

# PRELIMINARY ECOLOGICAL APPRAISAL

Francis Crick Institute, London – Midlands Road End

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## Approval for issue

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## EXECUTIVE SUMMARY

- RPS were commissioned by the Francis Crick Institute to undertake a Preliminary Ecological Appraisal (PEA) of two outdoor roof terrace areas at the Francis Crick Institute, 1 Midland Rd, London NW1 1AT. This comprised a desk study, Phase 1 Habitat Survey and an ecological scoping survey, which assessed the potential of the site to support species of conservation concern or other species which could present a constraint to the development of the site.
- The proposals involve the construction of an outside decking area and associated landscaping on the level 5 roof terrace, along with enhancements to the level 2 terrace.
- The site is approximately 0.02 ha in size and comprised of biodiverse roof and hardstanding. The surrounding area is highly urban in nature.
- No impacts upon designated sites would occur from the construction of the proposed development, given the limited scope of the works involved, and the surrounding habitats.
- Recommendations to protect both birds have been recommended.
- The proposed landscape scheme has the potential to enhance the site for biodiversity from its current use and level of habitat diversity, and an assessment of the Biodiversity Net Gain (BNG) has been prepared to sit alongside the application, which demonstrates this.

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**Appendices**

- Appendix A** : Relevant Legislation
- Appendix B** : Development Plans
- Appendix C** : Site Photographs

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# 1 INTRODUCTION

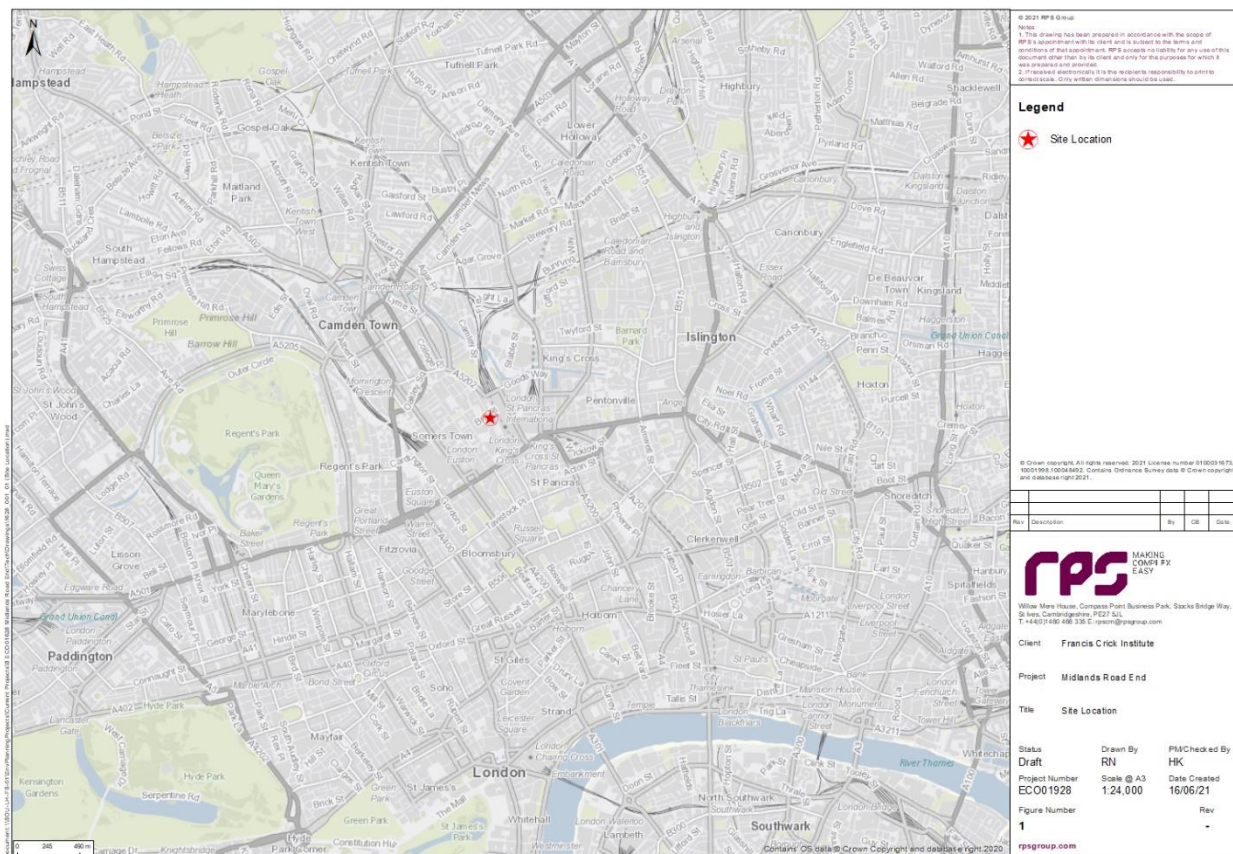
## 1.1 Purpose and scope of this report

- 1.1.1 RPS were commissioned by the Francis Crick Institute to undertake a Preliminary Ecological Appraisal (PEA) of two outdoor roof terrace areas at the Francis Crick Institute, 1 Midland Rd, London NW1 1AT. To undertake an initial assessment of the potential ecological impact of the proposals, a desk study, Phase 1 Habitat Survey, and a preliminary protected species assessment were carried out. This is termed as a Preliminary Ecological Appraisal Report (PEAR) in accordance with CIEEM (2017). This assessment is considered 'preliminary' until any required protected species, habitat or invasive species surveys are completed, and the results incorporated into a final Ecological Appraisal or Ecological Impact Assessment (EclA) which supports the planning application.
- 1.1.2 The PEA aims to:
- undertake a desk-based review of designated sites and records of protected species and other species that could present a constraint;
  - map and assess the habitats present on site;
  - assess the site for potential to support protected species or other species that could present a constraint, and make appropriate recommendations for further survey work if necessary;
  - provide outline options for mitigation measures as appropriate; and
  - make recommendations for appropriate biodiversity enhancements in line with national and local planning policy.
- 1.1.3 This report pertains to these results only; recommendations included within this report are the professional opinion of an experienced ecologist and therefore the view of RPS. The surveys and desk-based assessments undertaken as part of this review and subsequent report including the Ecological Appraisal Notes are prepared in accordance with the British Standard for Biodiversity Code of Practice for Planning and Development (BS42020:2013).

## 1.2 Study area and Zone of Influence

- 1.2.1 The site is located at the Francis Crick Institute, 1 Midland Rd, London NW1 1AT. The site is approximately 0.02 ha in size and comprises the level 2 and level 5 roof terraced areas. The National Grid coordinates for the centre of the site are TQ 29937 83119.
- 1.2.2 The site comprised a biodiverse roof and areas of hardstanding.
- 1.2.3 The site location is shown on Figure 1.1. Aerial imaging available via Google Earth Pro was also reviewed to assess the site in relation to its context in the wider landscape. As illustrated on Figure 1.1, the area is highly urban in nature with the nearest greenspace, Brill Place, located immediately north of the site.

**Figure 1.1: Site Location**



1.2.4 The term Zone of Influence (ZoI) is used to describe the geographic extent of potential impacts of a proposed development. The Zone of Influence is determined by the nature of the development and also in relation to designated sites, habitats or species which might be affected by the proposals.

1.2.5 For this site, the Zone of Influence is considered to be land on and immediately adjacent to the site.

## 1.3 Development proposals

1.3.1 The proposals involve the refurbishment of two terrace areas at the Francis Crick Institute, to provide more useable outdoor space (in direct response to COVID-19), along with associated landscaping.

1.3.2 The currently proposed site plan is provided in Appendix B.

## 1.4 Legislation and policy

1.4.1 Relevant legislation, policy guidance and both Local and National Biodiversity Action Plans (BAPs) are referred to throughout this report where appropriate. Their context and application is explained in the relevant sections of this report.

1.4.2 The relevant articles of legislation are:

- The National Planning Policy Framework (NPPF, 2021);
- ODPM Circular 06/2005 (retained as Technical Guidance on NPPF 2021);
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019;
- The Wildlife and Countryside Act 1981 (as amended);
- The Protection of Badgers Act 1992;
- The Countryside and Rights of Way Act 2000;

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- The Hedgerow Regulations 1997;
  - The Natural Environment and Rural Communities Act 2006;
  - The London Plan (2021); and
  - Camden Biodiversity Strategy.

1.4.3 A summary of legislation relevant to protected or other species identified as potential constraints in this report is provided in Appendix A.



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## 2 METHODS

### 2.1 Desk Study

- 2.1.1 Ecological records within a 2 km radius of the site were requested from the local records centre, GreenSpace Information for Greater London (GiGL). Data requests were limited to records for protected species recorded within the last ten years and sites of nature conservation interest within 2 km of the site. This included a review of existing statutory sites of nature conservation interest, such as Sites of Special Scientific Interest (SSSIs), Special Protection Areas (SPAs), Special Area of Conservation (SACs) and National Nature Reserves (NNRs), and non-statutory sites, such as Sites of Importance for Nature Conservation (SINCs) and Local Wildlife Sites (LWSs).
- 2.1.2 Locations of statutory designated sites were accessed via the government 'MAGIC' website (MagicMap, 2016).
- 2.1.3 A 1:25,000 OS map was used to identify nearby features such as ponds or green corridors that could provide habitat or connectivity to other areas.

