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PRELIMINARY ECOLOGICAL APPRAISAL

2 Broadgate House, Huddersfield
Report Reference: BG17.143
March 2017

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Document Control

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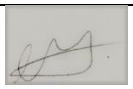
1st Check by	Emily Major		29/03/2017
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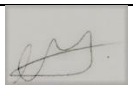
Issued by (PDF)	Emily Major		31/03/2017
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Liability

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Mr Qamar Hussain

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Grid reference: SE 15885 15985

Contents

1 Summary

1.1 Brindle & Green were commissioned by Mr Qamar Hussain to undertake a Preliminary Ecological Appraisal incorporating a Bat Building Assessment at 2 Broadgate House, Huddersfield. The purpose of this assessment was to provide an assessment of the ecological value of the site, and to identify key ecological constraints to the proposed development. The survey was undertaken on 7th March 2017.

1.2 The site is the subject of a full application for the erection of first floor, front and side extensions and erection of single storey front extension with balcony above. It is understood that the development works will involve roofing alterations to the existing pitched tile roof. Design proposals are included in Appendix 4 of this report.

1.3 All ecological issues relating to the building and surrounding environment were considered during the survey. A full description of recommendations and enhancements is included within Chapter 7 'Recommendations'. Below is a summary of the ecological issues recommended for further consideration as a result of our initial investigations:

Ecological Consideration	Recommendations (e.g. further survey, mitigation)	Timing
Roosting Bats	Building awarded Low Suitability to support roosting bats. This building requires one single further activity survey.	May - August
Breeding Birds	Building subjected to a pre-works check – see chapter 7.	Pre-construction
Foraging and commuting bats	Sensitive lighting scheme and retention of boundary features.	Pre-construction

2 Introduction

2.1 Brindle & Green were commissioned by Mr Qamar Hussain to undertake a Preliminary Ecological Appraisal incorporating a Bat Building Assessment at 2 Broadgate House, Huddersfield. The purpose of this assessment was to provide a preliminary appraisal of the ecological value of the site and to identify key ecological constraints to the proposed development. The survey provides detail on the need for any additional, more detailed protected species surveys, and will allow the development of likely mitigation, compensation and enhancement measures to be developed.

2.2 The site incorporates a two-storey residential property surrounded by Leyland cypress located within residential development to the south-east of Huddersfield, West Yorkshire. The property is currently occupied and comprises a brick built two-storey main living area with single storey flat-roofed extensions off the southern and western elevations. The property is located within a predominantly urban area, with areas of broadleaved woodland present 100m to the east beyond Somerset Road and 200m to the west. The building is the subject of a full application to create additional accommodation by extending at first floor level on the southern and western elevation atop of existing flat roof ground floor extensions. It is understood that the design proposals will involve alterations to the building interior and aspects of the building walls and roof and will involve a marginal increase in the current building footprint on the southern elevation. Design proposals are presented in Appendix 4 of this report.

2.3 The legislation relevant to protected species within the United Kingdom is summarised within Appendix 2.

2.4 Results and recommendations contained within this report have been prepared by an experienced ecologist and are therefore the view of Brindle & Green Limited. The survey is based on information provided by our client, the development proposals, and the results of the desk study and our survey of the site. This report pertains to this information only.

3 Methodology

3.1 Desk Study

Table 1 below lists organisations and/or resources used as part of the desk study process. Data regarding any known statutory or non-statutory sites in addition to any records for protected species were requested from the following sources:

Table 1. Ecological Data Resources

Consultee	Requested Data	Search Radius	Date Requested
MAGIC Maps	National and International Site Designations Granted European Protected Species Licence Applications	2km	08/03/2017

3.2 Surveyors

Survey carried out by Tristan Varney MSci. (Hons) Grad CIEEM and supported by Chris Needham MSc. MCIEEM (Bat Licensed).

3.3 Survey Conditions

The survey was undertaken at 14:00 on the 7th March 2017 under the following survey conditions:

- Outside air temperature: 9.9ºC
- Cloud cover: 4/8
- Beaufort wind scale: 1

3.4 Field Survey

The habitats on site were assessed for their suitability to support protected species following standard survey guidance (Appendix 3). It is important to assess the surrounding habitat, as in some cases the legal protection of a protected species extends to the habitat in which it occupies. Any incidental sightings of field signs were noted at the time of survey. Where evidence of, or the confirmed presence of a Protected Species is identified, further, species

specific surveys may be recommended to establish with certainty the presence and extent, or absence of a legally protected species prior to the determination of any planning approval.

3.5 Protected Species

3.5.1 **Breeding Birds**

The building and vegetation to be impacted from the proposed development have been the subject of a search for active or previously used bird nests, and identification of features considered conducive to breeding birds, alongside noting the activity and behaviour of birds on site during the survey. Following standard techniques, as recommended by

Gilbert G, Gibbons DW, Evans J. (1998) *Bird Monitoring Methods: Breeding Bird Survey* (pages 389-393). RSPB.

3.5.2 **Roosting Bats**

3.5.2.1 Structures (buildings and trees) on site were assessed for their suitability to support roosting bats following Collins, J (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines, (3rd edition), Bat Conservation Trust, London.

During the external and internal (where possible) assessment of the structure features including suitable enclosed spaces such as slipped or missing roof tiles, gaps and cracks in brickwork, enclosed roof voids, gaps along ridge rafters, joints in roof beams and the presence of suitable soffits and fascias were recorded to evaluate the potential suitability of a structure to support roosting bats. Evidence of bat presence was also recorded including feeding remains, bat droppings and staining around potential access points. Bats often use different roosting sites at different times of the year, and the absence of evidence does not always equate to the absence/ or lower suitability of a structure to support a bat roost. The potential suitability of each structure, was categorised following Collins J (2016), and the resulting survey effort to establish confidence in a result is summarised within Table 2.

Table 2. Potential suitability of roosting habitat within structures (Buildings and trees) to be applied to each structure using professional judgement. Adapted from Collins J (2016).

Category	Description of roosting habitat	Number of presence / absence surveys required
No Potential	The building is wholly unsuitable for a bat roost.	None
Negligible Potential	Suitable cavities may exist but these are open to wind, rain or disturbance.	None
Low Potential	This category describes a structure with one or more potential roost sites that could be used by individual bats opportunistically, that less than ideal in some way. For example, the feature may be subject to intermittent disturbance, and does not provide enough shelter, conditions* space and/or suitable surrounding habitat (e.g unlikely to support a maternity or hibernation roost). This category describes a tree of sufficient size and age to support roosting bats, but with no features observed from the ground, or the features only have a limited potential to support roosting bats.	One survey between May and August Trees – No further surveys required
Moderate Potential	This category describes a structure or tree considered to have one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions* and surrounding habitat but are unlikely to support a roost of high conservation status (With regard to roost type only – assessments are made irrespective of species conservation status, which is established after presence is confirmed) Features considered to have adequate potential would include cavities of appropriate dimensions that are generally free from disturbance and free from fluctuations in the weather.	Two surveys between May and September (with at least one survey undertaken between May and August) One Dusk emergence and One Dawn re-entry survey to ideally be undertaken at least two weeks apart.

