



United Utilities

United Utilities Better Rivers Programme: Boothroyden Road

Biodiversity Net Gain Assessment





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Executive summary

United Utilities (the Client) are proposing the construction of a below ground storage tank ('herein referred to as the "Proposed Works"'), at the Boothroyden Combined Sewer Overflow, located in Blackley, Manchester (the 'Site').

WSP UK Ltd (WSP) were commissioned by the Client to carry out a Biodiversity Net Gain (BNG) assessment of the Proposed Works. Biodiversity Net Gain is the desired result of a process applied to development so that overall, there is a positive outcome for biodiversity. This report sets out the BNG assessment, providing both a quantitative and qualitative assessment, using the Statutory Biodiversity Metric Tool (herein referred to as "the Metric") and assessing the project against the BNG Good Practice Principles ("the Principles").

As per BNG guidance, the Site qualifies as a 'small site' as it fits the criteria of '*commercial development where floor space created is less than 1,000 square metres or total site area is less than 1 hectare*'. The Proposed Works is therefore subject to mandatory BNG from the 2nd of April 2024. The Greater Manchester Combined Authorities 'Places For Everyone' development plan also puts an expectation on all development to achieve a 10% net gain and therefore the Proposed Works has a target of 10% BNG.

This BNG assessment report:

1. Uses the Metric to quantify and compare the baseline biodiversity value of existing habitats on-site and the proposed post-development biodiversity value based on the current design (**Figure 2**) to provide an indication of quantitative net loss, no net loss, or a net gain for biodiversity on-site;
2. Provides a qualitative assessment of the compliance of the Proposed Works with the Principles; and
3. Provides recommendations where necessary to promote a scheme-wide biodiversity net gain.

The purpose of this document is to provide a preliminary assessment to inform the planning application.

The Site consisted primarily of other neutral grassland habitat, with scattered areas of broadleaved woodland. The River Irk flows through the Site to the north. No hedgerows were present within the Site and therefore are not discussed further in this report.

Overall, based on the current design, the Proposed Works is predicted to achieve the following quantitative net loss and does not satisfy the trading rules. Therefore, a quantitative net gain has not been achieved.

	On-site baseline units	On-site post-intervention units	On-site unit change	On-site percentage change
Area habitat units (AHU)	1.47	0.59	-0.88	-59.68%
Watercourse units (WU)	0.48	0.47	-0.01	-1.81%

In relation to the qualitative assessment, the Proposed Works achieves five out of the ten Principles and is therefore not currently achieving a qualitative BNG.

Recommendations have been made for next steps which include:

- Further consultation with habitat offset providers to identify and secure the required off-site compensation in order to achieve a 10% net gain target for the Proposed Works;
- Offsetting should seek to compensate for medium distinctiveness habitats that are currently being lost to the Proposed Works (other neutral grassland and broadleaved woodland), in order to compensate for habitats on a like-for-like or like-for-better basis;
- Relevant stakeholders should be contacted with the assessment result; and
- A long-term Habitat Management and Monitoring Plan (HMMP) should be developed for any off-site units secured, with management undertaken for a minimum of 30 years.

Any amendments to the Proposed Works' Landscape General Arrangement Plan used for this BNG assessment will necessitate re-running the biodiversity unit calculations.

1 Introduction

1.1 Background

- 1.1.1. WSP UK Ltd. (WSP) were commissioned by United Utilities (the 'Client') to undertake a Biodiversity Net Gain (BNG) Assessment of land at the Boothroyden Combined Sewer Overflow, located in Blackley, Manchester (the 'Site') in order to support a planning application.
- 1.1.2. The Site is defined by the Red Line Boundary (RLB) shown in **Figure 1** and is located at Ordnance Survey (OS) Grid Reference SD 85030 05002. The Site is approximately 0.24ha in size.
- 1.1.3. It is understood that the 'Proposed Works' comprise the construction of a below ground storage tank within which storm flows from the combined sewer network would be attenuated before being released back into the sewer network. Furthermore, a temporary bridge is to be constructed to facilitate works throughout the Site. This BNG assessment is based on the red line boundary and work plans shown within the Landscape General Arrangement Plan (70114053-LUD-001, March 2024).
- 1.1.4. As per BNG guidance¹, the Site qualifies as a 'small site' as it fits the criteria of '*commercial development where floor space created is less than 1,000 square metres or total site area is less than 1 hectare*'. The Proposed Works is therefore subject to mandatory BNG as of the 2nd of April 2024. The Greater Manchester Combined Authority 'Places For Everyone' joint development plan² also puts an expectation on all developments to achieve a 10% net gain for biodiversity.

1.2 Biodiversity Net Gain

- 1.2.1. BNG is an approach to development "that leaves the natural environment in a measurably better state than beforehand"³. The process follows the mitigation hierarchy, which sets out that everything possible must be done to firstly avoid, secondly minimise and thirdly restore / rehabilitate losses of biodiversity on-site. Only as a last resort, residual losses are compensated for using offsite habitat enhancement or creation. To undertake the

¹ Biodiversity net gain: exempt developments - GOV.UK (www.gov.uk)

² Places for Everyone Joint Development Plan Document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan. Adopted 21st March 2024. Available online: [Places for Everyone Joint Development Plan Document \(greatermanchester-ca.gov.uk\)](http://placesforeveryone-joint-development-plan-document.greatermanchester-ca.gov.uk)

³ Defra. (2019). Biodiversity Net Gain Definitions and Current Practice. Available at: https://consult.defra.gov.uk/land-use/net-gain/user_uploads/02.-definitions-and-current-practice.pdf

assessment the Statutory Biodiversity Metric Calculation Tool⁴ (herein referred to as “the Metric”) is used to quantify the biodiversity losses and gains resulting from development and a qualitative assessment is undertaken to review adherence to the BNG Good Practice Principles⁵ (hereafter referred to as “the Principles”). A description of the Principles is provided in **Appendix C**.

