St Gabriel's Convent, Woolton, Liverpool.

Extended Phase 1 Habitat Survey Report.

Compiled by Ecology Services Ltd.

Members of the Chartered Institute of Ecology and Environmental Management.

on behalf of

St. Gabriel's (Liverpool) Limited

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1.0 Introduction

- 1.1 Ecology Services Limited was commissioned by St Gabriel's (Liverpool) Limited in June 2015 to carry out an Extended Phase 1 Habitat Survey on land off Beaconsfield Road, Woolton, Liverpool. National Grid Reference (NGR) 341844 387560.
- 1.2 The survey is required to assess the ecological value of the area of land being used for the development and of wildlife habitat bordering this development area.
- 1.3 The proposed development is for the construction of 48 residential dwellings to include; the erection of 14 terraced villas with garages, private gardens and roof terraces; 4 detached houses with garages and private gardens; 2 bespoke houses; and the repair, refurbishment, change of use and four storey extension of St. Gabriel's House to create 28 apartments in total (7 in the existing listed building and 21 new build). Refer to Drawing 2 for further information.
- 1.4 To conduct an ecological assessment at the site, the aims of the survey were to:
 - Undertake an Ecological Desktop Study up to 1km of the site.
 - Undertake a Data Base Assessment (DBA) using existing maps of the area up to 250m of the development site.
 - Undertake an Extended Phase 1 Habitat Survey of the development site and up to 30m from the development site;
 - Identify any further detailed survey requirements.
- 1.5 The sites ecological values will be assessed in context with current UK planning and legislative policy, including:
 - Statutory Protected Species
 - UK Species/Habitat of Principal Importance
 - Local Biodiversity Action Plan Habitat/Species
 - Statutory Protected Sites
 - Non-Statutory Protected Sites or Species of Conservation Concern
- 1.6 The purpose of this report is to state the survey methodology, presents the results of the survey, evaluates the findings, assesses the impacts and makes recommendations concerning the protection of existing ecological features within and bordering the development plot.
- 1.7 Further surveys will be recommended, where required. If further surveys are recommended, then this report should be read in conjunction with any recommended survey reports.

2.0 Methodology

Ecological Desktop Study

2.1 Ecological data and historic records of protected species and sites was collated from the following sources; listed in Table 1.

Table 1: Ecological Desktop Study Results and Record Centres Consulted

Source of information	Information supplied
Natural England	Nature on the map to identify Nature Reserves, Sites of Special Scientific Interest and UK Habitats of Principal Importance within 1km of the site.

Local Biodiversity Action Plan	Identification of Local BAP Species and Habitats known to occur in the region.
Natural Environment and Rural Communities (NERC) Act 2006	Review of UK Habitats/Species of principal Importance known to occur in the region.
Natural England and Multi Agency Geographical Information Centre www.magic.gov.uk	To identify Nature Reserves, Sites of Special Scientific Interest and UK Habitats of Principal Importance and other protected sites or features of interest within 1km of the site.
Merseyside Biobank (Local Records Centre)	To identify protected sites or features of interest within 1km of the site.

2.2 The aim of the desktop study was to assist the surveyor undertaking the Extended Phase 1 Habitat Survey by providing background information on the likely habitats and species that occur within the local area.

Data Base Assessment

2.3 a Data Base Assessment (DBA) is undertaken using existing maps of the area (up to 250m of the development site) to identify any features of ecological interest, for example; a pond that may support amphibian species such as great crested newts (*Triturus cristatus*) or common toad (*Bufo bufo*).

Extended Phase 1 Habitat Survey

- 2.4 The extended Phase 1 habitat survey was undertaken of the site and within 30m of the site where access was permitted. Habitats were assessed by using Phase 1 habitat survey techniques, which is a system for environmental audit widely used within the environmental consultancy field.
- 2.5 The extended Phase 1 habitat survey followed Phase 1 Habitat Survey Methodology (JNCC, 2010). This involves walking over the site, mapping and target noting any seminatural habitats. The survey area includes the footprint of the proposed development and up to 30m from the proposed development site.
- 2.6 A habitat map will be prepared to show the locations and extent of habitats and detailed descriptions of the principal and important plant communities will be provided as Target Notes.
- 2.7 Plant species abundances were recorded within the target notes, using DAFOR ratings, as Dominant, Abundant, Frequent, Occasional or Rare (Rare in the sense of having a very low abundance). Species recorded as locally abundant are abundant only in certain parts of the target noted habitat, rather than being abundant throughout. The ratings have no precise definition and are affected by plant size and season of survey however they have been shown to correlate with more quantitative measures.
- 2.8 The extended Phase 1 habitat survey is a modified approach to the Phase 1 habitat survey, extended for use in environmental assessment (Institute of Environmental Assessment, 1995). The survey will record any signs of protected species/species of principal importance or other valuable ecological components of the site.
- 2.9 The locations of any invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and others were also mapped.

Timing

2.10 The Extended Phase 1 Habitat Survey was undertaken on the 15th July 2015 which is an optimal time of year to undertake such a survey.

Weather Conditions

2.11 Weather conditions during the survey were good, with no rain or wind affecting survey.

Personnel

2.12 All survey works were carried out by Ecologist Mr. P. Bonney BSc (Hons).

Constraints

2.13 Surveys only provide a snapshot of habitats and species that are there at that time. Further surveys at additional times of the year are likely to find additional species. The survey was based on the information provided.

3.0 Results

Ecological Desktop Study Designated Sites

- 3.1 The ecological desktop study revealed no records of a European or statutory srotected site; however nine Non-Statutory Protected Sites (both current and potential) were identified within 1 kilometre of the proposed development. These include:
 - Childwall Woods & Fields Local Nature Reserve (LNR)
 - Childwall Woods & Fields Liverpool Local Wildlife Site (LWS) (current)
 - Black Wood Liverpool Local Wildlife Site (LWS) (current)
 - Calderstones Park Liverpool Local Wildlife Site (LWS) (current)
 - Childwall Woods and Fields and Black Wood (LNR) and Liverpool Local Wildlife Site (LWS) (proposed)
 - Calderstones Park Liverpool Local Wildlife Site (LWS) (proposed)
 - Land within Allerton Green Wedge Liverpool Local Wildlife Site (LWS) (potential)
- 3.2 The ecological desktop study search found the site to be within a Natural England's (NE) SSSI Impact Risk Zone (IRZ's) associated with two Statutory Protected Sites. These include Mersey Narrows SSSI and Mersey Estuary SPA/SSSI, which are located c10km and c4km respectively to the west of the site.