High Potential	A structure or tree 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.	Three surveys between May and September (with at least two surveys undertaken between May and August) One Dusk emergence and One Dawn re-entry survey to be undertaken. The third survey can be either Dusk or Dawn. The surveys should ideally be undertaken at least two weeks apart.
Confirmed	This category is where positive evidence of bats has been recorded. For example, bats are found; bat droppings may be present at a suitable location for roosting bats; existing bat records may be associated with the structure.	Three surveys between May and September (with at least two surveys undertaken between May and August) One Dusk emergence and One Dawn re-entry survey to be undertaken. The third survey can be either Dusk or Dawn. The surveys should ideally be undertaken at least two weeks apart.

(* in this context conditions refers to the level of disturbance, light, height above ground, temperature, and humidity etc)

3.5.2.2 If bats are discovered emerging or re-entering any structure, the survey schedule should be appropriately adjusted to increase the survey effort so that sufficient information for roost characterisation can be collected to advise the planning application or EPS development licence.

3.5.3 **Foraging and Commuting bats**

Habitat features on site were assessed for their suitability to support foraging and commuting bat populations. This assessment was independent from the suitability of the site to support roosting bats, and provides information on the likeness of bat foraging activity within the local environment, and the dependence of individuals on these features for commuting to alternative roosting sites, foraging and migration. The suitability of the sites commuting and foraging habitat was assessed and evaluated against the proposed impacts to the site and Table 3 (below) to allow categorisation of the habitat.

Table 3. Potential suitability of foraging and commuting habitat within an application boundary. Features should be assessed following this guide and professional judgement. Adapted from Collins J (2016).

Category	Description of commuting and foraging habitat	Survey effort to establish the value of commuting and foraging habitat**
Negligible Potential	Negligible habitat features on site likely to be used by commuting or foraging bats	None
Low Potential	Habitat which could be used by low numbers of commuting bats such as an isolated gappy hedgerow, or an unvegetated stream unconnected to suitable habitat in the wider environment. Suitable, yet isolated habitat that could be used by foraging bats such as individual trees, or a patch of scrub.	**Transect /spot count/ timed search survey:** One survey visit per season: Spring- April/ May Summer- June/July/ Aug Autumn – Sept/ Oct In weather conditions conducive to finding bats **AND** **Static automated surveys:** One location per transect, over a five-night period, per season: Spring- April/ May Summer- June/July/ Aug Autumn – Sept/ Oct In weather conditions conducive to finding bats *Further survey may be required if surveys reveal higher activity than predicted from habitat alone*
Moderate Potential	Continuous habitat connected to the wider landscape that could be used by commuting bats, notably tree lines, hedgerows or linked back gardens. Habitat that is connected to the wider landscape which could be used by bats for foraging such as trees, open water, scrub or grassland.	**Transect /spot count/ timed search survey** One survey visit per month (April to October) In weather conditions conducive to finding bats At least one survey should comprise dusk and pre-dawn (or dusk to

		dawn) within one 24-hour period. **AND** **Static automated surveys:** Two locations per transect, over a five-night period, per month (April to October) In weather conditions conducive to finding bats
High Potential	Continuous, High-quality habitat that is well connected to the wider landscape which is considered to be highly conducive to commuting bats including river valleys, stream, hedgerows, and woodland edge High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree lined watercourses, and grazed parkland. Site is close to and connected to known roosts.	Transect /spot count/ timed search survey Up to two survey visit per month (April to October) In weather conditions conducive to finding bats At least one survey should comprise dusk and pre-dawn (or dusk to dawn) within one 24-hour period. **AND** **Static automated surveys:** Three locations per transect, over a five-night period, per month (April to October) In weather conditions conducive to finding bats

*(** This is only a guide for survey effort required, the complexity of the site and the proposed disturbance / loss of features will determine the extent of works required on a site by site basis).*

3.6 Limitations

3.6.1 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment. The protected and notable species assessment provides a preliminary view of the likelihood of these species occurring on site, based upon the suitability of the habitats, know distribution of the species is the local area and any direct evidence on site. It should not be taken as providing a full and definitive survey of any protected species group.

3.6.2 The surveyor was not able to access the loft space above the two-storey aspect on the northern elevation of the property. The main loft space beneath the pitched roof of the main two-storey dwelling was accessed, and damaged roofing felt allowed a limited visual inspection of the additional roof void to the north, but a complete internal assessment could not be undertaken.

3.6.3 Tiles above the three-storey height extension off the northern elevation could not be viewed.

3.7 Report Lifespan

Given the transient nature of the subject we would consider the survey results contained to be accurate for two years.

4 Site Context

4.1 Site Description

The application site is located at grid reference SE 15885 15985, with the site boundary (viewable in Appendix 4) incorporating a two-storey residential building, a Leyland cypress hedge along the southern boundary and surrounding hardstanding parking areas. Residential development forms the immediate surrounding habitat type, with residential development and broadleaved woodland forming the dominant habitat types in the wider environment. The site is connected to the surrounding environment by a network of mature gardens and scattered trees.

4.2 Zone of Influence

The zone of influence describes the geographic extent of potential impacts of a proposed development. The small scale of the redevelopment reduces the impact of the development on the wider area, however the suitability of the wider landscape to support foraging bats and birds, coupled with suitable commuting habitat in the immediate vicinity of the site in the form of mature gardens and scattered trees increases the likelihood of these species being present on site and in the immediate vicinity.

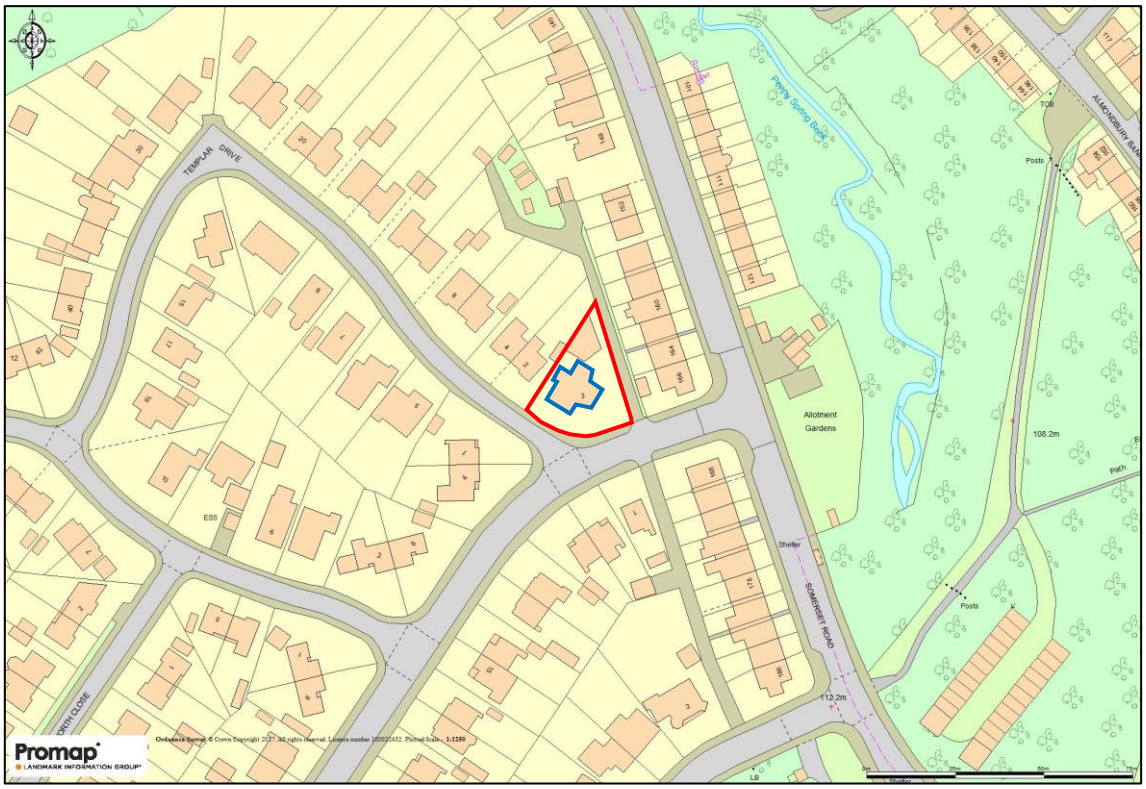


Figure 1. OS Map of the project site and surrounding area.

