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SOLUM REGENERATION

Twickenham Station

Bat Survey Report (Addendum)

June 2015

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June 2015

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MINERAL ESTATES AND QUARRYING
WASTE RESOURCE MANAGEMENT

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Appendix 1 Legislation and Bat Ecology

DRAWINGS	TITLE	SCALE
LE12345-005	Bat Activity Transect Route	1:1,250@A4

1 INTRODUCTION

1.1.1 Wardell Armstrong LLP was commissioned by Solum Regeneration to undertake a bat roost potential assessment and bat activity survey within a strip of woodland adjacent to the north east of Twickenham Train Station to Moor Mead Gardens (Hereby referred to as 'the site').

1.1.2 This report is an addendum to a previous bat report produced by Wardell Armstrong, 'Twickenham Station, Bat Activity Survey' (September 2014) which partially discharged planning condition NS42 for Phase 1 and 2 of the development.

"Condition NS42 – Bat Survey. In the event that construction works do not take place on site until after 1st June 2013, two new bat surveys for Phase 1 and Phase 2 of the development shall be submitted to and agreed in writing by the Local Planning Authority prior to the commencement of any works in connection with the relevant phase of the development (excluding the construction of manhole SW06).

1.1.3 This report relates to a small section of the wider site, being a strip of woodland to the north east which could not be surveyed in 2014 due to the presence of ground nesting birds. This report intends to discharge the remaining part of the NS42 planning condition relating to Phase 2 of the development and specifically the strip of woodland.

1.1.4 Appendix 1 contains the relevant legislation and information relating to bat ecology.

1.2 Site Context

1.2.1 The site comprises approximately 0.3 hectares of semi-natural broadleaved woodland. The site is adjacent to the River Crane to the north, Twickenham train station to the south, with Moor Mead and Bandy Recreation Ground to the north east. The surrounding area consists of residential housing.

1.2.2 The proposed development is to construct a path through the woodland linking the train station to the recreation ground.

2 SURVEY METHODOLOGY

2.1 Bat Roost Potential Assessment

2.1.1 The bat roost potential assessment of the trees was in accordance with methods described within 'Bat Surveys Good Practice Guidelines, 2nd Edition' (Hundt 2012).

2.1.2 The external examination of the trees was undertaken using a high powered torch to check for entry points such as cracks or holes, plus where possible, the torch was used to illuminate potential roosting features, to check for evidence of bat activity such as staining, droppings and feeding remains.

2.2 Manual Transect Survey

2.2.1 The site was assessed as having good value foraging and commuting habitat. Best practice guidelines stipulate that four manual transect and four automated survey visits are required to assess the site for its bat activity. The site constitutes a small area and the proposed development (footpath) is not considered to cause a significant loss of foraging habitat or restrict the adjacent wildlife corridors. It was therefore considered that a single dusk followed by a pre-dawn manual transect survey was adequate to determine presence of bats species and favourable bat habitats within the site.

2.2.2 During each survey, experienced bat surveyors slowly walked a pre-determined transect within the site, stopping for five minutes at 4 Listening Points (LPs) at favourable habitats for bats to monitor activity (see Drawing LE12345-005). The transect at dusk lasted approximately two hours after sunset with the following pre-dawn survey lasting approximately one and a half hours prior to sunrise. Survey dates, times and weather conditions are detailed within section 3 of this report.

2.2.3 Survey methodologies followed those described within the Bat Workers' Manual (Joint Nature Conservation Committee, 2004), Bat Surveys: Good Practice Guidelines 2nd Edition (Hundt, 2012).

2.3 Caveats and Limitations

2.3.1 Ecological surveys are limited by factors that affect species presence such as time of year, weather, migration patterns and behaviour.

2.3.2 Access to the canopy of mature trees was not possible to fully assess their bat roost potential. In addition some trees were heavily covered with ivy which restricted the view of some trees for assessment.

