

Land at Phase 3, Crown Street, Manchester M15 4NP

ECOLOGICAL SURVEY AND ASSESSMENT (Including a Licensed Bat Survey)

March 2023

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Document Control

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Daylight bat survey	Brian Robinson B.Sc. (Hons) MCIEEM	26 th January 2023
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SUMMARY

Introduction and Scope

- i. This ecological survey and assessment presents the ecological, biodiversity and nature conservation status of land at Phase 3, Crown Street, Manchester M15 4NP. The assessment was requested in connection with proposals to develop the site to four residential buildings.
- ii. This report presents the results of a desktop study and data search, extended Phase 1 Habitat Survey and a licensed bat survey carried out in January 2023. Further surveys are required to determine the presence or absence of roosting bats at Building 1 (Gaddum House). The scope of survey undertaken is otherwise appropriate to identify potential ecological constraints, the remit of mitigation required and opportunities for biodiversity associated with the development proposals.
- iii. The site comprises two plots separated by Great Jackson Street. The plot to the west of Great Jackson Street currently supports site cabins associated with the wider development area, the marketing suite with associated landscape planting (including ornamental planting, amenity grassland, scattered trees and hedgerows) and Building 1 (Gaddum House). The plot to the east of Great Jackson Street has been cleared, and the site currently supports hard standing and bare ground, colonising vegetation, unmanaged grassland and scrub.

Results of Survey and Assessment

- iv. The proposals will have no adverse direct or indirect effect on statutory or non-statutory designated sites for nature conservation.
- v. Only common and widespread plant species were found. None of the habitats within the site are of significant interest in terms of their plant species composition. None of the habitats present are representative of semi-natural habitat. The National Vegetation Classification communities present (*MG7 Lolium perenne* ley grassland community) are typical of the geographical area and conditions present. No Priority Habitats are present within the site.
- vi. The scattered trees and scrub are of 'site' value in terms of their geographical context as they support habitats of value to nesting and foraging birds but are considered unlikely to provide ecological benefits to the local area. The landscaping associated with the marketing suite, colonising vegetation and hard standing are of not considered to hold any value in terms of their geographical context. Measures for the protection of any habitats to be retained by the proposals are presented at **Section 5.3**, and recommendations for suitable landscape planting to incorporate into the site design are presented at **Section 5.5**.
- vii. Further survey is required at Building 1 (Gaddum House) to determine the status of roosting bats at the site. One bat activity survey is recommended in the bat activity season (between mid-May and August). Building 1 (Gaddum House), the scattered trees and scrub and the landscape planting provide suitable habitat for nesting birds. Measures for the protection of nesting birds are presented at **Section 5.3**.
- viii. No other protected species have been detected.

Recommendations

- ix. The recommendations in **Section 5.0** outline all the mandatory measures and additional actions to be applied to ensure compliance with wildlife legislation, the National Planning Policy Framework (NPPF) and best practice.
- x. The proposals will secure an opportunity to implement beneficial measures such as habitat creation that will safeguard habitats for wildlife such as birds and bats, with the aim of providing a net gain in biodiversity in accordance with the principles of the NPPF.

Conclusion

- xi. Further survey is required to determine the presence or absence of roosting bats at Building 1 (Gaddum House). It is otherwise concluded that the proposals are feasible and acceptable in accordance with ecological considerations and relevant planning policy. Redevelopment at the site will provide an opportunity to secure ecological enhancement for wildlife associated with residential development.

1.0 INTRODUCTION

1.1 Background and Rationale

- 1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by Renaker Build Ltd to carry out an ecological assessment of land at Phase 3, Crown Street, Manchester M15 4NP (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SJ 83273 97293. An aerial image of the site and its surrounding habitats is appended at **Figure 1** (source image: ESRI World Imagery).
- 1.1.2 The assessment was requested in connection with a planning application to develop the site to four residential buildings.

1.2 Scope of Works

- 1.2.1 The scope of ecological works undertaken in January 2023 comprised:
- A desktop study and data search for known ecological information at the site and the local area;
 - An Extended Phase 1 Habitat Survey and assessment;
 - Assessment of the ecological value of the habitats within the site with the use of the National Vegetation Classification (NVC) and the Ratcliffe criteria, as presented in *A Nature Conservation Review* (Ratcliffe, 1977);
 - Survey and assessment of all habitats for relevant statutorily protected species¹ and other wildlife;
 - A licensed daylight bat survey of the buildings and trees;
 - The identification of any potential ecological constraints on the proposals and the specification of the scope of mitigation and ecological enhancement required in accordance with wildlife legislation, planning policy guidance and other relevant guidance; and
 - The identification of any further surveys or precautionary actions that may be required to inform the progression of the site through the planning process and / or prior to the commencement of any construction activities.

2.0 METHOD OF SURVEY

2.1 Desktop Study and Data Search

- 2.1.1 The following sources of information and ecological records were consulted:
- MAGiC Maps: A web-based interactive map which brings together geographic information on key environmental schemes and designations, including details of statutory nature conservation sites;
 - Greater Manchester Local Records Centre (GMLRC); and
 - Greater Manchester Biodiversity Action Plan (BAP).

¹ In accordance with *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact on the Planning System* (Ministry of Housing, Communities & Local Government, 2005) developers should not be required to undertake surveys for protected species unless there is reasonable likelihood of the species being present and affected by the development. In this instance (for example) the site is located within a highly urbanised area, there are no ponds within 500 metres of the site, and no ditches or watercourses within or in proximity to the site; there has therefore been no requirement to consider badger (*Meles meles*), great crested newt (*Triturus cristatus*), water vole (*Arvicola amphibius*), otter (*Lutra lutra*) or reptile species as part of this assessment.

