Penny Anderson Associates Ltd
CONSULTANT ECOLOGISTS

DEVONSHIRE PROPERTY GROUP

LAND OFF PARKERS LANE, DORE

BIODIVERSITY NET GAIN FEASIBILITY ASSESSMENT

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September 2025

This project has been undertaken in accordance with PAA policies and procedures on quality assurance.

Signed:__ [redacted] ____

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1. INTRODUCTION

Background

1.1 Penny Anderson Associates Ltd (PAA) was commissioned in May 2025 to undertake a Biodiversity Net Gain (BNG) feasibility study of land off Parkers Lane, Dore, S17 3DX (hereafter referred to as the 'Site'). The central location of the Site is at National Grid Reference SK304819 and the total area is 5.28 ha.

1.2 The western part of the Site (2.61ha) is currently being proposed as a potential site (Reference SWS19) for housing allocation in the emerging Draft Local Plan[1] for Sheffield City Council. Information on the SWS19 site is presented in the Sheffield Plan Proposed Additional Site Allocations May 2025 report[2] and an extract is included as Appendix 1 of this report. A Concept Plan for the potential proposed development of housing on the SWS19 site has been prepared to demonstrate how the site allocation could be delivered. This plan is further detailed below.

1.3 The aim of the BNG assessment was to provide an assessment of the feasibility of the proposed Concept Plan for the development of the majority of the Site to achieve the target 10% net gain in biodiversity, using the Statutory Metric approach as set out in government guidance. A previous BNG assessment was undertaken in 2021, however, this was based on an older Concept Plan proposal and employed an earlier version of the Metric (BL-Ecology 2021).

The Site

1.4 The Site is a collection of grazed pastures on the edge of the settlement of Dore, Sheffield, South Yorkshire. There are scattered scrub and trees across the Site, with an area of more densely developed scrub and rough grassland that appears ungrazed within the north-eastern parcel. In this eastern section there are also two small watercourses which join and enter Limb Brook, a tributary of the River Sheaf.

1.5 To the south, the Site is bounded by Parkers Lane along with the back gardens of residential properties off Causeway Head Road. To the east, the Site is bounded by Cross Lane. Other adjacent land is predominantly grazed pastures, and a patchwork of small fields with scattered trees and wooded areas is present within the wider area.

1.6 The entire Site is owned by the client, and the eastern section is designated as a Local Wildlife Site (LWS) forming a small part of the larger Ecclesall Wood LWS (Site 165), as described in the Preliminary Ecological Appraisal (PEA) report for the Site (PAA 2025). The western section has no specific nature conservation designation.

1.7 The Site is located on the northern edge of Dore, to the south-west of Sheffield, within the county of South Yorkshire.

1.8 The Site is 5.28 ha in size. Part of the Site (2.6 ha), to the west, is a proposed additional site allocation for housing in the emerging Sheffield Local Plan. The remaining part of the Site, to the east, forms part of a Local Wildlife Site (LWS). Figure 1 shows the Site location and the extent of the LWS designation.

[1] https://www.sheffield.gov.uk/planning-development/emerging-sheffield-plan-draft

[2] https://www.localplanservices.co.uk/_files/ugd/017f5b_b24762461de84127a06959da791ed556.pdf

The Concept Plan

1.9 The Concept Plan for the potential proposed development of the Site for housing (to meet the aspirations for housing capacity of site SWS19) is presented in Appendix 2 of this report. At this stage the proposed scheme is necessarily high level and for the purposes of the BNG feasibility study some assumptions have needed to be made with regards to post-development habitat types and conditions (as included in the Methods section of this report).

1.10 The Concept Plan includes the entire SWS19 area (potential housing allocation site) along with part of the south-eastern field within the wider Site, which functions as an 'open space area' to support the housing area. This parcel of land is included as the BNG 'on-site' assessment, which for proposed development scheme is typically the area within the red line boundary (application site). This amounts to 3.41 ha and includes a small area of a larger LWS (Figure 1).

1.11 The small stream to the east of the 'open space area' is within 10m of the 'on-site' area and as such is also included as part of the 'on-site' land as required under the Statutory Biodiversity Metric assessment methodology[3].

1.12 The remainder of the Site is therefore classed as being 'off-site' under the BNG assessment approach and amounts to 1.87 ha. All of the 'off-site' area is included in the LWS designation (Figure 1).

Planning Context

1.13 In England, biodiversity net gain is required under a statutory framework introduced by Schedule 7A of the Town and Country Planning Act 1990 (inserted by the Environment Act 2021). This statutory framework is referred to as 'biodiversity net gain' in Planning Practice Guidance to distinguish it from other or more general biodiversity gains.

1.14 Under the statutory framework for BNG, subject to some exceptions, every grant of planning permission for applications submitted after 12th February 2024 (or 2nd April for small developments[4]) the introduction of the statutory framework, is deemed to have been granted subject to the condition that the biodiversity gain objective is met ('the biodiversity gain condition').

1.15 This objective is for development to deliver at least a 10% increase in biodiversity value relative to the pre-development biodiversity value of the on-site habitat. This increase can be achieved through on-site biodiversity gains, registered off-site biodiversity gains or statutory biodiversity credits.

[3] https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides

[4] *A small development means residential development where the number of dwellings is between 1 and 9 on a site of an area 1 hectare or less, or if the number of dwellings is unknown, the site area is less than 0.5 hectares or commercial development where floor space created is less than 1,000 square metres or total site area is less than 1 hectare*

2. METHODOLOGY

Survey Data

2.1 The baseline habitats for BNG assessment are based on the existing UKHab survey (PAA 2025), along with Habitat Condition Assessment (HCA) results for each feature, as completed by Senior Ecologist Victoria Burton (ACIEEM[5]) on 30th July 2025. In addition, the River Condition Assessment (RCA) was also undertaken by Victoria Burton, who is an accredited RCA surveyor, on 15th August 2025.

Habitat Condition Assessment

2.2 A HCA was undertaken on each separate parcel of habitat, linear feature (hedgerow) and individual tree identified during the UKHab survey. The condition assessment used the '*Statutory Biodiversity Metric Condition Assessment - Technical Annex 1: Condition Assessment Sheets and Methodology*'.

2.3 The BNG Metric requires a 'condition' assessment for each habitat and feature, based on the guidelines and targets provided in the methodology for the specific habitat type. Condition categories available within the Metric (which vary slightly depending on the habitat classification) range from Poor to Good, or Not Applicable where appropriate.

2.4 Individual trees that were not within a woodland and/or dense scrub habitat (such as modified grassland) have been mapped and condition assessed.

2.5 Habitats are allocated as being either on-site or off-site depending on whether they fall within the Concept Plan (on-site) or not (off-site).

