

**Brooks**

Ecological

*Grounded advice*

**Biodiversity Management Plan  
& water vole Mitigation Strategy**

**Lady Anne Road, Soothill, Batley**

D. Noble Ltd

ER-3787-02-A

June 2021



Report Reference:	Biodiversity Management Plan & water vole mitigation strategy Lady Ann Road, Soothill, Batley
Report Reference:	ER-3787-02-A
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Date:	Written 28.01.2021 Amended 04.06.2021



The information which we have prepared and provided is true and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions. This report does not constitute legal advice.

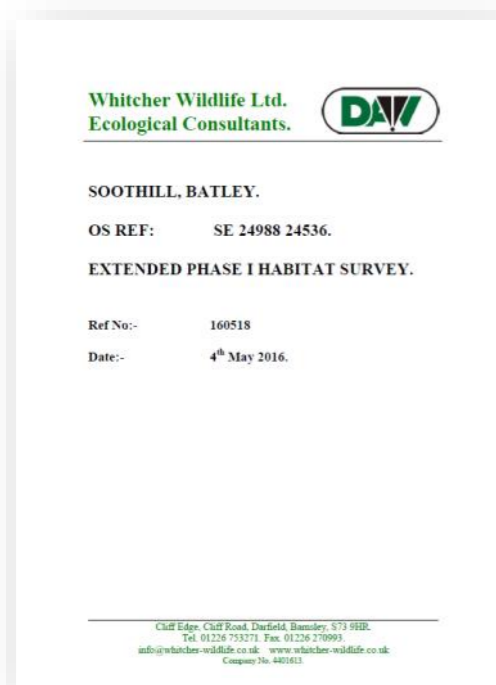
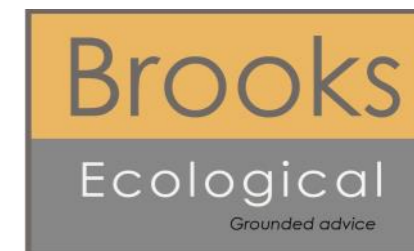
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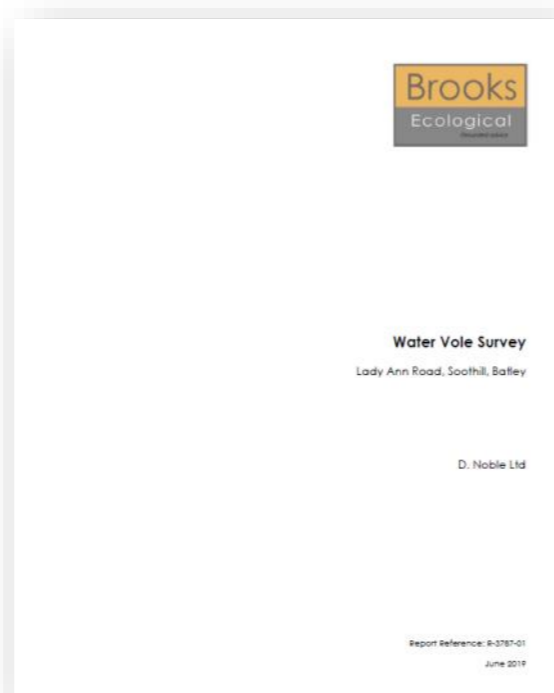
# Introduction

The Site has been subject to a series of baseline studies which have helped to inform the layout, demonstrating its engagement with the 'mitigation hierarchy'. Input into the design of the landscape proposals has allowed the ecological value of new Public Open Space (POS) to be maximised, generating the greatest possible biodiversity score post-development. The final layout has been Impact Assessed showing the proposed development is policy compliant.

This report is the final delivery document, and shows how retained and created habitats can attain the condition scores that were predicted in the Ecological Impact Assessment and Biodiversity Metric 2.0 Calculation tool.



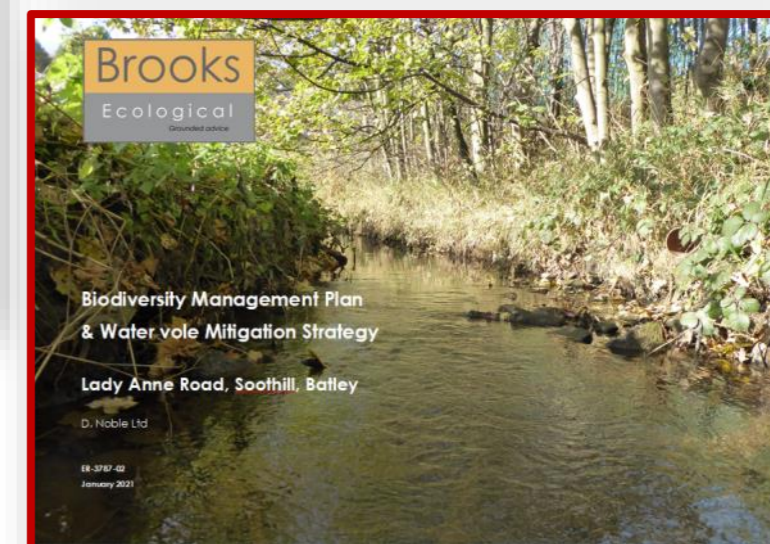
**1 Baseline assessment**



**2 Detailed Studies**



**3 Impact Assessment**



**4 Delivery (BMP)**

In addition to meeting habitat condition objectives, this document presents all the measures included to maximise the value of the Site for fauna, in particular to maintain suitable habitat for water vole.

The Plan is produced in accordance with Chapter 11 of British Standard 42020. Reports which set out how wildlife interests will be enhanced, restored and maintained go under a variety of names, generated by the planning case officer or their internal consultant. As these names refer to the same output we standardise the name of our reports regardless of what appears in a planning condition as '**Biodiversity Management Plans**' (BMPs), a term is referenced in BS42020 Clause D.4.5.

# Aims of the Plan

To deliver the Biodiversity Unit score predicted in the Ecological Impact Assessment, as well as to maintain and create suitable habitat for water vole and garden wildlife.

## Scope of Plan

This plan relates to the whole development as contained within the red line, illustrated right.

Greenspace available for enhancement is situated along the eastern boundary, associated with Howley Beck. This will maintain the functionality of the Local Wildlife Habitat Network.

## Delivering the Plan

The Developer is responsible for the creation and establishment works for a five-year period.

The Developer will appoint either a Specialist Ecological Management Company (SEMC) or a company working under the direction of an Ecological Clerk of Works (ECoW) to oversee the delivery of this plan prior to any work commencing on site.

The ECoW would be a qualified Ecologist and member of the Chartered Institute of Ecology and Environmental Management, or be otherwise approved by the LPA.

After year five, this plan will be the responsibility of a Site Management Company whence it will be implemented in perpetuity.



<b>On-site baseline</b>	<i>Habitat units</i>	<b>17.45</b>
	<i>Hedgerow units</i>	<b>0.83</b>
	<i>River units</i>	<b>2.32</b>
<b>On-site post-intervention</b> (Including habitat retention, creation, enhancement & succession)	<i>Habitat units</i>	<b>14.31</b>
	<i>Hedgerow units</i>	<b>2.58</b>
	<i>River units</i>	<b>2.85</b>
<b>Off-site baseline</b>	<i>Habitat units</i>	<b>0.00</b>
	<i>Hedgerow units</i>	<b>0.00</b>
	<i>River units</i>	<b>0.00</b>
<b>Off-site post-intervention</b> (Including habitat retention, creation, enhancement & succession)	<i>Habitat units</i>	<b>0.00</b>
	<i>Hedgerow units</i>	<b>0.00</b>
	<i>River units</i>	<b>0.00</b>
<b>Total net unit change</b> (including all on-site & off-site habitat retention/creation)	<i>Habitat units</i>	<b>-3.14</b>
	<i>Hedgerow units</i>	<b>1.75</b>
	<i>River units</i>	<b>0.53</b>
<b>Total net % change</b> (including all on-site & off-site habitat creation + retained habitats)	<i>Habitat units</i>	<b>-17.98%</b>
	<i>Hedgerow units</i>	<b>211.86%</b>
	<i>River units</i>	<b>22.73%</b>

# Water vole Mitigation Strategy

Water voles have historically (2000 & 2009) been recorded within the northern section of the Site, and within off-site sections of Howley Beck to the north. However, recent Water vole surveys conducted in 2017 & 2019 have demonstrated that this species is now (likely) absent from the site, despite sections of Howley Beck still providing suitable habitat.