2.2 Vegetation and Habitats

- 2.2.1 An Extended Phase 1 Habitat Survey of the site was carried out by Amy Sharples B.Sc. (Hons) M.Sc. ACIEEM and Rachel Brown B.Sc. (Hons) on 26th January 2023. The weather was dry with scattered clouds, a light air (Beaufort scale 1) and an air temperature of 7°C.
- 2.2.2 A habitat and vegetation map was produced for the site and the immediate surrounding area (refer to the appended **Figure 2**). The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC, 2010) with minor adjustments to illustrate and examine the habitats with greater precision. The plant species within the site boundary were determined with estimates of the distribution, ground cover, abundance and constancy of individual species. The estimation of abundance was based on the DAFOR system, where D = Dominant, A = Abundant, F = Frequent, O = Occasional and R = Rare, this being a widely used and accepted system employed by ecological surveyors. The terms L = Locally and V = Very were additionally used to describe the plant species distributions with greater precision.
- 2.2.3 On site habitat mapping was assisted via use of GPS technology, using *PO_01510_Great Jackson St_Site plan.pdf* and *ESRI World Imagery* as base plans.
- 2.2.4 Stands of vegetation and habitats were described and evaluated using the National Vegetation Classification (NVC). The NVC provides a systematic and comprehensive analysis of British vegetation and is a reliable framework for nature conservation and land-use planning.
- 2.2.5 Habitats within the site were assessed in accordance with the UK Habitats Classification / UKHab (Butcher, et al., 2020). The UKHab has been designed to function at two scales: fine scale (25m² or 5 metres length) and large scale (400m² or 20 metres length). It has been considered for the purposes of this survey that the fine scale of 25m² or 5 metres length is appropriate to give the required accuracy.
- 2.2.6 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the *Wildlife and Countryside Act 1981* (as amended) and species which are indicators of important and uncommon plant communities. Plant nomenclature follows *New Flora of the British Isles 3rd Edition* (Stace, 2010).
- 2.2.7 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), including Japanese Knotweed (*Fallopia japonica*), Indian Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*).

2.3 Animal Life

Bat Species

Daylight Survey

Survey Personnel

- 2.3.1 The site was assessed for its suitability to support roosting bats by Brian Robinson, Natural England Class Survey Licence WML CL18 (Bat Survey Level 2), Registration Number 2015-13161-CLS-CLS on 26th January 2023. The surveyor's qualifications and experience meet the criteria as defined in the *Technical Guidance Series Competencies for Species Survey: Bats* (CIEEM, 2013).
- Buildings*
- 2.3.2 The surveys were carried out in accordance with standard methodology including the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004), the *Bat Workers' Manual 3rd Edition* (Mitchell-Jones & Mcleish, 2004) and *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)* (Collins, J. (ed), 2016).

- 2.3.3 An inspection of the external surfaces, walls and roofs of the buildings was carried out to find potential bat roosting habitat or accesses into internal areas where roosts may be present. Searches for evidence of bat presence in the form of droppings, urine stains, feeding signs, grease marks and other evidence were also carried out.
- 2.3.4 The internal survey involved an examination of the accessible internal areas (including roof voids) to find roosting bats or evidence of past use of the buildings by bats such as droppings and prey remains.
- 2.3.5 A list of equipment used is detailed at **Table 2.1**.

Table 2.1: Survey Equipment used during Daylight Bat Survey

Ladders
LED Lenser P14 torch
Canon Ixus digital camera
8x20 binoculars
Ridgid Micro Inspection Camera Borescope CA-100

- 2.3.6 The suitability of each building has been assessed in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016), taking into account any presence of gaps suitable for access by bats, features suitable for use by roosting bats within the building (including crevice dwelling species and species which can roost in the open in roof voids), and the suitability of the surrounding habitats for use by foraging and commuting bats.

Trees

- 2.3.7 A preliminary assessment of the trees within the site was conducted to assess their suitability for use by roosting bats, and to inform whether further surveys or precautionary measures were required.
- 2.3.8 Trees were assessed from the ground using binoculars and a high-powered torch. Each tree was searched for the presence of the following features:

Woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed platey bark, knot holes, man-made holes, tear-outs, cankers in which cavities have developed, other hollows or cavities, including butt-rots, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached Ivy (Hedera helix) with stem diameters in excess of 50mm and bat, bird or dormouse (Muscardinus avellanarius) boxes.

- 2.3.9 Terms used to describe any features present follow (where possible) those outlined and described in *Bat Tree Habitat Key, 2nd Edition* (Andrews, H (ed), 2013) and *Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-care and Ecology Professionals* (BTHK, 2018).
- 2.3.10 The requirement for further presence / absence surveys at each tree was then considered.

Habitat Assessment for Commuting / Foraging Bats

- 2.3.11 Habitats within and adjacent to the site were assessed for their value and suitability for commuting and foraging bats in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016). Reference has been made to the categories and descriptions / examples, presented at **Table 2.2**.

Table 2.2: Consideration of Suitability of Foraging and Commuting Habitat for Bats

Suitability	Commuting Habitat	Foraging Habitat
Negligible	Negligible habitat features on site likely to be used by commuting bats.	Negligible habitat features on site likely to be used by foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well	Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree or patch of scrub.

	connected to the surrounding landscape by other habitat.	
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.	Habitat that is linked to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape and is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. Habitats close to and connected to known roosts.	High-quality habitat that is well-connected to the wider landscape and is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Habitats close to and connected to known roosts.

Bird Species

- 2.3.12 Bird species observed and heard during the survey were recorded.
- 2.3.13 Habitats throughout the site and in the immediate surrounding area were assessed for their value to roosting, feeding and nesting birds, as indicated by the amount of shelter, feeding value, woody vegetation structure and species diversity of tree and shrub species in the site.

2.4 Survey and Reporting Limitations

- 2.4.1 The survey was conducted in winter, when many plant species are in a state of dormancy. The surveyor is experienced in surveying plant species from their vegetative characteristics, and it has been possible to reliably identify the habitats and principal plant species present.
- 2.4.2 The survey was completed outside the bat active season, when any field signs of bats may have weathered from the external elevations of the building. Daylight bat inspections can be completed at any time of year, however and it is considered that a reliable assessment of the suitability of the buildings for roosting bats has been possible. No access was possible to the void above the vaulted ceiling at the upper floor of Building 1 (Gaddum House); this access restriction has been taken into account when assessing the requirement for further surveys.
- 2.4.3 All areas of the site were otherwise fully accessible at the time of the survey. No further survey limitations were experienced.
- 2.4.4 All measurements within this report are approximate only, and have been estimated whilst on site or calculated using mapping software (QGIS) or internet-based mapping services such as MAGiC Maps and Google Earth.