### 2.2 Ecological Appraisal

- 2.2.1 The ecological appraisal consisted of two components: a Phase 1 Habitat Survey and a scoping survey for protected species and other species of conservation concern which could present a constraint to development.
- 2.2.2 An experienced ecologist, Hannah Knight MSc MCIEEM, undertook the survey on 23<sup>rd</sup> July 2021 during appropriate weather conditions.
- 2.2.3 The Phase 1 Habitat surveys followed the standard methodology (JNCC, 2010), and as described in the Guidelines for Preliminary Ecological Assessment (CIEEM, 2017). In summary, this comprised walking over the survey area and recording the habitat types and boundary features present.
- 2.2.4 A protected species scoping survey was carried out in conjunction with the Phase 1 Habitat survey. The site was assessed for its suitability to support protected species, in particular great crested newts *Triturus cristatus*, reptiles, birds, badgers *Meles meles*, bats, and other species of conservation importance that could pose a planning constraint.
- 2.2.5 The surveyor looked for evidence of use including signs such as burrows, droppings, footprints, paths, hairs, refugia and particular habitat types known to be used by certain groups such as ponds. Any mammal paths were also noted down and where possible followed. Fence boundaries were walked to establish any entry points or animal signs such as latrines. Areas of bare earth were inspected for mammal prints. Areas of habitat considered suitable for protected species or those of conservation interest were recorded.

### 2.3 Impact Appraisal

- 2.3.1 The overall ecological appraisal is based on the standard best practice methodology provided by the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017). The assessment identifies sites, habitats, species and other ecological features that are of value based on factors such as legal protection, statutory or local site designations such as Sites of Special Scientific Interest (SSSI) or Local Wildlife Sites (LWS) or inclusion on Red Data Book Lists or Biodiversity Action Plans.
- 2.3.2 The assessment also refers to planning policy guidance (e.g., NPPF) where relevant to relate the value of the site and potential impacts of development to the planning process, identifying constraints and opportunities for ecological enhancement in line with both national and local policy.
- 2.3.3 The methodology for evaluation of the nature conservation value of ecological features affected by development (ecological receptors) is adapted from the current Chartered Institute of Ecology & Environmental Management guidelines for Ecological Impact Assessment (CIEEM, 2016). These guidelines recommend assignment of value (or potential value) to ecological receptors in accordance with the following scale:

1. International;

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2. UK;
  3. National (i.e., England/Northern Ireland/Scotland/Wales);
  4. Regional;
  5. County (or Metropolitan - e.g., in London);
  6. District (or Unitary Authority, City, or Borough);
  7. Local or Parish; and/or
  8. within immediate zone of influence only.

2.3.4 Following on from the above, potential constraints to development are identified on that basis, with recommendations for further, more detailed surveys made as appropriate, for example to fully investigate botanical value or to confirm presence / likely absence of a protected species

2.3.5 In appraising any impacts, the review considers the client's site proposals and any subsequent recommendations made are proportionate and appropriate to the site and have considered the Mitigation Hierarchy as identified below:

- **Avoid:** Provide advice on how the development may proceed by avoiding impacts to any species or sites by either consideration of site design or identification of an alternative option.
- **Mitigate:** Where avoidance cannot be implemented, mitigation proposals are put forward to minimise impacts to species or sites as a result of the proposals. Mitigation put forward is proportionate to the site.
- **Compensate:** Where avoidance cannot be achieved any mitigation strategy will consider the requirements for site compensatory measures.
- **Enhance:** The assessment refers to planning policy guidance (e.g., NPPF) to relate the ecological value of the site and identify appropriate and proportionate ecological enhancement in line with both national and local policy.

2.3.6 When describing impacts on ecosystem structure and function, reference is made to the following aspects where appropriate:

1. extent;
2. magnitude;
3. duration;
4. reversibility;
5. timing and frequency; and

2.3.7 Understanding the nature of the impact enables determination of the effect on the ecological integrity of the ecological receptor. This in turn is assessed against the importance of the receptor to determine the significance of the effect on nature conservation interests as being (i) not significant, or (ii) a significant positive or adverse impact.

## 2.4 Limitations

### Desk Based Assessment

2.4.1 The desk study data is third party controlled data, purchased for the purposes of this report only. RPS cannot vouch for its accuracy and cannot be held liable for any error(s) in these data.

### Survey

2.4.2 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation and prediction of the natural environment.

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- 2.4.3 The protected/notable species assessment provides a preliminary view of the likelihood of these species occurring on the site, based on the suitability of the habitat, known distribution of the species in the local area provided in response to our enquiries and any direct evidence on the site. It should not be taken as providing a full and definitive survey of any protected/notable species group.

### **Accurate Lifespan of Ecological Data**

- 2.4.4 The majority of ecological data remain valid for only short periods due to the inherently transient nature of the subject. The survey results contained in this report are considered accurate for two years, assuming no significant considerable changes to the site conditions.

## 3 RESULTS

### 3.1 Designated Sites

- 3.1.1 There are two statutory sites, both designated as Local Nature Reserves (LNR) within 2 km of the site, the closest of these is Camley Street Nature Park LNR, 0.24 km from the site.
- 3.1.2 40 non-statutory sites are located within the 2 km search radius of the site. The closest of these is Camley Street Natural Park Site of Interest for Nature Conservation (SINC), located 0.24 km from the site.
- 3.1.3 A summary of these sites is provided in Table 3.1 below and the location of each site is detailed in Figure 3.1.

**Table 3.1: Designated sites within 2 km of the study area**

Site name	Type	Approx. area (ha)	Interest Features	Distance from site (km)
<b>STATUTORY SITES</b>				
Barnsbury Wood	LNR	0.32	Barnsbury Wood is a broad-leaved semi-natural woodland, with a glade comprised of semi-improved neutral grassland. The site has a good range of fungi and good populations of invertebrates and birds.	1.40
Camley Street Nature Park	LNR	0.84	This site is an urban wild space containing a range of habitat examples created on former vacant land. The wildlife interest is of high local educational and social value owing to the severe deficiency of wildlife sites in Greater London.	0.24
<b>NON-STATUTORY SITES</b>				
London's Canals M006	SINC	189.66	London's canals support a wide range of aquatic flora, amongst which are found a number of locally uncommon species.	0.28
Camley Street Natural Park M095	SINC	0.9	This tiny oasis of nature near King's Cross - one of the oldest and most influential of urban ecology parks - is home to many frogs, toads and newts and sees an abundance of wild flowers in summer.	0.24
Regent's Park M097	SINC	132.06	This historic Royal Park is probably the best place site for breeding and migrant birds in central London. Its famous heronry is one of London's largest.	1.27
Barnsbury Wood IsBI03	SINC	0.35	Barnsbury Wood is surrounded on all sides by the residential Victorian villas of Thornhill Square, presumably left as open space when the area was first developed in 1850. It is today composed of mature secondary woodland and provides valuable cover for common breeding birds	1.41
Caledonian Park IsBI06	SINC	3.128	The park, although still managed on a largely formal basis, has nevertheless been steadily transformed in recent years to become a haven for wildlife. Part of the amenity grassland is left to grow long in order to encourage wild flowers and insects to colonise.	1.50
Holloway Road to Caledonian Road Railsides IsBI11	SINC	2.121	The various sections of active railway line crossing Islington are of immense importance to its wildlife, as their cuttings and embankments support a significant proportion of the borough's undeveloped land. The network supports an extensive mosaic of open and wooded habitats, valued by birds, mammals and insects, as well as by rail travellers for the deceptively rural outlook that these afford. The vegetation which develops naturally alongside railways in Islington is influenced by the underlying substrate and the frequency and nature of management.	1.78
Copenhagen Junction IsBI12	SINC	2.94	The various sections of active railway line crossing Islington are of immense importance to its wildlife, as their cuttings and embankments support a significant proportion of the borough's undeveloped land. The network supports an extensive mosaic of open and wooded habitats, valued by birds, mammals and insects.	1.00
North London Line in Islington (west) IsBI14	SINC	1.03	The various sections of active railway line crossing Islington are of immense importance to its wildlife, as their cuttings and embankments support a significant proportion of the borough's undeveloped land. The network supports an extensive mosaic of open and wooded habitats, valued by birds, mammals and insects	1.40