- 2.3.3 Echolocation calls of the brown long-eared bats *Plecotus auritus* are significantly quieter than many other bat species within this country, therefore this species can be difficult to record and may at times go unrecorded.
- 2.3.4 Species from the genera *Myotis* and *Nyctalus* are difficult to distinguish individual species within the genera from sonogram calls alone. Where an individual species cannot be determined a genus is recorded.
- 2.3.5 The above constraints are not considered likely to have significantly affected the conclusions drawn within this report.

3 RESULTS

3.1 Bat Roost Potential

3.1.1 The majority of the trees on site were young or semi-mature and in good condition showing no bat roosting features. The few mature trees on site were structurally sound showing no features suitable for bat roosts. All trees within the site were assessed as having negligible bat roost potential.

3.2 Manual Transect Surveys

3.2.1 Details of survey dates, times, weather conditions and summaries of activity recorded during the manual transect surveys are presented below in Tables 1-2.

Table 1: 07.05.2015 Dusk transect					
Date	Sunset	Survey start (hrs)	Survey finish (hrs)	Temperature at start of survey	Temperature at end of survey
07/05/2015	20:34	20:00	22:35	17°C	14°C
Weather		3/8 cloud cover at start and at end. Light breeze and no rain.			
<i>Species recorded:</i>					
Soprano pipistrelle <i>Pipistrellus pygmaeus</i> and pipistrelle species <i>Pipistrelle sp.</i>					
Survey summary					
<p>Soprano pipistrelle and pipistrelle species were recorded during the survey. No activity was recorded during the first circuit of the transect route between the times of 20:20 and 20:52. A soprano bat was first recorded at LP1 during the second circuit, c. 22 minutes after sunset. The bat was observed continually foraging over the river. During the survey the majority of bats recorded were observed foraging up and down the river along the tree lines. A number of bats were heard and not seen due to the tree canopy but were considered to be using the river as a foraging corridor. Two soprano pipistrelles were observed foraging up and down the river when walking between LP3 and LP4 on the second circuit with occasional observations of bats throughout the transect route. During the third circuit the bat activity was similar to that of the previous, occasionally bats were observed foraging in around the gaps within the woodland. At LP4 two soprano pipistrelles were observed foraging around the tree line and river heading off towards to the park. During the final circuit of the transect route commencing around 22:00, there was significantly lower bat activity with only six soprano calls recorded but not visually observed.</p>					

Table 2: 08.05.2015 Dawn transect					
Date	Sunrise	Survey start (hrs)	Survey finish (hrs)	Temperature at start of survey	Temperature at end of survey
08/05/15	05:23	03:50	05:25	10°C	9°C
Weather		7/8 cloud cover at start and 6/8 at end. No wind or rain throughout.			
<i>Species recorded:</i>					
Soprano pipistrelle and pipistrelle sp.					
Survey summary					
Soprano pipistrelle and pipistrelle species were recorded during the survey. Activity was similar to the previous dusk survey with soprano pipistrelles being recorded throughout the transect route. During the first circuit a soprano bat was observed continually foraging at LP2 and LP4 over the river and around the tree line with low activity between the two points. There was then no activity until LP2 on the second circuit where a bat was recorded foraging over the river, likely to be the same bat as previously recorded during the initial circuit. There was no activity during the walk to LP3. At LP3 bats were observed flying adjacent to the tree line and over the river before heading into the recreation ground. There were occasional calls walking to LP4 where a soprano bat was observed continually foraging over the river around the tree line. There was no further bat activity, c. 35 minutes prior to sunrise. No bats were recorded during the third circuit of the transect route.					

