# THE VALE OF GLAMORGAN COUNCIL

TOWN AND COUNTRY PLANNING ACT 1990

### APPROVED

SUBJECT TO COMPLIANCE WITH CONDITIONS (IF ANY)

1400550 OUT

Land to the North of the Railway Line (West)

**Bat Survey Report** 

Prepared by:
The Environmental
Dimension
Partnership (EDP)

On behalf of: **Taylor Wimpey Plc** 

April 2014 Report Reference **EDP2127\_02b** 





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Plan EDP 1

Bat Activity Transect Results ( $4^{th}$  September 2013) and Building Locations (EDP2127/06 31 January 2014 TB/WC)

For EDP use

Report no.

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# Section 1 Introduction

- 1.1 This report has been prepared by The Environmental Dimension Partnership (EDP) on behalf of Taylor Wimpey Plc (hereafter referred to as 'the Client'). It sets out the results of bat surveys undertaken at 'land to the North of the Railway Line (West)' (hereafter referred to as 'the site'). The site is centred approximately at Ordnance Survey Grid Reference (OSGR) ST 067 663 on the edge of Rhoose and falls within the Vale of Glamorgan Local Planning Authority area.
- 1.2 The bat surveys have been undertaken to inform an outline planning application for residential dwellings along with associated public open space, landscaping, access and infrastructure. The surveys were undertaken to update and build upon previous ecological appraisals of the site, including bat roost inspections and activity surveys undertaken in 2004 and 2007 by Capita Symonds, and most recently an ecological appraisal report completed by Sturgess Ecology in 2013. Within the latest report it was recommended that detailed inspections of on-site buildings were undertaken, accompanied by dusk emergence and dawn re-entry surveys if considered necessary.
- 1.3 The aims of this report are to:
  - (i) Identify there are any features on site that are important to roosting, foraging and commuting bats;
  - (ii) Identify if bats pose a constraint to the proposed development of the site and to make recommendations for how the proposed development can avoid, mitigate and, if necessary, compensate for impacts on these actual or potential constraints; and
  - (iii) Identify potential opportunities for a proposed development to enhance and add to the biodiversity resource within the site for bats in line with planning policy.
- 1.4 The remainder of this report is structured as follows:
  - (i) Section 2 describes the methodologies employed in undertaking the bat surveys;
  - (ii) Section 3 summarises the findings of the bat surveys; and
  - (iii) **Section 4** summarises the key legislative, planning policy and biodiversity action planning considerations for the proposed development and includes key recommendations in line with the aims of the report as set out above.

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# Section 2 Methodology

#### Consultation

Consultation was undertaken with the Vale of Glamorgan County Ecologist Erica Dixon in August/September 2013 to agree the scope of bat survey work proposed.

#### **Day-time Inspections**

- 2.2 External and internal inspections of the buildings were undertaken on 21 August 2013. The inspections were undertaken in accordance with best practice guidelines by a Natural England bat licenced ecologist.
- 2.3 All features located within accessible areas and roof spaces considered potentially suitable to bats were assessed. Such features include cracks, crevices, missing/raised roof tiles, loose flashing, loft voids and gaps within the brickwork and/or behind fascia which may provide suitable points of entry for bats. Signs of bat activity such as roosting individuals, corpses, droppings, feeding remains and urine staining were also searched for within all accessible areas. Potential points of egress into buildings were also examined from within where present/accessible. Otherwise such points were assessed from the ground using binoculars.