Site name	Type	Approx. area (ha)	Interest Features	Distance from site (km)
London Zoo WeBII05	SINC	15.31	The landscape of the zoo can be considered an extension of the 'parkland' within Regent's Park; its habitats supporting many species of birds, invertebrates and mammals. House sparrow populations are declining rapidly, but London Zoo is a stronghold for these birds and has one of the largest populations in the capital. Nest boxes and feeding stations are sited to encourage the population to grow. Kestrels, sparrowhawks, green woodpeckers and grey herons are also regular visitors to London Zoo while flycatchers, turtle doves and black redstart are occasionally spotted. Wild mammals are less easily spotted than birds. Bats are some of the most common of the wild mammals living within London Zoo; bat surveys recording both common and soprano pipistrelle bats and daubenton's bats. Other mammals include foxes, grey squirrels, and occasionally hedgehogs.	1.57
Primrose Hill CaBII05	SINC	25.26	This area of Regent's Park consists mostly of mown amenity grassland with scattered groups of mature trees (located around the hill itself and at the park's perimeter). From the top of the hill is one of the classic views of London. The grassland beneath the trees and around most of the perimeter of the site is less often mown, retains some of the original fine leaved species including red fescue and creeping bent and is attracting a mix of wildflowers.	1.89
North London Line at York Way CaBII06	SINC	1.08	This area is all that remains of the extensive 'wasteland' habitats of the former King's Cross Goods Yard, most of which has been redeveloped. Much of the area is covered in scrub of butterfly bush ( <i>Buddleja davidii</i> ) and bramble with scattered trees of silver birch and sycamore although there are significant areas of semi-improved neutral grassland and roughland habitat supporting a variety of typical wasteland grasses and wildflowers including herb-robert ( <i>Geranium robertianum</i> ). This site is most likely very attractive to butterflies and other invertebrates.	0.96
St Pancras Gardens CaBII07	SINC	2.17	This old churchyard has had many headstones moved to the perimeter and only the larger important monuments left in situ. A few of these have a sparse covering of lichens and mosses. The site contains some fine mature trees.	0.27
Market Road Garden IsBII02	SINC	1.1	This is a small garden adjacent to Caledonian Park. It includes the Hayward Adventure Playground and an area of parkland with mature trees. The playground has a small wildlife area, with resident hedgehogs and grey squirrels, and several colourful wild flowers in the seeded meadow area.	1.60
Claremont Square Reservoir IsBII05	SINC	0.68	This small covered reservoir is viewable through its perimeter railings. The grassland on the top and sides of the reservoir supports a surprising diversity of wild flowers.	1.17
Culpeper Community Garden IsBII06	SINC	0.42	An area of communal allotments combines with a more decorative garden, part of which is managed for wildlife.	1.26
Claremont Close Lawns IsBII07	SINC	0.2	In perhaps the most unlikely situation for a wildlife site, the lawns of Claremont Close are of importance for their diversity of wild flowers.	1.29
St Mary's Church Gardens IsBII12	SINC	0.59	The parish churchyard of St Mary's on Upper Street is a well-kept public garden with lawns.	1.93
Park Square Gardens WeBII04	SINC	2.23	This is a large private square lying between Regent's Park and the heavily congested Marylebone Road. This garden was recognised as one of the best small open spaces in inner London for birds in survey by the London Natural History Society in 1988.	1.43
Phoenix Garden CaL04	SINC	0.12	This garden is located in the heart of London just off Shaftsbury Avenue. There is an open meadow area and rockery, pond and children's play area.	1.86
Calthorpe Community Garden CaL05	SINC	0.44	This garden is located in a very built up area of London just off the Grays Inn Road and the site contains a number of scattered trees. There is an artificial stream and the rockery gardens are planted with a number of insect-attracting species. A small pond located in the wildlife area with restricted access, with marginal vegetation, and supports frogs.	0.83
St Andrew's Gardens CaL08	SINC	0.66	This old churchyard has had many headstones moved to the perimeter and only the larger important monuments left in situ. A few of these have a sparse covering of lichens and mosses. The site contains some fine mature trees.	1.02
St George's Gardens CaL09	SINC	1.06	This is an old churchyard site that is now managed as a public park. It contains many mature trees, particularly London plane, weeping ash and common lime. There are areas of shrubbery which contain insect-attracting plants such as butterfly-bush, rose and lavender, as well as providing nesting cover for blackbirds and wrens.	0.76
Russell Square CaL11	SINC	2.49	This square is one of the largest in central London and contains many mature trees.	1.01

Site name	Type	Approx. area (ha)	Interest Features	Distance from site (km)
Lincoln's Inn Fields CaL12	SINC	2.93	The largest of the London squares is well known for its magnificent old plane trees, some of the first to be planted in Britain.	1.79
Gordon Square CaL13	SINC	0.92	A well-treed London square with a good range of birds.	0.79
Coram's Fields CaL14	SINC	2.7	There are numerous mature London plane trees, mostly at the perimeter, and a hedge of beech. At the western edge of the site, white mulberry and black mulberry have been planted, while ground flora is dominated by species characteristic of acid grassland, such as red and sheep fescue, parsley-piert, along field madder and a variety of ruderal plants. This area is currently grazed by goats and includes several raised beds and fruit trees. To the east an area is being developed as a wildlife garden with a small pond supporting frogs and newts.	0.87
Rochester Terrace Gardens CaL15	SINC	0.44	An attractive public garden which is managed with wildlife in mind.	1.51
St Martin's Gardens CaL18	SINC	0.69	Small urban park with many areas of well maintained ornamental flower and shrub beds some of which are planted with plants attractive to insects and optehr invertebrates. several planted shrubs are of value for breeding common birds such as robin and blackbird. A wildlife area has been sown with a wildflower seed mix and supports a variety of plant species of value for invertebrates.	0.99
Bingfield Park IsL06	SINC	1.21	A relatively large open space with a variety of common birds.	0.90
Spa Green Garden IsL10	SINC	0.32	A long, narrow public garden with lawns, rose-beds and shrubberies containing many native species.	1.50
Thornhill Square IsL17	SINC	1.13	Thornhill Square was built in the 1850s, being designed around St Andrew's Church at the northern end. It is one of the largest squares in Islington and possesses many densely planted shrubberies and mature trees.	1.18
Lloyd Square IsL18	SINC	0.19	Lloyd Square is fairly small and is privately managed by the local residents living in surrounding properties. It has a rather charming, unkempt feel which of course is just the right approach for encouraging wildlife.	1.15
Barnsbury Square IsL19	SINC	0.5	Barnsbury Square is an attractive square with a high density of trees, built on the ancient site of a Roman military camp.	1.51
Wilmington Square IsL20	SINC	0.39	Being south-facing this square benefits greatly as a sun-trap, and has been planted with a wide range of native trees and shrubs.	1.28
Winton Primary School Garden IsL28	SINC	0.03	This small school nature has recently been refurbished. It contains a pond and dipping platform.	0.67
Andersons Square Gardens IsL29	SINC	0.04	Diverse ornamental garden within a modern development close to a busy part of Islington (Angel). The site contains a reasonable diversity of mostly ornamental species and a pond. Surrounding buildings have terraces/green roofs.	1.86
Barnard Park IsL30	SINC	3.58	The majority of the park comprises species-poor amenity grassland with scattered trees. The large number of mature trees provide nesting opportunities for common bird species. The park is designated as a SINC on account of its size and function in the landscape ecology of the local area. To the west of the main body of the park is Hemingford Road Green (known as Barnard Park extension) which supports a wildflower meadow.	1.13
Bemerton Estate – Garden IsL32	SINC	0.15	Areas of grassland with relatively rich species diversity, and mature scattered trees which provide habitat for nesting birds.	1.12
Skinner Street Open Space IsL39	SINC	0.38	A diverse and attractive park containing areas of amenity lawn and mature trees. Supports good balance of amenity vs habitat/wildlife planting and includes innovative combinations of different habitat types.	1.55
Spa Fields Gardens IsL40	SINC	0.84	A medium sized, recently landscaped park with a range of habitats including species-rich ornamental flower beds, amenity grassland lawns, areas where ornamental grape vines are being grown, scattered trees and ornamental shrubberies	1.48

Abbreviations used in Table 3.1: SINC Sites of Importance for Nature Conservation (SINC)s are recognised by the Greater London Authority and London borough councils as important wildlife site, LNR: Local Nature Reserve; NS: Not supplied; ha: hectare.

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**Figure 3.1: Designated sites within 2 km**







## 3.2 Species

3.2.1 Records of protected species were obtained from the GiGL. A number of species of conservation importance or otherwise notable were recorded within the 2 km search radius of the site. A summary of these records is provided in Table 3.2.

3.2.2 In order to simplify the results, only records of species from the last 10 years are shown. In addition, only data with a 6-figure grid reference resolution or higher are provided since locations given at a lower resolution do not allow accurate calculation of distance to the site boundary.

