MANDATORY BIODIVERSITY NET GAIN IN ENGLAND

A Guide

Produced by CIEEM, IEMA and CIRIA

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PURPOSE

The aim of this document is to provide a simple 'how to' guide on England's first phase of mandatory Biodiversity Net Gain (BNG).

It is primarily for CIEEM, IEMA and CIRIA members involved in BNG and is likely to also be useful for planners, developers, architects, engineers, landscape architects, arboriculturists, local planning authorities and land managers.

It is not intended as a legal advice or detailed technical guidance and should not be used in place of appropriate ecological expertise.

INTRODUCTION

What is mandatory Biodiversity Net Gain?

Mandatory Biodiversity Net Gain (BNG) is a provision in the Environment Act 2021 that requires development in England to result in more or better-quality natural habitats than before.[1]

What are the drivers behind it?

In 2010, the 'Making Space for Nature' report, often referred to as the 'Lawton Review' recommended ways to safeguard and enhance England's wildlife sites and ecological networks. These included:

- **restoring and enhancing species and habitats**
- **securing the ecological and physical processes that underpin the way ecosystems work**
- **providing wildlife-rich environments for people to access**

Recommendations from the Lawton Review were incorporated into the Government's 25 Year Environment Plan[2], which set a strategy for the UK to have a green and prosperous future. In turn, this led to the Environmental Improvement Plan[3], which describes actions for how the strategy will be delivered. One of these actions is BNG. BNG is a key policy to deliver Goal 1 in the Plan: thriving plants and wildlife, together with Local Nature Recovery Strategies (LNRS) that are to target the best places for nature recovery and wider environmental benefits. LNRS are intended to better equip local planning authorities to incorporate nature recovery objectives into local plans and development decisions, and Local Planning Authorities (LPAs) must have their LNRS in place by March 2025.

When does England's mandatory BNG apply?

From 12th February 2024, new major developments seeking planning permission under the Town and Country Planning Act (TCPA) (with some exemptions) have been required to deliver at least a 10% increase in biodiversity units measured by the Statutory Biodiversity Metric (SBM) (10% BNG). Applications submitted before this date were not legally required to provide 10% BNG under the Environment Act 2021 but would have been required by the National Planning Policy Framework (NPPF) to demonstrate a net gain or may have been subject to local planning policy requiring BNG. Mandatory BNG was then extended to encompass 'small sites' (the vast majority of TCPA applications), bar some exemptions, from 2nd April 2024 and is expected to apply to Nationally Significant Infrastructure Projects (NSIPs) from November 2025. This guide applies to major developments.

1 https://webarchive.nationalarchives.gov.uk/ukgwa/20130402154501/http:/archive.defra.gov.uk/environment/biodiversity/index.htm
2 https://www.gov.uk/government/publications/25-year-environment-plan
3 https://www.gov.uk/government/publications/environmental-improvement-plan