#### **Bat Emergence Surveys**

- 2.4 Based on the bat roosting potential confirmed by the daytime inspection a single dusk emergence survey was undertaken of the property by three experienced surveyors, including a licensed bat worker on 4 September 2013 and a single dawn re-entry survey the following morning (5 September). The surveyors were strategically positioned around the buildings to ensure that all potential egress points for bats were observed.
- In accordance with best practice guidelines, the dusk emergence survey was initiated fifteen minutes before dusk and extended for up to two hours after. The dawn survey was initiated one and a half hours before dawn and extended up until sunrise. The surveys were undertaken at an optimal time of year for identifying bat roosts (July to September) and the weather conditions during the survey were optimum for undertaking bat surveys, being warm, with little wind and no rain. A summary of the weather conditions is provided in **Appendix EDP 1**, along with the survey results.
- 2.6 Surveyors were equipped with a Wildlife Acoustic EM3 detector and a Pettersson D240x bat detector connected to an Edirol Digital recorder. Observations of the time, location of emergence, and activity in relation to the building surveyed, and behaviour of all bats

seen or heard were noted. Bats were identified on the basis of their characteristic echolocation calls, which were recorded where appropriate and analysed using computer sonogram analysis (Batsound 4.03) to confirm species identification.

#### Manual transect survey

- 2.7 With reference to best practice guidelines, a bat activity survey was undertaken to determine activity within/across the site and supplement the findings of historical surveys. A single manual transect survey was undertaken on 4 September 2013, within the active bat season. The weather conditions on the visit were optimum for bat surveys, being relatively warm, with little to no wind, and no precipitation. Details of the weather conditions experienced during the survey are provided in **Appendix 1**.
- 2.8 The activity survey commenced 15 minutes before sunset and continued for two and a half hours after sunset to account for the possible presence of horseshoe species (*Rhinolophidae* Spp.) within the wider landscape owing to their late emergence and wide ranging nature.
- 2.9 The survey was undertaken by an experienced, licensed bat ecologist walking a transect route across the site. The transect route was designed to cover the site, especially field boundaries and other features with potential for navigating and foraging bats. The route was divided into sections, punctuated by 12 listening stops. Listening stops were included to allow the surveyor the opportunity to observe bats using features on the site. The transect route is illustrated with the transect results in **Plan EDP 1**.
- 2.10 The surveyor used an Anabat SD2 detector and detailed field-notes were taken including observations of the time, location, and activities of all bats seen or heard. Observations were recorded on survey forms and marked on survey maps to characterise the value of the site and its component habitats for navigating and foraging bats. Bats were identified on the basis of their characteristic echolocation calls, which were recorded and analysed using computer sonogram analysis (AnalookW) to confirm species identification.

# Section 3 Results

3.1 The findings of the bat surveys detailed below should be read in conjunction with **Plan EDP 1** and **Appendix 1**.

#### **Daytime Inspections**

#### Building 1 – Bungalow

- 3.2 As illustrated in **Image EDP 1-3** Building 1 is a single-storey bungalow which is currently inhabited. The walls are most likely constructed from brick or block work, although this was not confirmed due to the external render. The majority of the roof is pitched, covered by wooden shingles, although there are two small sections of flat roof covered by a bitumen based felt.
- 3.3 The walls are in good condition with no gaps which would offer potential for bats to roost. The roof is semi-complex with the main section being hipped. To the west there is a gabled extension and to the south and south west there are two flat roofed sections. The roof is in good condition and on-the-whole is tight-fitting, although gaps beneath curled shingles, ridge shingles as well a gap along the western wall were noted as providing potential roosting sites for bats. No evidence of bats was recorded on the exterior of the building.
- 3.4 Internally there are two roof voids measuring approximately 8m by 7m and 5.5m by 5m with a ridge height of 2.5m. There is bitumen based roofing felt beneath the shingles and fiberglass insulation at ceiling level. The main void is used for storage, although this is limited to the area around the loft hatch. The void was dark, with no visible gaps. The ridge line of the main void was densely covered by cobwebs, whereas the smaller void is entirely covered by cobwebs. No evidence of bats was recorded within the roof voids.
- 3.5 Based on the daytime internal/external inspection the bungalow is considered to offer low potential for crevice dwelling bat species.