**Table 3.2: Species records from the last 10 years within 2 km of the site**

Taxon Group	Taxon Name	Common Name	Designation	Total number of occurrences	Distance (m)	Date of most recent record
Amphibians	<i>Bufo bufo</i>	Common Toad	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc	37	0.39	2017
Amphibians	<i>Rana temporaria</i>	Common Frog	HSD5 Local Spp of Cons Conc	64	0.39	2017
Birds	<i>Acanthis cabaret</i>	Lesser Redpoll	NERC Act Section 41 UKBAP Bird-Red	97	0.59	2017
Birds	<i>Acanthis flammea</i>	Common (Mealy) Redpoll	BAP Priority London Local Spp of Cons Conc	17	0.45	2013
Birds	<i>Alauda arvensis</i>	Eurasian Skylark	NERC Act Section 41 BAP Priority London Local Spp of Cons Conc Bird-Red	55	1.60	2017
Birds	<i>Alcedo atthis</i>	Kingfisher	Birds Dir Anx 1 W&CA Sch1 Part 1 Local Spp of Cons Conc	88	0.38	2017
Birds	<i>Anas acuta</i>	Pintail	Local Spp of Cons Conc	15	1.66	2017
Birds	<i>Anas crecca</i>	Teal	Local Spp of Cons Conc	109	0.94	2017
Birds	<i>Anser albifrons</i>	White-fronted Goose	Bird-Red	5	1.76	2012
Birds	<i>Anthus pratensis</i>	Meadow Pipit	Local Spp of Cons Conc	157	1.05	2017
Birds	<i>Anthus trivialis</i>	Tree Pipit	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc Bird-Red	46	1.76	2017
Birds	<i>Apus apus</i>	Swift	Local Spp of Cons Conc	209	0.41	2018
Birds	<i>Ardea cinerea</i>	Grey Heron	Local Spp of Cons Conc	140	0.39	2018
Birds	<i>Asio flammeus</i>	Short-eared Owl	Birds Dir Anx 1 Local Spp of Cons Conc	10	1.76	2015
Birds	<i>Aythya ferina</i>	Pochard	Bird-Red	110	1.66	2018
Birds	<i>Aythya marila</i>	Scaup	W&CA Sch1 Part 1 NERC Act Section 41 UKBAP Bird-Red	13	1.76	2015
Birds	<i>Branta leucopsis</i>	Barnacle Goose	Birds Dir Anx 1	6	1.76	2013
Birds	<i>Bucephala clangula</i>	Goldeneye	Local Spp of Cons Conc	4	1.76	2014
Birds	<i>Calcarius lapponicus</i>	Lapland Bunting	W&CA Sch1 Part 1	1	1.76	2017
Birds	<i>Calonectris diomedea</i>	Scopoli's Shearwater	Birds Dir Anx 1	2	1.76	2016
Birds	<i>Circus aeruginosus</i>	Western Marsh Harrier	Birds Dir Anx 1 W&CA Sch1 Part 1	4	0.35	2016
Birds	<i>Columba oenas</i>	Stock Dove	Local Spp of Cons Conc	68	1.63	2017
Birds	<i>Corvus frugilegus</i>	Rook	Local Spp of Cons Conc	24	1.76	2017
Birds	<i>Cuculus canorus</i>	Cuckoo	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc Bird-Red	20	1.76	2017

Birds	<i>Cygnus cygnus</i>	Whooper Swan	Birds Dir Anx 1 W&CA Sch1 Part 1	1	1.76	2012
Birds	<i>Cygnus olor</i>	Mute Swan	Local Spp of Cons Conc	53	0.40	2017
Birds	<i>Delichon urbicum</i>	Common House Martin	Local Spp of Cons Conc	223	0.39	2017
Birds	<i>Dryobates minor</i>	Lesser Spotted Woodpecker	BAP Priority London Local Spp of Cons Conc Bird-Red	11	0.39	2015
Birds	<i>Egretta garzetta</i>	Little Egret	Birds Dir Anx 1 Local Spp of Cons Conc	10	1.76	2015
Birds	<i>Emberiza citrinella</i>	Yellowhammer	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc Bird-Red	8	1.76	2017
Birds	<i>Emberiza schoeniclus</i>	Common Reed Bunting	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc	88	0.39	2017
Birds	<i>Falco tinnunculus</i>	Kestrel	Local Spp of Cons Conc	295	0.39	2019
Birds	<i>Ficedula hypoleuca</i>	European Pied Flycatcher	Bird-Red	48	1.76	2017
Birds	<i>Fringilla montifringilla</i>	Brambling	W&CA Sch1 Part 1	52	0.39	2017
Birds	<i>Gallinago gallinago</i>	Snipe	Local Spp of Cons Conc	22	0.59	2013
Birds	<i>Hirundo rustica</i>	Swallow	Local Spp of Cons Conc	184	0.39	2018
Birds	<i>Ichthyaetus melanocephalus</i>	Mediterranean Gull	Birds Dir Anx 1 W&CA Sch1 Part 1	16	1.76	2011
Birds	<i>Jynx torquilla</i>	Wryneck	W&CA Sch1 Part 1 UKBAP	1	1.76	2011
Birds	<i>Larus argentatus</i>	European Herring Gull	BAP Priority London Local Spp of Cons Conc Bird-Red	128	0.24	2017
Birds	<i>Larus fuscus</i>	Lesser Black-backed Gull	Local Spp of Cons Conc	43	0.41	2017
Birds	<i>Larus fuscus fuscus</i>	Baltic Gull	Local Spp of Cons Conc	23	1.76	2017
Birds	<i>Linaria cannabina</i>	Linnet	BAP Priority London Local Spp of Cons Conc Bird-Red	62	1.02	2017
Birds	<i>Locustella naevia</i>	Grasshopper Warbler	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc Bird-Red	2	1.76	2015
Birds	<i>Loxia curvirostra</i>	Red Crossbill	W&CA Sch1 Part 1 Local Spp of Cons Conc	27	1.76	2015
Birds	<i>Mareca penelope</i>	Wigeon	Local Spp of Cons Conc	55	1.66	2019
Birds	<i>Mareca strepera</i>	Gadwall	Local Spp of Cons Conc	131	1.76	2017
Birds	<i>Melanitta nigra</i>	Common Scoter	W&CA Sch1 Part 1 NERC Act Section 41 UKBAP Bird-Red	3	1.76	2016
Birds	<i>Mergellus albellus</i>	Smew	Birds Dir Anx 1	33	1.76	2014
Birds	<i>Milvus milvus</i>	Red Kite	Birds Dir Anx 1 W&CA Sch1 Part 1	20	1.07	2019
Birds	<i>Motacilla cinerea</i>	Grey Wagtail	Local Spp of Cons Conc Bird-Red	216	0.39	2017
Birds	<i>Motacilla flava</i>	Western Yellow Wagtail	BAP Priority London Local Spp of Cons Conc Bird-Red	84	0.39	2017
Birds	<i>Muscicapa striata</i>	Spotted Flycatcher	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc Bird-Red	149	0.41	2017
Birds	<i>Numenius arquata</i>	Curlew	NERC Act Section 41 UKBAP Bird-Red	6	1.76	2012
Birds	<i>Numenius phaeopus</i>	Eurasian Whimbrel	W&CA Sch1 Part 1 Bird-Red	11	1.76	2016
Birds	<i>Pandion haliaetus</i>	Western Osprey	Birds Dir Anx 1 W&CA Sch1 Part 1	11	1.76	2015

Birds	<i>Passer domesticus</i>	House Sparrow	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc Bird-Red	566	0.22	2019
Birds	<i>Pernis apivorus</i>	European Honey Buzzard	Birds Dir Anx 1 W&CA Sch1 Part 1	6	1.76	2014
Birds	<i>Phalacrocorax aristotelis</i>	Shag	Bird-Red	2	1.31	2011
Birds	<i>Phoenicurus ochrurus</i>	Black Redstart	W&CA Sch1 Part 1 BAP Priority London Bird-Red	10	0.39	2019
Birds	<i>Phylloscopus sibilatrix</i>	Wood Warbler	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc Bird-Red	17	1.76	2015
Birds	<i>Phylloscopus trochilus</i>	Willow Warbler	Local Spp of Cons Conc	274	0.39	2017
Birds	<i>Pluvialis apricaria</i>	Golden Plover	Birds Dir Anx 1	8	1.76	2017
Birds	<i>Prunella modularis</i>	Dunnock	BAP Priority London Local Spp of Cons Conc	822	0.28	2019
Birds	<i>Pyrhula pyrrhula</i>	Eurasian Bullfinch	BAP Priority London	15	1.76	2017
Birds	<i>Rallus aquaticus</i>	Water Rail	Local Spp of Cons Conc	106	1.76	2017
Birds	<i>Regulus ignicapilla</i>	Common Firecrest	W&CA Sch1 Part 1 Local Spp of Cons Conc	66	0.39	2017
Birds	<i>Regulus regulus</i>	Goldcrest	Local Spp of Cons Conc	588	0.39	2019
Birds	<i>Riparia riparia</i>	Sand Martin	BAP Priority London Local Spp of Cons Conc	48	0.39	2017
Birds	<i>Rissa tridactyla</i>	Kittiwake	Bird-Red	6	1.76	2017
Birds	<i>Saxicola rubetra</i>	Whinchat	Bird-Red	60	1.76	2017
Birds	<i>Saxicola rubicola</i>	Stonechat	Local Spp of Cons Conc	20	1.76	2019
Birds	<i>Scolopax rusticola</i>	Woodcock	Local Spp of Cons Conc Bird- Red	82	0.84	2019
Birds	<i>Spatula clypeata</i>	Shoveler	Local Spp of Cons Conc	229	1.65	2017
Birds	<i>Sterna hirundo</i>	Common Tern	Birds Dir Anx 1 Local Spp of Cons Conc	68	0.46	2017
Birds	<i>Sterna paradisaea</i>	Arctic Tern	Birds Dir Anx 1	11	1.76	2015
Birds	<i>Streptopelia turtur</i>	Turtle Dove	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc Bird-Red	8	1.76	2014
Birds	<i>Strix aluco</i>	Tawny Owl	Local Spp of Cons Conc	73	1.41	2017
Birds	<i>Sturnus vulgaris</i>	Starling	BAP Priority London Local Spp of Cons Conc Bird-Red	562	0.39	2019
Birds	<i>Tadorna tadorna</i>	Shelduck	Local Spp of Cons Conc	92	1.72	2016
Birds	<i>Thalasseus sandvicensis</i>	Sandwich Tern	Birds Dir Anx 1	7	1.76	2017
Birds	<i>Tringa nebularia</i>	Greenshank	W&CA Sch1 Part 1	4	1.76	2012
Birds	<i>Tringa ochropus</i>	Green Sandpiper	W&CA Sch1 Part 1	5	0.59	2016
Birds	<i>Tringa totanus</i>	Redshank	Local Spp of Cons Conc	1	0.89	2017
Birds	<i>Turdus iliacus</i>	Redwing	W&CA Sch1 Part 1 Bird-Red	359	0.45	2017
Birds	<i>Turdus philomelos</i>	Song Thrush	BAP Priority London Local Spp of Cons Conc Bird-Red	749	0.39	2019
Birds	<i>Turdus pilaris</i>	Fieldfare	W&CA Sch1 Part 1 Bird-Red	184	0.45	2019
Birds	<i>Turdus torquatus</i>	Ring Ouzel	NERC Act Section 41 UKBAP Bird-Red	32	1.76	2017
Birds	<i>Turdus viscivorus</i>	Mistle Thrush	Local Spp of Cons Conc Bird-Red	332	0.45	2019
Birds	<i>Vanellus vanellus</i>	Lapwing	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc Bird-Red	40	0.28	2017