2.6 The UKHab classification and associated HCA are shown on Figure 1.

River Condition Assessment

2.7 As one watercourse (Stream 1) falls within 10m of the Site, an RCA was undertaken (Figure 2). The findings of the RCA have been used to assess the watercourse's baseline condition as required for the Statutory Biodiversity Metric. An RCA was also undertaken on an off-site watercourse (Stream 2, which falls within the client's landownership) as a potential off-site area to achieve 10% net gain, should this not be possible on-site.

2.8 A RCA comprises both desk-based and field-based elements and uses Modular River Physical (MoRPh) surveys to determine the condition of a watercourse by assessing primarily physical features. The MoRPh survey methodology is a relatively recent development in riverine survey and assessment and improves upon long-established methodologies such as the Environment Agency (EA) River Habitat Survey (EA 2003), GeoRHS, and River Corridor Survey methodologies.

2.9 The MoRPh survey is a quantitative survey methodology that allows for the recording of a number of physical, hydromorphological and ecological factors of a watercourse and the surrounding riparian habitat. This standardised methodology allows for the surveys to be repeated over time to monitor the potential success of an applied restoration measure, presenting an efficient method for detecting and quantifying change, and produces data which can be used for a condition assessment for BNG calculations.

[5] *Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM).*

Biodiversity Net Gain Assessment

Baseline (Pre-Development Calculations)

2.10 Using the outputs of the UKHab survey, HCA and RCA datasets, baseline BNG scores were calculated for the Site, differentiating as needed in terms of on-site and off-site areas.

2.11 The Statutory Metric Version 1.0.4 (dated 3rd July 2025) was applied, using the associated guidance notes[6]. The inputs to the Statutory Metric for the baseline assessment were:

- Habitat type;
- Area of each habitat type (ha); and
- Habitat condition.

2.12 The Metric requires a 'condition' assessment for each habitat and feature, based on the guidelines and targets provided in the methodology for the specific habitat type (see above).

2.13 The Metric also includes a 'distinctiveness' score for each habitat. This is completed automatically by the Statutory Metric when the habitat type is selected and is based on parameters such as species-richness, diversity, rarity and the degree to which habitats support species rarely found in other habitats. There are five distinctiveness categories, ranging from Very Low to Very High.

2.14 Linear features, such as hedgerows and streams are assessed separately within the methodology, with any streams or rivers within 10m of the 'on-site' area also classed as 'on-site' for the purposes of the Metric. The existing length of the feature is entered (in linear km) in the off-site hedge baseline spreadsheet (as no on-site hedgerows are present), and both the on-site and off-site watercourse baseline spreadsheet for Stream 1 and Stream 2 respectively, and the feature condition is selected based on the guidelines presented in the methodology.

2.15 For baseline watercourse assessments, the Metric calculates a number of watercourse units from data gathered from the RCA surveys regarding watercourse condition, along with lengths of these stretches of watercourse, their strategic significance (assessed in the same way as for habitats) and degree of watercourse and riparian encroachment already present on-site.

2.16 Watercourse encroachment is defined as:

> *'any feature or action that adversely affects the natural function of the watercourse, or results in localised changes in habitat, species and migratory pathways, such as engineered bank revetments, headwalls, jetties, pontoons, and weirs'.*

2.17 The riparian zone is identified as the first 10m from the bank top of any watercourse. Riparian encroachment is defined as:

> *'any feature or intervention within the riparian zone that reduces the quantity, quality or ecological function of the riparian habitat including buildings, hardstanding, management practices (including agriculture), and structures that prevent wildlife from accessing the riverbank'*

2.18 The baseline BNG outputs are presented as habitat units (area habitats), hedgerow units (for hedgerows and lines of trees) and watercourse units (for rivers/streams, ditches, canals and culverts), as appropriate to the Site.

[6] https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides

Post-Development Calculations

2.19 Using the Concept Plan provided, the on-site post-development BNG has been calculated to provide an indication of the anticipated percentage net gain or net loss as a result of potential future development of the Site.

2.20 For these calculations, the Metric is input with the Geographic Information Systems (GIS) generated data (in ha or km) for each of the habitats and linear features within the Concept Plan. These are classified under each of the following categories: baseline habitat to be lost, baseline habitat to be enhanced, and habitat to be created, along with the associated characteristics (condition, strategic significance) and automatically generated data (e.g. distinctiveness).

2.21 For this Site, there is no formally published Local Nature Recovery Strategy (LNRS) available at the time of writing, therefore, the guidance for assessing strategic significance in the absence of a published LNRS was followed.

2.22 For the off-site areas within the Site, options were considered for sensitive habitat management that could provide suitable uplift to BNG units for both area and linear features.

2.23 As part of any proposed habitat creation or enhancement, the Metric takes into account 'risk factors'. These include:

- Temporal factors - time required to reach target condition (the creation of a habitat, e.g. woodland takes time to mature and reach target condition). The temporal factor is generated automatically for each proposed habitat type but additional data covering delays in habitat creation or advance habitat creation due to specific project schedules can be accommodated in the overall assessment; and
- Difficulty factors - risk of failure of achieving habitats through restoration and/or creation. Some restoration and enhancements measures are more difficult to achieve than others. The Metric automatically selects the level of difficulty depending on the habitat chosen.

2.24 The following assumptions have been made in relation to the Concept Plan evaluation:

- A strip of modified grassland (G1 and G2, Figure 3) along the eastern boundary of the SWS19 area has been retained to conform with the requirement for a buffer along the adjacent LWS grassland areas (see Appendix 2);
- Trees T17 and T18 (Medium sized trees in Moderate Condition, Figure 1) on the western boundary of the SWS19 area are lost (they are not shown in the Concept Plan);
- Tree T19 (Medium sized tree in Good condition, Figure 1) will be retained;
- An area of modified grassland (G4, Figure 3) will be lost and recreated as higher quality other neutral grassland with a target of Good condition;
- The proposed new hedgerow will be planted as a species-rich native hedgerow and managed to achieve a target condition of Good;
- The eastern extent of the Concept Plan boundary will be no closer than 6 to 8m to Stream 1 to provide a suitable undisturbed buffer along this small watercourse;
- The retained lowland meadow habitat will remain largely unaltered and have a suitable management plan in place to maintain the current Moderate condition. Measures to minimise (temporary) impacts on the habitat during construction will be put in place;
- All newly planted trees will be native and managed to achieve a target condition of Moderate; and
- The area allocated to residential development blocks (comprising properties and private gardens) is assessed using the default 70:30 ratio of ‘urban – developed land; sealed

surface' to 'urban – vegetated garden', as outlined in the guidance on assessing habitats within areas outlined for housing.

Limitations

2.25 The survey was undertaken at a suitable time of year and under good weather conditions. The extended dry period of spring/summer will likely have reduced flow in the watercourses, which may have had a minor impact on the RCA results, however, the results are still considered suitable for this assessment.

2.26 Sections of both watercourses were inaccessible due to dense scrub. However, enough of each watercourse was accessible for a full RCA assessment to be undertaken. Therefore, the results of these surveys are robust.

