

CRESCENT INNOVATION NORTH, SALFORD

ECOLOGICAL APPRAISAL

PCAJ182/SIZN/EA/V3

Submitted to:

ECF (General Partner Limited)

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TABLE OF CONTENTS

PAGE

1.0	INTRODUCTION	1
1.1	Background	1
1.2	Description of Application Site	1
1.3	Description of the Development	2
2.0	ECOLOGICAL SURVEY METHODOLOGY	3
2.1	Introduction	3
2.2	Personnel	3
2.3	Ecological Survey Requirements.....	4
2.4	Study Area.....	4
2.5	Methodology.....	4
2.5.1	Desk Study & Data Search	4
2.5.2	Habitats/Plants	5
2.5.3	Breeding Birds.....	5
2.5.4	Badger.....	6
2.5.5	Other Species.....	6
2.6	Schedule of Survey Visits	6
2.7	Survey Constraints	6
3.0	APPROACH TO THE ECOLOGICAL ASSESSMENT	6
4.0	LEGISLATION & POLICY.....	8
4.1	Legislation	8
4.2	Policy.....	8
4.2.1	National Policy.....	8
4.2.2	Local Policy	9
4.2.3	Other – Local Biodiversity Action Plan	9
5.0	SURVEY RESULTS.....	9
5.1	Desk Study	9
5.2	Statutory Nature Conservation Sites	10
5.3	Non Statutory Nature Conservation Sites.....	10
5.4	Habitats & Plants	10
5.4.1	Introduction.....	10
5.4.2	Broadleaved Woodland.....	11
5.4.3	Secondary Woodland	11
5.4.4	Ornamental and Other Landscaping	12
5.4.5	Amenity Grassland.....	12

5.4.6	Other Grassland	12
5.4.7	Scrub and Tall Ruderal	13
5.4.8	Hardstanding	13
5.4.9	Plants	13
5.4.10	Invasive Plants	14
5.5	Breeding Birds	14
5.6	Badger	16
5.7	Other Species	16
6.0	EVALUATION	16
6.1	Introduction	16
6.2	Habitats and Plants	16
6.2.1	Habitats	16
6.2.2	Plants	17
6.3	Breeding Birds	17
7.0	IDENTIFICATION & ASSESSMENT OF ECOLOGICAL IMPACTS.....	18
7.1	Introduction	18
7.2	Broad Types of Ecological Impact	18
7.3	Specific Consideration Relevant to this Application	19
7.4	Species Considerations	20
7.4.1	Nesting Birds	20
7.4.2	Other Species	20
7.5	Long-term Impacts	20
8.0	MITIGATION AND ENHANCEMENT.....	21
8.1	Introduction	21
8.2	General	21
8.3	Advance Mitigation	21
8.3.1	Invasive Plants	21
8.3.2	Breeding Birds	22
8.4	Other Mitigation/Recommendations	23
9.0	BIODIVERSITY NET GAIN ASSESSMENT.....	24

Figure 1: Application Site

Figure 2: Location of Habitat Areas Referred to in the Text

Figure 3: Breeding Birds

Figure 4: Illustrative Landscape Masterplan

Appendix 1: Habitat Section Descriptions

Appendix 2: Photographic Record

Appendix 3: Botanical Species list

Appendix 4: Birds Recorded During the Breeding Bird Survey

1.0 INTRODUCTION

1.1 Background

Paul Chester & Associates Ltd. (PCA) was commissioned by ECF (General Partner) Limited via Planit IE to undertake an Ecological Appraisal to inform an outline planning application for a proposed development known as Crescent Innovation North, Salford. The proposed development is a comprehensive regeneration scheme located within the eastern part of the City of Salford. It represents the first part of a much larger project known as 'Salford Crescent.' Salford Crescent represents a 240-acre major regeneration programme that will be delivered over the next 20 years.

1.2 Description of Application Site

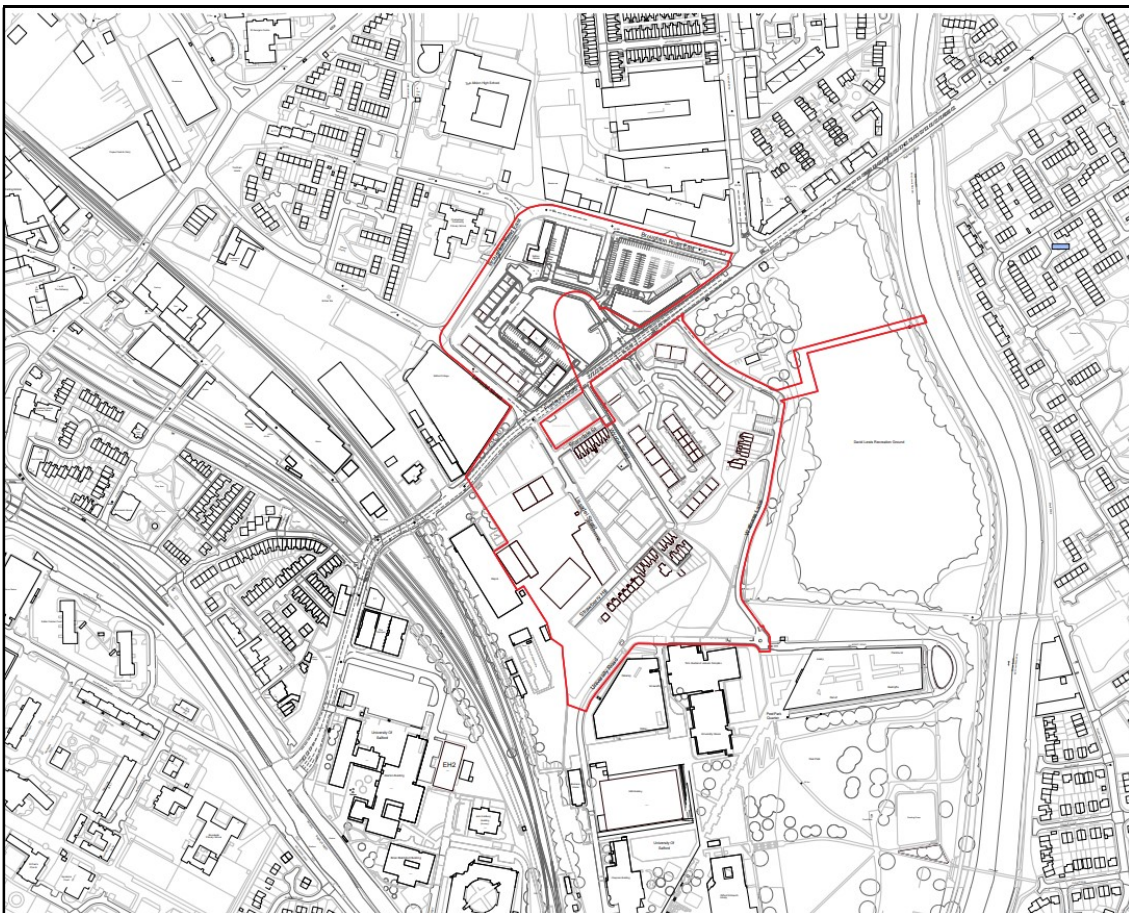


Figure 1: Application Site Boundary

The application site which covers approximately 11.7 hectares is located within the eastern part of the City of Salford to the west of the River Irwell. It is broadly bounded by Seafood Industrial Estate to the north, the David Lewis recreational ground and River Irwell to the east, the University of Salford to the south and the Manchester to Preston railway line to the west.

A high proportion of the application site is currently occupied by developed land with a variety of land uses present, including industrial and warehousing, commercial, sports facilities, education and residential.

The northern portion of the application site, north of Frederick Road (B6186) comprises Salford Innovation Park, including Salford Innovation Forum and associated surface car parking alongside five office, industrial and warehousing units and the Ahvas Torah Boys Academy at Salbec House (which is currently operating on a temporary basis and will be relocating). It should also be noted that Salbec House will be demolished separately as part of the Salford Rise planning consent (planning ref: 22/79440/FUL).

The area to the south of Frederick Road comprises the Travis Perkins building supplies unit with associated service yard, Canal Sellers Ltd (an independent drinks wholesaler), two industrial units along Wynne Street which form part of Lissadel Science Park and are due to be demolished as part of the Salford Rise consent, and a further six units providing office space along Leslie Hough Way which forms part of the Salford University Business Innovation and Technology Park.

Residential properties are located within the application site. These are:

- 9 No. properties located along Scarsdale Street located centrally within the site;
- 8 No. properties along Wallness Lane in the east of the site;
- 20 No. properties on Strawberry Hill within the southern area of the site; and
- 5 No. properties on Peel Mount, also within the southern area of the site.

The application site also includes scattered individual trees, ornamental planting and small areas of amenity grassland. A mature woodland belt is situated within the southern area of the application site, adjacent to Wallness Lane and University Road.

Whilst the majority of land falls outside of the Crescent Conservation Area, a narrow section of land is included in the application site that traverses the David Lewis Sports Ground to the River Irwell to the east, which falls within the application site for drainage infrastructure purposes only.

1.3 Description of the Development

Three development options have been prepared for the proposed development:

1. Maximum residential development option;
2. Maximum innovation development option; and
3. Baseline development option

The three development options present three different forms that the development option could take.

- a) The maximum residential development option comprises a form of the proposed development that would include the maximum amount of residential development (C3 use).
- b) The maximum innovation development option comprises a form of the proposed development that would include the maximum amount of innovation floorspace (E (c) & (g) (Commercial, Business and Service) and F1 (Learning and Non-residential Institutions) uses).
- c) The baseline development option represents an intermediate form of development, lying between the two development options.

A summary of the proposed development is set out below. Specific to ecology, the physical disturbance to create a series of buildings represents the most important consideration. The precise usage of the internal space provided by these buildings is of less importance and more related to possible long-term effects only i.e., variation in the indirect long-term effects on adjacent habitats of a residential versus commercial use. In summary, the development includes:

- Site clearance and preparation works including the removal of hardstanding and vegetation, where necessary.
- Demolition of all existing building with the exception of the Innovation Forum, which will be retained, and a number of other buildings that will be demolished separately (prior to the proposed development) under the Salford Rise planning application.
- Construction of a series of new buildings, up to eleven storeys in height for a range of uses.
- Construction of a multi-storey car park.
- Pedestrian, cycle and vehicle access improvement works.
- Landscaping and public realm improvement works.

2.0 ECOLOGICAL SURVEY METHODOLOGY

2.1 Introduction

The final scope of the ecological surveys required to understand the potential effects of the proposed development were defined on the basis of known and potential ecological interest in the local area. This was determined through a desk-based search, professional knowledge of the local area and an initial walkover survey of the wider Crescent Development Framework area that was completed in 2020.

2.2 Personnel

The field survey and report was completed by Mr Paul Chester, Managing Director of PCA Ltd. Mr Chester is an ecologist with thirty years professional experience. He has been a member of the Chartered Institute of Ecology and Environmental Management (CIEEM) since 1995. He has extensive experience in the ecological survey and assessment of sites such as this and of the survey and assessment of a comprehensive range of habitats and species.

2.3 Ecological Survey Requirements

The final scope of the Ecological Survey was defined on the basis of known and potential ecological interest in the local area and giving due consideration to potential ecological impacts associated with the development proposal. The following were identified as essential survey requirements:

- Habitats and Plants
- Breeding Birds
- Badger

Whilst bats were also identified as requiring detailed survey, this part of the ecological appraisal has been completed by other consultants and is reported on separately.

In addition, during the course of the surveys, consideration was given to other potentially important species/species-groups, for example, amphibians and Hedgehog.

2.4 Study Area

In terms of the extent of the study area, the desk-based elements of the survey extended up to approximately 2km from the application site. The survey area adopted for the more detailed surveys was defined on the basis of each individual survey requirement and particularly the potential zone of influence relevant to any potential adverse impact. For certain sedentary species, the study area was therefore largely restricted to the application site whilst for other surveys it was extended into the wider local area.

2.5 Methodology

2.5.1 Desk Study & Data Search

The desk study involved the consideration of published documents and other information relevant to the local area. All relevant information within 2km of the application site was obtained from the Greater Manchester Ecology Unit as part of Preliminary Ecological Appraisal completed by AECOM. Other sources of information reviewed as part of the desk study include, in particular:

- Walkover survey for the wider Crescent Development Framework area completed by PCA in 2020
- Preliminary Ecological Appraisal completed by AECOM in 2021 (including data request)
- Recent planning applications in the local area
- Magic Map.
- National Biodiversity Network (NBN) Gateway.
- Botanical Society for Britain and Ireland distribution maps
- Local and regional distribution atlases
- Local interest groups, for example, the Manchester Birding Forum

2.5.2 Habitats/Plants

The habitat survey was based upon the detailed mapping and description of discrete habitat areas across the site. With a requirement to complete a biodiversity net gain (BNG) assessment, wherever possible, habitats were classified in accordance with the UK Habitat Classification. The survey also included consideration of habitat condition. The location of these habitat compartments is shown on Figure 2.

Appendix 1 provides detailed descriptions of the individual habitat compartments with a photographic record provided as Appendix 2. Appendix 3 provides a sitewide botanical species list.

2.5.3 Breeding Birds

The breeding bird survey broadly followed the original methodology of the Common Bird Census (CBC) (Marchant, 1983), albeit was based upon three detailed surveys repeated across the breeding season. In order to ensure that fieldwork was carried out during times of optimum activity, surveys were completed in the mornings, commencing within an hour of sunrise and continuing through to late morning. The surveys were completed during optimum survey conditions and days with rain or winds in excess of Beaufort force 4 were avoided wherever possible.

All bird species were noted either by sight or call and were recorded onto maps to enable an assessment of the importance of the different areas within the site to be made, not only in terms of the range of species present, but also in terms of the significance of the populations of individual species.

Birds were deemed to be holding territory if they were observed to be displaying any behaviour indicative of breeding. Specifically, this included the following behaviour:

- Birds observed singing, displaying or in courtship
- Birds engaged in territorial behaviour/territorial dispute.
- Birds seen carrying nest material.
- Adult visiting a probable nest site.
- An active nest site.
- An adult bird seen carrying food to nearby nest or young.
- Bird removing faecal sac from nearby nest.