Protected Species

- 3.3 Desktop searches identified 11 records of European and/or Statutory protected species within 1km of the proposed development. These include:
 - Great crested newt (Triturus cristatus)
 - Barn owl (*Tyto alba*)
 - Badger (*Meles meles*)
 - Red squirrel (*Sciurus vulgaris*)
 - Common pipistrelle (Pipistrellus pipistrellus)
 - Soprano pipistrelle (*Pipistrellus pygmaeus*)
 - Pipistrelle sp (*Pipistrellus sp*.)
 - Noctule bat (*Nyctalus noctula*)

- Myotis bat sp (*Myotis sp*.)
- Bluebell (Hyacinthoides non-scripta) (Partially protected)
- Water germander (*Teucrium scordium*)

Invasive Species

- 3.4 Desktop study searches also revealed records of seven invasive species within 1km of the site, which include:
 - Indian Balsam (Impatiens glandulifera)
 - Japanese Knotweed (Fallopia japonica)
 - Japanese Rose (*Rosa rugosa*)
 - New Zealand Pigmyweed (Crassula helmsii)
 - Rhododendron (Rhododendron ponticum)
 - Three-cornered Garlic (Allium triquetrum)
 - Yellow Azalea (Rhododendron luteum)

UK Habitats/Species of Principal Importance

3.5 UK Habitats/Species of Principal Importance are a material consideration of planning and fall under the NERC Act (2006). Section 40 of the NERC Act (2006), places a duty to conserve biodiversity on every public body. The Local Planning Authority and Natural England will expect account to be taken of these habitats in the overall layout and landscape strategy for the development.

UK Habitats of Principal Importance (NERC)

3.6 The ecological desktop study found no UK Habitats of Principal Importance within the site.

UK Species of Principal Importance (NERC)

- 3.7 The ecological desktop study identified several UK Species of Principal Importance within the 1km search area, as listed below:
 - Amphibians Great crested newt*,
 - Birds Bullfinch (*Pyrrhula pyrrhula*), Dunnock (*Prunella modularis*), Grey Partridge (*Perdix perdix*), House Sparrow (*Passer domesticus*), Lapwing (*Vanellus vanellus*), Lesser Spotted Woodpecker (*Dendrocopos minor*), Linnet (*Linaria cannabina*), Reed Bunting (*Emberiza schoeniclus*), Skylark (*Alauda arvensis*), Song Thrush (*Turdus philomelos*), Starling (*Sturnus vulgaris*), Tree Sparrow (*Passer montanus*), Willow Tit (*Poecile Montana*)
 - Mammals Bats (Several species)*, Western European hedgehog (*Erinaceus europaeus*), Brown hare (*Lepus europaeus*) and Red squirrel,
 - Invertebrates Sallow Guest Weevil (*Melanapion minimum*) and Wall butterfly (*Lasiommata megera*)
 - Vascular Plants Pillwort fern (Pilularia globulifera), Cornflower (Centaurea cyanus) and Water Germander* NB: Those listed with an asterisk (*) are also statutorily protected.

Local Biodiversity Action Plan (LBAP)

3.8 Local Biodiversity Action Plan (LBAP) lists key local habitats/species considered to be rare or declining in the area. Some may be of national concern, while others may only be locally rare. Some are statutorily protected, although the great majority are not.

- 3.9 While local BAP documents have no legal status, the Local Planning Authority and Natural England will expect account to be taken of these species/habitats in the overall layout and landscape strategy for the development.
- 3.10 Habitats listed within Local BAP which the site may be classified under are as follows:
 - All Woodland
 - Neutral Grassland
 - Urban Grassland
 - Urban Green Infrastructure
 - Hedgerows
- 3.11 The species of local concern potentially using the site, based upon information gathered from the sources listed in Table 1 are as follows:
 - Mammals Bats (Several species)*, and Red Squirrel*
 - Birds Song thrush, Urban Birds including; House martin (*Delichon urbicum*), House sparrow, Swift (*Apus apus*) and Starling
 - Amphibians Great crested newt*
 - Plants Bluebell* (Hyacinthoides non-scripta) NB: Those listed with an asterisk (*) are statutorily protected
- 3.12 Based on information gathered from the sources listed in Table 1 and the surveyors knowledge, the following protected species were taken into account when the site assessment was carried out:
 - Amphibians
 - Badger
 - Bats (all species)
 - Birds (all species)
 - Reptiles
 - Red squirrel

Extended Phase 1 Habitat Survey

- 3.13 An Extended Phase 1 Habitat Survey of the site was undertaken during July 2015. Descriptions of the principle habitats are provided below and are illustrated on Drawing 1. In brief the site contained the following habitats.
- 3.14 The footprint of the development site, which also includes all habitats affected by the development works, consists of:
 - Woodland Broad-leaved (Semi-natural)
 - Scrub (Dense/continuous or Scattered)
 - Scattered Trees
 - Neutral Semi-improved Grassland
 - Neutral Semi-improved (Species poor) Grassland
 - Tall Ruderal
 - Ephemeral/Short Perennial
 - Introduced Shrub
 - Boundaries (Hedgerows/Fencing/Walls)
 - Buildings
 - Bare Ground

- 3.15 The wider survey area, includes habitats within 30m of the development site and features of ecological interest located up to 250m from the development site, which contains:
 - Woodland Broad-leaved (Semi-natural)
 - Neutral Semi-improved (Species poor) Grassland
 - Tall Ruderal
 - Boundaries (Hedgerows/Fencing/Walls)
 - Buildings
- 3.16 Descriptions of the principle habitats types that are to be impacted by the development found within the Extended Phase 1 Habitat Survey are reviewed within the following sections. This will also cover habitats that may support protected species. Features of ecological interest located within the wider survey area that are affected by the development works are also described. Features separated from the site that are unaffected by the development have been omitted.
- 3.17 Target Notes have been provided for all semi-natural habitats that are deemed either ecologically important or have the potential to support protected species/species of principal importance; see Appendix 1 for Extended Phase 1 Habitat Survey Target Notes.

