



Coltham Developments Ltd

Bennet Court, Reading

ECOLOGICAL APPRAISAL

May 2023

FPCR Environment and Design Ltd

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1.0 INTRODUCTION

- 1.1 The following report has been prepared by FPCR Environment and Design Ltd (“FPCR”) on behalf of Coltham Developments Ltd to present the results of ecological surveys completed at Bennet Court, Bennet Road, Reading, Berkshire, RG2 0QX (central OS grid reference SU 71442 70137).
- 1.2 The scope and objectives of the report are to:
- present the findings of the site walkover and buildings assessment.
 - review the site proposals and provide recommendations for mitigation, compensation and enhancement.
 - Outline the results of the Biodiversity Net Gain (BNG) calculation.
- 1.3 The survey was completed by experienced FPCR ecologists Casey Higgins-King and Laura Mynard. Casey and Laura are experienced in botanical surveys having achieved a Level 4 and Level 3 on the Botanical Society of Britain and Ireland’s (BSBI) Field Identification Skills Competency (FISC), respectively. Casey is a Qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

Site Context

- 1.4 The application site, hereafter referred to as ‘the Site’, is approximately 0.7 ha. It lies amongst industrial units, with a residential area further to the east, and further industrial units giving way to agriculture to the west. The Site comprises a car park, consisting of hardstanding with small areas of ornamental planting, managed grassland, and two large L-shaped buildings split into multiple business units. The Site is fenced on all sides.
- 1.5 The proposals are for the demolition of the existing buildings and the installation of a new warehouse with associated parking and hardstanding.

2.0 LEGISLATION AND POLICY

2.1 Details regarding the relevant national policy and legislation in relation to ecology and development sites are provided in Appendix A. Those most relevant include:

- The Conservation of Habitats and Species Regulations (CHSR) 2017 (as amended) in relation to:
 - European Protected Species (EPS) great crested newt *Triturus cristatus* (GCN), bats (all species) and hazel dormouse *Muscardinus avellanarius*.
 - European protected sites - Special Areas of Conservation (SAC), Special Protection Areas (SPAs) and internationally protected Ramsar Sites (collectively known as “Natura 2000 sites”).
- The Wildlife and Countryside Act (WCA) 1981 (as amended) in relation to:
 - All wild birds (including Schedule 1 species)
 - Schedule 5 species
 - Flora listed under Schedules 8 and 9
 - Sites of Special Scientific Interest (SSSI)
- Protection of Badgers Act (PBA) 1992.
- Natural Environmental and Rural Communities (NERC) Act 2006 in relation to various priority species and habitats.
- Hedgerow Regulations 1997.
- Environment Act 2021.
- National Planning Policy Framework (NPPF) 2021.
- Reading Borough Council Local Policies.

3.0 METHODOLOGY

Desk Study

- 3.1 In order to compile existing baseline information, relevant ecological information was gathered from:
- Multi Agency Geographic Information for the Countryside (MAGIC)¹
 - Thames Valley Environmental Records Centre (TVERC)
- 3.2 The search area for biodiversity information was related to the significance of sites and species and potential zones of influence, as follows:
- 10km around the application area for sites of International Importance (e.g. SACs, SPAs, Ramsar sites).
 - 2km around the application area for sites of National or Regional Importance (e.g. SSSIs).
 - 1km around the application site for sites of Local Importance (e.g. Local Wildlife Sites, Ancient Woodland Inventory sites) and protected and notable species records.

Habitat Survey

- 3.3 A habitat survey was undertaken on 6th September 2022 following the UKHab methodology². This involved a systematic walkover of the Site to classify the broad habitat types and identify any Habitats of Principal Importance (HPI) for the conservation of biodiversity as listed within Section 41 (S41) of the NERC Act 2006.
- 3.4 All habitats/habitat compartments were also assessed using technical guidance for the 3.1 Defra Biodiversity Metric³. This provides a list of criteria for a range of broad habitat types which are used to categorise the habitats as having a 'poor', 'moderate' or 'good' condition score.

Preliminary Protected Species Assessment

- 3.5 During the extended habitat survey, observations and signs of any species protected under the following list of Acts and Regulations (collectively referred to herein as 'protected species') were recorded:
- The CHSR 2017 (as amended)⁴.
 - The WCA 1981 (as amended)⁵.
 - The Protection of Badgers Act 1992⁶.
- 3.6 Consideration was also given to the existence and use of the Site by other fauna listed as one or more of the following (collectively referred to herein as 'notable species'):

¹ MAGIC - <https://magic.defra.gov.uk/> [Accessed 11.08.2022]

² Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020) *The UK Habitat Classification User Manual version 1.1*. Available at: <http://www.ukhab.org> [Accessed 14.02.2022]

³ Natural England, The biodiversity metric 3.1 (2021) Available at: <http://publications.naturalengland.org.uk/publication/6049804846366720> [Accessed 30.08.2022]

⁴ Collins, J. (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, London.

⁵ Froglife (2016) *Surveying for Reptiles: Tips, techniques and skills to help you survey for reptiles*. Peterborough, Froglife.

⁶ Cresswell, P., Harris, S. & Jefferies, D.J. (1989) *Surveying Badgers*. The Mammal Society Publication No.9 Mammal Society

- Species of Principal Importance (SPI) for the conservation of biodiversity in England listed in S41 of the NERC Act 2006.
- Red Data Book (RDB) and Red List species.
- Birds of Conservation Concern (BoCC)⁷.
- Species listed on any Local Biodiversity Action Plan (LBAP) initiatives.
- Nationally scarce/notable invertebrate species⁸.

3.7 The likely presence or absence of protected and notable species has been assessed against a number of factors outlined in Table 1.

Table 1: Criteria used for assessing likely presence/absence of protected/notable species

Likelihood of Presence	Example criteria
Negligible	Where one or more of the following is true for the site: it offers no suitable habitat; it is isolated from known areas of suitable habitats/species presence; displays no evidence of use by the species in question; it is outside of the known local/regional/national distribution for the species; and there are no desk study records are present during the data search.
Low	Where one or more of the following is true for the site: the habitats present are of poor to moderate suitability; there is limited or restricted connectivity to areas of suitable offsite habitat or areas with known presence; it is in a location where the species distribution is known to be sparse at a local or regional scale; the desk study indicates the presence of the species in the locality in small to moderate numbers.
Moderate	Where one or more of the following is true for the site: the habitats present are of moderate to high suitability; it is clearly connected to suitable offsite habitat offsite habitat or areas with known presence; it is in a location where the species is known to be well distributed; the desk study indicates the presence of the species in the locality in moderate to good numbers.
High	Where one or more of the following is true for the site: the habitats present are of optimal suitability; it is adjacent to areas of suitable offsite habitat offsite habitat or areas with known presence; it is in a location where the species is known to be well distributed; there are field signs evidencing that a species has been present on the site; the desk study indicates the presence of the species has been historically present on or within the immediate vicinity of the site.
Present	The species was observed using the site during the extended phase 1 habitat survey or, where appropriate for certain species, field signs indicate the regular use of the site i.e. the presence of a badger sett.

⁷ Stanbury, A.J., Eaton, M.A., Aebischer, N.J., Balmer, D., Brown, A.F., Douse, A., Lindley, P., McCulloch, N., Noble, D.G. & Win, I. (2021) The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds*, 114: 25.

⁸ English Nature (2011) *Organising surveys to determine site quality for invertebrates – A framework guide for ecologists*. Peterborough.

Building Assessment

- 3.8 Internal and external building assessments were carried out by experienced bat surveyors Laura Mynard and Casey Higgins-King, following best practice guidance⁹. Laura is an accredited agent under Natural England Class Licence 2020-45925-CLS-CLS.
- 3.9 The exteriors of the buildings were visually assessed for potential roosting features, access points and evidence of bat activity. Features such as small gaps under barge/soffit/fascia boards, raised or missing ridge tiles and gaps at gable ends, which have potential to be used as access points, were sought. Evidence that bats actively used potential access points includes staining within gaps and bat droppings or urine staining under gaps. Indicators that potential access points had not recently been used include the presence of cobwebs and general detritus within the access.
- 3.10 The interiors of the buildings were visually assessed for evidence of bat activity and/or for the potential to be used by bats using a high-powered torch. Evidence of a roost was searched for, such as the presence of a dead or live bat(s), concentrated piles or scattered droppings, food remains such as insect wing fragments as well as scratch marks and/or staining.
- 3.11 The buildings were then placed into bat roost potential categories as per current Bat Conservation Trust (BCT) guidance which is summarised in Table 2.

Table 2: Bat roost potential categories for buildings

Categories	Description for buildings
Confirmed Roost	Evidence of roosting bats in the form of live/dead bats, droppings, urine staining, fur oil staining etc.
High Potential	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Moderate Potential	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (irrespective of species conservation status, which is established after presence is confirmed).
Low Potential	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats.
Negligible Potential	No features present likely to be used by roosting bats.

Biodiversity Net Gain Assessment

- 3.12 Natural England's published biodiversity net gain (BNG) metric is an MS Excel spreadsheet that is used to quantify the predicted net-change in biodiversity value ("biodiversity units") of a proposed development site before and after development. It treats the flat "habitats" and linear features, "hedgerows", separately and is based on pre-determined values, along with published written guidance, set by a Natural England-led team of experts. The latest version of this metric is 3.1, published in July 2021, and this has been used for this scheme.

⁹ Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

- 3.13 To facilitate the calculation, the Site has been mapped and digitised using the Biodiversity Metric 3.1 QGIS Template, with the existing habitats identified and areas automatically generated. In accordance with the 3.1 Metric User Guide, habitats have been defined under UK Habitat Classification. The proposed habitats, based on the Site Layout Plan (BHP Design, June 2022), were then mapped to generate areas for each of the habitats proposed for creation.
- 3.14 The pre- and post-development habitat areas were then inputted into the metric tool. Pre-development habitats were grouped into their habitat type and condition based on the results of the UKHab and condition assessment surveys, while post-developments were classified into their UKHab type as identified through the classification of proposed habitats within landscaping plans into appropriate UKHab types and their target condition scores. The metric then provides a habitat distinctiveness score for each of the baseline and proposed habitats which are pre-assigned scores based on the habitat type.
- 3.15 The strategic significance of the habitats was also assessed for both the pre- and post-development habitats based on the location of the site, its proximity to existing areas of biodiversity interest and its setting within wider habitat corridors.
- 3.16 The metric then assigns a range of pre-assigned factors to each of the proposed habitats. These have been devised by subject knowledge experts and are universal multipliers generated by the metric itself for the following variables relevant to habitat creation, enhancement or restoration proposals:
- Difficulty of creating or restoring/enhancing a habitat: This pre-assigned score is based on how difficult a particular habitat type is to create or restore/enhance.
 - Temporal risk: This is the 'time to target condition' for any particular habitat and determines how long a particular habitat type is likely to take to reach the condition score that the desired condition score assigned to it.
 - Spatial risk: This score is based on the distance between the site of habitat loss and any habitats creation or enhancement proposals at any offsite offsetting solutions.
- 3.17 Once all of the above has been input, the spreadsheet provides headline and detailed results outlining the change in biodiversity units and percentage increase/decrease.