2.5 Evaluation Methods

- 2.5.1 The habitats, vegetation and animal life were evaluated with reference to standard nature conservation criteria as described in *A Nature Conservation Review* (Ratcliffe, 1977) and *Guidelines for the Selection of Biological SSSIs* (Bainbridge, et al., 2013). These are size (extent), diversity, naturalness, rarity, fragility, typicality, recorded history, position in an ecological or geographical unit, potential value and intrinsic appeal.
- 2.5.2 Habitats have been assessed to determine whether they meet those described in *UK Biodiversity Action Plan: Priority Habitat Descriptions* (Maddock, A (ed), 2008); these lists are used to help draw up the statutory lists of Priority Habitats, as required under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006*. Where suitable, the ecological value of the habitats present has been assessed using the terms outlined in *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).

- 2.5.3 Government advice on wildlife, as set out in the *National Planning Policy Framework* (Ministry of Housing, Communities and Local Government, 2021) and associated government circulars has been taken into consideration. Legislation relating to protected species, such as those listed under Schedules 1, 5, 6 and 8 of the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*, is referenced where applicable, and any impacts to protected species are evaluated in accordance with current guidance.
- 2.5.4 The presence of any Priority Species, as listed under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006* is noted, and habitats are assessed in terms of their suitability and value for these species. The presence of habitats and / or species listed by the Greater Manchester Biodiversity Action Plans has been taken into account in the evaluation of the site.

3.0 SURVEY RESULTS

3.1 Desktop Study and Data Search

Statutory Designated Sites for Nature Conservation and SSSI Impact Risk Zones

- 3.1.1 The site is not and does not form part of any statutory designated site for nature conservation. The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone for the following statutory designated sites:
- The overlapping Rochdale Canal SSSI and Special Area of Conservation (SAC) which lie approximately 6.8 kilometres to the north-east of the site and support important habitat for submerged aquatic plants and emergent vegetation, including extensive colonies of the nationally scarce Floating Water-plantain (*Luronium natans*);
 - Hollinwood Branch Canal SSSI which lies approximately 8 kilometres to the north-east of the site and is the best example of a mesotrophic standing water system in Greater Manchester and Merseyside; and
 - Huddersfield Narrow Canal SSSI which lies approximately 10.2 kilometres east of the site and is the best example of a flowing eutrophic water system in Greater Manchester and the second best canal (differing from the mesotrophic Hollinwood Branch Canal SSSI, in being less acidic and faster flowing and in having a deeper profile which limits the extent of emergent species).
- 3.1.2 The SSSI Impact Risk Zone requires the Local Planning Authority to consult with Natural England on likely risks from the following development categories (Ordnance Survey, 2023):
- Livestock and poultry units with a floorspace greater than 500m², slurry lagoons and digestate stores greater than 4,000m²; and
 - General combustion processes greater than 50 megawatts energy input including energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis / gasification, anaerobic digestion, sewage treatment works and other incineration / combustion.
- 3.1.3 It is considered that the proposals do not meet the criteria which would require the local planning authority to consult with Natural England in respect of likely risks to the statutory designated sites as a consequence of the proposed development.

Non-statutory Designated Sites for Nature Conservation

- 3.1.4 The site is not and does not form part of any non-statutory designated site for nature conservation, termed Sites of Biological Interest (SBI) in Greater Manchester.
- 3.1.5 Three SBIs are located within 2 kilometres of the site and are summarised at **Table 3.1**.

Table 3.1: SBI Within 2 Kilometres of the Site

SBI Name	Distance and Direction from site	Reasons for Designation
River Irwell	1.47 kilometres north-west	Birds (Br6)
Rochdale Canal, Stotts Lane – Dulcie Street Basin	1.67 kilometres north-east	Canal (Fw3); Floating water plantain (GSG1)
Ashton Canal (West)	1.73 kilometres north-east	Canal (Fw3)

3.1.6 The presence of the SBIs is considered further at **Section 4.2** below.

Priority Habitats Inventory and Soilscape Information

3.1.7 The Priority Habitats Inventory² was checked via MAGIC Maps. No Priority Habitats are identified within or adjacent to the site by the inventory.

Protected and Notable Species

3.1.8 GMLRC hold no records of protected and notable species for the site.

3.1.9 Records of protected and notable species for a 2 kilometre radius of the site are summarised at **Table 3.2**.

Table 3.2: Records of Protected Species Within a 2 Kilometre Radius of the Site

Taxon Group	Species Name and Designations ¹ and Notes
Birds – WCAs1 Species	Black redstart (<i>Phoenicurus ochruros</i>): WCAs1 and GMBAP. 22 records, dated between 2008 and 2018. The closest record is 570 metres to the east of the site, and from 2011.
	Kingfisher (<i>Alcedo atthis</i>): WCAs1. 34 records, dated between 2005 and 2021. The closest record is 140 metres to the north-west of the site, and from 2012.
	Little ringed plover (<i>Charadrius dubius</i>): WCAs1. 2 records, dated 1999 and 2011. The closest record is 915 metres to the north-west of the site, and from 2011.
	Peregrine (<i>Falco peregrinus</i>): WCAs1. 16 records, dated between 2003 and 2020. The closest record is 185 metres to the north of the site, and from 2003.
Birds – PS & GMBAP	PS Only: Bullfinch (<i>Pyrrhula pyrrhula</i>), curlew (<i>Numenius arquata</i>), duncock (<i>Prunella modularis</i>), house sparrow (<i>Passer domesticus</i>), lesser redpoll (<i>Carduelis cabaret</i>), linnet (<i>Linaria cannabina</i>), skylark (<i>Alauda arvensis</i>), song thrush (<i>Turdus philomelos</i>) and starling (<i>Sturnus vulgaris</i>).
Terrestrial Invertebrates	Cinnabar (<i>Tyria jacobaeae</i>): PS. 8 records, dated between 2012 and 2015. The closest record is 445 metres to the north-west of the site, and from 2012.
Terrestrial Mammals	Otter (<i>Lutra lutra</i>): WCAs5 and PS. 1 record from 2022, located 305 metres to the north-west of the site.
	Badger (<i>Meles meles</i>): PBA. 1 record from 2013, located to the south of the site; an accurate estimation of distance of the record to the site cannot be made due to the locational data being less than a six figure grid reference.
	Hedgehog (<i>Erinaceus europaeus</i>): PS. 8 records, dated between 2012 and 2020. The closest record is 360 metres to the south-east of the site, and from 2020.
	Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>): EPS, WCAs5, PS and GMBAP. 6 records, dated between 2012 and 2019. The closest record is 720 metres to the north-west of the site, and from 2015.
	Bat sp (Order <i>Chiroptera</i>): EPS, WCAs5 and GMBAP. 1 record from 2013, located 725 metres to the north-west of the site.
	Common pipistrelle (<i>Pipistrellus pipistrellus</i>): EPS, WCAs5 and GMBAP. 53 records, dated between 1996 and 2019. The closest record is 120 metres to the east of the site, and from 2015.
	Daubenton's bat (<i>Myotis daubentonii</i>): EPS, WCAs5 and GMBAP. 1 record from 2004, located 695 metres to the north-west of the site.
	Pipistrelle species (<i>Pipistrellus</i> sp.): EPS, WCAs5 and GMBAP. 18 records, dated between 1996 and 2019. The closest record is 165 metres to the north-east of the site, and from 2007.

