SF 3082 | Hart Street, Newsome

ECOLOGICAL MITIGATION & ENHANCMENT PLAN REVSION E

January 2022 | For Planning

SMEEDEN FOREMAN

Landscape Architects ■ Urban Designers ■ Ecologists ■ Arboriculturists

Document check sheet

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1.0 INTRODUCTION

1.1.1 Smeeden Foreman Limited have been commissioned by Urban Developments Limited to provide an Ecological Mitigation and Enhancement Scheme in relation to their proposed development site located off Hart Street in Newsome, West Yorkshire (grid reference: SE 1444914799).

1.1.2 The site has been granted outline planning permission (ref: 2016/60/91479/E) subject to discharge of conditions.

1.1.3 This report will include:

- A brief description of the site and surroundings;
- Protection measures to be adopted on site pre and during construction works;
- A summary of the proposed planting and habitat creation associated with the development of the site (refer to Landscape Proposals produced by Smeeden Foreman SF3082 LL02 REV D);
- Details of mitigation measures to be included within the proposed development;
- Description of the management aims and objectives for the managed areas of the site outside the garden boundaries; along with a schedule of operations to achieve these aims post-construction, following the completion of the development.

1.1.5 The proposals involve the development of the site for residential purposes.

2.0 SITE DESCRIPTION

2.1.1 The proposals site is located within Newsome, West Yorkshire, approximately 1.7km to the south of Huddersfield centre. The site is set within a largely residential area, with residential properties, associated gardens and roads located to the south, east, south-west and north-east. Adjacent to the north-west is a complex of buildings which are used for residential and commercial purposes and beyond this is a disused mill building, with areas of woodland adjacent to the north-west.

The proposals site itself comprises two mill ponds, presumably once associated with the disused mill to the north-west, and an area of unmanaged land to the south, comprising scrub and ruderal vegetation. Mature trees line the south-western boundary of the site, with a small number of trees and saplings/scrub marking the north-eastern boundary and the strip of land between the two mill ponds. Refer to Figure 01 below.



Figure 01: Aerial Photograph

3.0 PRE-CONSTRUCTION

3.1 TREES

3.1.1 Temporary protective fencing will be installed around all trees/shrubs proposed for retention. The fencing must be in accordance with BS5837:2012 'Trees in Relation to Design, Demolition and Construction', extend outside the canopy of the retained trees, and remain in position until construction is complete. The installation of protective fencing will ensure there is no accidental damage to the trees or their root zones during the construction phase, and will also discourage the storage of construction material around the base of the trees.

3.1.2 During ecology surveys undertaken on site in 2020 four trees were assessed as having low potential to support roosting bats, with potential roost features identified including branch socket holes, lifted bark, tear out wounds and deadwood. From referring to the Tree Constraints Plan produced by Smeeden Foreman (ref: SF3082, August 2020), one tree (T9) of the four identified as having bat potential is proposed for removal.

3.1.3 As T9 was assessed as having low potential to support roosting bats it is recommended that this tree is felled using a precautionary approach, with arborists undertaking felling works being alerted to the possibility of bats being present and the need for vigilance during felling. Soft felling methods would be used, including careful cutting (i.e. cutting through solid sections of the trees rather than where cavities occur and lowering of limbs, where necessary. If any tree surgery works are required of other trees identified as having low bat potential (T4, T5 and T13), the precautionary working methods described above should be used.

If during felling works roosting bats are identified, advice should be sort from an ecologist and a European Protected Species Licence (EPSL) obtained from Natural England would be required prior to works commencing/re-commencing.

3.2 VEGETATION CLEARANCE

Breeding birds

3.2.1 Nesting birds are afforded protection under the Wildlife and Countryside Act 1981 (as amended). The existing vegetation present within the construction zone provides

suitable habitat for breeding birds. As such removal of these features should be undertaken outside the bird nesting season (March to August inclusive). If any demolition or vegetation clearance works are to be undertaken during the nesting season, a check for nesting birds will be carried out by a suitably qualified ecologist (SQE), to ensure breeding birds, their nests, eggs or young are not affected.

3.2.2 If nesting birds are identified during the check the advising ecologist will issue guidance in relation to the protection of the nesting birds in conjunction with the scheduled works. Measures such as applying a set boundary around the nest may be necessary until the young birds have fledged.

Hedgehogs

3.2.3 Precautionary working methods will be adopted to ensure hedgehogs are not harmed/killed during works. Such works would include the removal of any tree/shrub cuttings from site, once vegetation is cut so as to avoid the creation of brash piles; these may be attractive to hedgehogs, which could subsequently be harmed if the brash pile is burnt or removed with machinery.

3.3 MILL POND REMOVAL

3.3.1 During ecological surveys undertaken in 2020, eDNA surveys were carried out as a precaution with the ponds proposed to be lost to facilitate the proposals. The eDNA surveys obtained a negative result, indicating the likely absence of great crested newts within the mill ponds.

3.3.2 If the ponds are to be removed during the spring/summer period when amphibian species usually occupy ponds, it is recommended that an effort is made to remove any amphibians potentially present. This would include netting amphibians where safe access to the banks of the ponds is available. Any amphibians caught would be translocated to suitable council owned habitat nearby, the location of which would be agreed with the local authority.