1.3 Scope of Report

- 1.3.1. This report uses the Metric and the Principles to produce an assessment report that:
- Establishes the total number of baseline Area Habitat Units and Watercourse Units within the Site. No hedgerows are present within the Site and therefore are not considered further within this assessment;
 - Establishes the total number of Area Habitat Units and Watercourse Units which will be retained, lost, enhanced, and created under the current design of the Landscape General Arrangement Plan (70114053-LUD-001);
 - Determines whether the Proposed Works is predicted to result in a quantitative net loss, no net loss, or a net gain for biodiversity;
 - Provides a qualitative assessment evidencing compliance of the Proposed Works with the Principles; and
 - Provides a summary of biodiversity units required in order to achieve a 10% net gain, either on-site or off-site.
- 1.3.2. It is important to recognise that BNG is one of several factors to be considered when assessing the impact of the Proposed Works on biodiversity. Please note that this BNG assessment report does not cover potential impacts of the Proposed Works on protected species, designated sites, and indirect effects on habitats. These are covered within the Preliminary Ecological Appraisal (PEA) (WSP, 2023).
- 1.3.3. This assessment has been compiled with reference to relevant national and local legislation and policy relating to nature conservation and BNG, provided in **Appendix A**.
- 1.3.4. Under the Environment Act 2021, small sites are subject to mandatory BNG from the 2nd of April 2024. The Greater Manchester Combined Authority ‘Places For Everyone’ joint

⁴ Defra (2023). Statutory Biodiversity Metric Tools and Guides. Available at: [Statutory biodiversity metric tools and guides - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guides/statutory-biodiversity-metric-tools-and-guides)

⁵ CIEEM, CIRIA & IEMA (2019). Biodiversity Net Gain: Good practice principles for development. Available: Biodiversity Net Gain: Good Practice Principles for Development, A Practical Guide. | CIEEM Biodiversity net gain. Good practice principles for development. A practical guide (cieem.net)



development plan⁶ also puts an expectation on all developments to achieve a 10% net gain for biodiversity and therefore the Proposed Works must achieve an overall result of 10% net gain.

⁶ Places for Everyone Joint Development Plan Document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan. Adopted 21st March 2024. Available online: [Places for Everyone Joint Development Plan Document \(greatermanchester-ca.gov.uk\)](https://greatermanchester-ca.gov.uk/places-for-everyone-joint-development-plan-document)

2 Methodology

2.1.1. This BNG assessment is informed by the following industry recognised good practice guidance:

- CIEEM, IEMA & CIRIA (2019) Biodiversity Net Gain: Good Practice Principles for Development⁵.
- Defra (2023) Statutory Biodiversity Metric, following the methodology set out within the Statutory Biodiversity Metric User Guide and Technical Supplement⁷.
- British Standard 8683 Process for designing and implementing Biodiversity Net Gain – Specification (2021)⁸.
- CIEEM (2021) Biodiversity Net Gain Reporting and Audit Templates⁹.
- Gurnell et al. (2022) A Guide to Assessing River Condition Part of the Rivers and Streams Component of the Biodiversity Net Gain Metric¹⁰.

2.2 Data Sources

2.2.1. The following data sources have been used to complete the BNG assessment:

1. Publicly available datasets, including Open-Source Natural England¹¹ for Habitats of Principal Importance (HPI), ancient woodland (classed as irreplaceable habitat), statutory and non-statutory designated sites for nature conservation and relevant details from local strategies. Full details of the desk study method are provided within the PEA (WSP, 2023). The results of the desk study have been used to inform the strategic significance value in line with the methodology detailed within the Metric⁴ and **Section 2.4**.

⁷ Defra (2023). Statutory Biodiversity Metric Tools and Guides. Available at: [Statutory biodiversity metric tools and guides - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guides/statutory-biodiversity-metric-tools-and-guides)

⁸ British Standards Institute, 2021. BS 8683:2021 *Process for designing and implementing Biodiversity Net Gain. Specification*. UK: BSI

⁹ <https://cieem.net/wp-content/uploads/2021/07/CIEEM-BNG-Report-and-Audit-templates2.pdf>

¹⁰ Gurnell, A., England, J., Scott, S. and Shuker, L., (2022). A Guide to Assessing River Condition Part of the Rivers and Streams Component of the Biodiversity Net Gain Metric. [e-book] pp.8-25 [Accessed 28 March 2024].

¹¹ Natural England (2021) Priority Habitat Inventory (England) Opensource dataset.

2. A UK Habitat Classification (UKHab) survey undertaken in November 2023 by a suitably experienced WSP ecologist following best practice guidelines¹². This survey provided a baseline habitat database which details the habitat types present on-site, their area (ha) and their geographic distribution (**Figure 1**). Full details of the survey method, including minimum mappable units, are provided within the PEA (WSP, 2023).
3. All areas / lengths of habitats have been measured using ArcGIS 10.8.1 with reference to aerial imagery.
4. A Habitat Condition Assessment (HCA), completed concurrently with the UKHab survey, following the methodology detailed within the Metric condition assessment sheets.
5. A River Condition Assessment, following the methodology described by Gurnell et al. (2022), conducted by an accredited surveyor. The RCA condition indicators were generated in the virtual Cartographer¹³ workspace and the river typing exercise conducted using imagery from Google Earth¹⁴.
6. Site Plans showing the RLB to determine the footprint for assessment.
7. An Arboricultural Impact Assessment report (WSP, 2024) (70114053-ARB-BOO-AIA-001) which assessed the extent of tree loss within the Site.
8. A post-development Landscape General Arrangement Plan provided by WSP on the 25th of March 2024 (70114053-LUD-001). The post-development Landscape General Arrangement Plan habitats were translated into Metric habitat types for use in the assessment (**Figure 2**).

2.3 Irreplaceable habitats and statutory designated sites

- 2.3.1. In accordance with the Metric methodology, impacts on irreplaceable habitats (ancient woodland, ancient and veteran trees), very high distinctiveness habitats and statutory designated sites have been avoided through the design following the mitigation hierarchy, or excluded from the calculations.
- 2.3.2. It is important to note that BNG cannot be achieved for the Proposed Works as a whole if there is a loss of irreplaceable habitat or a loss of habitat from within statutory designated sites.

¹² UKHab Ltd (2023). UK Habitat Classification Documents V2.0 [online]. Available: <https://ukhab.org/about-ukhab/>

¹³ Cartographer (2024). Cartographer [online]. Available at: <https://cartographer.io/>

¹⁴ Google Earth (2024). *River Irk*, Middleton, 53°32'29"N 2°13'40"W, elevation 67m [online]. Available from: <https://earth.google.com/web/> [Accessed 21 March 2024].

2.4 Strategic significance

- 2.4.1. BNG should aim to contribute to local strategic priorities for nature. The Metric includes an incentive for this through the Strategic Significance score. Strategic Significance for baseline and post-development habitats was categorised following the approach set out in **Table 2-1**.

Table 2-1 – Method for assigning strategic significance.