² A spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.

Taxon Group	Species Name and Designations ¹ and Notes
¹ Key to Designation Codes: EPS = European Protected Species under <i>The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019</i> . WCAs1 = Species receives full protection under Schedule 1 of the <i>Wildlife and Countryside Act 1981</i> (as amended). WCAs5 = Species receives full protection under Schedule 5 of the <i>Wildlife and Countryside Act 1981</i> (as amended). PBA = Protection of Badger Act 1992. PS = Priority Species listed under Section 41 of the NERC Act 2006. GMBAP = Species listed on the Greater Manchester Biodiversity Action Plan	

- 3.1.10 The presence of these protected and notable species within the wider area has been taken into account throughout this report.

3.2 Vegetation and Habitats

General Description

- 3.2.1 The total site area is 0.89 hectares (ha). The site comprises two plots separated by Great Jackson Street with the western plot measuring 0.44ha and the eastern plot measuring 0.45ha. The site is located within an urban area of Manchester, and lies within an existing development site.
- 3.2.2 An existing development site lies directly adjacent to the western site boundary. Silvercroft Street and Great Jackson Street Car Park define the northern site boundary. Owen Street defines the eastern site boundary and the southern site boundary is defined by fencing. Plot D, Crown Street lies adjacent to the south-western area of the site and Plot F1, Great Jackson Street lies adjacent to the south-eastern area of the site.
- 3.2.3 The plot to the west of Great Jackson Street currently supports site cabins associated with the wider development area, the marketing suite with associated landscaping including ornamental planting, amenity grassland, scattered trees and hedgerows and Building 1 (Gaddum House). The plot to the east of Great Jackson Street previously has been cleared, and the site currently supports hard standing and bare ground, colonising vegetation, unmanaged grassland and scrub.
- 3.2.4 A Phase 1 Habitat Survey map is appended at **Figure 2**, and can be referred to for all habitat descriptions. Photographs are appended at **Section 8.2**.

Western Plot

Hard Standing

- 3.2.5 The hard standing (**Photo 1**) within the area associated with the existing development site and the hard standing associated with the marketing suite and Building 1 (Gaddum House) does not support vegetation, is not characteristic of any NVC community, and is described by the UKHab as u1b developed land; sealed surface.

Landscaping Associated with the Marketing Suite

- 3.2.6 The area associated with the marketing suite supports landscape planting including ornamental hedgerows, ornamental shrubs and areas of short mown amenity grassland (**Photos 2 and 3**).
- 3.2.7 The landscape planting is characterised by constant and abundant moss species and abundant ornamental species. The amenity grassland is characterised by abundant Perennial Rye-grass (*Lolium perenne*), frequent Yorkshire-fog (*Holcus lanatus*), occasional White Clover (*Trifolium repens*) and locally abundant Red Fescue (*Festuca rubra*). A plant species list is appended at **Table 8.1**
- 3.2.8 The amenity grassland is characteristic of an *MG7 Lolium perenne* ley grassland community (Rodwell, 1992) of the NVC and is described by the UKHab as g4 modified grassland with the secondary code 66 frequently mown.

3.2.9 The ornamental shrubs are not characteristic of any NVC community and is described by the UKHab as h3h mixed scrub with the secondary code 48 non-native.

3.2.10 The ornamental hedgerows are not characteristic of any NVC community and are described by the UKHab as h2b other hedgerows.

Eastern Plot

Hard Standing and Bare Earth

3.2.11 The eastern plot is a cleared site (**Photo 4**). The hard standing does not support vegetation and is described by the UKHab as u1b developed land; sealed surface and u1c artificial unvegetated; unsealed surface.

Unmanaged Grassland

3.2.12 Three areas of unmanaged grassland (formerly amenity grassland which has been left unmanaged) lie at the western boundary of the plot associated with Great Jackson Street (**Photo 5**).

3.2.13 The vegetation is characterised by constant and abundant Perennial Rye-grass, abundant Yorkshire-fog and occasional Creeping Buttercup (*Ranunculus repens*) and Common Nettle (*Urtica dioica*). A plant species list is appended at **Table 8.2**.

3.2.14 The unmanaged grassland is characteristic of an *MG7 Lolium perenne* ley grassland community (Rodwell, 1992) of the NVC and is described by the UKHab as g4 modified grassland with the secondary code 77 neglected.

Scrub

3.2.15 Areas of scrub are located at the north-western and south-eastern site boundaries (**Photo 6**).

3.2.16 The scrub is characterised by abundant Bramble (*Rubus fruticosus* agg.), Perennial Rye-grass and Cleavers (*Galium aparine*) with frequent Common Nettle and occasional Butterfly-bush (*Buddleja davidii*), Ivy (*Hedera helix*), Yorkshire-fog and Dandelion (*Taraxacum officinale* agg.). A plant species list is appended at **Table 8.3**.

3.2.17 The scrub is not characteristic of an NVC community and is described by the UKHab as h3h mixed scrub with the secondary code 77 neglected.

Invasive Plant Species

3.2.18 No Japanese Knotweed, or any other invasive species as listed on the *Wildlife and Countryside Act 1981* (as amended), is present at the site.