For those species where breeding behaviour can be difficult to observe, the presence of a pair was deemed to represent a territory. For such species, it is, however, clearly possible that breeding may be some distance from the observation. This approach does, however, enable a precautionary approach to be followed in the survey and assessment.

Three repeat full surveys were completed between mid-March and June with adventitious records made during the course of other surveys.

Breeding bird records are shown on Appendix 4.

2.5.4 Badger

A detailed Badger *Meles meles* survey was undertaken. This involved an initial walkover survey to identify sett locations, together with other field signs present such as paths, hairs, footprints, latrines, etc.

2.5.5 Other Species

Whilst there is a wildlife pond within the wider Salford Crescent area, this is, however, within the area known as 'The Meadow' which is on the opposite side of the River Irwell and 690m from the application site. With no other ponds identified by map search or walkover survey, the need for amphibian survey was scoped out of the survey. Other species were typically recorded adventitiously during the course of other surveys.

2.6 **Schedule of Survey Visits**

The following table provides a summary of the schedule of survey visits.

Dates	Survey
21 st April 2022	Initial habitat mapping, badger, breeding birds
26 th May 2022	Breeding birds, initial botanical survey (early flowering species)
15 th June 2022	Breeding birds
23 rd July 2022	Detailed botanical survey
28 th September 2022	Final review of habitat mapping and other survey data

2.7 **Survey Constraints**

Whilst there were not considered to be any significant constraints, access to parts of the site was either restricted or not possible. This was particularly related to the residential properties as well as certain industrial sites, particularly west of Lissadel Street. As a relatively small site, it was, however, typically possible to observe habitats from a distance. Regarding species, it was usually possible to record birds by sight or record them by call from a distance. Whilst occasional individual nests may have been missed, the overall species list is considered to be robust.

3.0 **APPROACH TO THE ECOLOGICAL ASSESSMENT**

Whilst this application is in outline, utilising the established baseline conditions and illustrative masterplan, potential ecological impacts can be described for both habitats and species. They are identified and assessed in line with guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM). This involves an initial process of evaluation, followed by a process of impact identification and assessment. The methodology and approach that has been followed in this assessment is set out further below.

Ecological value is established on the basis of the importance of the identified habitats and species. Importance relates to the overall importance of a species or habitat and forms the basis for establishing the value of a discrete population of a particular species or discrete habitat. There are many factors which contribute to such value including extent, naturalness, rarity, fragility and diversity. These along with other established criteria have been applied throughout the evaluation process.

An important element of the Ecological Impact Assessment process is that of establishing the value of a particular species or habitat within set geographical parameters. Those that have been applied here are:

- International (Europe)
- National (United Kingdom)
- Regional (North-west England)
- County (Greater Manchester)
- District (Salford)
- Local (Salford Crescent regeneration area)
- Site, i.e., within Salford Innovation Zone application site (and wider zone of influence only)

When considering ecological value, in addition to obvious criteria such as protected site or species status, it is also important to identify those habitats and species which are of significance in the local or site-specific context. For example, whilst the presence of a mature oak tree would not infer any particular value in its own right, within a site-specific context it may be a rare feature and therefore of high value. The identification of such features is therefore important and enables best practice to be followed in detailed design.

When describing impacts, these can also be considered against a variety of key parameters, for example, scale, extent, duration, reversibility, timing/frequency and whether they are positive or negative

Establishing the significance of an identified ecological impact is based upon the consideration of the identified ecological impact alongside the value of the impacted habitat, species or species-group. Whilst this is not necessarily straightforward, it is summarised in simple terms in the table below:

	Magnitude		
Value/Importance	Major	Moderate	Minor
International	Very High	High	Moderate
National	Very High	High	Moderate
Regional	Very High/High	High/Moderate	Moderate/Low
County	High	Moderate	Low
District	High	Moderate	Low
Local	High/Moderate	Low	Very Low

The lowest category of value/importance used in the assessment, i.e., “site” has been deliberately excluded from the table. This is because these are impacts which are best treated on a site-specific basis, particularly when considering requirements for mitigation.

As an outline application, certain elements of this initial assessment may need to be subject to re-assessment as more precise detail comes forward.

4.0 LEGISLATION & POLICY

4.1 Legislation

The Wildlife and Countryside Act (1981, as amended) provides protection for Britain's flora and fauna. Particular protection is afforded to certain species listed in schedules to the Act although the degree and nature of the protection varies. Schedule 1 of the Wildlife and Countryside Act (Part 4) lists birds which are afforded special protection. This protection is greater than for other birds and includes it being an offence to disturb a bird whilst it is building a nest or is in, on, or near a nest containing eggs or young. It is also an offence to disturb the dependent young of a Schedule 1 species. Schedule 5 lists animals which are afforded special protection. Relevant to development plans this schedule makes it an offence to damage, destroy or obstruct access to any structure or place which any Schedule 5 animal inhabits. It is also an offence to disturb any such animal while it is occupying a structure or place which it uses for that purpose. For certain species, different levels of protection are afforded. Schedule 8 lists species of plants which are afforded special protection.

Other national legislation includes the Natural Environment and Rural Communities Act 2006 which was developed primarily to implement key aspects of the Government's Rural Strategy published in July 2004. Specific to biodiversity conservation, Section 40 extends to all public authorities the duty to have regard to biodiversity as far is consistent with the proper exercise of their functions. Section 41 places a duty on the Government to publish, review and revise lists of living organisms and types of habitat in England that are of principal importance for the purpose of conserving biodiversity.

More recent legislation relates to the Environment Act in November 2021. Whilst the objective of seeking to deliver biodiversity enhancement as part of new development projects has been a target for many years, the Environment Act sets out the framework that will establish a mandatory requirement to deliver biodiversity net gain (BNG) on virtually every development project. Whilst the Environment Act sets out the framework for BNG, mandatory BNG as set out in the Act will apply in England only by amending the Town & Country Planning Act (TCPA) and is likely to become law in 2023.

4.2 Policy

4.2.1 National Policy

The National Planning Policy Framework (NPPF3) (Ministry of Housing, Communities and Local Government, 2021) sets out requirements for the delivery of BNG, and this is supported within Planning Policy Guidance (PPG) (updated July 2019). In particular the PPG promotes the delivery of measurable biodiversity net gain (BNG) through the creation and enhancement of habitats alongside development.

4.2.2 Local Policy

Relevant planning policy documents are set out in the Salford Local Plan: Development Management Policies and Designations (SLP:DMP). Whilst there are no policies that are specific to this application, environmental protection policies establish a range of important principles for the Salford district. These include Policy GI3 'Irwell Valley', GI4 'Trees, Woodland and Hedgerows' and BG2 (Development and Biodiversity).

4.2.3 Other – Local Biodiversity Action Plan

With the creation of country-level biodiversity strategies, much of the work previously carried out under the UK Biodiversity Action Plan is now focussed at a country level. Despite the move to a more strategic national approach, published Local BAPs remain highly relevant. In particular, whilst the new approach to biodiversity conservation is one based upon a landscape and/or ecosystem scale approach, biodiversity is ultimately lost or conserved at the local level. The Greater Manchester Biodiversity Action Plan (LBAP) sets out Greater Manchester priorities for biodiversity. Since its original publication in 2004, the LBAP has been subject to various reviews. Of particular relevance are local priority habitats and species which have individual action plans. Those that could be relevant to the study area include particularly the 'Urban Managed Greenspace' Habitat Action Plan (HAP), Bats Species Action Plan (SAP), and Black Poplar SAP.

5.0 **SURVEY RESULTS**

5.1 **Desk Study**

The desk study and data search yielded no significant species records for the application site. In the wider search area, Black Redstart *Phoenicurus ochruros* is a Schedule 1 bird that has nested in small numbers on a regular basis in and around Manchester city centre, including in 2022. These records are typically from city centre locations, approximately 2km south-west of the site. Several species of bat have also been recorded from the Salford district, details of which are provided in the dedicated bat report submitted with the application.

With regard to existing information relevant to the wider desk study area, in 2014 the University of Salford undertook a baseline survey of habitat types. From this a baseline biodiversity index was calculated using a tool developed by the University of Northampton. Also, in 2014, the university established a biodiversity student placement which had the aim of identifying the types, size and abundance of habitats across the campus with a view to identifying particular habitats and/or species that would benefit from specific management. The University of Salford also has a Landscape Management Plan which includes a chapter on biodiversity. This sets out ongoing management initiatives including prioritising native species, tree planting, planting wildflower seeds and species initiatives including bird boxes and bug hotels. The plan sets the target of carrying out a biodiversity survey of the campus every five years.

Enhancement of the River Irwell and its immediate surrounds is a longstanding priority. This was evidenced in Planning Guidance for an Irwell City Park that was published as long ago as 2008. The wider

Crescent Development Framework area is found in the northern upstream part of the catchment covered by this planning guidance. Habitat enhancement that has been implemented as part of this initiative is particularly associated with the meadows and includes new plantings, improved access and the creation of a wetland habitat. This area lies approximately 500m to the south-west. Approximately 2km upstream of the application site, the Kersal wetlands is a recently completed flood alleviation scheme that also has a key objective of providing an enhanced habitat.

In relation to Peel Park, which is approximately 150m to the south-west, particularly interesting historic information relates to records gathered by the first curator of the museum who in 1850 recorded 71 species of bird, of which 34 were nesting. By the end of the nineteenth century, the effects of industrialisation and urbanisation had reduced this to just 5 species of which 2 were nesting. Peel Park is within the wider Crescent Development Framework area.

5.2 Statutory Nature Conservation Sites

There are no such sites in or in close proximity to the study area. The closest to the application site is the Cliff/Kersal Dale Local Nature Reserve (LNR) which is approximately 2km to the north. There are no nationally protected i.e., Sites of Special Scientific Interest (SSSI) within 5km of the site. There are no internationally protected sites i.e., Special Areas of Conservation (SAC's), Special Protection Areas (SPA's) or Ramsar Sites within 5km of the site.

5.3 Non Statutory Nature Conservation Sites

The River Irwell is designated as a Grade B Site of Biological Importance. The designation is based upon wintering bird interest with Grade B referring to a site which is regarded as being of District importance. The river is one of the Wetland Bird Survey sites which are surveyed monthly as part of a long-running national survey administered by the British Trust for Ornithology. Site wide data indicates a general decline in wintering bird numbers for this site in recent years.

5.4 Habitats & Plants

5.4.1 Introduction

Highly urbanised habitats such as this do not lend themselves well to traditional Phase 1 mapping. To address this, distinctive habitats or discrete areas within the site have been mapped onto a site aerial (see Figure 2) and are described in detail in Appendix 1. A photographic record of individual areas described in Appendix 1 is provided in Appendix 2.

In terms of the habitat types found within the study area, these can be broadly classified as follows:

- Broadleaved woodland
- Secondary woodland
- Ornamental and other landscaping
- Amenity grassland

- Other grassland
- Scrub and tall ruderal
- Hardstanding, including early pioneer communities

These habitat types are summarised further below.

5.4.2 Broadleaved Woodland

The most distinctive habitat is the extensive plantation woodland that dominates the southern part of the application site (compartments 4-8). It is a mature woodland which supports a variety of canopy trees, particularly Ash *Fraxinus excelsior* along with more occasional Beech *Fagus sylvatica*, Field Maple *Acer campestre*, Hornbeam *Carpinus betulus*, Lime *Tilia x europea*, Silver Birch *Betula pendula*, Sycamore *Acer pseudoplatanus* and Wild Cherry *Prunus avium*. Other more rarely occurring species that are present in the canopy include Alder *Alnus glutinosa*, Bird Cherry *Prunus padus*, Cedar Elm *Ulmus crassifolia*, Chinese Parasol Tree *Firminia simplex*, Common Whitebeam *Sorbus aria*, Horse-chestnut *Aesculus hippocastanum*, London Plane *Platanus x hispanica*, Scots Pine *Pinus sylvestris*, Snakebark Maple *Acer grosseri* and White Poplar *Populus alba*.

The woodland is poorly structured with a sparse although reasonable diverse shrub layer. This includes native species such as Elder *Sambucus nigra*, Field Maple *Acer campestre*, Hawthorn *Crataegus monogyna*, Holly *Ilex aquifolium*, young Ash *Fraxinus excelsior* and young Wild Cherry *Prunus avium*, along with non-native species such as Butterfly-bush *Buddleja davidii*, Japanese Variegated Laurel *Aucuba japonica* and Wilson's Honeysuckle *Lonicera nitida*.

The field layer is species-poor and often characterised by patches of single species, particularly locally dominant Common Ivy *Hedera helix* and Common Nettle *Urtica dioica*. Other species which are typically abundant or frequent in the field layer include Herb-Robert *Geranium robertianum* and Wood Avens *Geum urbanum* along with more occasional Bramble *Rubus fruticosus* agg., Broad-leaved Willowherb *Epilobium montanum*, Cow Parsley *Anthriscus sylvestris*, Nipplewort *Lapsana communis* and Rough Meadow-grass *Poa trivialis*. Seedlings of young trees, particularly Ash, Field Maple, Sycamore and Wild Cherry are also occasional. More rarely occurring species include Broad-leaved Dock *Rumex obtusifolius*, Spanish Bluebell *Hyacinthoides hispanica* and Wall Lettuce *Mycelis muralis*.

Several plants of the invasive species Japanese Knotweed *Reynoutria japonica* are present in the central part of the woodland.

5.4.3 Secondary Woodland

Other woodland habitats are scattered across the site include patches of secondary woodland that has established on land that has been largely abandoned. Some of these now have an established secondary woodland for example, compartments 2 and 27. These woodlands are often dominated by Sycamore with other more rarely occurring species such as Alder, Goat Willow *Salix caprea* and Norway Maple.

The shrub layer is typically sparse with species such as Elder, Hawthorn, Holly and young Norway Maple and Sycamore.

The ground flora is typically species-poor, often with locally abundant Bramble and Common Nettle and Rough Meadow-grass and Wood Avenas.