Red line boundary: property boundary
Blue line boundary: survey building

5 Results

5.1 Desk Study

5.1.1 **Designated Sites**

The site was subjected to a search for designated sites within a 2km radius of the site using data supplied by the online desk based resource MAGIC MAPS.

5.1.1.1 **Magic Maps**

A 2km radius search of the online resource Magic Maps was undertaken to search for Statutory sites (Table 5) and relevant granted EPS development licences. Three expired EPS licences were granted within 2km of the site for bat species. One statutory site was recorded within a 2km radius of the site.

Table 5. Designated sites with a 2km radius of the application site

Site Name	Status	Approximate distance from the project site
Castle Hill	LNR	1.7km SW

(A map and full data search can be found within Appendix 5)

5.2 Field Survey

The development proposals are restricted to within the current footprint of the residential property, with a marginal increase in the footprint proposed over hardstanding on the southern elevation. No vegetation will be impacted by the planning application, however, the impact of the redevelopment on protected species which may be present with associated habitats such as gardens, and hedgerows in close proximity of the works have been considered.

5.3 Protected Species

5.3.1 Breeding Birds

No evidence of breeding birds was recorded within the building interior. The building offered minimal potential to support breeding birds; a substantial and uncluttered roof void subject to low levels of human disturbance was present above the main two storey dwelling, however no suitable access points or nesting material within the void were recorded. A treeline of semi-mature Leyland cypress (*Cupressus* × *leylandii*) along the southern boundary of the site offered suitable shelter for garden bird species.

5.3.2 Roosting Bats

The data search returned three records for granted European Protected Species licences for bat species within a 2km radius of the application site. Case reference 2014-856-EPS-MIT for the destruction of a common pipistrelle (*Pipistrellus pipistrellus*) resting place expired in 2014. Case reference EPSM2011-3176 for the destruction of a common pipistrelle (*Pipistrellus pipistrellus*) resting place expired in 2013. Case reference EPSM2010-1750 for the destruction of a common pipistrelle, soprano pipistrelle (*Pipistrellus pygmaeus*) and brown long-eared bat (*Plecotus auritus*) resting place expired in 2012. These records indicate that suitable roosting habitat for local bat populations exists in the wider area. The building was assessed to have low suitability to support roosting bats.

The main structural features of the building and suitability for supporting roosting bats are summarised below, and associated figures can be found with Section 5.4.

External Walls Considerations: *age / storey height of building / building material / enclosed building / wall space / gable ends / suitable cavities free from weather / any evidence found / photographs taken around all the building*

Two storey property, with northern elevation approaching three storey height due to the topographical nature of the site. Eastern elevation was fully rendered with no bat roosting opportunities recorded.

Upper storey on southern elevation was shielded in vertical weatherboarding, which was well-sealed across the entire elevation except an area of damage to the immediate right of the westernmost south-facing window. A gap beneath the damaged weatherboarding could act as a potential roosting feature (PRF) for crevice-dwelling bat species.

Gaps beneath horizontal weatherboarding on the upper storey of the western elevation that had become warped with age could provide roosting opportunities for crevice-dwelling bat species. The pebbledash-rendered external wall beneath offered no roosting opportunities for bat species.

The northern elevation was constructed of well-pointed brick and contained flush weatherboarding on the uppermost section. Sections shielded in vertical weatherboarding on east-facing aspects of the northern elevation contained gaps of sufficient size to allow bat entry at their base. These sections were examined using high powered torches and although no evidence of bat presence was recorded, these potential roosting features were of sufficient depth to house roosting bats and offer adequate shelter from weather conditions. Gaps beneath PVC boarding on the east-facing aspect of the northern elevation and cracks in the apex of adjoining fascia boards could also support individual crevice-dwelling bats species.

Intact PVC window frames and windows were intact and well-sealed on each elevation.

No evidence of roosting bats in the form of actual bats, droppings or staining was recorded on the external walls.

External Roof Considerations*: shape / roof material / gable ends / roof ridge / suitable cavities free from weather / any evidence found / photographs taken around all the roof*

Pitched roof of interlocking tiles in reasonable condition, some warping on the southern elevation but no obvious gaps aside from two raised tiles by the base of the chimney on the southern elevation. Chimney on eastern elevation was well-pointed with intact flashing, no potential roosting features noted. Mortar beneath ridge tiles in good condition, and soffits and fascias all well-sealed on southern elevation.

Single storey flat roof coated in roofing felt on southern and western extensions was well-sealed and in good condition. A hole of sufficient size to potentially support crevice-dwelling bat species or allow void-dwelling bats to access the roof void was recorded in the soffit on the western elevation at end of the guttering.

Interlocking tiles on the northern elevation of the main dwelling appeared to be intact and well-sealed, with no potential roosting features noted. Tiles above the three storey height extension off the northern elevation could not be viewed.