3.3 Animal Life

Bat Species

Daylight Survey: Buildings

Building 1 (Gaddum House)

- 3.3.1 Refer to **Photos 7 to 12**. Building 1 (Gaddum House) is a detached 3 storey office building which is partially used for storage. It is constructed from walls of mortared brick which support a hipped roof of slate with clay ridge tiles.
- 3.3.2 Gaps suitable for access by bats are present at the timber soffits and under lifted slates and gaps in the mortar along the ridge tiles.
- 3.3.3 Internally the building supports a vaulted ceiling; no access was possible to the void located under the ridge beam due to its height from the floor of the upper storey. The roofing slates are supported on traditional timber trusses.
- 3.3.4 The building supports features suitable for use by roosting bats, and in particular crevice dwelling species such as pipistrelle species. Features are present which cannot be thoroughly searched during a daylight inspection, such as gaps under roofing slates and any roofing membrane which may be present.
- 3.3.5 Taking into consideration the features present which are suitable for use by roosting bats, and the suitability of habitats present in the wider area for foraging and commuting bats (see below), it is considered that Building 1 (Gaddum House) is of 'low' suitability for use by roosting bats. Further surveys will be required to determine the presence or absence of roosting bats at the building; the scope and timing of these surveys is considered further at **Section 4.4**.

Marketing Suite and Cabins

- 3.3.6 The marketing suite is constructed from a prefabricated steel frame and clad with glass and metal sheets (**Photos 13 and 14**). The building is well sealed with no gaps suitable for access by bats, and no features suitable for use by roosting bats. The marketing suite is considered to be of negligible value for use by roosting bats.
- 3.3.7 The western plot also supports site cabins (**Photo 15**) associated with the wider development site. These are prefabricated metal site cabins which are well sealed and do not support any features suitable for use by roosting bats. The cabins are considered to be of negligible value for use by roosting bats.

Trees

- 3.3.8 None of the trees or shrubs within or adjacent to either site are suitable for use by roosting bats. None support any features suitable for use by roosting bats. The presence of roosting bats within the site is reasonably discounted.

Habitat Assessment for Commuting and Foraging Bats

- 3.3.9 The landscape planting, unmanaged grassland and scrub at the site is small in size and is isolated within a wider landscape characterised by buildings, hard standing and road infrastructure. The habitats within the site are assessed to be of negligible suitability for use by foraging or commuting bats.

Summary of Results

- 3.3.10 A summary of the survey results presented above is provided at **Table 3.3**. The results are evaluated at **Section 4.4** below.

Table 3.3: Summary of Bat Survey Results

Building Reference	Suitability for Use by Roosting Bats	Requirement for Further Survey / Results of Activity Surveys
Building 1 (Gaddum House)	Low	At least 1 survey is required to determine presence / absence.
Marketing suite	Negligible	No requirement for further survey.
Cabins	Negligible	No requirement for further survey.

Bird Species

- 3.3.11 Carrion crow (*Corvus corone*) were observed in the cleared area of the site at the eastern plot.
- 3.3.12 The scattered trees and scrub vegetation at the site are suitable for use by passerine (perching) bird species; this is considered further at **Section 4.4** below.

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

- 4.1.1 It is proposed to develop the site to residential buildings including an underground car park and associated landscaping, as presented at the following documents:
- a. *Zone 1, Courtyard Elevation – East, Great Jackson Street, Dwg. No. Z1-SHP-G251-EL-XX-101 Rev. X01* (SimpsonHaugh, 2022);
 - b. *Zone 1, Courtyard Elevation – West, Great Jackson Street, Dwg. No. Z1-SHP-G251-EL-XX-102 Rev. X01* (SimpsonHaugh, 2022);
 - c. *Zone 1, Internal Elevation – North, Great Jackson Street, Dwg. No. Z1-SHP-G251-EL-XX-103 Rev. X01* (SimpsonHaugh, 2022); and
 - d. *Zone 1, Internal Elevation – South, Great Jackson Street, Dwg. No. Z1-SHP-G251-EL-XX-104 Rev. X01* (SimpsonHaugh, 2022).
- 4.1.2 **Section 4.2** provides an assessment of any impacts of the proposed development on the designated sites for nature conservation present in the wider area. The ecological value of habitats within the site is evaluated at **Section 4.3**, and protected and notable species are considered at **Section 4.4**.

4.2 Designated Sites for Nature Conservation

- 4.2.1 It is considered that the site is sufficiently distant from the designated sites present in the wider area that no impacts as a consequence of the proposed development are reasonably likely. Further, the site does not support any habitats which are complimentary to the designated sites, or might contribute to their nature conservation value.

4.3 Vegetation and Habitats

- 4.3.1 Only common and widespread plant species were found. None of the habitats within the site are representative of semi-natural habitat or are of significant interest in terms of their plant species composition. The NVC communities present are typical of the geographical area and conditions present. No Priority Habitats are present within the site.
- 4.3.2 In terms of each habitat's importance in a geographical context³, the scattered trees and scrub are of 'site' value as they are of value to nesting and foraging birds but are considered unlikely to provide ecological

³ Using the terms presented at Section 4.7 of *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018), i.e. International and European, National, Regional, Local Authority-wide area,

benefits to the local area. The landscaping associated with the marketing suite, colonising vegetation and hard standing are not considered to be of any value in terms of a geographical context.

4.4 Protected Species and Other Wildlife

- 4.4.1 The scattered trees and scrub are suitable for use by nesting birds. Removal of the vegetation at the site will remove opportunities for use by nesting birds, and may destroy active birds nests if completed in an inappropriate manner. Recommendations for the protection of nesting birds are presented at **Section 5.3**. Recommended enhancements for nesting birds, including Priority Species, are presented at **Section 5.4**.
- 4.4.2 Building 1 (Gaddum House) is assessed to be of 'low' suitability for use by roosting bats. Further survey is required at Building 1 (Gaddum House) to determine the status of roosting bats at Building 1 (Gaddum House). A single bat activity survey is considered suitable to determine the presence or absence of roosting bats at the site. Bat activity surveys, such as dawn re-entry or dusk emergence surveys, must be completed under suitable conditions between May and August. Further details relating to the additional survey are presented at **Section 5.2**.

5.0 RECOMMENDATIONS AND ECOLOGICAL ENHANCEMENT

5.1 Introduction

- 5.1.1 These recommendations aim to ensure that the development is implemented in accordance with relevant wildlife legislation, Natural England guidance, the principles of the National Planning Policy Framework (NPPF), local planning policy and best practice.
- 5.1.2 The recommendations address the potential impacts identified in **Section 4.0** and are appropriate and proportionate.
- 5.1.3 In accordance with Chapter 15, paragraph 180(d) of the NPPF:
'opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate'.
- 5.1.4 Where possible, opportunities to enhance the ecological interest and habitat connectivity and seek biodiversity gain through appropriate landscape planting and habitat creation have been identified.
- 5.1.5 All recommendations are appropriate to the geographical area, the habitats in the wider area, the wildlife present in the local area (and likely to use the site post-construction) and take into consideration the end use of the site as a residential development.