Key aspects of mandatory BNG

- **Good practice for BNG is set out in the 'Good Practice Principles for BNG[4]', a set of ten principles published by IEMA, CIEEM and CIRIA that provide a framework for developers to follow.**
- **A core principle of achieving BNG is to follow the Mitigation Hierarchy of first avoiding and mitigating adverse impacts on biodiversity from the development before compensating for residual impacts, and achieving BNG by enhancing and creating wildlife-rich habitats.**
- **BNG habitats need suitable soils and environmental conditions, sufficient space to grow and establish, and resilience measures to buffer extreme weather events, as well as other considerations. Adopting a design-led approach to achieve BNG, whereby the design, immediate aftercare and long-term management of habitats are integrated into a development project from the outset, not only demonstrates good practice but also maximises efficiencies in the design and implementation of BNG. Such efficiencies can also be realised when a project's BNG Ecologist and Landscape Architect collaborate on BNG from the earliest stage of the project.**
- **BNG habitats can generate wide-ranging benefits, such as strengthening resilience to climate change and connecting people to nature. Considering such benefits from the start, for example by taking a nature-based solutions approach (NbS), enables the benefits to be integrated into the design and long-term management of BNG.**
- **Under mandatory BNG, the Biodiversity Gain Hierarchy is a list of priority actions for developments to follow to achieve BNG, including:**
  - Avoiding adverse effects to very high, high and medium 'distinctiveness'[5] habitats
  - Mitigating these effects where they cannot be avoided
  - Compensating for adverse effects on on-site habitats by, in order of priority: enhancing on-site habitat, creating new on-site habitats, securing local off-site BNG provision via the allocation of registered off-site gain and finally, as the last resort, the purchase of statutory credits
- **The Biodiversity Gain Hierarchy is a material consideration for Local Planning Authorities (LPAs) when determining whether to approve a Biodiversity Gain Plan. Developers must describe application of the Biodiversity Gain Hierarchy, and doing so at the planning application stage follows good practice and adheres to government guidance.**
- **The SBM tool, user guide and habitat condition assessments are all statutory instruments and must be followed.**
- **The SBM tool comprises three modules: area-based habitats (e.g. woodlands), linear-based habitats (e.g. hedgerows) and watercourse-based habitats (e.g. rivers). For each module, information on habitat type, area, condition and strategic significance are entered into the SBM tool which then assigns 'biodiversity units'. Biodiversity units are a proxy for biodiversity value.**
- **The minimum 10% increase in biodiversity units for BNG must be achieved for each habitat module independently, and in ways that meet the rules of the SBM tool and user guide.**
- **Area and Linear habitats are mostly based on the UK Habitat Classification method (UKHab V2[6]). The main exception relates to intertidal habitats which are based on European Nature Information System (EUNIS) classifications. The SBM automatically assigns habitat types with a 'distinctiveness' score, with higher scores representing ecologically valuable habitats such as rare habitats or those that take a longer time to establish (e.g. lowland mixed deciduous woodland).**

4 https://cieem.net/resource/biodiversity-net-gain-good-practice-principles-for-development/

5 Distinctiveness is a factor in the statutory biodiversity metric calculation

6 https://ukhab.org/

- Watercourse habitat condition is assessed using the Modular River Survey (MoRPh[7]) assessment method. Net gains in watercourse habitats can be required when a development project occurs within the riparian zone (as defined by the SBM User Guide).
- The baseline value is determined through a site habitat survey and condition assessment (usually as part of a preliminary ecological appraisal) undertaken at an appropriate time of year and during suitable weather conditions. For sites containing natural or semi-natural habitats, BNG surveys should be during the peak botanical season most appropriate to the habitats present at the site.
- The post-development value is determined by assessing the value of post-development habitats. It is likely that this will be an iterative process during the design stage of a project with BNG Ecologists and Landscape Architects working as part of the design team to explore options for how BNG can be achieved.
- The loss or gain in biodiversity units (i.e. the net change) is measured by the change from the baseline compared with the post-development number of biodiversity units.
- The minimum 10% BNG must be achieved in ways that meet 'trading rules' of the SBM tool. The trading rules are to protect the more valuable habitat types and require BNG to be achieved on a like-for-like or better basis. This means that, in some situations, specific habitat types must be created or enhanced to meet the trading rules, which apply up to No Net Loss. For example, after applying the Biodiversity Gain Hierarchy, a small area of high distinctiveness woodland is to be cleared for a development project. That exact same type of woodland (and, as a minimum, its baseline condition) must be created or enhanced to address the loss of woodland biodiversity units up to the point of No Net Loss, whilst considering habitats to create and enhance for the 10% BNG that are most suitable for the site and that meet best practice of the best possible biodiversity outcomes (which, in this example, could be more or a higher condition of the woodland).
- Early reviews of the BNG design and management plan by the construction team (including by specialist landscape contactors) can help to identify feasibility considerations, as well as opportunities for creating and enhancing habitats for BNG. For example, building the project in ways that reduce habitat clearance, and assessing the feasibility of creating specific habitat types and reaching target conditions.
- Under mandatory BNG, where a developer relies upon a significant increase in onsite habitat biodiversity value to meet mandatory BNG, these habitats being created and/or enhanced must be subject to a planning condition, section 106 agreement, or conservation covenant requiring them to be maintained for at least 30 years after the development is completed. These habitats being created and/or enhanced on-site are called "onsite significant enhancements". Identifying potential onsite significant enhancements is crucial to discuss with developers whether these habitats can be legally secured for a minimum 30 years, or whether alternative BNG provision is required. While Ecologists should initially assess onsite significant enhancements, it is for the LPA to judge whether habitats being created or enhanced onsite are significant or non-significant.
- On-site significant enhancements and all offsite BNG provision must be legally secured for a minimum 30-year duration, and subject to a Habitat Management and Monitoring Plan (HMMP).
- A HMMP is a detailed plan that describes how the land will be managed over at least 30 years to create and enhance habitats for BNG and manage and monitor the BNG. Natural England has published a template for HMMPs.
- The legal agreement for the minimum 30 year maintenance period for BNG starts the date it is signed. Government guidance states that, for on-site BNG, the 30 year maintenance period starts when the development is completed and, for off-site BNG, the 30 year maintenance period starts when the habitat enhancement work is completed. [8]