Fungi	<i>Corioloopsis gallica</i>	Brownflesh Bracket	Local Spp of Cons Conc	1	1.78	2015
Fungi	<i>Leccinum scabrum</i>	Blushing Bolete	RedList_GB-DD	4	1.76	2015
Invertebrates	<i>Arctia caja</i>	Garden Tiger	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc	1	1.81	2015
Invertebrates	<i>Cleptes semiauratus</i>	An Ant, Bee, Sawfly or Wasp	Local Spp of Cons Conc Nationally Notable B	1	1.33	2013
Invertebrates	<i>Coenonympha pamphilus pamphilus</i>	Small Heath	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc RedList_GB-Lr(NT)	1	1.65	2019
Invertebrates	<i>Cupido minimus</i>	Small Blue	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc RedList_GB-Lr(NT)	2	1.74	2011
Invertebrates	<i>Euplagia quadripunctaria</i>	Jersey Tiger	Hab&Spp Dir Anx 2	12	1.56	2019
Invertebrates	<i>Lucanus cervus</i>	Stag Beetle	Hab&Spp Dir Anx 2 NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc Nationally Notable B	36	0.39	2020
Invertebrates	<i>Melanargia galathea serena</i>	Marbled White	Local Spp of Cons Conc	7	1.82	2019
Invertebrates	<i>Nigma walckenaeri</i>	A Spider	Local Spp of Cons Conc	1	1.08	2011
Invertebrates	<i>Pachycnemia hippocastanaria</i>	Horse Chestnut	Local Spp of Cons Conc	1	0.39	2014
Invertebrates	<i>Philonthus nitidicollis</i>	A Beetle	Nationally Notable B	4	1.85	2017
Invertebrates	<i>Satyrrium w-album</i>	White-letter Hairstreak	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc RedList_GB-EN	18	1.31	2019
Invertebrates	<i>Stagnicola palustris/fuscus/corvus</i>	Marsh Pond Snail	RedList_GB-DD	2	0.69	2012
Invertebrates	<i>Sympetrum striolatum</i>	Common Sympetrum	RedList_GB-DD	20	0.39	2019
Invertebrates	<i>Tyria jacobaeae</i>	Cinnabar	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc	12	0.39	2013
Invertebrates	<i>Volucella zonaria</i>	Hornet Mimic Hoverfly	Local Spp of Cons Conc	1	0.39	2014
Lichens	<i>Verrucaria ochrostoma</i>	A Lichen	RedList_GB-DD	1	0.43	2013
Mammals - Terrestrial (bats)	<i>Chiroptera</i>	Bats	Hab&Spp Dir Anx 2 Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b W&CA Sch5 Sec 9.4c NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc RedList_GB-CR RedList_GB-EN RedList_GB-VU RedList_GB-Lr(NT) RedList_GB-DD	7	0.39	2018
Mammals - Terrestrial (bats)	<i>Eptesicus serotinus</i>	Serotine	Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b W&CA Sch5 Sec 9.4c BAP Priority London Local Spp of Cons Conc RedList_GB-VU	5	1.55	2017
Mammals - Terrestrial (bats)	<i>Myotis</i>	Unidentified Bat	Hab&Spp Dir Anx 2 Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b W&CA Sch5 Sec 9.4c NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc RedList_GB-CR RedList_GB-DD	24	1.55	2017

Mammals - Terrestrial (bats)	<i>Nyctalus</i>	Nyctalus Bat species	Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b W&CA Sch5 Sec 9.4c NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc RedList_GB-Lr(NT)	24	0.68	2017
Mammals - Terrestrial (bats)	<i>Nyctalus leisleri</i>	Lesser Noctule	Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b W&CA Sch5 Sec 9.4c BAP Priority London Local Spp of Cons Conc RedList_GB-Lr(NT)	1	1.61	2011
Mammals - Terrestrial (bats)	<i>Nyctalus noctula</i>	Noctule Bat	Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b W&CA Sch5 Sec 9.4c NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc	21	0.76	2017
Mammals - Terrestrial (bats)	<i>Pipistrellus</i>	Pipistrelle Bat species	Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b W&CA Sch5 Sec 9.4c NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc RedList_GB-Lr(NT)	178	0.34	2017
Mammals - Terrestrial (bats)	<i>Pipistrellus nathusii</i>	Nathusius's Pipistrelle	Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b W&CA Sch5 Sec 9.4c BAP Priority London Local Spp of Cons Conc RedList_GB-Lr(NT)	21	0.61	2017
Mammals - Terrestrial (bats)	<i>Pipistrellus pipistrellus</i>	Common Pipistrelle	Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b W&CA Sch5 Sec 9.4c BAP Priority London	250	0.26	2019
Mammals - Terrestrial (bats)	<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b W&CA Sch5 Sec 9.4c NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc	183	0.26	2017
Mammals - Terrestrial (bats)	<i>Vespertilionidae</i>	Bats	Hab&Spp Dir Anx 2 Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b W&CA Sch5 Sec 9.4c NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc RedList_GB-CR RedList_GB-EN RedList_GB-VU RedList_GB-Lr(NT) RedList_GB-DD	160	0.34	2017
Mammals - Terrestrial (excl. bats)	<i>Erinaceus europaeus</i>	West European Hedgehog	NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc RedList_GB-VU	472	1.02	2019
Mammals - Terrestrial (excl. bats)	<i>Lutra lutra</i>	European Otter	Hab&Spp Dir Anx 2 Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b W&CA Sch5 Sec 9.4c NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc	1	0.64	2013
Mammals - Terrestrial (excl. bats)	<i>Sorex araneus</i>	Eurasian Common Shrew	Local Spp of Cons Conc	1	1.36	2012
Plants	<i>Adiantum capillus-veneris</i>	Maidenhair Fern	Nationally Scarce	2	1.43	2011
Plants	<i>Angelica archangelica</i>	Garden Angelica	RedList_GB-RE	5	0.39	2012
Plants	<i>Anthemis arvensis</i>	Corn Chamomile	RedList_GB-EN	2	1.23	2015