3.3.3 During ecological surveys undertaken on site it was noted that fish occur within the mill ponds, with fish seen surfacing frequently. Prior to draining, it is recommended that the ponds are subject to electrofishing to remove and relocate the fish. Advice should be sort from the Environment Agency in regards to the movement of fish and the relevant permissions required.

3.4 INVASIVE SPECIES

3.4.1 A cotoneaster was identified to the western boundary of the site, within the avenue of trees along Naomi Road. A number of cotoneaster species are included within Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) as non-native invasive species making it an offence to plant or otherwise cause to grow these species in the wild. It is therefore recommended that the cotoneaster identified on site is removed/treated on site prior to proposed development works commencing on site.

3.4.2 The plants should be identified and cut down to a low level and then stumps treated with a propriety stump killer in accordance with manufacturer instructions. This would aim to eradicate the plant.

4.0 DURING CONSTRUCTION

4.1 TREE PROTECTION

4.1.1 Temporary protective fencing installed pre-construction must remain in place for the duration of development works to ensure there is no damage to the trees or their root

zones during the construction phase. The protection fencing will also discourage the storage of construction material and trafficking around the base of the trees.

4.2 PRECAUTIONARY WORKING METHODS

4.2.1 Precautionary working methods will be adopted to ensure mammals such as hedgehogs are not accidentally harmed or killed during construction works. Such methods will include:

- The removal of any tree/shrub cuttings from site, once vegetation is cut so as to avoid the creation of brash piles; these may be attractive to hedgehogs, which could be subsequently harmed if the brash pile is burnt or removed with machinery;
- Any open trenches created on site will be covered or a means of escape shall be provided to avoid animals becoming trapped; and,
- Any open pipework will be capped at the end of each working day.

4.3 LIGHTING – TEMPORARY LIGHTING DURING WORKS

4.3.1 Any flood lighting used during the construction phase will be directed away from areas of existing tree/shrub vegetation which may be used as foraging habitat or as a commuting corridor by wildlife, including bats. This is particularly in relation to the south-western boundary. Directional lighting will be adopted and for additional information reference will be made to the Bat Conservation Trusts 'Bats and Artificial Lighting in the UK' (2018).

4.4 BAT & BIRD BOXES

4.4.1 Bat and bird boxes are proposed to be incorporated within the development site, onto retained trees and to be integral within a number of buildings (refer to Figure 03 for proposed location of boxes).

Boxes proposed to be installed onto trees are composed of 'wood-crete' (a wood sawdust, concrete and clay mixture) as these are more durable and long-lasting, as opposed to the more temporary traditional wooden boxes. Nesting and roosting features incorporated within the buildings are bricks which will be integral.

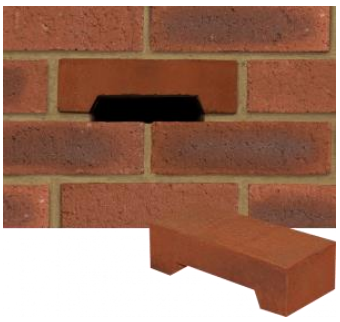
<table>
<tr><td>BOX 1</td><td colspan="2"></td></tr>
<tr><td>Model</td><td colspan="2">General Purpose Nest Box IB (entrance hole 32mm) (or similar approved)</td></tr>
<tr><td>Number</td><td>3</td><td rowspan="3"></td></tr>
<tr><td>Make</td><td>Schwegler</td></tr>
<tr><td></td><td>To attract most Tit species the nest box should be hung at a height of 1.5 metres or higher although Coal and Marsh Tits prefer much lower nest sites.</td></tr>
<tr><td>Installation</td><td colspan="2">Nest boxes should be orientated so that they face away from the prevailing wind (usually south-westerly in the UK). The chances of occupation are higher if there is good tree (particularly oak) or hedge cover nearby as these will provide a good source of insect food for the nestlings when they hatch.</td></tr>
</table>

Dimensions	Dimensions: height: 23cm, diameter: 16cm Weight: 3.6kg Material: Schwegler Woodcrete Available colours: brown, green, white, red, all with grey front panel Supplied with: galvanised steel hanger and aluminium nail
Cleaning	Cleaning is advised but is not essential. The front panel is removable for inspection and cleaning. Cleaning should take place outside the breeding season, (March – August, inclusive).

BOX 2		
Model	**Eco Habitat for Swifts** (or similar approved)	
Number	**3**	
Make	**Ibstock**	
	• Designed with the need of the swift in mind • Available in smooth blue, smooth cream and smooth red • Discrete nesting box for location near eaves • Ideal for new building and conservation work	
Installation	Nest boxes should be positioned so that they face away from the prevailing wind (usually south-westerly in the UK). To be situated as high up on building as possible, such as at the eaves to increase success of occupation. Bricks should be sited away from windows and doors.	
Dimensions	Dimensions: height: 140mm, width: 327mm, depth: 140mm Weight: 4.5kg Durability: Frost resistant	
Cleaning	Not applicable.	

BOX 3		
Model	**General Purpose Bat Box (2F)** (or similar approved)	
Number	**3**	
Make	**Schwegler**	
	This general purpose model is suitable for bat species which inhabit buildings, i.e. pipistrelle and brown long-eared bats.	
Installation	Bat boxes should ideally be sited in open sunny positions and in groups facing different directions to provide a variety of micro-habitats. Boxes are best positioned at a height of 4-6 metres. Boxes should be positioned facing south-west, south-east or north, at a height of 4-6m and positioned to provide a clear flight path and out of strong winds.	
Dimensions	Diameter: 16 cm x height: 33 cm Weight: 3.8 kg	

Cleaning	This box can be easily accessed by removing the front panel. Cleaning should only be conducted by a licensed bat worker.