Limitations

- 3.18 Natural ecological communities are susceptible to change; at times this change can be rapid as a result of internal and external environmental factors. The biodiversity offsetting calculations are based on ecological assessments of habitats carried out during 2022. As a result, changes which may affect the conclusions of this report may occur, if a prolonged period of time elapses prior to the commencement of the project.
- 3.19 During the late design review stage an additional area was added to the redline boundary, outside of the site entrance to the north-east. The habitats in this area (modified grassland and hardstanding) were not surveyed during the initial walkover but have been surveyed from aerial and street view imagery. The condition of the grassland in this area was assumed to be the same (Good) condition as the grasslands present on the site.

4.0 RESULTS

Desk Study

- 4.1 The designations and notable/protected species discussed below are illustrated in Figure 1 and Figure 2.
- 4.2 There is one international designation within 10km of the Site:
- Thames Basin Heaths SPA, approximately 7.5km south-east.
- 4.3 There are no national designations within 2km of the Site but one non-statutory Local Wildlife Site (LWS) within 1km:
- River Kennet/Kennet and Avon Canal, approximately 895m north-west.
- 4.4 Numerous species records within 1km of the survey area were provided by TVERC. Those considered relevant to the habitats on Site and the immediate surroundings are summarised in Table 3. Records over 10 years are included in some cases, where no recent records are present, but historical data suggests the species is present in the area.

Table 3: Protected/notable species records within 1km of Site

Species	Protection	Date	Approximate distance and direction from site of closest record
Common Pipistrelle <i>Pipistrellus pipistrellus</i>	CHSR, WCA Sched 5, NERC S41	2019	355m SW
Soprano Pipistrelle <i>Pipistrellus pygmaeus</i>	CHSR, WCA Sched 5, NERC S41	2017	740m SE
Brown Long-eared Bat <i>Plecotus auritus</i>	CHSR, WCA Sched 5, NERC S41	2011	695m W
Daubenton's Bat <i>Myotis daubentonii</i>	CHSR, WCA Sched 5, NERC S41	2015	1km W
Noctule bat <i>Nyctalus noctula</i>	CHSR, WCA Sched 5, NERC S41	2017	320m NE
Serotine bat <i>Eptesicus serotinus</i>	CHSR, WCA Sched 5	2017	905m NE
West European Hedgehog <i>Erinaceus europaeus</i>	NERC S41	2021	300m NE
Eurasian badger <i>Meles meles</i>	PBA	1995-2021	Confidential
Stag Beetle <i>Lucanus cervus</i>	CHSR, WCA Sched 5, NERC S41	2020	480m NW
Slow-worm <i>Anguis fragilis</i>	WCA Sched 5, NERC S41	2016	835m NW

- 4.5 Protected/notable species records relevant to the site are displayed in Figure 2. Records with low resolution (4-figure) grid references are not displayed, as they would not be mapped accurately.
- 4.6 There were numerous bird records provided with low resolution grid references. Those relevant to the habitats on Site within 1km included herring gull *Larus argentatus*, house martin *Delichon urbicum*, peregrine *Falco peregrinus*, starling *Sturnus vulgaris*, swift *Apus apus* and wren *Troglodytes troglodytes*.

- 4.7 There were also records of brown-long eared bat *Plecotus auratus*, serotine bat *Eptesicus serotinus*, Daubenton's bat *Myotis daubentonii* and lizard orchid *Himantoglossum hircinum* within 1km of the site, at low resolution.
- 4.8 There were 14 records of badgers within 1km of the Site between 1995 and 2021. These records are confidential and are therefore not shown in Figure 2.

Habitats

- 4.9 The habitats described below are illustrated in Figure 3, and site photographs are provided in Appendix B.

Developed land (sealed surface) (u1b)

- 4.10 The majority of the site comprised hardstanding used for car parking, footpaths, and storing shipping containers. There were scattered ornamental shrubs planted within the carpark, including rowan *Sorbus spp.*, Photinia *spp.*, ornamental cherry *Prunus spp.*, Ebbing's silverberry *Elaeagnus ebbingei* and cherry laurel *Prunus laurocerasus*.

Building (u1b5)

- 4.11 There were two large, two-storey, L-shaped buildings on the Site divided into numerous business units. They were constructed of red brick, with large windows and shallow pitched corrugated metal roofs. A concrete block and corrugated metal structure was present on the roof of each building, which housed the air conditioning units and electrics for the buildings. The building to the north will be referred to as B1 whilst the building to the south as B2.

Modified grassland (g4)

- 4.12 A strip of actively managed grassland with a uniformly short sward ran around the north and west of B1. There were mature tree stumps present in the grassland to the north, where *Prunus spp.* suckers were growing from the base of the stumps. Species included greater plantain *Plantago major*, white clover *Trifolium repens*, perennial rye-grass *Lolium perenne*, self-heal *Prunella vulgaris*, creeping buttercup *Ranunculus repens*, common ragwort *Jacobaea vulgaris*, bramble *Rubus spp.* and moss.
- 4.13 There was also a strip of grassland along the east boundary of the Site, which was actively managed to a uniform short sward with a similar species composition as above.
- 4.14 There was a strip of grassland along the west boundary, which extended along the south of B2. The grassland had a long sward at the time of survey and showed signs of neglect and nutrient enrichment. Species included bramble, butterfly-bush *Buddleia davidii*, Canadian fleabane *Erigeron canadensis*, cock's-foot *Dactylus glomerata*, field horsetail *Equisetum arvense*, self-set *Cotoneaster spp.*, ragwort, and false oat-grass *Arrhenatherum elatius*.
- 4.15 Two parcels of grassland to the north-east of the site, within the area added to the redline boundary in the late design stages, were not surveyed during the initial walkover survey. These areas were surveyed through aerial and StreetView imagery. They are assumed to have a similar species composition and to be in the same condition (Good) as the grasslands on site.

Hedgerow (with trees) (h2a.190)

- 4.16 The ivy along the fence on the north-eastern boundary of the Site had grown out to create woody self-supporting plants, which were managed as a hedgerow. There were multiple gaps in the hedgerow. Mature trees present included silver birch *Betula pendula*, sycamore *Acer pseudoplatanus*, beech *Fagus sylvatica* and field maple *Acer campestre*.

Hedgerow (h2a)

- 4.17 The mature ivy on the eastern boundary was managed as a hedgerow to the south-east.
- 4.18 There was a line of beech trees, approximately 9.5m long, which created a mature hedgerow in the north-western corner of the site, along the western boundary.

Other hedgerow (h2b) (ornamental)

- 4.19 The hedgerow along the southern boundary comprised ornamental shrubs including *Cotoneaster* spp., snowberry *Symphoricarpos albus*, variegated ivy, and some young self-set ash *Fraxinus excelsior* and sycamore saplings. A multi-stemmed mature ash tree and some self-set white poplar *Populus alba* saplings were present in the south-western corner of the Site.

Ornamental/introduced shrubs

- 4.20 Ornamental shrubs were present along the front of the building to the south of the site, comprising mainly of cherry laurel *Prunus laurocerasus*, with some self-set hazel *Corylus avellana*, sycamore and cherry plum *Prunus cerasifera* present.

Line of trees (w1g6)

- 4.21 There was a line of mature leylandii *Cupressus x leylandii* trees on the western boundary of the site, approximately 15m in length.

Bat Roost Assessment

- 4.22 Several features were present which were considered to provide potential access points for roosting bats into the cavity walls of B1, these included:
- Weep holes on every aspect
 - A gap between the flat roof and the red brick
 - Small gaps in the mortar above the ground level windows on the south-eastern elevation and on the southernmost wall
 - Gaps under the windowsills on the west elevation and around where cables entered the building on the north-western elevation, and
 - A vent on the southernmost wall
- 4.23 Similar features were also note in association with B2 including:
- Weep holes on every aspect of B2
 - The gap between the flat roof and the red brick

- Small gaps in the mortar on every elevation and the slatted doors and vent and gaps where cables entered the wall on the southern elevation
- 4.24 The roof void of the buildings (B1 and B2) consisted of the space between the flat roof, and the false ceiling roof-tiles within the buildings;
- The underside of the flat roof comprised corrugated metal, with a metal structure, providing negligible potential for roosting bats.
 - There were wires and pipes associated with the electrical and heating systems for the building within the roof voids providing cluttered flight lines.
 - There was some insulation present in the roof void of B1, and a gap between this and the breeze block structure of the wall provided potential for roosting bats.
 - There were no gaps observed within the walls surrounding the voids; no light was observed infiltrating into the roof voids.
 - The internal structure of the facilities buildings on the roofs of B1 and B2 comprised single-skin concrete breezeblocks, with a metal corrugated roof.
 - There were small gaps in the mortar around the breezeblocks and between the metal structure and the breezeblocks of both facilities buildings.
 - There was a small hole within the structure of the facilities building on the roof of B2 allowing bats to enter.
- 4.25 Due to the number of ingress points and features providing potential for roosting bats present, B1 and B2 were classified as having moderate potential for roosting bats. No evidence of bats, including droppings, scratch marks or staining, was observed during the survey associated with either building.
- 4.26 None of the trees on the Site were noted to provide features suitable for roosting bats.

Other Species Potential

- 4.27 An assessment of the potential for protected/notable species to be present on site is summarised in Table 4.