Woodland Broad-leaved Semi-natural

- 3.18 The wider survey area contains semi-natural broad-leaved woodland.
- 3.19 The site contains semi-natural broad-leaved woodland. Originally planted as scattered trees to create a parkland environment with pathways and ornamental planting, the composition of the mature/semi-mature trees and associated scrub and ground flora are now of an age and structure to be considered as semi-natural woodland.
- 3.20 Tree species include frequent Common beech (*Fagus sylvatica*) with occasional Horse chestnut (*Aesculus hippocastanum*) and Sycamore (*Acer pseudoplatanus*) with rare Field maple (*Acer campestre*) and Small-leaved lime (*Tilia cordata*). The understory consisted of self seeding Common beech, Sycamore with occasional Holly (*Ilex aquifolium*), Bramble (*Rubus fruticosus*) and Rhododendron (*Rhododendron ponticum*).
- 3.21 Ground flora was consistent of woodland habitat with frequent Wood avens (*Geum urbanum*), Ivy (*Hedera helix*) and fern sp. (*Dryopteris sp.*) with occasional Common nettle (*Urtica dioica*), Broad-leaved willowherb (*Epilobium montanum*), Creeping soft-grass (*Holcus mollis*) and Bluebell (*Hyacinthoides non-scripta*) with rare Wood cranes-bill (*Geranium sylvaticum*), Wood false-brome (*Brachypodium sylvaticum*) and Wood sorrel (*Oxalis acetosella*).

Scrub Dense/Continuous & Scattered

- 3.22 Scrub is relatively common habitat throughout the local vicinity and is found at several locations within the wider survey area.
- 3.23 The site contains scrub, including locally frequent Bramble, and Rhododendron.

Scattered Trees

- 3.24 The wider survey area contains areas of scattered trees.
- 3.25 The site contains several scattered trees, mainly in association parkland and ornamental planting. They are all mature in age and species include Common beech, Sycamore and Horse chestnut.

Neutral Semi-improved Grassland

Areas of semi-improved grassland were identified within the site with relatively high 3.26 species diversity. The grassland is composed of areas of short grassland to the north of the main property TN1 and areas of rank grassland rank to the west TN8, both of which are likely to have been managed in the past. Grass species included; abundant Sweet vernal grass (Anthoxanthum odoratum), Creeping bent (Agrostis stolonifera) and Red fescue (Festuca rubra); locally abundant False oat-grass (Arrhenatherum elatius) with frequent Meadow foxtail (Alopecurus pratensis) and locally frequent Rough meadow grass (Poa trivialis), Yorkshire fog (Holcus lanatus) and Sedge sp. (Carex sp.) Occasional species identified included Cock's-foot (Dactylis glomerata) with rare Creeping soft grass, and Sheep's fescue (Festuca ovina). Herb species identified during the survey included; abundant hawkbit sp. (Leontodon sp.), locally abundant Selfheal (Prunella vulgaris), frequent Common mouse-ear (Cerastium fontanum), common ragwort (Senecio jacobaea) and locally frequent Tufted vetch (Vicia cracca), Bush vetch (Vicia sepium), Yarrow (Achillea millefolium), Ribwort plantain (Plantago lanceolata), Common bird's-foot trefoil (Lotus corniculatus), Black Medick (Medicago lupulina), Meadow buttercup (Ranunculus acris), White clover (Trifolium repens). Rare species identified included Nipplewort (Lapsana communis), Red clover (Trifolium pratense), Meadow vetchling (Lathyrus pratensis), Wild strawberry (Fragaria vesca) and common spotted orchid (Dactylorhiza fuchsii).

Neutral Semi-Improved Grassland (species-poor)

3.27 Areas of semi-improved (species-poor) grassland were we identified within the wider area and the site. Species diversity was relatively poor as opposed to the semi-improved areas of grassland with Cock's-foot, Perennial rye-grass (*Lolium perenne*) and Yorkshire fog in abundance with occasional False oat-grass and meadow foxtail.

Tall Ruderal

3.28 Areas of tall ruderal were identified within the site mainly in conjunction with boundaries and species included; Common nettle, Rosebay willow-herb (*Chamerion angustifolium*) and Creeping thistle (*Cirsium arvense*).

Ephemeral/Short Perennial

3.29 Primarily on areas of bare ground ephemeral/short perennial is usually identified with pioneering species. The habitat typically contained abundant Perennial rye-grass, frequent white clover; occasional annual meadow-grass (*Poa annua*), creeping buttercup (*Ranunculus repens*), Creeping thistle, Common mouse-ear, Yorkshire fog and Silverweed (*Potentilla anserina*) with rare Meadow buttercup and Spear thistle (*Cirsium vulgare*).

Introduced Shrub

3.30 There are areas within the site that contain introduced and planted shrubs mainly along rockery and grassland borders all of which are variegated garden species including Rose sp (*Rosa sp.*). Sweet pea (*Lathyrus odoratus*) and Chrysanthemum sp. (*Dendranthema sp.*)

Hedgerows

3.31 The site contains a hedgerow at TN12, roughly 3m high and 2m wide which has now become overgrown. Hedgerow species include abundant Wild privet (*Ligustrum vulgare*) with occasional Sycamore. Ground flora was hard to detect due to access and visual contraints however there seemed to be an abundance of Rosebay willow-herb and common nettle.

Buildings

- 3.32 Several buildings have been identified within the site. For a full description of buildings, please refer to ESL St. Gabriel's Convent Bat Inspection & Assessment Report 2015
- 3.33 The following section evaluates habitats and their suitability to support species that are affected by the proposed development works.

4.0 Evaluation

Habitat Evaluation

Statutory Protected Sites

- 4.1 The desktop study found two protected Local Nature Reserves within 1 km of the proposed development site:
 - Childwall Woods & Fields Local Nature Reserve (LNR);
 - Childwall Woods and Fields and Black Wood (LNR).

Local Nature Reserves (LNR)

4.2 Local Nature Reserve (LNR) is a statutory designation under Section 21 of the National Parks and Access to the Countryside Act 1949 and amended by Schedule 11 of them Natural Environment and Rural Communities Act 2006. LNR are local sites that have been designated by the local authorities. To qualify for LNR status the site must be of importance for any of the following reasons; wildlife, geology, education or public enjoyment. The Local Plan for an area will detail any additional protection given to the LNR such as protection against damaging operations and/or protection against development within or adjacent to the LNR. LNR's are Statutorily Protected Sites at a local level. There is no national legal protection specifically for LNRs.