Strategic significance	Method
High - Within an area formally identified in local strategy	Habitats are assigned this category where the following criteria are met: ■ It is located within an area identified as a statutory designated site¹⁵ or non-statutory designated site¹⁶ or within a relevant local strategy^{17, 18} <i>and</i> ■ The habitat type is of specific importance to that location (e.g. it is referred to in the site's designation/strategy). <i>or</i> ■ Where specific details on relevant habitats to the identified site are unknown, all habitats which sit within the formally identified area are assigned to this level.
Medium - Location ecologically desirable but not in location strategy	Professional judgement will be applied to determine if the location is deemed ecological desirable for a particular habitat type. This decision will take account of the proximity of formally identified areas and ecological connectivity (i.e. if the habitat forms a strategic corridor) to the Site.

¹⁵ To include Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Ramsar, Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNRS)

¹⁶ To include Local Nature Reserves (LNRs), Sites of Nature Conservation Interest (SNCI)

¹⁷ Greater Manchester Combined Authority – Local Nature Recovery Strategy Pilot. Available online: [Local Nature Recovery Strategy Pilot Report | GM Green City](#)

¹⁸ Rochdale Metropolitan Borough Council – Biodiversity and Development Supplementary Planning Document (Updated February 2017) (see **Appendix A** for details).

Strategic significance	Method
Low- Area not in a local strategy	Any habitats which do not fall into either of the above categories will be assigned this level of strategic significance.

2.5 Qualitative Assessment

- 2.5.1. A qualitative assessment of the compliance of the Proposed Works with the Principles¹⁹ was undertaken; this also provides a review to determine if wider biodiversity net gain obligations (i.e. in addition to the measurable net gain) have been met. Adherence of the Proposed Works to these Principles is based on the current stage in the BNG process; it does not necessarily rule out future adherence.

2.6 Watercourse Methodology

- 2.6.1. Details of the methodology related to the data collection to inform the BNG metric calculations, through the River Condition Assessment (including MoRPh5 surveys and River Typing), are described in Gurnell et al. 2022.
- 2.6.2. A MoRPh5 survey is completed for each sub-reach of the study site and comprises five individual MoRPh surveys. The MoRPh survey is akin to an inventory whereby predetermined features on the bank top, bank face, channel margins and channel bed are recorded. Each feature is recorded as either Absent, Trace (less than 5% coverage), Present (greater than 5% and less than 33% coverage) or Extensive (greater than 33%).
- 2.6.3. The initial field-based component was undertaken in March 2024 to capture the baseline condition of the River Irk. The assessment methodology outlines that surveyors should “record what they see, not what they know”. Therefore, features have been recorded as seen during the survey, with conditions and flow levels recorded in the notes within the online River Condition Assessment database and workspace, known as Cartographer.
- 2.6.4. One MoRPh5 survey was completed as outlined in Table 2-2 to provide representative conditions throughout for the Proposed Works.
- 2.6.5. The Final Condition Score may be adjusted for watercourses that are considered overdeep and, therefore, laterally disconnected from the floodplain. The river shape parameter calculated by Cartographer is used to assess the likelihood of a surveyed channel being

¹⁹ CIEEM, CIRIA & IEMA (2016). Biodiversity Net Gain: Good practice principles for development. Available: Biodiversity Net Gain: Good Practice Principles for Development, A Practical Guide. | CIEEM

sufficiently overdeep to adversely affect its hydrological and ecological lateral connection. Where a river shape value is less than or equal to 4 is watercourse is likely to be overdeep, and expert judgement should be exercised to assess if the final RCA condition score should be reduced by one class.

- 2.6.6. The River Type Pro is a desk-based study used to categorise character of the watercourse in the study area. There are 13 river types defined in the RCA methodology. The desk-based study identifies distinct reaches within the study area with a River Type Pro assessment carried out for each reach. The start and end of a reach may be defined by a number of features including large in-channel structures, significant tributary junctions (contributing > 10% of flow) or a notable change in planform. For each reach, eight indicators are estimated using maps or aerial imagery and field-based data.

Table 2-2 - Overview of MoRPh5 sub-reaches completed.

MoRPh5 Survey	MoRPh5 approximate mid-point location	Average MoRPh river width (m)
River Irk 1	SD 85036 05015	6.8

2.7 Limitations and assumptions

- 2.7.1. The following limitations and assumptions have been applied when using the above methodologies.

Baseline biodiversity

- 2.7.2. The UKHab survey was undertaken in November, which is outside optimal time for botanical identification. As such, it is recognised that some plant species may have been missed, or identified to genus only. However, sufficient species were present and able to be identified to inform habitat classification and survey data was supplemented with aerial photography which was used to confirm the classification of habitat types. A precautionary approach was also undertaken with regards to the grassland habitat identification and condition assessment; therefore it is not considered to have formed a constraint to this assessment.
- 2.7.3. As per the Statutory Biodiversity Metric User Guide²⁰, where habitats were considered to be reinstated to their original habitat type and condition within two years, based on their time to target condition within the metric, they were considered as retained within the metric. This included the habitat type 'g4 – modified grassland' and poor condition 'h3h – mixed scrub'.

²⁰ The Statutory Biodiversity Metric - User Guide .pdf (publishing.service.gov.uk)

- 2.7.4. The RCA field surveys were conducted in March 2024. Prior to the survey, periods of rain occurred. No heavy rain occurred whilst on site. The flow at the time of survey was slightly elevated, with water turbidity obscuring full view of the channel bed.

Post-development biodiversity

- 2.7.5. Only direct impacts within the planning submission boundary of the Proposed Works are considered for BNG. Any impacts on protected species, and indirect habitat impacts (e.g. noise disturbance, dust, shading) have been addressed in the PEA (WSP, 2023) and are not considered within this report.
- 2.7.6. It is assumed that reinstated habitats within the Site would reach the same condition that they were lost in from the baseline.
- 2.7.7. It is assumed that all other created habitats within the Site would reach Poor condition – This includes ‘g4 – modified grassland’ and ‘h3h – mixed scrub’ habitats.
- 2.7.8. It is assumed that newly planted trees following the Proposed Works would be of small size and reach Poor condition.
- 2.7.9. It is assumed that the permanent access track created within the Site will be in place for more than two years, and as such creates increased riparian encroachment for a short length of the River Irk.
- 2.7.10. The temporary access bridge is assumed to be in place for less than two years, and therefore the watercourse within the vicinity of the temporary access bridge has been retained within the metric. It should be noted that due to the temporary nature of the bridge, it has not been included on **Figure 2**.