5.2 Further Surveys

- 5.2.1 Further surveys are required at Building 1 (Gaddum House) to determine the status of roosting bats. The further surveys required at the site are outlined at **Table 5.1**.

River Basin District, Estuarine system / Coastal cell or Local. The term 'site' value is additionally used to highlight ecological features considered to be of importance in the context of the wider site habitats, but which are of negligible value in the context of the local area.

Table 5.1: Further Surveys Required for Bats at Building 1 (Gaddum House)

Survey Type	Survey Timings and Frequency ¹
Dusk emergence survey / dawn re-entry survey	One survey required to reliably determine absence. Two or three surveys may be required if roosting bats are detected and it is not considered that all roosting locations and / or the type of roost present has been determined by the first survey. The survey must be completed in the bat active season, i.e. between May and August. Dusk emergence surveys must commence at least 15 minutes before sunset and last until between 1.5 and 2 hours after sunset. Dawn re-entry surveys must commence between 1.5 and 2 hours before sunrise and last until 5 minutes after sunrise. If more than one survey is required surveys must be spaced at least 2 weeks apart.
¹ in accordance with Table 7.1 of <i>Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)</i> (Collins, J. (ed), 2016)	

5.3 Protection of Existing Features and Wildlife During Construction Phase

Protection of Existing Vegetation

- 5.3.1 During the construction phase, temporary protective demarcation fencing will be used to protect any off-site habitats to be retained. Where relevant the fencing will be in accordance with BS5837:2012 *Trees in Relation to Design, Demolition and Construction: Recommendations* (BSI, 2012).

Dust Suppression, Incidents and Accidents

- 5.3.2 The risk of adverse effects on off-site habitats and wildlife as a result of dust, spills and leaks will be controlled by the application of best practice measures and appropriate environmental controls such as dust suppression, appropriate storage of chemicals and fuel, presence of spill kits and appropriate training of on-site personnel.

Lighting

- 5.3.3 Paragraph 185c of the NPPF (Ministry of Housing, Communities and Local Government, 2021) states that development should:

'limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.'

- 5.3.4 Any lighting to be used during the construction phase must involve the use of appropriate products and screening, where necessary, to ensure no excessive artificial lighting shines over the retained habitats as lighting overspill may deter use by wildlife such as foraging bats.

Invasive Plant Species and Biosecurity

- 5.3.5 To minimise the risk of introduction of invasive species to the site all machinery / plant to be brought to the site must be clean. Wheels / tracks of machinery / plant must have been pressure washed before use at the site. No excessive remnant soil or plant material from other sites must be present on the machinery / plant or in the tyre treads as this may increase the risk of spread of non-native and invasive plant species e.g. Japanese Knotweed (*Fallopia japonica*) and Giant Hogweed (*Heracleum mantegazzianum*).

Protection of Nesting Birds

- 5.3.6 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) while they are breeding. It is advised that any works such as vegetation clearance that will affect habitats suitable for use by nesting birds are scheduled to commence outside the bird nesting season. Commencement of works in the nesting season must be informed by a pre-works nesting bird survey, carried out by a suitably experienced ecologist. The bird breeding season typically extends between March to August inclusive.

- 5.3.7 If breeding birds are detected the ecologist will issue guidance in relation to the protection of the nesting birds in conjunction with the scheduled works. This may involve cordoning off an area of the site until the young birds have fledged.

5.4 Provision of Opportunities for Nesting Birds

General and Swift Bird Boxes

- 5.4.1 The installation of two general bird nest boxes and two swift nest boxes is recommended at the proposed new buildings.
- 5.4.2 The boxes will not be positioned over windows or doorways where droppings may become a nuisance. RSPB advice states that boxes should ideally be sited facing north to east, to avoid exposure to direct sunlight, which may cause overheating of chicks in the nest. Suitable bird nest boxes are available from NHBS Ecology (www.nhbs.com) or Wild Care (www.wildcare.co.uk) and an example is presented at **Insert 1**:



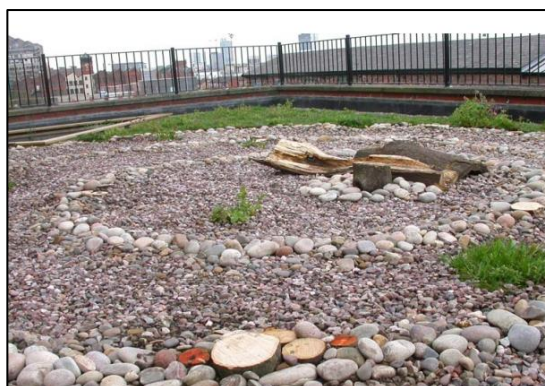
Insert 1: Schwegler 1MR Avianex and swift nest box

Black Redstart

- 5.4.3 If flat roofs are proposed at the new development at the sites, the opportunity to create suitable habitats for use by black redstart (*Phoenicurus ochruros*), a GMBAP Priority Species, should be taken.
- 5.4.4 The species action plan states that 'Records held from 1992 to 2007 show that black redstarts have bred or attempted to breed within the Piccadilly Basin area of central Greater Manchester every year except 2003. The total city population is unknown, but may be as low as 2 to 3 pairs.' (Greater Manchester Biodiversity Project, 2008).
- 5.4.5 The inclusion of feeding and nesting habitat onto any proposed areas of flat roof at the proposed development will enhance the ecological value of the sites.

Habitat for Feeding Black Redstart

- 5.4.6 To boost the availability of invertebrate food for black redstart it is recommended that a section of the roof is covered with a mixed sized aggregate to a varied depth of between 0.05 and 0.2 metres.
- 5.4.7 The aggregate pieces should range in size from 0.10 to 0.15 metres diameter. The aggregate must cover a minimum area of 30m² to be effective.
- 5.4.8 **Insert 2** shows an example of a more extensive aggregate covered roof as an example. The aggregate will be colonised by small plants and will attract invertebrates for foraging black redstart and their young.