Natural England's (NE) SSSI Impact Risk Zone (IRZ's)

- 4.3 The ecological desktop study search found the site to be within a Natural England's (NE) SSSI Impact Risk Zone (IRZ's) associated with two Statutory Protected Sites. These include Mersey Narrows SSSI and Mersey Estuary SPA/SSSI, which are located c10km and c4km respectively to the west of the site.
- 4.4 Impact Risk Zones (IRZs) are a mapping tool developed by Natural England to enable developer and Local Planning Authorities (LPA's) to make an initial assessment of the potential risks to Sites of Special Scientific Interest (SSSIs) posed by development proposals. They define zones around each SSSI according to the particular sensitivities of the features for which it is notified and specify the types of development that have the potential to have adverse impacts, which may require consultation with Natural England.
- 4.5 Sites of Special Scientific Interest are designated under The Wildlife and Countryside Act (WCA) 1981 (as amended). The Wildlife and Countryside Act 1981 is the domestic implementation of the Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention). Under the National Planning Policy Framework (NPPF) Nature Conservation, states that all Ramsar sites and SPA's are also designated a SSSI under national legislation.
- 4.6 In order to assess the impacts of the development upon the statutory protected sites, Natural England's Impact Risk Zones (IRZs) have been reviewed to assess whether consultation is required. The Site Check Report generated the following for the site location:

- **Rural Non Residential** Large non residential developments outside existing settlements/urban areas where footprint exceeds 1Ha;
- **Rural Residential** Any residential development of 50 or more houses outside existing settlements/urban areas.
- 4.7 Taking into consideration the scale of the development works and the above points, no consultation with Natural England regarding likely effects on the SSSI is required.

None Statutory Protected Sites

4.8 The desktop study found three current non-statutory Local Wildlife Sites (LWS), which included Childwall Woods and Fields LWS, Black Wood LWS and Calderstones Park LWS, which are all located c800-1000m to the west and north of the development site, indicating that the development site is located relatively close to areas of high biological diversity, particularly relating to botanical species. There will be no direct impacts to these sites as a result of any future development proposals but there is potential for animal and plant species from these sites to disperse onto the development site.

Local Nature Reserves (LNR)

4.9 Local Nature Reserve (LNR) is a statutory designation under Section 21 of the National Parks and Access to the Countryside Act 1949 and amended by Schedule 11 of them Natural Environment and Rural Communities Act 2006. LNR are local sites that have been designated by the local authorities. To qualify for LNR status the site must be of importance for any of the following reasons; wildlife, geology, education or public enjoyment. The Local Plan for an area will detail any additional protection given to the LNR such as protection against damaging operations and/or protection against development within or adjacent to the LNR. LNR's are Statutorily Protected Sites at a local level. There is no national legal protection specifically for LNRs.

Local Wildlife Sites

- 4.10 Local Wildlife Sites (LWS) and Local Geological Sites (LGS) are designated in a Local Authority Unitary Development Plan for their nature conservation value. In 2006 Defra issued guidance on their identification, selection and management. The guidance recommends that County-wide partnerships be established to manage Local Site systems for each county. Merseyside has a total of 342 Local Wildlife Sites to date. To designate Local Wildlife Sites all sites for which MEAS hold records are assessed against the Local Wildlife Sites guidelines. Any sites, which meet the designation guidelines, are designated as Local Wildlife Sites. The designation guidelines are based on Ratcliffe (1977) A Nature Conservation Review (i.e. rareness, diversity, naturalness, fragility etc) as well as guidelines, which highlight protected species and Biodiversity Action Plan species and habitats.
- 4.11 The following sections briefly evaluate the importance of each habitat of ecological value and the species it is considered suitable to support.

Woodland Broad-leaved Semi-natural

4.12 Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 identifies Semi-natural Broad-leaved woodland as a UK Habitats of Principal Importance. Included amongst these are Lowland Wood Pastures and Parkland. Wood pastures and Parklands were widespread in lowland England through the medieval age until the early 19th Century, when many were lost through enclosure. This decline has continued into the 20th Century. Although regionally important examples are scattered throughout the country (such as Dunham Park in Cheshire). Sites are frequently of historic, cultural and landscape importance and are outstanding not just nationally but at a European level. This is a Priority Habitat in the UK Biodiversity Action Plan. This habitat is important for a number of priority species including invertebrates such as saproxylic beetles, rare lichens and fungi. Trees also provide roost sites and foraging areas for bats and hole-nesting birds. The principal tree species found are Pedunculate Oak (*Quercus robur*), Common beech, Common ash (*Fraxinus excelsior*), Wych elm (*Ulmas glabra*), Sweet Chestnut and Lime sp. Dead wood both standing and fallen is an essential component of this habitat.

- 4.13 Woodlands existing since before 1600AD that mainly comprise of native species are classified as Ancient Semi-Natural Woodlands (ASNW). ASNW is important in conservation terms because of their richness of flora and fauna communities that have developed over centuries.
- 4.14 The woodland qualifies as a Local BAP category (All woodland) and could be classed as a UK Habitat of Principal Importance. Originally planted as scattered trees to create a parkland environment with pathways and ornamental planting, the composition of the mature/semi-mature trees and associated scrub and ground flora are now of an age and structure to be classified as semi-natural woodland.
- 4.15 The majority of the woodland is considered to have a high conservation value, particularly the boundaries. Fauna species may include breeding birds, badger, amphibians, roosting bats and invertebrates.

Scrub Dense/Continuous & Scattered

4.16 Scrub was both scattered and dense throughout the wider survey area and the site and is a typical habitat locally that has developed on un-managed land. Scrub habitats can be valuable for birds (breeding and foraging), invertebrates and foraging bats, including small mammals and amphibians (foraging and hibernating). Overall it is considered the loss of small areas of scrub to development is negligible.

Scattered Trees

4.17 Scattered trees are located within the proposed development site. Scattered trees are important features within the landscape. Trees support a wide range of terrestrial invertebrates which in turn support foraging bats and birds. They are also important for breeding birds and can provide suitable bat roost habitat if they contain crevices.

Semi-Improved and Semi-Improved (species poor) Grassland

- 4.18 There are areas of semi-improved grassland that are considered to be on the threshold of moving towards unimproved grassland with many species associated with this grassland type becoming ever present. However, many of the species associated with poorer quality grasslands still persist. The semi-improved grassland found within the site fall into the North Merseyside BAP Neutral Grassland habitat category. It is recommended that the development minimises any adverse affects upon these habitats and working methods should be adopted using best practice measures. The majority of semi-improved grassland within the survey area are to remain unaffected by development works.
- 4.19 By their very nature, poor semi-improved grasslands generally do not have any noteworthy plant diversity. However, these grasslands can provide suitable habitat for birds (foraging and ground nesting, mammals (foraging bats and Badger), amphibians (forage and limited refuge) and terrestrial invertebrates. There are areas of the grassland that are considered to be suitable for foraging reptiles.

Tall Ruderal

- 4.20 Habitats such as tall ruderal are scattered throughout the site. This increases the diversity of habitats within the wider survey and should develop naturally once habitats are reinstated following completion of the development. No further recommendations are made.
- 4.21 Although these habitats are relatively small and linear they can be important linkages between habitats throughout the out the site and the wider landscape.

