Preliminary Ecological Appraisal

Land at Eldon Grove, Liverpool

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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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Non-technical Summary

Purpose of report

This report is produced to present an initial assessment of the potential ecological constraints and opportunities relating to a Site known as Land at Eldon Grove; to inform the site's potential for re-development.

Methodology

The report is based on a desk study of designated wildlife sites and records of protected or notable species, and an extended Phase 1 Habitat Survey with bat roost potential survey carried out in January 2016.

Findings

The site comprises a disused plot of land with former residential properties that are in poor state of repair.

The buildings are considered suitable to support common and widespread species of bat and nesting birds.

Cotoneaster is recorded on Site; if required for removal, consideration into its appropriate disposal should be sought.

No off site ecological impacts are anticipated.

Recommendations

Recommendations are made for the conditioning of further bat surveys (May-August); since the building is proposed for renovation, any bat roost present can be retained.

General recommendations to enhance the site and to protect nesting birds are also made.

Introduction

1. Brooks Ecological Ltd was commissioned by Eldonian Group Ltd to carry out a Preliminary Ecological Appraisal with bat roost potential survey of land at Eldon Grove, Liverpool.

2. This report is produced with reference to British Standard BS42020 'Biodiversity Code of Practice for Planning and Development'.

Scope

3. The application site 'the Site' encompasses a disused plot of land to the north of Liverpool City Centre.

4. The 'Study Area' includes a 2km area of search around the site for records of protected and notable species and locally or nationally designated wildlife sites.

Figure 1

Scope of study

Proposals

5. The buildings on Site are proposed for renovation into flats with associated access, hardstanding and garden areas.

6. Liverpool City Council are encouraging the northern expansion of the city centre to regenerate an underutilised and neglected area; renovation of the buildings will contribute towards this target.

Site context

7. The site is found in Vauxhall, a residential area to the north of Liverpool City Centre.

8. Immediate boundaries comprise residential streets and housing in all directions.

9. Beyond these immediate boundaries, the wider landscape is characterised by built development and busy roads. Development to the north and east mainly consists of residential areas with open amenity areas. To the south the environment becomes increasingly developed and commercial towards Liverpool City Centre, whilst to the west industrial development separates the site from the docks and the Mersey Estuary.

Wildlife corridors

10. The Site is not directly linked to any habitat corridors, being entirely surrounded by development. In spite of this a strong corridor is present running north - south through the area is created by the Leeds – Liverpool Canal only c. 350m north west of the Site, alongside which, slightly further west, is a railway line running in parallel.

11. Figure 2 shows an analysis of wildlife corridors in relation to the Site as viewed from aerial photography. Further consideration of wildlife corridors will be assessed later in the report following field work.

Figure 2 Habitat corridors and higher value habitat shaded orange.

Water bodies

12. No water bodies are visible within 500m of the site on aerial photography and mapping. The nearest is associated with Everton Nature Park c. 653m north east.

Designated Sites

Statutory Designations

13. There are no statutory designations within 2km of the Site. The nearest being the Mersey Narrows and North Wirral foreshore SSSI c. 2.1km south west.

14. There are several internationally designated sites within 10km of the Site, the nearest of which is Mersey Narrows and north Wirral Foreshaw SPA and Ramsar site, and the Dee Estuary SAC beginning c. 4.4km to the north west. Whilst c. 5.5km to the south lies the Mersey Estuary SPA and Ramsar site.

15. Given the current and proposed nature of the Site and its separation by development from these areas impacts are considered unlikely on these areas.