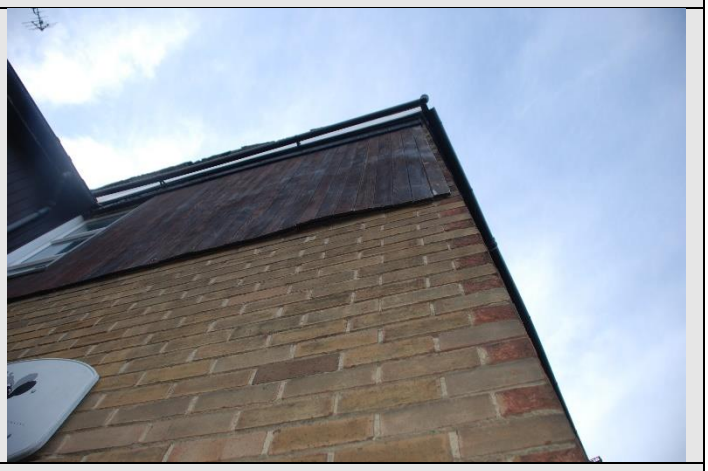
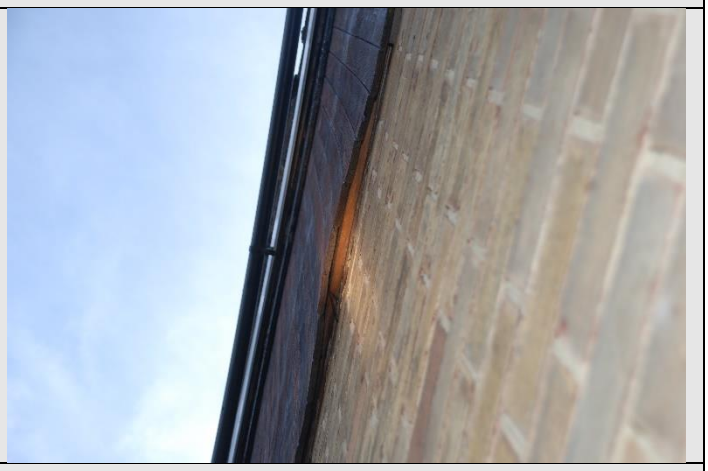
Interior Considerations: *use of building* ***/*** *wall space / suitable cavities / is there a suitable cellar / any evidence found / photographs taken*
An occupied residential property, with no gaps in wall spaces recorded and no evidence of bat presence recorded on the ground and first floors. A cellar space beneath the majority of the building footprint was entered and inspected for the presence of roosting bats, with no evidence recorded. The cellar is used for storage purposes by the homeowner and is accessed on a regular basis, with a high level of internal lighting present. The only potential entry point into this area was via a damaged air vent on the ground floor.
Interior Roof Considerations: *roof space e.g. loft / lighting / use of roof space / ability to find bat dropping in interior space / material of roof support / if wooden what size / suitable joints in wooden beams / water proof lining / suitable cavities / photographs taken*
Roof void present within pitched roof of main two-storey dwelling. Triangular prism structure approximately 5m wide and 2m tall constructed of wooden beams, with roof lining present. Uncluttered roof space that is not accessed by the homeowners. No evidence of bat presence recorded, and highly cobwebbed beams are not conducive to bat presence. Single point of light on southern elevation where roof lining has torn and a roof tile is slightly raised. Despite no evidence of bat presence recorded, this void could offer void-dwelling bat species with roosting opportunities. Potential roosting opportunities also recorded between intact roof lining and beneath raised roof tiles. Air temperature of 21^{o}C was recorded within the roof void. Mouse droppings and evidence of nest building was recorded between the ceiling joists within the loft space. Remnants of wasp nest also recorded. Brick built gables with intact mortar to the west and east were inspected for presence of bats, with no evidence recorded. Damaged roof lining on the northern elevation allowed for a limited visual inspection of the roof void above the three storey-height elevation on the northern elevation. No evidence of bat presence recorded.
Category and Reason for that Category
Low Suitability: A sizeable, uncluttered roof void subject to low levels of disturbance was present within the pitched roof above the main two-storey dwelling, but only one (suboptimal)) entry point was visible and all beams were heavily cobwebbed, indicative of a lack of bat presence. No evidence of bat presence was recorded within the roof void. Gaps beneath weatherboarding and pvc boarding on the building exterior could provide individual crevice-dwelling bat species with opportunities to roost. Broadleaved woodland located within 200m of the site increases the likelihood of bats being present on site.

5.3.3 **Foraging and Commuting Habitat for Bats**

A mature treeline of Leyland cypress recorded along the southern boundary of the site offered greatest potential to support foraging and commuting bats. This feature could provide linear connectivity to the wider environment for populations of foraging and commuting bats in the local area.

5.4 Site Photographs

Photographs were taken to provide evidence of the survey findings and support the classification of a buildings potential to support protected species.

Gaps beneath warped wooden weatherboarding on the east-facing aspect of the northern elevation could provide individual crevice-dwelling bats species with opportunities to roost.	
Gaps beneath warped wooden weatherboarding on the east-facing aspect of the northern elevation were inspected for bat presence using a high-powered torch, with no evidence recorded. These features were considered sufficiently deep and offered adequate shelter to support individual roosting bats.	
Gaps beneath roof tiles where mortar had deteriorated were recorded on the east-facing elevation of the northern elevation. These features may lead to the undisturbed void within, or support crevice-dwelling bats species.	

Gaps caused by damaged fascia boards on the northern elevation could support crevice-dwelling bats species. Clear flight lines lead to this feature, but no evidence of bat presence in the form of droppings, urine staining or feeding remains beneath were recorded.	
Eastern elevation was fully rendered and contained negligible potential to support roosting bats.	
Two marginally raised interlocking roof tiles by the eastern chimney on the southern elevation of the pitched roof offered low suitability to support crevice-dwelling bats, and suboptimal entry points for void-dwelling bat species to the building interior. Chimney flashing appeared intact and well-sealed.	

A hole of sufficient size to potentially support crevice-dwelling bat species or allow void-dwelling bats to access the roof void was recorded in the soffit on the western elevation at end of the guttering.	
A narrow gap beneath slightly warped pvc boarding on the western elevation could support individual crevice-dwelling bat species.	
Roof void present within pitched roof of main two-storey dwelling. Triangular prism structure approximately 5m wide and 2m tall constructed of wooden beams, with roof lining present. Uncluttered roof space that is not accessed by the homeowners. No evidence of bat presence recorded, and highly cobwebbed beams are not conducive to bat presence.	

Remnants of wasp nest also recorded. Brick built gables with intact mortar to the west and east were inspected for presence of bats, with no evidence recorded.	
Damaged roof lining on the northern elevation allowed for a limited visual inspection of the roof void above the three storey-height elevation on the northern elevation. This void could not be accessed fully.	
Single point of light on southern elevation where roof lining has torn and a roof tile is slightly raised.	

A cellar space beneath the majority of the building footprint was entered and inspected for the presence of roosting bats, with no evidence recorded.	
The cellar is used for storage purposes by the homeowner and is accessed on a regular basis, with a high level of internal lighting present. This feature will not be impacted as part of the development proposals.	

6 Evaluation

6.1 Development Proposals

The site is the subject of a full application for the erection of first floor, front and side extensions and erection of single storey front extension with balcony above. It is understood that the development works will involve roofing alterations to the existing pitched tile roof. Design proposals are included in Appendix 4 of this report.

6.2 Desk Study Impacts

Direct impacts on nearby designated sites as a result of the proposed development are considered unlikely as no sites exist within 1.7km of the survey area. The extent of the development will be contained within the footprint of the existing property, except for a marginal increase along the southern elevation, and there are no plans to remove the Leyland cypress treeline, ensuring that current commuting routes to suitable foraging areas would be maintained. Chapter 7 of this report sets out important recommendations to ensure this.

6.3 Breeding Birds

6.3.1 All wild birds, their eggs and nests are protected under the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure, or take any wild bird whilst nesting, or take, damage or destroy the nest of any such bird while in use or being built. In addition, species listed on Schedule 1 of the Wildlife and Countryside Act 1981 or their dependant young are afforded additional protection from disturbance whilst they are at their nests.

6.3.2 No evidence of breeding birds was recorded within the building interior. The building offered minimal potential to support roof-nesting breeding birds in the form of a substantial and uncluttered roof void subject to low levels of human disturbance, however no suitable access points or nesting material within the void were recorded. This feature is due for alteration as part of the development proposals. There is therefore a marginal risk that breeding birds and their young could be disturbed during the renovation works. The recommendations section of this report sets out important guidance on measures to avoid impacts on this

species and measures to support its conservation status through ecological enhancement.

6.3.3 A treeline of semi-mature Leyland cypress along the southern boundary of the site offered suitable shelter for garden bird species. This feature is due to be retained as part of the development proposals.

6.4 Bats

6.4.1 All bat species are protected under the Wildlife and Countryside Act (1981) and Habitat Regulations (2010) making it an offence to, intentionally kill, injure, or take any species of bat, intentionally or recklessly disturb bats, intentionally or recklessly damage destroy or obstruct access to bat roosts.