5.4.4 Ornamental and Other Landscaping

Landscape plantings within business parks and locally adjacent to roads are another feature of the study area. These are most extensive and mature in the Salford University Business Innovation and Technology Park (compartment 9) to the south of Frederick Street. These are planted with a variety of trees and shrubs, for example, Apple *Malus sylvestris sens. lat.*, Ash, Grey Alder *Alnus incana*, Hybrid Black-poplar *Populus nigra x canadensis*, Italian Alder *Alnus cordata*, Lime, Norway Maple, Rowan *Sorbus aucuparia* and Wild Cherry along with shrubs such as Cherry Laurel, Cotoneaster *Cotoneaster* sp., Elder, Hawthorn, Hazel and Japanese Rose *Rosa rugosa*.

To the north of Frederick Street, the plantings in Salford Innovation Park (compartments 17 and 26) are more regularly maintained and less extensive. These do, however, include some native plantings, particularly a native hedgerow and shrub border along Broughton Road East that includes species such as Blackthorn, Grey Willow *Salix cinerea*, Hawthorn, Hazel, Holly and Wild Plum *Prunus domestica*.

5.4.5 Amenity Grassland

Regularly maintained short-cut amenity grasslands are a feature across parts of the site particularly at the woodland edge adjacent to University Road (compartment 3), within Salford University Business Innovation and Technology Park (compartment 9), adjacent to Lissadel Street (compartments 28 and 29) and within the corridor that crosses the David Lewis Sports Fields (compartments 12 and 13).

Whilst the precise sward composition is often difficult to determine due to the degree of mowing, original seed mixture and age, these are species-poor grass-dominated habitats that support a limited range of associated forbs, for example, Broad-leaved Dock, Daisy *Bellis perennis*, Common Ragwort *Jacobaea vulgaris*, Creeping Cinquefoil *Potentilla reptans*, Dandelion *Taraxacum officinale*, Greater Plantain *Plantago major*, Ribwort Plantain *Plantago lanceolata* and White Clover *Trifolium repens*.

5.4.6 Other Grassland

Whilst there are no areas of grassland that are species-rich, there is a variety of habitat types across the site. More typical neutral grasslands are present locally, particularly to the north of Frederick Street. These include older grasslands that have established in sections not subject to management as well as more recently established ones that have developed from historic lawns that have recently been taken out of management (compartments 23-25).

False Oat-grass *Arrhenatherum elatius* is often the dominant grass in the older grasslands and beginning to establish in the more recent ones. Other typical grasses include Creeping Bent *Agrostis stolonifera*,

Red Fescue *Festuca rubra* and Yorkshire-fog *Holcus lanatus*. Other more rarely occurring grasses include Cock's-foot *Dactylis glomerata*, Common Couch *Elymus repens*, Smooth Meadow-grass *Poa pratensis* and Tall Fescue *Schedonorus arundinaceus*.

Forbs are rarely prominent and include species such as Black Medick *Medicago lupulina*, Broad-leaved Dock, Cat's-ear *Hypochaeris radicata*, Common Mouse-ear *Cerastium fontanum*, Common Ragwort, Creeping Buttercup *Ranunculus repens*, Creeping Cinquefoil, Hairy Sedge *Carex hirta*, Red Clover *Trifolium pratense*, Ribwort Plantain, Smooth Hawk's-beard *Crepis capillaris*, Spear Thistle *Cirsium vulgare* and Yarrow *Achillea millefolium*.

5.4.7 Scrub and Tall Ruderal

Others are more variable with patches of vegetation characterised by patches of scrub and tall ruderal vegetation as well as patches of grassland occur as a mosaic locally within the site, for example, compartments 9B, 19, 20 and 21.

In these types of habitat, typical young establishing trees and shrubs include Butterfly-bush, Dog-rose, Goat Willow, Hawthorn, Norway Maple, Rowan and Silver Birch. Bramble, scrub is also a feature and occasionally dominant.

Mixes of ruderals and grasses, particularly include species such as Broad-leaved Dock, Common Ragwort, Creeping Thistle, False Oat-grass, Great Willowherb *Epilobium hirsutum*, Red Clover *Trifolium pratense*, Rosebay Willowherb *Chamaenerion angustifolium*, Spear Thistle and Yorkshire-fog.

5.4.8 Hardstanding

Much of the remainder of the application site comprises of buildings, roads, paths and other hardstanding which support little or often no vegetation (compartments 10, 11, 17, 18, 26, 31-34).

Occasional areas, for example, site boundaries or cracks in pavements are exploited by various early pioneer species. These include species that are rare elsewhere in the site, for example, American Willowherb *Epilobium ciliatum*, Bristly Oxtongue *Helminthotheca echioides*, Canadian Fleabane *Erigeron canadensis*, Fool's Parsley *Aethusa cynapium*, Nipplewort *Lapsana communis*, Selfheal *Prunella vulgaris*, Squirreltail Fescue *Vulpia bromoides*, Sticky Groundsel *Senecio viscosus*, Sticky Mouse-ear *Cerastium glomeratum*, Thale Cress *Arabidopsis thaliana*, Thyme-leaved Speedwell *Veronica serpyllifolia*, Wall Barley *Hordeum murinum* and Weld *Reseda luteola*.

5.4.9 Plants

With in excess of 150 species recorded in the survey, the application site supports a good diversity of species for an urban situation. Virtually all of these are typical of the habitats found within the study area and no species with any elevated status was recorded. Whilst several of the trees found in the woodlands are rarely encountered locally, these were typically ornamental species as opposed to native trees and shrubs. A list of species recorded during the survey is provided in Appendix 3.

5.4.10 Invasive Plants

Several species listed on Schedule 9 Part 2 of the Wildlife & Countryside Act 1981 are present in the study area. Often these have been included in the ornamental plantings within industrial sites and elsewhere, for example, Japanese Rose *Rosa rugosa*, Himalayan Cotoneaster *Cotoneaster simonsii*, Hollyberry Cotoneaster *Cotoneaster bullatus*, Montbretia *Crocasmia aurea* x *C. pottsii* and Small-leaved Cotoneaster *Cotoneaster microphyllus*. Others have established from unknown origins, for example, Japanese Knotweed *Reynoutria japonica*, Himalayan Balsam *Impatiens glandulifera* and Virginia Creeper *Parthenocissus quinquefolia*.

Other invasive species not listed under Schedule 9 included Snowberry *Symphoricarpos albus* and Wilson's Honeysuckle *Lonicera nitida*. Other non-native trees and shrubs are a feature of landscaped areas and are naturalized locally elsewhere. In the wider local area, Giant Hogweed *Heracleum mantegazzianum* is locally abundant along the River Irwell although not in the section in close proximity to the application boundary.

5.5 Breeding Birds

The breeding bird survey recorded a good variety of species for an urban location. A variety of habitats were consistently used, particularly the extensive woodland in the eastern parts of the site as well as the planted ornamental borders and shrubberies. These habitats were particularly used by species such as Blackbird *Turdus merula*, Blackcap *Sylvia atricapilla*, Blue Tit *Cyanistes caeruleus*, Chaffinch *Fringilla coelebs*, Dunnock *Prunella modularis*, Goldfinch *Carduelis carduelis*, Great Tit *Parus major*, Song Thrush *Turdus philomelos*, Woodpigeon *Columba palumbus* and Wren *Troglodytes troglodytes*. Species associated with the larger trees included Carrion Crow *Corvus corone* and Magpie *Pica pica*. Of the business park areas with associated landscaping, the Salford University Business Innovation and Technology Park (compartment 9) supported more species and nest sites when compared to the Salford Innovation Park north of Frederick Road (compartments 17-24). This includes records of more notable species, for example, Bullfinch *Pyrrhula pyrrhula* and Mistle Thrush *Turdus viscivorus*.

Whilst difficult to survey accurately due to lack of access to buildings, the residential areas provide a further nesting habitat with birds using the buildings as well as gardens for nesting. Both House Sparrow *Passer domesticus* and Starling *Sturnus vulgaris* were noted from the properties in Section 33 and may have been present in other parts of the sites.

The open grassland and hardstanding areas were not used by any breeding birds.

For the study areas as a whole, twenty-one species were confirmed as breeding as follows:

Scientific Name	Common Name	No. Territories
<i>Turdus merula</i>	Blackbird	14
<i>Troglodytes troglodytes</i>	Wren	11
<i>Passer domesticus</i>	House Sparrow	10 (Estimate)

Scientific Name	Common Name	No. Territories
<i>Erithacus rubecula</i>	Robin	7
<i>Columba livia</i>	Feral Pigeon	5+
<i>Cyanistes caeruleus</i>	Blue Tit	4
<i>Columba palumbus</i>	Woodpigeon	3
<i>Corvus corone</i>	Carrion Crow	3
<i>Parus major</i>	Great Tit	3
<i>Prunella modularis</i>	Dunnock	3
<i>Turdus philomelos</i>	Song Thrush	3
<i>Carduelis carduelis</i>	Goldfinch	2
<i>Fringilla coelebs</i>	Chaffinch	2
<i>Pyrrhula pyrrhula</i>	Bullfinch	2
<i>Sturnus vulgaris</i>	Starling	2 (Estimate)
<i>Sylvia atricapilla</i>	Blackcap	2
<i>Motacilla alba</i>	Pied Wagtail	1
<i>Pica pica</i>	Magpie	1
<i>Streptopelia decaocto</i>	Collared Dove	1
<i>Phylloscopus collybita</i>	Chiffchaff	1
<i>Turdus viscivorus</i>	Mistle Thrush	1

The location of records is provided on Figure 3.

Other species recorded from the study area and possibly breeding were represented by Greenfinch *Chloris chloris*, Jackdaw *Corvus monedula* and Long-tailed Tit *Aegithalos caudatus*. Other species recorded from the immediate wider area, particularly the playing fields and Peel Park were Coal Tit *Periparus ater*, Great Spotted Woodpecker *Dendrocopos major* and Nuthatch *Sitta europaea*. Ringed-necked Parakeet *Psittaculi kramera* was also noted flying over the survey area.

Species recorded from the River Irwell corridor were Black-headed Gull *Chroicocephalus ridibundus*, Canada Goose *Branta canadensis*, Lesser Black-backed Gull *Larus fuscus*, Mallard *Anas platyrhynchos*, Goosander *Mergus merganser*, Moorhen *Gallinula chloropus* and Mute Swan *Cygnus olor*. Of these, both Mallard and Moorhen were confirmed as breeding. Kingfisher *Alcedo atthis* was also recorded from the river corridor and could breed locally. An unusual sighting of this species was of a bird recorded flying north-east over part of the application site towards the nearby River Irwell corridor. It is unusual to record Kingfisher away from water and the origin of this bird was unknown. The nearest water to the south-west is associated with Salford Quays and this possibly related to a bird flying directly across land from there.

A list of all species recorded during the survey and their status is provided in Appendix 4.

5.6 Badger

The survey found no evidence of any Badger *Meles meles* activity. Habitats, particularly possible sett locations, within the site are limited and subject to high levels of disturbance. These findings are to be expected for a species which has a scattered distribution across Greater Manchester and which is absent from large parts of the Salford district.

5.7 Other Species

There was nothing to suggest that the study area is likely to be of any particular importance to other key species or species groups. With regard to those species that could occur, whilst not recorded during the surveys, other mammals of conservation concern, for example, Hedgehog *Erinaceus europaeus*, could also be present rarely in the study area. In relation to other protected species groups, reptiles are a group of species which are typically very rare or absent from the majority of Salford. No other locally important species were noted during the field surveys.

6.0 EVALUATION

6.1 Introduction

This section establishes the value of the habitats and species in the study area and its immediate surrounds utilising the baseline surveys, desk study and other published guidance. It follows the methodology and approach as set out in Section 3.

6.2 Habitats and Plants

6.2.1 Habitats

The habitats present in the application site were all habitats that are typical of an urban and semi-industrialised location such as this. None of the habitats were considered to be of any elevated value in anything other than the site context. Whilst the woodland areas are extensive, negative factors are present throughout, particularly poor structure, poor ground flora and the presence of non-native and invasive species. Whilst the woodland is a locally significant habitat, this is more related to its maturity and potential for enhancement, as opposed to any existing elevated value.

The locally extensive grasslands are all low value species-poor examples of the habitat type of no elevated value.

Landscaped areas are often dominated by non-native species or are regularly maintained habitats of no particular value. Where the planting schemes have a more substantial native element to them for example, in the Salford University Business Innovation and Technology Park and locally within the Salford Innovation Forum grounds, for example, the hedgerow along Broughton Road East, these habitats are of high value in the site context.

Given that the BNG calculation requires habitat condition to be established, the separate BNG report includes details of the condition of individual habitats across the site using the criteria set out in

biodiversity metric 4.0. Whilst full details of this are provided in the BNG report, habitats typically fall within the 'poor' condition category.

6.2.2 Plants

Despite the reasonably diverse range of plants that were recorded, virtually all were common or relatively common species typical of the habitats found within the study area. No species with any elevated conservation status was recorded.

With regard to other rare or noteworthy species, poplars are planted at a number of locations in the application site. Greater Manchester is a nationally important location for Black-poplar *Populus nigra* Ssp. *betulifolia* which is a priority species in the Greater Manchester BAP. Due to its tolerance to industrial pollution, it was widely planted as an urban tree (known as the 'Manchester Poplar') in the late nineteenth and early twentieth century. Whilst identification is not always straightforward, trees within the application site were considered to be examples of Hybrid Black-poplar *Populus x canadensis*. In the wider local area, a substantial poplar on the northern boundary of the David Lewis sports field was considered to be a true native Black-poplar.

Whilst several of the other species of tree found in the woodlands are rarely encountered locally, these were typically ornamental species as opposed to native trees and shrubs. Any elevated importance is therefore associated with their aesthetic as opposed to ecological value.