7 https://modularriversurvey.org/morph-rivers/

8 https://www.gov.uk/guidance/legal-agreements-to-secure-your-biodiversity-net-gain#how-long-your-legal-agreement-must-last

- **Off-site BNG provision varies between local authorities with some offering the service directly, some offering a matching service between developers and off-site BNG providers and some relying on third parties as BNG providers. Whichever option is selected, all off-site BNG provision must be registered on the Natural England BNG Register.**
- **Conservation covenants are available to responsible bodies who meet the eligibility criteria and have registered with Defra.**
- **After planning permission has been received, developers submit a Biodiversity Gain Plan to the LPA. The LPA has eight weeks to approve or refuse a Biodiversity Gain Plan.**
- **The purpose of the Biodiversity Gain Plan is for developers to clearly and consistently demonstrate how development proposals meet the statutory requirements and provide evidence for the BNG decisions. A development that has received planning permission cannot lawfully commence until the LPA approve the Biodiversity Gain Plan. While the completed Biodiversity Gain Plan is submitted after planning permission has been received, good practice is to submit a draft (completed as far as possible) at planning application stage. This also enables the LPA to raise queries so these can be resolved for when the final Biodiversity Gain Plan is submitted. Defra has published a template for the Biodiversity Gain Plan. Although mandatory BNG is a post-consent requirement, demonstrating that a proposed development can deliver the required 10% BNG is a material consideration during the planning process.**
- **As the last resort, developers can apply to purchase statutory credits to meet the BNG requirements. It can take up to eight weeks to approve a developer's application. Statutory credits are administered by Natural England. If considering the purchase of statutory credits as the last resort to achieve BNG, firstly factor in time – time to prepare and submit the application and for the application to be reviewed, then if successful, proof of purchase is included in the Biodiversity Gain Plan and then submitted to the LPA who have eight weeks to respond. Secondly factor in cost, as two statutory credits are required for every one biodiversity unit.**
- **Mandatory BNG does not replace existing protections for sites, habitats and species, and development likely to require surveys for Ecological Impact Assessment.**

Mandatory BNG throughout a project lifecycle

These tables draw together the various stages and recommended stakeholders involved in the planning, design, and implementation of mandatory BNG. The tables describe both mandatory requirements and good practice to demonstrate how BNG should be considered, with recommendations on the key leads during the process of delivering a planning application.

These tables are generic with the aim of applying to a range of development types, locations and scales. In practice, the assessment, design and implementation of BNG should be based on good practice and should be proportionate to a development project and its impact on biodiversity.

Note that these tables were not written for small sites applications or NSIPs.