Insert 2: Example of aggregate placed on city roof for the attraction of Black Redstart

Installation of Two Black Redstart Boxes

5.4.9 Two Schwegler 2HW nest boxes will be installed on a north-facing wall within the roofing area. These nest boxes are recommended in the GMBAP for black redstart.

5.4.10 The model of box is shown at **Insert 3**.



Insert 3: Suitable bird boxes for black redstart

5.4.11 Suitable boxes can be purchased from www.nhbs.com.

Management and Maintenance

5.4.12 The black redstart nest boxes are to be checked annually in September / October. Old nest material and other debris will be removed and any damaged or fallen boxes to be repaired / reinstated.

5.5 Landscape Planting

5.5.1 It is recommended that the landscape planting within the site is composed from native species and species known to be of value for the attraction of wildlife.

5.5.2 It is recommended that trees which support blossom and fruit which will attract insects are incorporated into the landscape planting. Suitable species are presented at **Table 5.2**.

Table 5.2: Suitable Native Species for Tree and Shrub Planting

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acer campestre</i>	Field Maple	<i>Prunus spinosa</i>	Blackthorn
<i>Corylus avellana</i>	Hazel	<i>Rosa arvensis</i>	Field Rose
<i>Crataegus monogyna</i>	Hawthorn	<i>Rosa canina</i>	Dog-rose
<i>Ilex aquifolium</i>	Holly	<i>Sambucus nigra</i>	Elder
<i>Malus sylvestris</i>	Crab Apple	<i>Sorbus aucuparia</i>	Rowan

<i>Prunus avium</i>	Wild Cherry	<i>Ulmus glabra</i>	Wych Elm
<i>Prunus padus</i>	Bird Cherry	<i>Viburnum opulus</i>	Gelder Rose

- 5.5.3 The understorey and ground cover planting design should be prepared to optimise the attraction of invertebrates such as feeding bumblebees and butterflies. Where possible the use of native species should be maximised but where necessary non-native species known to be attractive to invertebrates should be used.
- 5.5.4 Planting schemes that include flowering species such as *Viburnum*, *Ceanothus*, *Hebe*, *Lavandula*, *Lonicera*, *Potentilla*, *Rosmarinus* and *Vinca* can maximise opportunities for feeding invertebrates and for the attraction of foraging bats and birds.
- 5.5.5 For further plants suitable for the attraction of pollinators please refer to the *Perfect for Pollinators Plant List* (Royal Horticultural Society, 2012). It is recommended that the selection of plant species at the site ensures that a variety of flowering species are available throughout the year.

6.0 CONCLUSION

- 6.1 A single further survey is required at Building 1 (Gaddum House) to determine the presence or absence of roosting bats. Otherwise this ecological assessment has demonstrated that development at the site is feasible and acceptable in accordance with ecological considerations and the National Planning Policy Framework.
- 6.2 It is possible to implement reasonable actions for the protection and long-term conservation of fauna such as nesting birds associated with the habitats surrounding the sites.
- 6.3 Development at the sites will provide an opportunity to secure ecological enhancement for fauna typically associated with urban areas such as breeding birds.

7.0 REFERENCES

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8.0 APPENDIX: TABLES AND FIGURES

8.1 Plant Species Lists

Table 8.1: Plant Species List for Habitats Associated with the Marketing Suite at the Western Plot

Scientific Name	Common Name	DAFOR ¹	Cover
	Moss species	A*	10%
	Ornamental species	A	30%
<i>Bellis perennis</i>	Daisy	VLF	<1%
<i>Cerastium fontanum</i>	Common Mouse-ear	VLA	<1%
<i>Festuca rubra</i>	Red Fescue	LA	3%
<i>Holcus lanatus</i>	Yorkshire-fog	F	5%
<i>Lolium perenne</i>	Perennial Rye-grass	A	5%
<i>Poa annua</i>	Annual Meadow-grass	LA	2%
<i>Ranunculus repens</i>	Creeping Buttercup	LA	2%
<i>Senecio jacobaea</i>	Common Ragwort	LF	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	LA	<1%
<i>Trifolium repens</i>	White Clover	O	3%

¹**Key to DAFOR:** D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species

Table 8.2: Plant Species List for Unmanaged Grassland at the Eastern Plot

Scientific Name	Common Name	DAFOR ¹	Cover
<i>Holcus lanatus</i>	Yorkshire-fog	A	40%
<i>Lolium perenne</i>	Perennial Rye-grass	A*	45%
<i>Plantago lanceolata</i>	Ribwort Plantain	LA	<1%
<i>Ranunculus repens</i>	Creeping Buttercup	O	10%
<i>Senecio jacobaea</i>	Common Ragwort	LA	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	LF	<1%
<i>Urtica dioica</i>	Common Nettle	O	5%

¹**Key to DAFOR:** D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species

Table 8.3: Plant Species List for Scrub at the Eastern Plot

Scientific Name	Common Name	DAFOR ¹	Cover
<i>Buddleja davidii</i>	Butterfly-bush	O	10%
<i>Cerastium fontanum</i>	Common Mouse-ear	VLA	<1%
<i>Galium aparine</i>	Cleavers	A	10%
<i>Hedera helix</i>	Ivy	O	5%
<i>Holcus lanatus</i>	Yorkshire-fog	O	5%
<i>Lolium perenne</i>	Perennial Rye-grass	A	20%
<i>Poa annua</i>	Annual Meadow-grass	LA	<1%
<i>Prunus</i> sp.	Cherry species	LA	10%
<i>Rubus fruticosus</i> agg.	Bramble	A	15%
<i>Senecio vulgaris</i>	Groundsel	VLF	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	O	5%
<i>Tussilago farfara</i>	Colt's-foot	LA	<1%
<i>Urtica dioica</i>	Common Nettle	F	10%