Ephemeral/Short Perennial

4.22 Ephemeral/short perennial are typified by areas of bare ground or disturbed/developed land and are associated mainly with pioneering species. Loss of this type of habitat is negligible as it will freely re-develop once development is completed. No further recommendations are made.

Hedgerows

- 4.23 Hedgerows that are over 20m in length and are composed of at least 80% of one or more UK native species are classed as a UK Habitat of Principal Importance for their conservation value within the landscape.
- 4.24 The hedgerow located within the development site (TN12) is considered to be a UK Habitat of Principal Importance as it is over 20m in length and composed of at least 80% of one or more UK native species.
- 4.25 Certain hedgerows are protected under the Hedgerow Regulations 1997. The hedgerow identified is species-poor and therefore are not considered to require an assessment under the Hedgerow Regulations 1997.
- 4.26 Hedgerows are valuable habitat for birds (breeding and foraging), mammals (foraging bats, badger and hedgehog), amphibians (foraging, refuge and hibernation) and terrestrial invertebrates.

Buildings

4.27 Buildings are present within the site. Although buildings per se are not usually of high ecological value they can be suitable to support protected species such as roosting bats and breeding birds.

Other

4.28 All wild plant species in Britain are protected from intentional uprooting by unauthorised persons. However, no plant species fully protected under Schedule 8 of the Wildlife and Countryside Act 1981(as amended) were found on the site.

Protected Species Evaluation

4.29 As part of the Extended Phase 1 Habitat Survey, surveyors also recorded any wildlife observed. Particular emphasis was placed upon sightings of protected species or species of conservation interest. Direct observations of the species were noted. Furthermore, sites/habitats with potential to support the species were also noted, even if direct signs of presence were not apparent. This was done in order to scope the potential for protected species being present so that the Client could be advised on the basis of a precautionary approach before undertaking works.

4.30 The desktop study identified 11 protected species (Section 3.3) within 1km of the proposed development site. Due to the lack of suitable habitat and dated records (more than 40 years) within the site or the wider survey area, Red squirrel and Water germander have been excluded from further appraisal.

Amphibians

- 4.31 The desktop study found records of Great crested newt (*Triturus cristatus*), Smooth newt (*Lissotriton vulgaris*) and Common frog (*Rana temporaria*) within 1km of the development site.
- 4.32 The site is located within an urban setting and is isolated from suitable semi-natural habitats by residential buildings and kerbed roads. There are no ponds or suitable water-bodies present either within the site or within 250m so there are therefore no implications regarding amphibians and any potential future plans for the site.
- 4.33 Great crested newts and the habitat they use for protection and shelter are protected under Conservation of Habitats & Species Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended).
- 4.34 Common toad and great crested newt are UK Species of Principal Importance listed under the NERC Act 2006 and a material consideration for planning.

Badger

- 4.35 The desktop study found records of Badger (*Meles meles*) within 1km of the development site.
- 4.36 The wider survey area and the development site contain habitats suitable to support badger, although much of the surrounding land is heavily built upon.
- 4.37 A guideline distance of 30m from any active sett provides an indication of the potential for disturbance to badgers. No badger setts were found within the proposed development site or the surrounding 30m boundary. Therefore potential for disturbance to setts by development does not exist. No badger pathways or any other signs were observed throughout the survey area.
- 4.38 Badgers and their setts are protected under the Protection of Badgers Act (1992). Sett interference includes: disturbing badgers whilst they are occupying a sett, as well as destroying a sett or obstructing it.

Bats

- 4.39 The desktop study found several records of bats within 1km of the development site.
- 4.40 The wider survey area contains buildings, scattered trees and woodland that are considered to be suitable for roosting bats. Linear features within the wider landscape such as hedgerows and tree lines are likely to be those associated with greatest bat activity. Habitats within the local area are considered ideal for foraging bats and it is highly likely that bats are present in the survey area.
- 4.41 The development site contains buildings and trees that may provide suitable bat roost habitat. Foraging habitats take the form of scrub, trees and hedgerows. The buildings and trees affected by development require further detailed surveys to determine their potential as bat roost habitat before a full evaluation can be made.

4.42 Certain species of bat are UK Species of Principal Importance under the NERC Act 2006, including. Noctule Bat (*Nyctalus noctula*), Soprano Pipistrelle Bat (*Pipistrellus pygmaeus*) and Brown Long-eared Bat (*Plecotus auritus*). All British bats and their roosts are afforded protection under the 1981 Wildlife & Countryside Act (as amended) and are listed under Annex IV of the Habitats Directive as in need of protection.

Birds

- 4.43 The desktop study found Barn owl, a Schedule 1 species to be present within 1km of the development site. The record is of 1 count of possible breeding in Calderstones Park 700m to the west of the site. However, the land between the proposed development site and Calderstones Park is heavily built upon and it is unlikely that Barn owl would cross this area to reach the site. There are no green corridors linking the two sites and the site in isolation would not support foraging Barn owl.
- 4.44 The wider survey area provides a range of habitats suitable for birds such as woodland, scattered trees, scrub, hedgerows, grassland and buildings.
- 4.45 The development site provides a range of habitats suitable for birds such as buildings, woodland, scattered trees, scrub, hedgerows, introduced shrub and rank grassland.
- 4.46 The Wildlife and Countryside Act (WCA) 1981 (as amended), states that all wild birds are protected at all times against killing or injury. Under the WCA, it is an offence to kill, injure or take any wild bird, to take damage or destroy the nest of any wild bird, or to take or destroy the egg of any wild bird. It is good practice to carry out any works outside the breeding season that might affect nests of those species and result in an offence being committed. Breeding bird season is March to September inclusive.
- 4.47 Schedule 1 birds are afforded additional protection against disturbance during the breeding bird season at or near the nest. Options to avoid disturbance for Schedule 1 species will need implementing if a Schedule 1 species is found to be present on site during the breeding bird season.

Reptiles

- 4.48 The desktop study found no records of reptiles within 1km of the development site.
- 4.49 Habitats within the wider survey area are considered to be suitable to support the more common reptile species such as Slow worm (*Anguis fragilis*) and Common lizard (*Zootoca vivipara*). Habitats within the site at TN8 are considered suitable to support reptile species.
- 4.50 Common reptiles receive some degree of protection through the Wildlife and Countryside Act 1981 (as amended). They are protected against killing and injuring. The habitats for these widespread species are not protected. Therefore, in practice this requires a reptile protection scheme before implementing planning permission. No specific licence is required. It is not an offence under the Wildlife and Countryside Act 1981 (as amended) to possess these animals.

Hedgehog

4.51 The site and the wider survey area contains residential gardens, dense and scattered scrub, introduced shrub and tussocky grassland that are suitable to support Hedgehog (*Erinaceus europaeus*) foraging and hibernation.