BOX 4		
Model	**Free Access Bat Box A** (or similar approved)	
Number	3	
Make	**Ibstock**	
	This is the ideal bat box for crevice dwelling bat species that inhabit buildings including common and soprano pipistrelle. Standard sized bricks to provide access for bats into roof or wall spaces. The bricks are shaped especially to allow bats access to the cavity of a house (a cavity chamber may need to be constructed to maintain an area free of insulation where bats can roost).	
Installation	Position 3-6 metres from the ground in a place where there is a clear flight path for bats entering and leaving the box; on south-east to south-west elevations, out of strong winds. Lighting: bat boxes should be located away from proposed lighting to ensure they are attractive to bats. Bricks should be positioned away from windows and doorways.	
Dimensions	Height: 60 mm Width: 215 mm Depth: 100 mm Entrance dimensions: approx. 110 x 25 mm	
Cleaning	Not applicable	

5.0 LANDSCAPE AIMS AND OBJECTIVES

5.1.1 There are a number of elements to the landscape and ecological mitigation/enhancement measures included within the development including:

- Management of existing trees to be retained to the south-western boundary;
- Planting of native trees and shrubs known to be of wildlife value in association with retained trees and shrubs located to the site boundaries;
- Wildflower grassland;
- Wildlife pond creation;
- Bat box installation;
- Bird box installation.

5.1.2 The management of these elements is intended to fulfil the following aims and objectives:

- Integrate the development with its surroundings;
- Provide mitigation for lost habitat;
- Provide a pleasant environment within the development;
- Contribute to the biodiversity/ecological potential of the area.

5.1.3 These aims and objectives will be achieved through the strategies described in section 6.0 and implemented by the management operations in section 7.0.

6.0 STRATEGY

6.1 GENERAL

6.1.1 The potentially adverse environmental impacts resulting from any management operations on site should be minimised including the minimal use of herbicides and pesticides, timing operations to avoid disturbance.

6.1.2 Management works should be avoided during the active bird nesting season (March – August inclusive) and preferably only to be carried out during January and February when the majority of the berry crop of trees and shrubs has been utilised.

6.2 EXISTING TREES AND SCRUB

6.2.1 Where existing trees and scrub are retained to the south-western boundary of the site they are to be managed to maximise their value to wildlife.

6.2.2 Trees should be allowed to grow to their natural size and form to provide a canopy of mature trees. A shrub understorey should be allowed to form a dense thicket.

6.2.3 A scrub edge to the trees should be allowed to develop but not to spread into the adjacent areas of wildflower grassland. Scrub encroachement into the grassland areas is to be prevented by strimming and/or cutting back as necessary.

6.3 TREES AND SHRUBS

6.3.1 New tree planting within the site includes native and non-native tree species considered to be of value to wildlife (pollen, fruits and berries)

6.3.2 Trees should be allowed to grow to their natural form and size with formative pruning only, to provide a canopy of attractive, well-shaped, healthy, mature trees.

6.3.3 Shrub planting may be pruned to remove material encroaching over kerbs and to encourage vegetative renewal. General pruning should be undertaken to preserve the natural form of plants and their propensity to bear flowers, fruits or exhibit winter stem colour.

4.4.4 Any pruning required to follow current best horticultural practice. Sympathetic management of existing and newly planted trees and shrubs should be undertaken to avoid disturbance to breeding birds.

6.4 WILDFLOWER GRASSLAND

6.4.1 Native wildflower seeding is proposed within the area of public open space to the south-west. This will aim to be visually attractive as well as providing a botanically diverse, invertebrate rich and structurally varied habitat.

6.4.2 Areas of wildflower grassland will be cut/strimmed twice a year following initial establishment in year 1. All cuttings to be removed to avoid a build-up of soil fertility and provide gaps in the sward for seedlings.

6.5 WILDLIFE POND

6.5.1 A new pond is proposed within the area of public open space to the south-west of the site. Wildflower grassland habitat which is proposed in association with the pond will be seeded using the Pro Basic 12 80/20, or similar approved mix, which comprises a range of wildflowers typical of neutral unimproved grassland including lady's bedstraw

Galium verum, common bird's-foot-trefoil *Lotus corniculatus,* salad burnet *Sanguisorba minor,* meadow buttercup *Ranunculus acris,* white campion *Silene dioica,* wild carrot *Daucus carota,* oxeye daisy *Leucanthemum vulgare,* black medic *Medicago lupulina,* ribwort plantain *Plantago lanceolata,* selfheal *Prunella vulgaris,* yarrow *Achillea millefolium* and common sorrel *Rumex acetosa.* In addition to the wildflower grassland, tall grassland is proposed within the southern corner of the site in association with existing trees. The combination of these habitats in the immediate vicinity of the pond would offer suitable habitats for a range of species including amphibians, such as common frog, common toad and smooth newt and invertebrates, with areas of unintensively managed grassland and trees offering opportunities for foraging, refuge and hibernation. It is recommended that the pond is planted with a range of appropriate native aquatic species such as water forget-me-not *Myosotis scorpioides,* water mint *Mentha aquatic* and yellow flag *Iris pseudacorus* so as to provide suitable habitat for wildlife. The addition of a pond and native landscaping within the proposals site would aim to offer a stepping-stone to wildlife within the local area to other habitats outside of the site, such as garden ponds and is therefore considered to provide benefits beyond the site boundary.