Image EDP1: Building 1: Bungalow



Image EDP 2: Building 1: Bungalow





Image EDP 3: Building 1: Bungalow roof void

#### Building 2 – Garage

- 3.6 As illustrated in **Image EDP 4-6** the garage is a simple, single storey pre-fabricated structure constructed from concrete slabs. The roof is pitched and covered by corrugated asbestos/cement roofing sheets with wooden barge and weather boarding at either gable end.
- 3.7 Overall this building offers negligible potential for roosting bats due to its construction, which lacks any suitable roosting features. The only exception is the ridge line which contains a small number of gaps beneath. Although a gap exists at this location, due to the limited size of the gap as well as the construction of these sheets, which would result in large temperature fluctuations, it is considered that the likelihood of bats roosting within these gaps is very limited. No evidence of bats was recorded on the exterior or interior of this building.
- 3.8 Based on the daytime internal/external inspection the garage is considered to offer low-negligible potential for crevice dwelling bat species.

Image EDP 4: Building 2: Garage

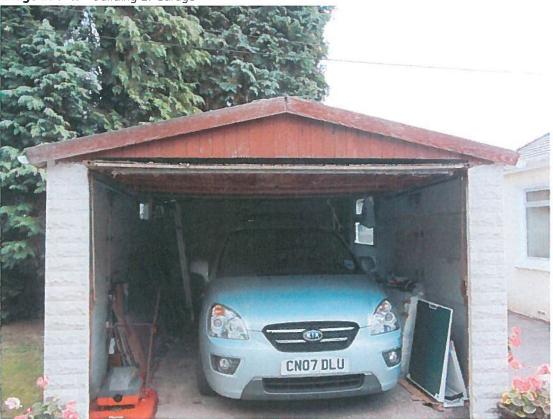


Image EDP 5: Building 2: Garage

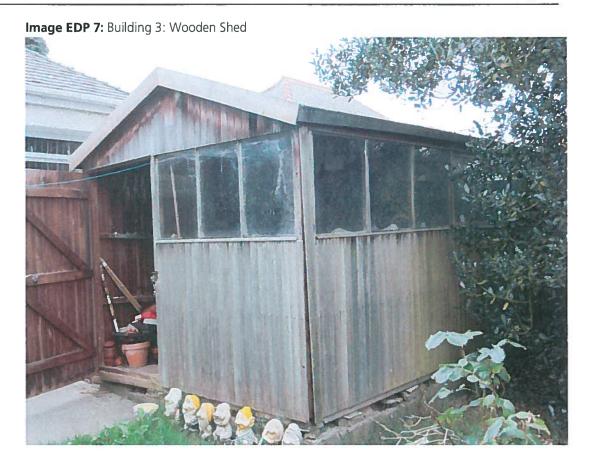






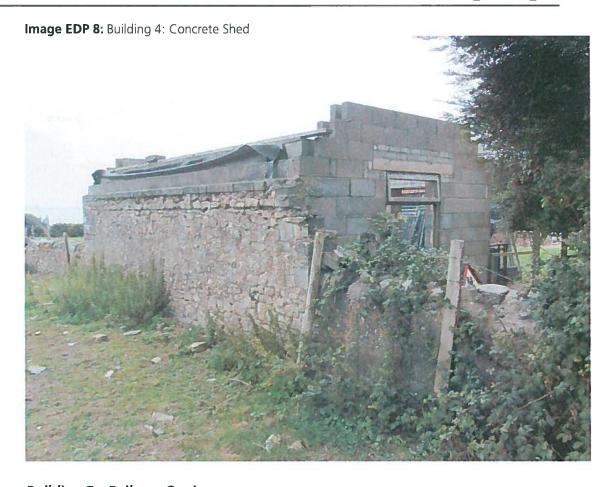
**Building 3 – Wooden Shed** 

3.9 In the rear garden of the bungalow is a wooden shed (**Image EDP 7**). Due to its construction, which lacks any suitable roosting features, this building is considered to offer negligible roosting potential for bats.