3 Results

- 3.1.1. This section provides a summary of the quantitative assessment, with full results available in the Metric calculation tool appended to this report (**Appendix B**), along with a summary of the qualitative assessment against the BNG Good Practice Principles.

3.2 Quantitative assessment

Strategic significance

- 3.2.1. The Greater Manchester Local Nature Recovery Strategy²¹ (LNRS) Pilot is a prototype Greater Manchester LNRS, developed as part of the pilot process. The Greater Manchester LNRS has been reviewed as part of this BNG assessment by checking the habitat types of habitat maps provided within the LNRS document. Following this review, it was concluded that all area-based habitats present within the Site do not qualify as being of High strategic significance and have therefore been classified as having Low strategic significance.
- 3.2.2. All sections of the River Irk were assigned High strategic significance as watercourses are one of the habitat types identified within the LNRS, where practical actions are needed to achieve nature recovery in Greater Manchester.
- 3.2.3. The desk study identified no other formally identified or ecologically desirable areas (as defined by Section 2.4) within the Site boundary.

Baseline biodiversity

- 3.2.4. The Site consisted primarily of other neutral grassland habitat, with scattered areas of broadleaved woodland and several individual rural trees. The River Irk flows through the Site to the north and is bounded by scrub and broadleaved woodland habitat at its banks. Some small areas of hard standing were located throughout the Site, including existing access paths and roads.
- 3.2.5. The tabs within the accompanying Metric provide details on the habitat baseline and should be referred to for full details on the habitats present on-site. In this instance, please refer to tabs: A-1 Site Habitat Baseline, and C-1 Site River Baseline. Baseline habitats are shown in **Figure 1**.
- 3.2.6. Excluding rural trees, there was a total of 0.24 ha of area-based habitats on-site, generating an estimated 1.31 Area Habitat Units (AHU) in total.

²¹ Greater Manchester LNRS Pilot. Available online: [https://gmgreencity.com/wp-content/uploads/2021/10/FINAL-Report-of-the-GM-LNRS-Pilot\(1\).pdf](https://gmgreencity.com/wp-content/uploads/2021/10/FINAL-Report-of-the-GM-LNRS-Pilot(1).pdf)

- 3.2.7. Six individual rural trees were present in the baseline which made up 0.024ha and generate 0.16 AHU. All six trees are considered to be lost to the Proposed Works.
- 3.2.8. 0.14 km of watercourse (other rivers and streams) were present on-site or within 10m of the Site Boundary, totalling 0.48 Watercourse Units. The River Irk was assessed to have a baseline condition score of Poor.
- 3.2.9. No irreplaceable habitats were present within the Site boundary.

Post-development biodiversity

- 3.2.10. The post-development habitats expected on-site after construction are based on the post-development Landscape General Arrangement Plan (70114053-LUD-001) and are shown as UKHab types in **Figure 2**. The Landscape General Arrangement Plan identifies where baseline habitats will be retained or enhanced as well as the locations for the creation of new habitats.
- 3.2.11. Of the 0.24 ha of area-based habitats, 0.08 ha is anticipated to be retained as part of the Proposed Works, totalling 0.08 AHU. The remaining 0.16 ha of the Site is considered to be lost to the Proposed Works, totalling 1.23 AHU. The six individual trees present within the Site baseline will be lost to the Proposed Works.
- 3.2.12. As part of the Proposed Works, the creation of 0.16 ha of area-based habitats is proposed, totalling 0.52 AHU. This includes the creation of 0.0611 ha of individual trees (the equivalent of 15 small trees in Poor condition).
- 3.2.13. As part of the Proposed Works, the loss of 0.032 km of watercourse totalling -0.01 WU, is assumed. The loss of watercourse within the metric is not due to loss of watercourse itself, but is instead due to an increase in riparian encroachment. This increase in riparian encroachment needs to be recorded as loss and creation within the metric in order to capture its impact on River Condition.
- 3.2.14. Habitat created in advance of the Proposed Works would provide a greater biodiversity unit value, whilst any delay to enhancements and creation would provide a smaller biodiversity unit value. This is captured in the metric (C-2 Site River Creation tab) by the Final Time to target multiplier, which captures creation in advance as a higher multiplier, and delays as a discount multiplier. It is assumed that, to minimise the risk of disturbance and limits relating to the practicability of completing enhancement works during construction, any enhancements or creation could take up to 2 years from the commencement of construction of the Proposed Works to be completed and therefore a 2-year delay was selected for these parameters.
- 3.2.15. The tabs within the accompanying Metric provides details on the retained and created habitats on-site. In this instance, please refer to tabs: A-2 Habitat Creation and C-2 Site River Creation.

- 3.2.16. As per national BNG guidance²², ‘significant’ on-site enhancements require management and maintenance for a minimum of 30 years. Significant enhancements are defined as “areas of habitat enhancement which contribute significantly to the proposed development’s BNG, relative to the biodiversity value before development”.
- 3.2.17. It is considered that none of the habitats proposed for creation within the Site would be significant enhancements as they do not contribute significantly to the biodiversity units of the Site and therefore would not require management for 30 years.

3.3 Summary of overall biodiversity change

- 3.3.1. Figure 3.1 below shows the headline results from the Metric and summarises the changes in Area Habitat and Watercourse Units generated for the broad habitat categories present on-site during the baseline and post-development mapping, and the percentage change in units for all area based and linear habitats, along with details on the overall quantitative outcome.

²² [Make on-site biodiversity gains as a developer - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/make-on-site-biodiversity-gains-as-a-developer)

Figure 3-1 - Screenshot of headline results from the Metric calculation tool.

On-site baseline	Habitat units	1.47
	Hedgerow units	0.00
	Watercourse units	0.48
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.59
	Hedgerow units	0.00
	Watercourse units	0.47
On-site net change (units & percentage)	Habitat units	-0.88
	Hedgerow units	0.00
	Watercourse units	-0.01
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
Off-site net change (units & percentage)	Habitat units	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-0.88
	Hedgerow units	0.00
	Watercourse units	-0.01
Spatial risk multiplier (SRM) deductions	Habitat units	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-0.88
	Hedgerow units	0.00
	Watercourse units	-0.01
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-59.68%
	Hedgerow units	0.00%
	Watercourse units	-1.81%
Trading rules satisfied?	No - Check Trading Summaries ▲	

- 3.3.2. The Proposed Works, as assessed, will result in a net loss of -59.68% in AHU which equates to a net change of -0.45 AHU, and -1.81% in WU which equates to a net change of -0.01 WU.
- 3.3.3. Trading rules within the Metric would not be met, due to the loss of medium distinctiveness grassland and woodland habitats.
- 3.3.4. In conclusion, the Proposed Works as assessed does not achieve a quantitative scheme-wide biodiversity net gain.