6.5.2 It is considered that the pond would offer benefits in the short term, with amphibians known to colonise ponds within a year or two. Wildlife benefits should continue within the medium and long term through appropriate management, when required. Management recommendations are included within section 7.0 of the report.

6.5.3 Due to the current ponds on site lacking aquatic vegetation, and being relatively deep with sheer sides, it is considered that these features are unlikely to support amphibian species, being largely unsuitable. eDNA surveys for great crested newts confirmed the likely absence of this species and no signs of other amphibian species, such as frog/toad spawn or tadpoles have been noted within the ponds during ecological surveys carried out on site. The proposed wildlife pond will enhance opportunities for a range of wildlife such as amphibians and invertebrate species. As detailed above the pond will be planted with a range of native aquatic vegetation, have gently sloping banks and be within the vicinity of suitable terrestrial habitat such as wildflower grassland, tall grass areas and existing trees and scrub to the western boundary.

6.5.4 Although this site is not subject to a Biodiversity Net Gain assessment, when referring to the Defra metric 3.0, the ponds on site are considered to offer habitats of low distinctiveness and of poor condition. This is on the basis that the existing ponds can be classed as ornamental ponds in that they are artificial man-made features. When referring to the condition assessment sheet for ponds within the Biodiversity Metric 3.0 Technical Supplement (2021), it is assessed that the ponds are of poor condition, likely only passing three of the seven condition assessment criteria (criteria 3, 4 & 5). It is the aim that the proposed pond on site will represent a priority habitat pond of high distinctiveness, with the potential of the pond to support priority species such as common toad; the aim will also be for the proposed pond to be of good condition with the potential to pass all of the condition assessment criteria. The replacement of ponds of low distinctiveness of poor condition with a pond of potentially high distinctiveness and good condition indicates an enhancement for biodiversity within the proposals site.

6.5.5 Outline Planning condition 7 requires details of the on-site mitigation and biodiversity enhancement which, this document details however, condition 7 also states that off-site water conservation measures be provided. The provision of the wildlife pond on-site, as well as responding in part, to the to the on-site mitigation and biodiversity enhancements required by the planning condition, also responds to the provision of

water conservation measures. Water conservation measures, via the wildlife pond being provided on-site will provide cohesion with the other aspects of the biodiversity enhancements and responds to the provision of water conservation measures being retained on-site to mitigate against the loss of the existing water bodies. The existing water bodies being of low ecological value providing habitats of only low distinctiveness and of poor condition whereas the creation of a new wildlife that can provide priority habitat of high distinctiveness, with the potential to support priority species would be a benefit to the development site and local area and as such it is considered that this satisfies the water conservation part of the condition.

7.0 POST-CONSTRUCTION

7.1 AIMS & OBJECTIVES

7.1.1 There are five elements to the landscape and ecological mitigation / enhancement measures included within the development (*see Figure 02: Landscape Proposals*):

- Trees
- Ornamental and native shrubs
- Wildflower grassland
- Wildlife pond
- Bat and bird box installation

7.1.2 The management of these elements is intended to fulfil the following aims and objectives:

- deliver and maintain the approved scheme;
- integrate the development with its surroundings;
- provide a pleasant environment within the development;
- contribute to the biodiversity / ecological potential of the area.

7.1.3 These aims and objectives will be achieved through the strategies described in section 7.2 and implemented by the management operations in section 8.0.

7.2 STRATEGY

Existing individual trees to be retained

7.2.1 Native trees to the south-west boundary provide screening and boundary definition to the site as well as adding visually to the character of the wider area. These are mature, established trees which should not require regular maintenance. They should be inspected on a regular basis to identify damage or disease by a suitably qualified arborist. Any treatment required should follow current best horticultural practice with the aim to retain trees in their natural form, maximising their potential to support wildlife. Limbs with bark damage/potential cavities etc. should be retained to provide wildlife habitats unless health and safety considerations prove otherwise. If felling or pruning works become necessary, they should be inspected by a suitably qualified ecologist to advise on potential impacts on protected species, licencing requirements and appropriate timings etc.

New native tree planting

7.2.2 Individual trees proposed should be allowed to grow to their natural form with formative pruning only, to provide attractive, well-shaped, healthy, mature trees. Any pruning required to follow current best horticultural practice should be undertaken in January or February to avoid disturbance during the bird breeding season and to allow any fruit to be utilised through the early winter.

Wildflower grass seeding

7.2.3 Wildflower grassland is proposed to the south-western corner of the site to be visually attractive, botanically diverse, invertebrate rich by providing structurally varied habitat. Areas of wildflower grassland will be cut or strimmed twice a year, once in early spring (to minimise grass competition) and once in late summer (to allow plants to flower and set seed). All cuttings should be removed to avoid a build-up of soil fertility.

Wildlife pond

7.2.4 A wildlife pond is proposed to the south-western corner of the site to be visually attractive and offer opportunities for a variety of wildlife. The pond will be subject to management, when required including the removal of aquatic vegetation if dominating the pond to maintain areas of open water, clearance of shading tree or scrub cover around the pond margins, if necessary and de-silting and clearance of leaf fall. Management works would be undertaken at a suitable time so as to avoid impacts upon amphibian species which may utilise the pond.