6.3 **Breeding Birds**

When considering the status of individual breeding species, those with elevated importance include species that are included on the NERC Section 41 list of Species of Principal Importance for the Conservation of Biodiversity in England. In addition, the British Trust for Ornithology publishes a Red and Amber List for declining species. The Red List refers to species which are of high conservation concern and which have typically seen a severe decline in the UK breeding population size of more than 50% over the last 25 years or over the entire period used for assessments since the first Birds of Conservation Concern (BoCC) review in 1969. The Amber List refers to species of moderate conservation concern which have seen a moderate decline (by more than 25% but less than 50%) in breeding numbers over the last 25 years. Those species which are not of any particular conservation concern are included on the BTO Green List. This list typically includes our most common breeding birds which have not experienced any significant reduction in their populations to date. Species recorded breeding within the site can be summarised as follows:

Scientific Name	Common Name	Territories	Status
<i>Turdus merula</i>	Blackbird	14	BTO Green
<i>Troglodytes troglodytes</i>	Wren	11	BTO Amber
<i>Passer domesticus</i>	House Sparrow	10	BTO Red, NERC S41
<i>Erithacus rubecula</i>	Robin	7	BTO Green
<i>Columba livia</i>	Feral Pigeon	5+	BTO Green

Scientific Name	Common Name	Territories	Status
<i>Cyanistes caeruleus</i>	Blue Tit	4	BTO Green
<i>Columba palumbus</i>	Woodpigeon	3	BTO Green
<i>Corvus corone</i>	Carrion Crow	3	BTO Green
<i>Parus major</i>	Great Tit	3	BTO Green
<i>Prunella modularis</i>	Dunnock	3	BTO Amber, NERC S41
<i>Turdus philomelos</i>	Song Thrush	3	BTO Amber, NERC S41
<i>Carduelis carduelis</i>	Goldfinch	2	BTO Green
<i>Fringilla coelebs</i>	Chaffinch	2	BTO Green
<i>Pyrrhula pyrrhula</i>	Bullfinch	2	BTO Amber, NERC S41
<i>Sturnus vulgaris</i>	Starling	2	BTO Red, NERC S41
<i>Sylvia atricapilla</i>	Blackcap	2	BTO Green
<i>Motacilla alba</i>	Pied Wagtail	1	BTO Green
<i>Pica pica</i>	Magpie	1	BTO Green
<i>Streptopelia decaocto</i>	Collared Dove	1	BTO Green
<i>Phylloscopus collybita</i>	Chiffchaff	1	BTO Green
<i>Turdus viscivorus</i>	Mistle Thrush	1	BTO Red

The five NERC S41 species are regarded as priorities for conservation. Of these, and whilst the precise numbers of House Sparrow, were difficult to establish any viable breeding colonies are of high local importance. Others are all notable records albeit without any particularly high breeding numbers that would indicate a significant local population.

7.0 IDENTIFICATION & ASSESSMENT OF ECOLOGICAL IMPACTS

7.1 Introduction

Whilst this application is in outline, it remains possible to give some consideration to the actual or likely ecological impacts arising from the project. Whilst more detailed ecological impact assessment may be required for individual detailed aspects of the development as these progress, this section considers the broad impacts based upon the design in its current form.

7.2 Broad Types of Ecological Impact

Ecological impacts can arise at all stages of a development project, i.e., within the pre-development, the mid-development and the post-development scenarios. Impacts during the pre-development may result from activities such as preliminary ground investigation work, initial site clearance, building demolition, topsoiling, re-grading and drainage works. Mid-development impacts are essentially related to the construction activities themselves whilst post-development impacts are typically impacts on wildlife within and adjacent to the development zones which may occur due to human interference in one form or another.

Impacts can be either temporary or permanent. Temporary impacts are typically less significant than the longer term or permanent impacts of a development. They may include risks such as disturbance to local

birds and other animals using the site at this time or may come from pollution incidents or similar. Temporary habitats may also be created during this stage of development. Of particular importance is the risk of temporary disturbance to those species which are either rare or legally protected. In relation to permanent impacts, of particular relevance are permanent impacts on wildlife both within and adjacent to the development which may occur due to human interference in one form or another.

7.3 Specific Consideration Relevant to this Application

Even at the outline stage there are a number of details of this proposed development which are relevant to any ecological assessment. In particular:

- It will require extensive building demolition and earthworks to establish development levels.
- It will be constructed as a series of phases.
- The majority of the woodland will be retained.
- The illustrative landscape masterplan introduces a number of positive habitat creation measures.

In relation to demolition and earthworks, whilst the larger of the woodland areas will be retained, the majority of other habitats on the site will be lost as a result of the proposed development. These losses will be associated with earthworks to establish the necessary final levels for the development, particularly in the north-eastern section. Elsewhere, habitats will be removed as part of the ground preparation work to define and establish the development plots and associated infrastructure. Whilst the more precise details of this will come forward through reserved matters applications, at this stage, it seems likely that losses away from the retained woodland will be in their entirety. Whilst habitats that are of low value, such losses are a significant adverse impact in the site context. This is particularly where the habitat is mature and of some age. It is, however, also important to note that the groundworks provide a mechanism for establishing a targeted programme of control and eradication of invasive plants. Any effective control of these species would represent a substantially beneficial impact.

In ecological terms, phased developments can have both a positive and negative element to them. Depending upon the final sequence of development it has the potential to enable certain habitat enhancement measures to be completed at an early stage in the development process. This can help in making landscape and habitat creation schemes more robust in advance of full occupation or use of a development. More relevant to species, phased development can also result in additional disturbance impacts, for example, where a sensitive species occupies a habitat adjacent to a specific phase of a development plan. Specific to this development, given the typically low value baseline habitats, phasing is unlikely to result in any significantly different adverse impact. Any opportunities to implement positive management of retained habitats or proposed habitat creation in an early phase would be beneficial.

With regard to the retained woodland, currently in a poor condition, its retention provides the opportunity to implement positive management measures. Whilst its value will always be limited by negative factors, particularly size, dominant species and location, it should be readily possible to deliver some enhancement both in the species composition and structure of the woodland as well as its

potential value to associated fauna. Any such enhancement would represent a beneficial impact of at least moderate local significance.

The illustrative Landscape Masterplan introduces a number of positive habitat interventions that can be carried through to more detailed reserved matters applications. These include approximately 1.6ha of native woodland understorey mix planting. This would be both to enhance retained woodland as well as to establish new native woodland, particularly in the east of the site. Rare in the local context this would represent a beneficial impact of high local significance. The illustrative plan also includes approximately 1ha of meadow grassland. Whilst such grassland would never develop into true meadow habitat, it would, nevertheless, be native and floristically diverse. Very few native wildflowers are present locally and are never frequent. Even allowing for possible negative effects associated with public usage and the urban setting, the establishment of such grasslands would represent a beneficial impact of high local significance. Regarding other habitats, ornamental shrub planting would essentially provide a replacement habitat and therefore address the losses of similar habitats from the site.

7.4 Species Considerations

7.4.1 Nesting Birds

Direct loss of breeding habitat is associated with the demolition of buildings and removal of trees, shrubs, scrub and other habitat. Whilst no significant breeding populations of individual species have been identified, the study area does support five NERC Section 41 Species of Principal Importance (Bullfinch, Dunnock, House Sparrow, Starling and Song Thrush) as breeding species along with a good range of other species. As a valuable habitat locally, without mitigation, the loss of these birds as breeding species would represent a major adverse impact in the site context.

7.4.2 Other Species

No significant adverse impacts have been identified in relation to other species/species-groups considered in this report.

7.5 Long-term Impacts

Whilst it is not possible to consider the long-term impacts of this development until the preferred development option is selected, the final option will have some effect on the long-term ecological impact of this development. In particular, the maximum residential option is likely to have a more significant impact on the adjacent habitats than one based upon maximum innovation. This is due to the increase in the numbers of residents and associated indirect effects, for example, nutrient enrichment to wildflower grasslands associated with an increase in dog numbers. These considerations are, however, clearly something to be considered as part of reserved matters applications. It is, however, important to note that a slightly different approach to landscape design and habitat creation may be required according to the final development option.

8.0 MITIGATION AND ENHANCEMENT

8.1 Introduction

As an outline planning application which forms part of a much larger regeneration project, it is not possible to define all detailed mitigation requirements or enhancement objectives. It is, however, possible to set out the broad principles and requirements for future mitigation and enhancement that are likely to be relevant as the detailed elements and phases of this proposed development are implemented.

The strict definition of ecological mitigation is often taken as referring to all works required to comply with the relevant legislation when developing land occupied by legally protected species. This is therefore related to advance mitigation requirements to ensure species protection prior to any development work beginning as well as an on-going mitigation strategy through the construction process. The process of mitigation in effect begins during the design stage of the project, for example, in safeguarding key ecological features.

When considering the strict definition of mitigation further, this typically falls short in terms of maximising the opportunities for biodiversity through appropriate design, development and future management. This is particularly relevant to the overall Salford Crescent regeneration where the scale and nature of the overall development provides potentially significant opportunities for biodiversity enhancement.

With the mandatory requirements for biodiversity net gain (BNG) that were established through the Environment Act, this establishes the requirement to calculate BNG in accordance with Natural England metric 4.0. This is also not necessarily straightforward for an outline planning application. This is discussed briefly below and in more detail in the BNG report submitted with the planning application.

8.2 General

A key requirement in relation to a phased development such as this is the ongoing review of the baseline conditions through to the period of initial construction and with regard to subsequent phases. Given their ability to rapidly colonise new locations, this particularly relates to invasive species. Whilst the baseline relating to other species is not expected to change significantly, this would also need to be reviewed for the purpose of informing advanced mitigation.

8.3 Advance Mitigation

8.3.1 Invasive Plants

Given the presence of a range of non-native species which are listed under Schedule 9 of the Wildlife and Countryside Act, the development and implementation of an effective invasive species control strategy is an essential requirement.

A key element of the strategy is the accurate mapping of invasive species. The initial mapping exercise has largely been completed as part of the baseline survey. This will need to be reviewed as specific

phases of the development begin to be progressed. This review should also take into consideration the different risks posed by individual species. This is particularly related to the risk that these species could spread as a result of development works. Whilst this risk is currently low, it will inevitably increase due to the extensive groundworks that are required. It is therefore essential that the invasive species management strategy is in place in advance of any works that could run the risk of spreading such species. It is particularly important to note that these works often begin in advance of any planning consent, for example, ground investigation works to inform a planning application.

The effective control of invasive species will need to be based upon a number of different control techniques. In relation to Japanese Rose, Cotoneasters and Montbretia, whilst these species can become highly invasive this is rarely, if ever, the case in the application site. They are generally found in defined areas within landscaping schemes or are occasionally naturalized elsewhere. Whilst chemical control is an effective control technique in large-scale infestations, physical control is likely to be entirely appropriate here. This would involve removing the entire root mass. Removed material would need to be either chipped or burnt on site or removed to a licensed landfill.

In relation to Japanese Knotweed, whilst currently present only rarely, as a species that can rapidly exploit disturbed ground, eradicating this species from the application site at the outset of the development process is recommended. To do this, areas of contamination should be clearly delineated with some form of temporary barrier fence. The infected area should then be sprayed or injected with a recommended herbicide (typically completed once the plant reaches 1-1.5m) and remain untouched for a minimum of 14 days. Following spraying/injection, the surface crowns and rhizomes should be scraped into a pile, the exposed ground cultivated to the depth of the rhizomes and the piled material turned and spread over the cultivated area. An herbicide treatment regime should then be put in place with the excavated knotweed treated over the growing season. This should follow the same process as the initial treatment, i.e., treated once the plant has reached 1- 1.5m with the treated plants left for 14 days and then rotovated to stimulate growth. This regime should continue through the growing season and if necessary, should be continued in subsequent years until the infestation is effectively controlled.

Himalayan Balsam contamination is currently limited to just a small number of plants on the steep banks adjacent to the River Irwell. This level of contamination could easily be controlled by pulling.

Virginia Creeper is typically controlled by initially removing all of the above ground vegetation and then chemically treating the rootstock.

8.3.2 Breeding Birds

Impacted buildings and trees, shrubs, scrub and other potential nesting habitat should be removed outside of the breeding season. Whilst this has historically often been stated as the approximate period March to end-July, in an urban location such as this, certain species, for example, House Sparrow and Woodpigeon can breed at any time of the year. Whilst the risk of encountering nesting activity outside of the March to end-July period is reduced, it is recommended that all actual or potential habitat is inspected by a suitably experienced avian ecologist prior to any demolition or clearance work,

irrespective of the time of year with the works proceeding only after the absence of any nesting activity had been confirmed.

8.4 Other Mitigation/Recommendations

Despite this application being in outline only at this stage, it remains possible to establish broad design parameters that should be considered as the detailed design progresses. Projects such as this can provide significant opportunities for incorporating biodiversity into the development. This does, however, require the planning of such enhancement from an early stage in the process.

When designing biodiversity into the redevelopment plan, it is important to consider that enhancement can be achieved at several scales. Whilst an overall enhancement across the development area may be an achievable broad target, significant enhancement at the small/micro-scale can also often be achieved, for example, the inherent benefits of using native trees for invertebrates when compared with non-native species; incorporating building or plot specific species measures, etc.

The illustrative landscape masterplan seeks to deliver benefits for wildlife within the constraints of the developed footprint. Whilst the detailed landscape design will come forward through subsequent reserved matters applications certain principles are recommended. Specifically, whilst a certain amount of landscaping and structure planting may be dictated by visual or aesthetic requirements necessitating the use of ornamental species, wherever practicable it is recommended that tree and shrub planting is with native stock, preferably of local provenance and characteristic of the local flora. Furthermore, with regard to any shrub planting, it is recommended that such planting includes berry bearing species which would provide a valuable potential food source for certain fauna, particularly wintering birds. Whilst grasslands are likely to need to be able to survive high levels of public usage, in any less pressured locations, opportunities to establish additional wildflower planting is also recommended. When establishing areas of wildflowers, species-mix should reflect the local flora and be selected to achieve the maximum benefits for associated species, particularly pollinating insects and other invertebrates.

The retained woodland should be subject to a long-term restoration and enhancement plan. This should be particularly with regard to reducing non-native species, removing invasive species, improving the shrub layer and diversifying the ground flora. Where possible, incorporating smaller scale features, for example, dead wood habitats should also be pursued.

It is recommended that species initiatives are designed into the development from the outset. Opportunities to incorporate bird nesting and bat roosting opportunities into buildings are now readily available and can be easily incorporated without detracting from the buildings in any way. Examples particularly include House Sparrow terraces, Swift bricks and a variety of bat roosts. It is therefore recommended that a target number of such features is agreed and implemented accordingly. The precise location of such features is also important, for example, proximity to foraging habitat, flight corridors, levels of lighting, etc. A final plan should therefore be agreed prior to implementation. Given the retained woodland, there is also the opportunity to implement similar bird nesting and bat roosting opportunities. This would be particularly through the establishment of such features on trees.