Plants	<i>Asplenium obovatum</i> <i>subsp. lanceolatum</i>	A Fern	RedList_GB-Lr(NT) Nationally Scarce	2	0.42	2012
Plants	<i>Atriplex littoralis</i>	Grass-leaved Orache	Local Spp of Cons Conc	4	0.39	2014
Plants	<i>Buxus sempervirens</i>	Box	RedList_GB-DD Nationally Rare	6	0.88	2012
Plants	<i>Centaurea cyanus</i>	Cornflower	NERC Act Section 41 UKBAP	13	0.26	2017
Plants	<i>Chenopodium bonus-henricus</i>	Good-King-Henry	RedList_GB-VU	1	1.22	2011
Plants	<i>Chenopodium murale</i>	Nettle-leaved Goosefoot	Local Spp of Cons Conc RedList_GB-EN	24	0.41	2015
Plants	<i>Cyperus longus</i>	Galingale	RedList_GB-Lr(NT) Nationally Scarce	10	0.38	2012
Plants	<i>Dianthus armeria</i>	Deptford Pink	W&CA Sch8 NERC Act Section 41 UKBAP Local Spp of Cons Conc RedList_GB-EN Nationally Scarce	2	0.51	2017
Plants	<i>Dianthus deltoides</i>	Maiden Pink	RedList_GB-Lr(NT) Nationally Scarce	1	0.91	2014
Plants	<i>Dianthus gratianopolitanus</i>	Cheddar Pink	W&CA Sch8 RedList_GB-VU Nationally Rare	1	0.85	2017
Plants	<i>Echium vulgare</i>	Viper's-bugloss	Local Spp of Cons Conc	9	0.44	2017
Plants	<i>Filago vulgaris</i>	Common Cudweed	Local Spp of Cons Conc RedList_GB-Lr(NT)	2	1.74	2015
Plants	<i>Fritillaria meleagris</i>	Fritillary	Nationally Scarce	4	0.39	2012
Plants	<i>Geranium pratense</i>	Meadow Crane's- bill	Local Spp of Cons Conc	20	0.39	2019
Plants	<i>Glebionis segetum</i>	Corn Marigold	RedList_GB-VU	14	0.39	2015
Plants	<i>Gnaphalium luteoalbum</i>	Jersey Cudweed	W&CA Sch8	2	0.82	2013
Plants	<i>Hyacinthoides non-scripta</i>	Bluebell	W&CA Sch8 Local Spp of Cons Conc	14	0.39	2013
Plants	<i>Mentha pulegium</i>	Pennyroyal	W&CA Sch8 NERC Act Section 41 UKBAP BAP Priority London Local Spp of Cons Conc RedList_GB-EN Nationally Scarce	3	0.39	2014
Plants	<i>Muscari neglectum</i>	Grape-hyacinth	NERC Act Section 41 UKBAP Nationally Rare	1	0.65	2013
Plants	<i>Myosotis discolor</i>	Changing Forget- me-not	Local Spp of Cons Conc	1	0.89	2017
Plants	<i>Orobanche hederæ</i>	Ivy Broomrape	Local Spp of Cons Conc	3	0.37	2017
Plants	<i>Poa infirma</i>	Early Meadow- grass	Local Spp of Cons Conc Nationally Scarce	20	0.86	2015
Plants	<i>Polypogon monspeliensis</i>	Annual Beard- grass	Nationally Scarce	4	0.39	2017
Plants	<i>Salvia verbenaca</i>	Wild Clary	Local Spp of Cons Conc	5	0.39	2014
Plants	<i>Sanguisorba officinalis</i>	Great Burnet	Local Spp of Cons Conc	2	1.61	2019
Plants	<i>Saxifraga granulata</i>	Meadow Saxifrage	Local Spp of Cons Conc	1	0.85	2014
Plants	<i>Sedum forsterianum</i>	Rock Stonecrop	Nationally Scarce	4	0.28	2017
Plants	<i>Sedum telephium</i>	Orpine	Local Spp of Cons Conc	2	0.28	2017
Plants	<i>Silene noctiflora</i>	Night-flowering Catchfly	RedList_GB-VU	1	0.28	2017
Plants	<i>Sisymbrium irio</i>	London-rocket	Local Spp of Cons Conc	27	0.60	2017
Plants	<i>Teucrium scordium</i>	Water Germander	W&CA Sch8 NERC Act Section 41 UKBAP RedList_GB-EN Nationally Rare	1	0.47	2015
Plants	<i>Tilia platyphyllos</i>	Large-leaved Lime	Nationally Scarce	16	0.18	2020



Plants	<i>Umbilicus rupestris</i>	Navelwort	Local Spp of Cons Conc	15	0.57	2019
Plants	<i>Viola tricolor</i>	Wild Pansy	RedList_GB-Lr(NT)	7	0.28	2017
Plants	<i>Viscum album</i>	Mistletoe	BAP Priority London Local Spp of Cons Conc	1	0.98	2018

Abbreviations used in Table 3.2: WCA1i: Wildlife & Countryside Act Schedule 1, part 1; WCA2: Wildlife & Countryside Act Schedule 2; WCA5: Wildlife & Countryside Act Schedule 5; WCA8: Wildlife & Countryside Act Schedule 8; WCA9: Wildlife & Countryside Act Schedule 9; N: Nationally Notable; Nb: Notable B; NR: Nationally Rare; NS: Nationally Scarce; NERC: Natural Environment & Rural Communities Act Species of Principal Importance; UKBAP: UK Biodiversity Action Plan priority species; HabDir2, 4, 5: Habitats Directive Annex 2, 4, 5; PBA: Protection of Badgers Act 1992; RedList\_GB\_Pre94-R : Red List (pre 1994 IUCN guidelines) Rare; RedList\_Global\_post2001\_LC: Global Red list status: Lower risk - least concern; HabRegs2: The Conservation (Natural Habitats, &) Regulations 2017 (Schedule 2); HabRegs4: The Conservation (Natural Habitats, &) Regulations 2017 (Schedule 4); Birds:Red: Bird Population Status: red; Birds:Amber: Bird Population Status: amber; CROWACT: Countryside and Rights of Way Act 2000.

### 3.3 Phase 1 Habitat Survey

- 3.3.1 The survey results are presented in the form of a map with the habitat types and boundary features marked (Figure 3.2). Photographs can be found in Appendix C.
- 3.3.2 Descriptions of the habitat types and boundary features are detailed below. Habitat descriptions are defined by broad habitat types (JNCC, 2010).

#### Level 2 Roof Terrace

- 3.3.3 The level 2 terrace comprised of hardstanding (paving slabs) with no vegetation present.

#### Level 5 Roof Terrace

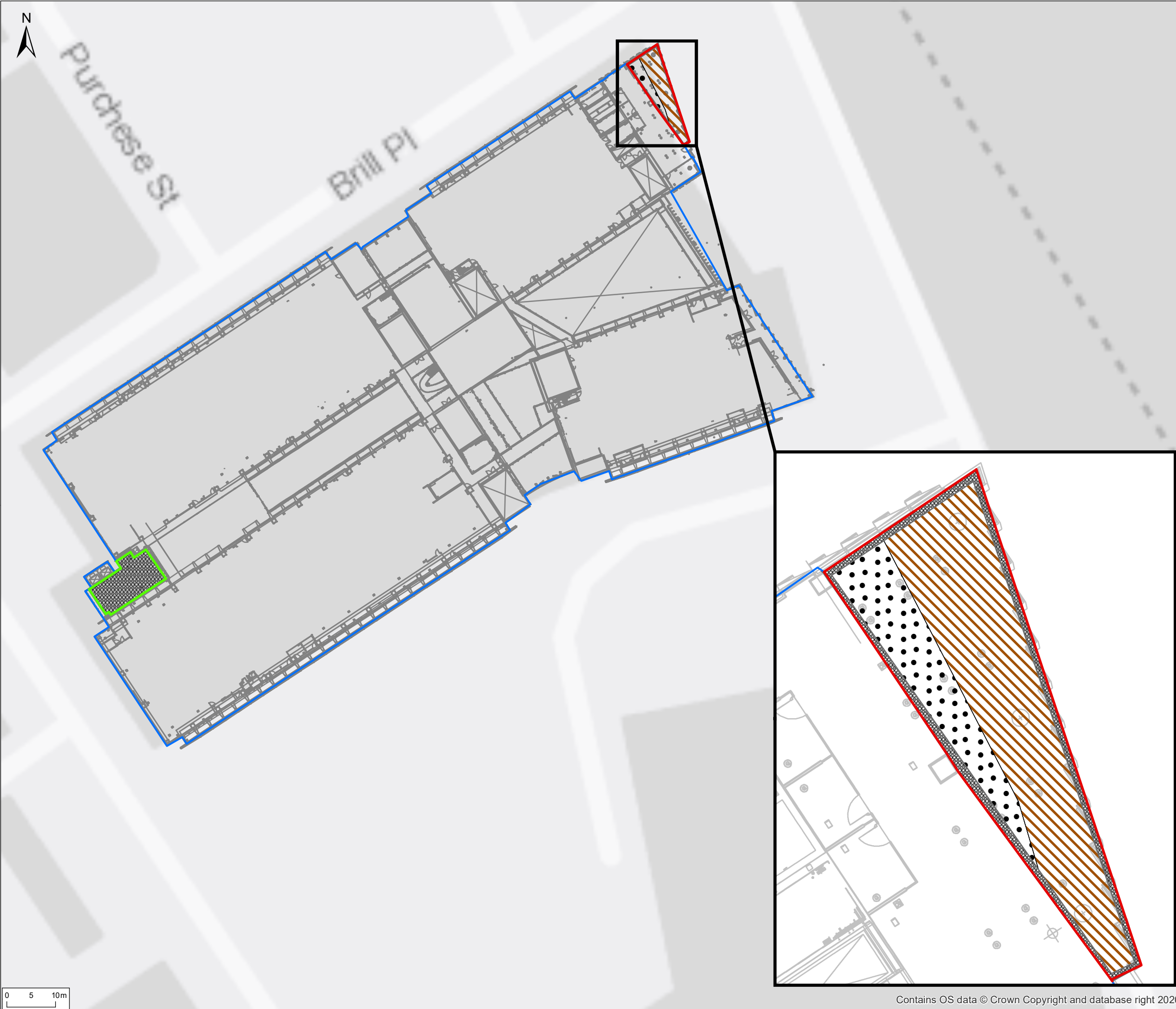
- 3.3.4 The terrace on level 5 had, as part of the development of the Francis Crick Institute (planning approval: 2010/4721/P), been set-aside as biodiverse roof; predominantly to provide habitat for black redstarts. However, owing to the height of the building and elevation of the level 5 terrace, part of the roof had failed to establish due to a lack of sunlight.
- 3.3.5 Species that were present on the unshaded part of the roof included ragwort *Jacobaea vulgaris*, yarrow *Achillea millefolium*, thistle *Carduus sp.*, chickweed *Stellaria media*, ribwort plantain *Plantago lanceolata*, bladder campion *Silene vulgaris*, sedums *Sedum sp.*, poppy *Papaver sp.*, geranium *Pelargonium sp.*, and bristly ox tongue *Helminthotheca echioides*.
- 3.3.6 Two log piles were present, although considering the isolated nature and limited vegetation on the roof, these are not considered to provide the desired result for species.