2.27 The post-development Metric calculations are based on a high level Concept Plan and a number of assumptions are made regarding these potential future habitats and their predicted condition.

3. RESULTS

Habitats – Pre-development Baseline

3.1 The UKHab baseline habitats recorded within the Site are presented in Figure 1. Each habitat is described in more detail below and full information is provided in the PEA report (PAA 2025).

3.2 Habitats, their UKHab Secondary Codes and HCA/RCA results are presented in Figure 1, while the watercourses (Stream 1 and Stream 2) and their RCA sampling locations (MoRPh5 sections) are presented in Figure 2.

3.3 Some commentary is also provided below as to whether the habitats are included in the Concept Plan area and/or the off-site areas of the Site, and this information is taken forward into the Metric calculations (with the Concept Plan area assessed as 'on-site' throughout the assessment).

3.4 Where trees are on the boundary between on-site and off-site areas, the location of the tree stem is used to determine if the tree should be included in either off-site or on-site calculations. Please note, the Concept Plan shows trees that are classed as off-site under this approach and it is assumed that they will be protected from any potential future development impacts by use of standard tree protection measures during construction (for example, construction exclusion zones).

Lowland Meadows – g3a (101, 16, 200)

3.5 The majority of the south-eastern field (approximately half of which falls within the Concept Plan boundary and the remaining half being off-site) was lowland meadow grassland and was the most diverse grassland habitat of the survey area. It was grazed, although not as intensely as the western fields. Perennial rye-grass[7] was also much less frequent with greater variety and abundance of other grass species such as tufted hair-grass, red fescue and common bent. Herbs were also much more diverse and included common knapweed, bird's-foot-trefoil, sneezewort and (more rarely) meadow vetchling, eyebright and harebell. Several patches of soft-rush were present. Individual tree species occurred in places east of Stream 1 (off-site, but within 10m of the Concept Plan boundary and, therefore, classed as on-site for the purposes of BNG) and included ash and pedunculate oak.

3.6 This habitat parcel of lowland meadow grassland was assessed as in Moderate condition. All individual trees within this habitat parcel were assessed as in Moderate condition.

Other Neutral Grassland – g3c (128, 200)

3.7 Relatively small pockets of other neutral grassland were present within the north-western quarter of the survey area (which falls entirely within the off-site area). The sward was relatively tall and tussocky with minimal grazing. The sward was dominated by grasses, herbs occurred mostly at low cover and were less diverse than the lowland meadow field to the south. Individual tree species included pedunculate oak and rowan.

3.8 This habitat parcel of other neutral grassland was assessed as in Poor condition. All individual trees within this habitat parcel were assessed as in Moderate condition.

[7] *Botanical species names follow Stace (2019). Common names only are used in this report. For scientific names, see PAA 2025.*

Arrhenatherum Neutral Grassland – g3c5 (16, 10, 200, 521)

3.9 Towards the boundaries of the surveyed area (comprising both the Concept Plan area and the off-site area), between the fence and dry-stone wall, was an unmanaged narrow strip of neutral grassland with false oat-grass the most abundantly occurring grass species. Tall forbs (including nettle, creeping thistle and hoary willowherb), bramble scrub and individual trees[8] (comprising pedunculate oak, ash and sycamore) were present within most areas of this grassland.

3.10 Small amounts of the invasive non-native species Himalayan balsam (listed on Schedule 9 of the Wildlife and Countryside Act) occurred (Target Notes 1 and 2 on Figure 1).

3.11 This habitat parcel of grassland was assessed as in Moderate condition in the edges of the south-eastern field and as Poor condition in the edges of the western fields. The majority of individual trees within this habitat parcel were assessed as in Moderate condition, with one tree (T19, Figure 1) assessed as in Good condition.

Lolium-Cynosurus Neutral Grassland – g3c6 (101, 16, 200)

3.12 Small patches of *Lolium-Cynosurus* neutral grassland were present within the south-eastern field of the survey area, which fall within both the Concept Plan and off-site areas. There was a similar species composition to the rest of the field (lowland meadow) but due to their smaller size they were not as species-rich. In addition, they were associated with stands of tall forbs (creeping thistle and nettle). Individual ash trees were also present in one area.

3.13 The previous UKHab survey recorded this area as modified grassland (g4), but the current survey found a slightly more diverse species assemblage which better fit the neutral grassland type (g3c6).

3.14 This habitat parcel of *Lolium-Cynosurus* neutral grassland was assessed as in Moderate condition. All individual trees within this habitat parcel were assessed as in Moderate condition.

Holcus-Juncus Neutral Grassland – g3c8 (101)

3.15 A strip of *Holcus-Juncus* neutral grassland occurred either side of a (dry) stream running through the south-eastern field of the survey area (Stream 1, Figure 2). A small amount of this habitat falls within the Concept Plan boundary, with the majority lying in the off-site area. Soft-rush was the dominant species. Other forb species included yellow iris, greater bird's-foot-trefoil and marsh thistle indicative of typically damp soil conditions. Tufted hair-grass was the most frequently occurring grass species.

3.16 This habitat parcel of *Holcus-Juncus* neutral grassland was assessed as in Poor condition.

Modified Grassland – g4 (101, 14, 16, 510)

3.17 The majority of the land within the Concept Plan boundary was heavily-grazed modified grassland fields. Within the two fields in the western half of the survey area, perennial rye-grass was the dominant grass species, with white clover and creeping buttercup the most frequently occurring herb species.

3.18 This habitat parcel of modified grassland (g4 – 101, 16) was assessed as in Poor condition.

3.19 In the southern section of south-western field, soft-rush was locally abundant. There were no other differences in the species composition to the rest of the field. Therefore, this area was

[8] *Individual trees were classified as those 5m tall or greater, excluding hawthorn and hazel.*

recorded as scattered rushes, rather than the previous UKHab survey which had some of this area as *Holcus-Juncus* neutral grassland.

3.20 This habitat parcel of modified grassland (g4 – 101, 14) was assessed as in Poor condition.

3.21 A small corner of the south-eastern field within the Concept Plan area was also heavily-grazed modified grassland and the species composition was similar to the larger fields to the west, apart from there was a disturbed area of ground containing locally dominant common nettle and species typical of disturbed habitats such as pineappleweed and groundsel.

3.22 This habitat parcel of modified grassland (g4 – 101, 16, 510) was assessed as in Good condition.

Mixed Scrub – h3h (32)

3.23 The majority of the north-eastern quarter of the survey area (which falls entirely within the off-site area) formed dense scrub. The vegetation was so dense and extensive that access was limited and this habitat was mostly observed from its edges. It comprised gorse, hawthorn and bramble. Semi-mature trees were scattered throughout and included rowan, sycamore, holly, elder and oak species. Himalayan balsam also appeared to be scattered throughout, although its full extent could not be determined. A stand of Himalayan balsam and bracken was observed within a small break in the dense scrub at Target Note 3.