Table 4: Other species potential summary

Species/ Group	Site suitability	Conclusion
Bats – Foraging and Commuting	The hedgerow with trees to the east of the Site provided limited opportunities for foraging and commuting bats on Site, due to the lack of connectivity between the hedgerow and suitable habitat within the wider environment. The hedgerow to the south was considered too low to provide suitable commuting or foraging habitat for bats. Security lights around the site may deter certain light-sensitive bat species. Whitely Wood to the south-east, the residential areas to the east and the treeline along the A33 provide better, more connected, habitat for foraging and commuting bats.	Moderate risk of bats being present but only in low numbers of common/widespread species potentially passing by/through the site

Species/ Group	Site suitability	Conclusion
Bats - Roosting	The buildings on the Site were assessed for their potential for roosting bats during the survey. Weep holes, cracks in the mortar, vents, gaps between the flat roof and the top of the external wall, and gaps beneath the window sills were features identified as providing potential for roosting bats to access the wall cavity. The buildings were classed as providing moderate potential for roosting bats.	There is a low risk of low numbers of common/widespread species using the building/s as a roost
Birds	The hedgerows, lines of trees and flat roofs of the buildings provide suitable habitat for nesting birds. Feral pigeons <i>Columba livia domestica</i> and herring gulls <i>Larus argentatus</i> often nest on buildings in urban environments. Species sensitive to disturbance are unlikely to nest on the site. All wild birds are protected whilst nesting.	There is a moderate risk of nesting birds being present on the site
Mammals	Due to the enclosed nature of the Site, disturbance, and habitats present on the site there are limited opportunities for mammals. Droppings observed on the west boundary of the Site were identified as hedgehog. It is likely that mammals, including hedgehogs and foxes will pass through the site, but there are limited opportunities for mammals on the Site.	There is evidence of mammals being present on the site; mammals are likely to pass through the site

Biodiversity Net Gain Assessment

- 4.28 The baseline and proposed habitats and hedgerows on Site are shown in Figures 3 and 4, and the results of the Biodiversity Metric 3.1 Calculation Tool are provided in Appendix C.
- 4.29 The proposals will result in the removal of several areas of modified grassland in Good condition to the west, north and east of the site. In addition, the proposals will result in the removal of a medium-sized grey poplar tree from the south-west corner of the site, and the removal of a small *Prunus spp* tree and a small rowan tree in the carparking area. Several small *Prunus lusitanica*, and an area of ornamental shrubs will also be removed in this area.
- 4.30 The proposals will also result in the loss of a line of *Cupressus spp* trees, a mature beech hedge in the north-west corner, and a low ornamental hedge comprising snowberry and *Cotoneaster spp* along the south boundary.
- 4.31 The proposals (Drawing No. 22-024-PL-03 by bhpdesign) include the retention of 0.0198ha of modified grassland in the east and north-east of the site, the enhancement of 0.0171ha modified grassland in Good condition to the north of the site (following the planting of trees in this area), the creation of an intensive green roof (0.0013) in Moderate condition on the cycle store, areas of ornamental shrubs (0.007ha), and the planting of urban trees (in Moderate condition). The proposed trees include five small trees in the south-east corner of the site, three small trees to the northeast, and eight medium sized trees along the northern boundary.
- 4.32 The proposals will also result in the creation of 34m of ornamental hedgerows, and 23m of native species-rich hedgerows.
- 4.33 The BNG calculation shows that the proposed habitats post-development result in a net gain **+7.95%**, and the proposed hedgerows a net gain of **+2.67%** for hedgerows.

5.0 DISCUSSION AND RECOMMENDATIONS

5.1 The proposals are to demolish the existing buildings on Site and remove ornamental shrubs, modified grassland, and non-priority hedgerows and a line of trees, to allow the construction of a warehouse and offices with associated parking, hardstanding and soft landscaping.

5.2 The following ecological features are not considered to pose a constraint to development:

- **Designated sites –**

- The closest international designation is Thames Basin Heaths SPA, 7.5km south of the Site. The Site lies outside of the Exclusion Zone (400m) for planning and outside of the Zone of Influence (400m-5km or 5km-7km buffer zones) for the SPA.
- The closest national designation is Stanford End Mill and River Loddon SSSI, 4.9km south of the Site.
- Given the distance between the Site and any designations it is not considered likely that the proposed development will have an impact on these sites.

- **Other notable/protected species not specified below –**

- The Site has very little existing vegetation and is set within an industrial estate within an urban environment, and therefore is unsuitable for a wide range of notable/protected species, such as reptiles, great crested newts and important invertebrates.

5.3 Potential ecological constraints associated with the Site along with recommendations for avoidance, protection, mitigation, compensation and enhancement are outlined in the sections below.

Bats

5.4 The buildings on Site were assessed as having moderate roosting bat potential and therefore nocturnal surveys were undertaken to assess whether the buildings are being used as a roost.

5.5 A dusk emergence survey of B1 was undertaken on 28th September 2022, and a dawn re-entry survey was undertaken on 29th September. No bats were observed emerging from or entering either of the buildings during the surveys.

5.6 One noctule bat *Nyctalus noctula* and one soprano pipistrelle *Pipistrellus pygmaeus* were observed commuting from the south of B2, and three common pipistrelles and one soprano pipistrelle were observed foraging to the north of B2 during the dusk survey. No bat activity was observed during the dawn survey.

Due to the low level of activity recorded during the surveys, and no emergences or re-entries being recorded, it was considered that the buildings were unlikely to be used as a bat roost.

5.7 A second survey of each building was carried out on May 4th 2023. Low numbers of common and soprano pipistrelle bats were observed foraging around the buildings; no bats were recorded emerging from or entering B1 or B2 during the surveys.

5.8 The full Bat Survey Report is included as an appendix to this report (Appendix D). Recommendations for bats are included within this report, including recommendations for integrating bat boxes into the building, or the installation of Schwegler 1FF bat boxes, and recommendations for lighting around the site.

- 5.9 The proposed species-rich hedgerow in the south-west corner and the planting of medium sized trees along the north boundary will improve commuting routes for bats and improve foraging opportunities.

Nesting Birds

- 5.10 The buildings, lines of trees and the hedgerows on Site have the potential to be used by nesting birds. It is recommended that demolition works, and removal of vegetation should be undertaken outside of the breeding bird season (March to September) or if this cannot be achieved, immediately following a check by a suitably qualified person, to avoid committing an offence under the Wildlife and Countryside Act 1981 (as amended). If active nests are found, the nest and structure which it is on must remain and be buffered from disturbance until the young have fledged, and another breeding bird check will be required.
- 5.11 Faunal enhancements for the Site are recommended within the Enhancements section below.

Other Mammals

- 5.12 The habitats on the site provide limited potential to support mammals, however droppings observed during the survey were identified as hedgehog, therefore it is considered likely that mammals including hedgehogs and foxes will pass through the site.
- 5.13 Some hedgerows and shrubs will be removed as part of the proposed development; it is recommended that the removal of these habitats is carried out outside of the hibernation period (November to mid-March) to avoid harming hedgehogs and other hibernating animals. If this is not possible it is recommended that each habitat to be removed is checked by a Suitably Qualified Ecologist immediately prior to removal. It is recommended that a hedgehog house is placed in the hedgerow to the east of the site prior to checks, to relocate any individuals discovered into.

Habitats/Flora

Biodiversity Net Gain and Habitat Enhancements

- 5.14 The development framework (Drawing No. 22-024-PL-03 by bhp design) has been assessed using the DEFRA Metric Version 3.1 as provided in Appendix C. Based on the most up-to-date proposal, the BNG calculations will result in a net gain of **+7.68%**, and the proposed hedgerows a net gain of **+2.67%**.
- 5.15 The Environment Act 2021 will require all development schemes in England to deliver a biodiversity net gain for habitats and linear features, to be maintained for 30 years. It should be noted that this has not yet passed into law. At the time of the writing of this report we are in a transition period, to enable development projects to account for these new requirements. The transition period will end in 2023, when it will become a legal requirement.
- 5.16 The current proposals satisfy the requirement for a net gain as mandated by the National Planning Policy Framework, and the Reading Borough Local Plan (2019) Policy EN12 requiring developments to result in no net loss.

Grassland

- 5.17 The majority of the existing habitats comprised modified grassland dominated by common and widespread species, therefore the loss of these grasslands does not represent a loss of high-quality habitat.
- 5.18 Modified grasslands in the north of the Site will be replaced through seeding with a shade-tolerant, species-rich grassland mix, which will provide foraging opportunities for invertebrates, and will enhance the value of the grassland above the value of the existing grassland, which is not captured fully by the DEFRA Metric.

Ornamental Shrubs

- 5.19 The existing ornamental shrubs to be removed are of low ecological value and constitute a common and widespread habitat.
- 5.20 Proposed ornamental shrub planting on site, will comprise *Cistus corbariensis*, *Euonymus fortunei* 'Silver Queen', *Hebe* 'Nicola's Blush', *Lavandula angustifolia* 'Hidcote', *Choisya ternate* 'Sundance', *Heuchera* 'Snowstorm', *Viburnum tinus* 'Eve Price', and the proposed hornbeam hedge will provide nectaring opportunities for invertebrates, and food and shelter for other wildlife.
- 5.21 Native shrub planting in the southeast of the Site will comprise a berry mix, including dogwood *Cornus sanguinea*, hazel, hawthorn *Crataegus monogyna*, holly *Ilex aquifolium*, blackthorn *Prunus spinosa* and dogwood *Rosa canina* providing food and shelter for small mammals, birds, and other wildlife.