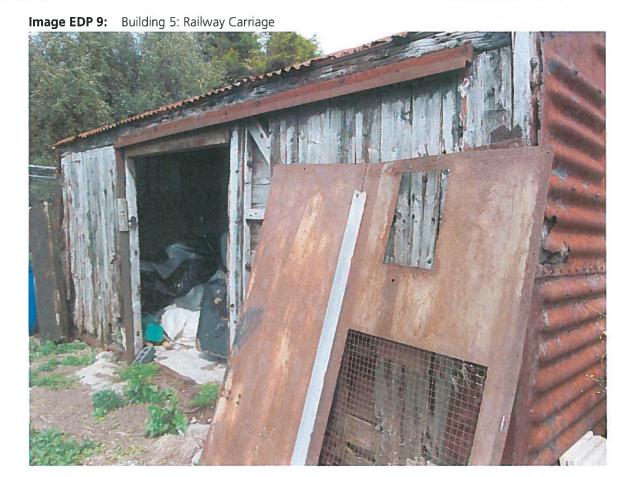
Building 4 - Partially Finished Building

- 3.10 This building has been constructed on an old stone boundary wall, with new additions constructed from breezeblock as illustrated in **Image EDP 8**. This building lacks any form of roof structure.
- 3.11 There are some small gaps in the old stone boundary wall, however these are largely superficial and, upon inspection, contained no evidence of bats.
- 3.12 No evidence of bats was found on the exterior or interior of this building and it is considered that this building has negligible bat roosting potential.



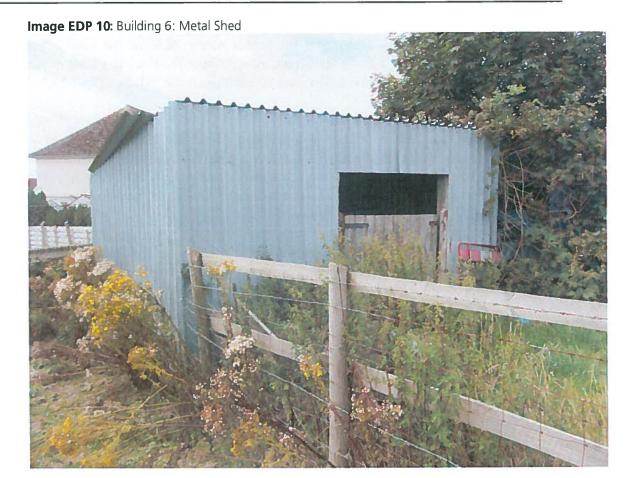
#### Building 5 – Railway Carriage

- 3.13 This railway carriage is constructed from a timber frame clad in mixture of corrugated metal sheeting and wooden weather boarding (Image EDP 9). There are some gaps between the metal sheeting and wooden boarding as well as between two layers of wooden boarding. However, these gaps are considered to offer negligible potential for roosting bats due to the construction, which is likely to be subject to large temperature fluctuations.
- 3.14 No evidence of bats was found on the exterior or interior of this railway carriage and it is considered that this railway carriage has negligible bat roosting potential.



Building 6 – Metal Shed

3.15 This metal shed has a timber frame which is clad by corrugated metal sheeting (see **Image EDP 10**). Due to its construction, which lacks any suitable roosting features, this building is considered to offer negligible roosting potential for bats.



#### Dusk Emergence and Dawn Re-entry Surveys

- 3.16 No bats were seen emerging from the building during the dusk emergence survey or reentering the building on the dawn survey the following morning. Regular foraging activity by common pipistrelle (*Pipistrellus pipistrellus*) bats was recorded, with bats observed foraging around the bungalow and associated land, especially along the track to its west. In addition, a small number of commuting noctule (*Nyctalus noctula*), soprano pipistrelle (*Pipistrellus pygmaeus*) and a single myotid bat were recorded.
- 3.17 The results confirmed the findings of daytime inspections and emergence/re-entry surveys undertaken by Amec in 2004 and 2007 which did not identify any actual or potential bat roosts on site (including trees).