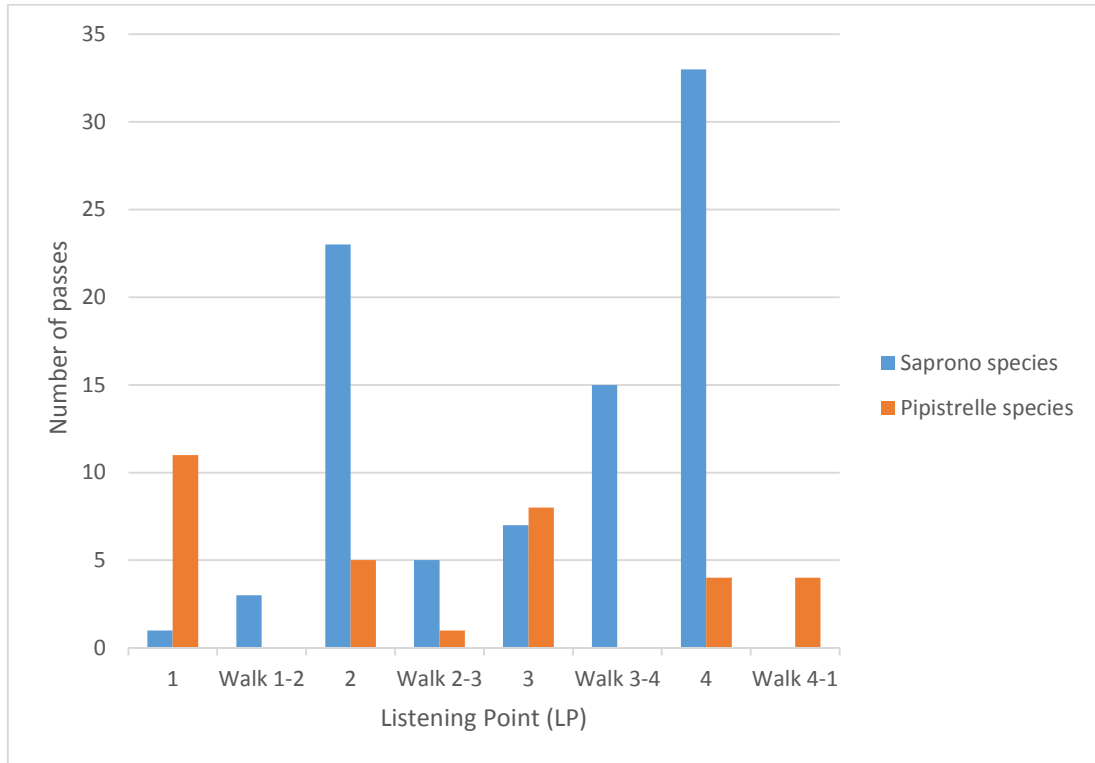
Summary

- 3.2.2 Low levels of commuting and foraging bat activity were recorded during the manual transect surveys. Peak activity for bats was within the central region of the site at LP2 and LP4. Commuting and foraging by bats were recorded along the tree lines, especially adjacent to the river. The river is considered to be the main wildlife corridor the bats are using for foraging.
- 3.2.3 Table 3 summarises the results of the Manual Transect Surveys with number of passes per species recorded at each LP and between each LP while Figure 1 illustrates the results data.

Table 3: Manual Transect Surveys results			
Listening Point (LP)	Pipistrelle species	Soprano pipistrelle	TOTAL
1	1	11	17
Walk 1-2	3		3
2	23	5	28
Walk 2-3	5	1	6
3	7	8	15
Walk 3-4	15		15
4	33	4	37

Table 3: Manual Transect Surveys results			
Listening Point (LP)	Pipistrelle species	Soprano pipistrelle	TOTAL
Walk 4-1		4	4
TOTAL	87	33	120