Hedgerows

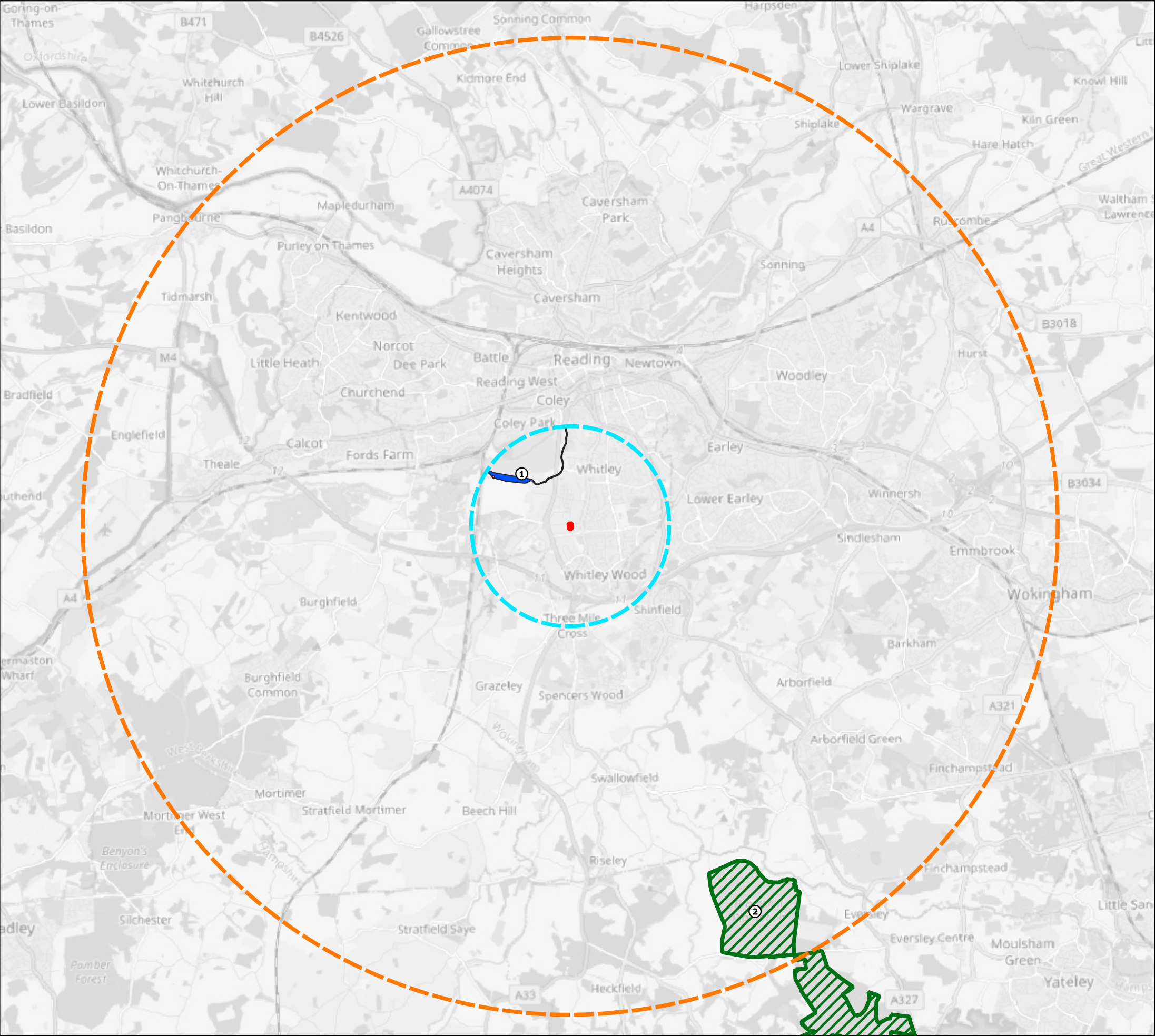
- 5.22 A beech hedgerow, and an ornamental hedgerow will be removed from the site to allow the development. Other hedgerows will be retained on the Site.
- 5.23 The removal of the non-priority hedgerows on the Site will result in a loss of habitat for some species, including birds and small mammals, however the loss of these hedgerows will be compensated for, by the planting of new hedgerows on the Site, resulting in a 2.67% net gain for hedgerows.

Urban Trees

- 5.24 Two small urban trees will be removed within the existing carpark, to allow the development. A large grey poplar in the south-west corner of the site will also be removed. The large trees along the east of the site, which make up a hedgerow-with-trees, will be retained by the development.
- 5.25 New tree planting to the north of the Site, and along the south-eastern border will utilise native species, including field maple, silver birch, *Corylus colurna*, wild cherry *Prunus avium* and rowan *Sorbus* spp. These trees will provide fruit and berries for birds and other wildlife, and once mature will provide additional nesting opportunities for birds.
- 5.26 Tree planting on the north boundary will comprise eight extra heavy standard hornbeams.
- 5.27 It is recommended that all retained hedgerows and trees are protected during construction activities i.e. working methods should adhere to standard best practice guidance. This would include BS5837 Trees in Relation to Construction – Recommendations: 2012 for trees and hedges.

Enhancements

- It is recommended that the following faunal enhancements are installed on the site to provide additional habitat for wildlife on site;
- Bird boxes such as Woodstone Burgos Swift Box (or similar), 1SP Schwegler Sparrow Terrace (or similar) and starling nest boxes, to be installed on the mature trees along the east boundary of the Site, or on the proposed building. These nest boxes will provide additional nesting opportunities for local species.
- Invertebrate features should be installed on the site, for example in the walls of the bin store, such as concrete bee bricks, Schwegler woodcrete insect blocks and Schwegler underground bumblebee boxes.
- It is also recommended that gaps are created in the fences surrounding the site, to allow hedgehogs to easily pass through the site, and to access the habitats created above.



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Key

- Site Boundary
- 2km Buffer
- 10km Buffer
- Local Wildlife Site (LWS)
- Special Protection Area (SPA)

1 - Kennet and Avon Canal LWS
2 - Thames Basin Heaths SPA



client
Coltham Developments Ltd.

project
Bennet Court,
Reading

drawing title
DESIGNATED SITES

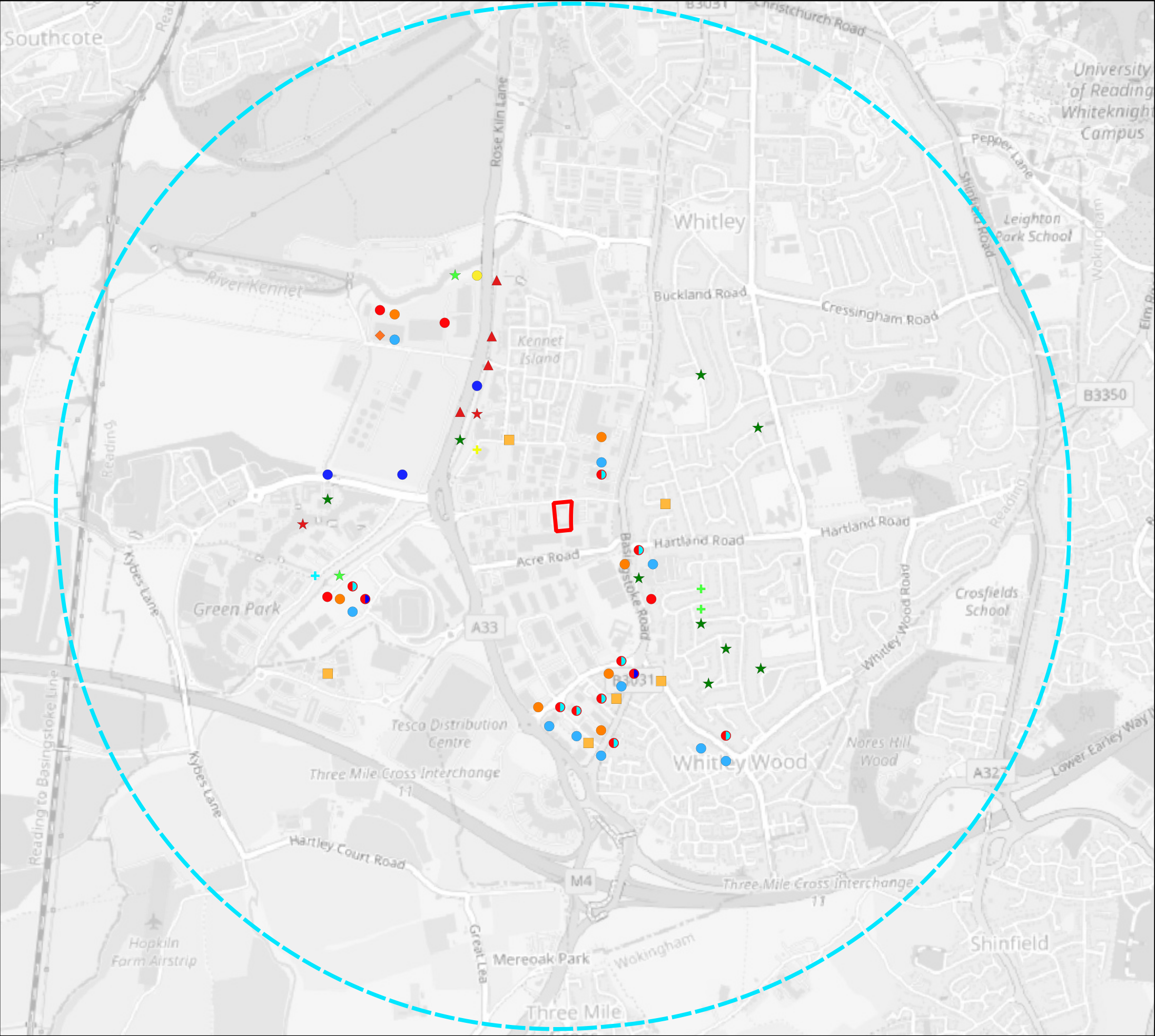
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drawn
DS / CHK

issue date
29/11/2022

drawing / figure number
Figure 1

rev
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Key

-  **Site Boundary**
-  **2km Buffer**
-  **American Mink**
-  **Barbel**
-  **Cinnabar**
-  **Common Frog**
-  **Common Pipistrelle**
-  **European Water Vole**
-  **Floating Pennywort**
-  **Galingale**
-  **Grass Snake**
-  **Himalayan Balsam**
-  **Myotis sp.**
-  **Noctule Bat**
-  **Slow-worm**
-  **Soprano Pipistrelle**
-  **Stag Beetle**
-  **West European Hedgehog**



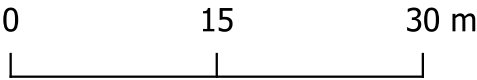
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Key

- Red Line Boundary
- Developed land; sealed surface
- Introduced shrub
- Modified grassland
- Vacant/derelict land/ bareground
- Hedge Ornamental Non Native
- Line of Trees
- Native Hedgerow
- Native Hedgerow with trees
- Existing Small



client
Coltham Developments Ltd.

project
Bennet Court,
Reading

drawing title
Existing Habitats

scale @ A3
1:550

drawn
DS / CHK

issue date
6/1/2023

**Figure 3 -
Rev A**



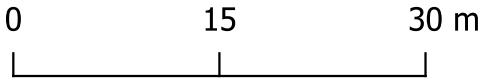
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Key

-  Red Line Boundary updated 06.01.2023
-  Developed land; sealed surface
-  Intensive green roof
-  Introduced shrub
-  Modified grassland
-  Hedge Ornamental Non Native (h2NE3)
-  Native Hedgerow (h2NE5)
-  Native Hedgerow with trees (h2NE4)
-  Native Species Rich Hedgerow (h2NE2)
-  Proposed Medium
-  Proposed Small





client
Coltham Developments Ltd.