PRE-PURCHASE STAGE

What	Key Leads	Why
Initial BNG Feasibility Assessment (desk-based or site walkover)	BNG Ecologist	By engaging with a BNG Ecologist early, developers can be advised of the application of the Biodiversity Gain Hierarchy and potential BNG opportunities at a very early stage, enabling budgets, planning and preparations before entering contract on a proposed development site. For example, a proposed distribution centre with a high coverage of buildings and hard standing on existing low-grade croplands is likely to require off-site BNG provision, and this is secured in ways that contribute towards the Local Nature Recovery Strategy. Whereas a residential scheme with a proportion of green infrastructure has greater opportunity for on-site BNG habitat creation and enhancement, which is designed to strengthen climate resilience of the new housing estate and connect people with nature. This initial BNG Feasibility Assessment should identify potential key habitats to retain by avoiding impacts, and then enhance as part of the BNG design. This highlights both a risk (affecting key habitats) and an opportunity (avoiding impacts to retain and then enhance habitats). At this very early stage in a project, the feasibility assessment could be desk-based to provide an indicative assessment. This may be beneficial for sites with access restrictions or to provide an early indication ahead of ground truthing during a more optimal time of year for habitat surveys. Species needs should be planned for at the earliest stages of a project and its BNG. This especially regards the consideration of species viability when deciding on the location and type of BNG measures, for example designing BNG habitats to be functionally available to species and to support priority species restoration for the long-term. Also, for mobile species such as birds and bats, for BNG habitats to provide stepping stones throughout towns and cities. Initial assessment can go into some detail – see baseline and baseline plus options in the Design Stage table.

A Nature-based Solution review	Technical specialists e.g. Nature-based Solutions; Green Infrastructure	Identifying socio-economic considerations at the proposed development site (for example, economic deprivation, poor health, air pollution, flood risk, urban heat effects), enables an assessment of how habitats created or enhanced for BNG can also help to mitigate such issues, and especially in ways that add value to the proposed development. This will also enable wider benefits of BNG to be embedded from the outset of a project. Tools to support include Green Infrastructure, Ecosystem Service assessments and Nature-based Solutions.
Check Local Plan requirements on BNG **Map all local plan requirements on nature and biodiversity**	BNG Ecologist / Planner	Some local planning authorities require greater than the minimum 10% BNG, so an early check of Local Plan requirements on BNG enables planning, preparations and budgeting. Also, BNG is not a policy in isolation but complements other nature-related policies, for example Urban Greening. Mapping policies that link with BNG can enable greater efficiencies (and avoid issues) as developments progress through the planning system.

DESIGN STAGE

What	Key Leads	Why
Baseline assessments for a statutory biodiversity metric calculation and for the BNG design	BNG Ecologist and Landscape Architect	Both the SBM calculation and the BNG design require baseline information. For a metric calculation, baseline information includes the types, areas and condition of habitats present within the redline boundary before works, as well as local nature conservation priorities to inform the Strategic Significance assessment. For a BNG design, baseline information includes soil types, constraints to habitat creation such as utilities, neighbouring land uses (e.g. to ascertain potential disturbance), climate projection data as well as natural connectivity within the wider landscape and any designations or existing schemes where additional criteria may apply.[9] Gathering baseline information for both a metric calculation and BNG design can be most efficient, for example on-site habitat surveys conducted at an appropriate time of year (e.g. woodlands ideally surveyed in April / May, grasslands ideally surveyed in May – July) that, at the same time, gather site information for the BNG design.
A Nature-based Solution assessment	Technical specialists e.g. NbS; Green Infrastructure	Following any early NbS reviews, assessing in detail the type of socio-economic considerations at the proposed development site, will enable the BNG design to incorporate (where feasible) how habitats created or enhanced for BNG can also help to mitigate such issues, and in ways that add value to the proposed development. These considerations then feed into the design for both the development project and its BNG. For example, woodland creation for BNG that also provides natural flood management and increases carbon sequestration rates of the natural environment, as well as carefully designing BNG habitats within urban areas to achieve BNG and connect people with nature and/or reduce urban heat effects.

9 Good practice for BNG habitat designs is with reference to the 'BNG Habitat Design Checklist' training developed by Tanith Cook