It is possible that water vole are still present within offsite sections of the beck to the north and there is a chance that the species could recolonise the Site in the future.

A combined water vole mitigation strategy and biodiversity management plan has therefore been designed, to ensure that suitable habitat is protected and enhanced for this species, so as to maintain the potential for recolonisation events to occur.

The following measures will be put in place during the construction phase, to ensure the beck's value to water vole is adequately protected.

## Exclusion zones

Where feasible, a 6m standoff has been designed into the Site Layout between the toe of the bank of Howley Beck, and the development footprint. This will act to protect any burrows and bankside habitat from direct impacts of construction.

Where a 6m standoff can not be enacted, a pre-commencement water vole survey will be undertaken to confirm the continued likely absence of water vole. Should evidence of water vole be discovered at this point, work will be put on hold until the relevant mitigation / conservation licence has been secured with Natural England.

## Barrier Fencing

BS5837 Tree protection fencing, with silt sheets will be installed along the edge of the development footprint, prior to any works commencing. This fence will be fitted with suitable signage, at regular intervals, alerting contractors to the presence of an ecologically sensitive exclusion zone, that must not be breached at any point.

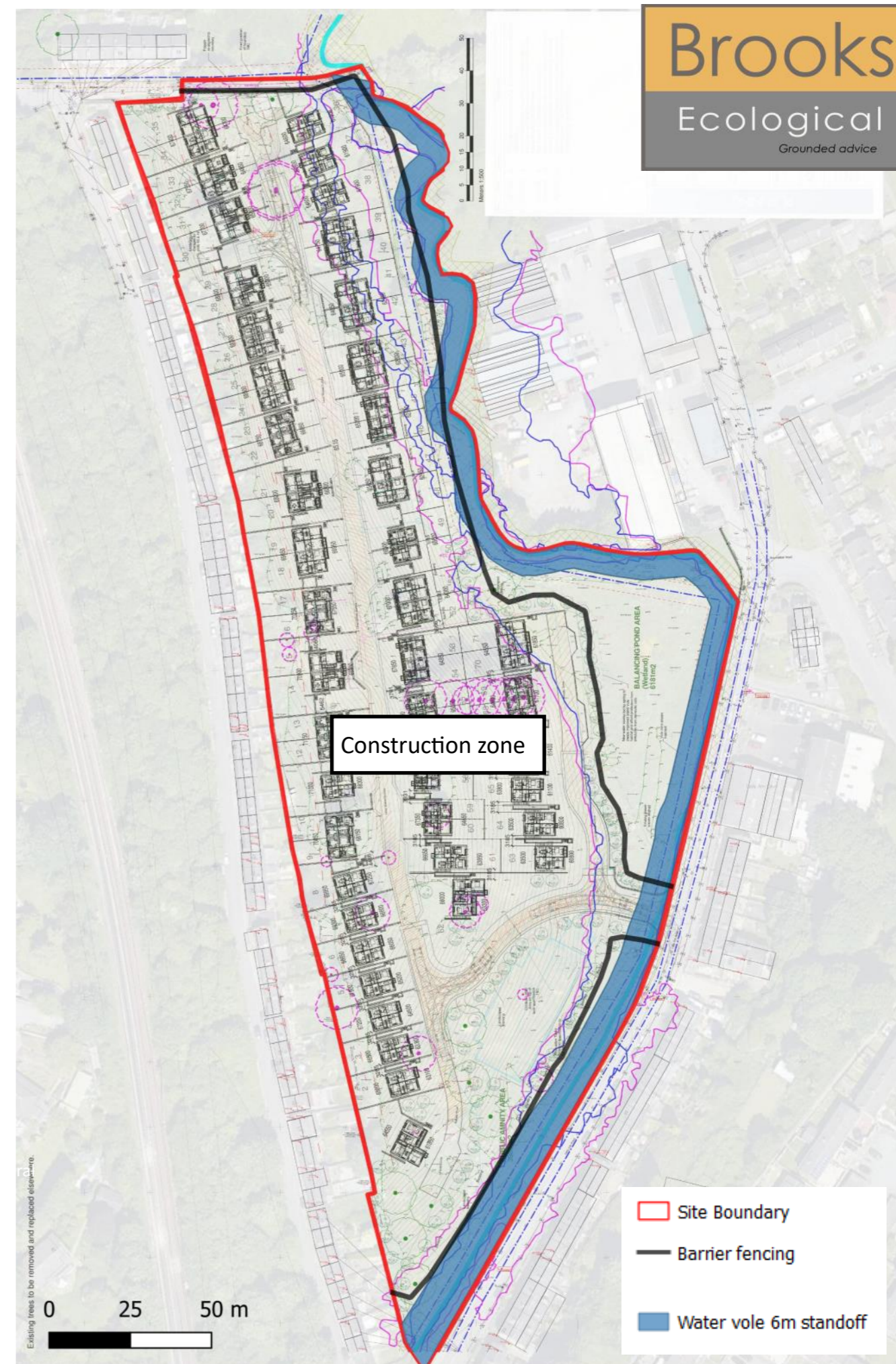
A system will be put in place with the Site manager to undertake daily/ weekly checks of this fencing, to ensure it remains in good condition and that there are no breaches.

## Tool Box Talk

Once barrier fencing has been installed, and prior to any works commencing, a suitably experienced ecologist will deliver a toolbox talk to the Site Manager. This information will then be included in the Site Induction delivered to any contractors working on Site.

## Ecological Clerk of Works

An Ecological Clerk of Works, who is a suitably experienced ecologist, will be on hand to carry out site inspections/ surveys whenever the need arises.





# Other Rivers & Streams (Howley Beck)

## Rationale

Better management of the beck to increase its condition will benefit not only water vole, but all local wildlife as well as contribute to human wellbeing.

## Objectives

Improve Howley Becks DEFRA Condition score from Poor to Fairly Poor by year 10.

## Specification

**Soil** N/A.

**Weeds:** manage invasive non-native Himalayan balsam. No herbicide, pesticide or fertilizers to be used.

**Seeding:** N/A.

**Planting:** Localized plug planting of yellow flag iris, purple loosestrife and meadowsweet. Specify 50 number each species (150 in total) planted under ECoW direction).

## Management

Annual litter pick of channel and banks.

Annual hand pull of Himalayan balsam in line with Invasive Weed Management Plan - prior to flowering and setting seed.

Targeted cut and remove of scrub - where deemed necessary by EcOW.