project
Bennet Court,
Reading

drawing title
Proposed Habitats

scale @ A3
1:550

drawn
DS / CHK

issue date
24/5/2023

Figure 4
Rev B

APPENDIX A: RELEVANT LEGISLATION, POLICY AND GUIDANCE

Legislative Framework

- 1.1 The applicable legislative framework is summarised as follows:
- Natural Environment and Rural Communities (NERC) Act 2006.
 - Wildlife and Countryside Act (WCA) 1981 (as amended).
 - The EC Birds Directive (Directive 79/409/EEC) as translated into UK law by The Conservation of Habitats and Species Regulations (CHSR) 2017 (as amended).
 - The EC Habitats Directive (Directive 92/43/EEC) as translated into UK law by the CHSR 2017 (as amended).
 - Environment Act 2021.
 - The Protection of Badgers Act (PBA) 1992.
- 1.2 Section 41 (S41) of the NERC Act 2006 places a duty on the Secretary of State to publish, review and revise lists of living organisms and types of habitat in England that are of principal importance for the purpose of conserving English biodiversity, and to consult Natural England before doing so.
- 1.3 The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.
- 1.4 The Environment Act 2021 came into force on 9th November 2021. Of particular relevance is the requirement for all developments subject to the Town and Country Planning Act to provide an at least 10% biodiversity net gain (BNG), with habitat used for net gain to be secured for a minimum of 30 years. Delivery of BNG may be on site, off-site or undertaken using statutory biodiversity credits. The requirement for BNG does not over-ride the need to apply the mitigation hierarchy (avoidance, mitigation and compensation) when considering biodiversity assets and their loss and does not change existing environmental and wildlife legal protection.
- 1.5 Whilst the Act mandates a 10% BNG delivery and for this to be a condition of planning permissions (Part 6 section 98 and Schedule 14 part 1), section 147 (3) states that this will only come into force once the secondary legislation is in place to support this requirement. Therefore, there is a transition period (the length of which is not defined but anticipated as being around 2 years) until the mandated 10% is required under law.

Habitats

- 1.6 The degree to which habitats receive consideration within the planning system relies on many mechanisms, including:
- Inclusion within a specific policy, for example, veteran trees, ancient woodland and linear habitats within the National Planning Policy Framework (NPPF) 2021, or local planning policies.
 - A non-statutory site designation (e.g. Local Wildlife Site).
 - Habitats of Principal Importance for the conservation of biodiversity and species as listed within Section 41 of the NERC Act 2006.
 - Habitats identified as being a Priority Habitat within the Local Biodiversity Action Plan (LBAP).

Protected/Notable Species

- 1.7 Principal pieces of legislation protecting wild species are Part 1 of the WCA 1981 (as amended) and the CHSR 2017 (as amended). Some species, for example badgers, also have their own protective legislation (PBA 1992). The impact that this legislation has on the planning system is outlined in ODPM 06/2005 Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.
- 1.8 This guidance states that the presence of protected species is a material consideration in any planning decision, and it is therefore essential that the presence or otherwise of protected species, and the extent to which they are affected by proposals, is established prior to planning permission being granted. Furthermore, where protected species are present and proposals may result in harm to the species or its habitat, steps should be taken to ensure the long-term protection of the species, such as through attaching appropriate planning conditions, for example.
- 1.9 In addition to protected species, there are those that are of conservation merit, such as those listed as species of principal importance for the purpose of conserving biodiversity under the NERC Act 2006. These are recognised in the NPPF which advises that when determining planning applications, local planning authorities (LPAs) should aim to conserve and enhance biodiversity by applying a set of principles including:
- If significant harm resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
 - Development proposals where the primary objective is to conserve or enhance biodiversity should be encouraged.

Bats

- 1.10 Bats and their habitats are protected under the WCA 1981 (as amended) and by the CHSR 2017 (as amended). In summary, this makes it an offence to:
- Damage destroy or obstruct any place used by bats for breeding and shelter.
 - Disturb a bat, or kill, injure or take a bat.
- 1.11 Seven bat species are listed as Species of Principal Importance under the NERC Act 2006: *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 *R. hipposideros*.

Birds

- 1.12 The WCA 1981 (as amended) is the principal legislation affording protection to UK wild birds. Under this legislation all birds, their nests and eggs are protected bylaw and it is an offence, with certain exceptions, to recklessly or intentionally:
- Kill, injure or take any wild bird.
 - Take, damage or destroy the nest of any wild bird while in use or being built.
 - Take or destroy the egg of any wild bird.
- 1.13 Species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are specially protected at all times.

Great Crested Newts

- 1.14 Great crested newts *Triturus cristatus* and the places they use for shelter or protection are protected under the CHSR 2017 (as amended) and Schedule 2 of the WCA 1981 (as amended). In summary, it is an offence to:

- Deliberately or recklessly to take, injure or kill a great crested newt.
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for breeding, shelter or protection by the species.
- Intentionally or recklessly disturb while it is occupying a structure or place which it uses for such purpose; or intentionally take or destroy the eggs of a great crested newt.

Hazel Dormice

- 1.15 Hazel dormice *Muscardinus avellanarius* and their places of shelter are protected under CHSR 2017 (as amended) and Schedule 5 of the WCA 1981 (as amended). This is also a species of principal importance for the conservation of biodiversity under S41 of the NERC Act 2006. In summary, it is an offence to:

- Intentionally or deliberately kill, injure or capture dormice.
- Intentionally, deliberately or recklessly disturb dormice in such a way as to significantly affect their ability to survey, breed, rear/nurture their young or significantly affect their local distribution and abundance.
- Intentionally or recklessly damage, destroy or obstruct access to places used by dormice for shelter or protection (whether occupied or not) or disturb a dormouse whilst occupying such places.
- Damage or destroy a dormouse breeding site or resting place.
- Possess or transport a dormouse (or any part thereof) unless under licence and sell or exchange dormice.

Reptiles

- 1.16 All common reptile species (grass snake *Natrix helvetica*, slow worm *Anguis fragilis*, common lizard *Zootoca vivipara* and adder *Vipera berus*) are partially protected under the Wildlife and Countryside Act 1981. In summary, this legislation protects the species from intentional killing, injury or sale, offering for sale, or possessing, transporting or publishing advertisements for the purposes of sale.

Relevant Planning Policy

National Planning Policy Framework (NPPF)

- 1.17 The latest version of the NPPF was published in February 2021. The premise of ‘*presumption in favour of sustainable development*’ embedded within the previous versions of the NPPF has been carried forward to the current version. The NPPF considers that to achieve this, the planning system has three overarching objectives: economic, social and environmental. It considers these to be inter-dependent with a need for them to be mutually supportive of one another. For specific development proposals the NPPF considers applying a presumption in favour of sustainable development means:

“...c) approving development proposals that accord with an up-to-date development plan without delay...”
[para.11].

“They [decision makers] should use the full range of planning tools available, including brownfield registers and permission in principle, and work proactively with applicants to secure developments that will improve the economic, social and environmental conditions of the area”. [para. 38].

“When determining planning applications, local planning authorities should apply the following principles:

...d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements 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 biodiversity.” [para. 180].

1.18 In terms of ‘environmental objects’ (one of the three core planning objectives), the NPPF states that:

“Planning policies and decisions should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate”. [para 174].

Relevant Local Planning Policy

1.19 The Reading Borough Local Plan (adopted 2019) and Reading Biodiversity Action Plan (2021) include the following policies of relevance:

Policy CC3: Adaptation to Climate Change

“All developments will demonstrate how they have been designed to incorporate measures to adapt to climate change.”

Policy EN 11: Waterspaces

“Reading’s waterspaces will be protected and enhanced, so that they can continue to contribute to local and regional biodiversity and ecology, flood mitigation, local character, heritage and visual amenity, the provision of accessible leisure and recreational opportunities and, where appropriate, navigation. There will be no adverse impact on the functions and setting of any watercourse and its associated corridor.”

Policy EN12 – Biodiversity and the Green Network

“The identified Green Network, the key elements of which are shown on the Proposals Map, shall be maintained, protected, consolidated, extended and enhanced. Permission will not be granted

for development that negatively affects the sites with identified interest or fragments the overall network.”

“On all sites, development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever possible.”

Policy EN13 – Major Landscape Features and Areas of Outstanding Natural Beauty

“Planning permission will not be granted for any development that would detract from the character or appearance of a Major Landscape Feature.”

“Development which affects the setting of an Area of Outstanding Natural Beauty (AONB) will be accompanied by a Landscape and Visual Impact Assessment that demonstrates that there is no detrimental impact on the North Wessex Downs or Chilterns AONBs in terms of scale, design, layout or location. None of Reading Borough falls within an AONB, but where the urban area meets the Chilterns AONB is shown on the Proposals Map.”

Policy EN14 – Trees, Hedges and Woodland

“Individual trees, groups of trees, hedges and woodlands will be protected from damage or removal where they are of importance, and Reading’s vegetation cover will be extended. The quality of waterside vegetation will be maintained or enhanced. New development shall make provision for tree retention and planting within the application site, particularly on the street frontage, or off-site in appropriate situations, to improve the level of tree coverage within the Borough, to maintain and enhance the character and appearance of the area in which a site is located, to provide for biodiversity and to contribute to measures to reduce carbon and adapt to climate change. Measures must be in place to ensure that these trees are adequately maintained.”

APPENDIX B: SITE PHOTOGRAPHS

	
Photo 1: Modified grassland (g4) to the north of Building 1 (B1), showing the red brick structure of the building	Photo 2: Modified grassland to the west of Building 2 (B2), showing the structure of the building
	
Photo 3: Car parking, and ornamental planting in the centre of the Site	Photo 4: Hard standing and the hedgerow to the east of the Site
	
Photo 5: Image taken from the NW corner of B1, showing cracked bricks, and gaps around where the wiring enters the building	Photo 6: Image taken from the northern end of B2, showing the gaps, weep holes and a vent, which provide potential access for bats, and are present on all elevations of B1 and B2



Photo 7: Image taken from the SE corner of B2, showing where multiple wires enter the building, and a large gap is present, providing a potential access point for bats



Photo 8: Image taken from the SW of B2, showing the slatted door to the south of the building



Photo 9: Image taken inside the roof void of B1, between the false ceiling and flat roof



Photo 10: Image taken inside the roof void of B1, between the false ceiling and flat roof, showing insulation present in this area



Photo 11: Image taken inside the facilities building on the roof of B1, showing the concrete brick and corrugated metal structure



Photo 12: Image showing a gap between the breeze blocks and the metal structure of the facilities building on the roof on B1. There are cobwebs surrounding the hole.