3.24 This habitat parcel of mixed scrub (h3h – 32) was assessed as in Moderate condition.

3.25 A small patch of hawthorn and bramble was present towards the south-eastern corner of the western modified grassland fields (on-site). In the previous UKHab survey this was recorded as scattered trees, but hawthorn is not classified as a tree within UKHab definitions. This habitat parcel of mixed scrub was assessed as in Poor condition.

3.26 A patch of dense hawthorn and gorse scrub occurred towards the north-eastern corner of the south-eastern field, within the off-site area. This habitat parcel of mixed scrub was assessed as in Poor condition.

Woodland – w1g (10)

3.27 A patch of woodland within the north-eastern quarter of the survey area (which falls entirely within the off-site area) was recorded by the previous UKHab survey. As previously mentioned, this section of the site had limited access, and the woodland was completely inaccessible. It has, therefore, been assumed that the woodland is still present, although no species list could be compiled. Previously, the woodland was found to comprise pedunculate oak, ash, field maple, rowan and holly with a scrubby understorey and minimal ground flora. It is possible that Himalayan balsam has colonised the woodland.

3.28 The condition of the woodland could not be assessed, therefore, it is assumed that the woodland is in the same Moderate condition as the previous BNG assessment. However, it is possible that Himalayan balsam has colonised the woodland and may impact on this condition.

Other Native Hedgerow – h2a6

3.29 The northern boundary of the north-western modified grassland field was a hawthorn-dominated hedgerow, with a wooden post and wire fence running immediately adjacent to the hedge (inside the survey area). This hedge likely belongs to the adjacent landowner and so was classified as off-site and, as not within the client's ownership, was excluded from the BNG evaluation.

3.30 This habitat parcel of other native hedgerow was assessed as in Good condition.

Built Linear Features – u1e (612, 114, 519)

3.31 The two western modified grassland fields were separated by a degraded dry-stone wall. The previous UKHab survey recorded scattered trees and patches of tall herb vegetation along this wall. However, the scattered trees were either dead, shorter than 5m tall or hawthorn, which are not classified as trees within UKHab definitions. In addition, this survey found the area of tall herbs to be smaller than the minimum mappable area. Therefore, no trees or tall herb patches were recorded along this boundary.

3.32 A wooden post and wire fence formed the southern boundary of the south-western modified grassland field, bordering residential properties. Here, this fence was taken as the site boundary, beyond which were mainly residential non-native hedgerows. The previous UKHab survey classified part of this boundary as a non-native hedgerow, but this PEA found a fence line along the entirety of this boundary and, therefore, defined it all as a fence line.

3.33 The majority of the surveyed area, covering both the Concept Plan area and the off-site area, had a dry-stone wall forming the boundary and, in most places, also had a wooden post and fire fence running approximately 0.5m parallel to the wall, inside the site boundary.

3.34 Two of the boundaries of the north-eastern quarter of the site (within the off-site area) could not be observed due to dense vegetation.

Other Rivers and Streams – r2b (500)

3.35 Two streams occur within the survey area. Both were dry at the time of the survey, which took place during a period of drought.

3.36 Stream 1 partly falls within 10m of the Concept Plan boundary and so this section is classed as 'on-site' for the purposes of the BNG assessment. It partly ran through the south-eastern field, so mostly flowed through open grassland, with a small section flowing through dense scrub. It was narrow (approximately 1m wide) and quite shallow (approximately 0.5m tall banks), although the north-eastern tip had taller banks. The substrate was dominated by clay and there was limited aquatic vegetation present, which included yellow iris and soft-rush. A small amount of Himalayan balsam was present at Target Note 4. A section of this stream (Figure 2) was assessed using the RCA methodology and was assessed as being of Moderate condition.

3.37 The remaining section of the stream could not be observed due to access difficulties posed by dense scrub vegetation. Ordnance survey maps show this stream to flow underground after it exits the south-eastern field before emerging and eventually joining the other stream within the survey area at the north-eastern corner of the survey area. This section is however not within 10m of the Concept Plan boundary.

3.38 Stream 2 runs along the northern boundary of the north-eastern quarter of the survey area, which falls entirely within the off-site area. It flows through dense scrub and scattered trees vegetation and only a portion of stream (approximately a 50m stretch) was accessible. Of the section observed, this stream had quite tall banks (of a few meters high) in one area, although they were much smaller (approximately 0.5m) downstream. It was approximately 2m wide and the substrate was dominated with boulders and cobbles. No true aquatic vegetation was present, which was likely due to dense shading. Himalayan balsam occurred in mostly low density throughout the section observed (Target Note 5). A section of this stream (Figure 2) was assessed using the RCA methodology and was assessed as being of Moderate condition.

Individual Rural Trees

3.39 Within the Concept Plan area, a total of three Medium sized trees were located (T17, T18 and T19 on Figure 1), of which two (T17 and T18) are lost under the Concept Plan.

3.40 Within the wider area off-site, a total of 16 trees were present, comprising 8no. Small and 8no. Medium sized trees. All these trees are assumed to be retained under any future development proposals.

3.41 All baseline trees were assessed as being in Moderate condition except for T19 which was classified as in Good condition.

3.42 Tree location, size and condition are presented on Figure 1.

Post-Development Habitats

On-Site Measures

3.43 The on-site post-development habitats presented in the Concept Plan include areas of grassland, Sustainable Drainage System (SuDS) wetland basins along with new British native tree and hedgerow planting. In addition, most existing trees are retained and protected.

3.44 All retained habitats will be protected from temporary impacts during construction to ensure their condition is not significantly compromised while the scheme is being built out. This includes a buffer strip along the eastern boundary of the SWS19 site extent, to protect the edge of the adjacent LWS habitats. Example habitat protection measures include:

- Tree protection measures / construction exclusion zones to be installed;
- Use of temporary tack matting where machinery is required to cross over retained habitats;
- Avoiding the use of heavy machinery in wet weather to protect both soils and retained vegetation; and
- Measures to prevent the spread of Himalayan balsam from nearby land.

3.45 Furthermore, these retained habitats will have a suitable management plan in place to maintain their current condition. Measures would include, for example, avoiding excessive pruning of retained trees to maintain structure and provide ecological niches and preventing the establishment of Himalayan balsam (which is present on the wider Site).

3.46 Stream 1 to the east of the Site is protected from the proposed scheme by a buffer area and additional habitat enhancements are included to increase the condition of this watercourse (the RCA score) from Moderate to Good. This will include measures such as:

- Limiting grazing stock from within 10m of the stream to reduce bank erosion and encourage diversification of native flora;
- Manage Himalayan balsam on the bank tops, bank faces and channel bed;
- Plant structurally varied British native aquatic vegetation in the channel margins, these can be installed using pre-planted coir rolls/matting for example;
- Plant a small number of British native small trees/shrubs on the bank tops and allow to mature, to provide a more varied bank structure and provide some shading to the watercourse; and
- Install boulder, cobble and gravel substrate and/or coarse woody debris to create more varied physical features on the channel bed, to improve ecological niches for wildlife.