4.52 Hedgehog numbers in the UK suffered a 20% decline over four years (2001-2005). This is equivalent to >50% decline over 25 years. Hedgehog is a UK Species of Principal Importance for the purpose of conserving biodiversity and covered under section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006. They therefore need to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity.

Invasive Species Evaluation

- 4.53 Schedule 9 of The Wildlife & Countryside Act 1981 (as amended) lists invasive non-native plant species that are considered to have a detrimental effect upon native flora wherever they occur. It is therefore an offence to "plant or otherwise cause them to grow in the wild". This includes spreading the species or transferring polluted ground material from one area to another. Any waste containing this species is classed as controlled waste under the Environmental Protection Act (Duty of Care) Regulations 1991, which requires all producers, carriers and disposers of waste to follow a code of practise and keep records.
- 4.54 The following invasive species were recorded during the survey.

Rhododendron

4.55 Rhododendron is present in large stands primarily to the north of the site

5.0 Impacts & Recommendations Habitats Impacts and Recommendations Habitat Overview

- 5.1 Situated within the urban setting of Woolton, a suburb of south Liverpool. The site is commonly referred to as St Gabriel's Convent, however was previously known as Knolle Park. The Georgian manor house was constructed in 1829 as a private residence, and converted to a children's home in 1909. The site is predominantly surrounded by semi-improved grassland, parkland woodland and scattered trees and is of varying ecological value. Of high value are the scattered trees, park woodland, and neutral semi-improved grassland, dense and scattered scrub. Of lower value are the buildings, semi-improved (species poor) grassland, tall ruderal and introduced shrubs.
- 5.2 Seven Local Wildlife Sites are situated within 1km of the development site, indicating that the development site is located close to areas of high biological diversity, however there will be no direct impacts to these sites as a result of any future development proposals but there is potential for animal and plant species from these sites to disperse onto the development site, although kerbed roads would limit dispersal opportunities to some species.
- 5.3 The survey found the site to contain UK Habitats of Principal Importance and Local BAP Habitats including Hedgerows, Neutral Grassland, All Woodland, Urban Grassland and Urban Green Infrastructure.
- 5.4 Habitats within the wider survey area and the development site are considered suitable to support European and Statutory Protected Species, UK Species of Principal Importance and Local BAP species.
- 5.5 The Office of the Deputy Prime Minister (ODPM) Circular 06/2005, states that Habitats and Species listed as Principal Importance, formerly UK BAP's, are capable of being a material consideration in the making of planning decisions.

- 5.6 In brief the National Planning Policy Framework (NPPF) is asking the Local Planning Authority to have an aim to conserve and enhance biodiversity and that any new developments should ensure that there is a minimum of no net loss of biodiversity at a site and result in an overall biodiversity gain.
- 5.7 The following sections briefly evaluate each habitat that is impacted by, or adjacent to the site that may be impacted by the proposed development, provides advice upon each habitat of ecological value and the species it is considered suitable to support.

Woodland Broad-leaved Semi-natural

- 5.8 The Desktop Search identified the woodland that falls within the wider survey area and the proposed development site categorised as a Local BAP Habitat and could be classified as a UK Habitat of Principal Importance.
- 5.9 The development is unlikely to affect the woodland; however, any works near to mature trees should be carried out with adequate provision for root protection and the works should be carried out according to BS 5837:2012 Trees in relation to design, demolition and construction.
- 5.10 The tree preservation officer should be contacted prior to disturbance to trees to check if any tree preservation orders (TPO) are standing.
- 5.11 Fauna species may include breeding birds, badgers, roosting bats and other invertebrates. It is advised that works affecting woodland areas may need to take into account the above listed species prior to works.

Scrub Dense/Continuous & Scattered

- 5.12 Scrub was both scattered and dense within the site especially in un-managed areas. Scrub habitats can be valuable for birds (breeding and foraging), invertebrates and foraging bats, including small mammals. Overall it is considered the loss of small areas of scrub to development is negligible.
- 5.13 If possible, areas of dense scrub should be retained and protected. If this is not feasible then areas of land should not be managed and native scrub succession allowed to naturally re-develop.
- 5.14 The development plans include extensive post development landscaping however to negate interim losses ideally several bird boxes of various types should be located within scattered trees on the site.

Scattered Trees

- 5.15 The development is unlikely to impact mature, semi-mature or young trees within and immediately adjacent to the site; however the following points need to be taken into consideration.
 - Impacts to trees should be minimised where possible and trees to be retained will require adequate provision for root protection prior to any works.
 - If there is a loss of scattered trees to development then mitigation works should be undertaken to replace trees on a minimum like for like basis to ensure that there is no net loss of biodiversity at the site. Tree species should be native and of local provenance.
 - Any trees that are affected by development should be checked prior to any works, to see if they fall under any Tree Preservation Order's (TPO).

- The works should be carried out according to BS 5837:2012 Trees in relation to design, demolition and construction.
- 5.16 Consideration for tree dwelling species such as breeding birds and roosting bats may also need to be taken into consideration if trees are impacted by the proposed development.

Neutral Semi-Improved and Semi-Improved (species-poor) Grassland

- 5.17 The semi-improved grassland found within the site falls into the North Merseyside BAP Neutral Grassland habitat category. The majority of semi-improved grassland within the survey area is unlikely to be affected by development works. However post development landscaping shows possible extensions and enhancement to grassland habitats.
- 5.18 Ideally, areas of neutral semi-improved grassland that is affected by development should be turf stripped, stored and re-used in other areas of the site. The grassland should be stored on pallets (turf) or as separate mounds (top soil) and covered with a Geotex fabric to avoid deterioration.
- 5.19 Any post development grassland management should involve planting of a species-rich wildflower meadow mix with plants of native and local provenance to the area and to include a sympathetic biannual mowing regime, where 3m buffer areas along grassland edges and designated grassland meadow(s) are cut only twice a year, Spring and early September, to allow for a more diverse grassland composition and seed-base, aspiring to attain UK Priority Habitat and Local BAP Species-rich Grassland.
- 5.20 Semi-improved (species-poor) grassland can be classified as poor and containing relatively low ecological value. These habitats do not require any particular conservation measures above and beyond adoption of good working practice to minimise overall impact and to return the site to as good a condition as it was prior to the works.

Introduced Shrub

5.21 It is generally accepted that gardens typically contain introduced shrub species and post development landscaping works are likely to replace if not enhance any loss of introduced shrub habitat. However, preference should be given to native species of local provenance.