## Monitoring

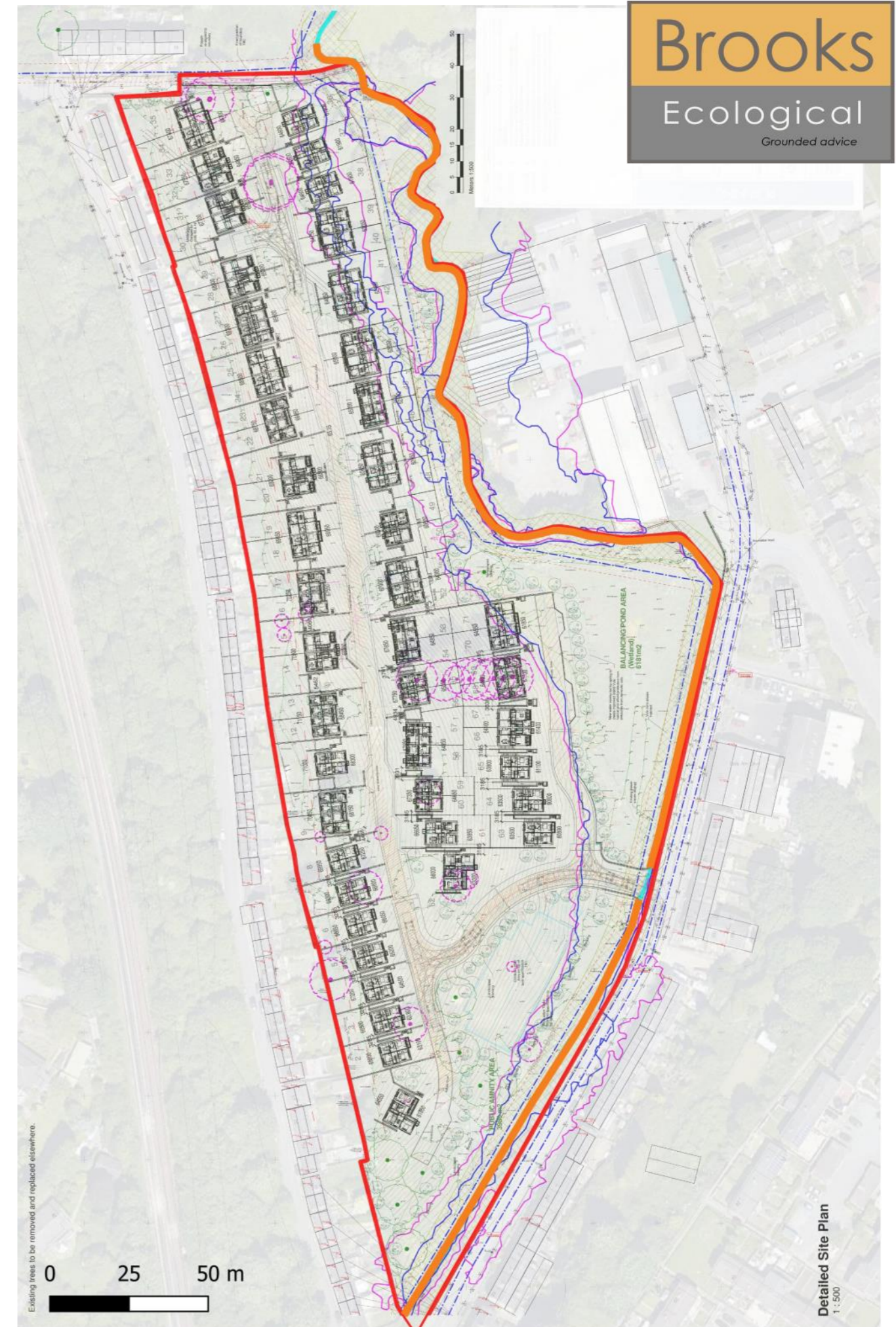
Ecological Clerk of Works Years 1, 5 and 10 monitoring visit to check trajectory to condition requirement.

### Output

ECoW report years 1, 5 and 10

### Remedial action options

- Increase weed control if undesirable species establish
- Increase frequency of litter picks
- Additional seeding / plug planting of locally native plants





# Tall herb Community

## Rationale

Managing the existing tall herb vegetation will increase floral diversity and condition, which in turn will provide habitat and food resource for water vole, should they recolonise the beck.

## Objectives

Retaining 0.27ha of Tall Herb Community habitat, and managing it so as to improve its DEFRA Condition score from Poor to Moderate by year 20.

## Specification

**Soil** retain and protect in situ.

**Weeds:** manage invasive non-native Himalayan balsam. No herbicide, pesticide or fertilizers to be used.

**Seeding:** N/A.

**Planting:** N/A

## Management

Annual litter picks.

Annual hand pull of Himalayan balsam in line with Invasive Weed Management Plan - prior to flowering and setting seed.

Pocket strimming and raking to remove plant litter build up and open recruitment niches. - to be directed by EcOW. Different parcel to be stirmed every second year, with each parcel to amount to 1/3rd by area. Material will be raked and removed from site, or raked and left in on-site rot piles.

## Monitoring

Ecological Clerk of Works Years 1, 5, 10, 15, 20 monitoring visit to check trajectory to condition requirement.

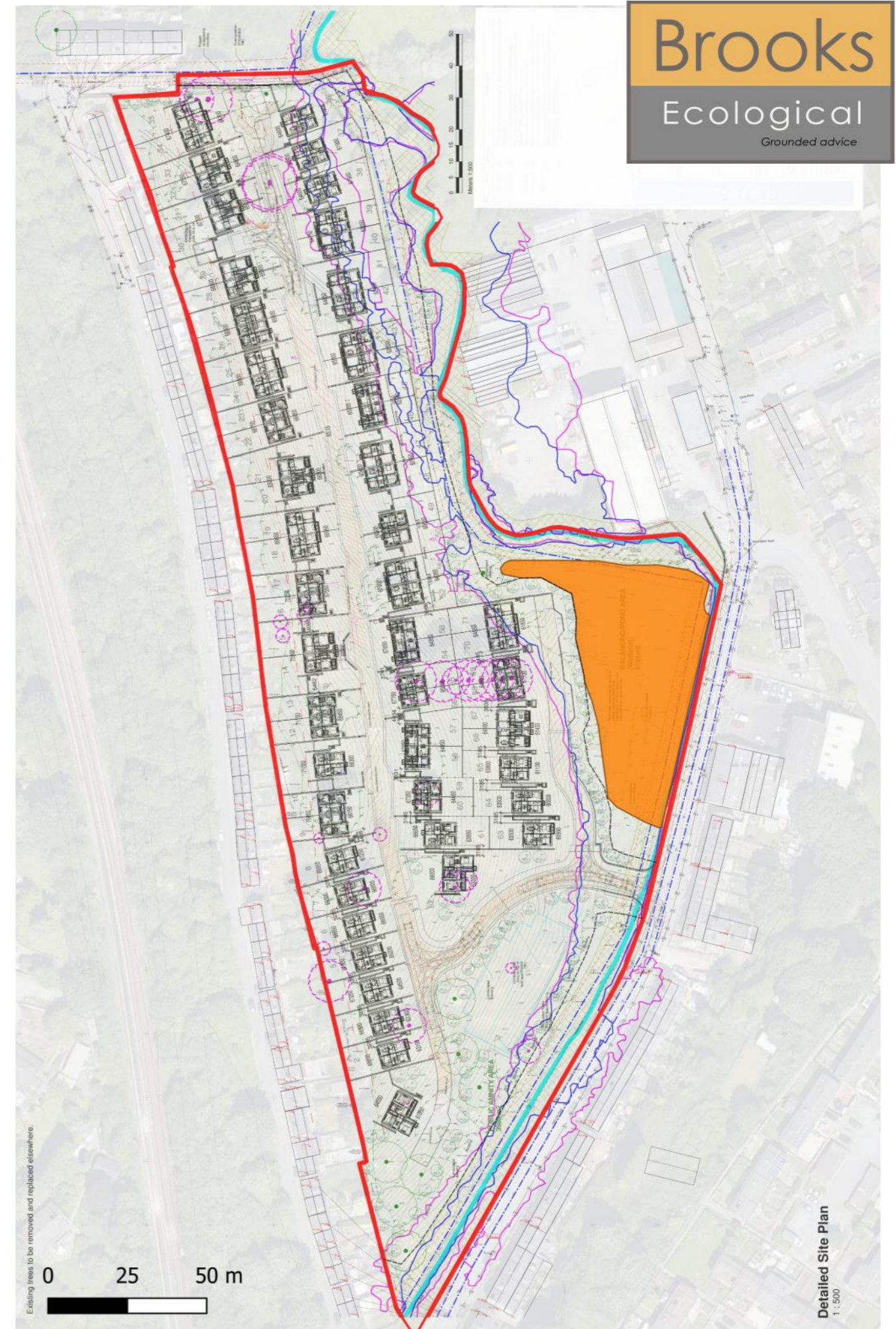
### Output

ECoW report Years 5, 10, 15 and 20.

### Remedial action options

- Increase weed control if undesirable species establish
- Increase frequency of litter picks

	Condition Assessment Criteria: Grassland habitat type	Targeted?
1	Clearly and easily recognizable as a good example of this type of habitat.	Yes
2	Appearance and composition very closely matches the characteristics for the specific Priority Habitat	No
3	Wildflowers, sedges and indicator species for the specific Priority grassland habitat are very clearly and easily visible throughout the sward and occur at high densities in high frequency.	No
4	Undesirable species and physical damage is below 5% cover.	Yes
5	Cover of bare ground less than 10%	Yes
6	Cover of bracken less than 20% & cover of scrub and bramble less than 5%.	Yes





## Other Neutral Grassland (Retained)

### Rationale

Increasing diversity of existing grassland will provide food plants for water vole as well as attract invertebrates and contribute to human wellbeing.

### Objectives

Retain 0.17ha of Other Neutral grassland habitat, and managing it so as to improve its DEFRA Condition score from poor to moderate by year 10.

### Specification

**Soil** retained and protected in situ.

**Weeds:** manage invasive non-native Himalayan balsam. No herbicide, pesticide or fertilizers to be used.

**Seeding:** overseed with Emorsgate EM1 General purpose meadow mixture and Yellow rattle - to supplier's specification. Seed into raked patches to open up germination niches.