Ornamental and native shrub planting

7.2.5 The ornamental planting areas within the site are intended to create visual interest and definition through the use of vegetation. Trees within the ornamental planting areas should generally be allowed to grow to their natural form and size. Shrub planting may be pruned to remove material encroaching over kerbs and to encourage vegetative renewal.

7.2.6 General pruning within shrub beds should be undertaken to preserve the natural form of plants and their propensity to bear flowers, fruits or exhibit winter stem colour. Any pruning operations required should be undertaken in January or February to avoid disturbance during the bird breeding season and to allow any fruit to be utilised through the early winter.

Bat & Bird Box installation

7.2.7 Boxes are proposed to be incorporated within the proposed development site. Refer to section 4.4 for box details and specification and Figure 02 for location.

8.0 MANAGEMENT OPERATIONS

8.1 PROGRAMME AND NOTIFICATION

8.1.1 The Contractor shall carry out management operations at suitable times and in suitable weather conditions, with a minimum of one visit per month (a visit being of such duration as to enable all works required at that time to be completed).

8.1.2 The Contractor is required to produce a programme of intended management operations for approval on a yearly basis, at the beginning of each year of the contract.

8.1.3 The Contractor shall notify the Contract Supervisor before his intention to carry out any of the management operations in order that the work can be checked and approved if necessary.

8.2 GENERAL MAINTENANCE OF TREES AND PLANTED AREAS

8.2.1 Management and maintenance shall cover the following operations described in detail in the following sections:

- Plant replacement.
- Tightening and repairing of ties; re-setting plants to proper grades or upright positions.
- Removal of tree ties/stakes and guards on establishment.
- Cultivation and weeding of planting areas, throughout or individual stations.
- Application of fertiliser.
- Formative pruning, removing epicormic growth and establishing well-formed trees and shrubs.
- Annual application of mulch within the planting areas.
- Control insects, fungi or other diseases by means of spraying with an approved herbicide, insecticide, or fungicide to achieve establishment and proper growth of the plants. The minimum amount of herbicide etc. required shall be used.
- Wildflower grassland cutting and control of pernicious weeds.
- Watering.
- Keeping all areas litter free.
- Monitoring and management of the wildlife pond to maintain areas of open water and to ensure it holds standing water for the majority/all of the year.
- Bat and bird box inspections.

8.3 PLANT REPLACEMENT

8.3.1 Plant material shall be inspected, in late Summer or Autumn each year, and a schedule of replacements, for plants which have died or failed to thrive, should be prepared and agreed with the Contract Supervisor.

8.3.2 The replacement planting shall be carried out by the Contractor during the planting season immediately following the inspection. The Contractor shall notify the Contract Supervisor when this work is complete and ready for inspection.

8.3.3 The procedure specified for the initial planting shall be followed by the Contractor when re-planting.

Checking stakes/ties and rabbit guards

6.1.8 An annual check of tree stakes/ties and rabbit guards should be undertaken to assess the requirement for and undertake any adjustments to ensure healthy growth of the plants, to include:-

- Refirming of plants and stakes to proper grade and upright position.
- Repair/loosening/removal of ties to maintain support or prevent strangulation.
- Repair/replace/remove rabbit guards to maintain protection or prevent damage via rubbing.

8.3.4 It is anticipated that all plants will have established to an extent to allow stakes and ties to be removed within 5 years of initial planting, however, this should be judged annually on an individual basis.

6.1.10 All removed stakes/ties and guards to be disposed off-site and stake holes to be in filled with topsoil.

8.4 HAND WEEDING & HERBICIDE SPRAY

8.4.1 Existing trees and scrub should not require routine weed control.

8.4.2 Selective weed control of invasive perennials by hand or directed herbicide application (eg. weed wipe) may be required after this date and should be assessed on an individual basis as required.

Planting/habitat type	Notes	Coverage
New ornamental shrubs	Weed control and removal by hand or herbicide spray.	Throughout the beds.
Individual tree planting	Weed control and removal by hand or herbicide spray.	500mm dia. around each plant
Wildflower grassland	Selective weed control of invasive perennials by hand or directed herbicide application (eg. weed wipe).	Selective only.

8.5 FERTILISER APPLICATION

8.5.1 Annual application of fertiliser to be, supply and spread of organic, slow release fertiliser (e.g. Enmag CRF or equivalent) as follows:

Ornamental shrub beds	At a rate of 50g per m^2
Standard trees	At a rate of 100g per plant

8.5.2 Fertiliser applications are to be made for five years following initial planting.

8.6 TREE PRUNING/REMOVAL

8.6.1 Trees to be inspected yearly by an operative with arboricultural knowledge for any crossed branches, breaks and epicormics growth or diseases which would be detrimental to the health of the trees or could pose a health and safety risk.

8.6.2 Pruning of trees should be based on best practice for each species concerned and undertaken according to good horticultural practice. All pruning should be undertaken to preserve the natural form of plants and their propensity to bear flowers, fruits or exhibit winter stem colour

8.6.3 Pruning of trees and shrubs should be undertaken in January or February to allow berries to be utilised and avoid disturbance to breeding birds.

8.7 MULCH APPLICATION

8.7.1 The 50mm depth of mulch overall within ornamental shrub beds or to each individual planting station for individual trees shall be maintained and reinstated on a yearly basis until the respective areas have achieved a closed canopy (anticipated 5 years from planting date).