SSSI Impact Risk Zones

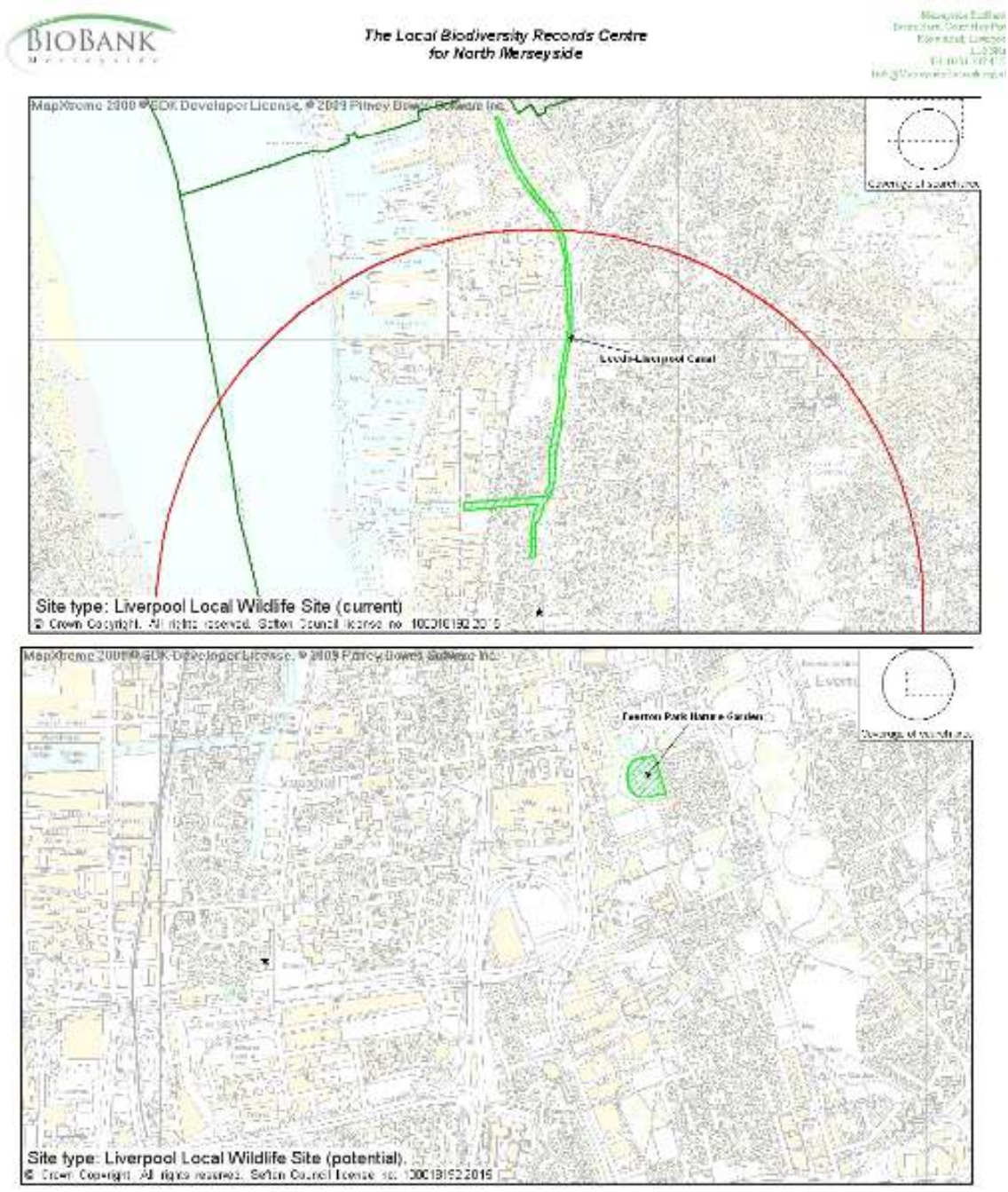
16. The site is within the 3km impact risk zone of the Mersey Narrows SSSI but does not fall into any of the categories which trigger the need for the LPA to consult with Natural England.

Non-Statutory Designations

- Leeds – Liverpool Canal c. 340m northwest of the Site.
- Everton Park Nature Garden c. 670m to the northeast.

17. Neither of these sites are assessed as being functionally linked to the Site and no further consideration is required.

Figure 3 Locally designated sites provided by BioBank Merseyside.



Extended Phase 1 Habitat Survey

Method

18. The survey was carried out during January 2016[1] and followed Phase 1 habitat survey methodology (JNCC, 2010).

Limitations

19. The survey was carried out in January when many plant species have died back however the habitat type and likelihood of supporting notable species or communities could still be assessed at this time by the experienced surveyor.

20. The vast majority of the Site was accessible with exceptions being the densest areas of butterfly bush and bramble.

21. Internal building inspections were restricted on the grounds of health and safety; however, where observations were possible, they provided a useful insight into their potential use by nesting birds and roosting bats.

22. Sufficient time was afforded the surveyor to carry out the survey. The survey was not constrained by poor weather.

Results

23. The site comprises a 0.8ha plot of land comprising former residential properties with associated grounds, occupying land of even topography. The habitats found on site are all characterised as species poor and have been left unmanaged for several years.

24. The following habitats were identified within the Site and on its immediate boundaries:

- Secondary vegetation
- Hardstanding
- Buildings

[1] This Report has been prepared during January 2016 following a visit to the site in January 2016 and our findings are based on the conditions of the site that were reasonably visible and accessible at that date. We accept no liability for any areas that were not reasonably visible or accessible, nor for any subsequent alteration, variation or deviation from the site conditions which affect the conclusions set out in this report.

Secondary vegetation

25. The site represents a fairly typical example of brownfield land, where the once managed borders and hardstanding areas have been left for several years to allow a typical secondary vegetation community to colonise and establish over time; from ephemeral – short perennial vegetation through to scattered scrub, with rough neutral grassland and tall ruderal vegetation. This vegetation is found growing over unmanaged areas of once close mown amenity grassland, a substrate of crushed rubble, thin soils and poured concrete hard-standing.