3.4 Recommendations for achieving BNG

- 3.4.1. As the Proposed Works (as currently designed) is not predicted to achieve the required target of a minimum 10% BNG, further consideration is required as to how BNG will be achieved.
- 3.4.2. Figure 3-2 below shows a screenshot of the biodiversity units required to meet a 10% net gain for the Proposed Works.

Figure 3-2 - Screenshot of biodiversity unit deficit from the Metric calculation tool.

Unit Type	Target	Baseline Units	Units Required	Unit Deficit
<i>Habitat units</i>	10.00%	1.47	1.62	1.02
<i>Hedgerow units</i>	10.00%	0.00	0.00	0.00
<i>Watercourse units</i>	10.00%	0.48	0.53	0.06

- 3.4.3. The post-development Landscape General Arrangement Plan has been designed and produced with consideration of BNG and a goal to retain habitats wherever possible. The current scheme design therefore currently achieves the best result for BNG which is considered possible on-site.
- 3.4.4. In order to achieve a 10% net gain, off-site compensation will be required and should aim to replace habitats on a like-for-like or better basis, ensuring that the trading rules are met with regards to the loss of medium distinctiveness habitats (grassland and woodland). Consultation has begun between the Client and several offset providers in order to establish a suitable off-site location which can be used for the compensation of the Proposed Works.

3.5 Qualitative BNG assessment

- 3.5.1. Table 3-1 provides a summary of the qualitative assessment against the Principles.
- 3.5.2. Adherence of the Proposed Works to these principles is based on the current stage in the BNG process; it does not necessarily rule out future adherence.

Table 3-1 – Summary results of the qualitative assessment in line with the Principles

Principle	Outcome based on the current Proposed Works
1. Apply the mitigation hierarchy	Achieved – The Proposed Works have been designed to retain valuable habitats where possible, ensuring that effects to the River Irk watercourse are minimised, and avoiding woodland and individual trees wherever possible. The majority of the woodland within the Site is due to be lost to the Proposed Works but this has been assessed and considered necessary for the facilitation of the Proposed Works. All on-site BNG delivery has been fully explored during the scheme design and therefore off-site compensation must be used in order to achieve 10% net gain. Discussions regarding off-site options have begun with various offset providers.
2. Avoid losing biodiversity that cannot be offset by gains elsewhere	Achieved – No irreplaceable habitats are being lost as part of the Proposed Works.
3. Be inclusive and equitable	Achieved – Stakeholder engagement has been undertaken with Greater Manchester Ecology Unit (GMEU) to discuss the potential BNG results for the Proposed Works and potential offsetting solutions. It is recommended that stakeholder engagement is continued throughout the planning process.
4. Address risks	Achieved – Within the Metric, risk multipliers are applied with respect to time to target condition to account for the time required for habitats to reach any given condition, along with risk multipliers associated with the difficulty to create any given habitat. Further consideration of risk has been given when deciding on the habitat types and conditions associated with

Principle	Outcome based on the current Proposed Works
	the post-development Landscape General Arrangement Plan.
5. Make a measurable Net Gain contribution	To be achieved – The BNG assessment as currently assessed results in a quantitative -59.68% net loss of area-based habitats, and a -1.81% net loss of watercourse habitat. Therefore the Proposed Works currently do not achieve a measurable net gain contribution.
6. Achieve the best outcomes for biodiversity	To be achieved – Where possible, habitats have been retained, but the Proposed Works currently results in the loss of medium distinctiveness grassland and woodland habitats, and the loss of WU through increased riparian encroachment, which are not compensated for. The mitigation hierarchy has been taken into account and no further on-site compensation is considered achievable, therefore off-site compensation should be further explored throughout the determination process. Further consideration should also be given to the habitat trading rules to ensure that habitats are compensated for on a like-for-like or like-for-better basis.
7. Be additional	To be achieved – This BNG assessment does not currently achieve additionality as it does not achieve a net gain.
8. Create a Net Gain legacy	To be achieved – Due to no significant enhancements being proposed within the scheme design a long-term strategy for Habitat Management and Monitoring is not required with regards to on-site habitats. When off-site units are secured however, they will be subject to a minimum of 30 years of management and maintenance.
9. Optimise sustainability	Achieved – The Proposed Works considers the BNG requirements as well as sustainability requirements and aims to address the two so that they are delivered together where possible.
10. Be transparent	To be achieved – While consultation has taken place with the local planning authority, the BNG outcome should be shared with relevant stakeholders.

- 3.5.3. In conclusion, the Proposed Works as assessed meets five of the ten Principles and therefore does not achieve a qualitative net gain.
- 3.5.4. In order to meet the remaining principles, it is recommended that further consultation is undertaken with relevant stakeholders to discuss the current quantitative BNG result, and further consultation should be undertaken to identify and secure off-site compensation which will enable the Proposed Works to meet a 10% biodiversity net gain.

4 Next Steps

- 4.1.1. The following recommendations have been identified which, if implemented are predicted to achieve both qualitative and quantitative BNG:
- Consultation between the Client and various offset providers has begun and should continue to be explored to ensure that the appropriate compensation is secured for the Proposed Works to achieve 10% net gain, and meet the necessary trading rules for both terrestrial and watercourse habitats, as set out within the Metric.
 - Any further offsetting should prioritise the creation of other neutral grassland and broadleaved woodland habitats in order to meet the trading rules for the Proposed Works.
 - Where not already in place, a detailed 30-year Habitat Management and Monitoring Plan (HMMP) should be produced for any off-site units secured. This would set out the details of a management programme, tasks, and responsibilities to ensure that target habitat types and conditions are achieved within the timescales set out in the Metric. It will also set out an appropriate monitoring regime for checking progress towards achieving target condition and identifying any remedial actions required, following the principles of adaptive management. As outlined in Section 3.2.13, it is not anticipated that a 30-year Habitat Management and Monitoring Plan (HHMP) will be required for habitats created on-site, due to them not classifying as 'significant'.
 - An update to the BNG assessment will be required at the pre-commencement planning stage, once further work is completed to identify off-site compensation for the Proposed Works.