#### Manual Transect Survey

- 3.18 The results of the bat transect survey are illustrated in **Plan EDP 1** and summarised in **Appendix EDP 1**.
- 3.19 During the transect survey, three species of bat were detected namely common pipistrelle, noctule and soprano pipistrelle.

- 3.20 Low levels of activity were recorded on site, the majority of passes recorded were of common pipistrelle accounting for approximately 76% of the total activity. Less commonly recorded, but still fairly frequent were noctule, which made up another 20% of the calls. Infrequently recorded were soprano pipistrelle, which were detected on just four occasions.
- 3.21 Although low level activity was widespread across the site in association with the boundary habitat, the majority recorded was concentrated in the north-west. This was also where all the bulk of foraging activity was observed during the survey, principally by common pipistrelle bats. The emergence/re-entry surveys on the same night also picked up foraging activity along the bridleway to the east of the site.
- 3.22 No bats were recorded foraging over the fields themselves reflecting the unsuitable nature of the closely cropped improved grassland habitat that is present. The majority of noctule records related to bats commuting over the site at height.
- 3.23 The surveys identified more species and activity than previously recorded by Amec during surveys in 2007 which recorded three common pipistrelle passes principally in association with the railway along the sites southern boundary.
- 3.24 All of the bat species recorded on site (with the possible exception of the single unidentified myotid bat) are considered to be common and widespread within both a local and national context.

# Section 4 Discussion and Recommendations

#### **Legal Status**

- 4.1 All species of British bat are listed as European Protected Species (EPS) on Schedule 2 of the Conservation Regulations (Annex IV(a) to the Habitats Directive), thereby receiving protection under the Conservation of Habitats and Species Regulations 2010 (as discussed in paragraph 4.24).
- 4.2 Additional protection for bats is also afforded under the Wildlife and Countryside Act 1981 (as amended), making it an offence to intentionally or recklessly disturb bats whilst they are occupying a structure or place which is used for shelter or protection, or to obstruct access to this structure or place. In addition, seven of the eighteen species of bat resident in the UK (greater horseshoe (Rhinolophus ferrumequinum), lesser horseshoe (Rhinolophus hipposideros), barbastelle (Barbastella barbastellus), Bechstein's (Myotis bechsteinii), soprano pipistrelle, brown long-eared (Plecotus Auritus) and noctule) are also listed as Priority Species on the UK Biodiversity Action Plan (BAP). A Species Action Plan for all British bats is also included within phase 2 of the Vale of Glamorgan Local Biodiversity Action Plan (LBAP), especially pipistrelle species.

#### **Roosting bats**

- 4.3 From the survey work, no bat roosts have been identified in any of the buildings. No further survey work is considered necessary and demolition of the buildings would not require a European Protected Species licence. In the unlikely event that bats are encountered during demolition works all work should halt immediately and an ecologist contacted for further advice.
- 4.4 Given that the buildings offer bird nesting opportunities, demolition should be undertaken outside the bird breeding season (March to August inclusive), especially building 5, where some evidence of previous nesting birds was found and the bungalow, for which there was an incidental record of blue tit (*Cyanistes caeruleus*) entry, possibly for nesting under the eaves on the southern wall of the house.
- 4.5 It is recommended that new roosting opportunities are provided in any new buildings and/or on the trees on site. Provision could be made in the form of bat boxes or roost features incorporated into new buildings.