Photo 13: Image showing a wooden structure inside the facilities building on the roof of B2, which has gaps within it, providing opportunities for roosting bats

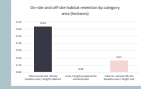


Photo 14: Image taken inside the facilities building on the roof of B2, showing a gap in the single-skin breeze blocks, allowing bats to potentially access the structure

On-site baseline	Habitat units	1.12
	Hedgerow units	1.04
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	1.20
	Hedgerow units	1.07
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	Habitat units	7.95%
	Hedgerow units	2.67%
	River units	0.00%
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.09
	Hedgerow units	0.03
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	7.95%
	Hedgerow units	2.67%
	River units	0.00%
Trading rules Satisfied?	Yes ✓	

[illegible]

Combined area test by distance from band		
Category	Area test (combined)	Area test (50)
1/High	0	
High	0	
Midrange	0.3387	100
Low	0.3388	100
1/Low	0.3386	0

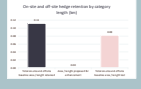


Bar chart showing the change in the number of individuals by habitat group. The y-axis represents the change in the number of individuals, ranging from -1000 to 1000. The x-axis lists habitat groups: Terrestrial, Subaquatic, Semi-aquatic, Aquatic, and others. The legend indicates that black bars represent 'growing stage' and pink bars represent 'off-shoot growing stage'.

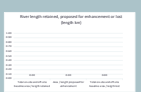
Habitat Group	growing stage	off-shoot growing stage
Terrestrial	~800	~100
Subaquatic	~800	~100
Semi-aquatic	~800	~100
Aquatic	~800	~100
Others	~800	~100



Category	Length test (20)	Length test (40)
U-High	0	
High	0	
Mid-Low	0	
Low	0.001	0.001
U-Low	0.001	0.001

[illegible][illegible]

Category	length lost (SD)	length lost (95)
Very High	0	
High	0	
Medium	0	
Low	0	



Bar chart showing the change in mean log₁₀ titer for four groups: Placebo, Active treatment, No active treatment, and Control. The y-axis represents log₁₀ titer from 0.00 to 1.00. The legend indicates four series: Existing value (black), Proposed value (grey), Existing value off site (white), and Proposed value off site (red).

Group	Existing value	Proposed value	Existing value off site	Proposed value off site
Placebo	~0.05	~0.05	~0.05	~0.05
Active treatment	~0.05	~0.05	~0.05	~0.05
No active treatment	~0.05	~0.05	~0.05	~0.05
Control	~0.05	~0.05	~0.05	~0.05



Category	Combined Biosimilarity Unit change (%)
Priority Review	-75
Off-in-Patent Biologics	-45
Off-in-Patent Generics	-35
Generics	-15
Biologics	-10



[Return to results menu](#)

Trading Summary		
Distribution Group	Trading Info	Trading Status?
Very High	Respective compensation daily below required 5%	Yes ✓
High	Same factor required 5%	Yes ✓
Medium	Same factor required 5%	Yes ✓
Low	Same factor required in better trading required 2%	Yes ✓

[illegible]

Very High Distinctiveness Summary	
Very High Distinctiveness Units available to offset lower distinctiveness deficit	0.00

[illegible]

High Distinctiveness Summary	
High Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Unit Deficit: Like for like not satisfied	0.00

[illegible]

Medium Distinctiveness Summary	
Medium Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Medium Distinctiveness Broad Habitat Deficit to be offset by trading up	0.00
Higher distinctiveness surplus units minus Medium Distinctiveness Broad Habitat Deficit	0.00
Overall distinctiveness deficit	0.00

[illegible]

Low Distinctiveness Summary	
Low Distinctiveness Not Chance is True	40.0%
Chance is True	60.0%

Habitats and areas				Distinctiveness		Condition		Strategic significance			Suggested action to address habitat losses	Ecological baseline
Ref	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Scores	Condition	Scores	Strategic significance	Strategic significance	Strategic Significance multiplier		Total habitat units
1	Grassland	Modified grassland	0.1279	Low	2	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required 2	0.77
3	Urban	Developed land, sealed surface	0.6288	V-Low	0	NA - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Compensation Not Required	0.00
3	Urban	Introduced shrub	0.0104	Low	2	Condition Assessment N/A	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required 2	0.02
4	Urban	Vacant/derelict land/ bareground	0.0008	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required 2	0.00
5	Urban	Urban Tree	0.0081	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (2)	0.03
6	Urban	Urban Tree	0.0366	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (2)	0.29
7												
8												
9												
10												
11												
Total habitat area			0.81									1.18

Retention category biodiversity values						Baseline compensation agreed for non-vegetable losses	Comments	
Area retained	Area enhanced	Baseline units retained	Baseline units enhanced	Area habitat lost	Units lost		Assessor comments	Reviewer comments
0.0198	0	0.12	0.00	0.11	0.65			
0.6214	0	0.00	0.00	0.01	0.00			
0	0	0.00	0.00	0.01	0.02			
0	0	0.00	0.00	0.00	0.00			
0	0	0.00	0.00	0.01	0.03		Accounts for the small trees in car parking areas. 1x Prunus and 1x cypress tree. The other trees within the car park are small Prunus hibernica and therefore not incorporated into this score	
0	0	0.00	0.00	0.04	0.29		1x medium grey poplar tree. This tree is overhanging hardstanding, a non-native species, and adverse impacts are evident. This tree is classed as being a category C1 tree and Poor condition in the	
0.84	0.00	0.18	0.00	0.17	1.00			

Total area lost (excluding area of Urban trees and Green walls)

0.18

Barnett Court 11884	
A-2 Site Habitat Creation	
Coordinate / Show Columns	Coordinate / Show Rows
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Total habitat area	0.69	Total Urban	1.08
Site Area (Excluding areas of Urban trees and Green walls)	0.18		

B-1 Site Hedge Baseline

Condense / Show Columns

Condense / Show Rows

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UK Habitats - existing habitats				Habitat distinctiveness		Habitat condition		Strategic significance			Suggested action to address habitat losses	Ecological baseline	Retention category biodiversity value						Comments	
Baseline ref	Hedge number	Hedge row type	Length (m)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier			Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	Assessor comments	Reviewer comments
1		Native Hedgerow with trees	0.054	Medium	4	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Take 50% loss or better	0.65	0.054	0	0.65	0.00	0.00	0.00		
2		Native Hedgerow	0.068	Low	2	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctivenesses based or better	0.23	0.068	0	0.23	0.00	0.00	0.00		
3		Hedge Ornamental Non Native	0.061	V.Low	1	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctivenesses based or better	0.06	0	0	0.00	0.00	0.06	0.00		
4		Native Hedgerow	0.000	Low	2	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctivenesses based or better	0.04	0	0	0.00	0.00	0.00	0.04		
5		Line of Trees	0.014	Low	2	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctivenesses based or better	0.06	0	0	0.00	0.00	0.01	0.06	Compensate spp	
6																				
7																				
8																				
9																				
10																				
			0.19									1.04	0.11	0.00	0.88	0.00	0.08	0.18		

B-2 Site Hedge Creation

Condense / Show Columns

Condensed / Show Rows:

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Instructions

		Proposed habitats		Habitat disturbance		Habitat condition		Strategic significance				Temporal multiplier				Difficulty risk multiplier				Comments				
Baseline risk	Hier target number	Habitat type	Length (km)	Disturbance number	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position number	Standard time to target condition/years	Habitat created to advance/years	Delay in starting habitat creation/years	Standard or adjusted time to target condition	Final time to target condition/years	Standard difficulty of multiplier	Applied difficulty multiplier	Final difficulty multiplier	Difficulty multiplier	Hedge ratio delivered	Assessor comments	Reviewer comments		
1		Hedge Ornamental Non Native	0.014	1/None	1	Poor	1	Aware/compensation not to local strategy no local strategy	Low Strategic significance	1	1	0	0	Standard time to target condition applied	1	0.050	Low	Standard difficulty applied	Low	1	0.03			
2		Native Species Rich Backgarden	0.023	Medium	4	Moderate	2	Aware/compensation not to local strategy no local strategy	Low Strategic significance	1	0	0	0	Standard time to target condition applied	0	0.027	Low	Standard difficulty applied	Low	1	0.10			
3																								
4																								
5																								
6																								
7																								
			0.06																			0.10		



Coltham Developments Ltd

Bennet Court, Reading

May 2023

FPCR Environment and Design Ltd

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Figure 2: May 2023 Surveyor and IR locations

1.0 NON-TECHNICAL SUMMARY

- 1.1 A warehouse with associated parking is proposed on Bennet Court, Reading.
- 1.2 Most of the site is dominated by urban habitat, which are considered to provide low value habitat for bats. The buildings present on site were assessed and deemed to be of moderate roosting potential, therefore survey effort in accordance with The Bat Conservation Trust (BCT) guidance was considered appropriate. Bat emergence and re-entry surveys were undertaken in September 2022 and May 2023, during which, no bats were identified emerging or re-entering the buildings.
- 1.3 Trees and hedgerows around the site boundaries are to be retained wherever possible, with new tree and hedgerow planting undertaken to strengthen wildlife corridors around the peripheries of the site.
- 1.4 Where possible, planting schemes will use a wide range of native species to enhance the structural diversity and foraging opportunities available for the local invertebrate fauna, which in turn will benefit bats.
- 1.5 Further opportunities to enhance the development for the benefit of the local bat population will include the provision of bat boxes, which will increase the available roosting sites and the capacity of the site to support invertebrate prey.
- 1.6 Additional habitat enhancements will be undertaken offsite to provide increased foraging resources for bats.

2.0 INTRODUCTION

- 2.1 The following report has been prepared by FPCR Environment & Design Ltd. ("FPCR") on behalf of Coltham Developments Ltd and provides a summary of results from bat surveys conducted at Bennet Court, Bennet Road, Reading, Berkshire, RG2 0QX (central OS grid reference SU 71442 70137), herein referred to as 'the Site'.
- 2.2 This report should be read in conjunction with the Ecological Appraisal (FPCR, 2023) for the site, which includes the results of an Extended Habitat Survey.