8.8 WILDFLOWER GRASSLAND CUT

8.8.1 **First year:** Wildflower areas should be cut 4/5 times to reduce competition from grasses and control weeds. Cut to a height of 50mm every two months. All cut material to be removed to reduce nutrient build up and smothering.

For Autumn sowing: first cut to be March/April - final cut to be September/October.

For Spring sowing: first cut to be May – final cut to be September/October.

8.8.2 **Subsequent years:** Wildflower areas shall be cut twice a year in early spring (to reduce grass competition) and late summer (timing approximate to allow plants to set seed). All cuttings are to be collected and removed from site to contractor's tip, to avoid a build up in soil fertility.

8.8.3 **General:** Vegetation shall be cut in the direction of unaffected sections of grassland habitat (towards the south-west boundary). The cut shall also be made as high as possible (150mm) and a strimmer or brushcutter shall be used.

8.8.4 **Weeding:** Selective/spot weeding is to be undertaken by hand or herbicide weed-wipe or similar spot applicator to remove aggressive/invading weed species, whenever required.

8.9 WATERING (PROVISIONAL)

8.9.1 The Contractor shall water as necessary to ensure satisfactory growth. Water shall be applied slowly by hose with spray sufficient to soak the ground to field capacity (refer to guidelines below). This should be undertaken during initial establishment (year 1 and 2) and dry periods during subsequent year (years 3-5). It is anticipated that watering would no longer be required five years after initial planting but this should be assessed in respect to the prevailing conditions.

8.9.2 The contractor is to supply water in the following quantities per watering:

Ornamental shrub beds	20 litres per m^2
Standard trees	40 litres per tree

8.10 LITTER COLLECTION

6.11.1 All planting, grassed areas and the wildlife pond shall be kept clear of litter and rubbish at all times. An annual check should be undertaken for any fly tipped waste which should be removed as required.

8.11 WILDLIFE POND

8.11.1 Annual monitoring of the pond will be carried out once the site becomes occupied to assess its condition and to determine whether vegetation removal is required. If required, this will be undertaken within the autumn/winter (November 1 to January 31) and ideally using hand tools, to avoid impact upon amphibian species. Vegetation would be removed so as to leave a third of the pond area as open water and two thirds as vegetated.

8.11.2 Scrub which may start to encroach the pond will be monitored to prevent it from becoming overshaded and leaf-litter falling into the pond causing a build-up of nutrients and leading to the requirement of more frequent de-silting. It is recommended that encroaching scrub and trees are removed during autumn and winter when amphibians are at their least active and to avoid the breeding bird period. Any large scrub bush stems would be coppiced to avoid harming any newts that may be hibernating within the root system. Material obtained from scrub removal can be stacked within the tree belt to the south-western boundary of the site to provide further suitable refuges for amphibians.

8.11.3 Encroaching scrub within the vicinity of the ponds will be removed, so the requirement of de-silting and clearance of leaf-fall is therefore not likely to be required. However, ponds will be monitored to review the requirement of de-silting. The most commonly

employed method for digging out silt involves the use of an excavator. This work would be carried out during autumn and winter (November 1 to January 31) when amphibians are least likely to be present within the ponds.

8.11.4 Recommendations for pond management has been taken from the Great Crested Newt Conservation Handbook (2001) and Amphibian Habitat Management Handbook (2011).

8.12 BIRD AND BAT BOXES

8.12.1 Cleaning of bird boxes is advised but not essential. Clean out nest boxes annually in November/December if required. Remove old nesting materials and dispose of any unhatched eggs as necessary.

8.12.2 Periodic inspection of bat boxes can be undertaken by a licensed bat worker on a five yearly basis. Boxes may be cleaned out during inspection if required and box found unoccupied. Inspection/cleaning should be undertaken in April or October to minimise potential disturbance to bats should they be occupied. No other maintenance is required.

9.0 MONITORING

6.1.1 An annual site walkover by a suitably qualified ecologist will be undertaken for the first five years to monitor the site to assess the establishment/management of proposed habitats and suggest remediation works or alterations to the programme where required to take into consideration unforeseen changes as the habitats develop.

9.1.2 The visit will make note of any ecological trends and constraints (i.e. nest/bat boxes in need of repair/replacement, scrub/tall grass over-shading new tree and shrub planting) and make note of any additional management recommendations needed to be carried out.

9.1.3 This inspection will also allow for recommendations of alternative management methods if the aims and objectives of the management plan are not being met.

9.1.4 The results of the inspection will form the basis of an annual progress report which will be sent to the LPA for the first five years; reporting on progress of the annual work schedule and any recommendations for the next 12 month period.

9.1.5 After the first five years, plans will be reviewed and updated by a suitably qualified ecologist, every five years and implemented in perpetuity

10.0 RESPONSIBILITIES

7.1.1 Urban Develpments Limited is the company responsible for the implementation of the Ecological Mitigation and Enhancement Plan.