#### Foraging and commuting bats

- 4.6 During emergence and re-entry surveys and walked transects, foraging activity on site was principally restricted to low numbers of common pipistrelles utilising the boundary vegetation. A further three species of bats were also observed commuting and occasionally foraging along the bridleway to the west of the property, over the garden and using field boundaries across the wider site. The improved grassland fields that make up the site are not considered to provide significant foraging opportunities for bats.
- 4.7 Commuting and foraging habitats are not subject to the same strict legal protection as roosting habitats. However, the following recommendations are aimed at minimising potential impacts and retaining opportunities for commuting and foraging bats through maintaining permeability for bats through the site and connectivity to off-site habitats:
  - Where possible retain the existing hedgerows. Although breaches for access will be necessary through the hedgerows, strengthening of these hedgerows and a tree/shrub planting scheme which allows an enclosed canopy to form over where the breaches for access intersect with the hedgerows will allow these features to be retained as continuous flight lines for bats. Grassland buffer margins to these hedgerows would also provide further opportunities for invertebrates and therefore foraging bats. Priority should be given to the foraging/commuting corridors provided by the double banded hedgerow along the bridleway and hedge/scrub embankment along the sites southern boundary adjacent to the railway line in order to maintain links to the wider landscape;
  - Minimise the spillage of artificial lighting on the hedgerows and mature trees to maintain dark corridors around the sites boundary. There will be increased lighting associated with human habitation, however, lighting in public spaces should use hoods/cowls to ensure these features remain dark and prevent light spill at higher elevations. In addition, any such lighting used should ideally be low UV; and
  - Opportunities should be sought to incorporate additional foraging opportunities
    through habitat creation and the strengthening/consolidation of a foraging and
    commuting network for bats within the site connected to the wider landscape.
    Such measures could include gap planting of defunct hedgerows and hedgerow
    management to increase connectivity and encourage species that attract bats prey
    insects.
- 4.8 It is recommended that the ecological mitigation, compensation and enhancement within the site is delivered through the demolition/construction and operational phases via an Ecological Management Plan (EMP).

#### Conclusion

- 4.9 Overall the site is considered to be of at most local value to foraging and commuting bats and no roosts were identified. Bats therefore do not pose an 'in principle' constraint to development however given that the boundary vegetation provides commuting and foraging opportunities for local bat populations due consideration should be given to retaining or replacing and consolidating such habitat links within the development proposals.
- 4.10 Provided the recommendations outlined above are broadly implemented, it is considered that the demolition of buildings on siteand appropriately designed development of the site will not have any significant impact on local bat populations and could even result in a net increase in the provision of roosting opportunities.

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# **Appendix EDP 1 Bat Survey Results Tables**

### **Activity Transect**

Date: 04/09/13

Start time: 19:40

Finish time: 22:15 Sunset: 19:50

Survey weather:

	Temp (°C)	Cloud Cover (%)	Precipitation	Wind (Beaufort scale)
Start	22.1	80	-	0
1 hr	19.5	90	-	0
Finish	19.2	85	-	0

Time	Species	Activity	Walk/Stop Number
19:58-	Noctule	Commuting	1
20:00			
20:04	Noctule	Heard not seen	1-2
20:08	Common pipistrelle	Commuting	2
20:12	Noctule	Commuting	2
20:14	Common pipistrelle	Commuting	2
20:16- 20:17	Common pipistrelle	Foraging	2
20:17- 20:18	Noctule	Commuting	2-3
20:20- 20:22	Common pipistrelle	Commuting	3
20:21	Soprano pipistrelle	Commuting	3
20:25	Noctule	Commuting	3
20:25- 20:27	Common pipistrelle	Commuting	3
20:28	Noctule	Commuting	3
20:28- 20:29	Common pipistrelle	Foraging	3
20:30	Noctule	Commuting	3
20:32- 20:35	Common pipistrelle	Foraging	3
20:37	Common pipistrelle	Commuting	3
20:39	Common pipistrelle	Commuting	3
20:41	Common pipistrelle	Commuting	4
20:44	Common pipistrelle	Commuting	4
20:46- 20:47	Common pipistrelle	Foraging	4
20:52- 20:54	Common pipistrelle	Commuting	4-5
21:00	Noctule	Commuting	5
21:03	Common pipistrelle	Commuting	5
21:10	Common pipistrelle	Commuting	6
21:13	Common pipistrelle	Commuting	6

21:14	Common pipistrelle	Commuting	6
21:27	Soprano pipistrelle	Commuting	7
21:57	Soprano pipistrelle	Commuting	12
22:03	Common pipistrelle	Commuting	12