Site Context

- 2.3 The site is approximately 0.7 ha. It lies amongst industrial units, with a residential area further to the east, and further industrial units giving way to agriculture to the west. The Site comprises a car park, consisting of hardstanding with small areas of ornamental planting, managed grassland, and two large L-shaped buildings split into multiple business units. The Site is fenced on all sides.

Development Proposals

- 2.4 The proposals are for the demolition of the existing buildings and the installation of a new warehouse with associated parking and hardstanding.

3.0 LEGISLATION

- 3.1 Bats are afforded full protection under the Wildlife & Countryside Act (WCA) 1981 (as amended) and the Conservation of Habitats and Species Regulations (CHSR) 2017 (as amended). All UK species are European Protected Species (EPS).
- 3.2 In summary, it is illegal to:
- deliberately or recklessly capture, injure or kill any bats;
 - deliberately disturb bats and impair their ability to survive, to breed/reproduce or to rear/nurture their young;
 - deliberately disturb bats and impair their ability to hibernate or migrate;
 - deliberately disturb bats and significantly affect the local distribution or abundance of the species to which they belong;
 - intentionally or recklessly disturb any bat while it is occupying a structure or place which it uses for shelter or protection;
 - intentionally or recklessly obstruct access to any structure or place which a bat uses for shelter or protection;
 - damage or destroy a breeding site or resting place of a bat.
- 3.3 If impacts to bats or their roosts cannot be avoided, an appropriate licence is required from Natural England to derogate from the relevant legislation.
- 3.4 Some bat species are listed as species of principal importance for the conservation of biodiversity in England as required under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006. The S41 list is used to guide decision-makers, including local planning authorities, in implementing their duty under section 40 of the Act, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

4.0 METHODOLOGY

Desk Study

4.1 In order to compile existing baseline information, relevant ecological information was collected from the following consultees and sources:

- Thames Valley Environmental Records Centre (TVERC)
- Multi Agency Geographic Information for the Countryside (MAGIC)

4.2 Further inspection of colour 1:25,000 OS base maps (www.ordnancesurvey.co.uk) and aerial photographs from Google Earth (www.maps.google.co.uk) was undertaken to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.

Building Assessment

4.3 There were two large, two-storey, L-shaped buildings on the Site divided into numerous business units. They were constructed of red brick, with large windows and shallow pitched corrugated metal roofs. A concrete block and corrugated metal structure was present on the roof of each building, which housed the air conditioning units and electrics for the buildings. The building to the north will be referred to as B1 whilst the building to the south as B2.

4.4 Internal and external building assessments were carried out by experienced bat surveyors Laura Mynard and Casey Higgins-King, following best practice guidance¹. Laura is an accredited agent under Natural England Class Licence 2020-45925-CLS-CLS.

4.5 The exteriors of the buildings were visually assessed for potential roosting features, access points and evidence of bat activity. Features such as small gaps under barge/soffit/fascia boards, raised or missing ridge tiles and gaps at gable ends, which have potential to be used as access points, were sought. Evidence that bats actively used potential access points includes staining within gaps and bat droppings or urine staining under gaps. Indicators that potential access points had not recently been used include the presence of cobwebs and general detritus within the access.

4.6 The interiors of the buildings were visually assessed for evidence of bat activity and/or for the potential to be used by bats using a high-powered torch. Evidence of a roost was searched for, such as the presence of a dead or live bat(s), concentrated piles or scattered droppings, food remains such as insect wing fragments as well as scratch marks and/or staining.

4.7 The buildings were then placed into bat roost potential categories as per current Bat Conservation Trust (BCT) guidance which is summarised in Table 1.

Table 1: Bat roost potential categories for buildings

Categories	Description for buildings
Confirmed Roost	Evidence of roosting bats in the form of live/dead bats, droppings, urine staining, fur oil staining etc.

¹ Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

Categories	Description for buildings
High Potential	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Moderate Potential	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (irrespective of species conservation status, which is established after presence is confirmed).
Low Potential	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats.
Negligible Potential	No features present likely to be used by roosting bats.

Nocturnal Building Surveys

- 1.1 Nocturnal surveys were carried out in September 2022 and May 2023, in line with BCT guidelines and in suitable weather conditions (*Table 2*).

Table 2: Building Survey Dates and Weather Conditions

Survey Date	Start Time	Start temp (°C)	Wind (BF)	Rain	Cloud cover (%)
28.09.2022	18:43	13	0	0	70
29.09.2022	04:59	7	0	0	80
02.05.2023	20:13	13	2	0	10

- 1.2 The dusk emergence surveys began 15 minutes prior to sunset and finished 1.5 hours after sunset. The dawn re-entry survey began 2 hours prior to sunrise and finished at sunrise. Two surveyors and two IR cameras were positioned to visually cover all appropriate aspects of the building where possible (*Figure 1*, *Figure 2*). Surveyors recorded bat activity using a combination of the full spectrum Wildlife Acoustic Inc. Echo Meter Touch bat detectors in conjunction with the Echo Meter Touch app on Samsung Android phones.
- 1.3 Where any roosting behaviour is noted, bat calls were analysed post-survey using Wildlife Acoustics' Kaleidoscope software by experienced ecologists to verify bat species. Where infra-red camera footage was available, this was also reviewed.

Limitations

- 4.8 The 2022 surveys were instructed too late in the season to complete a spring emergence survey. However, as the habitats have not changed significantly since, it is considered acceptable to complete this in 2023 as the data from 2022 and 2023 would be comparable.
- 4.9 Two of the four EMT (Echo Meter Touch) units used during the May 2023 survey were in working order detecting bats while on the survey itself but failed to record the data files to the tablet.

This was not significant as general activity was very sparse during this survey, and the surveyors were confident that all the bats present were identified and written on the recording sheets at the time. Significance is further reduced as the surveyors did not observe any emergences from the buildings.

- 4.10 IR camera 6 (Figure 2) failed on the May 2023 survey. This is not considered to be a significant constraint owing to the fact surveyor at position 3 (Figure 2) could see all areas of the building the IR camera was covering.
- 4.11 Bat detectors do not discern between individual bats, so while it may be possible to visually observe and observe on the detector multiple bats if they are present and echolocating at the same time, it is not possible to tell if future passes of the same species are the same or different individuals from those detected previously. The analysis, therefore, uses the number of “registrations” rather than the number of bats.
- 4.12 The species data collated for the desk study is derived from records submitted by members of the public and from surveys conducted by specialist volunteer groups. It does not represent a definitive list of species that occur in the local area, and the absence of records does not necessarily imply the absence of such species.

5.0 RESULTS

Desk Study

- 5.1 Several bat records within 1km of the Site were returned from TVERC in 2022 (Table 3):

Table 3: Consultation Records

Species	Protection	Date	Approximate distance and direction from site of closest record
Common Pipistrelle <i>Pipistrellus pipistrellus</i>	CHSR, WCA Sched 5, NERC S41	2019	355m SW
Soprano Pipistrelle <i>Pipistrellus pygmaeus</i>	CHSR, WCA Sched 5, NERC S41	2017	740m SE
Brown Long-eared Bat <i>Plecotus auritus</i>	CHSR, WCA Sched 5, NERC S41	2011	695m W
Daubenton's Bat <i>Myotis daubentonii</i>	CHSR, WCA Sched 5, NERC S41	2015	1km W
Noctule bat <i>Nyctalus noctula</i>	CHSR, WCA Sched 5, NERC S41	2017	320m NE
Serotine bat <i>Eptesicus serotinus</i>	CHSR, WCA Sched 5	2017	905m NE

Habitat Suitability

- 5.2 The range and quality of habitats within the Site as a whole are considered to be of 'low' value to bats, which can be attributed to the dominant urban habitat, with a strip of actively managed grassland. There is also little suitable high-quality habitats in the immediate surrounding landscape.

Building Assessment

- 5.3 Several features were present which were considered to provide potential access points for roosting bats into the cavity walls of B1, these included:
- Weep holes on every aspect
 - A gap between the flat roof and the red brick
 - Small gaps in the mortar above the ground level windows on the south-eastern elevation and on the southernmost wall
 - Gaps under the windowsills on the west elevation and around where cables entered the building on the north-western elevation, and
 - A vent on the southernmost wall
- 5.4 Similar features were also note in association with B2 including:
- Weep holes on every aspect of B2
 - The gap between the flat roof and the red brick
 - Small gaps in the mortar on every elevation and the slatted doors and vent and gaps where cables entered the wall on the southern elevation
- 5.5 The roof void of the buildings (B1 and B2) consisted of the space between the flat roof, and the false ceiling roof-tiles within the buildings;
- The underside of the flat roof comprised corrugated metal, with a metal structure, providing negligible potential for roosting bats.
 - There were wires and pipes associated with the electrical and heating systems for the building within the roof voids providing cluttered flight lines.
 - There was some insulation present in the roof void of B1, and a gap between this and the breeze block structure of the wall provided potential for roosting bats.
 - There were no gaps observed within the walls surrounding the voids; no light was observed infiltrating into the roof voids.
 - The internal structure of the facilities buildings on the roofs of B1 and B2 comprised single-skin concrete breezeblocks, with a metal corrugated roof.
 - There were small gaps in the mortar around the breezeblocks and between the metal structure and the breezeblocks of both facilities buildings.
 - There was a small hole within the structure of the facilities building on the roof of B2 allowing bats to enter.
- 5.6 Due to the number of ingress points and features providing potential for roosting bats present, B1 and B2 were classified as having moderate potential for roosting bats. No evidence of bats, including droppings, scratch marks or staining, was observed during the survey associated with either building.
- 5.7 None of the trees on the Site were noted to provide features suitable for roosting bats.

Nocturnal Building Surveys

- 5.8 One nocturnal survey was undertaken in September 2022 on each building and a further survey was completed in May 2023. Details of the surveyors' experience is detailed in Table 4 below.

Table 4: Surveyor experience

Surveyor Name	Bat Licence Held?	Ecology Experience	CIEEM Membership
James Warren	No	8 years	Qualifying member
Laura Mynard	No	6 years	N/A
Hazel Gisborne	No	3 years	N/A
Fiona Kenny	No	2.5 years	Qualifying member
Shauna Brown	No	1 year	Qualifying member
Emily Burdon	No	8 months	N/A

- 5.9 During the September dusk survey on B2, there was some bat activity recorded on the site from three species, however no bats were identified as emerging or returning to the either building.
- 5.10 During the September dawn survey on B1 there was no bat activity recorded.
- 5.11 During the May dusk survey on B1 and B2, there was some bat activity recorded on the site from two species, however no bats were identified as emerging or returning to either building.

