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11527: LAND OFF SOLENT ROAD, HAVANT

ECOLOGY ADDENDUM

Introduction

1. Ecology Solutions was commissioned by SLR Consulting Limited, on behalf of Portsmouth Water, to update the ecological assessment and undertake a Biodiversity Net Gain assessment of the Land off Solent Road, Havant, Hampshire.
2. The proposals are for the construction of a new office building with associated infrastructure and landscaping.
3. This document sets out the necessary additional information concerning bat and bird boxes, including the locations and heights of the boxes and when these will be installed, as well as providing detail about the grassland enhancement methods, ongoing management and monitoring.
4. Box specifications for both bat and bird boxes to be provided are detailed in Appendix 1. If, at the time of install, these box models are not readily available then the developer or contractor sourcing these should contact the project ecologist to confirm appropriate alternative models for the species targeted.
5. Locations of the bat and bird boxes are provided on Plan ECO3.

Bat Boxes

Large Multi Chamber Woodstone Bat Box

6. Two Woodstone Bat boxes will be installed on suitable existing trees along the southern boundary, providing new potential roosting opportunities for bats within the local area. Boxes will be located in sheltered spots and placed at a height of at least 3m from the ground. Boxes will be situated on southern, south-eastern and south-western aspects so that they are exposed to the sun for part of the day, and they will be positioned to avoid any light spill. Bat boxes will be fixed to trees using aluminium nails.
7. Positions will be guided with input by an ecologist to ensure bat boxes are positioned with no restrictions to access, such as tree branches.

8. Bat boxes will be installed prior to completion and before any occupation of the site.
9. Bat boxes will be checked periodically from the ground (once per year in March) for the first five years following installation. If recorded as damaged, then the bat boxes will be replaced only after inspection by a licensed ecologist to confirm no bat roosts are present.

Bird Boxes

10. Four bird boxes will be provided both on trees and on the north-eastern elevation of the building, including two Vivara Pro Seville Woodstone Nest Boxes and two Impeckable Swift Nest boxes.
11. All bird boxes will be installed upon completion of the development and prior to occupation of the site.

Vivara Pro Seville Woodstone Nest Box

12. The Vivara Pro Seville Woodstone Bird Box is a versatile low maintenance box suitable for most small hole nesting birds including Wren *Troglodytes troglodytes*, Robin *Erithacus rubecula*, Spotted Flycatcher *Muscicapa striata*, Song Thrush *Turdus philomelos* and Blackbird *Turdus merula*.
13. This bird box model will be installed along the southern boundary of the site upon retained trees. The bird boxes will be positioned at a minimum height of 3m on the north-eastern elevation of the tree using aluminium nails.

Impeckable Swift Four Chamber Nest Box

14. Two Impeckable Swift Four Chamber Nest Box will be installed on the north-eastern elevation of the building to offer new opportunities to Swift *Apus apus*, and potentially other opportunistic bird species.
15. Boxes will be installed on the north-eastern elevation of the building close together and away from direct sunlight. Boxes will be installed at a height above 5m.
16. Bird boxes will be checked periodically (at least once a year in March) for the first five years following installation, by a suitably experienced ecologist to ensure that they are still in situ and are not damaged. Boxes will be replaced if found to be damaged.

Grassland Enhancement

17. A separate Defra Biodiversity Metric 4.0 has been provided and this sets out the target conditions for each retained, created and enhanced habitat that will occur as a result of the proposed development. Management prescriptions for the grassland habitat set out below have been chosen to ensure that these target conditions are met.

Wildflower Grassland Meadow

18. There will be two distinct areas of modified grassland: the main field and the northern boundary with the stream.

The Main Field

19. The main existing modified grassland field is currently classified as being in poor condition, owing to the low numbers of species present.
20. This habitat will be oversown with EM2F Standard General Purpose Wild Flower seed mix (see Table 1), or similar, given the underlaying soil type, and will be subject to a relaxed rotational management regime aiming to maintain species richness and develop a varied structure to the grassland.

Emorsgate EM2F Standard General Purpose Wild Flower Species	% per Mix
Wild Flowers	
Yarrow <i>Achillea millefolium</i>	5%
Agrimony <i>Agrimonia eupatoria</i>	2%
Common Knapweed <i>Centaurea nigra</i>	10%
Wild Carrot <i>Daucus carota</i>	6%
Sorrel <i>Rumex acetosa</i>	2%
Lady's Bedstraw <i>Galium verum</i>	10%
Field Scabious <i>Knautia arvensis</i>	3%
Oxeye Daisy <i>Leucanthemum vulgare</i>	8.5%
Musk-mallow <i>Malva moschata</i>	12%
Ribwort Plantain <i>Plantago lanceolata</i>	12%
Salad Burnet <i>Sanguisorba minor</i>	6%
Cowslip <i>Primula veris</i>	2%
Meadow Buttercup <i>Ranunculus acris</i>	5%
Red Campion <i>Silene dioica</i>	10%
Yellow Rattle <i>Rhinanthus minor</i>	6.5%

Table 1. EM2F Standard General Purpose Wild Flowers seed mix composition.

Northern Boundary Grassland

21. The grassland along the northern boundary with the stream is classified as being in moderate condition, with it failing in the varied sward height criteria. The species in this area are more damp tolerant species, therefore to enhance this grassland, it will be sown with Emorsgate EM8F Wild Flower for Wetlands.