3.47 Newly created on-site habitats will comprise areas of modified (amenity) grassland within the residential development areas (SWS19 site), a large number (68x) of British native trees planted at suitable locations across the Concept Plan area, a new species-rich native hedge and two wetland basins.

3.48 While the wetland basin design is not yet detailed, the intention is for these features to include suitable biodiverse habitat types such as species-rich grassland, including a species mix for damp grassland where soil conditions allow this. The addition of some open 'ponded' water, even if temporary due to the function of the wetland basins for surface water management, would provide valuable new habitat on-site.

3.49 All newly created habitats will have a suitable management and monitoring plan to ensure that the habitat type and the target condition is met and maintained over the long-term on-site.

Off-Site Measures

3.50 Two broad types of off-site measures are included in the feasibility assessment, as follows:

- Measures on the off-site land immediately adjacent to the Concept Plan area, within the LWS and owned by the client; and
- Measures on off-site land local to the Concept Plan area but likely to be provided by a third party.

3.51 Both types of measures will require the off-site land to be registered on the Biodiversity Gain Site Register[9] which requires the necessary management and legal provisions to be in place the secure the measures over the long term.

3.52 Measures on the off-site land adjacent to the Concept Plan area comprise the management of the existing mixed native scrub to enhance the condition of the habitat from either Poor to Moderate or from Moderate to Good (depending on the area of scrub being managed). Management measures could include thinning areas of dense scrub to open up small rides and glades and to improve the age structure of the habitats, managing the Himalayan balsam and diversifying the species range with localised scrub planting.

3.53 Measures on any third-party off-site land would be targeted toward compensation for the loss of Lowland Meadow habitat (due to the creation of the wetland basins required for surface water management on existing meadow areas). This would comprise either the purchase of Lowland Meadow units from an off-site provider and/or the development of a bespoke compensation scheme that provides suitable high value alternative habitat (again, likely to be through a third-party provider).

[9] *https://environment.data.gov.uk/dataset/6c0d712b-4716-4da9-923c-8d7cb127bff5*

4. SUMMARY AND CONCLUSIONS

4.1 The proposed housing allocation site (SWS19) is situated within the western half of the Site/Concept Plan, which is dominated by the least biodiverse grassland habitat type recorded on Site. This modified grassland habitat, which is lost to the proposed housing allocation area is, therefore, classed as a Low distinctiveness habitat within the Metric. This area is also outside of the LWS designation, and the design allows for a retained grassland buffer strip along the western edge of the SWS19 site to protect the adjacent LWS area.

4.2 The management of surface water drainage, which is necessary as part of the infrastructure for the proposed housing allocation, required the inclusion of suitable SuDS wetland basins and these are located within the eastern area of the Concept Plan. This location was selected to accommodate the ground levels/fall likely required for the drainage scheme. The PEA report (PAA 2025) identified this area as conforming to the UKHab classification of Lowland Meadow, albeit only just meeting the criteria for this Very High Value habitat type in terms of plant species composition. Under the proposed design layout, a proportion of this more diverse grassland type will be lost to the wetland basin creation. However, there is likely to be flexibility at the detailed design stage to review the location/shape/area of the basins to minimise biodiversity impacts and maximise biodiversity gains.

4.3 This area is also within the LWS site. The loss of habitat within this designated area will need suitable compensatory measures either in the form of an off-site Lowland Meadow Biodiversity Gain Site and/or a bespoke scheme that will provide an equivalent value habitat. Guidance on using the bespoke compensation measures to account for losses of Very High distinctiveness habitats is as follows:

> *'There is a bespoke compensation option in the biodiversity metric tool, if used:*
>
> *1. priority should be given to replacing losses with units of the same habitat type*
>
> *2. if this is not possible, losses should be replaced by appropriate units of the same habitat distinctiveness*
>
> *3. if this is not possible, losses should be replaced by appropriate area units of a high habitat distinctiveness'*

4.4 Currently, due to the nature of the Concept Plan, the BNG evaluation classifies the wetland basins as SuDS (which classify as Low value habitats within the Metric), This can be considered a 'worst case' classification and there is scope for the biodiversity of these features to be improved at a later design stage. This could include creating species-rich grassland and, where soil conditions allow, damp grassland areas along the basin edges and some (temporary) ponded water in the base. Assuming these more diverse habitat types can be supported at the later design stage, then these features would likely be better classified as habitats of greater distinctiveness (for example, other neutral grassland and pond habitats are both Medium distinctiveness habitats) and would be reflected in a higher Metric unit score.

4.5 The retention of existing trees and provision of new tree and hedge planting adds further biodiversity value of the scheme as does the opportunity to enhance the nearby off-site stream and adjacent scrub areas which are both within the LWS area.

4.6 With the proposed on and off-site habitat enhancement measures in place, it is anticipated that the scheme would deliver a small net loss of -3.53% in habitat units, and a significant +35.84% net gain in watercourse units.

4.7 For hedgerows, a percentage net gain cannot be calculated as there are no baseline hedgerow features, however, the inclusion of a new hedgerow provides 0.82 hedgerow units under the scheme.

4.8 Trading Rules are met, as required under the Statutory Metric.

4.9 A copy of the full statutory Metric is presented at Appendix 3 (provided separately to the report) and a summary of the potential results is presented in Table 1 below.

Table 1 Summary of Statutory Metric Outputs

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Area habitat units*	0.70
	Hedgerow units	0.82
	Watercourse units	0.54
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Area habitat units*	3.53%
	Hedgerow units	N/A
	Watercourse units	35.84%
Trading rules satisfied?		Yes ✓

Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Area habitat units	10.00%	19.71	21.68	1.28
Hedgerow units	10.00%	0.00	0.00	0.00
Watercourse units	10.00%	1.49	1.64	0.00

4.10 It is anticipated that the proposed habitats are capable of being secured and implemented via a suitably worded planning condition, and that the habitats are capable of being managed appropriately in the long-term to achieve the target habitat condition.

4.11 The shortfall in net gain amounts to the requirement for a further 1.26 area habitat units to be achieved. It is considered that this is feasible through the purchase of additional off-site units through a Biodiversity Gain Site. As Trading Rules are already met, the type of habitat required to achieve this unit gain is more flexible, however, it may be appropriate for this to be tied to the Lowland Meadow compensation scheme.

4.12 The assessment using the Statutory Metric concludes that the proposed Concept Plan can the achieve the necessary +10% net gain in biodiversity units through a combination of on-site and off-site measures along with a sensitively designed compensation scheme for the loss of a small area of lowland meadow habitat and impacts on a small area of an existing LWS designation.

5. REFERENCES

BL-Ecology, 2021. *Land at Dore. Biodiversity Metric 3.0 Assessment and Management Principles*. Report to Chatsworth Settlement Trustees.