Opportunities would be available to target different species of birds and bats. Other species that could be targeted both in the woodlands and elsewhere include invertebrates and Hedgehog.

9.0 BIODIVERSITY NET GAIN ASSESSMENT

Whilst the full biodiversity net gain assessment is provide separately, the headline results are provided below. In terms of the approach to this assessment, given that the application is in outline form, BNG has been tested against an illustrative masterplan and landscape masterplan. To address this, an entirely precautionary approach has been used in the calculation and this therefore provides much greater confidence that predicted level of BNG is a robust and achievable target.

With planned biodiversity initiatives, particularly the creation of a significant area of meadow grassland along with woodland planting and a large number of new trees, this represents a significant habitat enhancement which is reflected in the BNG calculation. Specific to this, the baseline score is 23.70 units compared with a post-development score of 28.97 units. This equates to net biodiversity gain of 22.23%. The retention of virtually all existing hedgerow and planting of some new native hedgerow represents a net gain of 81.44%.

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	5.27
	<i>Hedgerow units</i>	0.36
	<i>Watercourse units</i>	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	22.23%
	<i>Hedgerow units</i>	81.44%
	<i>Watercourse units</i>	0.00%
Trading rules satisfied?	Yes ✓	

Figure 3: BNG Final Results

The delivery of this level of biodiversity gain represents a significant enhancement compared with the current baseline conditions.

Ongoing management of any new or enhanced habitats, together with monitoring and reporting will be secured through approved management plans that will be agreed at the detailed design stage.

Many of the landscape design principles that have been applied will continue to be applicable as the wider Crescent Development Framework proposals evolve.

Further testing of BNG will be appropriate as the reserved matters applications come forward. Metric 4.0 provides a useful mechanism for testing this detail as it evolves. It can be particularly useful in assessing the relative benefits of different habitat initiatives.

It is also important to consider the overall Crescent Development Framework area. As such, testing the evolving masterplan against metric 4.0 is an important consideration going forward. This enables a much more complete assessment to be undertaken. It also enables a better understanding of role and function of key habitats to be understood. For example, this application includes one of the most extensive woodland areas within the Salford Crescent area. Currently in a poor ecological condition, how this woodland functions as habitat in the future and interacts with Salford Crescent is a key consideration that is not taken into account when assessing individual parts of a wider masterplan. Such testing of the masterplan using metric 4.0 enables a better understanding of key ecological issues such as functional connectivity across the site, juxtaposition of key habitats and land uses, location and sensitivity of existing habitats and species, relationship with key habitats or wildlife corridors in the wider Salford district etc.

Whilst metric 4.0 is an important tool when designing for biodiversity, it is important to understand the potential limitations, particularly in urban situations. Specific to this, the tool is habitat-based and does not take into account species initiatives. This approach is based upon the assumption that a well-designed habitat will, by definition, also deliver species enhancements. Whilst this may often be true, this is not necessarily the case. For example, providing bat roosting and bird nesting habitat in new buildings, habitats for invertebrates, hedgehog houses etc. can all deliver significant enhancement that is not necessarily recognised in a post development biodiversity score calculated using the metric tool and can therefore be overlooked in detailed design.

FIGURE 2: LOCATION OF HABITAT AREAS REFERRED TO IN THE TEXT

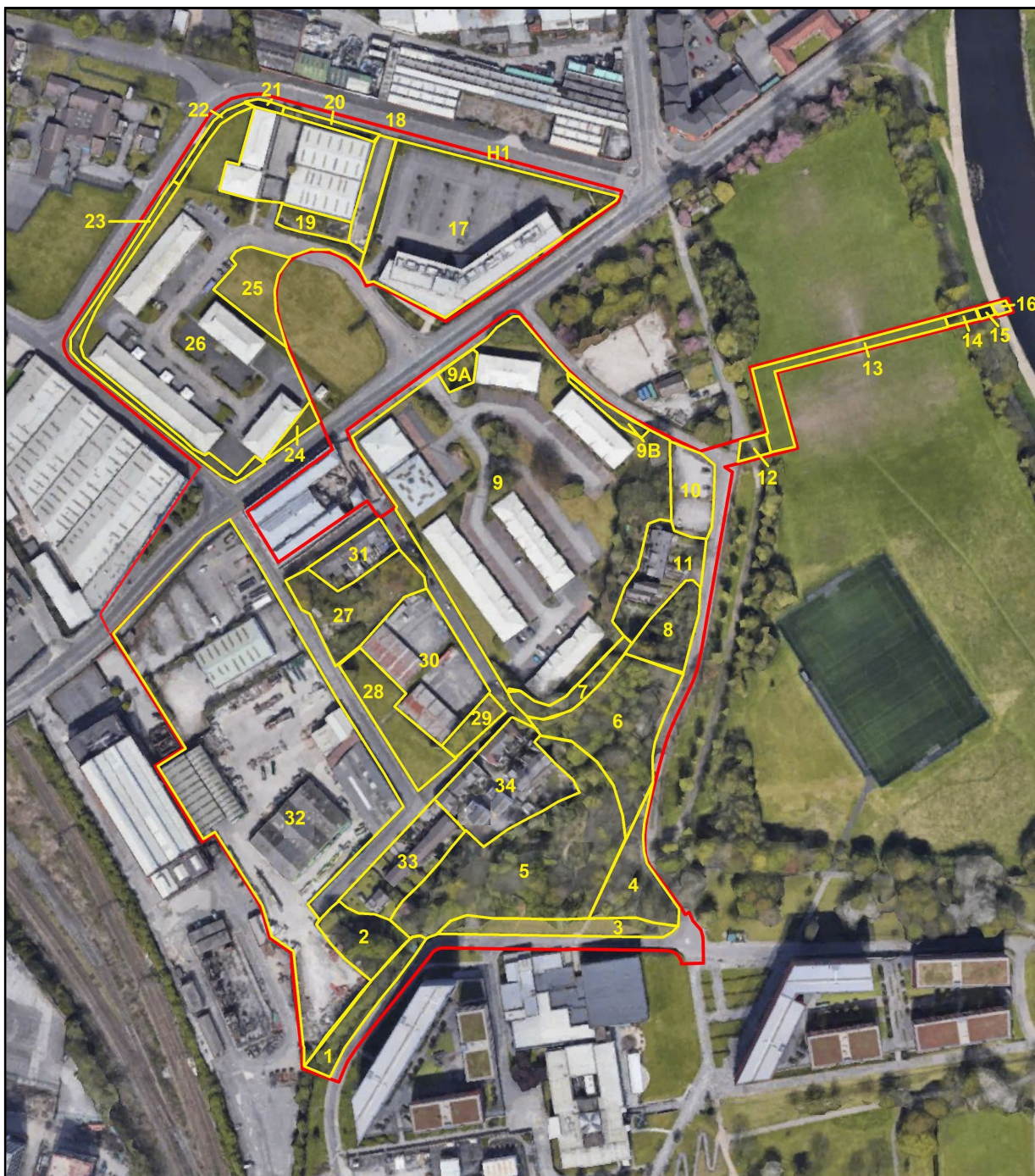


FIGURE 3: BREEDING BIRDS

(BTO Species Codes)

Common Name	BTO Species Code
Blackbird	B
Blackcap	BC
Blue Tit	BT
Bullfinch	BF
Carrion Crow	C
Chaffinch	CH
Chiffchaff	CC
Collared Dove	CD
Dunnock	D
Feral Pigeon	FP
Goldfinch	GO
Great Tit	GT
Greenfinch	GR
House Sparrow	HS
Jackdaw	JD
Long-tailed Tit	LT
Magpie	MG
Mistle Thrush	M
Pied Wagtail	PW
Robin	R
Starling	SG
Song Thrush	ST
Woodpigeon	WP
Wren	WR



FIGURE 4: ILLUSTRATIVE LANDSCAPE MASTERPLAN



S1-P10	14-02-23	Updated GA	BM	GB
S1-P09	17-11-22	Updated GA	CB	GB
S1-P08	27-09-22	Updated GA	MI	GB
S1-P07	20-09-22	Updated GA	BM	GB
S1-P06	26-08-22	Updated Residential blocks	MI	GB
S1-P05	05-08-22	Servicing updates	MI	GB
S1-P04	01-08-22	Updated red line	MI	GB
S1-P03	29-07-22	Coordination	MI	GB
S1-P02	20-06-22	Indicative Levels	BM	GB
S1-P01	20-06-22	Work in Progress	MI	GB
Revision	Date	Description	Drawn	Apprvd.

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Innovation Zone North

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NOTES:

1. Do not scale from this drawing.

2. Always work to noted dimensions.

3. All dimensions are in millimetres unless otherwise stated.

4. All setting out, levels and dimensions to be agreed on site.

5. The dimensions of all materials must be checked on site before being laid out.

6. This drawing must be read with the relevant specification clauses and detail drawings.

7. Order of construction and setting out to be agreed on site.

APPENDIX 1: HABITAT SECTION DESCRIPTIONS

Section 1

Section 1 (Photographs 1 and 2) is essentially a continuation of Section 3, albeit where University Road trends north-west. It comprises of maintained grass with planted ornamental shrubs on sloping ground above University Road. The base is marked by a planted line of Himalayan Cotoneaster *Cotoneaster simonsii* above which is a species-poor maintained grassland similar in composition to the adjacent Section 3. The upper north-western boundary is marked by a Cherry Laurel *Prunus laurocerasus* hedge and line of planted Hybrid Black-poplar *Populus nigra x canadensis*. Other species in the hedgerow include Box *Buxus sempervirens*, Garden Privet *Ligustrum ovalifolium* and Holly *Ilex aquifolium*. A fence at the edge marks the boundary with an adjacent industrial estate and has abundant Virginia Creeper *Parthenocissus quinquefolia* as a climber.

Section 2

Section 2 (Photograph 3) is a poorly structured Sycamore *Acer pseudoplatanus* dominated woodland at the edge of an industrial site. The shrub layer is sparse with occasional Elder *Sambucus nigra* and rarely occurring young Wild Cherry *Prunus avium*. The ground flora is species poor with abundant Wood Avens *Geum urbanum* and locally abundant Common Nettle *Urtica dioica*. One small patch of the invasive species Japanese Knotweed *Reynoutria japonica* is present in the south-west corner adjacent to Section 1.

Section 3

Section 3 (Photographs 4 and 5) is a mown strip of grassland at the western edge of the application site between the woodland and University Road. Regularly mown and difficult to survey accurately it included species such as locally dominant Springy Turf-moss *Rhytidiadelphus squarrosus*, abundant Dandelion *Taraxacum agg.* and Perennial Rye-grass *Lolium perenne*, locally abundant White Clover *Trifolium repens*, occasional Greater Plantain *Plantago major* and Ribwort Plantain *Plantago lanceolata*, and more rarely occurring Broad-leaved Dock *Rumex obtusifolius*, Common Ragwort *Jacobaea vulgaris* and Creeping Cinquefoil *Potentilla reptans*.

Section 4

Section 4 (Photograph 6) is the south-western section of woodland and is a narrow triangular area to the south of a footpath. The canopy comprises of dominant Ash *Fraxinus excelsior* with very rarely occurring Alder *Alnus glutinosa*, London Plane *Platanus x hispanica*, Scots Pine *Pinus sylvestris*, Silver Birch *Betula pendula* and Wild Cherry *Prunus avium*. There is no defined shrubs layer. Approximately 70% of the field layer comprises of very poor regularly mown grassland which is often bare or with sparse grasses, particularly Perennial Rye-grass *Lolium perenne* and rarely occurring forbs such as Daisy *Bellis perennis* and Greater Plantain *Plantago major*. The remaining 30% has a more intact ground flora with abundant Common Nettle *Urtica dioica*, Herb-Robert *Geranium robertianum* and Wood Avens *Geum urbanum*.

along with more occasional Bramble *Rubus fruticosus* agg., Cow Parsley *Anthriscus sylvestris*, Nipplewort *Lapsana communis*, Rough Meadow-grass *Poa trivialis* and young Dogwood *Cornus sanguinea*.

Section 5

Section 5 (Photographs 7-10) is the western compartment of a more extensive woodland. The canopy is often dominated by Ash *Fraxinus excelsior* with frequent Wild Cherry *Prunus avium* and more rarely occurring Beech *Fagus sylvatica*, Field Maple *Acer campestre*, Hornbeam *Carpinus betulus*, Lime *Tilia x europaea*, Silver Birch *Betula pendula* and Sycamore *Acer pseudoplatanus*. More rarely occurring trees included Bird Cherry *Prunus padus*, Cedar Elm *Ulmus crassifolia*, Chinese Parasol Tree *Firminia simplex*, Snakebark Maple *Acer grosseri* and White Poplar *Populus alba*. The shrub layer includes shrubs and young trees and is sparse with most species present only rarely or very rarely. These include Butterfly-bush *Buddleja davidii*, Elder *Sambucus nigra*, Field Maple *Acer campestre*, Hawthorn *Crataegus monogyna*, Holly *Ilex aquifolium*, Japanese Variegated Laurel *Aucuba japonica*, Wilson's Honeysuckle *Lonicera nitida*, young Ash *Fraxinus excelsior* and young Wild Cherry *Prunus avium*. The ground flora is species-poor with locally dominant Common Ivy *Hedera helix*, abundant and locally dominant Common Nettle *Urtica dioica*, abundant Wood Avens *Geum urbanum*, locally abundant Cleavers *Galium aparine*, frequent Broad-leaved Willowherb *Epilobium montanum* and Herb-Robert *Geranium robertianum*, occasional Bramble *Rubus fruticosus* agg., Cow Parsley *Anthriscus sylvestris* and young Wild Cherry *Prunus avium*, and more rarely occurring Broad-leaved Dock *Rumex obtusifolius* and Spanish Bluebell *Hyacinthoides hispanica*. Several plants of the invasive species Japanese Knotweed *Reynoutria japonica* are present in the central part of the section.