6.4.2 Roosting Bats

The two-storey residential building known as '2 Broadgate House' was assessed to have Low Suitability to support roosting bats. If the development was to continue as planned, it could lead to the destruction of a potential roosting site, and increased disturbance, injury or harm to individual bats. The recommendations section of this report sets out important guidance on measures to avoid impacts on this species group and measures to support its conservation status through ecological enhancement.

6.4.3 Foraging and Commuting Bats

A mature Leyland cypress treeline along the southern site boundary provides some suitable foraging and commuting habitat for bats from the site to the wider environment. This habitat is not proposed for removal, and its retention in its current state is likely to be important for the continued success of bats roosting within the surrounding area. The management of this feature is also important. The addition of artificial lighting focused on this feature post development would have a detrimental impact on the use of this habitat by bats, for example. Chapter 7 of this document sets out important recommendations to safeguard habitats used by bats upon completion of the works.

7 Recommendations

As with all development sites; efforts should be made to support National and Local Biodiversity Action Plans, and seek opportunities to incorporate ecological enhancement schemes within the proposed development. Such site enhancements should be viewed positively in light of the NPPF (2012) which seeks biodiversity enhancements and net gain through the planning process.

7.1 Breeding Birds

Breeding Birds	Timing
Recommendations	
The building on site has been identified as being suitable for use by breeding birds. Given their protection, development must be sympathetic to the value of this habitat and potential impacts on breeding birds, their eggs, nests and young. The breeding bird season is generally accepted as being between March and September. Developers should consider and implement the options most appropriate to their scheme; a) Renovation works should be undertaken outside of the breeding bird season, between the months of October and February where possible. b) If works are to be undertaken during the breeding bird season, building features may be fenced off or netted to prevent birds nesting - providing no active breeding nests are present – to reduce the likelihood of impacting breeding birds. c) Any renovation/demolition works proposed between the months of March and September should be subjected to a search for active birds' nests 24 hours prior to commencement of works. This should confirm whether all or some clearance is achievable.	Work should be conducted outside of the breeding bird season between March and September inclusive. If removal during March to September is unavoidable, works will require supervision as per option b) and c).
Enhancement Prescriptions	
The integration of a 1SP Schwegler sparrow terrace within / on the eastern elevation of the proposed extension of the building should be encouraged. The bird box should be positioned at least two metres above the ground.	During / Post construction

7.2 Roosting Bats

Roosting Bats	Timing
Recommendations	
The residential building was awarded Low Suitability to support roosting bats. One further survey is required to establish presence/likely absence of roosting bats. One dusk emergence or dawn re-entry survey.	May to August

7.3 Foraging and Commuting Bats

Foraging and commuting bats	Timing
Recommendations	
The impact from the proposed works is considered to be negligible because no removal of habitat has been proposed. The physical characteristics and current management of the boundary features should be maintained to prevent disturbance to frequently used commuting lines. The extent of disturbance should be reduced where possible by employing a sensitive lighting scheme during construction works, and artificial security lighting should not be installed post construction particularly along the southern site boundary.	During and Post Construction

Appendix 1. General References

Bat Conservation Trust's '*Good Practice Survey Guidelines*' (Rev 2012).

Bell, S. McGillivary, D. (2006) *Environmental Law*. 6th ed. Oxford University Press.

Byron, H (2000) *Biodiversity and Environmental Impact Assessment: A Good Practice Guide for Road Schemes*. The RSPB, WWF-UK, English Nature and the Wildlife Trusts, Sandy.

Collins, J (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines, (3rd edition), Bat Conservation Trust, London

Gilbert G, Gibbons DW, Evans J. (1998) *Bird Monitoring Methods: Breeding Bird Survey* (pages 389-393). RSPB.

Harris S, Cresswell P and Jefferies D (1989). *Surveying Badgers*.

Mitchell-Jones A.J. McLeish, A.P. (2004) *Bat Workers Manual* (3rd Edition). Joint Nature Conservation Committee.

Mitchell-Jones A.J. *Bat Mitigation Guidelines* 2004. English Nature.

Sutherland, W.J. (1996) *Ecological Census Techniques*. Cambridge University Press.

Treweek, J. (1999) *Ecological Impact Assessment*. Blackwell Science.

Williams, C. (2010) *Biodiversity for Low and Zero Carbon Buildings, A Technical Guide for New Build*. Riba Publishing.

Appendix 2. Legislation and Guidance Sources

Articles of British wildlife and countryside legislation, policy guidance and both Local and National Biodiversity Action Plans (BAPs) are referred to. The articles of legislation are:

- The Wildlife and Countryside Act 1981 (as amended)
- The Conservation of Habitats and Species Regulations 2010 (as amended)
- Department for Communities and Local Government. National Planning Policy Framework. March 2012
- EC Council Directive on the Conservation of Wild Birds 79/409/EEC
- National Parks and Access to the Countryside Act 1949
- The Protection of Badgers Act 1992
- Land Drainage Act 1991
- The Countryside and Rights of Way Act 2000
- The Natural Environment and Rural Communities Act 2006
- The United Kingdom Biodiversity Action Plan 2006
- Hedgerow Regulations 1997
- Town and Country Planning Act 1990
- Local Biodiversity Action Plan (LBAP).

Appendix 3. Legislation, Guidance and Methodology in relation to Potential Constraints

Legislation, Guidance and Methodology

Birds
All nesting birds are protected under the Wildlife and Countryside Act 1981, which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition, for species listed on Schedule 1 of the Wildlife and Countryside Act 1981 it is an offence to intentionally or recklessly cause disturbance at, on or near an 'active' nest.

The bird breeding season is typically accepted to start in February and continue through until August, however breeding birds can be found all year round depending on the given species and climatic conditions.

A sites habitat composition, locality, association to designated sites as well as current usage and management are all considered in the decision as to whether further bird related surveys are required. In addition, surveys may be recommended based on incidental bird records collected during a Preliminary Ecological Appraisal, species identified within an ecological data search or target species listed within a local biodiversity action plan.

Bird surveys are carried out in accordance with:
Gilbert G, Gibbons DW, Evans J. (1998) *Bird Monitoring Methods*. RSPB.

Survey Timing
Breeding Bird surveys (BBS): Four visits, evenly spaced between mid-April and mid-June. The standard BBS methodology may require amendment based on climate and weather conditions, the complexity of habitats within a site, the perceived ecological interest of a site and the extent of the survey area.

Wintering Bird surveys (WBS): Four visits, evenly spaced between October and February. The standard WBS methodology may require amendment based on climate and weather conditions, the complexity of habitats within a site, the perceived ecological interest of a site and the extent of the survey area.

Species Specific Surveys: Certain species owing to their migration patterns, habitat requirements, nocturnal habits and other ecological behaviours should be surveyed as per their given methodologies stated within Gilbert, G. et al (1998).

Roosting Bats
All bats in the United Kingdom and their habitats are fully protected under the Wildlife and Countryside Act 1981 (as amended), and the Conservation of Habitats and Species Regulations 2010 (as amended).

It is an offence to damage or destroy any bat roost, intentionally or recklessly obstruct a bat roost, deliberately, intentionally or recklessly disturb a bat or intentionally kill, injure or take any bat.
Areas of concern; can be encountered in many types of structure and care should therefore be taken when undertaking maintenance or demolition of suitable structures and trees.