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### Figure 3.2: Phase 1 Habitat Survey Map



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- Application boundary
- Mitigation area
- Ownership boundary
- Bare ground
- Hard standing
- Brown roof

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Rev	Description	By	CB	Date



MAKING  
COMPLEX  
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Client Francis Crick Institute

Project Midlands Road End Level 5 Terrace

Title Phase 1 Habitats

Status Draft	Drawn By RN	PM/Checked By HK
Project Number ECO01628	Scale @ A3 1:750	Date Created 03/09/21
Figure Number 3.2		Rev -

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## 3.4 Ecological Scoping Survey

### Invertebrates

- 3.4.1 Bees were noted on site during the walkover, and anecdotally it was noted that hives are located nearby at Fortnum and Mason.

### Birds

- 3.4.2 The biodiverse roof on-site offers suitable habitat to support common species of nesting birds.

### Mammals

#### Bats

- 3.4.3 No suitable habitat was noted during the walkover for commuting/ foraging or roosting bats.

---

## 4 EVALUATION AND POTENTIAL IMPACTS

### 4.1 Designated sites

- 4.1.1 There are two statutory designated sites and 40 non-statutory designated sites within 2 km of the application boundary.
- 4.1.2 Given that the proposals are small in their extent, and that the intervening habitats between the application site and the closest designated site, Camley Street Nature Park, are largely urban, comprising further commercial and residential properties, no adverse effects arising from either the construction of operational phases of the development are foreseen.

### 4.2 Habitats

- 4.2.1 Table 4.1 below summarises the habitat types within the application site boundary and outlines the potential impacts of the development proposals to each of these habitats.

**Table 4.1: Summary of potential habitat impacts**

JNCC Code	Habitat Type	Area (ha)	% of site	Ecological Importance	Potential impact
C3.1	Biodiverse roof	0.009	45	Low	Breeding birds
HS	Hard standing	0.011	55	Negligible	N/A

### 4.3 Species

#### Breeding Birds

- 4.3.1 Breeding birds are protected by the Wildlife and Countryside Act 1981 (as amended). Under this legislation, it is an offence to intentionally kill, injure or take the birds or their eggs, or to intentionally destroy or disturb a nest, when it is in use or being built.
- 4.3.2 The biodiverse roof on the level 5 terrace provides some (albeit limited) nesting opportunities for a range of common bird species. Therefore, given the legal protection afforded to nesting birds, recommendations to protect bird nests are made in Section 5 of this report.

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## 5 MITIGATION AND ENHANCEMENT

### 5.1 Designated sites

- 5.1.1 There are two statutory designated sites and 40 non-statutory designated sites within 2 km of the application boundary.
- 5.1.2 Given that the proposals are small in their extent, and that the intervening habitats between the application site and the closest designated site, Camley Street Nature Park, are largely urban, comprising further commercial and residential properties, no adverse effects arising from either the construction of operational phases of the development are foreseen.

### 5.2 Habitats

- 5.2.1 The habitats on site, namely the biodiverse roof, was originally instated as part of the original planning application for the Francis Crick Institute, to provide habitat for black redstarts. Other areas of habitat are known to be present in the immediate wider surrounding area (URS, 2010).
- 5.2.2 Black redstarts are a London Biodiversity Action Plan (BAP) species, and so enhancements specific for this species are recommended in Section 5.3.
- 5.2.3 The existing biodiverse roof will be enhanced by new, native, planting, comprising a range of tree and shrub species, on both the level 5 and level 2 roof terraces; which will ensure that the function of providing habitat for birds, bats and invertebrates continues.

### 5.3 Species

#### Birds

- 5.3.1 In order to protect bird nests and comply with the law protecting them, any removal of suitable habitat (i.e., the biodiverse roof) should take place outside of the nesting season (March – September inclusive). If this is not possible, prior to removal, such vegetation should first be checked for the presence of nesting birds by an experienced ecologist. If any nests are found, they will be left undisturbed until the chicks had fledged (usually around six weeks). However, it is not intended to remove the existing biodiverse roof nor remove any nests as part of the proposed works.

#### Further Enhancements

- 5.3.2 Bird boxes are recommended within the final redevelopment design to enhance the site for breeding and mitigate for loss of suitable habitat for these species.
- 5.3.3 As, when constructed, the biodiverse roof was meant to provide habitat for black redstarts (URS, 2010), several suitable nesting boxes for this species should be included in the scheme. These could be installed on the edge of the existing biodiverse roof, over which the new decked terrace is then constructed.
- 5.3.4 Boxes specific for black redstart could include the following:
- Woodstone built-in open nest box;
  - 2HW Schwegler nest box.
- 5.3.5 In addition, boxes for more common bird species should be included, as an enhancement measure. These could be installed not only on the level 2 / level 5 terrace, but in suitable places around the Institute in general, such as the climbing shrubs in the street garden, on the other retained biodiverse

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roof terraces; or attached to the façade of the building. These boxes are best placed facing north-east, to avoid the strongest sunlight and the wettest winds.

5.3.6 Such boxes could include:

- 1SP Schwegler Sparrow Terrace; and
- Vivara Pro Seville woodstone nest box.

5.3.7 In addition to the mitigation measures outlined above, opportunities for enhancements could also include a series of insect to encourage invertebrates to use the site. These could be installed on the existing biodiverse roof, underneath the new terraced area; within the street-level gardens, or on the other retained biodiverse roofs.

5.3.8 Such boxes could include a range, available from the NHBS website (or similar).

5.3.9 Native planting, including shrubs, climbers and trees should be incorporated into the scheme, where appropriate and possible, to ensure that the terraces continue to provide foraging habitat for a range of species, including invertebrates, birds and bats.

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## APPENDICES

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## Appendix A: Relevant Legislation

### BIRDS

All birds, their nests and eggs are afforded protection under the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000. It is an offence to:

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; and
- intentionally take or destroy the egg of any wild bird.

Schedule 1 birds cannot be intentionally or recklessly disturbed when nesting and there are increased penalties for doing so. Licences can be issued to visit the nests of such birds for conservation, scientific or photographic purposes but not to allow disturbance during a development even in circumstances where that development is fully authorised by consents such as a valid planning permission.

### BATS

All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000. All British bats are also included on Schedule 2 of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 as European Protected Species. It is an offence to:

- intentionally or recklessly kill, injure or capture bats;
- deliberately or recklessly disturb bats (whether in a roost or not); and
- damage, destroy or obstruct access to bat roosts

A roost is defined as 'any structure or place which [a bat] uses for shelter or protection'. As bats tend to reuse the same roosts, legal opinion is that a roost is protected whether or not bats are present at the time of survey.

A licence will therefore be required by those who carry out any operation that would otherwise result in offences being committed.

The following bat species are listed as being of principal importance for the conservation of biodiversity in England, (commonly referred to as UKBAP Priority species): barbastelle *Barbastella barbastellus*, Bechstein's *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared *Plecotus auritus*, greater horseshoe *Rhinolophus ferrumequinum* and lesser horseshoe *Rhinolophus hipposideros*.



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## Appendix B: Development Plans

PLANT SPECIFICATION NOTES

All planters to have 100mm depth of clean angular stone drainage layer with imported topsoils above to 600mm depths. Topsoils to be from an approved source, in accordance with BS 3882:2015 and be classified as Multi Purpose. Topsoil shall under no circumstances become contaminated by other materials. Planting areas to be cultivated and prepared using ameliorants including Enmag slow release fertiliser or similar approved, applied in accordance with manufacturers recommendations to leave a friable and free draining material free from large stones, debris and other detritus for the full planting depth.

All plant material to be in accordance with the specified Plant Schedule and the following industry standards; BS 3936 Part 1 (1992), 'Nursery Stock Specification for Trees and Shrubs', BS3936 Part 10: 1990 'Nursery Stock Specification for Ground-cover Plants',BS3969 1998+A1:2013 'Recommendations for Turf for General Purpose' and 'Handling and Establishing Landscape Plants' HTA 1985, revised edition March 2002. Any stock planted outside the recognised planting season shall be containerised. Containerised plant stock shall have fully developed root system within the specified pot size.