Hedgerows

- 5.22 Due to the lack of species richness, the hedgerow at TN12 is not protected under the Hedgerow Regulations (1997). However, it is considered a UK Habitat of Principal Importance for their conservation value within the landscape. If hedgerow removal is necessary, on completion of works re-stocking with native stock of local provenance is advised.
- 5.23 Any works near to hedgerows should be carried out with adequate provision for root protection. Works in or affecting hedgerows may need to take into account The Wildlife and Countryside Act 1981 (as amended). Hedgerows provide habitats suitable for breeding birds and mammals including badger and bats and a wide range of invertebrates.

Species Impacts & Recommendations *Amphibians*

5.24 There are no ponds within 250m of the site that could support breeding amphibians. The site is also isolated by roads and is located in a built environment. Therefore there are no apparent implications with regards to development and amphibians and no further action is required.

Badger

- 5.25 No signs of badger were found during the Extended Phase 1 Habitat Survey within the development site or within 30m of the proposed works. Therefore, there are no apparent implications with regards to development and badgers at the time of survey.
- 5.26 As badgers are a highly transient species, and as habitats are suitable within the 30m boundary, then as best practice any development must be mindful of the potential for badgers at all times. If a badger or badger sett is identified or suspected during the works then all works must cease and the Ecologist notified for advice.

Bats

- 5.27 The wider survey area contains habitats that are considered ideal for bat species including roosting and foraging habitats. Therefore, it is highly likely that bats are present within the survey area. Buildings that may contain potential bat roost habitat have been identified at TN5, TN7, TN10, TN11 and TN13 to 15 and are likely to be impacted by the development.
- 5.28 Bat activity surveys were undertaken in July/August 2015 by Ecology Services Limited. Please refer to appropriate Protected Species Report (Bats) for recommendations.
- 5.29 This report did not take into consideration bats roosting in trees as the proposals indicate that all trees will be retained. If any trees are to be removed or impacted, a bat inspection and assessment should be carried out by a licensed bat ecologist prior to works.

Breeding Birds

- 5.30 The development site provides a range of habitats suitable for birds such as buildings, woodland, scattered trees, scrub, hedgerows, introduced shrub and rank grassland. If works are to be undertaken during the breeding bird season, which runs from March to mid September inclusive, then an assessment by an ecologist for breeding birds should be undertaken prior to works. If breeding birds are found, it is likely that works will have to be delayed until breeding has ceased. It is good practice to remove all affected breeding bird habitat during the winter months prior to works starting to prevent delays. However, the site is considered to be suitable to support hedgehog, which may be killed or harmed during winter habitat clearance. It is therefore recommended that breeding bird habitat clearance is undertaken between mid September and mid November.
- 5.31 Options to avoid disturbance for Schedule 1 species will need implementing if a Schedule 1 species is found to be present on site.

Reptiles

5.32 Areas of the site at TN8 contain potential to support the more common reptile species. Reptile surveys were undertaken in summer 2015 by Ecology Services Limited. Please refer to the relevant appropriate Protected Species Report (Reptiles) for any recommendations.

Hedgehog

- 5.33 Hedgehog is a UK Species of Principal Importance. Although no evidence was found at the site it is highly likely that hedgehog are in the area and the following measures shall be implemented.
 - Removal of suitable hibernation dense scrub habitat especially within the woodland should be avoided during their hibernation season. Hedgehog hibernation season

is weather dependant and can commence from November to January and finish around mid March to early April.

- During development works open pits and trenches shall either be covered overnight or have means of escape i.e. ramp.
- Any boundary fences shall incorporate gaps at intervals at the base to allow hedgehog freedom of access between residential areas.
- Hedgehog houses or log piles suitable for hibernating shall be incorporated in the Semi-improved grassland/woodland habitat close to TN9.

Invasive Plant Species Impacts & Recommendations *Rhododendron*

- 5.34 Areas of dense Rhododendron exist along unmanaged garden and woodland. This is classified as Schedule 9 invasive species and as such if left unmanaged can spread and lead to a deterioration of soil quality leading to little or no ground herb diversity.
- 5.35 Ideally Rhododendron should be removed and replaced with native scrub species, especially where it persists in semi-natural habitats such as the woodland. It should be removed by cutting and chipped on site and used as mulch in vegetated areas. If stumps cannot be removed, they should be drilled and herbicides applied on the day of severance. Seedlings should be hand pulled, bagged and left to rot down or chipped. Acidic conditions can persist after the removal of Rhododendron and so ground remediation may be required prior to planting new native scrub species.

Other Recommendations

Wildlife Friendly Landscape Proposals

5.36 It is recommended that any planting schemes within the development should adhere to local planning policy and use native species of local provenance. Planting schemes should aim to meet Local BAP targets. The landscape proposals should also show the locations and provide details of habitat and species mitigation measures, advice should be sought from the acting ecological consultant.

Biodiversity Recommendations

- 5.37 In line with current planning policy new developments should ensure that there is a minimum of no net loss of biodiversity at a site and result in an overall biodiversity gain.
- 5.38 Landscape proposals should ensure that there is no net loss of habitats of ecological value, including woodland, scattered trees, scrub and grassland. There is scope to enhance existing ecological features but all loss should be replaced on a like for like basis.
- 5.39 Additional compensation towards habitat losses at the site includes the following;
 - The creation of species-rich hedgerows between the garden boundaries using native species of local provenance, aiming to create a UK Habitat of Principal Importance and Local BAP Habitat.
 - Increase links between the garden areas by planting up front and rear gardens with native or wildlife friendly berry/nectar rich shrubs.
 - Creation of species-rich grassland using wildflower grassland mix of local provenance aiming to create a UK Habitat of Principal Importance and Local BAP Habitat.

- 5.40 Further possible recommendations to ensure that there is an overall biodiversity gain are as follows:
 - Installation of nesting bird boxes within scattered trees and woodland.
 - Gaps beneath garden fences to allow hedgehogs to move between gardens
 - Trellis on fencing and on walls for nectar rich wall climbers

6.0 References

Anon (1995). Biodiversity: The UK Action Plan. HMSO, London.

Anon (1999). Wild about the North West – a biodiversity audit of North West England. Regional Biodiversity Steering Group.

English Nature (2001). Great Crested Newt Mitigation Guidelines (August 2001 version). English Nature, Peterborough.

Environment Agency (2006). North West conservation access and recreation report 2005/6. Environment Agency, Warrington, 75 pp.

Gregory R.D., Wilkinson N.I., Noble D.G., Robinson J.A., Brown A.F., Hughes J., Procter D.A., Gibbons D.W. and Galbraith C.A. (2002). The population status of birds in the United Kingdom, Channel Islands and Isle of Man: an analysis of conservation concern 2002–2007. British birds 95: 410–450.