TABLE 01: MANAGEMENT OPERATIONS – YEARS 1-3

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Tree and shrub planting	Formative pruning only if required.							Check for dead plants and adjust tree ties / stakes as required.			Replacement planting as required.	
Wildflower grassland (Year 1)			Cut to 50mm to suppress pernicious weeds. Cuttings to be removed from site.		Cut to 50mm to suppress pernicious weeds. Cuttings to be removed from site.		Cut to 50mm to suppress pernicious weeds. Cuttings to be removed from site.		Cut to 50mm to suppress pernicious weeds. Cuttings to be removed from site.			
Wildflower grassland (year 2-3)			Early season cut to suppress pernicious weeds. Cuttings to be removed from site.					Cut following seed set to 150mm. Cuttings to be removed from site.				
Wildlife Pond	Clear aquatic vegetation to create areas of open water and de-silt, if necessary,										Clear aquatic vegetation to create areas of open water and de-silt, if necessary.	
Nest boxes											Clean out old nest material if required.	
Bat boxes	No maintenance required – to be carried out by licensed bat surveyor if necessary.											

TABLE 02: MANAGEMENT OPERATIONS – YEARS 4-5

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Tree and shrub planting	Formative pruning only if required.							Check dead trees and **remove** tree ties / stakes as trees become established.			Replacement planting as required.	
Wildflower grassland			Early season cut to suppress pernicious weeds. Cuttings to be removed from site.					Cut following seed set to 150mm. Cuttings to be removed from site.				
Wildlife pond	Clear aquatic vegetation to create areas of open water and de-silt, if necessary.										Clear aquatic vegetation to create areas of open water and de-silt, if necessary.	
Bird nest boxes											Clean out old nest material if required.	
Bat boxes	No maintenance required – to be carried out by licensed bat surveyor if necessary.											