Section 6

Section 6 (Photographs 11-14) is a continuation of the woodland Section 5 albeit to the east of the path and slightly more shaded. The canopy comprises of occasional and locally abundant Ash *Fraxinus excelsior* with occasional Hornbeam *Carpinus betulus* and Silver Birch *Betula pendula*, and more rarely occurring Alder *Alnus glutinosa*, Common Whitebeam *Sorbus aria*, Horse-chestnut *Aesculus hippocastanum* and Lime *Tilia x europaea*. The shrub layer is poor with occasional Elder *Sambucus nigra*, Sycamore *Acer pseudoplatanus* and young Wild Cherry *Prunus avium*. Butterfly-bush *Buddleja davidii* is present rarely in the southern more open section. The ground flora is species-poor with locally dominant Common Ivy *Hedera helix*, frequent Wood Avens *Geum urbanum*, occasional Broad-leaved Willowherb *Epilobium montanum*, Common Nettle *Urtica dioica*, Herb-Robert *Geranium robertianum*, young Ash *Fraxinus excelsior*, young Field Maple *Acer campestre*, young Sycamore *Acer pseudoplatanus* and young Wild Cherry *Prunus avium*. More rarely occurring species included Wall Lettuce *Mycelis muralis* and young Holly *Ilex aquifolium*.

Section 7

Section 7 (Photographs 15 and 16) refers to the linear north-eastern edge of the woodland where it borders and has been incorporated into the boundary of the adjacent industrial estate. It may have been an old hedgerow although this is unclear in its currently abandoned condition. Canopy trees are

represented by Ash *Fraxinus excelsior* and Wild Cherry *Prunus avium* with Elder *Sambucus nigra*, Hawthorn *Crataegus monogyna*, Garden Privet *Ligustrum ovalifolium* and a single Hazel *Corylus avellana* present as mature shrubs. Several mature Aspen *Populus tremula* are present in the south-west corner. The section is heavily shaded and the field layer is either bare or dominated by dense patches of Common Ivy *Hedera helix*.

Section 8

Section 8 (Photographs 17 and 18) is a long abandoned fenced section at the western side of the woodland described as Section 7. The edge with the woodland is marked by an abandoned hedgerow now visible as a line of poor, shaded Hawthorn *Crataegus monogyna*. A similar abandoned Hawthorn *Crataegus monogyna* and Garden Privet *Ligustrum ovalifolium* hedgerow with rarely occurring Elder *Sambucus nigra* and Hazel *Corylus avellana* is present on the roadside. The central section comprises locally frequent young and semi-mature Ash *Fraxinus excelsior*, some with Ash dieback disease. Other trees are represented by several Leyland Cypress *Cuprocyparis leylandii* and Sycamore *Acer pseudoplatanus*. Elder *Sambucus nigra* is an occasional species in the shrub layer with more rarely occurring young Sycamore *Acer pseudoplatanus*. The ground flora is species poor with locally dominant Common Ivy *Hedera helix*, locally abundant Bramble *Rubus fruticosus* agg. and locally frequent Common Nettle *Urtica dioica*. The invasive species Japanese Knotweed *Reynoutria japonica* is present very rarely towards the roadside.

Section 9

Section 9 (Photographs 19-22) refers to areas of maintained lawns and planted borders within an industrial estate. The mature landscaped borders are planted with a variety of trees and shrubs. Trees include Apple *Malus sylvestris* sens. lat., Ash *Fraxinus excelsior*, Grey Alder *Alnus incana*, Hybrid Black-poplar *Populus nigra x canadensis*, Italian Alder *Alnus cordata*, Lime *Tilia x europea*, Norway Maple *Acer platanoides*, Rowan *Sorbus aucuparia* and Wild Cherry *Prunus avium* along with shrubs such as Cherry Laurel *Prunus laurocerasus*, Cotoneaster, Elder *Sambucus nigra*, Hawthorn *Crataegus monogyna*, Hazel *Corylus avellana* and Japanese Rose *Rosa rugosa*. The lawns are regularly mown and grass-dominated. Whilst difficult to survey, forbs included locally abundant White Clover *Trifolium repens* along with locally dominant patches of Springy Turf-moss *Rhytidiadelphus squarrosus*. Other species were typically associated with cracks in areas of hardstanding or edges of paths and included species such as Canadian Fleabane *Erigeron canadensis*, Dandelion *Taraxacum* agg., Field Horsetail *Equisetum arvense*, Procumbent Pearlwort *Sagina procumbens*, Smooth Sow-thistle *Sonchus oleraceus* and young Butterfly-bush *Buddleja davidii*. The plantings include several ornamental plants including the Schedule 9 invasive species, Montbretia *Crocsmia aurea x C. pottsii*. Several Ash trees appear to be exhibiting the initial signs of Ash dieback disease.

Section 9A

Within the same industrial estate as Section 9, this is a small unmanaged patch of neutral grassland and establishing scrub close to the entrance (Photograph 23). The grassland is species-poor with abundant

Red Fescue *Festuca rubra*, occasional Rough Meadow-grass *Poa trivialis* and more rarely occurring Common Ragwort *Jacobaea vulgaris*, Lesser Trefoil *Trifolium dubium*, Ribwort Plantain *Plantago lanceolata* and Smooth Meadow-grass *Poa pratensis*. Establishing trees and shrubs included occasional Ash *Fraxinus excelsior*, Blackthorn *Prunus spinosa* and Wild Cherry *Prunus avium*. A band of landscape plantings alongside the road include a mixture of native species such as Blackthorn *Prunus spinosa*, Hawthorn *Crataegus monogyna*, Hazel *Corylus avellana* and Wych Elm *Ulmus glabra* alongside non-natives such as Cotoneaster, Japanese Rose *Rosa rugosa* and Norway Maple *Acer platanoides*.

Section 9B

Also, within the same industrial estate, Section 9B (Photograph 24) is a fenced section towards the south-eastern boundary. It is a taller neutral grassland with young establishing trees and shrubs. Grasses include frequent and locally dominant Red Fescue *Festuca rubra*, occasional and locally abundant Yorkshire-fog *Holcus lanatus*, and more rarely occurring Common Couch *Elymus repens*, Creeping Bent *Agrostis stolonifera* and False Oat-grass *Arrhenatherum elatius*. Other species include occasional Bramble *Rubus fruticosus* agg. and Hedge Bindweed *Calystegia sepium*, along with more rarely occurring Common Ragwort *Jacobaea vulgaris*, Cleavers *Galium aparine*, Great Willowherb *Epilobium hirsutum* and Rosebay Willowherb *Chamaenerion angustifolium*. Young trees and shrubs include locally frequent Snowberry *Symphoricarpos albus*, occasional Blackthorn *Prunus spinosa* and Wild Cherry *Prunus avium*, and more rarely occurring Ash *Fraxinus excelsior* and Japanese Rose *Rosa rugosa*.

Section 10

Section 10 (Photograph 25) is an open section of ground currently used for car parking. Subject to regular use it is open and unvegetated.

Section 11

Section 11 refers to a group of terraced properties and associated gardens. In private ownership, they were not accessed or photographed. Viewed from a distance, the gardens are typically small with some lawned areas and a variety of ornamental trees, shrubs and plants.

Section 12

Section 12 (Photograph 26) refers to the first section of a linear corridor to the east of Wallness Road that extends across the David Lewis Sports Field towards the River Irwell. This small section incorporates an area of regularly maintained amenity grassland which is species-poor with locally dominant Dandelion *Taraxacum* agg. and grasses, particularly Perennial Rye-grass *Lolium perenne* as well as patches of bare ground. Mature planted trees include two White Willow *Salix alba* and a single Red Maple *Acer cf. rubrum*.

Section 13

Section 13 (Photographs 27 and 28) is a continuation of the linear corridor which runs initially south-north and then west-east between football pitches that are within the David Lewis Sports Fields. This entire area comprises of grass-dominated sports fields. A limited range of other species are present occasionally with the grasslands, for example, Annual Meadow-grass *Poa annua*, Common Chickweed *Stellaria media*, Dandelion *Taraxacum agg.*, Greater Plantain *Plantago major*, Ribwort Plantain *Plantago lanceolata*, Shepherd's-purse *Capsella bursa-pastoris* and White Clover *Trifolium repens*.

Section 14

Section 14 (Photograph 29) is a small planted woodland section at the eastern side of the David Lewis Sports Fields. It comprises of mature Grey Alder *Alnus incana*, Norway Maple *Acer platanoides*, Pedunculate Oak *Quercus robur*, Silver Birch *Betula pendula*, Swedish Whitebeam *Sorbus intermedia* and Sycamore *Acer pseudoplatanus*. Shrubs and young trees include Field Maple *Acer campestre*, Holly *Ilex aquifolium*, Sycamore *Acer pseudoplatanus* and Wild Cherry *Prunus avium*. The ground flora is species-poor with locally dominant Common Nettle *Urtica dioica*, locally abundant Cleavers *Galium aparine* and more rarely occurring Broad-leaved Dock *Rumex obtusifolius*, Cock's-foot *Dactylis glomerata*, Hemlock *Conium maculatum*, Mugwort *Artemisia vulgaris* and Wood Avens *Geum urbanum*.

Section 15

Section 15 (Photograph 30) refers to a steep bank adjacent to the path that runs beside the River Irwell that has been recently cut at the time of survey. It is characterised by locally abundant Butterbur *Petasites hybridus* with more occasional Broad-leaved Dock *Rumex obtusifolius*, Cleavers *Galium aparine*, Cock's-foot *Dactylis glomerata*, Common Nettle *Urtica dioica*, Cow Parsley *Anthriscus sylvestris*, Hemlock *Conium maculatum*, Mugwort *Artemisia vulgaris*, and rarely occurring Common Ragwort *Jacobaea vulgaris*, Himalayan Balsam *Impatiens glandulifera* and Rosebay Willowherb *Chamaenerion angustifolium*.

Section 16

Section 16 (Photographs 31 and 32) is the last section of the linear corridor described in Section 13-15 where it is represented by a concrete path adjacent to the River Irwell. The western river bank in this section is not natural and is formed by sheet piling.

Section 17

Section 17 (Photographs 33-35) is an office block with extensive car parking which does, however, have some perimeter landscaping. Whilst the sections close to the entrance and bordering Frederick Road are dominated by ornamental species, the boundary with Broughton Road East and also the western boundary of the site have been planted with a native hedgerow mix. The roadside section is planted hedgerow 2.5-3m tall and 1.5m wide with an average structure. Shrubs include frequent Hazel *Corylus*

avellana with more occasional or rarely occurring Blackthorn *Prunus spinosa*, Hawthorn *Crataegus monogyna*, Grey Willow *Salix cinerea*, Holly *Ilex aquifolium* and Wild Plum *Prunus domestica*. Non-native species were represented by Butterfly-bush *Buddleja davidii* and Japanese Rose *Rosa rugosa*. The ground flora includes Bramble *Rubus fruticosus agg.*, Field Horsetail *Equisetum arvense*, Great Willowherb *Epilobium hirsutum*, Rosebay Willowherb *Chamaenerion angustifolium* and Wood Avens *Geum urbanum*. Large Bindweed *Calystegia silvatica* is present as a climber. The western boundary is essentially a continuation of this hedgerow with similar species albeit it is maintained as a lower and dense shrub border.

Section 18

Section 18 (Photograph 36) is a cobbled area of hardstanding within an industrial compound with peripheral vegetation to the south. This comprises of a 1.5m wide band of variable species-poor neutral grassland with abundant False Oat-grass *Arrhenatherum elatius* along with other more occasional species such as Perennial Rye-grass *Lolium perenne*, Red Bartsia *Odontites vernus* and Ribwort Plantain *Plantago lanceolata*. Some shrubs are establishing in the grassland from the adjacent hedgerow with occasional Grey Willow *Salix cinerea* and Hazel *Corylus avellana*. Bramble *Rubus fruticosus agg.* is also establishing in this grassland.

Section 19

Section 19 (Photograph 37) is a small area of variable abandoned land within an industrial estate. It comprises of approximately 40% young establishing trees and shrubs with species such as Butterfly-bush *Buddleja davidii*, Dog-rose *Rosa canina*, Goat Willow *Salix caprea*, Hawthorn *Crataegus monogyna*, Norway Maple *Acer platanoides*, Rowan *Sorbus aucuparia* and Silver Birch *Betula pendula*. The remainder comprises of a mix of ruderals and grasses, particularly Bramble *Rubus fruticosus agg.*, Broad-leaved Dock *Rumex obtusifolius*, Common Ragwort *Jacobaea vulgaris*, Creeping Thistle *Cirsium arvense*, Red Clover *Trifolium pratense*, Rosebay Willowherb *Chamaenerion angustifolium* and Yorkshire-fog *Holcus lanatus*.

Section 20

Within the same compound as Section 19 although between Broughton Road East and an industrial building, Section 20 (Photograph 38) is a 5m wide mosaic of neutral grassland and Bramble *Rubus fruticosus agg.* scrub. The grassland is dominated by False Oat-grass *Arrhenatherum elatius* and is species-poor with more occasional Broad-leaved Dock *Rumex obtusifolius*, Common Comfrey *Symphytum officinale*, Common Ragwort *Jacobaea vulgaris*, Great Willowherb *Epilobium hirsutum*, Rosebay Willowherb *Chamaenerion angustifolium*, Tufted Vetch *Vicia cracca* and Yorkshire-fog *Holcus lanatus*. Sapling and young trees and shrubs include Ash *Fraxinus excelsior*, Dog-rose *Rosa canina*, Rowan *Sorbus aucuparia*, Sycamore *Acer pseudoplatanus* and Wild Cherry *Prunus avium*. The Bramble *Rubus fruticosus agg.* scrub is dense with few associated species. The approximate habitat split is 30% neutral grassland and 70% Bramble *Rubus fruticosus agg.* scrub.