26. Scattered primarily across the once vegetated borders, but also in pockets of deeper soils across the Site, is young pioneer scrub and immature trees; dominated by butterfly bush (*Buddleia davidii*) with abundant bramble (*Rubus fruticosus*) and occasional willow (*Salix* sp.), field maple (*Acer campestre*), silver birch (*Betula pendula*), cherry (*Prunus* sp.), elder (*Sambucus nigra*), rose (*Rosa* sp.), box leaved honeysuckle (*Lonicera pileata*) with a variety of cotoneaster species.

Figure 4

Established butterfly bush across the southern half of the site

27. Ephemeral-short perennial vegetation growing over thin soils developed in cracks on hardstanding areas and over loose stones include scattered ragwort (*Senecio jacobaea*), st john's wort (*Hypericum* sp.), dock (*Rumex* sp.), cocksfoot (*Dactylis glomerata*), small willowherbs (*Epilobium* spp.), herb robert (*Geranium robertianum*), buttercup (*Ranunculus* sp.), yarrow (*Achillea millefolium*) and a range of common acrocarpous mosses.

28. Where deeper pockets of soil are evident and where close mown amenity grassland has been left unmanaged, secondary neutral grassland with tall competitive herbs has established. Species are dominated by false oat grass (*Arrhenatherum elatius*) with abundant perennial rye grass (*Lolium perenne*), fescue (*Festuca* sp.) and

meadow grasses (*Poa* sp.); with rosebay willowherb (*Chamerion angustifolium*), ribwort plantain (*Plantago lanceolata*), thistles (*Cirsium* spp.) and nettles (*Urtica dioica*), together with species previously mentioned.

Figure 5

Patches of secondary vegetation in amongst hardstanding within the northern half of the Site.

Hardstanding

29. Hardstanding comprises the former access road off Bevington Street and areas around the buildings. Secondary vegetation, described above, has established where deeper pockets of soil are evident and where rubble piles created through previous attempts of renovation have been left. Large expanses of flytipping are also evident throughout.

Figure 6

Hardstanding to the north west of the Site showing fairly new rubble piles and now established vegetation rubble piles.

Buildings

30. There are three former residential listed buildings on Site; these were subject to lead theft and subsequent fire damage approximately eight years ago and as a result, are now in a poor state of repair.

31. All buildings are of similar nature; being three storeys high of brick built construction, with decorative concrete and timber façades on the southern building elevations and brick built alcoves on the northern elevation. The timber facades surround bay windows which extend up from the second storey to a dormer style roof feature with a gable end. Timber fascia boards and soffit boxes are present on these gable ends.

32. The brick work is in largely good condition with rendering present over the third storey; this has evidently come off exposing the brickwork beneath in parts. Windows and some of their frames are largely absent across all buildings.

Figure 7

The southern elevation of building 3 showing the poor state of repair of the roof structure and general nature of the buildings.

33. The roof structures comprise double pitched, slate ridge, hip and roof tiles to the exterior, with timber ridge and rafter beams with roofing membrane internally, where present. The roof overhangs at the eaves; comprising painted timber panels beneath to the wall tops. Each building has several brick built chimney stacks throughout the roof structure.

34. Features of bat roost potential across each building are considered separately for ease of reference. Features are summarised in Table 1, with buildings in Figure 8.

Figure 8

Building location and corresponding number.

Building 1

35. No internal inspections of Building 1 were carried out given health and safety restrictions.

36. External inspections identified several features considered suitable to support roosting bats; largely on the timber facades and the dormer style roofs which remain mostly intact. Notable features include; missing mortar at the gable ends providing potential access / egress into suitable roosting locations between the roof tile and internal roofing membrane on the southern and eastern elevations, gaps between the wooden panels on the soffit boxes and under timber panels adjacent to the bay windows.

37. From ground level it is difficult to ascertain whether gaps in the timber façades lead to roosting features; but it is considered likely given the proximity to the timber support beams surrounding the timber window frames.

38. Given the nature of the remaining two buildings, it is considered likely there will be some potential access/egress at the building eaves to suitable roosting locations within.

Figure 9

Building 1; gaps in the far eastern dormer style roof providing potential access / egress into suitable roosting locations.

Figure 10

Gap present where mortar is missing on the central dormer roof providing potential access / egress into possible roosting locations.

39. With the exception of a large crack on the north western building elevation and where part of the timber facade is absent on the eastern, the brickwork on the building is in good condition. The buildings appear to have a cavity, which could be accessed through the missing mortar at these locations.

Figure 11

Gaps in missing mortar where part of the timber façade has come off on the eastern elevation. Potential access / egress is also available under the panels.

40. The roof structure is largely intact across this building; being only absent where lead flashing has been removed causing external tiles to slip, exposing the internal roof membrane beneath. Gaps are evident beneath the slate roof tiles in these areas leading to potential roosting locations.

Figure 12

Building 1 from the southern elevation showing the largely intact roof structure.

Building 2

41. The central area of roof and across the ridge line is in poor state of repair, leaving the areas around the chimney and hipped and dormer style roofs intact. Despite this, the building has a number of features considered suitable for roosting bats.

Figure 13

Building 2 from the southern elevation showing the roof structure in a poor state of repair.