5 Conclusion

- 5.1.1. In conclusion the BNG assessment recorded a Site biodiversity baseline of 1.47 AHU and 0.48 RU. Considering the proposed landscaping, it is predicted that the Proposed Works will result in a net loss of -59.68% for area-based habitats, and a -1.81% loss for watercourse habitats.
- 5.1.2. In terms of the quantitative assessment, it is therefore predicted that the Proposed Works will not achieve a quantitative scheme-wide 10% biodiversity net gain.
- 5.1.3. The qualitative assessment concluded that the Proposed Works is predicted to meet five of the ten Principles. It is recommended that the recommendations within Section 3.4 and 3.5 of this report are implemented in order to achieve a qualitative and quantitative net gain. These recommendations include further consultation with offset providers to identify and secure offsite compensation opportunities. Consultation should also be undertaken with the relevant stakeholders to discuss the outcome of the BNG results.
- 5.1.4. This document should be subject to review and update following any changes to the design of the Proposed Works.
- 5.1.5. This BNG report does not cover requirements of the Proposed Works to mitigate potential impacts on protected species and designated sites. This information can be found in the PEA (WSP, 2023).

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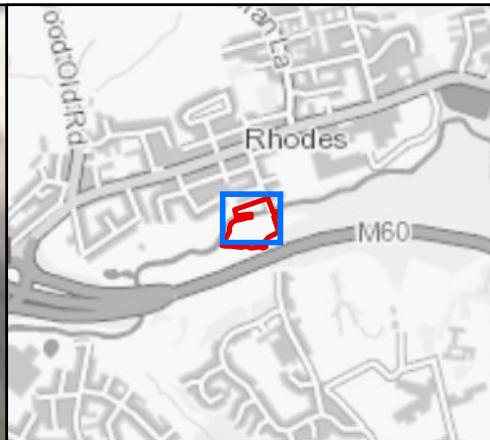
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Figures

Figure 1 - Baseline UKHab Map

Figure 2 - Post-Development UKHab Map



- Legend**
- Red Line Boundary
 - Baseline UKHab Habitat Type**
 - g3c - other neutral grassland
 - g4 - modified grassland
 - h3h - mixed scrub
 - r2a - rivers (priority habitat)
 - u1 - built-up areas and gardens
 - u1b - developed land, sealed surface
 - w1g - other woodland, broadleaved
 - Individual Trees

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Client Name: United Utilities

PROJECT TITLE: Boothroyden

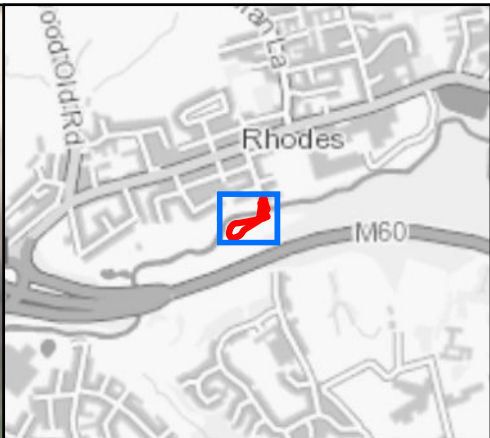
DRAWING TITLE: Figure 1 - Baseline Habitat Map

STATUS: For Information

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DRAWING NUMBER: 70114053-014 Figure 1



- Legend**
- Red Line Boundary
 - Post-Development UKHab Habitat Type**
 - g4 - modified grassland
 - h3h - mixed scrub
 - r2a - rivers (priority habitat)
 - u1 - built-up areas and gardens
 - u1b - developed land, sealed surface
 - w1g - other woodland, broadleaved
 - Individual Trees

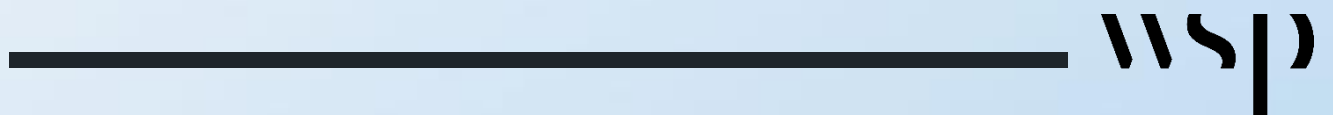
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Client Name:			
United Utilities			
PROJECT TITLE:			
Boothroyden			
DRAWING TITLE:			
Figure 2 - Post-Development Habitat Map			
STATUS:			
For Information			
DRAWN:	CHECKED:	APPROVED:	AUTHORISED:
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70114053-014 Figure 2			

Appendix A

Biodiversity Net Gain policy and legislation



National legislation

England

Environment Act 2021

The Act requires a minimum of 10% net gain for biodiversity as a condition of planning permission.

Net gain is to be measured by the Statutory Biodiversity Metric published by the Secretary of State. The Act requires that habitat creation and enhancements that are for BNG to be maintained for a minimum of 30 years post completion of development.

Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities (NERC) Act (HMSO, 2006) requires public bodies, including local authorities, *'to have regard to the conservation of biodiversity in England when carrying out their normal functions'*.

Under Section 40, as amended by the Environment Act 2021, *"A public authority which has any functions exercisable in relation to England must from time to time consider what action the authority can properly take, consistently with the proper exercise of its functions, to further the general biodiversity objective."* The biodiversity objective is, *"...the conservation and enhancement of biodiversity in England through the exercise of functions in relation to England"*. This is referred to as the Biodiversity Duty.

Section 41 sets out that:

- Paragraph 1. "The Secretary of State must... publish a list of the living organisms and types of habitat ... of principal importance for the purpose of conserving or enhancing biodiversity" based on consultation with Natural England; and that.
- Paragraph 3a. Every planning authority must "a) take such steps... to further the conservation of the living organisms and types of habitat included in any list published under this section, or (b) promote the taking by others of such steps".

Environment Improvement Plan 2023

The Environment Improvement Plan represents the first review of the UK Government's 25 Year Environment Plan (DEFRA, 2018). It reinforces the intent of the 25 Year Environment Plan and sets out 10 goals to include:

- Goal 1 - Thriving plants and wildlife
- Goal 2 - Clean air
- Goal 3 - Clean and plentiful water
- Clean 4 - Managing exposure to chemicals and pesticides
- Goal - 5 Maximise our resources, minimise our waste

- Goal 6 - Using resources from nature sustainability
- Goal 7 - Mitigating and adapting to climate change
- Goal 8 - Reduced risk of harm from environment waste
- Goal 9 – Enhancing biosecurity
- Goal 10 – Enhanced beauty, heritage and engagement with the natural environment

National Planning Policy Framework

The revised National Planning Policy Framework (NPPF) (MHCLG, 2023) refers to conserving and enhancing the natural environment. This requires Local Authorities in England to take measures to:

- Conserve and enhance biodiversity;
- Protect the habitats of these species from further decline;
- Protect the species from the adverse effect of development; and
- Refuse planning permission for development, if significant harm resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for.