Figure 1. Manual Transect Surveys results



4 CONCLUSIONS AND RECOMMENDATIONS

- 4.1.1 The bat roost potential assessment identified that all trees within the site survey had no obvious roosting features suitable for bats, therefore the trees were considered to have negligible bat roost potential. In the unlikely event of a roosting bat being identified during the removal or management of the trees on site then all works must stop until a licenced bat ecologist can review the situation.
- 4.1.2 The results of the activity surveys indicate that there was low bat activity levels overall within the site. Bat activity was highly concentrated along the river Crane and adjacent tree lines within the central region of the site. Bats were also recorded foraging around the tree lines where there were small clearings adjacent to the river. Soprano pipistrelle were the dominant species present throughout the site. Pipistrelle species recorded were likely to be Soprano rather than common considering there were no confirmed common pipistrelle calls recorded during the surveys. The results of the survey support the findings of a previous bat activity survey undertaken September 2014 by Wardell Armstrong for the station area to the south west of the site.
- 4.1.3 Only a small number of trees will be removed, none of which have bat roosting potential. The vast majority of trees along the river will be retained, and as such suitable foraging habitat will be maintained throughout the works. This will maintain the vegetation as a commuting and foraging corridor for bats.
- 4.1.4 To avoid disturbance to bats during the construction phase of the proposed path, all works should be undertaken during daytime working hours. Night time working within the wider site can be undertaken. Any lighting to be installed as part of the proposed path should be sympathetic to bats and avoid directly illuminating the River Crane and adjacent tree line. With these mitigation measures implemented it is anticipated that effects on the River Crane and associated bat activity will be negligible.
- 4.1.5 The combined bat surveys undertaken at Twickenham station in 2014 and 2015 to encompass the whole site meets the requirements to discharge condition NS42. Prior to the commencement of works in this area, a pre-construction bat roost potential assessment and site review will be undertaken to identify any change in site condition for bats and, if necessary, the requirement for updated bat surveys.

5 REFERENCES

Hundt (2012). *Bat Surveys – Good Practice Guidelines (2nd Edition)*. Bat Conservation Trust: London.

Mitchell-Jones, A.J, & McLeish, A.P. Ed., (2004), *3rd Edition Bat Workers' Manual*, JNCC.

Appendix 1
Legislation and Bat Ecology

Appendix 1: Legislation and Bat Ecology

All bat species are listed within Schedule 5 of the Wildlife and Countryside Act 1981 as amended) and receive protection under section 9 of this act. They are also protected under section 39 of the Conservation (Natural Habitats, &c.) Regulations 1997 (and amendments) (known as the Habitats Regulations). Taken together the following offences apply under the combined acts:

Regulation 41 of the Habitats Regulations 2012, states that a person commits an offence if they:

- Deliberately or intentionally capture, injure or kill a bat;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat;
- deliberately, intentionally or recklessly disturb a bat; damage or destroy a breeding site or resting place of a bat; or
- keep, transport, sell, exchange or offer for sale any bat(s) or anything derived from this species.

Disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

The Natural Environment and Rural Communities (NERC) Act 2006 places a duty on public bodies to have regard for the conservation of biodiversity and maintains lists of species and habitats which are of principal importance for the purposes of conserving biodiversity in England and Wales. These lists supersede Section 74 of the CroW Act 2000.

The United Kingdom Biodiversity Action Plan (UK BAP) first published in 1994 and updated in 2007, is a Government initiative designed to implement the requirements of the Convention of Biological Diversity to conserve and enhance species and habitats. The UK BAP contains a list of priority habitats and species of conservation concern in the UK, and outlines biodiversity initiatives designed to enhance their conservation status. The priority habitats and species in England accord with those listed on Section 41 of the NERC Act.

The 'UK Post-2010 Biodiversity Framework' (Revised July 2012) succeeds the UK BAP and 'Conserving Biodiversity – the UK Approach', and is the result of a change in strategic Thinking following the publication of the CBD's 'Strategic Plan for Biodiversity 2011–2020' its 20 'Aichi targets', at Nagoya, Japan in October 2010, and the launch of the new EU Biodiversity Strategy

(EUBS) in May 2011. The framework demonstrates how the work of the four countries and the UK contributes to achieving the 'Aichi targets', and identifies the activities required to complement the country biodiversity strategies in achieving the targets.

The NPPF underpins the Government's planning policies for England and how these are to be applied. The central theme of the NPPF is a presumption in favour of sustainable development. This presumption does not apply where development requiring Appropriate Assessment under the Birds or Habitats Directives is being considered, planned or determined.