42. Absent rendering on the south western building elevation has exposed brick mortar and gaps around the third storey window; providing potential access / egress points to internal cavities within.

43. Timber panels located beneath the dormer style roofs adjacent to the third storey bay windows appear loose and considered suitable for roosting bats where internal cavities are present.

Figure 14

Absent rendering on south western building elevation provides access/egress for roosting bats; with loose timber panels around the bay window.

Figure 15

Absent timber panels and missing mortar beneath the dormer style roof provides potential access/egress to suitable cavities.

44. Gaps in the brick mortar are evident where the timber façade has come loose; this feature could provide potential access / egress into suitable roosting locations within the cavity wall, or surrounding window frames.

Figure 16

Gap in brick mortar exposed where timber façade is now absent.

45. Internal observations were made in rooms where considered safe to do so. The roof structures are all open to the apex with significant damage across the main ridge line and central area; the dormer style roofs are largely intact with roofing membrane evident throughout. Birds evidently use the more sheltered areas of the building, as shown by evidence of nests and a large amount of faeces on the floor.

Figure 17

Birds nest on a ledge within an internal chimney stack.

Figure 18

The internal roof structure of the dormer style section of building showing its intact nature.

Building 3

46. The roof structure is extensively damaged on this building, particularly at the northern and eastern building elevations and along the ridge line, leaving behind only single standing brick constructed chimney stacks. Despite this, the building still has features considered suitable for roosting bats.

47. From ground level, there appears to be access / egress into the buildings cavity walls where there is missing mortar beneath the third storey window on the north eastern elevation, and in a gap under the window frames on the western building elevation.

48. As per the previous two buildings, there are gaps beneath the timber panels adjacent to the bay windows and at the building eaves that have the potential to lead to suitable roosting locations.

49. The timber facades are loose in parts exposing brickwork and possible small cavities; from ground level it was difficult to ascertain whether these lead to further, deeper cavities.

50. In addition, where the roof is intact, missing roof and ridge tiles provide access to suitable roosting locations between the roof tiles and internal roofing felt.

51. Internal observations were restricted due to health and safety. Where possible, absent plasterboard exposed the brickwork beneath providing some access into internal cavities.

Figure 19

Missing mortar beneath the third storey window on the north eastern building elevation.

Figure 20 Gaps beneath the timber panels on the dormer style roof adjacent to the bay window and at the building eaves providing potential access / egress to further suitable cavities.

Figure 21

Missing ridge tile and roof tile close to the eaves of the southeast facing dormer style roof.

Figure 22

Gap behind the brickwork above the window on the western building elevation.

Table 1 Bat Roosting Potential checklist

Feature	Building 1	Building 2	Building 3
Walls	Accessible cavities – missing brick mortar and gaps in timber façade.		
Roof slates	Largely intact and well sealed. Access between tiles and roof membrane.	Largely absent, but access between tiles and roof membrane.	
Lead flashing	Absent across all buildings due to theft.		
Roof structure	Missing mortar at roof edge.		
	Internal membrane in good condition where external slates intact		
	Timber beams - open to the apex and in good condition.	Timber beams - largely exposed, damaged or absent. Where present, apparently in good condition.	
Eaves	Observations from southern elevation only – gaps close to bay windows, above concrete façade. Likely accessible cavities elsewhere		
Windows / doors	Accessible cavities - missing mortar in exposed brick where timber panels absent above bay windows. Rotten timber panels exposed internally. Gaps above window tops in parts.		
Basements /cellars	Absent.		
Trees	No bat roost potential.		

Off site habitats

52. There are six semi-mature lime (*Tilia* sp.) set amongst hard paved areas immediately adjacent to the eastern site boundary off Limekiln Street. These trees have no features considered suitable to support roosting bats, but are tagged suggesting they afford some level of protection.

Figure 23

Semi-mature lime trees adjacent to the eastern Site boundary.

Faunal appraisal

Bats

53. There are no records of bats within the Site, those within the 2km Study Area are associated with housing or built areas. All records are of common pipistrelle, indeterminate pipistrelle and brown long eared. The nearest record is from c. 650m to the southwest and is a field record of an individual pipistrelle foraging.

54. Two roost records have been returned one relating to an individual Brown Long Eared, within the city centre from 1991 whilst the other relates to a single indeterminate pipistrelle also centred at Clayton Square in the city centre, dated 1992.

55. Despite the roof structures of the buildings being in a poor state of repair, the buildings have a number of features considered suitable to support roosting bats. As such, they are considered to afford moderate bat roost potential in accordance with Table A1 (see Appendices). Given the sites small size and location within a predominantly urban setting, it is likely that only small numbers of common light tolerant species such as pipistrelles will be drawn during the active bat season (May-August). The poor state of repair makes the buildings unsuitable for larger, more significant roosts (maternity and hibernation).

56. The trees on and immediately adjacent to the Site are considered too young with insufficient crevices to support roosting bats.