Section 21

Similar to Section 20, Section 21 (Photograph 39) is a patch of abandoned neutral grassland and shrubs towards the northernmost point of the application site. Patches of open neutral grassland are characterised by grasses such as Common Bent *Agrostis capillaris*, Creeping Bent *Agrostis stolonifera*, Red Fescue *Festuca rubra*, Sweet Vernal-grass *Anthoxanthum odoratum* and Yorkshire-fog *Holcus lanatus*, along with occasional forbs such as Common Bird's-foot-trefoil *Lotus corniculatus*, Ribwort Plantain *Plantago lanceolata* and Wood Avens *Geum urbanum*. Established shrubs particularly include Butterfly-bush *Buddleja davidii* and Wild Cherry *Prunus avium*. Associated ground flora is typically characterised by taller robust grasses and forbs, particularly Common Couch *Elymus repens*, Common Ragwort *Jacobaea vulgaris*, Great Willowherb *Epilobium hirsutum* and Hemp-agrimony *Eupatorium cannabinum*.

Section 22

Section 22 (Photograph 40) is a fenced, unmanaged ornamental border with some naturally establishing trees and shrubs. Planted species include Hollyberry Cotoneaster *Cotoneaster bullatus*, Firethorn *Pyracantha coccinea* and Japanese Rose *Rosa rugosa*. Whilst not easy to differentiate between the original plantings and later naturally establishing species, others trees and shrubs include Ash *Fraxinus excelsior*, Butterfly-bush *Buddleja davidii*, Goat Willow *Salix caprea*, Grey Alder *Alnus incana*, Grey Willow *Salix cinerea*, Rowan *Sorbus aucuparia*, Silver Birch *Betula pendula*, Sycamore *Acer pseudoplatanus* and Wild Cherry *Prunus avium*. The ground flora is poor with significant areas of bare ground. Where present, the ground flora includes Bramble *Rubus fruticosus* agg., Canadian Fleabane *Erigeron canadensis*, Creeping Thistle *Cirsium arvense*, Hemp-agrimony *Eupatorium cannabinum*, Michaelmas-daisy Aster (alien N. American taxa), Rosebay Willowherb *Chamaenerion angustifolium* and Wood Avens *Geum urbanum*.

Section 23

Section 23 (Photographs 41 and 42) is a narrow band of neutral grassland between two security fences that extends around the northern and western boundaries of an industrial estate. Grasses include abundant Yorkshire-fog *Holcus lanatus*, locally abundant Creeping Bent *Agrostis stolonifera* and Red Fescue *Festuca rubra*, and occasional False Oat-grass *Arrhenatherum elatius*. Whilst rare, Common Couch *Elymus repens* is very locally abundant. Other species include occasional Field Horsetail *Equisetum arvense* with more rarely occurring Autumn Hawkbit *Scorzoneroides autumnalis*, Beaked Hawk's-beard *Crepis vesicaria*, Black Medick *Medicago lupulina*, Broad-leaved Dock *Rumex obtusifolius*, Cat's-ear *Hypochaeris radicata*, Common Mouse-ear *Cerastium fontanum*, Common Ragwort *Jacobaea vulgaris*, Creeping Buttercup *Ranunculus repens*, Hairy Sedge *Carex hirta*, Red Clover *Trifolium pratense* and Ribwort Plantain *Plantago lanceolata*. Whilst rare, Michaelmas-daisy Aster (alien N. American taxa), is very locally abundant.

Section 24

Section 24 (Photograph 43) is a recently abandoned lawn which is now a taller sward neutral grassland with abundant Red Fescue *Festuca rubra*, locally abundant Yorkshire-fog *Holcus lanatus* and occasional Rough Meadow-grass *Poa trivialis*. Whilst rare, Creeping Bent *Agrostis stolonifera* is very locally abundant. Forbs include occasional Black Medick *Medicago lupulina*, Creeping Buttercup *Ranunculus repens*, Red Clover *Trifolium pratense*, Ribwort Plantain *Plantago lanceolata* and Selfheal *Prunella vulgaris*, with more rarely occurring Cat's-ear *Hypochaeris radicata*, Common Mouse-ear *Cerastium fontanum* and Common Ragwort *Jacobaea vulgaris*.

Section 25

Section 25 (Photograph 44) is a large area of recently abandoned lawn, now a taller sward with a similar species composition to Section 24. Other grasses include occasional Smooth Meadow-grass *Poa pratensis*, rarely occurring Cock's-foot *Dactylis glomerata* and very rare Tall Fescue *Schedonorus arundinaceus*. Additional forbs included rarely occurring Creeping Cinquefoil *Potentilla reptans*, Smooth Hawk's-beard *Crepis capillaris* and Yarrow *Achillea millefolium*, with very rare Shasta Daisy *Leucanthemum x superbum* and Spear Thistle *Cirsium vulgare*.

Section 26

Section 26 (Photographs 45-48) refers to an industrial estate with buildings, extensive areas of hardstanding associated with a car park and paving and occasional small blocks of ornamental planting and grassed sections. The grassed sections comprise of recently abandoned lawns and have a similar species composition to that described in Sections 24 and 25. Planted borders are dominated by ornamental shrubs whilst rarely occurring trees are dominated by planted Lime *Tilia x europea*. Very few species have established naturally in this area, mostly exploiting cracks in paving or hardstanding. Such species include Annual Meadow-grass *Poa annua*, Canadian Fleabane *Erigeron canadensis*, Herb-Robert *Geranium robertianum* and Smooth Sow-thistle *Sonchus oleraceus*.

Section 27

Section 27 (Photographs 49-51) is an abandoned piece of ground between Wynne Street and Lissadel Street. The section closest to Wynne Street includes a block of mature trees comprising predominantly of Norway Maple *Acer platanoides* with more rarely occurring Sycamore *Acer pseudoplatanus* and Wild Cherry *Prunus avium*. The structure is poor with occasional young Norway Maple *Acer platanoides* and very rarely occurring Hawthorn *Crataegus monogyna* and Holly *Ilex aquifolium*. The ground flora is species-poor with locally abundant Bramble *Rubus fruticosus* agg. and Common Nettle *Urtica dioica*. The western half is more open with scrub and young trees. The canopy is characterised by mature Goat Willow *Salix caprea* which is locally dominant. Several Alder *Alnus glutinosa*, Norway Maple *Acer platanoides* and Sycamore *Acer pseudoplatanus* are present in the north-west corner. Other establishing young trees and shrubs include Butterfly-bush *Buddleja davidii*, Silver Birch *Betula pendula* and young Norway Maple *Acer platanoides*. The trees and shrubs extend over approximately 80% of this area with

the remaining 20% a more open tall grass and ruderal habitat with locally abundant False Oat-grass *Arrhenatherum elatius* along with more occasional Red Fescue *Festuca rubra* and Rough Meadow-grass *Poa trivialis* and ruderals such as Broad-leaved Dock *Rumex obtusifolius*, Common Ragwort *Jacobaea vulgaris*, Rosebay Willowherb *Chamaenerion angustifolium* and Spear Thistle *Cirsium vulgare*.

Section 28

Section 28 (Photograph 52) is an area of maintained amenity grassland, albeit larger and more open with just a single mature Grey Alder *Alnus incana*. Whilst grass-dominated with locally dominant Perennial Rye-grass *Lolium perenne*, locally abundant Red Fescue *Festuca rubra* and Yorkshire-fog *Holcus lanatus*, and rarely occurring Common Soft-brome *Bromus hordeaceus* subsp. *hordeaceus*, forbs are better represented. These include locally abundant White Clover *Trifolium repens*, frequent Dandelion *Taraxacum agg.*, and occasional Daisy *Bellis perennis* and Ribwort Plantain *Plantago lanceolata*. Additional species present, only along the edge of the grassland adjacent to the footpath, included Canadian Fleabane *Erigeron canadensis*, Common Mallow *Malva sylvestris* and Cut-leaved Crane's-bill *Geranium dissectum*.

Section 29

Section 29 (Photograph 53) is a similar maintained amenity grassland with scattered mature Norway Maple *Acer platanoides* with a single Grey Alder *Alnus incana*. The grassland is sparse due to the shading and dominated by Perennial Rye-grass *Lolium perenne*.

Section 30

Section 30 refers to industrial units and associated parking located off the west side of Wynne Street.

Section 31

Section 31 refers to a group of terraced properties on the south side of Scarsdale Street. In private ownership, they were not accessed or photographed.

Section 32

Section 32 (Photograph 54) is an extensive industrial site comprising of buildings and hardstanding. There are no extensive areas of natural or semi-natural vegetation.

Section 33

Section 33 refers to a group of residential properties in the south-western section of Strawberry Hill. They are mapped separately from the properties in the north-eastern section because they are of more recent construction and have larger gardens. In private ownership, they were not accessed or

photographed. Viewed from a distance, the gardens are typically small with some lawned areas and a variety of ornamental trees, shrubs and plants.

Section 34

Section 34 refers to the residential properties in the north-eastern section of Strawberry Hill. They are mapped separately because they are older terraced properties. In private ownership, they were not accessed or photographed. Viewed from a distance, the gardens are typically small with some lawned areas and a variety of ornamental trees, shrubs and plants.

Other Habitats and Species

With much of the study area characterised by areas of hardstanding and defined industrial plots, fence lines and any areas of hardstanding provide a habitat that is exploited by various early pioneer species. These include species that are rare elsewhere in the site, for example, American Willowherb *Epilobium ciliatum*, Bristly Oxtongue *Helminthotheca echioides*, Canadian Fleabane *Erigeron canadensis*, Fool's Parsley *Aethusa cynapium*, Nipplewort *Lapsana communis*, Selfheal *Prunella vulgaris*, Squirreltail Fescue *Vulpia bromoides*, Sticky Groundsel *Senecio viscosus*, Sticky Mouse-ear *Cerastium glomeratum*, Thale Cress *Arabidopsis thaliana*, Thyme-leaved Speedwell *Veronica serpyllifolia*, Wall Barley *Hordeum murinum* and Weld *Reseda luteola*.

APPENDIX 2: PHOTOGRAPHIC RECORD



P1: SECTION 1, VIEWED SOUTH-WEST ALONG UNIVERSITY ROAD



P2: SECTION 1, VIEWED NORTH-EAST ALONG UNIVERSITY ROAD



P3: SECTION 2



P4: SECTION 3, VIEWED EAST ALONG UNIVERSITY ROAD



P5: SECTION 3, VIEWED WEST ALONG UNIVERSITY ROAD



P6: SECTION 4



P7: SECTION 5, GENERAL VIEW



P8: SECTION 5, GENERAL VIEW



P9: SECTION 5, GENERAL VIEW



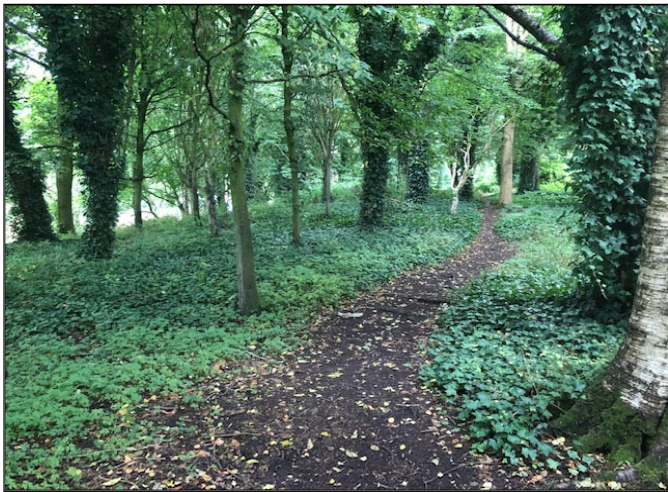
P10: SECTION 5, GENERAL VIEW



P11: SECTION 6, GENERAL VIEW



P12: SECTION 6, GENERAL VIEW



P13: SECTION 6, GENERAL VIEW



P14: SECTION 6, LOWER ROADSIDE SECTION



P15: SECTION 7, MID & SOUTH-WESTERN SECTION



P16: SECTION 7, NORTH-EASTERN SECTION



P17: SECTION 8, GENERAL VIEW



P18: SECTION 8, GENERAL VIEW



P19: SECTION 9, GENERAL VIEW



P20: SECTION 9, GENERAL VIEW



P21: SECTION 9, GENERAL VIEW



P22: SECTION 9, GENERAL VIEW



P23: SECTION 9A



P24: SECTION 9B



P25: SECTION 11



P26: SECTION 12



P27: SECTION 13, NORTH-SOUTH SECTION



P28: SECTION 13, WEST-EAST SECTION



P29: SECTION 14



P30: SECTION 15



P31: SECTION 16 AND WIDER RIVER SECTION, VIEWED UPSTREAM



P32: SECTION 16 AND WIDER RIVER SECTION, VIEWED DOWNSTREAM



P33: SECTION 17. ENTRANCE, VIEWED DOWNSTREAM



P34: HEDGEROW 1, SECTION 17/BROUGHTON ROAD EAST



P35: SECTION 17, WESTERN BOUNDARY



P36: SECTION 18



P37: SECTION 19



P38: SECTION 20



P39: SECTION 21



P40: SECTION 22



P41: SECTION 23, NORTHERN SECTION



P42: SECTION 23, WESTERN SECTION



P43: SECTION 24



P44: SECTION 25



P45: SECTION 26



P46: SECTION 26



P47: SECTION 26



P48: SECTION 26



P49: SECTION 27, EAST SIDE VIEWED FROM WYNEE STREET



P50: SECTION 27, SOUTHERN SECTION VIEWED FROM LISSADEL STREET



P51: SECTION 27, N-W SECTION VIEWED FROM LISSADEL STREET



P52: SECTION 28



P53: SECTION 29



P54: SECTION 32

APPENDIX 3: BOTANICAL SPECIES LIST

Scientific Name	Common Name
<i>Acer campestre</i>	Field Maple
<i>Acer grosseri</i>	Snakebark Maple
<i>Acer platanoides</i>	Norway Maple
<i>Acer pseudoplatanus</i>	Sycamore
<i>Acer cf. rubrum</i>	Red Maple
<i>Acer saccharinum</i>	Silver Maple
<i>Achillea millefolium</i>	Yarrow
<i>Aegopodium podagraria</i>	Ground-elder
<i>Aesculus hippocastanum</i>	Horse-chestnut
<i>Aethusa cynapium</i>	Fool's Parsley
<i>Agrostis capillaris</i>	Common Bent
<i>Agrostis stolonifera</i>	Creeping Bent
<i>Alnus cordata</i>	Italian Alder
<i>Alnus glutinosa</i>	Alder
<i>Alnus incana</i>	Grey Alder
<i>Anisantha sterilis</i>	Barren Brome
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass
<i>Anthriscus sylvestris</i>	Cow Parsley
<i>Arabidopsis thaliana</i>	Thale Cress
<i>Arrhenatherum elatius</i>	False Oat-grass
<i>Aster (alien N. American taxa)</i>	Michaelmas-daisy
<i>Aucuba japonica</i>	Japanese Variegated Laurel
<i>Ballota nigra</i>	Black Horehound
<i>Bellis perennis</i>	Daisy
<i>Betula pendula</i>	Silver Birch
<i>Betula utilis</i>	Himalayan Birch
<i>Bromus hordeaceus subsp. hordeaceus</i>	Common Soft-brome
<i>Buddleja davidii</i>	Butterfly-bush
<i>Buxus sempervirens</i>	Box
<i>Calystegia sepium</i>	Hedge Bindweed
<i>Calystegia silvatica</i>	Large Bindweed
<i>Carex hirta</i>	Hairy Sedge
<i>Carex remota</i>	Remote Sedge
<i>Carpinus betulus</i>	Hornbeam
<i>Carpinus betulus 'fastigiata'</i>	Fastigate Hornbeam
<i>Cerastium fontanum</i>	Common Mouse-ear
<i>Cerastium glomeratum</i>	Sticky Mouse-ear
<i>Chamaecyparis lawsoniana</i>	Lawson's Cypress
<i>Chamaenerion angustifolium</i>	Rosebay Willowherb
<i>Cirsium arvense</i>	Creeping Thistle