Environment Agency, 2003. *River Habitat Survey in Britain and Ireland: Field Survey Guidance Manual. River Habitat Survey Manual: 2003 version.* Environment Agency, 136 pp.

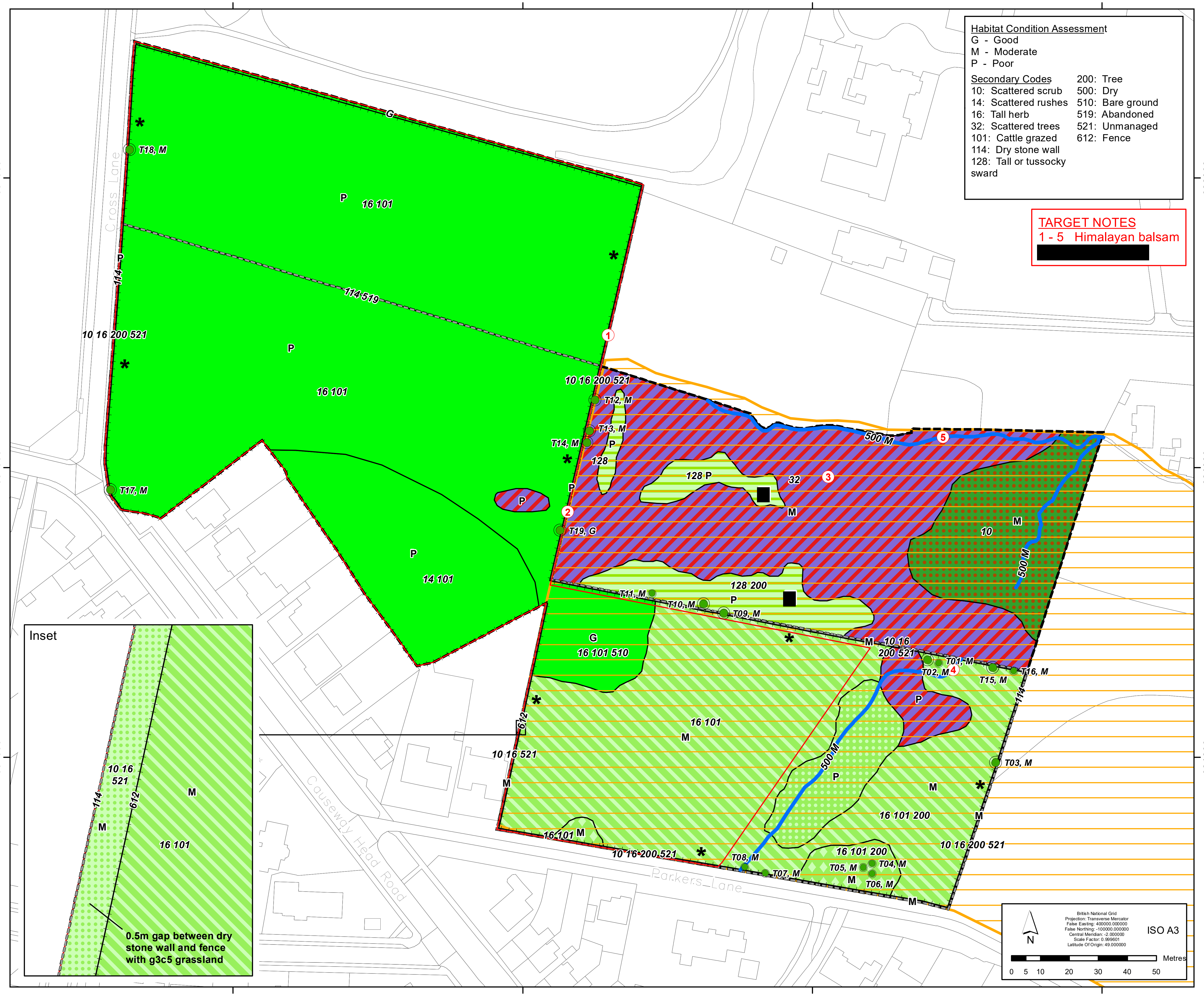
PAA, 2025. Land off Parkers Lane, Dore. Preliminary Ecological Appraisal. Report to Devonshire Property Group.

Stace, C., 2019. *New Flora of the British Isles. Fourth Edition*. C & M Floristics.

6. ABBREVIATIONS

BNG	Biodiversity Net Gain
CIEEM	Chartered Institute of Ecology and Environmental Management
EA	Environment Agency
GIS	Geographic Information Systems
HCA	Habitat Condition Assessment
LNRS	Local Nature Recovery Strategy
LWS	Local Wildlife Site(s)
MoRPh	Modular River Physical
PAA	Penny Anderson Associates
PEA	Preliminary Ecological Appraisal
RCA	River Condition Assessment
SuDS	Sustainable Drainage System

FIGURES



Legend

- BNG Assessment area
- Concept plan boundary
- Local Wildlife Site
- UKHab Habitats
- g3a, Lowland meadows
- g3c, Other neutral grassland
- g3c5, Arrhenatherum neutral grassland*
- g3c6, Lolium-Cynosurus neutral grassland
- g3c8, Holcus-Juncus neutral grassland
- g4, Modified grassland
- h3h, Mixed scrub
- w1g, Other broadleaved woodland
- r2b, Other rivers and streams
- u1e, Dry stone wall
- u1e, Fence
- Individual tree - MEDIUM
- Individual tree - SMALL
- Target note

*g3c5 grassland located between dry stone wall and fence, locations denoted by * - see Inset for detail

CHATSWORTH

Penny Anderson Associates Ltd, Consultant Ecologists

Penny Anderson Associates Ltd, Parklea, 60 Park Road, Buxton, Derbyshire, SK17 6SN. Telephone 01298 27086

Project Name	Parkers Lane, Dore
Discipline	Ecology
Title:	Baseline Habitats Map
Scale	1:1,250
Drawing No.	Figure 1
Drawn By	CC
Originator	VB
Date	01/09/2025
Grid Ref.	430,527 381,890
Revision	1.0

G:\CHST12_Parkers_Lane_Dore\Maps\Figures\BNG\Figure 1 - Baseline Habitats - Parkers Lane Dore - CHST12 CC 250829.mxd

430400 430500 430600 430700

382000

381900

381800

CROSS LANE

CAUSEWAY HEAD ROAD

PARKERS LANE

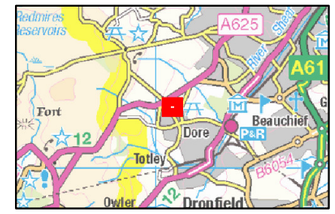
Stream 2

Direction of flow

Stream 1

Stream 1

Direction of flow



Legend

- BNG Assessment area
- Development boundary
- Watercourse

River Condition Assessment (RCA)