57. Although the secondary vegetation on Site provides some structure to foraging and commuting bats, the lack of connectivity and isolation from suitable wildlife corridors in a predominantly urban setting reduces this value. Additional planting will enhance the value of the Site post development.

Bat emergence surveys and a bat method statement (if required) are recommended through a condition of planning.

Birds

58. Records have been returned for a small range of common birds within the Desk Study Area – swift, redstart, canada goose, dunnock, herring gull, house martin, house sparrow, lapwing, linnet, little ringed plover, peregrine, skylark, song thrush and starling. None of these records come from within the Site.

59. The buildings within the Site will be used by common and widespread species during the spring and summer months. Ground nesting birds are not considered likely to use

the site and it is unlikely to be of value as a roosting or mustering site for wintering or passage birds given the frequent disturbance through proximity of roads, other disturbance by humans and fly tipping.

Other species

60. Given the isolated and urban nature of the Site, it is not considered to support any further protected, or otherwise notable species.

Invasive Species

61. Cotoneaster is found in several locations in planting along the northern edge of the site. Whilst listed on Schedule 9 of the Wildlife and Countryside Act (1981) (as amended), this species is not considered to present a significant risk in this location. Whilst we are not aware of specific guidelines relating to the disposal of this plant it would be a sensible precaution to dispose of it through burning on Site or disposal at approved landfill. The plant, and its berries or seeds should not be buried, mulched or added to rot piles as this is likely to encourage proliferation.

Figure 24

Cotoneaster on the north western Site boundary

Evaluation and Recommendations

62. Given the Site's location in a predominantly urban setting and the proposals to renovate existing buildings back to former use, development can proceed with minimal constraints.

63. Impacts on statutory and non - statutory wildlife sites or other listed habitats are not anticipated; and whilst the secondary vegetation established on site loosely conforms to the UKBAP description / Section 41 Priority Habitat, Open Mosaic Habitat on Previously Developed Land, the area is too small and not sufficiently diverse to qualify the site as this habitat. As such the Site largely represents habitats considered to be of low ecological value and they are not considered a constraint to the renovation works.

64. Measures should be put in place to safeguard the row of semi-mature lime trees adjacent to the eastern Site boundary to BS 5837, ensuring the absence of impacts on root protection zones.

65. The buildings on Site have a number of features considered suitable for roosting bats, and as such are considered to afford *moderate bat roost potential*; particularly between the roof tiles and membrane, at the eaves, around the timber facades and bay windows and the dormer roofs. Given the urban setting and the large expanse of roof structure in a poor state of repair and exposed to the elements, the buildings are considered at best to support small numbers of common and widespread species in the active season only (May to August); not significant larger roosts (maternity and hibernation).

66. Since any roost features can be retained post development through renovation works, it is considered appropriate for further bat surveys to be conditioned through planning to determine bat presence / absence, and if present, the type of roost, number and species present. These should be carried out over the active bat season (May-August).

67. In the meantime, none intrusive works can be carried out on the first two storeys of each building. These can be carried out under precautionary method statement, which could be secured under a Planning Condition to ensure there is no disturbance or destruction of features considered suitable to support roosting bats. This method would be based on:

- Toolbox talk to Site contractors
- Pre-start internal resurvey (where safe to do so) by an ecologist or Ecological Clerk of Works to look for evidence of bats.

- Delineating Biodiversity Protection Zones and erection of fencing with clear signage to prevent access to areas considered most suitable to support roosting bats.

- Undertake no works on the external timber facades, soffit boxes and bay windows.

- Avoid any work to the roof structure.

- Focus works on the building interiors – removing debris, making floors safe etc.

68. The buildings are considered suitable to support common garden birds during the nesting period (March-August). To prevent the proposed works impacting on nesting birds, any building renovation where nesting birds were identified will need to be undertaken outside of the breeding bird season which is 1st March – 31st August inclusive. Any works required during the breeding bird season should be preceded by a nesting bird survey to ensure that the Wildlife and Countryside Act (1981) is not contravened through the destruction of nests and that any active nests are identified and adequately protected during the renovation works.

Ecological Enhancement

69. The requirement for development to make a positive contribution to biodiversity is clearly set out guidance such as the NPPF and BS:42020 - beyond mitigating or compensating any potential impacts.

70. The following themes provide opportunities for the proposals to deliver such a contribution:

- Native species should be used throughout landscaping wherever possible; this includes in any garden areas and on the site peripheries. In these cases, species should be locally sourced.

- Useful wildlife habitat could be provided in the form of nesting boxes or a bat box on retained trees immediately adjacent to the Site (on obtaining permission from Liverpool City Council), or incorporated into the renovated roof post development.