**Planting:** N/A

### Management

**Year 1** two cuts (spring and autumn), rake and collect arisings; remove arising from site or place in rot piles. Sow EM1 seed straight mix after autumn cut and rake. Remove litter.

**Year 2 onwards**

Two cuts, once in August and again in October - remove arisings. Remove litter and manage INNS.



Illustrative cutting regime from year 2

### Monitoring

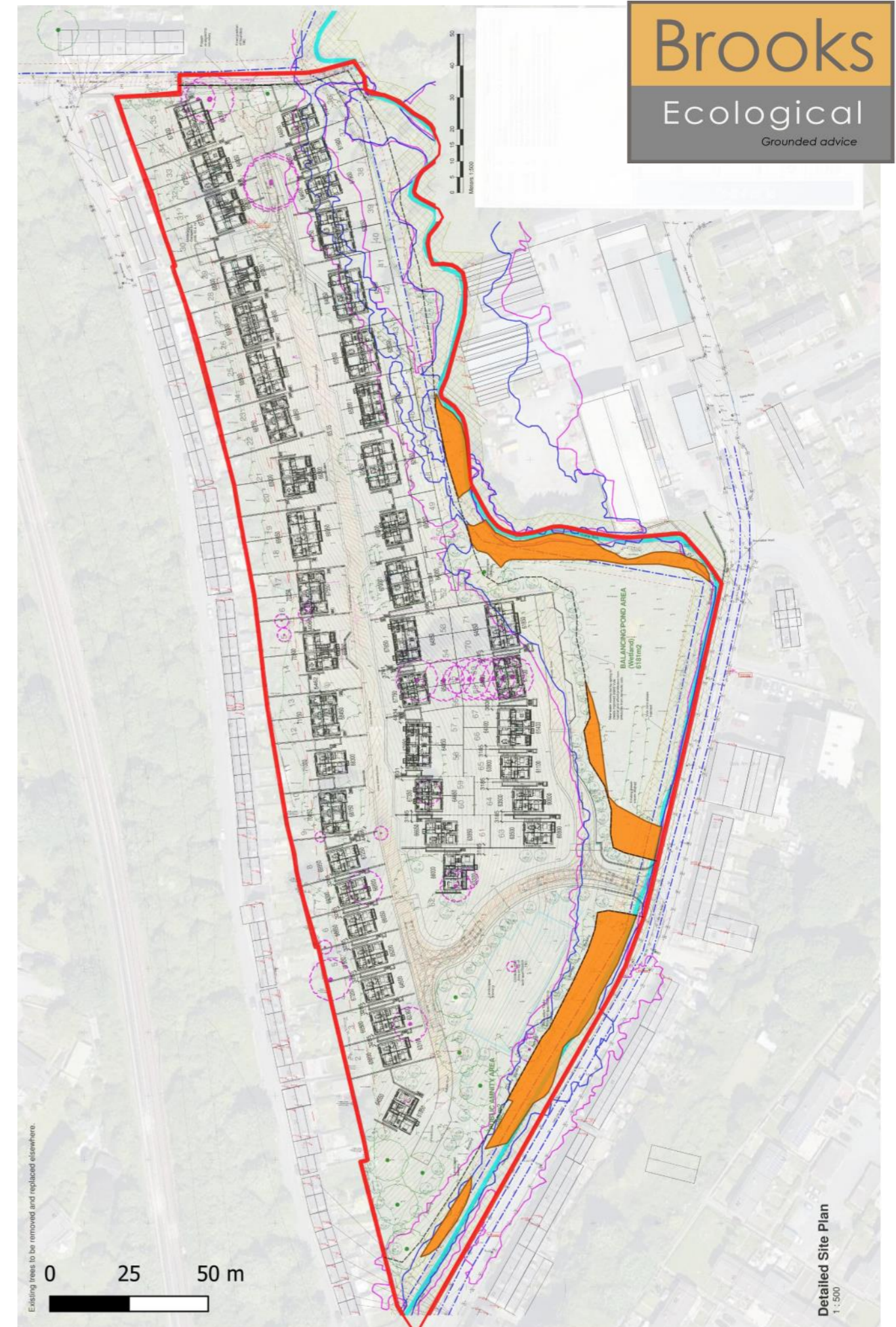
Ecological Clerk of Works - years 1, 5 and 10 monitoring visit to check trajectory to condition requirement (see table overleaf).

#### Output

ECoW report year 1, 5 and 10.

#### Remedial action options

- Increase weed control if undesirable species establish
- Re-seed and replant locally
- Include third cut in spring to reduce nutrient levels.





# Other Neutral Grassland (Created)

## Rationale

Creating flower-rich grassland on made habitats to provide food plants for water vole, as well as attract invertebrates and contribute to human wellbeing.

## Objectives

Create 0.30ha of Other Neutral grassland in moderate condition by year 10.

## Specification

**Soil** should be checked by ECoW for suitability; this to be a friable low nutrient load neutral soil. Spread using back actor spread and firmed. Not driven over and compacted. All soil handling and spreading to be supervised by and sanctioned by ECoW.

**Weeds:** if the soil is likely to support viable weed seeds it should be allowed to grow to first flush then killed off with translocated non-persistent weedkiller. After this, no herbicide, pesticide or fertilizers to be used.

**Seeding:** seed with Emorsgate seeds EM1 General purpose meadow mixture to supplier's specification.

**Planting:** N/A

## Management

**Year 1** Five cuts, collect arisings and remove from site, or add to rot pile. Remove litter.

**Year 2** onwards

Two cuts, once in August and again in October—remove arisings. Remove litter. Manage INNS.

## Monitoring

Ecological Clerk of Works - year 1, 5 and 10 monitoring visit to check trajectory to condition requirement (see table below).