Although not currently a legal obligation, the revised NPPF refers to biodiversity and environmental net gains in the following paragraphs:

- Transport Infrastructure
 - Paragraph 108 *“Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

 - d) the environmental impacts of traffic and transport infrastructure can be identified assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for **net environmental gains**.”*
- Planning decisions
 - Paragraph 180. *“Planning policies and decisions should contribute to and enhance the natural and local environment by: ... d) minimising impacts on and **providing net gains** for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.”*
 - Paragraph 185. *“To protect and enhance biodiversity and geodiversity plans should b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing **measurable net gains for biodiversity**.”*
 - Paragraph 186. *“When determining planning applications, local planning authorities should apply the following principles: a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less*

harmful impacts) adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

Local Policy and guidance

Rochdale Metropolitan Borough Council – Biodiversity and Development Supplementary Planning Document (Updated February 2017)

The current local planning policy context is incorporated within the Rochdale Biodiversity and Development Supplementary Planning Document.

G7 – Increasing the value of biodiversity and geodiversity.

We will ensure that sites and features of biodiversity and geodiversity importance are given full and appropriate recognition and protection. Opportunities for enhancing biodiversity and geodiversity, creating new sites and features of interest and improving opportunities for public enjoyment will be supported. No development should result in a net loss of biodiversity or geodiversity interest in the borough and overall development in the borough should result in a net gain.

Particular priorities for biodiversity and geodiversity are:

1. The South Pennine Moors - our focus is to maintain and enhance the peatland habitats of the moorland and to support development, land and water management activities which provide an opportunity to conserve and enhance the value of moorland for upland breeding birds of conservation significance and the habitats on which they depend, and which do not harm biodiversity value. Our focus is the designated Special Protection Area and Special Area of Conservation but also the wider moorland where such interest is present or could be supported through appropriate development or land management. We will also protect and support enhancement measures for areas of geodiversity value.
2. The Rochdale Canal - our focus is to ensure that the Rochdale Canal Special Area of Conservation and the wider biodiversity interest of the canal is given full and appropriate protection and ensure that development which delivers the economic and recreational value of the Rochdale Canal, and its wider corridor supports and does not harm its biodiversity value.
3. Upland farmland - our focus is to ensure that the biodiversity interest of upland farmland including its value for birds, woodland and grassland is protected and opportunities for enhancement and the creation of new interest maximised through land management improvements and appropriate development activities.
4. Countryside around towns - our focus is to protect and enhance the biodiversity interest of river valleys, woodland, water and farmland including the reclamation of derelict and neglected land and flood risk management measures. We will also

support actions which enhance public access and enjoyment of countryside close to urban areas including Local Nature Reserves and the wider countryside.

5. Urban Areas - our priority is to protect and enhance existing urban biodiversity and to support opportunities for new urban biodiversity corridors, sites and features including sustainable urban drainage schemes, new public realm provision, street trees and urban woodlands, ponds and lodges, green roofs and natural play areas.
6. Designated sites of ecological importance - will be given appropriate protection according to their European, national or local status and in accordance with policies in other development plan documents, supporting Supplementary Planning Documents and Biodiversity Action Plans.
7. Protected Species: Development proposals which would affect a species protected by law or its habitat will not be permitted unless it can be demonstrated that:
 - a. there is no adverse impact on the species concerned;
 - b. damage to habitats is minimal and alternative habitat provision is effective in maintaining those species.

Opportunities to protect, enhance and create features of biodiversity or geodiversity interest should be informed by the detail of any formal designation of a site or area and supporting plans and guidance such as Local Biodiversity Action Plans, Green Infrastructure Strategies and Action Plans and the Council's Biodiversity and Development SPD.

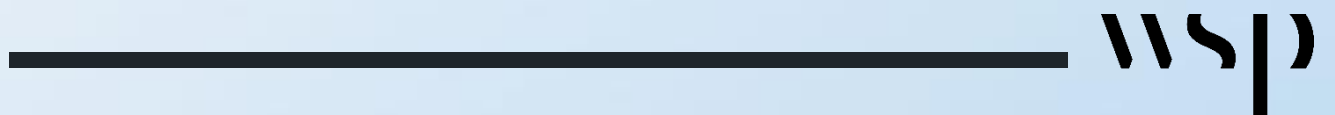
We will expect development proposals and improvements to:

- a. Protect and include existing biodiversity (including established biodiversity interest on brownfield land) within new developments, public realm and open spaces and meet the requirements of the Biodiversity and Development SPD, Greater Manchester and Local Biodiversity Action Plans;
- b. Protect and enhance existing features such as peatland, ponds, wetlands, reservoirs, mill lodges, trees, hedges, wooded areas, meadows, flora and fauna;
- c. Take opportunities to promote biodiversity and create new habitats through new development using landscaping and building and construction features wherever possible (e.g. ponds, species of vegetation, green roofs and walls, bat boxes, roof space, appropriate nest boxes and landscaping);
- d. Enhance strategic wildlife corridors and the most natural areas and ensure that habitats and corridors are not fragmented by development;
- e. Improve access where appropriate to new or existing biodiversity interest for public enjoyment; and
- f. Protect important geology and take opportunities to increase interest and accessibility.



Appendix B

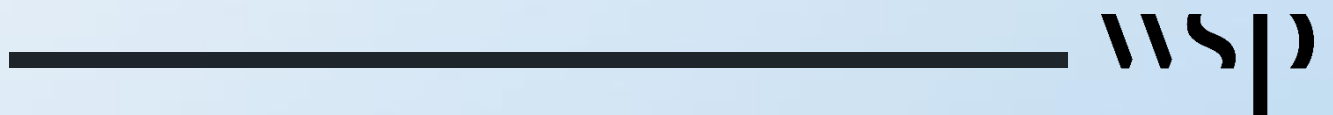
Metric Calculation Tool





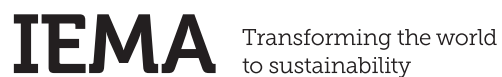
Appendix C

Biodiversity Net Gain Good Practice Principles



Biodiversity Net Gain

Good practice principles for development



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Principle 3. Be inclusive and equitable

Principle 4. Address risks

Principle 5. Make a measurable Net Gain contribution

Principle 6. Achieve the best outcomes for biodiversity

Principle 7. Be additional

Principle 8. Create a Net Gain legacy

Principle 9. Optimise sustainability

Principle 10. Be transparent

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How you can get involved

Introduction

Achieving Biodiversity Net Gain

Designing, building, operating and maintaining - each of these stages of a development scheme generates opportunities to help achieve an overall benefit for biodiversity. Realising these opportunities is vital because biodiversity, and the functions it provides, are essential to sustain our society and economy.