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KEY

- PLANTING DIVISIONS
- SEASONAL BULBS

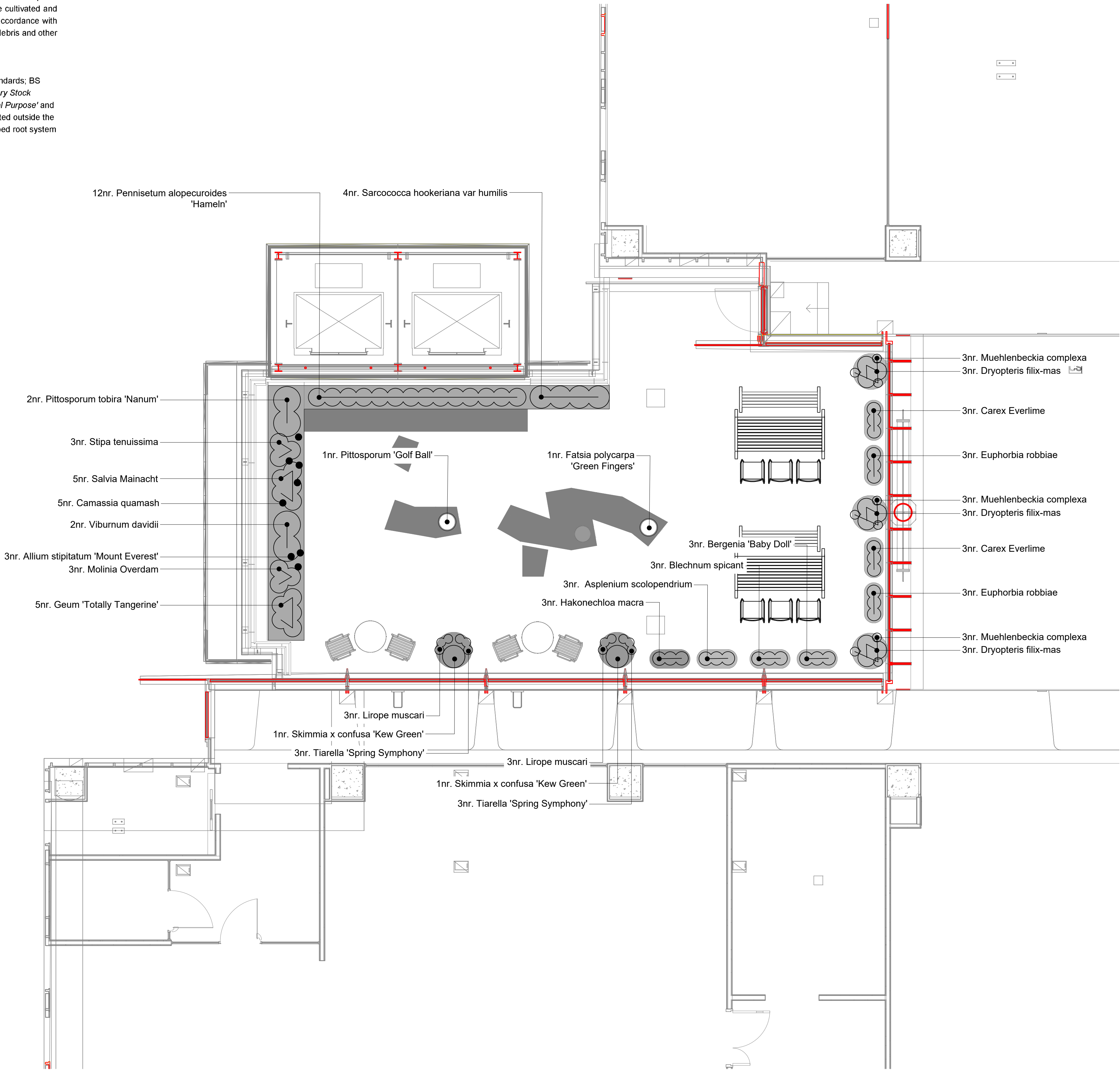
PLANT SCHEDULE

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ORNAMENTAL PLANTING

Ornamental Grasses			
Carex Everlime	Clump	3L	
Hakonechloa macra	Clump	3L	
Molinia Overdam	Clump	3L	
Pennisetum alopecuroides 'Hamel'	Clump	3L	
Stipa tenuissima	Clump	3L	
Herbaceous			
Bergenia 'Baby Doll'	Clump	3L	
Euphorbia robbiae	Clump	3L	
Geum 'Totally Tangerine'	Clump	3L	
Liriope muscari	Clump	3L	
Muehlenbeckia complexa	Clump	3L	
Salvia Mainacht	Clump	3L	
Tiarella 'Spring Symphony'	Clump	3L	
Shrubs			
Asplenium scolopendrium	Clump	3L	
Blechnum spicant	Clump	3L	
Dryopteris filix-mas	Clump	3L	
Fatsia polycarpa 'Green Fingers'	40-60cm	7.5L	
Pittosporum tenuifolium 'Golf Ball'	40-60cm	7.5L	
Pittosporum tobira 'Nanum'	40-60cm	7.5L	
Sarcococca hookeriana var humilis	20-30cm	5L	
Skimmia x confusa 'Kew Green'	40-60cm	7.5L	
Viburum davidii	40-60cm	7.5L	
Bulbs			
Allium stipitatum 'Mount Everest'	Grade 12/+	BI	
Camassia quamash		BI	

Any alterations to species, stock sizes or planting densities shall only be with prior consent of the CA /



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Client The Francis Crick Institute

Project Level 2 Terrace

Title Planting Plan

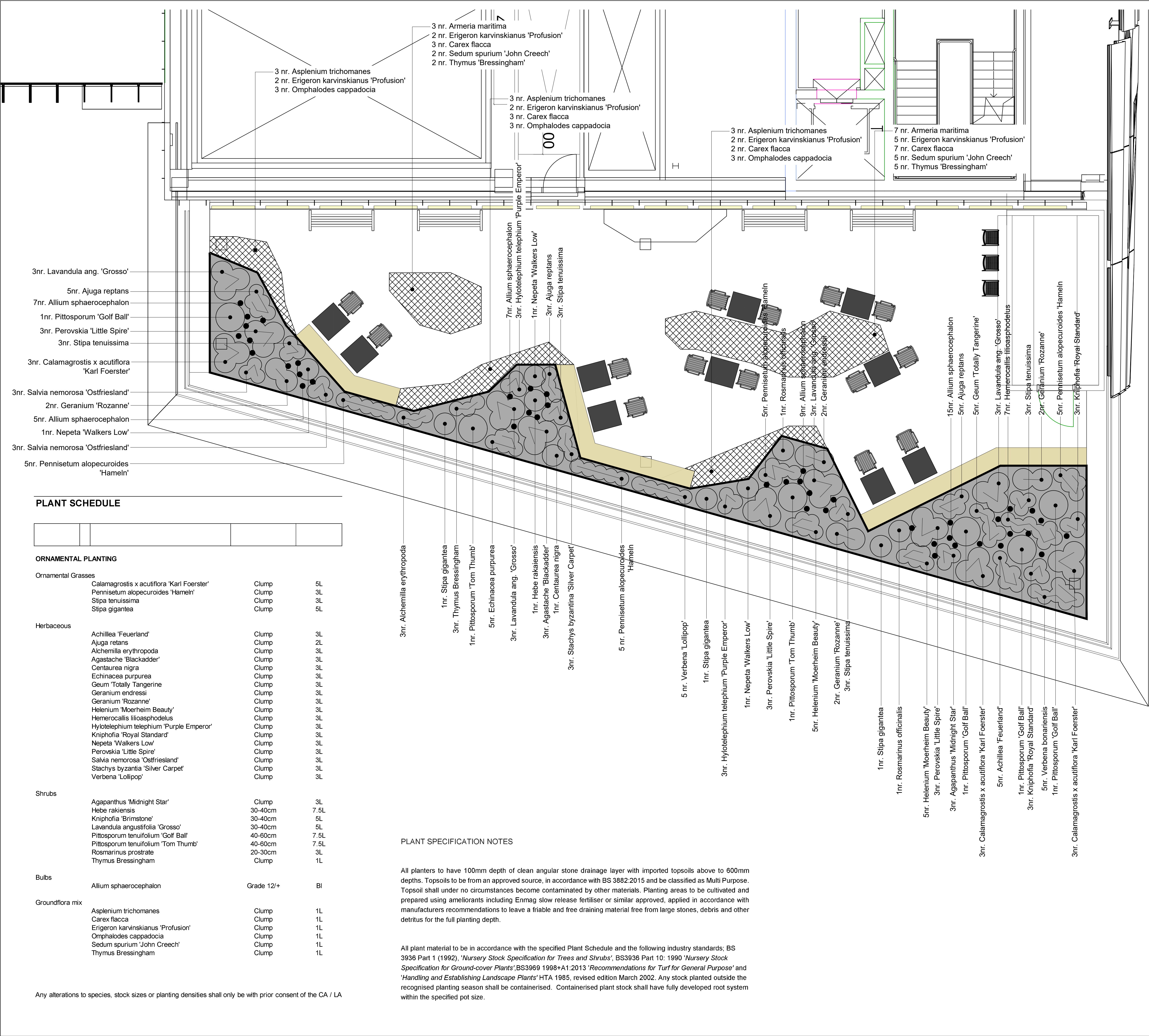
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PLANTING DIVISIONS

SEASONAL BULBS

GROUND FLORA MIX

Rev	Description	By	CB	Date

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Project	Level 5 Terrace		
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Appendix C: Site Photographs



Plate 2: Level 2 Terrace



Plate 1: Level 5 Terrace



Plate 3: Level 2 Terrace