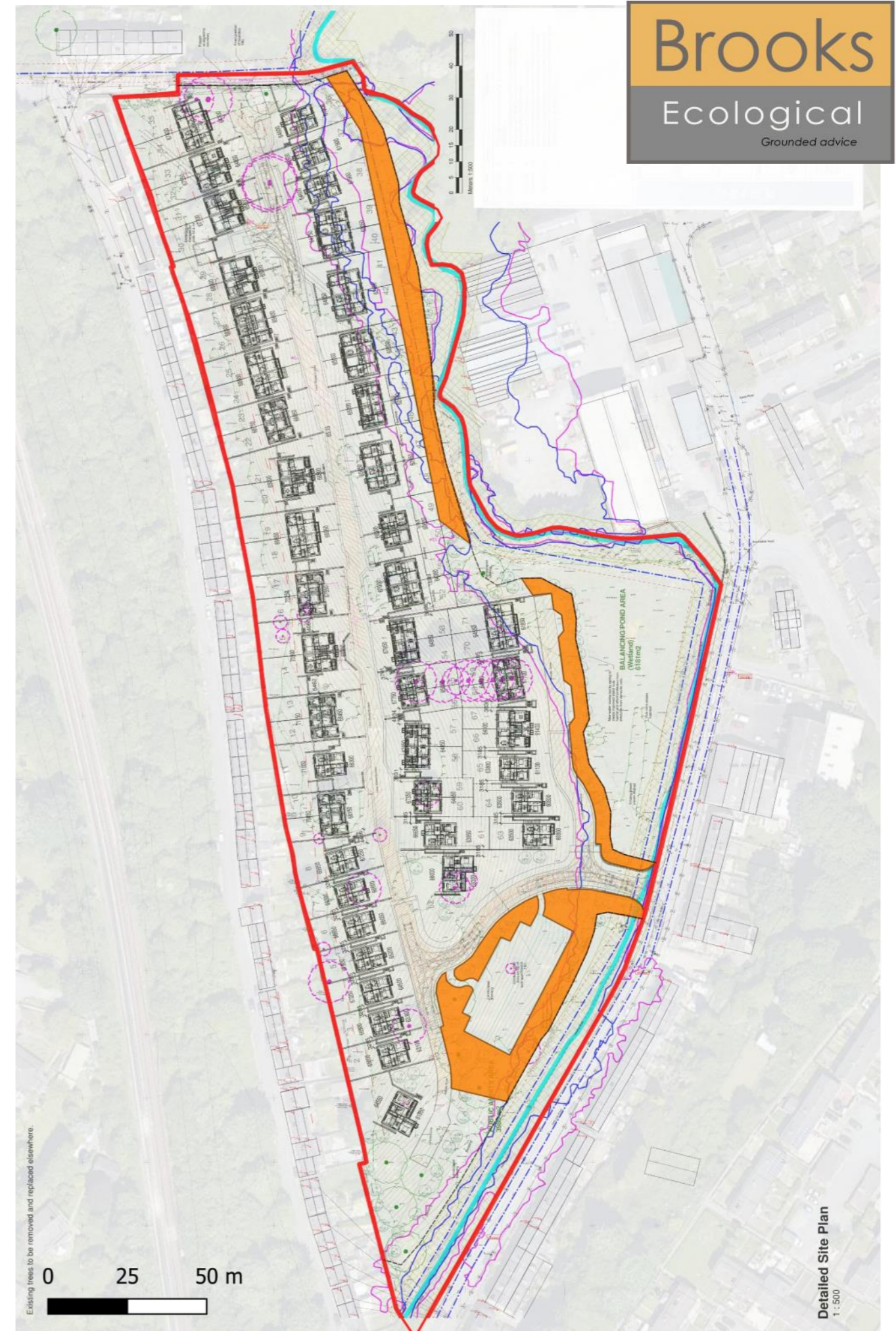
### Output

ECoW report Year 1, 5 and 10

### Remedial action options

- Increase weed control if undesirable species establish
- Re-seed and replant locally
- Include third cut in spring to reduce nutrient levels.

	Condition Assessment Criteria: Grassland habitat type	Targeted?
1	Clearly and easily recognizable as a good example of this type of habitat.	Yes
2	Appearance and composition very closely matches the characteristics for the specific Priority Habitat	N/A
3	Wildflowers, sedges and indicator species for the specific Priority grassland habitat are very clearly and easily visible throughout the sward and occur at high densities in high frequency.	N/A
4	Undesirable species and physical damage is below 5% cover.	Yes
5	Cover of bare ground less than 10%	Yes
6	Cover of bracken less than 20% & cover of scrub and bramble less than 5%.	Yes





# Mixed scrub (Retained)

## Rationale

Creating an area of dense mixed native scrub and trees, which will provide shelter, nesting opportunities and nectar/ food resources for a wide range of wildlife.

## Objectives

Retain 0.25ha of poor condition Bramble scrub, and managing it so as to create mixed scrub in moderate by year 5.

## Specification

**Soil** retained and protected in situ.

**Weeds:** manage invasive non-native Himalayan balsam. No herbicide, pesticide or fertilizers to be used.

**Seeding:** N/A.

**Planting:** from schedule in Landscape Masterplan.

## Management

**Year 1** Cut bramble to ground level in October and plant whips.

**Year 2-5** Check shelters are fitted properly, stakes are firm and ties in place. Replace failures. Cut half of bramble to ground layer once a year in October, alternating annually.

**Year 10** Cut bramble to ground level (outside nesting period) and remove tree guards. Thin planted scrub if required - must be ECoW directed. Leave all felled timber in situ to rot down.

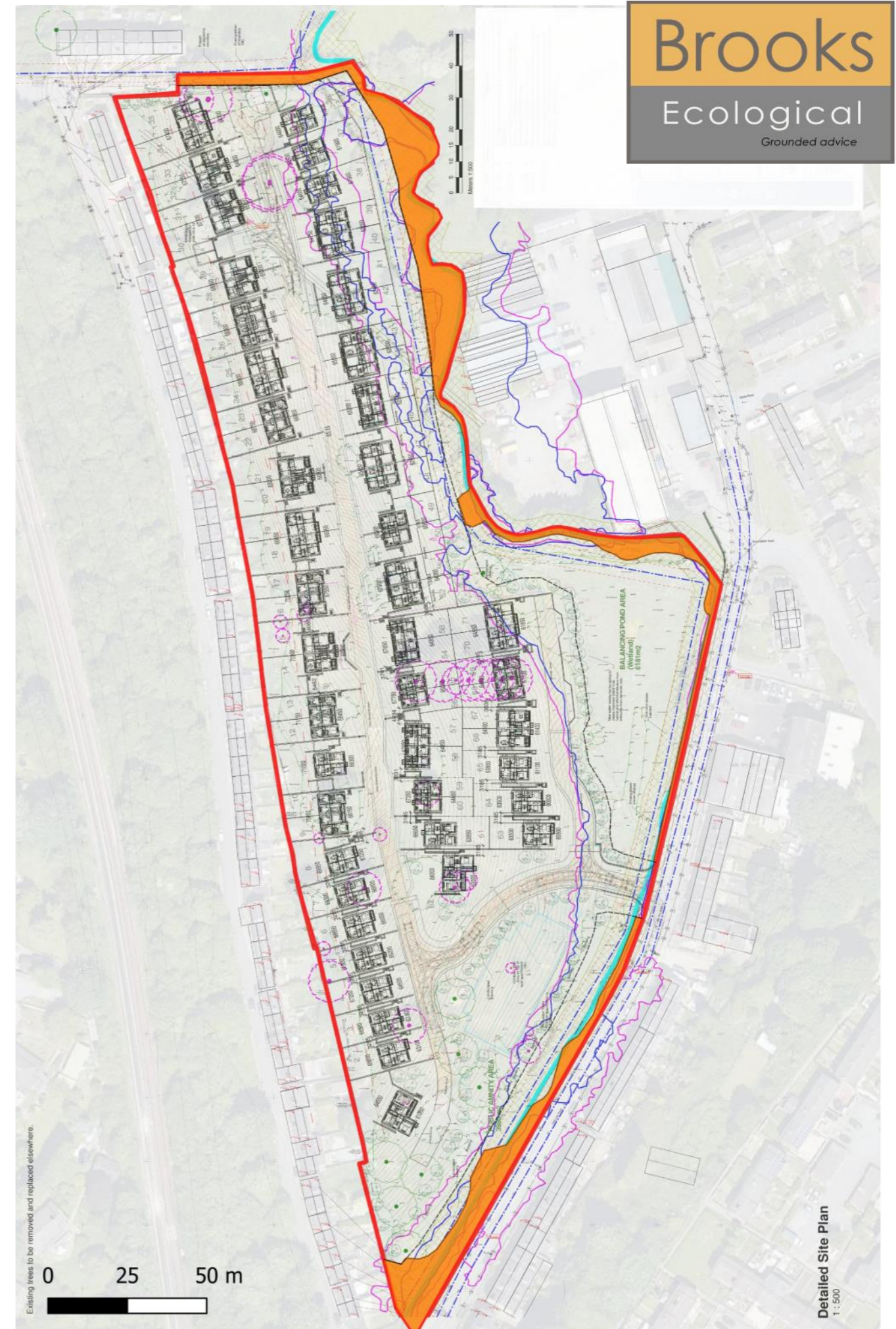
## Monitoring

Ecological Clerk of Works Year 2 and 5 monitoring visit to check trajectory to moderate condition assessment. Output ECoW report year 2 and 5.

### Remedial action options

- Increase weed control if undesirable species establish
- Replant failures
- Amend cutting regime (bramble)
- Increase thinning rate

	Condition Assessment Criteria: Scrub habitat type	Targeted?
1	There are at least three woody species, with no one species comprising more than 75% of the cover	Yes
2	There is a good age range – a mixture of seedlings, saplings, young shrubs and mature shrubs	No
3	Pernicious weeds and invasive species make up less than 5% of the ground cover.	Yes
4	The scrub has a well-developed edge with un-grazed tall herbs.	Yes
5	There are many clearings and glades within the scrub.	No





# Mixed scrub (Created)

## Rationale

Creating an area of dense mixed native scrub, which will provide shelter, nesting opportunities and nectar/ food resources for a wide range of wildlife.

## Objectives

Create 0.13ha of mixed scrub in moderate condition by year 5.

## Specification

**Soil** should be spread using back actor spread and firmed. Not driven over and compacted. All soil handling and spreading to be supervised by and sanctioned by ECoW.

**Weeds:** if the soil is likely to support viable weed seeds it should be allowed to grow to first flush then killed off with translocated non-persistent weedkiller.

**Seeding:** N/A

**Planting:** from schedule in Landscape Masterplan.

## Management

**Year 1-2** Check shelters are fitted properly, stakes are firm and ties in place. Hand weed grasses and weeds in tree shelters if present. Replace failures next growing season. Monitor for competitive weed growth away from planting stations.