Achieving these net gains in biodiversity, where there are wider benefits for society, is more than simply outweighing losses with gains. It requires doing everything possible to avoid losing biodiversity in the first place, as well as involving stakeholders especially as partners. It also requires the gains in biodiversity to be valuable locally, and to make important contributions towards regional and national priorities for nature conservation. In other words, there is a right way to achieve 'Biodiversity Net Gain' that brings about long-lasting and meaningful benefits for our environment, society and economy.

This 'right way' is articulated in standards and guidelines produced by an international community on achieving No Net Loss and Net Gain targets for biodiversity. In the United Kingdom, the government has international and national commitments on biodiversity that include halting the loss of biodiversity and reaching net gains. Development can contribute significantly towards realising these commitments. However, until now there has been no standard for the UK industry on good practice for achieving Biodiversity Net Gain.

Establishing good practice

CIRIA, CIEEM and IEMA have developed the first UK principles on good practice to achieve Biodiversity Net Gain. These principles provide a framework that helps improve the UK's biodiversity by contributing towards strategic priorities to conserve and enhance nature while progressing with sustainable development. They also provide a way for industry to show that projects followed good practice.

It is important that these principles are tested, refined and improved through feedback and review. CIRIA, CIEEM and IEMA will undertake a first review within 12 months.

Supporting guidance

The principles are broad by necessity so that they apply to a wide-ranging industry. This means that their proper interpretation is critical. CIRIA, CIEEM and IEMA are developing guidance that will contain practical advice on implementing the Net Gain principles and definitions of key terms. This guidance will be available in 2017, and a steering group will be overseeing its production and consultation with a variety of stakeholders.

Part of that stakeholder consultation is discussing a credible, proportionate way to audit implementation of Biodiversity Net Gain. While this is in progress, developments claiming to achieve Biodiversity Net Gain must provide evidence that clearly demonstrates they have implemented and adhered to the good practice principles.

Biodiversity Net Gain

Good practice principles for development

Biodiversity Net Gain is development that leaves biodiversity in a better state than before. It is also an approach where developers work with local governments, wildlife groups, land owners and other stakeholders in order to support their priorities for nature conservation. These ten principles set out good practice for achieving Biodiversity Net Gain and must be applied all together, as one approach.

Principle 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.

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.

Principle 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, and share the benefits fairly among stakeholders.

Principle 4. Address risks

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 the losses occurring and the gains being fully realised.

Principle 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.

¹ Net Gain has been described as a measurable target for development projects where impacts on biodiversity are outweighed by a clear mitigation hierarchy approach to first avoid and then minimise impacts, including through restoration and / or compensation. Adhering to these Net Gain principles (i.e. pursuing all principles together) will help in under-pinning good practice for achieving and sustaining Net Gain.

Principle 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
-

Principle 7. Be additional

Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e. do not deliver something that would occur anyway).

Principle 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 perpetuity²
 - 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
 - Supporting local-level management of Net Gain activities
-

Principle 9. Optimise sustainability

Prioritise Biodiversity Net Gain and, where possible, optimise the wider environmental benefits for a sustainable society and economy.

Principle 10. Be transparent

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

² Biodiversity compensation should be planned for a sustained Net Gain over the longest possible timeframe. For development in the UK, the expectation is that compensation sites will be secured for at least the lifetime of the development (e.g. often 25-30 years) with the objective of Net Gain management continuing in the future.

Acknowledgements

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SLR Consulting

The project team consisted of staff representatives from the three partner organisations, together with industry members of each organisation.

We would like to thank the numerous stakeholders who provided comment on earlier drafts of the principles in the form of online surveys, a consultation workshop and a webinar.

The Biodiversity Net Gain good practice principles were first drafted based on several sources: responses to the UK government's 2013 Green Paper Consultation on Biodiversity Offsetting; experience gained from the national pilot on biodiversity offsetting led by the UK's Department for Environment, Food and Rural Affairs; experience from Network Rail Infrastructure Projects' and from other leading corporations' work on net positive approaches; and also on principles developed for the international community by the Business and Biodiversity Offset Programme.

The draft principles were refined following initial consultation with various stakeholders including government, NGOs, regulators and private and public-sector organisations. The refined version was presented to over 450 professionals during a webinar where the majority supported this approach to Biodiversity Net Gain and the principles. The principles were revised based on feedback received during the webinar, assessed by the project team and the final set are presented in this document. It is envisaged that the principles will be further refined following a period of application, feedback and review.

Supporting guidance

The principles are broad by necessity so that they apply to a wide-ranging industry. This means that their proper interpretation is critical. CIRIA, CIEEM and IEMA are developing guidance that will contain practice advice on implementing the Net Gain principles and definitions of key terms. This guidance will be available in 2017, and a steering group will be overseeing its production and consultation with a variety of stakeholders.

Part of that stakeholder consultation is discussing a credible, proportionate way to audit implementation of Biodiversity Net Gain. While this is in progress, developments claiming to achieve Biodiversity Net Gain must provide evidence that clearly demonstrates they have implemented and adhered to the good practice principles.

How you can get involved

If you would like to be kept informed of progress with our Biodiversity Net Gain practical guidance, please visit www.ciria.org/netgain for further information.

If you are able to sponsor or otherwise contribute towards the cost of developing the Biodiversity Net Gain practical guidance, please contact owen.jenkins@ciria.org

Biodiversity Net Gain

Good practice principles for development



CIRIA is the construction industry research and information association. It is an independent, not-for-profit, member-based research organisation that exists to champion performance improvement in construction. Since 1960, CIRIA has delivered support and guidance to the construction, built environment and infrastructure sectors. CIRIA works with members from all parts of the supply chain to co-ordinate collaborative projects, industry networks and events. Its high quality guidance is delivered to industry through publications, training and other performance improvement activities. www.ciria.org



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