020) guidance, with the Site systematically walked over, and the dominant habitat type in each area recorded. Dominant plant species were noted, as were any that are legally protected (Schedule 8 of the Wildlife and Countryside Act (WCA) 1981), notable (GB/England Red Listed, Section 41), or invasive species listed on Schedule 9 of the WCA 1981.

2.3.3 Full details of the baseline Site conditions, and habitat surveys undertaken are provided .

2.4 Assessment Steps

The following steps were taken to estimate the BNG value:

2.4.1 Calculation of Baseline Habitats

The UKHab types used within Biodiversity Metric 4.0 were used, with reference to guidance in the User Guide and Technical Supplement and the G-1 All Habitats Tab in the 4.0 metric which details which metric habitat types corresponds to each UKHab habitat. In the case of the habitats on the site these were all simple one to one conversions.

The extent of area-based habitats were defined (represented by polygons in GIS). The metric includes three broad categories of habitats and biodiversity units for which scores are calculated differently:

- Area habitats (such as grasslands, woodlands and ponds)
- Linear hedgerows and lines of trees
- Linear rivers and ditches

Distinctiveness and condition scores were assigned to habitats based on the results of the UKHabs habitat classification survey and guidance in the Biodiversity Metric 4.0 User Guide and Technical Supplement (including the Condition Assessment Sheets for each habitat type).

2.4.2 Calculation of the Post-development Units

The nature of the project means that the number and extent of habitats/landscaping within the footprint of the proposed development site is intentionally maximised and as much of the existing habitat is retained as is practicable.

Once the calculation had been completed the outputs were reviewed to understand the losses and gains for each habitat type and understand whether the development complies with the Biodiversity Metric 4.0 trading rules (no trading of habitat value).

Rule 3 of Biodiversity Metric 4.0 relates to trading down and states that this must be avoided. Replacement of lost habitat should be on a “like for like” or “like for better” basis, in terms of distinctiveness, condition, and total units. New or restored habitats should aim to achieve a higher distinctiveness and/or condition than those lost’. This rule intends to prevent the development of BNG plans that compensate for the loss of biodiverse habitats with larger areas of less biodiverse habitats. Rule 4 states that “losses and deterioration of irreplaceable habitat cannot be accounted for through the metric”. Separate, bespoke consideration is required if there is a loss or deterioration of any irreplaceable habitat. The presence of irreplaceable habitat was determined from the desk study and field survey results.

2.5 Limitations and Assumptions

Post-development condition scores are indicative and are dependent on the appropriate management and maintenance of the post-development habitats. In general, the management of created, enhanced and restored habitats is important within the BNG metric because the metric accounts for some of the risks associated with the difficulty in doing this as well as the time it takes the habitat type to establish and reach a target condition.

In committing to the BNG process, Braewood Ltd is committed to the management and maintenance requirements that will be necessary to ensure the enhanced/created habitats achieve their target condition and beyond, to a minimum of 30 years post-construction. The identified option for achieving BNG assumes that the habitats enhanced/created/retained will be maintained for at least 30 years post development as required to satisfy the conditions for biodiversity net gain in the best practice guidelines (CIEEM, IEMA & CIRCA, 2019). A BNG Management and Monitoring Plan (MMP) would need to be implemented by the appointed contractor and then adopted by the Site operator to ensure that all BNG is delivered to the required condition. This MMP would need to include the following details:

- Aftercare maintenance and long-term habitat management and monitoring of created and enhanced features;
- How management will be implemented for a minimum period of 30 years; and,
- What monitoring will be implemented during and after construction.

3.0 Baseline Conditions

3.1 Value of Baseline Habitats

Overall, the baseline habitats have been calculated using Biodiversity Metric 4.0 as having a baseline habitat value of 15.52. A map of pre-development baseline habitats is shown in Appendix A. This information is summarised below in Table 3.1. Area habitats are considered separately from linear habitats.

Area Habitat

The Site is within the curtilage of a derelict Sewage Treatment Works, which has been decommissioned at an earlier date unknown. The site was dominated by sludge beds, tanks and filter beds and associated infrastructure. At the time of the site visit, the tanks had been removed by others along with any associated pipework and infrastructure. The structures of the extant concrete sludge beds remain in situ, with associated infrastructure previously removed by others. It is understood that a decision on the retention of the sludge beds will be made following an assessment by a structural engineer.

At the time of acquisition of the site by Braewood Ltd, soil bunds were present on site. These bunds have been screened to remove any over-sized material and the resultant clean soils spread across the site to raise levels and achieve a uniform site wide profile, in preparation for the future proposed development. As such, the main body of the site would be considered to be botanically poor.

Linear Habitat

The corresponding condition assessments for the hedgerows can be found below.