**Year 3-5** Monitor for competitive weed growth away from planting stations.

**Year 10** remove tree guards. Thin if required. Must be ECoW directed. Leave all felled timber in situ to rot down.

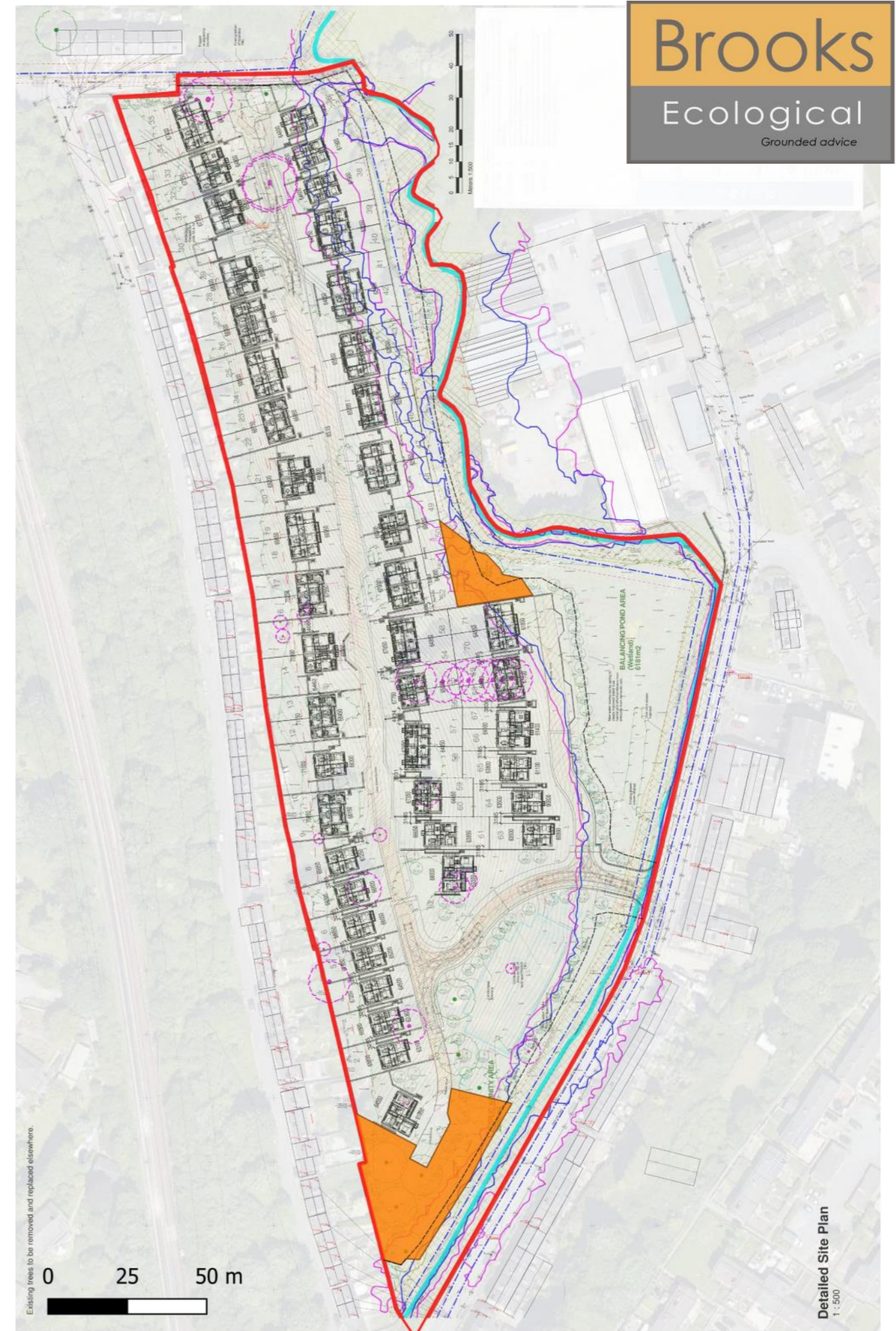
## Monitoring

Ecological Clerk of Works - year 2 and 5 monitoring visit to check trajectory to moderate condition assessment. Output ECoW report year 2 and 5.

### Remedial action options

- Increase weed control if undesirable species establish
- Replant failures
- Increase thinning rate

	Condition Assessment Criteria: Scrub habitat type	Targeted?
1	There are at least three woody species, with no one species comprising more than 75% of the cover	Yes
2	There is a good age range – a mixture of seedlings, saplings, young shrubs and mature shrubs	No
3	Pernicious weeds and invasive species make up less than 5% of the ground cover.	Yes
4	The scrub has a well-developed edge with un-grazed tall herbs.	Yes
5	There are many clearings and glades within the scrub.	No





# Line of Trees

## Rationale

Increase species diversity and improve structure.

## Objectives

Delivering 2.00 Hedgerow units by planting a Line of Trees 0.9km long in moderate condition by year 20.

## Specification

**Soil** should be spread using back actor spread and firmed. Not driven over and compacted. All soil handling and spreading to be supervised by and sanctioned by ECoW.

**Weeds:** if the soil is likely to support viable weed seeds it should be allowed to grow to first flush then killed off with translocated non-persistent weedkiller.

**Seeding:** N/A

**Planting:** from schedule in Landscape Masterplan.

## Management

Standard management of newly planted trees; see Landscape Masterplan.

## Monitoring

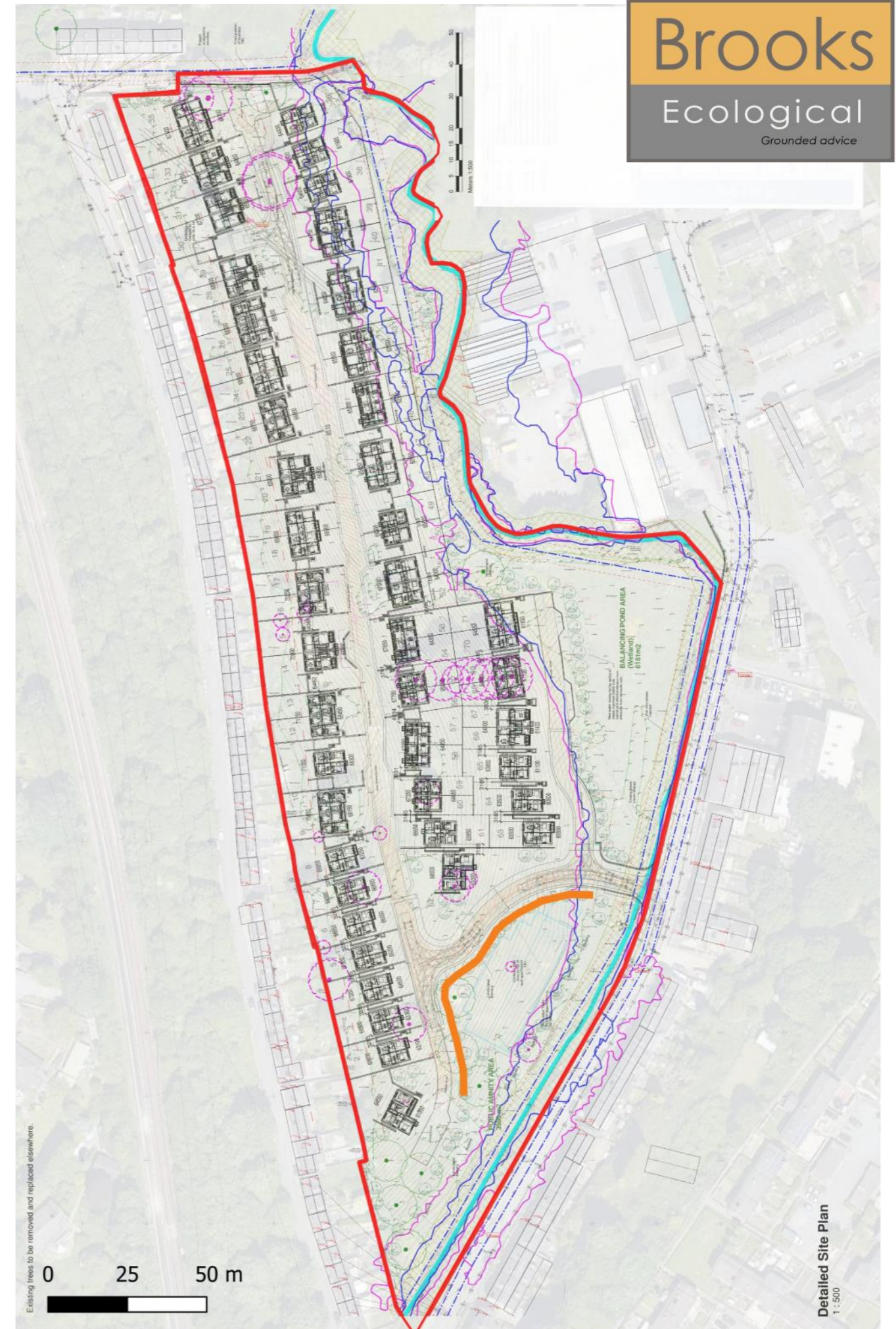
Ecological Clerk of Works - year 2, 5, 10, 15 and 20 monitoring visit to check trajectory to moderate condition assessment.