Scientific Name	Common Name
<i>Cirsium vulgare</i>	Spear Thistle
<i>Conium maculatum</i>	Hemlock
<i>Cornus sanguinea</i>	Dogwood
<i>Corylus avellana</i>	Hazel
<i>Cotoneaster bullatus</i>	Hollyberry Cotoneaster
<i>Cotoneaster horizontalis</i>	Wall Cotoneaster
<i>Cotoneaster microphyllus</i>	Small-leaved Cotoneaster
<i>Cotoneaster simonsii</i>	Himalayan Cotoneaster
<i>Crepis capillaris</i>	Smooth Hawk's-beard
<i>Crepis vesicaria</i>	Beaked Hawk's-beard
<i>Crataegus monogyna</i>	Hawthorn
<i>Crocasmia aurea</i> x <i>C. pottsii</i>	Montbretia
<i>Cuprocyparis leylandii</i>	Leyland Cypress
<i>Dactylis glomerata</i>	Cock's-foot
<i>Elymus repens</i>	Common Couch
<i>Epilobium ciliatum</i>	American Willowherb
<i>Epilobium hirsutum</i>	Great Willowherb
<i>Epilobium montanum</i>	Broad-leaved Willowherb
<i>Epilobium parviflorum</i>	Hoary Willowherb
<i>Equisetum arvense</i>	Field Horsetail
<i>Erigeron canadensis</i>	Canadian Fleabane
<i>Eucalyptus</i> sp.	Eucalyptus
<i>Eupatorium cannabinum</i>	Hemp-agrimony
<i>Euphorbia helioscopia</i>	Sun Spurge
<i>Fagus sylvatica</i>	Beech
<i>Ficaria verna</i>	Lesser Celandine
<i>Firminia simplex</i>	Chinese Parasol Tree
<i>Fraxinus excelsior</i>	Ash
<i>Galium aparine</i>	Cleavers
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill
<i>Geranium molle</i>	Dove's-foot Crane's-bill
<i>Geranium robertianum</i>	Herb-Robert
<i>Geum urbanum</i>	Wood Avens
<i>Ginkgo biloba</i>	Maidenhair Tree
<i>Hamamelis virginiana</i>	Witch-Hazel
<i>Helminthotheca echioides</i>	Bristly Oxtongue
<i>Heracleum sphondylium</i>	Hogweed
<i>Holcus lanatus</i>	Yorkshire-fog
<i>Holcus mollis</i>	Creeping Soft-grass
<i>Hordeum murinum</i>	Wall Barley
<i>Hyacinthoides hispanica</i>	Spanish Bluebell

Scientific Name	Common Name
<i>Hypochaeris radicata</i>	Cat's-ear
<i>Ilex aquifolium</i>	Holly
<i>Jacobaea vulgaris</i>	Common Ragwort
<i>Lamium album</i>	White Dead-nettle
<i>Lamium purpureum</i>	Red Dead-nettle
<i>Lapsana communis</i>	Nipplewort
<i>Leucanthemum x superbum</i>	Shasta Daisy
<i>Ligustrum ovalifolium</i>	Garden Privet
<i>Linaria purpurea</i>	Purple Toadflax
<i>Lolium perenne</i>	Perennial Rye-grass
<i>Lonicera nitida</i>	Wilson's Honeysuckle
<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil
<i>Malus sylvestris sens. lat.</i>	Apple
<i>Malva sylvestris</i>	Common Mallow
<i>Mycelis muralis</i>	Wall Lettuce
<i>Odontites vernus</i>	Red Bartsia
<i>Oenothera agg.</i>	Evening-primrose
<i>Parthenocissus quinquefolia</i>	Virginia Creeper
<i>Picea abies</i>	Norway Spruce
<i>Pilosella officinarum</i>	Mouse-ear-hawkweed
<i>Pinus sylvestris</i>	Scots Pine
<i>Plantago lanceolata</i>	Ribwort Plantain
<i>Plantago major</i>	Greater Plantain
<i>Platanus x hispanica</i>	London Plane
<i>Poa annua</i>	Annual Meadow-grass
<i>Poa pratensis</i>	Smooth Meadow-grass
<i>Poa trivialis</i>	Rough Meadow-grass
<i>Polygonum aviculare</i>	Knotgrass
<i>Populus nigra x canadensis</i>	Hybrid Black-poplar
<i>Populus alba</i>	White Poplar
<i>Populus tremula</i>	Aspen
<i>Potentilla reptans</i>	Creeping Cinquefoil
<i>Prunella vulgaris</i>	Selfheal
<i>Prunus avium</i>	Wild Cherry
<i>Prunus domestica</i>	Wild Plum
<i>Prunus laurocerasus</i>	Cherry Laurel
<i>Prunus padus</i>	Bird Cherry
<i>Prunus spinosa</i>	Blackthorn
<i>Quercus cerris</i>	Turkey Oak
<i>Quercus robur</i>	Pedunculate Oak
<i>Ranunculus repens</i>	Creeping Buttercup

Scientific Name	Common Name
<i>Reseda luteola</i>	Weld
<i>Reynoutria japonica</i>	Japanese Knotweed
<i>Rosa canina</i>	Dog-rose
<i>Rosa rugosa</i>	Japanese Rose
<i>Rubus fruticosus</i> agg.	Bramble
<i>Rumex crispus</i>	Curled Dock
<i>Rumex obtusifolius</i>	Broad-leaved Dock
<i>Sagina procumbens</i>	Procumbent Pearlwort
<i>Salix alba</i>	White Willow
<i>Salix caprea</i>	Goat Willow
<i>Salix cinerea</i>	Grey Willow
<i>Salix x fragilis</i>	Hybrid Crack-willow
<i>Sambucus nigra</i>	Elder
<i>Schedonorus arundinaceus</i>	Tall Fescue
<i>Scorzonoides autumnalis</i>	Autumn Hawkbit
<i>Senecio viscosus</i>	Sticky Groundsel
<i>Senecio vulgaris</i>	Groundsel
<i>Sonchus asper</i>	Prickly Sow-thistle
<i>Sonchus oleraceus</i>	Smooth Sow-thistle
<i>Sorbus aria</i>	Common Whitebeam
<i>Sorbus aucuparia</i>	Rowan
<i>Sorbus intermedia</i>	Swedish Whitebeam
<i>Sorbus thuringiaca</i>	Bastard Service Tree
<i>Stachys sylvatica</i>	Hedge Woundwort
<i>Stellaria media</i>	Common Chickweed
<i>Symphoricarpos albus</i>	Snowberry
<i>Symphytum officinale</i>	Common Comfrey
<i>Taraxacum</i> agg.	Dandelion
<i>Tilia x europea</i>	Lime
<i>Trifolium dubium</i>	Lesser Trefoil
<i>Trifolium pratense</i>	Red Clover
<i>Trifolium repens</i>	White Clover
<i>Ulex europaeus</i>	Gorse
<i>Ulmus crassifolia</i>	Cedar Elm
<i>Ulmus glabra</i>	Wych Elm
<i>Urtica dioica</i>	Common Nettle
<i>Veronica chamaedrys</i>	Germander Speedwell
<i>Veronica serpyllifolia</i>	Thyme-leaved Speedwell
<i>Viburnum opulus</i>	Guelder-rose
<i>Vicia cracca</i>	Tufted Vetch
<i>Vicia sepium</i>	Bush Vetch

Scientific Name	Common Name
<i>Vulpia bromoides</i>	Squirreltail Fescue

APPENDIX 4: SPECIES RECORDED DURING THE BREEDING BIRD SURVEY

Scientific Name	Common Name	Status
<i>Aegithalos caudatus</i>	Long-tailed Tit	Possibly Breeding
<i>Alcedo atthis</i>	Kingfisher	Possibly Breeding (River Irwell)
<i>Anas platyrhynchos</i>	Mallard	Breeding (River Irwell)
<i>Aythya fuligula</i>	Tufted Duck	Non-breeding (River Irwell)
<i>Carduelis carduelis</i>	Goldfinch	Breeding
<i>Chloris chloris</i>	Greenfinch	Possibly Breeding
<i>Chroicocephalus ridibundus</i>	Black-headed Gull	Non-breeding
<i>Columba livia</i>	Feral Pigeon	Breeding
<i>Columba palumbus</i>	Woodpigeon	Breeding
<i>Corvus corone</i>	Carrion Crow	Breeding
<i>Corvus monedula</i>	Jackdaw	Possibly Breeding
<i>Cyanistes caeruleus</i>	Blue Tit	Breeding
<i>Cygnus olor</i>	Mute Swan	Non-breeding (River Irwell)
<i>Branta canadensis</i>	Canada Goose	Non-breeding (River Irwell)
<i>Delichon urbicum</i>	House Martin	Non-breeding
<i>Dendrocopos major</i>	Great Spotted Woodpecker	Breeding (Wider Local Area)
<i>Erithacus rubecula</i>	Robin	Breeding
<i>Fringilla coelebs</i>	Chaffinch	Breeding
<i>Gallinula chloropus</i>	Moorhen	Breeding (River Irwell)
<i>Garrulus glandarius</i>	Jay	Breeding (Wider Local Area)
<i>Hirundo rustica</i>	Swallow	Non-breeding
<i>Larus fuscus</i>	Lesser Black-backed Gull	Non-breeding
<i>Mergus merganser</i>	Goosander	Non-breeding (River Irwell)
<i>Motacilla alba</i>	Pied Wagtail	Breeding
<i>Motacilla cinerea</i>	Grey Wagtail	Breeding (River Irwell)
<i>Turdus merula</i>	Blackbird	Breeding
<i>Troglodytes troglodytes</i>	Wren	Breeding
<i>Parus major</i>	Great Tit	Breeding
<i>Passer domesticus</i>	House Sparrow	Breeding
<i>Periparus ater</i>	Coal Tit	Breeding (Wider Local Area)
<i>Pica pica</i>	Magpie	Breeding
<i>Phylloscopus collybita</i>	Chiffchaff	Breeding
<i>Prunella modularis</i>	Dunnock	Breeding
<i>Psittaculi kramera</i>	Ringed-necked Parakeet	Non-breeding
<i>Pyrrhula pyrrhula</i>	Bullfinch	Breeding
<i>Riparia riparia</i>	Sand Martin	Non-breeding
<i>Sitta europaea</i>	Nuthatch	Breeding (Wider Local Area)
<i>Streptopelia decaocto</i>	Collared Dove	Breeding
<i>Sturnus vulgaris</i>	Starling	Breeding
<i>Sylvia atricapilla</i>	Blackcap	Breeding

Scientific Name	Common Name	Status
<i>Aegithalos caudatus</i>	Long-tailed Tit	Possibly Breeding
<i>Alcedo atthis</i>	Kingfisher	Possibly Breeding (River Irwell)
<i>Anas platyrhynchos</i>	Mallard	Breeding (River Irwell)
<i>Aythya fuligula</i>	Tufted Duck	Non-breeding (River Irwell)
<i>Carduelis carduelis</i>	Goldfinch	Breeding
<i>Chloris chloris</i>	Greenfinch	Possibly Breeding
<i>Chroicocephalus ridibundus</i>	Black-headed Gull	Non-breeding
<i>Columba livia</i>	Feral Pigeon	Breeding
<i>Columba palumbus</i>	Woodpigeon	Breeding
<i>Corvus corone</i>	Carrion Crow	Breeding
<i>Corvus monedula</i>	Jackdaw	Possibly Breeding
<i>Cyanistes caeruleus</i>	Blue Tit	Breeding
<i>Cygnus olor</i>	Mute Swan	Non-breeding (River Irwell)
<i>Branta canadensis</i>	Canada Goose	Non-breeding (River Irwell)
<i>Delichon urbicum</i>	House Martin	Non-breeding
<i>Dendrocopos major</i>	Great Spotted Woodpecker	Breeding (Wider Local Area)
<i>Erithacus rubecula</i>	Robin	Breeding
<i>Fringilla coelebs</i>	Chaffinch	Breeding
<i>Gallinula chloropus</i>	Moorhen	Breeding (River Irwell)
<i>Garrulus glandarius</i>	Jay	Breeding (Wider Local Area)
<i>Hirundo rustica</i>	Swallow	Non-breeding
<i>Larus fuscus</i>	Lesser Black-backed Gull	Non-breeding
<i>Mergus merganser</i>	Goosander	Non-breeding (River Irwell)
<i>Motacilla alba</i>	Pied Wagtail	Breeding
<i>Motacilla cinerea</i>	Grey Wagtail	Breeding (River Irwell)
<i>Turdus philomelos</i>	Song Thrush	Breeding
<i>Turdus viscivorus</i>	Mistle Thrush	Breeding