Site assessments of buildings, commuting and foraging habitat and trees are undertaken in accordance with:

Collins, J (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines, (3rd edition), Bat Conservation Trust, London

Preliminary Ecological Surveys look for evidence of bat presence such as feeding remains, bat droppings, roosting individuals and staining around potential access points.

The suitability of site features were also assessed because absence of bat evidence, is not confirmation of a negative result. Within buildings these features include suitable enclosed spaces such as slipped or missing roof tiles, gaps and cracks in brickwork, enclosed roof voids, accessibility into wall spaces, gaps along ridge rafters, joints in roof beams and the presence of suitable soffits and fascias.

Within tree features searched for include; natural holes, woodpecker holes, cracks/splits in major limbs, loose bark, hollows, and dense cover of ivy over the tree.

If evidence is found, or a building supports features conducive to supporting roosting bats then further presence / absence bat surveys and/or roost characterisation surveys are recommended.

Survey Timing:
Preliminary Ecological Appraisals can be undertaken throughout the year.

Presence /absence surveys and roost characterisation surveys are undertaken during the bat activity season between **May and September** (Specific timings are relative to the suitability of a structure for supporting protected species and weather dependent)

Bat Activity Transect surveys are carried out between **April and October (**weather dependent)

Hibernation surveys are carried out from **November to March**.

Guideline for assessing the suitability of a structure to support roosting habitat (Buildings and Trees), amended from Collins, J (2016).

Category	Description of roosting habitat	Number of presence / absence surveys required
No Potential	The building is wholly unsuitable for a bat roost.	None

Negligible Potential	Suitable cavities may exist but these are open to wind, rain or disturbance.	None
Low Potential	This category describes a structure with one or more potential roost sites that could be used by individual bats opportunistically, that less than ideal in some way. For example, the feature may be subject to intermittent disturbance, and does not provide enough shelter, conditions* space and/or suitable surrounding habitat (e.g unlikely to support a maternity or hibernation roost). This category described a tree of sufficient size and age to support rooting bats, but with no features observed from the ground, or the features only have a limited potential to support roosting bats.	One survey between May and August Trees – No further surveys required
Moderate Potential	This category describes a structure or tree considered to have one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions* and surrounding habitat but are unlikely to support a roost of high conservation status (With regard to roost type only – assessments are made irrespective of species conservation status, which is established after presence is confirmed) Features considered to have adequate potential would include cavities of appropriate dimensions that are generally free from disturbance and free from fluctuations in the weather.	Two surveys between May and September (with at least one survey undertaken between May and August) One Dusk emergence and One Dawn re-entry survey to be ideally undertaken at least two weeks apart.
High Potential	A structure or tree 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.	Three surveys between May and September (with at least two surveys undertaken between May and August) One Dusk emergence and One Dawn re-entry survey to be undertaken. The third survey can be either Dusk or Dawn. The surveys should ideally be undertaken at least two weeks apart.

Confirmed	This category is where positive evidence of bats has been recorded. For example, bats are found; bat droppings may be present at a suitable location for roosting bats; existing bat records may be associated with the structure.	Three surveys between May and September (with at least two surveys undertaken between May and August) One Dusk emergence and One Dawn re-entry survey to be undertaken. The third survey can be either Dusk or Dawn. The surveys should be undertaken at least two weeks apart.

(in this context conditions refers to the level of disturbance, light, height above ground, temperature, and humidity etc)*

If bats are discovered emerging or re-entering any structure, the survey schedule should be appropriately adjusted to increase the survey effort so that sufficient information for roost characterisation can be collected to advise the planning application or EPS development license.

Foraging and Commuting bats

Habitat features on site were assessed for their suitability to support foraging and commuting bat populations. This assessment was independent from the suitability of the site to support roosting bats, and provides information on the likeness of bat foraging activity within the local environment, and the dependence of individuals on these features for commuting to alternative roosting sites, foraging and migration..

Potential suitability of foraging and commuting habitat within an application boundary. Features should be assessed following this guide and professional judgement. Adapted from Collins J (2016)

Category	Description of commuting and foraging habitat	Survey effort to establish the value of commuting and foraging habitat**
Negligible Potential	Negligible habitat features on site likely to be used by commuting or foraging bats	None
Low Potential	Habitat which could be used by low numbers of commuting bats such as an isolated gappy hedgerow, or an unvegetated stream unconnected to suitable habitat in the wider environment. Suitable, yet isolated habitat that could be used by foraging bats such as individual trees, or a patch of scrub.	**Transect /spot count/ timed search survey:** One survey visit per season: Spring- April/ May Summer- June/July/ Aug Autumn – Sept/ Oct In weather conditions conducive to finding bats **AND**

		Static automated surveys: One location per transect, over a five-night period, per season: Spring- April/ May Summer- June/July/ Aug Autumn – Sept/ Oct In weather conditions conducive to finding bats *Further survey may be required if surveys reveal higher activity than predicted from habitat alone*
Moderate Potential	Continuous habitat connected to the wider landscape that could be used by commuting bats, notably tree lines, hedgerows or linked back gardens. Habitat that is connected to the wider landscape which could be used by bats for foraging such as trees, open water, scrub or grassland.	**Transect /spot count/ timed search survey** One survey visit per month (April to October) In weather conditions conducive to finding bats At least one survey should comprise dusk and pre-dawn (or dusk to dawn) within one 24-hour period. **AND** **Static automated surveys:** Two locations per transect, over a five-night period, per month (April to October) In weather conditions conducive to finding bats
High Potential	Continuous, High-quality habitat that is well connected to the wider landscape which is considered to be highly conducive to commuting bats including river valleys, stream, hedgerows, and woodland edge High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland,	Transect /spot count/ timed search survey Up to two survey visit per month (April to October) In weather conditions conducive to finding bats At least one survey should comprise dusk and pre-dawn (or dusk to dawn) within one 24-hour period.

	tree lined watercourses, and grazed parkland. Site is close to and connected to known roosts.	**AND** **Static automated surveys:** Three locations per transect, over a five-night period, per month (April to October) In weather conditions conducive to finding bats

*(** This is only a guide for survey effort required, the complexity of the site and the proposed disturbance / loss of features will determine the extent of works required on a site by site basis).*

Ecological Enhancement

In March 2012 the Department for Communities and Local Government published the National Planning Policy Framework. This sets out planning policies on protection of biodiversity through the planning system. The document states - *opportunities to incorporate biodiversity in and around developments should be encouraged*.

Usually when reviewing how ecological enhancements can be implemented the Local Biodiversity Action Plan for the area is considered.