- On-site morph 5 survey location
- Off-site morph 5 survey location

N

British National Grid
Projection: Transverse Mercator
False Easting: 400000.000000
False Northing: -100000.000000
Central Meridian: -2.000000
Scale Factor: 0.999601
Latitude Of Origin: 49.000000

ISO A3

0 5 10 20 30 40 50 Metres

CHATSWORTH

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CONSULTANT ECOLOGISTS

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Buxton, Derbyshire, SK17 6SN.
Telephone 01298 27086

Project Name: Parkers Lane, Dore

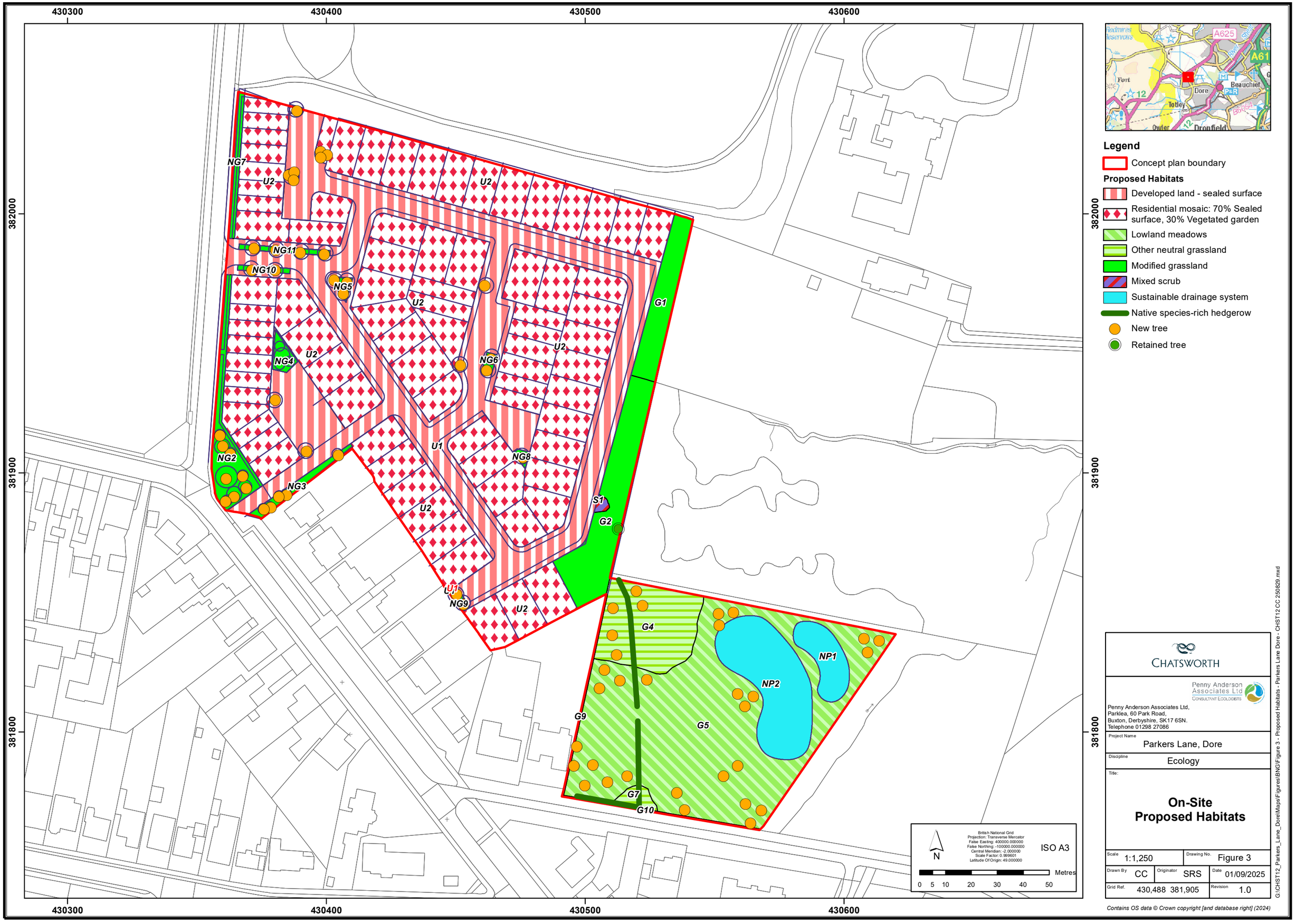
Discipline: Ecology

Title:

River Condition Assessment Survey Sections

Scale	1:1,250			Drawing No.	Figure 2
Drawn By	CC	Originator	VB	Date	01/09/2025
Grid Ref.	430,527 381,890			Revision	1.0

G:\CHST12_Parkers_Lane_Dore\Maps\Figures\BNG\Figure 2 - RCA Survey Sections - Parkers Lane Dore - CHST12 CC 250829.mxd