6.0 DISCUSSION AND RECOMMENDATIONS

Activity

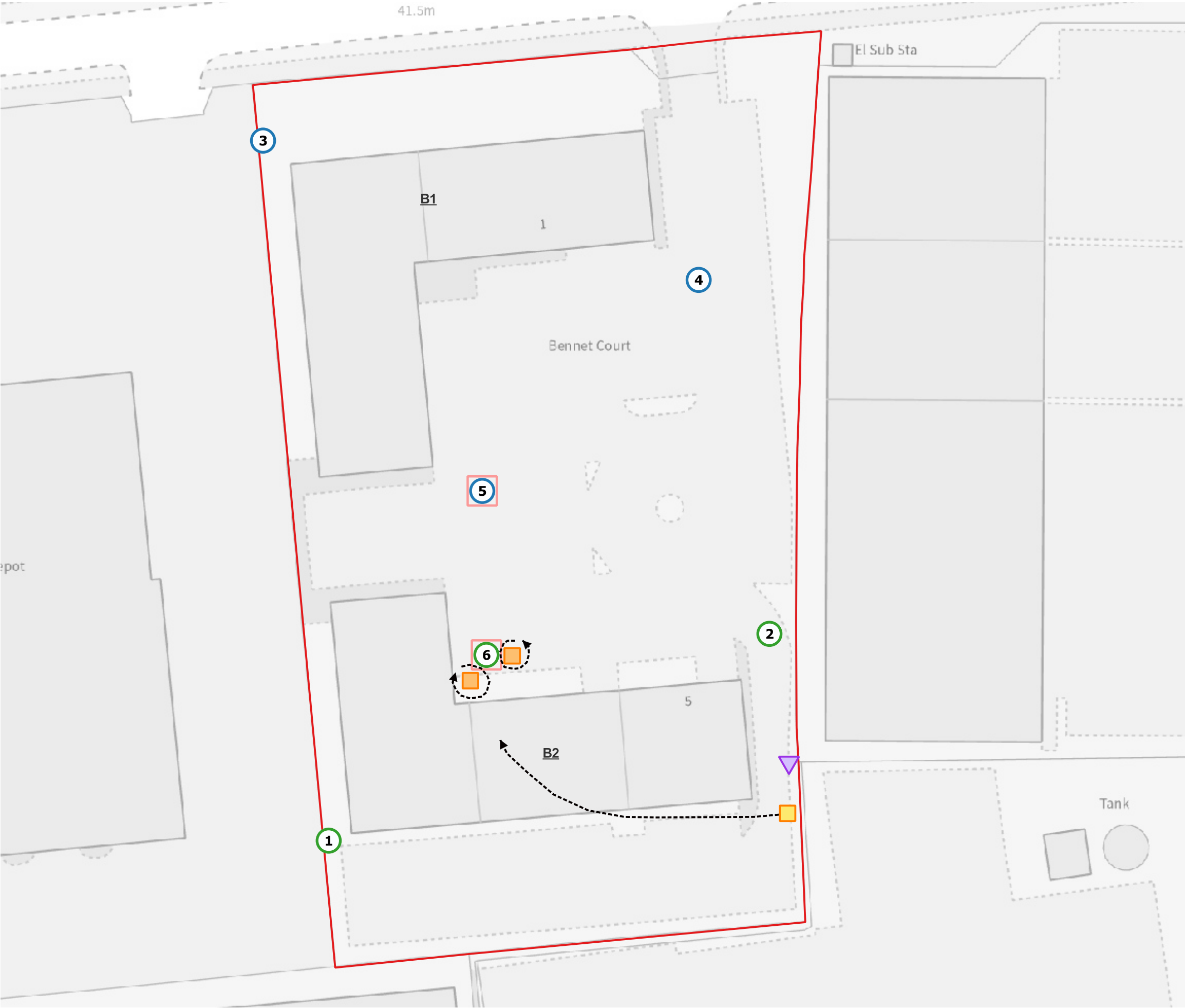
- 6.1 No bats were seen emerging or re-entering the building during the surveys. Roosting bats are not considered a constraint to the proposed development.

Mitigation and Enhancements

- 6.2 As the existing buildings have moderate bat roost potential, if the demolition has not taken place within 18 months, an update preliminary roost survey, and if necessary, further nocturnal surveys, will be required.
- 6.3 The proposed development for a new warehouse and parking area will retain most of the trees and hedgerows around the site boundaries, with new tree, ornamental shrub and hedgerow planting undertaken to strengthen wildlife corridors around the peripheries of the site. This will ensure opportunities for foraging and commuting urban bats will be maintained.
- 6.4 Bat tubes, or similar integrated purpose built boxes, will be incorporated into the fabric of the buildings where appropriate. Additionally, bat boxes such as Schwegler 1FF or similar will be installed on mature trees on the eastern boundary.
- 6.5 The lighting in areas close to retained boundary features, should be designed to avoid direct lighting of existing trees, hedgerows, scrub, woodland, or proposed areas of habitat creation/landscape planting, both during construction and operational phases. If this is not feasible, additional measure should be taken to reduce light spill such as:
- Directional lighting and avoidance of upward lighting and / or light spillage.

- Short lighting columns, although in some locations taller columns would allow reduced horizontal spill.
- Low pressure sodium lights, as they emit a single wavelength, so attract less insects.
- Further guidance is provided in good practice guidance³.

³ Bat Conservation Trust (2018) Bats and Artificial Lighting in the UK. Guidance Note 08/18. Bats and the Built Environment Series.

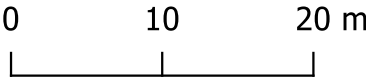


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- Key:**
- Site Boundary
 - Dusk Surveyor Locations
 - Dawn Surveyor Locations
 - IR camera
 - Flight Arrow

- Bat Contacts**
- Common Pipistrelle
 - Soprano Pipistrelle
 - Noctule





client
Coltham Developments Ltd

project
Bennet Court, Reading

drawing title
BAT EMERGENCE SURVEY - Surveyor
Locations & Bat Contacts September 2022

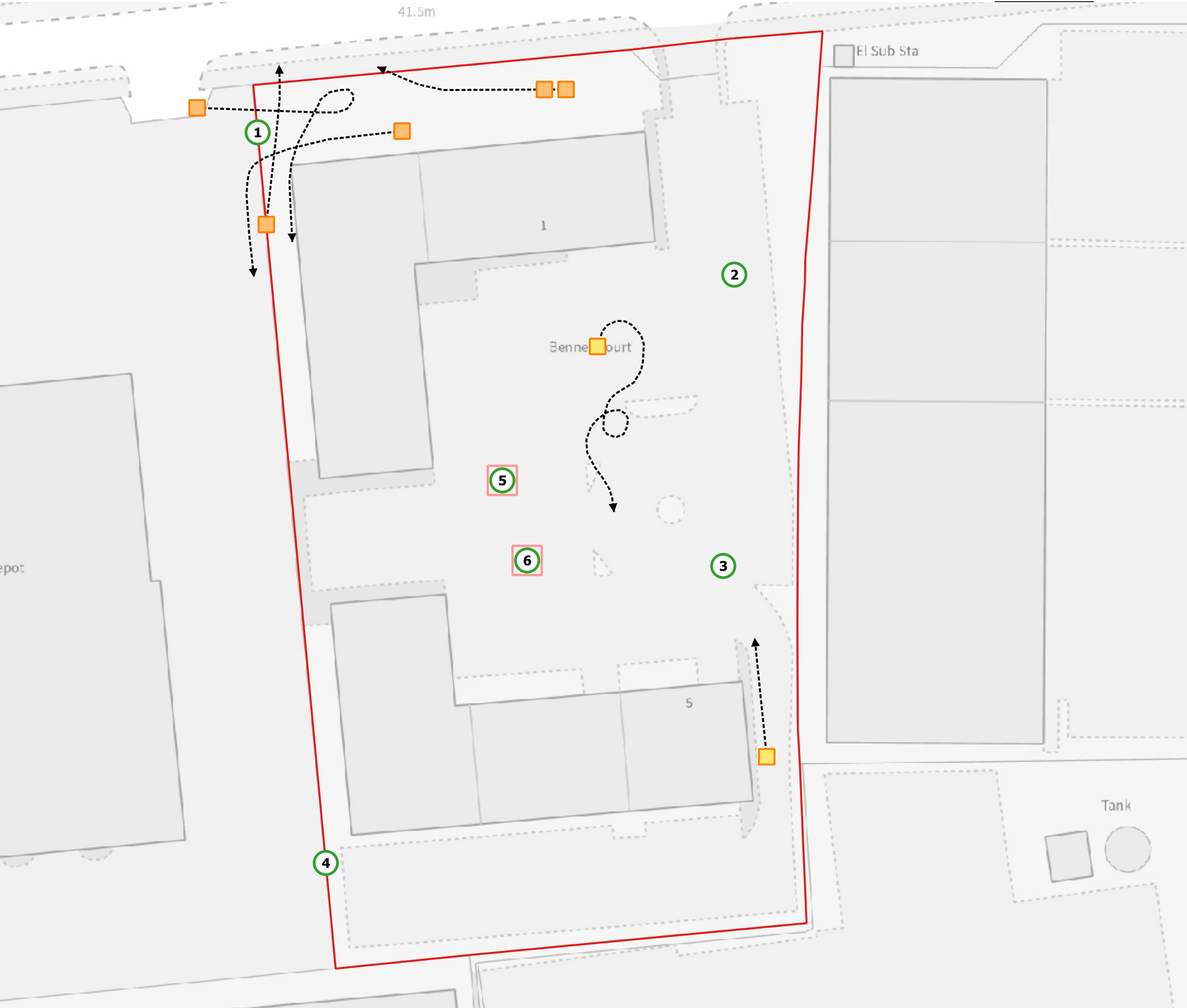
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Figure 1

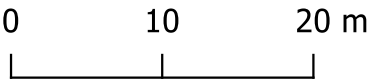


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client
Coltham Developments Ltd

project
Bennet Court, Reading

drawing title
BAT EMERGENCE SURVEY - Surveyor
Locations and Bat Contacts May 2023

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Figure 2

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