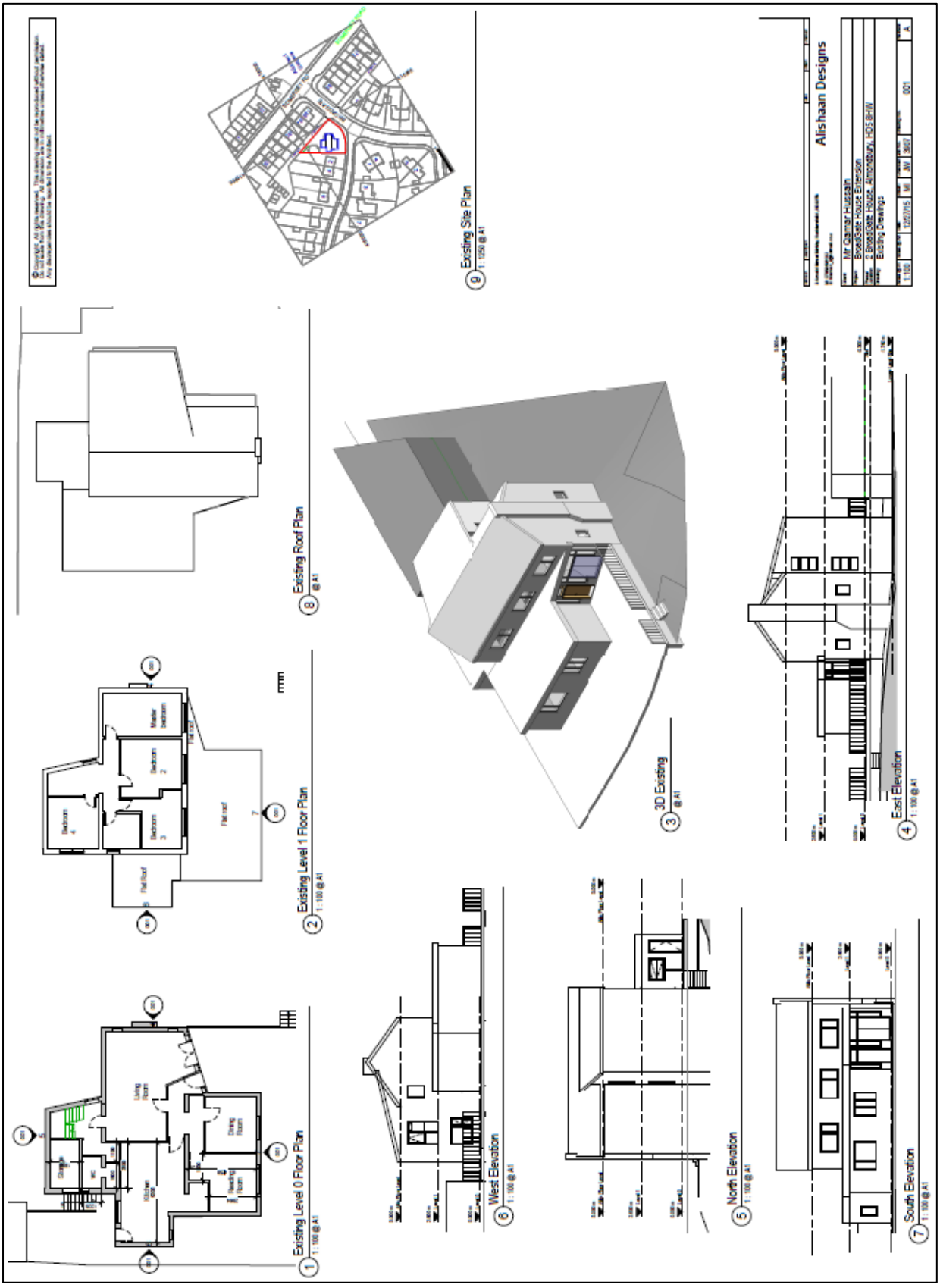
For new buildings guidance such as in the following will be used:
Williams, C. (2010) *Biodiversity for Low and Zero Carbon Buildings, A Technical Guide for New Build*. Riba Publishing.

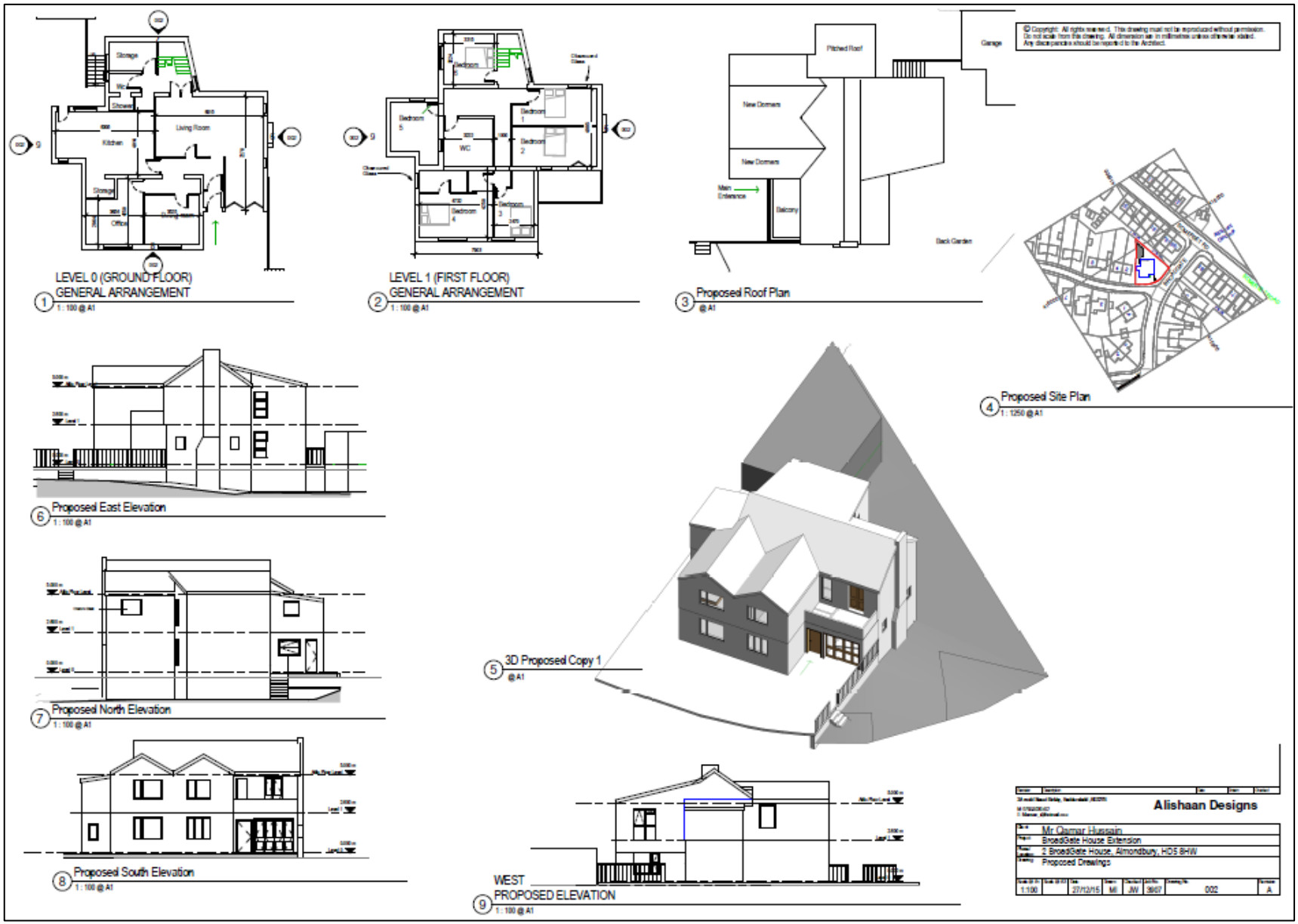
Designated Protected Areas

Designated areas are Sites of Special Scientific Interest (SSSI) while others have been designated as having European protection status. Local authorities can also designate areas for nature conservation and in doing so may impose local authority byelaws to support local nature conservation objectives.
European designated status includes Special Protection Areas (SPAs) that preserve areas for birds and Special Areas of Conservation (SACs) which provides protection for habitats and the species which these habitats supports. Laws stipulate that SSSIs, SPAs and SACs have to be maintained in a 'favourable condition' which requires efforts to preventing any potential impacts to these sites.