### **Emergence and re-entry surveys**

Date: 04/09/13

Start time: 19:40

Finish time: 21:30

Sunset: 19:50

#### Survey weather:

	Temp (°C)	Cloud Cover (%)	Precipitation	Wind (Beaufort scale)
Start	22.1	80	-	0
1 hr	19.5	90	-	0
Finish	19.2	85	-	0

Surveyor: WB		Position: West wall (track)	
Time	Species	Activity	
20:03	Common pipistrelle	Heard not seen	
20:09	Common pipistrelle	Heard not seen	
20:09- 20:14	Common pipistrelle	Continuous foraging activity along lane	
20:11	Common pipistrelle	Brief overhead pass from lane to garden	
20:14	Soprano pipistrelle	Commuting south to north along lane	
20:16- 20:28	Common pipistrelle	Continuous foraging by 4-5 bats along lane	
20:24	Soprano pipistrelle	Heard not seen	
20:29	Myotis	Heard not seen	
20:30	Common pipistrelle	Heard not seen	
20:33	Common pipistrelle	Heard not seen	
20:34	Common pipistrelle	Commuting north to south along lane	
20:37	Common pipistrelle	Commuting north to south along lane	
20:39	Soprano pipistrelle	Two bats commuting north to south along lane	
20:42	Common pipistrelle	Heard not seen	
20:43	Common pipistrelle	Commuting north to south along lane	
20:46	Common pipistrelle	Heard not seen	
20:47- 20:48	Common pipistrelle	Heard not seen	
2117	Common pipistrelle	Heard not seen	
21:19	Myotis	Heard not seen	
21:22	Myotis	Heard not seen	
21:22	Common pipistrelle	Heard not seen	

Surveyor	: JH	Position: North wall (between track and road)
Time	Species	Activity
20:09	Noctule	Heard not seen
20:12	Noctule	Flew north to south over bungalow
20:15	Common pipistrelle	Heard not seen
20:31	Noctule	Heard not seen
20:38	Common pipistrelle	Heard not seen
20:44	Common pipistrelle	Heard not seen
20:47	Common pipistrelle	Heard not seen
20:58	Common pipistrelle	Heard not seen
21:03	Common pipistrelle	Heard not seen
21:14	Common pipistrelle	Heard not seen
21:15	Common pipistrelle	Heard not seen
21:16	Common pipistrelle	Heard not seen

Surveyor:	MYD	Position: Back garden (south wall)
Time	Species	Activity
20:02- 20:12	Common pipistrelle	Foraging over garden behind house
20:05- 20:09	Noctule	Travelling north-south from road. Very high
20:13	Soprano pipistrelle	Foraging over garden
20:14- 20:16	Common pipistrelle	Foraging around tree edge and garden
20:19	Common pipistrelle	Foraging in garden
20:23	Common pipistrelle	Heard not seen
20:24- 20:58	Common pipistrelle	Foraging in garden continuously
20:30	Noctule	Heard not seen
20:39	Soprano pipistrelle	Heard not seen
21:14- 21:18	Common pipistrelle	Heard not seen, social calls
21:18	Soprano pipistrelle	Heard not seen
21:22	Myotis	Heard not seen
21:22	Common pipistrelle	Heard not seen
21:24	Common pipistrelle	Heard not seen

Date: 05/09/13

Start time: 06:32 Finish time: 05:05 Sunrise: 06:32

Survey weather:

	Temp (°C)	Cloud Cover (%)	Precipitation	Wind (Beaufort scale)
Start	13.1	10	-	1
1 hr	12.2	70	-	1
Finis	13.2	80	-	1

Surveyor: WB		Position: South wall (garden)
Time	Species	Activity
05:49	Common pipistrelle	Flying high north to south over garden
06:02- 06:07	Common pipistrelle	Several passes around garden