H1	Native hedgerow	Dominated by bramble (<i>Rubus fruticosus</i>) and scattered elder (<i>Sambucus nigra</i>). There were stands of blackthorn (<i>Prunus spinosa</i>) within the western section of the hedgerow (off-site). There was a ditch present to the north which was dry at the time of survey. There were stands of rosebay willowherb (<i>Chamerion angustifolium</i>) within the ditch.	Poor
H2	Native Hedgerow	Species present included blackthorn, hazel (<i>Corylus avellana</i>), elder, English elm (<i>Ulmus procera</i>), ash (<i>Fraxinus excelsior</i>), field maple (<i>Acer campestre</i>), dogwood (<i>Cornus sanguinea</i>) and hawthorn (<i>Crataegus monogyna</i>). The hedgerow was assessed to be species-rich but in a poor structural condition. The hedgerow was approximately two metres wide at the base and 1.8m in height. There were no mature trees present within the hedge. The hedgerow continued off-site to the east.	Poor

H3	Native Hedgerow	The hedgerow had a good basal density and was well-connected to hedgerows to the north of the site and to H4 to the south. Species present included blackthorn, field maple, hawthorn, dogwood and hazel. There was a metal field gate to the north of the hedgerow.	Good
H4	Native hedgerow with associated bank	The hedgerow was located on a steep bank with a ditch with running water to the south. The hedge was assessed as species-poor defunct, with no mature trees and a poor structural condition. H4 was approximately 3 m wide and 3 m in height. The hedgerow had good ecological connectivity; it formed a node with H3 to the east and was connected to several hedgerows to the west. Species present included field maple, hawthorn, blackthorn, hazel and dogwood.	Poor
H5	Native hedgerow with trees with associated ditch	H4 was located at the very southern boundary of the field adjacent to the development area. The hedgerow was located adjacent to a water filled ditch. Several mature trees were present in the hedgerow and the understorey was dominated by nettle. Woody species include field maple, alder and crack willow.	Good

4.0 Post Development Habitat

4.1 Enhanced Habitat Proposals

As already described, the development proposal for the site is for a Dog Village. Whilst this proposal will include provision for kennels and an on-site 'dog café', the majority of the site will be given over to grassland and planting of native shrubs/trees.

Grassland

The sections of grassland will be enhanced to Other Neutral Grassland in a good ecological condition. This will be achieved by scarifying, re-sowing, and the introduction of traditional grassland management. To maximise their value for biodiversity, these areas will include species that provide nectar and pollen sources for insects in the sward, such as clover and bird's-foot trefoil.

Native shrubs in hedgerows will be planted throughout the site in order to screen off, to create distinct areas, provide biodiversity and nectar and pollen sources for insects.

Hedgerows

The native hedgerows on site will be retained and enhanced. Enhancement will involve planting native species in gaps and the removal of less desirable flora. The existing mature trees will be appropriately managed to maintain good health.

To achieve a 10% net gain using the potential enhancement field, updating the management regime of **3.879 hectares** of the field, delivers 35.39 **units**, at a net gain of 64.95%. This is assuming the new management techniques, as outlined in section 5.2.1, commence in 2025, the year construction works are due to start. The BNG Calculations can be found within Appendix C. A map of the grassland site post enhancement can be found within Appendix D.

This gain is dependent upon increasing the condition score of the area from 'poor' to 'good'. Management actions to enable this increase in habitat condition are detailed within the Recommendations and Conclusions section of this report below.

5.0 Recommendations and Conclusions

5.1 Summary

The post development plan within this report is sufficient to achieve an area based BNG, comprising a 64.95% net gain in habitat units when compared to the baseline, assuming the enhancement works start in the year the construction commences.

Given the nature of the development (a terminal extension) it was not possible to avoid all habitat impacts by re-siting the development, however none of the habitats lost are high distinctiveness, very high distinctiveness or irreplaceable and they will be compensated for in order to provide a gain in the metric.

5.2 Next Steps

To achieve the required BNG within the grassland site, it requires a change in habitat condition from 'poor' to 'good'. It is recommended that the following steps are undertaken to enhance the grassland site.

5.2.1 Habitat Management Plan

An adequate management plan is to be written and initiated to benefit the Site, comprising the following methods:

1. **A 'conservation style' planting of the grassland.** Removal of cuttings is key. Old cuttings add nutrients back to into soil, enabling coarse grasses to become dominant at the expense of nutrient poor loving species indicative of other neutral grassland swards. Therefore, the removal of cuttings after a cut is to be a management priority and a core part of achieving 'good' condition. A regular cut should also reduce scrub build up. By cutting, it reduces the opportunity for invasive species to flourish. This, in combination with step 2 below, creates the opportunity for native flower species to colonise more easily the following year.
2. **Remove invasive scrub over winter.** Whilst the mainbody of the site is currently in poor condition, it could quite easily be enhanced by removing the invasive scrub patches that encroach from the surrounding areas. The scrub removal, targeting species such as bramble, as well as tree saplings such as oak and dogwood, should be undertaken using brush cutters in November. The scrub should be removed to as close to ground level as is possible.
3. **Timings of the cuts are also important.** Cutting is to occur late enough in the season to enable all forbs to flower and set seed. Earlier cuts within April, May or June are not to occur, as these may hinder flowering and subsequent seed set of forbs present on Site.