Information of Designated Protected Areas is received through Ecological Data Searches and Magic Map searches.

Appendix 4. Current and Proposed Site Plans




LEVEL 0 (GROUND FLOOR)
GENERAL ARRANGEMENT
1 : 100 @ A1
LEVEL 1 (FIRST FLOOR)
GENERAL ARRANGEMENT
1 : 100 @ A1
Proposed Roof Plan
@ A1
Proposed Site Plan
1 : 1250 @ A1
Proposed East Elevation
1 : 100 @ A1
3D Proposed Copy 1
@ A1
Proposed North Elevation
1 : 100 @ A1
Proposed South Elevation
1 : 100 @ A1
WEST
PROPOSED ELEVATION
1 : 100 @ A1
Alishaan Designs
Mr Qamar Hussain
Broadgate House Extension
2 Broadgate House, Almondbury, HD5 8HW
Proposed Drawings
1:100
27/12/15
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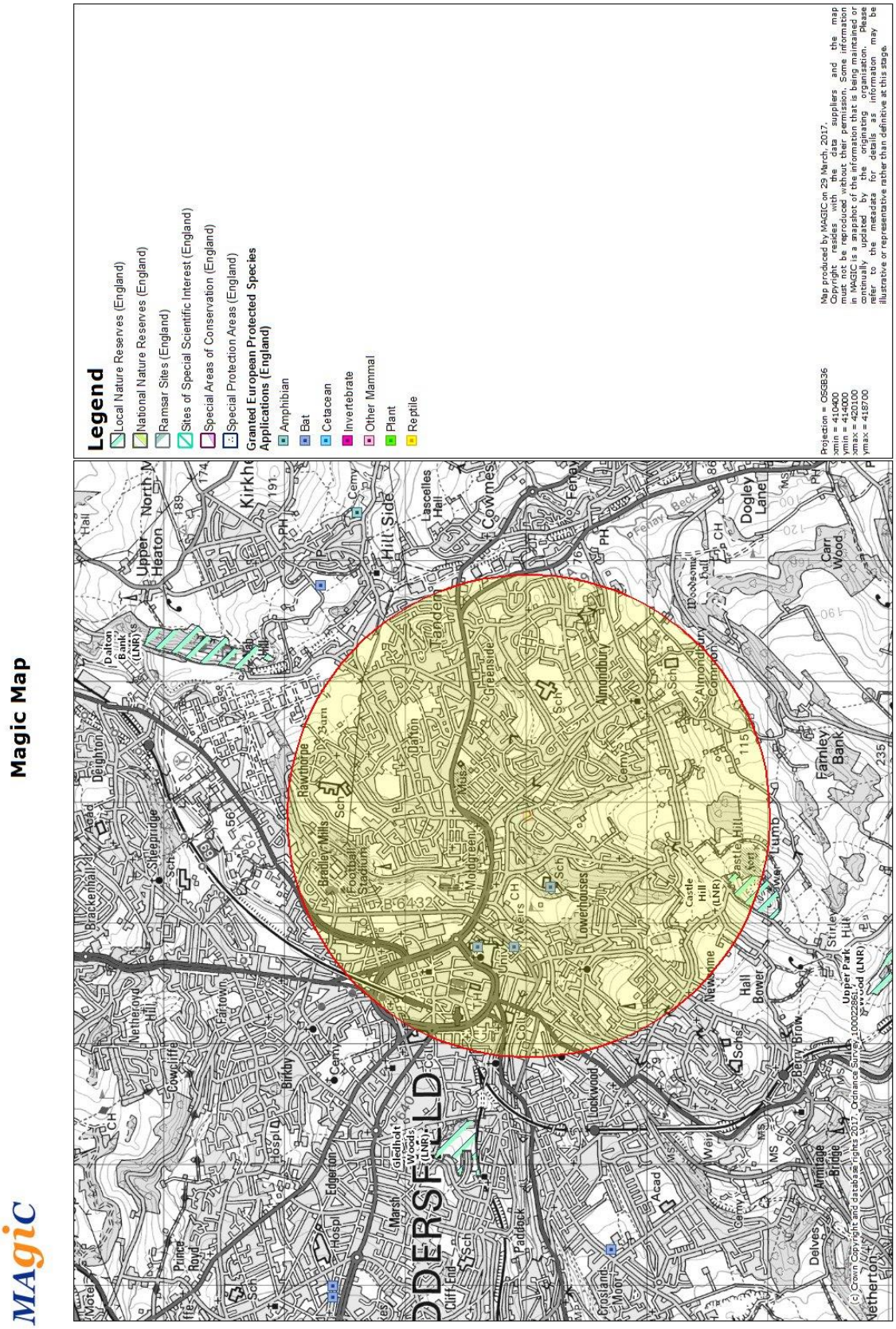
Appendix 5. MAGIC



Site Check Report
You selected the location: Centroid Grid Ref: SE158159
The following features have been found in your search area:
Granted European Protected Species Applications (England)
Case reference of granted application
2014-856-EPS-MIT
Species group to which licence relates
Bat
Species on the licence
C-PIP
Site county of licence
West Yorkshire
Licence Start Date
13/10/2014
Licence End Date
13/10/2014
Does licence impact on a breeding site
N
Does licence allow damage of breeding site
N
Does licence allow damage of a resting place
N
Does licence allow destruction of breeding site
N
Does licence allow destruction of a resting place
Y
Does licence impact on a hibernation site
Unknown
NERC agreement reference
Unknown

Case reference of granted application
EPSM2011-3176
Species group to which licence relates
Bat
Species on the licence
C-PIP
Site county of licence
West Yorkshire
Licence Start Date
15/08/2011
Licence End Date
31/08/2013
Does licence impact on a breeding site
N
Does licence allow damage of breeding site
Does licence allow damage of a resting place
Does licence allow destruction of breeding site
N
Does licence allow destruction of a resting place
Y
Does licence impact on a hibernation site
Unknown
NERC agreement reference
Unknown

Case reference of granted application
EPSM2010-1750
Species group to which licence relates
Bat
Species on the licence
C-PIP;S-PIP;BLE
Site county of licence
West Yorkshire
Licence Start Date
25/02/2010

Licence End Date
01/02/2012
Does licence impact on a breeding site
N
Does licence allow damage of breeding site
Does licence allow damage of a resting place
Does licence allow destruction of breeding site
N
Does licence allow destruction of a resting place
Y
Does licence impact on a hibernation site
Unknown
NERC agreement reference
Unknown

Local Nature Reserves (England) - points
Reference
1481365
Name
CASTLE HILL
Hectares
9.93
Hyperlink
http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1481365

Local Nature Reserves (England)
Reference
1481365
Name
CASTLE HILL
Hectares
9.93
Hyperlink
http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1481365

Areas of Outstanding Natural Beauty (England)
No Features found
National Nature Reserves (England) - points
No Features found
National Nature Reserves (England)
No Features found
Ramsar Sites (England) - points
No Features found
Ramsar Sites (England)
No Features found
Sites of Special Scientific Interest (England) - points
No Features found
Sites of Special Scientific Interest (England)
No Features found
Special Areas of Conservation (England) - points
No Features found
Special Areas of Conservation (England)
No Features found
Special Protection Areas (England) - points
No Features found
Special Protection Areas (England)
No Features found