A statutory biodiversity metric calculation, a BNG design and a habitat management and monitoring plan	BNG Ecologist and Landscape Architect	This stage is an iterative process. The BNG Ecologist and Landscape Architect work with the project design team to follow good practice for BNG and achieve BNG that is feasible over the minimum 30-years of BNG given the post-development site conditions, aesthetics and site users and recognising that the landowner is legally required to deliver the committed outcomes within the 30-year period. The BNG Ecologist might provide several iterations of a biodiversity metric and outline BNG design throughout this stage, depending on the complexity of the scheme and the baseline biodiversity value of the site. The iterations may comprise: ○ **Baseline – the baseline biodiversity unit score of a site only (with no assessment of the proposed development) to identify habitats to avoid impacts, in accordance with the Biodiversity Gain Hierarchy. This can help to identify opportunities for enhancing habitats that will be retained** ○ **Baseline plus options appraisal – to determine the baseline plus potential options for the enhancement and creation of specific habitat types for BNG, in order to inform sketch scheme layouts and/or the design** ○ **Design Stage – further to the previous assessment but with BNG recommendations by the BNG Ecologist and Landscape Architect** ○ **Final – baseline and post development metric calculation and the associated BNG design of the final fixed design to be submitted as part of satisfying the mandatory BNG requirement (see Planning Application Stage below).** The 'BNG design' is a design specification of habitats to be retained, enhanced and created to achieve BNG. It is the design specification that contractors follow and is often integrated within the landscape design deliverables e.g. landscape plans and drawings, planting specifications etc. The BNG design should be based on sound ecological principles, principles in the statutory biodiversity metric user guide, and should be feasible and viable for the minimum 30-year duration of BNG. While the SBM tool can be used to help determine the biodiversity value of different habitats, it should not be used to achieve the maximum on-site biodiversity units through manipulation of habitat types at the detriment of the design of the scheme. The HMMP is a detailed plan that describes how the land will be managed over at least 30 years to create and enhance habitats for BNG, and to manage and monitor the BNG habitats. A HMMP template is available on the Natural England website; use of the template is not mandatory but is advisable. Most LPAs offer a pre-application advice. Discussing the BNG aspect of a planning application ahead of submission and seeking LPA advice/views on any local expectations, receiving confirmation of how they would expect to see Strategic Significance applied, their views on locally what constitutes non-significant on-site enhancements and on monitoring and reporting frequencies etc. Consideration should be given to engaging with such pre-app advice where it is locally available.

PLANNING APPLICATION SUBMISSION STAGE

What	Key lead	Why
What information on BNG to submit with a planning application	Developer, BNG Ecologist	Developers should submit sufficient information on BNG with a planning application that gives the LPA confidence that BNG will be achieved if planning is granted. Good practice is to submit the following with a planning application: ○ **A statutory biodiversity metric calculation for the proposed development** ○ **On-site BNG design and HMMP (and any relevant information in the Landscape and Ecological Management Plan; LEMP)** ○ **Details of any impacted protected sites and/or species (on-site and off-site)** ○ **A BNG design stage report clearly setting out application of the Biodiversity Gain Hierarchy and describing any on-site significant enhancements** ○ **If off-site BNG provision is required as a minimum, the requirements should be modelled in biodiversity metric calculation with information on any initial discussions with off-site providers** ○ **A draft Biodiversity Gain Plan**

POST PLANNING PERMISSION

What	Who	Why
Off-site BNG provision	Developer (or BNG Ecologist on their behalf)	The marketplace of off-site BNG Providers varies. Some LPAs offer off-site BNG provision on council owned land or a matching service between developers and land managers/owners. There is also the private market and third parties who match developers with compensation BNG providers. The developer may wish to contact the LPA or speak to their BNG Ecologist regarding local options as there may be several routes available with varying costs and contract types. All off-site BNG provision must be registered on the National BNG Register. Information on off-site BNG provision is submitted by the developer to the LPA with the Biodiversity Gain Plan for the LPA to review suitability and feasibility of the off-site BNG provision for that development.

Legal agreements	Developer	On-site significant enhancements and all off-site BNG provision must be legally secured for a minimum 30-year duration. On-site this could be via a planning condition, Section 106 or Conservation Covenant. Off-site this is via a Section 106 or Conservation Covenant.
Biodiversity Gain Plan	Developer (or BNG Ecologist or planner on their behalf)	A completed Biodiversity Gain Plan with the required documentation is submitted to the LPA for approval after a development has received planning permission. The LPA has 8 weeks to respond. No works can start on-site until the LPA approve the Biodiversity Gain Plan A template for the Biodiversity Gain Plan is available from the Government website[10]. To complete the Biodiversity Gain Plan requires all assessments, designs, HMMPs and legal agreements for on-site and off-site BNG to be completed. This includes the completed SBM calculation, a HMMP for on-site and for off-site BNG provision, and biodiversity net gain register allocation reference numbers if purchasing off-site BNG provision and/or proof of purchase if purchasing statutory biodiversity credits.