Emorsgate EM8F Wild Flower for Wetlands Species	% per Mix
Wild Flowers	
Yarrow	10%
Lady's Bedstraw	12%
Oxeye Daisy	6%
Ribwort Plantain	18%
Sorrel	4%
Cowslip	1%
Ragged Robin <i>Lychnis flos-cuculi</i>	3%
Meadow Buttercup	5%
Greater Bird's-foot-trefoil <i>Lotus pedunculatus</i>	4%
Meadow Vetchling <i>Lathyrus pratensis</i>	2.5%
Devil's-bit Scabious <i>Succisa pratensis</i>	0.5%
Great Burnet <i>Sanguisorba officinalis</i>	5%
Tufted Vetch <i>Vicia cracca</i>	0.5%
Common Knapweed	18%
Meadowsweet <i>Filipendula ulmaria</i>	5%
Yellow Rattle	5%
Dandelion <i>Taraxacum officinale</i>	0.5%

Table 2. EM8F Wild Flowers for Wetlands seed mix composition.

22. To prepare the ground for sowing, the grassland will be cut very hard in late summer and gaps will be created with either harrows or by raking, to create approximately 50% bare soil. The seeds will then be sown in Autumn.

Initial Aftercare and Long-term Management and Maintenance

23. In the first year following the establishment, the sward will be mowed to a height of 40 to 60mm, once in mid-March, late August and mid-October. All material will be removed directly after it has been cut to prevent nutrient enrichment, aside from the late August cut which will be left for seven days to allow for seed dispersal, before being removed. These cuts aim to control weed growth and suppress any faster growing grass species.
24. From year two onwards, areas of meadow grassland will be cut 40 to 60mm in August after the wildflowers have flowered. These cuts should be undertaken on a rotational basis whereby 80% of the grassland is cut in weekly 20% sections while the remaining 20% will be left to stand throughout winter before being cut in March. If required, should soil fertility result in significant growth over winter, additional cuts to 40 to 60mm can be applied in November and February. The grassland will not be cut between April and July inclusive to ensure that the plants are given the opportunity to flower.
25. Following any grassland maintenance, all arisings will be left *in situ* for one to seven days to allow seed release and ensure the continued renewal of the floristic diversity of the site. The arisings will then be turned and removed to prevent nutrient enrichment at the detriment to floristic diversity.

Plans

- Plan ECO3: Bird and Bat Box Locations

Appendices

- Appendix 1: Bat and Bird Boxes

PLANS

PLAN ECO3

Bird and Bat Box Location Plan



Bat boxes will be installed on the new building or on suitable trees to increase roosting opportunities.

Bat boxes to be positioned 3-5m high on the southern or eastern aspects.

Lighting will be carefully considered and designed such that potential indirect effects on bats are minimised.

A bank of four Swift bricks should be installed, ideally above 5m high.

Positioning bird boxes in a north-easterly direction increases the likelihood of use since they provide shelter from wind and rain.

Nest boxes with an entrance hole of 32mm encourages small-hole nesting birds such as sparrows and tits.

Nest boxes on trees should be positioned between 1.5m and 3m high.

KEY:

 LARGE MULTI-CHAMBER BAT BOX OR SIMILAR



Designed to be installed on trees or buildings.
Suitable for the following species:
On buildings: Pipistrelle
On trees: Pipistrelle, Noctule, Leisler's bat, Brown Long-eared and Natterer's bat.

Woodstone
Size: 150 x 275 x 160mm
Weight: 4kg

 IMPECKABLE SWIFT NEST BOX OR SIMILAR



Designed to be installed onto external walls of buildings.

 VIVARA PRO SEVILLE WOODSTONE NEST BOX OR SIMILAR



Suitable for Wrens, Robins, Spotted Flycatchers, Wagtails, Song Thrushes and Blackbirds.

Size: 200 x 310 x 200mm.
Weight: 6.9kg.
Entrance hole: 32mm

Based on Terry Anderson Landscape Drawing: Havant Landscape Layout 892-10-02B



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PLAN ECO3: BIRD AND BAT BOX
LOCATION PLAN

Rev: A
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APPENDICES

APPENDIX 1

Bat and Bird Boxes

Bat Boxes

Woodstone bat boxes are constructed using Woodstone which is a mix of concrete and wood shavings. The material has excellent thermal properties that ensure the inside of the box will maintain a consistent temperature.

Boxes can be hung from a branch near the tree trunk or fixed using 'tree-friendly' aluminum nails.



This multi-chambered bat box has a large internal space that can accommodate a large colony of bats. It can be used as a summer roost, maternity roost or hibernation box during mild winters.

The box can be mounted onto trees and is best positioned at a height of 3 to 6 metres and be orientated to a south to southeast elevation.

Specifications:

External dimensions: 15cm x 27.5cm x 16cm
weight: 4kg

Bird Boxes

Impeckable Swift Four Chamber Nest Box

This nest box is suitable for fixing to external walls and is specifically for Swifts.

The box is installed using a metal bracket to hold it securely to the external wall.

Colour matching and canopy available



Vivara Pro Seville WoodStone Open Nest Box

These open nest boxes are suitable for wrens, robins, spotted flycatchers, pied and grey wagtails, song thrushes and blackbirds, and they are available in brown, green or grey to complement both natural woodland and garden settings.

Specifications:

Entrance hole diameter: 32mm
Width: 20cm
Height: 31cm
Length: 20cm
Weight: 6.9kg





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