FIGURES

Figure 01: Aerial photograph – *within report text*

Figure 02: Landscape proposals

Figure 03: Bat & Bird Box Plan

FIGURE 02: LANDSCAPE PROPOSALS

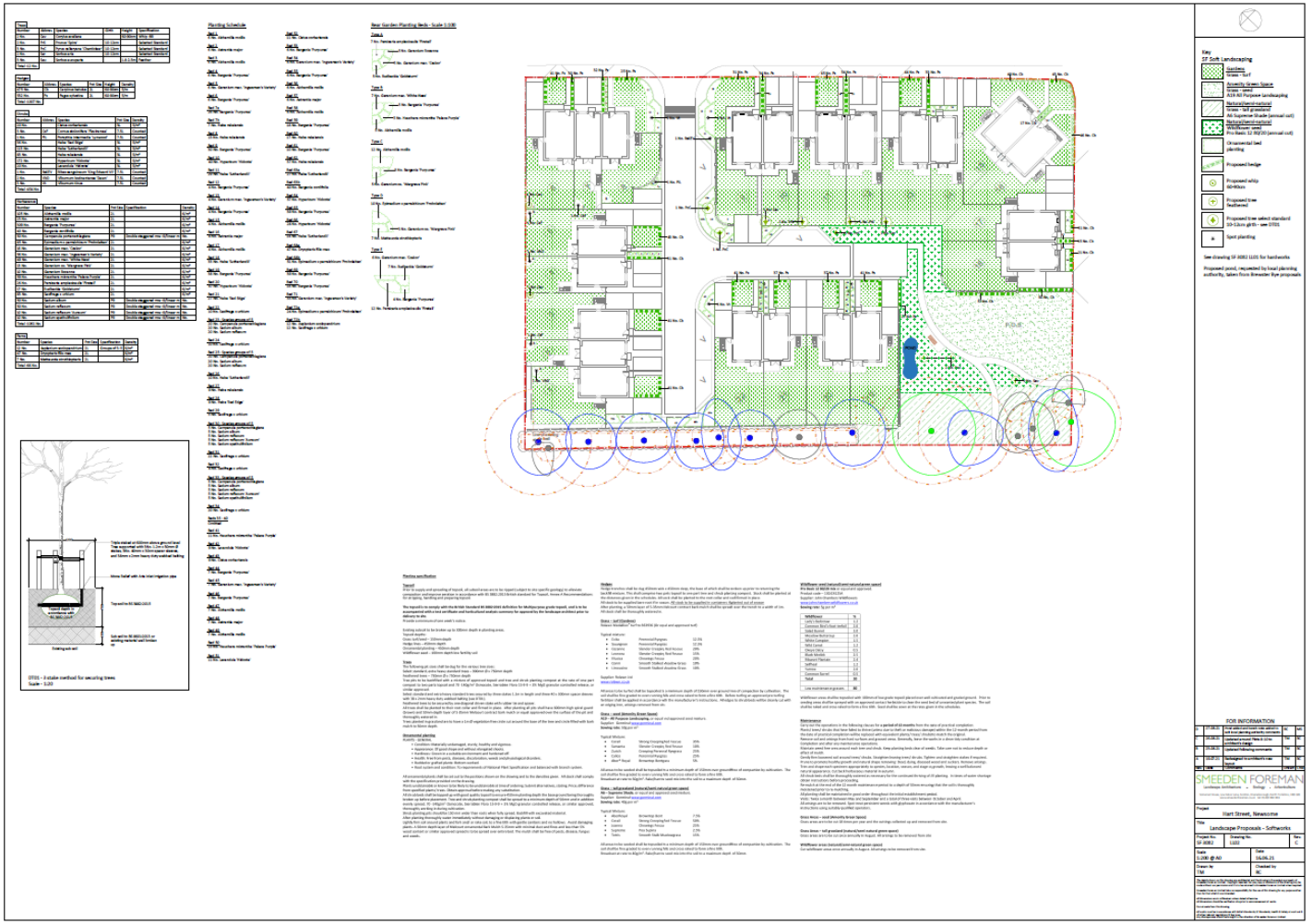
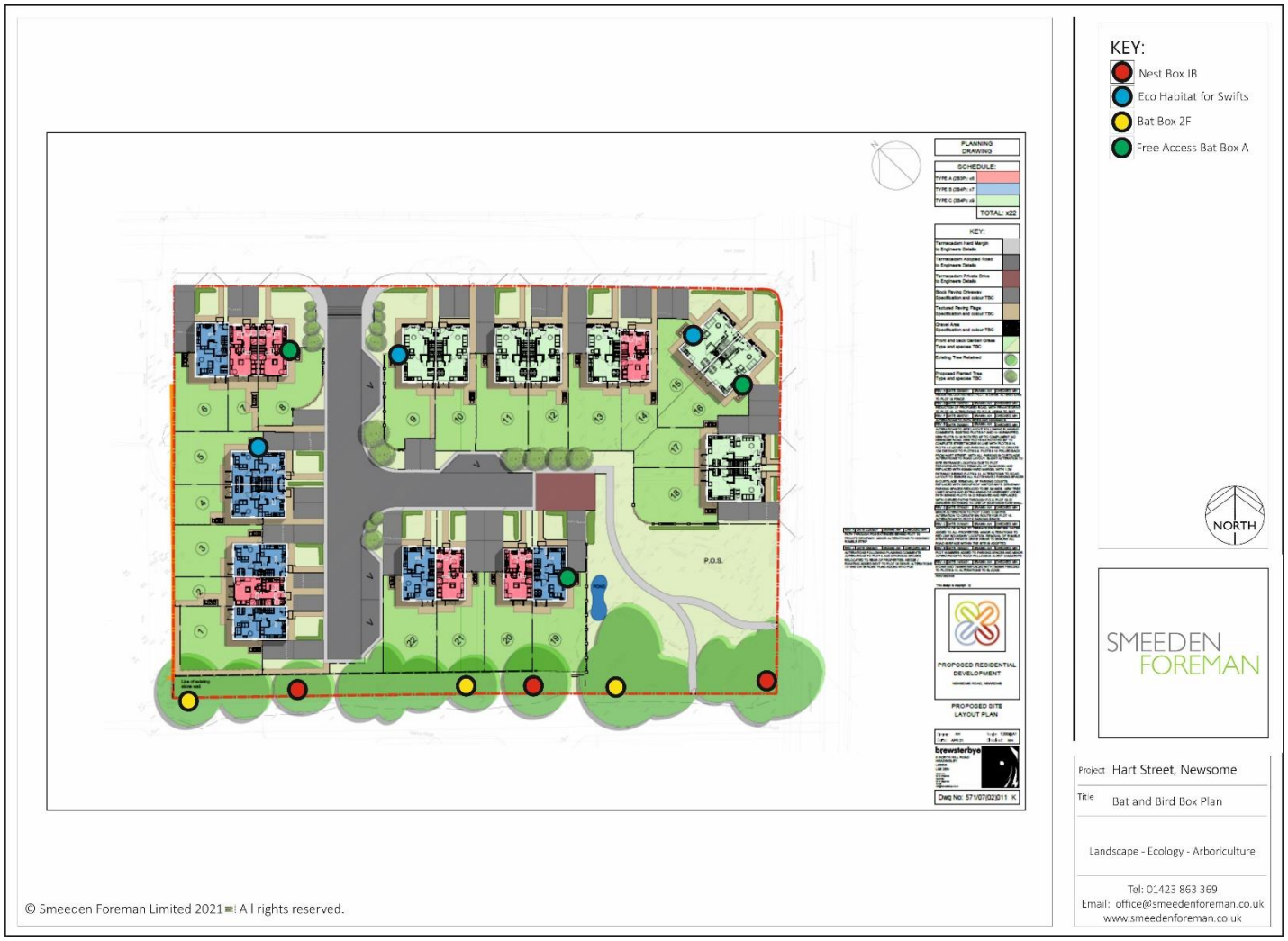


FIGURE 03: BAT & BIRD BOX PLAN



APPENDICES

APPENDIX 01: PROTECTED SPECIES LEGISLATION

Bats

Bats and their roosts are afforded full legal protection under both UK and European legislation. The Conservation (Natural Habitats & c.) Regulations 1994 (as amended, 2017) transpose the Habitats Directive into UK law, making it an offence to:

deliberately disturb a bat;

deliberately kill, injure or capture a bat;

damage, destroy or obstruct access to a breeding site or resting place (note this applies to both deliberate and reckless actions).

The Wildlife and Countryside Act 1981 (as amended) (Schedule 5) made it an offence to:

intentionally kill, injure or take a bat ;

damage, destroy or obstruct a bat roost *;

disturb a bat at a roost *;

possess or control a bat or any part thereof;

sell, offer for sale, possess or transport for sale any bat or part thereof;

set traps for catching, killing or injuring bats;

possess articles for the purposes of committing offences against bats;

[*= intentional and reckless offences covered].
This protection applies whether bats are present within the roost at the time or not.

Breeding birds

The Wildlife and Countryside Act 1981 (as amended) makes it an offence to:

kill, injure, or take any wild bird;

take, damage or destroy the nest of any wild bird while that nest is in use or being built or,

take or destroy an egg of any wild bird.

This protection applies from the moment the nest is being built. Additional protection against disturbance on the nest or of dependent young is provided for birds included on Schedule 1.