APPENDICES

APPENDIX 1

Sheffield Plan: Proposed Additional Site Allocations, Site SWS19

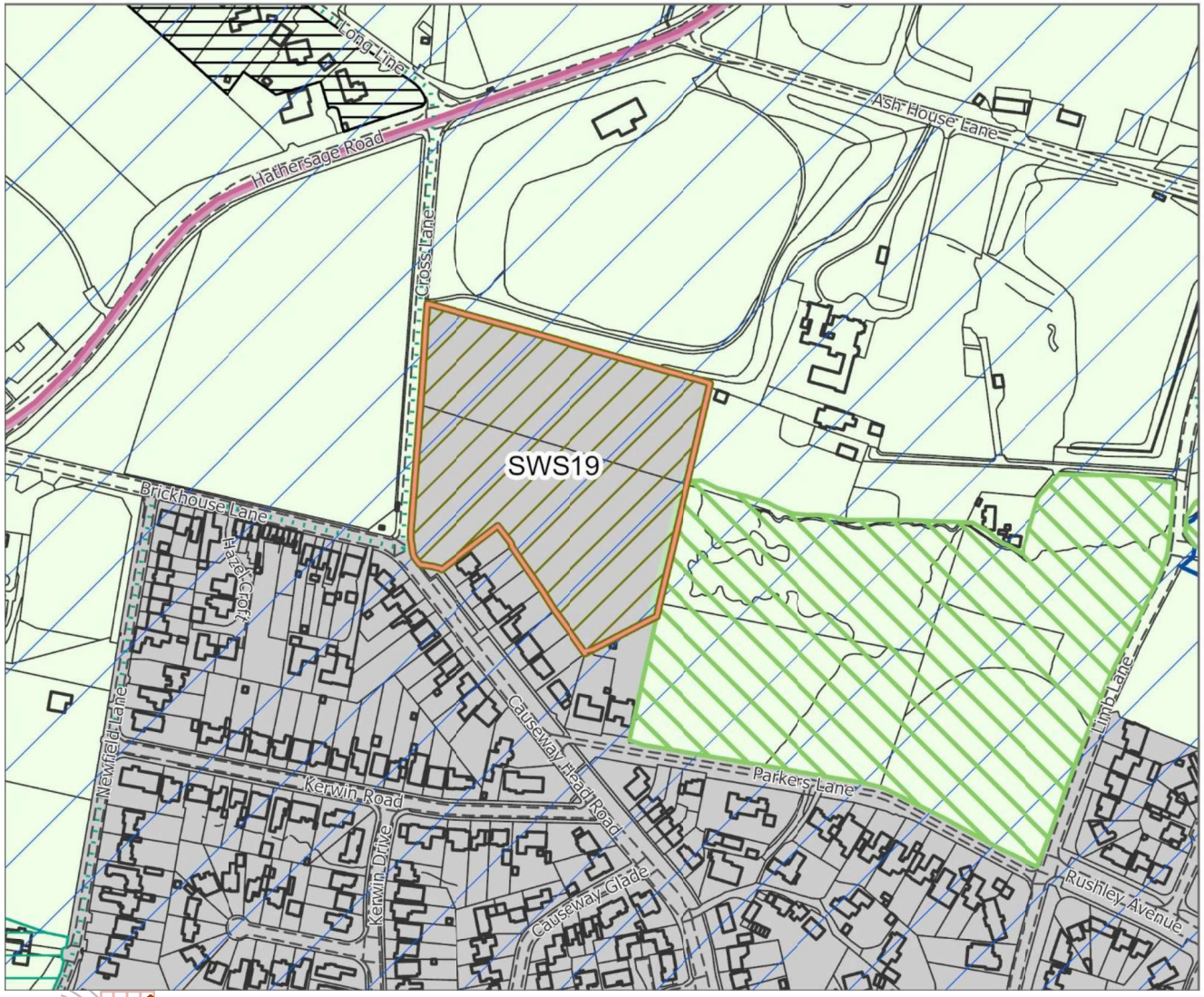
Site Reference: SWS19	**Address:** Land to the north of Parkers Lane, S17 3DP	
Allocated use: Housing		**Site area:** 2.61 Hectares
Net housing area: 2.35 Hectares		**Total housing capacity:** 82 Homes
Net employment (Class E(g)(i & ii)) area: 0.00 hectares	**Net employment (Class B2, B8 & E(g)(iii)) area:** 0.00 hectares	**Net (Other employment uses) area:** 0.00 hectares

Conditions on development:

- This site was formerly designated as Green Belt, so the 'Golden Rules' set out in the National Planning policy Framework will apply. Open space should be provided in accordance with Policy NC15.
- In accordance with the Golden Rules the level of affordable housing required will be expected to be at a higher level than would otherwise apply to land which has not been released from the Green Belt.
- Planning applications must include a comprehensive assessment of the development's impacts on the environment. Where appropriate, adverse impacts should be offset through compensatory improvements to the environmental quality and accessibility of remaining areas of Green Belt.
- This site is identified as impacting on an area of known archaeological interest and due consideration should be given to the impact of any proposal at the planning application stage. Development proposals should implement the recommendations set out in the Heritage Impact Assessment prepared in support of the Local Plan, or other suitable mitigation measures agreed with the Local Planning Authority, to avoid or minimise harm to the significance of archaeological interest.
- Site is within 250m of a historic landfill site. An assessment of the impact (including identifying any necessary mitigation/remediation works) the landfill may have on development will be required at planning application stage.
- Development must comply with policy GS3 so that the character and features of the landscape are safeguarded or enhanced.
- A 6m buffer is required from the adjacent Local Wildlife Site (grassland) to protect this area from development.
- Due consideration should be given to any impacts of flood risk identified in the Level 2 Strategic Flood Risk Assessment. All mitigation matters

identified in the “Recommendations, FRA requirements, and further work” section of the Level 2 SFRA site assessment should be addressed at or before planning application stage.”

Recommended change to Policies Map



APPENDIX 2

Concept Plan

Land at Dore

Concept Plan
10 LAND AT DORE - CONCEPT PLAN REPORT

Scale
1:1,250 @A3

Drawing number
P22452-00-001-GIL-102

Date
10/07/2025

Revision number
08

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KEY

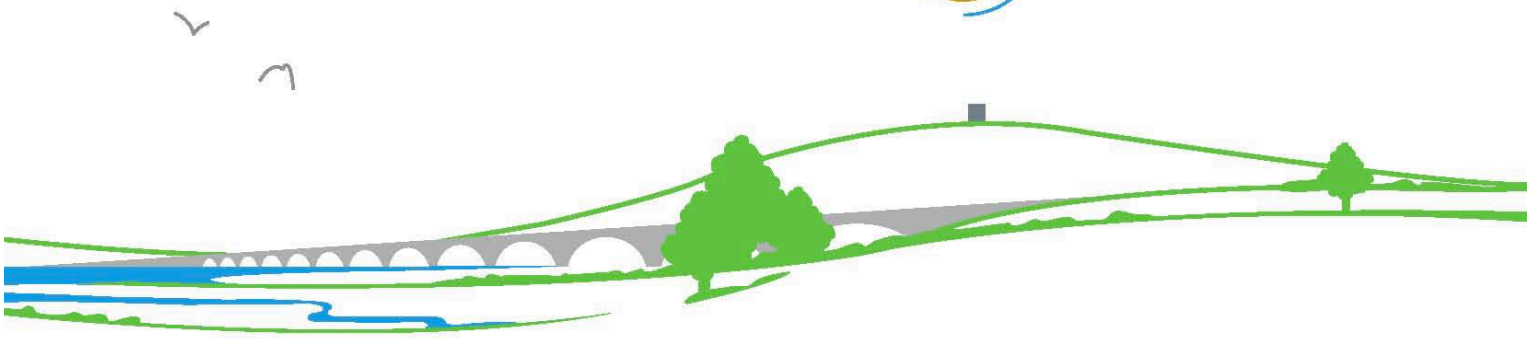

PROPOSED VEHICULAR AND PEDESTRIAN ACCESS ROAD
PEDESTRIAN AND CYCLE ACCESS PATHS
FRONTAGE OF THE BUILDING
LAND OWNED BOUNDARY
UNCONTROLLED PEDESTRIAN CROSSING
PROPOSED ROAD
PROPOSED SHARED SURFACE ROAD
EXISTING BUILDING
PROPOSED RESIDENTIAL DEVELOPMENT BLOCKS
PROPOSED DEVEOPMENT OF GREEN ZONES
WETLAND BIODIVERITY IMPROVEMENT
EXISTING TREES AND WOODLAND AND SCRUB TO BE RETAINED AND MANAGED
SUDS WETLAND BASINS
EXISTING HEDGEROW
PROPOSED HEDGEROW
EXISTING TREE
PROPOSED TREE
EXISTING BUS STOP
POTENTIAL PLAY ZONE

APPENDIX 3

Completed Statutory Metric (Sent Separately from this Report)

Penny Anderson Associates Ltd

CONSULTANT ECOLOGISTS



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