Output ECoW condition report.

Remedial action options

- Replace failures

Category	Condition Assessment Criteria of Trees Line habitat type	Targeted
Good	Mature trees with continuous canopy, i.e. a 'mature tree' in this context is one that is at least 1/3 expected fully mature height gaps make up <10% of total length and there are no canopy gaps >5 m	No
Moderate	Continuous canopy, i.e. trees < 1/3 expected fully mature height gaps make up <10% of total length and there are no canopy gaps >5 m	Yes
Poor	Broken canopy, i.e. gaps make up >10% and / or gaps are >5 m in length.	No



# Homes for Wildlife

## Birds

### Rationale

Ready made roosting boxes can be readily incorporated into developments to provide shelter and breeding sites for declining garden birds.

#### Integrated Swift boxes

##### Specification

Mansthorpe Swift Brick - <https://www.nhbs.com/mansthorpe-swift-brick>

(Or equivalent approved by an Ecologist)

Although designed for swift, these boxes have been shown to be used by other bird species, including House sparrow and blue tit.

##### Location Notes

Sited as high as possible, directly under the apex of the verge or below the eaves, with clear flight line.

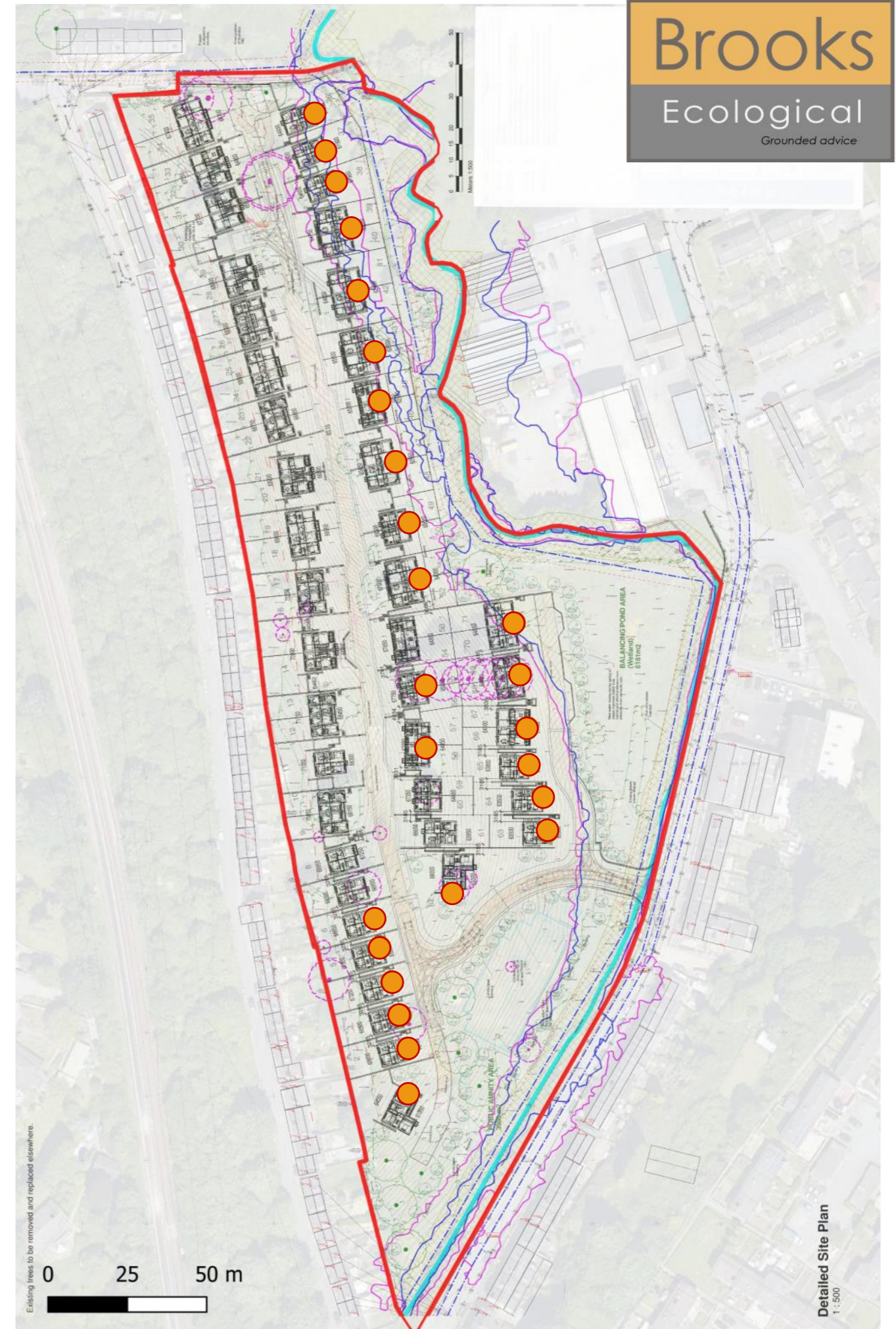
Boxes will not be positioned above windows, to prevent potential conflict with new homeowners.

**Number** 25

**When erected?** During construction.

**Verification** ECoW Certificate.

*Note all locations and specifications may be varied under agreement with ECoW*



# Homes for Wildlife

## Bats

### Rationale

Ready made roosting boxes can be incorporated into developments to provide shelter and roosting sites for crevice dwelling bats.

#### Integrated Bat boxes

##### Specification

Ibstock Enclosed Bat Box - <https://www.nhbs.com/ibstock-enclosed-bat-box-c>

(Or equivalent approved by an Ecologist).