Appendices

1. Explanatory Notes and Resources
2. Bat Activity Survey Rationale
3. Information on legislation / protection

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Appendix 1 – Explanatory Notes and Resources Used

Site context

71. Aerial photographs published on commonly used websites were studied to place the site in its wider context and to look for ecological features that would not be evident on the ground during the walkover survey. This approach can be very useful in determining if a site is potentially a key part of a wider wildlife corridor or an important node of habitat in an otherwise ecologically poor landscape. It can also identify potentially important faunal habitat (in particular ponds) which could have a bearing on the ecology of the application site. Ponds may sometimes not be apparent on aerial photographs so we also refer to close detailed maps that identify all ponds issues and drains. We use Promap Street + scale maps for this purpose.

Designated Sites

72. A search of the MAGIC (Multi-Agency Geographic Information for the Countryside) website was undertaken. The MAGIC site is a Geographical Information System that contains all statutory (e.g. Sites of Special Scientific Interest [SSSI's]) as well as many non-statutory listed habitats (e.g. ancient woodlands and grassland inventory sites). It is a valuable tool when considering the relationship of a potential development site with nearby important habitats. In addition, information from the local record holders was referred to on locally designated sites.

Functional linkage

When assessing functional linkage we consider whether the site could be linked:

- Hydrologically: is the Site upstream down or stream could ground water issues affect it?
- Physically is the site in close proximity and could it be directly or indirectly affected by construction and operational effects.
- Do footpaths and roads make it likely that increased recreational pressure could be felt.
- Is the site part of a network of similar habitat types in the wider area.

Method

Phase 1 Habitat Survey

73. Phase 1 habitat survey methodology (JNCC, 2010). This involves walking the site, mapping and describing different habitats (for example: woodland, grassland, scrub). The survey method was "Extended" in that evidence of fauna and faunal habitat was also recorded (for example droppings, tracks or specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the Guidelines for Baseline Ecological Assessment (IEA, 1995) and Guidelines for Preliminary Ecological Appraisal (CIEEM 2012).

Bat Roost Potential

74. A thorough daytime inspection of the site was made on 24th June 2015 in order to look for evidence of bats and assess bat roosting potential. With the exception of the sports centre, building inspections were restricted to the exteriors since a number of buildings are, or have historically been, used by undesirable people. Given the flat roofed nature of the majority of the buildings, this is not considered a constraint to the survey.

75. Evidence of bats may take the form of droppings, feeding remains, live bats, dead bats, stains on masonry or timber from the oils in bats' fur and claw marks made by bats regularly roosting in the same location.

76. Bat roosting potential of buildings was classified according to the following criteria set out in Table A1, with trees according to Table A2, developed with reference to the Bat Mitigation Guidelines (2004), Bat Workers Manual (2004) and the Bat Conservation Trust Good Practice Guidelines (2012).

Table A1: Bat roosting potential in buildings

Roosting potential	Criteria
Good	Buildings that have many areas suitable for roosting with a large number of potential access points. These are normally in sheltered locations, subject to low variation in temperature. Buildings with good potential could be used for a whole range of roosts including maternity roosts.
Moderate	Buildings with a smaller number of areas suitable for roosting, but still supporting features that could be attractive to bats and potentially support maternity roosts.
Limited	Buildings with limited roosting opportunities. These may be in locations that are subject to wide temperature fluctuations and drafts. They could be used as occasional or transient roosts, but are unsuitable for maternity roosts. Buildings that would otherwise be moderate to good potential but have reduced value due to other factors such as exposed location, separation from nearby foraging, or presence of strong lighting.

Very Limited	Buildings that have no obvious places for bats to roost, but could be used on a sporadic or occasional basis for feeding or solitary day roosting.
None	Buildings which appear unsuitable for roosting bats due to clear lack of roosting spaces such as voids etc and/or absence of suitable access points.

Table A2: Bat roost potential in trees

Roosting potential	Criteria
Good	Trees that have many areas suitable for roosting with a large number of potential roosting features such as fissures, holes and flaking bark. These are normally in areas of good habitat such as close to water or in a landscape with well connected linear features. Trees with good potential could be used for a whole range of roosts including maternity and hibernation roosts.
Moderate	Trees with a smaller range of features suited to roosting in less valuable habitat, but still supporting features that could be attractive to bats and potentially support maternity roosts.
Limited	Trees with limited range or quality of roosting features in poor habitat. They could be used as occasional or transient roosts, but are unsuitable for maternity roosts.
Very Limited	Trees that have few places for bats to roost located in poor foraging habitat, but due to superficial features such as flaked bark etc. could be used on an occasional basis for solitary or small groups of bats.
None	Trees which appear unsuitable for roosting bats due to clear lack of roosting spaces such as voids etc and/or absence of suitable access points.

Faunal appraisal

77. This section first looks at the types of habitat found on Site or within the sphere of influence of potential development, then considers whether these could support protected, scarce or Section 41 NERC Act 2006 species (referred to collectively as 'notable species').

78. Records of notable species supplied from a 2km area of search by Merseyside Biobank are used to inform this appraisal.

79. We refer only to species which could be found on sites with potentially suitable habitat. We screen out and do not present accounts of the likely absence of species for which there is no suitable habitat or have been assessed and not being a potential constraint to development.