It should be noted that if subsequent management differs from the suggested actions above, then the grassland site is unlikely to obtain the improved habitat condition score of 'good' and subsequently the Site is unlikely to achieve the necessary 10% BNG required.

5.3 Continued Observations

To ensure compliance with the BNG conditions outlined within this report, periodic site attendances throughout 2025 and 2026, both before and during the construction works, to collect evidence that the BNG conditions are being adhered to and the management strategy is being followed.

During these visits, National Vegetation Classification (NVC) surveys should be carried out to appropriately update the species list on Site, so to best provide the most up to date information and recommendations for the ongoing BNG management.

7.0 References

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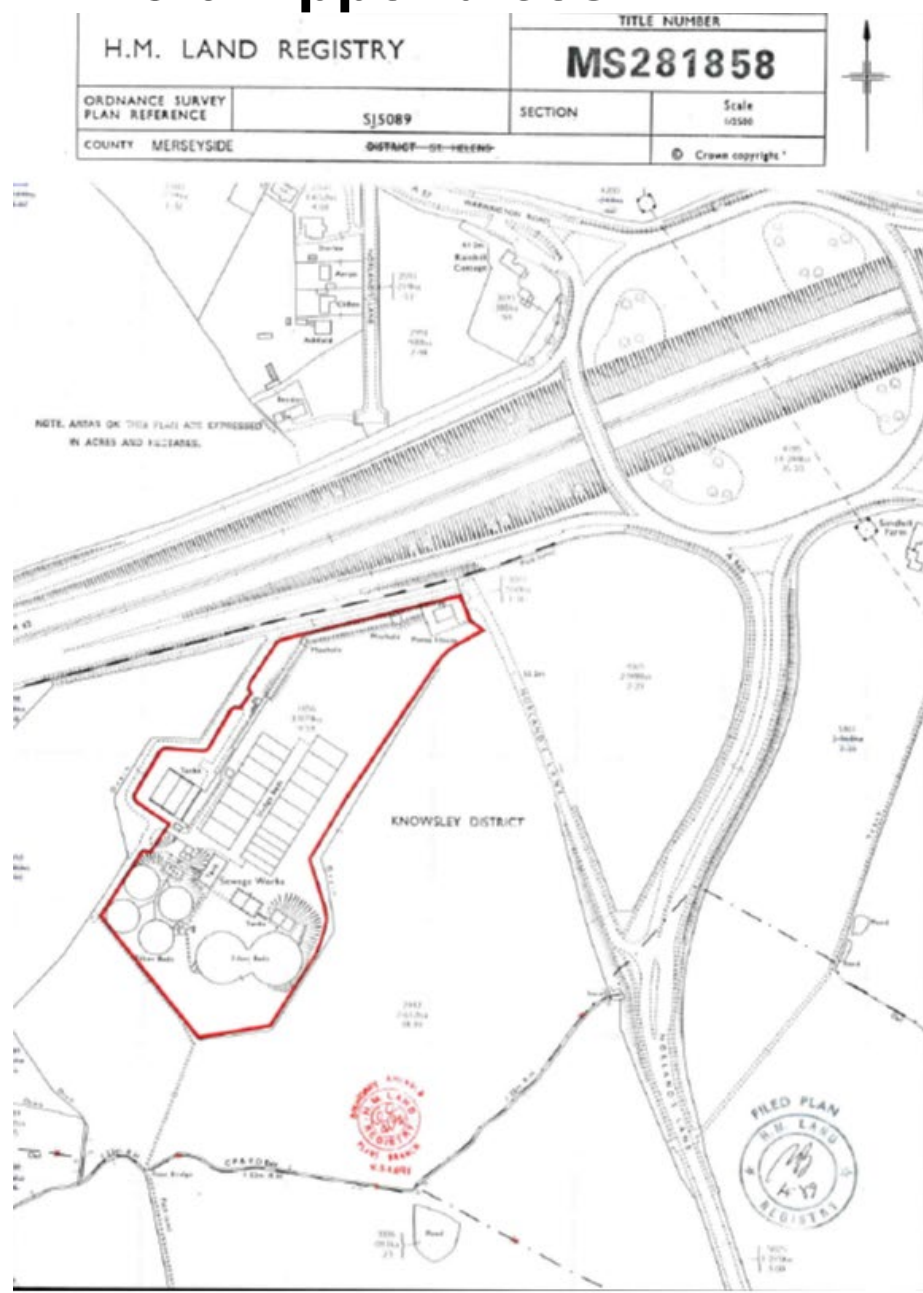
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8.0 Appendices



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