PRE-COMMENCEMENT AND THE CONSTRUCTION STAGE

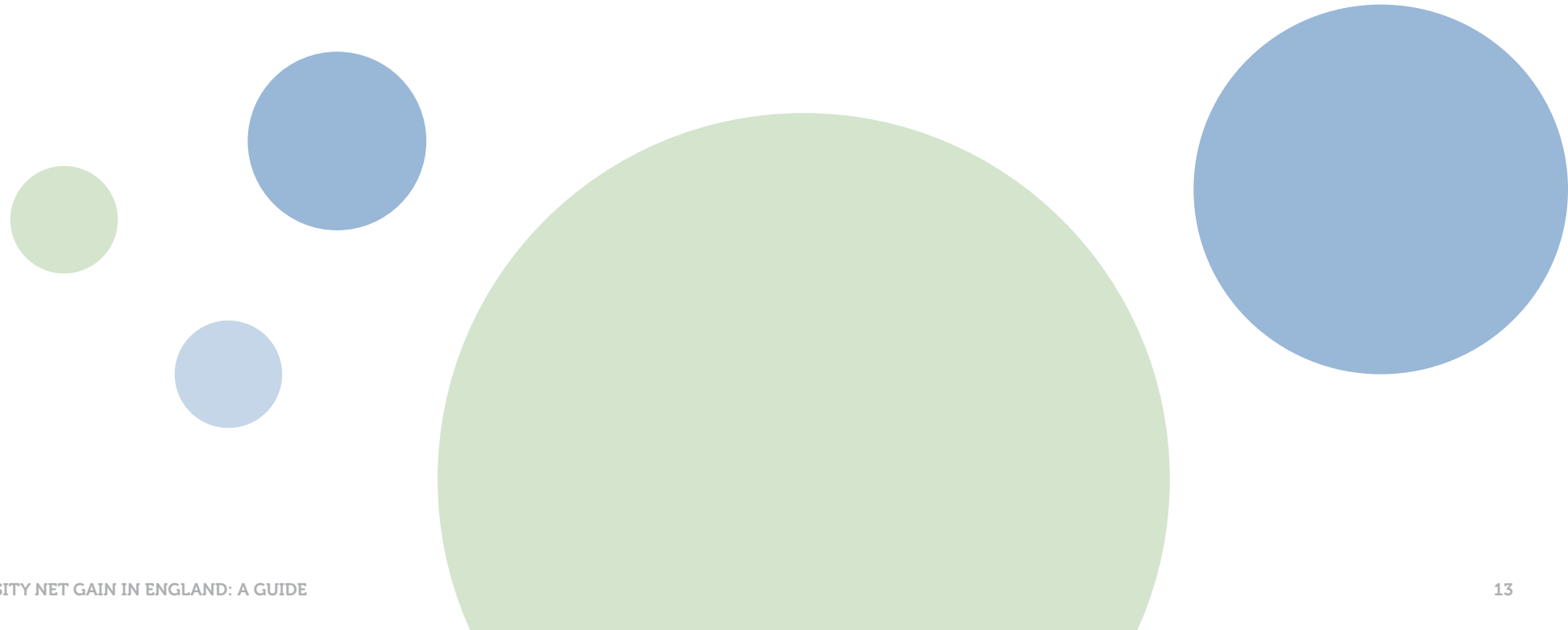
What	Key lead	Why
BNG Hand-over	Developer / design team to construction team	Hand-over from design to construction should include a specific section on the BNG design, immediate aftercare and the HMMP, with BNG included in construction programmes and Risk and Opportunity Register. BNG design to construction handovers should include a dedicated walkover, for example by the BNG Ecologist with the Ecological Clerk of Works for Construction. BS 8683[11] has further guidance regarding the handover of information.
Considering BNG during construction	Construction team	There are good practice publications on biodiversity management during construction, for example BS 42020[12]. These include good practice that is relevant to the implementation of BNG designs during construction, such as Ecological Toolbox Talks (which should include BNG), protection zones for habitats marked as retained in the biodiversity metric, and environmental controls for noise and dust control. Good practice for BNG during construction should be set out in relevant construction documents such as the Construction Environmental Management Plan (CEMP).
Avoid changes to the BNG design post-consent	Developer / construction team / landscaper	The BNG design should be implemented to the design specification and programme. Any change should be avoided, as change could first require approval by the LPA and then associated updates to the BNG design itself, as well as the SBM calculation. Any changes that would result in a change in biodiversity unit values as calculated by the biodiversity metric tool could require the re-submission of a Biodiversity Gain Plan for approval.