Evaluation

80. In evaluating the site the ecologist will take into account a number of factors in combination, such as;

- the baseline presented above,
- the site's position in the local landscape,
- its current management and

- its size, rarity or threats to its integrity.

81. There are a number of tools available to aid this consideration, including established frameworks such as Ratcliffe Criteria or concepts such as Favourable Conservation Status. Also of help is reference to Biodiversity Action Plans in the form of the Local BAP and Section 41 of the NERC Act (2006) to determine if the site supports any Priority habitats or presents any opportunities in this respect.

82. The assessment of impacts considers the generic development proposals from which potential effects include:

- Vegetation and habitat removal
- Direct effects on significant faunal groups or protected species
- Effects on adjacent habitats or species such as disturbance, pollution and severance
- Operation effects on wildlife such as noise and light disturbance

83. Consideration is given to the Local Biodiversity Action Plan (LBAP), which for this site is the '**North Merseyside Biodiversity Action Plan**'.

Table A3: Species Action Plans

Species/group	**Habitats/group**
Great crested newt	Lowland Acid Grassland
Corn bunting	Lowland Heath
Corn Bunting	Lowland Raised Bog
Grey Partridge	Neutral Grassland
House Martin	Calcareous grassland
House Sparrow	Ponds
Lapwing	Lakes
Skylark	Reedbeds
Song thrush	Hedgerows
Starling	Saltmarsh
Swift	Sand Dune
Bluebell	All Woodland
Azure damselfly	
Black-tailed Skimmer	
Blue-tailed Damselfly	
Broad-bodied Chaser	
Brown Hawker	
Common Blue Damselfly	
Common Darter	
Four-spotted Chaser	
Bats	

Brown hare
Common pipistrelle
Water vole
Noctule bat
Pipistrelle bats
Soprano pipistrelle

Appendix 2 – Bat Activity Survey Rationale

84. The Bat Conservation Trust Guidelines (BCTG) (Hundt 2012) is now widely accepted as providing a basis and rationale for scoping and conducting bat surveys. It is acknowledged that the guidelines provide a wealth of background and are a very useful tool in standardising approaches to survey, it is also felt that an over reliance on some of the tables (such as Table 7.2) within this document can result in the provision of complicated surveys where they have significant consequences for the cost, or timescale of a large project, but could never deliver positives for bat conservation.

85. Taking the BCTG document as a whole, Chapter 2 helps the reader understand whether or not surveys are required, and that in the context of planning and development survey is required in relation to ensure;

- the avoidance of legal offences, and;
- the provision of a sufficient level of information - such that will allow the Local Planning Authority to make an informed decision on the proposals and their potential impacts on the Favourable Conservation Status (FCS) of bats.

86. Attendance at seminars presented by, and discussions with, those involved in production of the BCTG document has emphasised the point that it is within the remit of the consultant ecologist to make a decision on the necessity and scope of surveys - they will use the guidelines in doing so but are not in any way bound by them: this is reflected in Section 1.1 of the guidelines.

> The guidance should be interpreted and adapted on a case-by-case basis, according to the expert judgement of those involved. There is no substitute for knowledge and experience in survey planning, methodology and interpretation of findings, and these guidelines are intended to support these. Where examples are given they are descriptive rather than prescriptive.

87. Such decisions require a consideration of the potential of the project to impact on bat habitat, alongside analysis of the value of habitat on and around the site and of local records and the likelihood that bats might occur in significant numbers. Our reports aim to present information on how we have arrived at our decision on the site, what assumptions we have based this on, and where further survey is recommended we indicate what the objective of this survey should be and how best this would be achieved.

88. This site is small with limited structure to be used by commuting and foraging bats, in a predominantly urban setting with no key habitat corridors likely to be used by bats. Therefore, bat activity surveys are not recommended.

Appendix 3 Wildlife Legislation, Policy and Guidance

This is not an exhaustive list but sets out briefly the relevance of Legislation, Policy and Guidance in terms of planning applications.

Legislation

Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (EC Habitats Directive).

Provides framework at an international (EU) level for the consideration / protection of European Protected Species (EPS), and habitats through the designation of sites.

Council Directive 79/409/EEC on the Conservation of wild birds (EC Birds Directive) and The Ramsar Convention on Wetlands of International Importance (1971)

Provides framework at an international (EU) level for the consideration / protection of important bird populations and the sites on which they are dependant.

The Conservation of Habitats and Species Regulations (2010)

This transposes 1) into UK law and provides the basis on which all EPS are protected and impacts on them can be licensed in the UK.

The Wildlife and Countryside Act (1981) as amended

This provides the basis on which UK species are legally protected or restricted and confers protection on Sites of Special Scientific Interest SSSIs. It contains annexes of plants and animals which are legally protected as well as those which are considered to be invasive or harmful. It provides the basis on which impacts on such species can be licensed in the UK and provides controls on work on or near SSSIs.