##### Location Notes

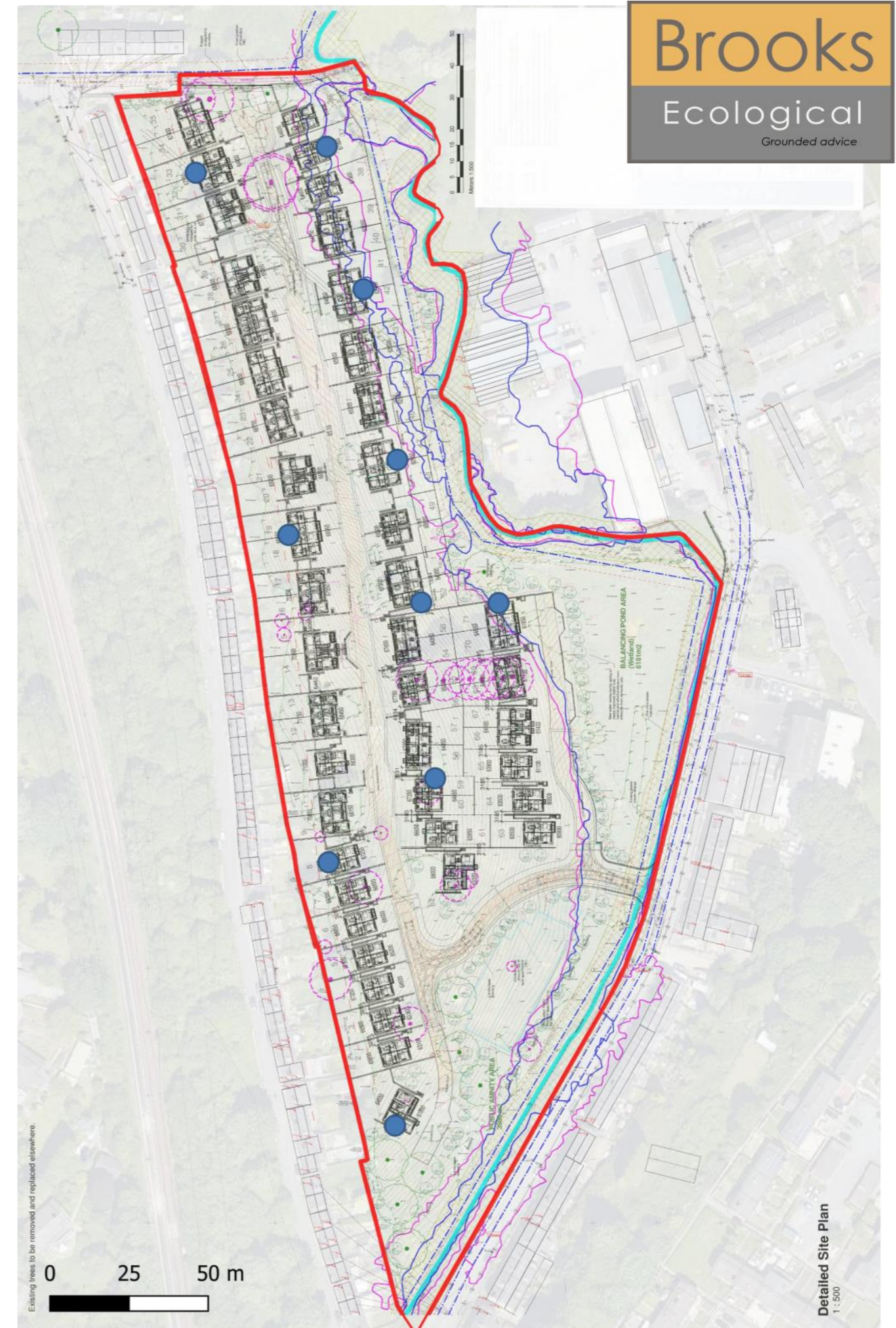
Sited as high as possible under the eaves with good access to unlit vegetated corridors.

**Number** 10

**When erected?** During construction.

**Verification** ECoW Certificate.

*Note all locations and specifications may be varied under agreement with ECoW*



# Homes for Wildlife

## Hedgehog

Gardens can provide very good habitat for hedgehogs and other small mammals, but modern fencing often excludes them. Providing access between gardens can greatly increase the amount of habitat available to these species.

### Specification

Accessible gaps, measuring at least 13m x 13cm, will be installed in fence panel - to the approval of the Ecological Clerk of Work.

At least one gap to be created in each boundary fence line, for all gardens following the blue line in the plan opposite.

Holes labelled with 'Hedgehog Highway' signs—to avoid conflict with occupants.

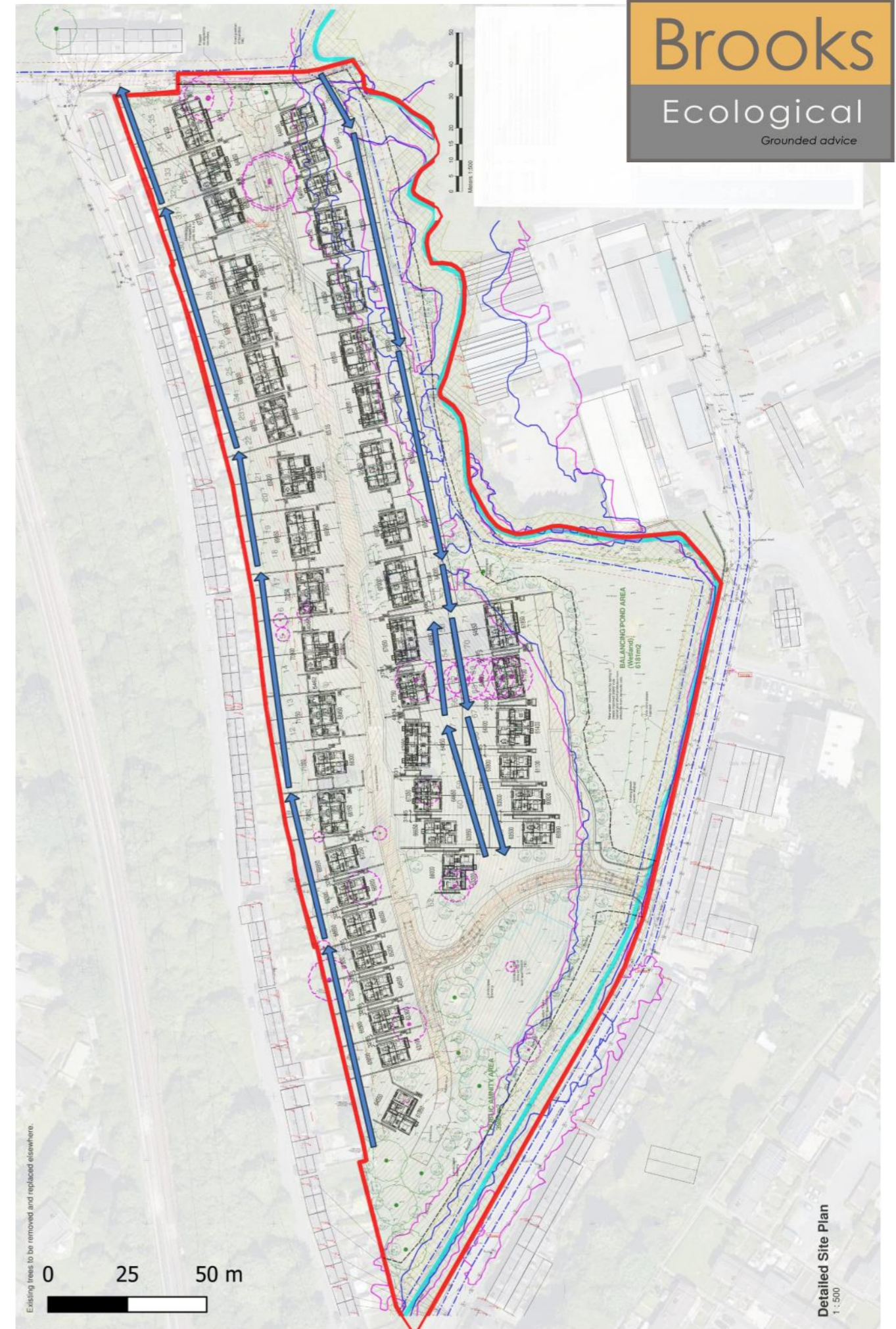
### Location Notes

Encourage access through gardens, linking to POS and retained habitat.

**Number** As figure.

**When installed?** Prior to occupation.

**Verification** ECoW Certificate .





# ECoW Activities Years 1 to 30

Task	ECoW to direct	ECoW to carry out	Prior to any works commencing	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6—30	Year 10	Year 15	Year 20	Year 25	Year 30
Installation of exclusion fencing	Yes		Yes											
Soiling of new habitats	Yes			To construction programme	To construction programme									
Seeding and planting of new habitats	Yes			Oct.-Feb.	Oct.—Feb									
Manage wildflower grassland	Yes (in Yrs 1-2)			Five cuts April—Sept	Two cuts Aug. & Oct.	Two cuts Aug. & Oct.	Two cuts Aug. & Oct.	Two cuts Aug. & Oct.	Two cuts Aug. & Oct.					
Manage Tall herb	Yes			Sept. - Oct.	Sept. - Oct.	Sept. - Oct.	Sept. - Oct.	Sept. - Oct.	Sept. - Oct.					
Manage scrub				Oct—Feb.	Oct—Feb.	Oct—Feb.	Oct—Feb.	Oct—Feb.	Oct—Feb.					
Manage Howley Beck				Oct—Feb.	Oct—Feb.	Oct—Feb.	Oct—Feb.	Oct—Feb.	Oct—Feb.					
Install boxes erect				During construction										
Install hedgehog access				During construction										
Check hedgehog access as built		Yes—prior to occupation of unit		Yes—as built										
Check Faunal boxes installed into new builds		Yes—prior to occupation of unit		Yes—as built										
EcoW Habitat monitoring & condition assessment report		Yes		Yes—1 visit in June/June	Yes—1 visit in June/June			Yes—1 visit in June/June	Yes—1 visit in June/June	Yes—1 visit in June/June	Yes—1 visit in June/June	Yes—1 visit in June/June	Yes—1 visit in June/June	Yes—1 visit in June/June