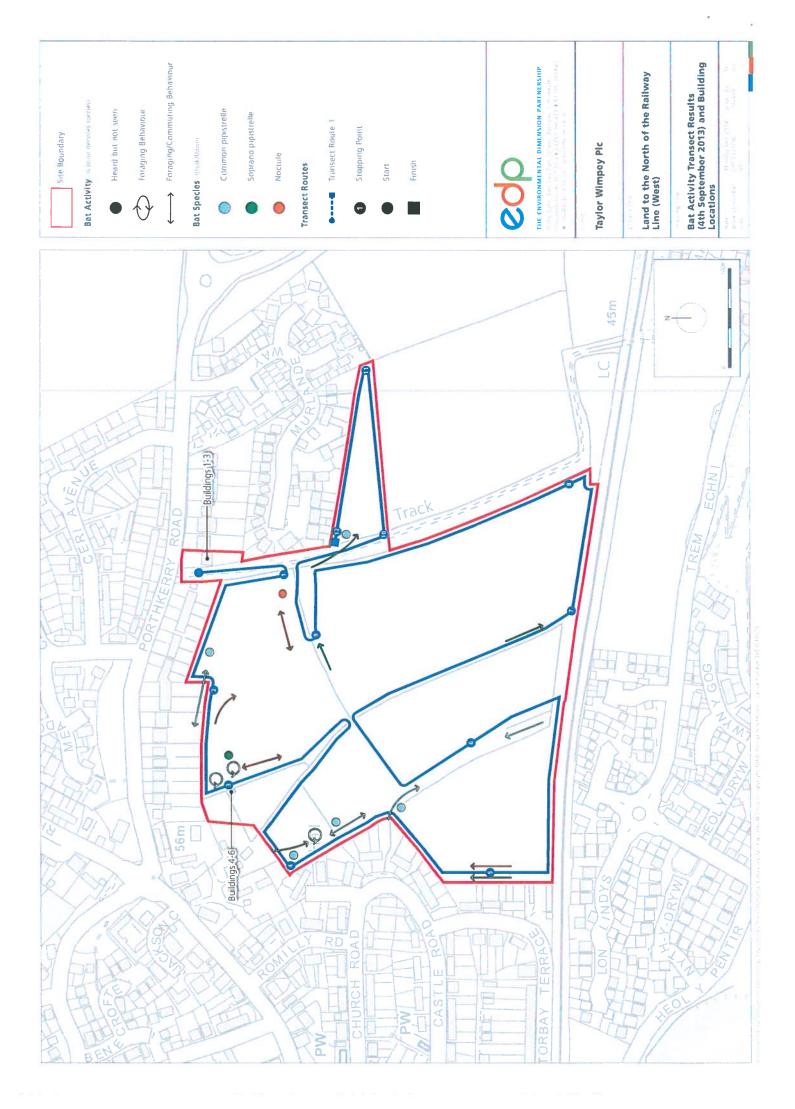
Surveyor	: JH	Position: North wall (between track and road)
Time	Species	Activity
05:28	Common pipistrelle	Heard not seen
05:29	Common pipistrelle	Heard not seen
05:39	Common pipistrelle	Heard not seen
06:03	Common pipistrelle	Flew north to south over bungalow

Surveyor: M	YD	Position: West wall (track)
Time	Species	Activity
0527	Common pipistrelle	South to north along track
5028	Common pipistrelle	South to north along track
0538	Common pipistrelle	Heard not seen
0539	Common pipistrelle	Heard not seen
0543	Common pipistrelle	Foraging along track
0547	Common pipistrelle	Foraging along track
0548	Common pipistrelle	Heard not seen
0549	Common pipistrelle	Foraging along track
0551-0552	Common pipistrelle	Foraging along track
0554-0600	Common pipistrelle	Foraging along track
0602	Common pipistrelle	Foraging along track
0611	Common pipistrelle	Heard not seen

# Plan

Plan EDP 1

Bat Activity Transect Results ( $4^{th}$  September 2013) and Building Locations (EDP2127/06 31 January 2014 TB/WC)



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