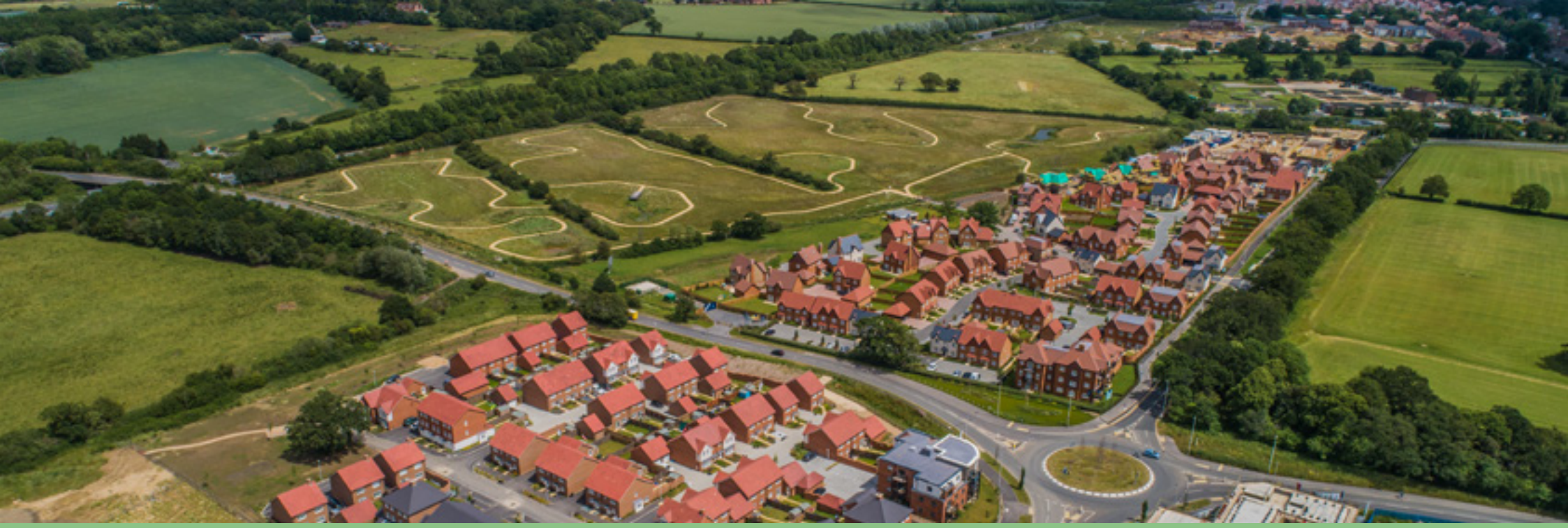
10 https://www.gov.uk/guidance/biodiversity-net-gain
11 British Standard BS8683: Process for designing and implementing biodiversity net gain – Specification
12 BS-42020-Smart-Guide.pdf (bsigroup.com)

Immediate aftercare	Developer / landscaper	The specification for the immediate aftercare of BNG habitats should be clearly set out and closely linked to the on-going management and maintenance of the BNG habitats.
Post-construction hand-over	Developer / landscaper / management company	Producing an 'as-built' biodiversity metric calculation at the end of construction should be undertaken as part of the hand-over to the maintainers / management company. Where there is a short-fall in the 'as built' assessment the developer might need to revisit their BNG design and re-submit a Biodiversity Gain Plan which shows how the 10% requirement will be met (this may mean a requirement for subsequent off-site provision or an increase in off-site provision). If there is a Section 73 variance to the original permission that results in a change to the Biodiversity Gain Plan, then a new gain plan must be submitted for approval.

ON-SITE OPERATIONAL STAGE

The LEMP and HMMP (and reporting of these) should be implemented by competent persons in accordance the LEMP and HMMP specifications.





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