The Countryside and Rights of Way Act 2000 (CRoW)

Provides a statutory basis for nature conservation, strengthens the protection of SSSIs and UK protected species and requires the consideration of habitats and species listed on the UK and Local Biodiversity Action Plans (UKBAP / LBAP).

Natural Environment and Rural Communities Act 2006 (NERC)

Sets out the responsibilities of Local Authorities in conserving biodiversity. Section 41 of the Act requires the publishing of lists of habitats and species which are "of principal importance for the purpose of conserving biodiversity". At present these largely reflect those making up the UKBAP lists.

Hedgerows Regulations (1997)

Define and provide protection for Important Hedgerows.

Protection of Badgers Act (1992)

Protects badgers from persecution, this includes excavation / development in the proximity of setts.

Protected Sites

Statutory EU / International Protected Sites

Special Areas of Conservation (SACs); and Special Protection Areas (SPAs) and Ramsar Sites contain examples of some of the most important natural ecosystems in Europe. Work on or near these sites is strictly protected and Local Authorities will be expected to carry out 'Appropriate Assessment' of development in proximity of them. In this case there is often an increased burden on the developer in relation to provision of information and assessment.

Statutory UK Protected Sites

Local Nature Reserves (LNRs); National Nature Reserves (NNRs); Sites of Special Scientific Interest (SSSIs) all receive strict protection under UK legislation. Work in or in proximity to these sites would be restricted with any needing to be agreed with Natural England. Natural England now provide guidance on the nature of development which could impact on SSSIs through Impact Risk Zones.

Locally Protected Sites

Local Authorities have a variety of protected wildlife sites designated at a local or regional level. These are gradually being brought under the banner of Local Wildlife Sites (LWS) but at present a plethora of different designations exist - all subject to local policy.

Protected Species

European Protected Species

A number of species (most relevantly bats, great crested newts [GCN], and otters) receive strict protection from killing, injury and disturbance under The Conservation of Habitats and Species Regulations (2010). Protection is also conferred on the habitats on which they rely such as roost space in the case of bats and ponds and fields etc. in the case of GCN.

UK Protected Species

A number of species (including bats, GCN, watervole and white clawed crayfish) are strictly protected under The Wildlife and Countryside Act (1981) as amended, from killing, injury, disturbance and damage or destruction of their resting places etc. Certain species (such as reptiles) and some birds (such as barn owl) receive partial protection e.g. at certain times of the year or form certain activities only. All nesting bird species are protected from damage or destruction of their nests - whilst active.

Invasive species

Schedule 9 of the Wildlife and Countryside Act (1981) as amended, lists these species and makes it an offence to cause or allow their spread in the wild. This often has impacts on development and planning in relation to the presence of invasive plant species such as: himalayan balsam (*Impatiens glandulifera),* japanese knotweed (*Fallopia japonica*) and giant hogweed *(Heracleum mantegazzianum*).

Planning Policy

The National Planning Policy Framework (NPPF)

The National Planning Policy Framework was published in 27 March 2012 replacing the majority of previous Planning Policy Guidance notes (PPGs) and Planning Policy Statements (PPSs). The most relevant paragraphs from the NPPF are set out below.

The general approach to assessing the natural environment is now embedded within the definition of what 'sustainable development' is. Paragraph 7 (P7) of the NPPF states that sustainable development should "contribute to protecting and enhancing our natural environment" and "help to improve biodiversity". There is also a need for positive inclusion of the natural environment in development design and "moving from a net loss of bio-diversity to achieving net gains for nature" (P9). P14 sets out the Frameworks presumption in favour of sustainable development.

The natural environment is stated within the NPPF core principles: development should "*recognise the intrinsic character and beauty of the countryside*" and contribute to conserving and enhancing the natural environment and reducing pollution. Allocations of land for development should, "*prefer land of lesser environmental value, where consistent with other policies in this Framework*" (P17).

Section 11 of the NPPF details the approach to the natural environment. The Framework states that development should "*minimise impacts on biodiversity and provide net gains in biodiversity, where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*" (P109).

The Framework sets out ways to minimise the impacts on biodiversity through "*promoting the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets*" (P117).

The NPPF requires the consideration of the impacts of development on the natural environment. The Framework also encourages "*opportunities to incorporate biodiversity in and around developments*" (P118). Importantly this paragraph (P118) sets out the hierarchy of avoiding, mitigating and compensating harm from development - plans should ensure that they can demonstrate engagement with this hierarchy when required.

Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services.

This strategy builds on the Natural Environment White Paper (June 2011) - The Natural Choice: securing the value of nature. Setting out the current UK Government's approach to nature conservation. It promotes a more coherent and inclusive approach to conservation and the valuing in economic and social terms of economic resources.

The strategy promotes initiatives such as Biodiversity Offsetting, Nature Improvement Areas and a focus on well connected natural networks and introduces the concept of securing a 'no net loss' situation with regard to UKBAP / Section 41 habitats and species.