Institute of Environmental Assessment (1995) 'Guidelines for Baseline Ecological Assessment

Joint Nature Conservation Committee (Revised reprint 2010). Handbook for Phase 1 habitat survey, A technique for environmental audit. JNCC, Peterborough.

Joint Nature Conservation Committee (2001-2006). List of UK Species/Habitats of Principal Importance.

Nature Conservation Council (1989). Guidelines for selection of biological SSSI. Nature Conservancy Council, Peterborough.

Preston, D., Pearman, D.A. & Dines, T.D. (2002). New Atlas of the British and Irish Flora. Oxford University Press.

Appendix 1: Extended Phase 1 Habitat Survey Target Notes

TN1 – Neutral Semi-improved Grassland

Areas of previously managed grassland but containing a good species diversity. Grass species included; abundant Sweet vernal grass, Creeping bent and Red fescue with frequent Meadow foxtail and locally frequent Rough meadow grass, Yorkshire fog and Sedge sp. Occasional species identified included Cock's-foot and False oat grass with rare Creeping soft grass, and Sheep's fescue. Herb species identified during the survey included; abundant hawkbit sp., locally abundant Selfheal, frequent Common mouse-ear, common ragwort and locally frequent Yarrow, Ribwort plantain, Common bird's-foot trefoil, Black Medick, Meadow buttercup, White clover. Rare species identified included Nipplewort, Red clover and Wild strawberry.

TN2 – Neutral Semi-improved Grassland

Areas of semi-improved grassland are developing into neutral unimproved grassland with the positive identification of Common spotted orchid. More of the semi-improved grassland would probably develop if mowing regimes were managed more carefully.

TN3 – Rhododendron

Dense areas of planted Rhododendron scrub inter-planted with occasional mature scattered trees of Sycamore and conifers with rare Holly. This can be a valuable habitat especially for breeding birds but the ground soil would become very acidic due to dense Rhododendron leading to very little ground flora.

TN4 – Semi-natural broad-leaved Woodland

Originally planted as scattered trees to create a parkland environment with pathways and ornamental planting, the composition of the trees and associated scrub and ground flora are now of an age to be classified as semi-natural woodland. Tree species include frequent Common beech with occasional Horse chestnut and Sycamore with rare Field maple and Small-leaved lime. The understory consisted of self seeding Common beech, sycamore with occasional Holly, Bramble and Rhododendron. Ground flora was consistent of woodland habitat with frequent Wood avens, Ivy and Wood fern with occasional Common nettle, Broad-leaved willowherb, Creeping soft grass and Bluebell with rare Wood cranes-bill, False wood-brome and Wood sorrel.

TN5 – Building

Stone and brick built old Lodge house with apex roof with gaps in the plaster and mortar for possible roosting bats. The rear of the lodge roof has collapsed probably due to fall of an old sycamore tree alongside.

TN6 – Old Chestnut Tree

A mature Sweet chestnut tree, close to the entrance on Beaconsfield Road. The bark is deep ridged with plenty of holes and branch damage for possible bat roosting potential.

TN7 – Outbuildings

Old derelict outbuildings with slanted slate roof tiles. Gaps were visible within the slates for possible bat roosting potential.

TN8 – Neutral Semi-improved Grassland

Similar in species to TN1 however the grassland has become rank and tussocky with False oatgrass becoming the dominant grass species. Additional species identified included locally frequent Tufted and Bush vetch with rare Meadow vetchling. The structure of the grassland is ideal habitat for small mammals and reptiles.

TN9 – Scattered Trees

Areas of planted mature Common beech trees within semi-improved species-poor grassland which is now developing into woodland ground flora with evidence of locally frequent Wood avens and Tufted hair grass identified.

TN10 – Building

A single storey, flat roofed, single garage with rendered walls and a metal door with a connecting single storey, pitched roof workshop. There is a bricked up window located on the eastern elevation. There are gaps at the roof line of main building giving rise to possible bat roost potential.

TN11 – Building

A two storey, Grade II listed, former convent building. There are ornamental stone fascias present and areas of flat, vertical lead flashing. The walls are rendered and painted. There is a colonnaded porch located on the north-western elevation. The sash windows and doors are wooden-framed. There is a large bay window on the south-eastern elevation. On the north-western elevation there is a lower basement and to the north there is a carved stone 'grotto' area. On the south-eastern elevation there is a flat-roofed extension which contains a cellar. The main building is connected to a three storey, brick-built building to the south. All aspects show potential for bat roosting with gaps within brickworks fascias.

TN12 – Hedgerow

A 30m length of hedgerow dominated by Wild privet with occasional Sycamore. This hedgerow was probably planted over 100 years and been managed and is now overgrown. Significance should be given to possible UK Habitat of Principle Importance.

TN13 – Building

A brick-built, classroom type building which varies in height between one and two storeys situated to the east of the main manor house. All aspects show potential for bat roosting with gaps within brickworks fascias.

TN14 – Building

A building composed of two connected, two storeys, brick-built buildings. Where the two buildings join, there are numerous gaps at the ridge tiles and along the roof valley. Also present were numerous holes and gaps within mortar and brickwork which could possibly be used as roosting habitat for bats.

TN15 – Building

A single storey, rendered building. The roof is of a hipped construction and is covered in roofing slates. There are wooden soffit and fascia boards present on all elevations which are tight. On the western elevation, there is a gap at the roofline directly below the roofing slates but above the wooden fascia board and there is a gap underneath the fascia which is approximately 30cm long giving rise to possible bat potential.

Appendix 3:

Desktop Study Records (Refer to separate pdf file from BioBank) Drawing 1: Extended Phase 1 Habitat Survey Map



St Gabriels Convent, Liverpool. Map Ref: NGR 341844 387560. Scale: 1:1000 @ A3

Drawing 1: Extended Phase 1 Habitat Survey Map

Site boundary

30m buffer





Semi-natural woodland (broad-leaved)

Scattered trees (broad-leaved)

Hedgerow (species-poor)

Semi-improved grassland

Semi-improved grassland (species-poor)

Scrub (dense)

Scrub (scattered)



× SL















Target note

'///// Restricted access

Ν

Dominant Species Codes; Rf = Bramble Rp = Rhododendron



Environmental Consultants



Ephemeral/short perennial

Scattered shrubs Dense shrubs

Bare ground

Fenceline



Wall Building/structure St Gabriel's Convent, Woolton

Drawing 2: Proposed Development Plan



Drawing 2: Proposed Development Plan

Map Ref. (NGR) 341844, 387560 Scale: Not to scale.