¹**Key to DAFOR:** D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species

8.2 Photographs

Table 8.4: Photographs



Photo 1: Hard standing north-west of the marketing suite



Photo 2: Landscaping south-west of the marketing suite



Photo 3: Landscaping south-east of the marketing suite



Photo 4: Hard standing and area of cleared land at eastern plot



Photo 5: Unmanaged grassland at eastern plot

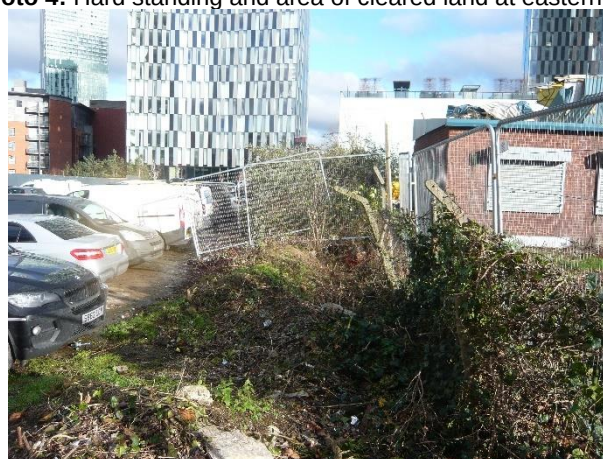


Photo 6: Scrub at northern boundary of western plot



Photo 7: South-eastern elevation of Building 1 (Gaddum House)



Photo 8: South-eastern and south-western elevations of Building 1 (Gaddum House)



Photo 9: North-eastern and north-western elevations of Building 1 (Gaddum House)



Photo 10: Showing slate roof and clay ridge tiles at Building 1 (Gaddum House)



Photo 11: Showing underside of vaulted ceiling and roof beam structure, Building 1 (Gaddum House)



Photo 12: Showing internal area of Building 1 (Gaddum House), used for storage



Photo 13: North-western elevation of marketing suite

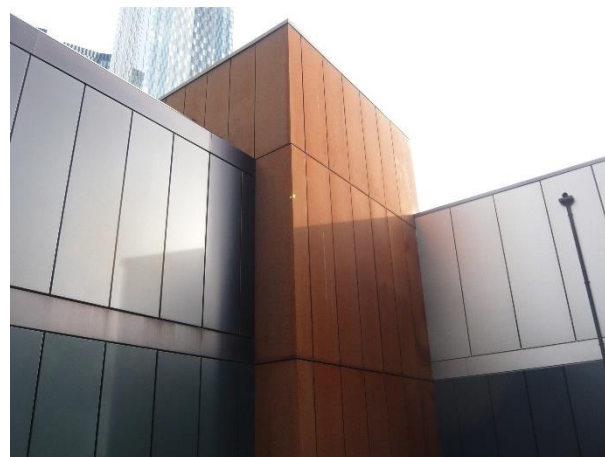


Photo 14: South-western elevation of marketing suite



Photo 15: Cabins at western area of the western plot

8.3 Figures

Figure 1: Aerial Image of the Site and its Surroundings

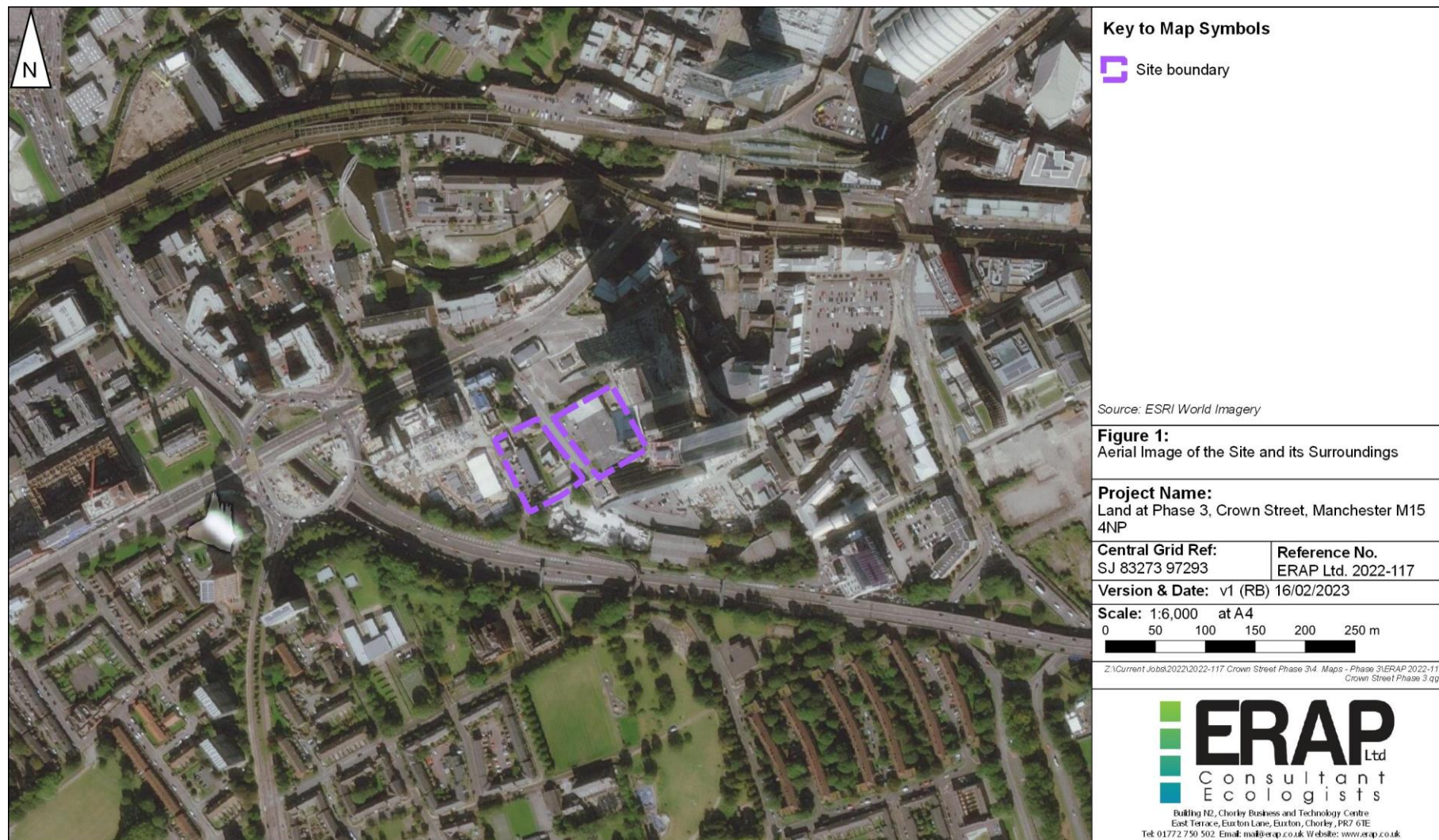


Figure 2: Phase 1 Habitat and Vegetation Map