The NPPF states:

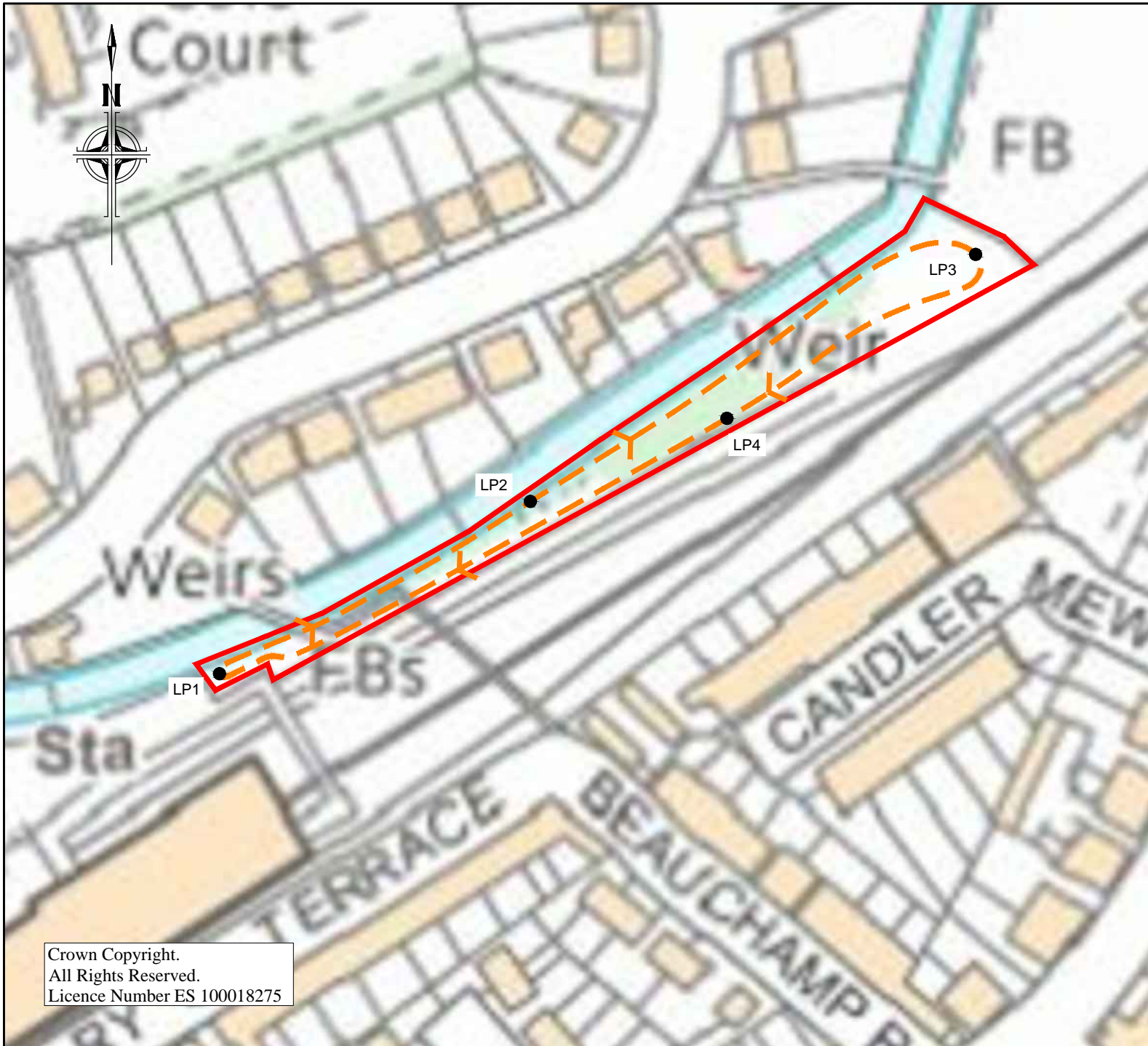
'When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

- *if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- *proposed development on land within or outside a Site of Special Scientific Interest (SSSI) likely to have an adverse effect on a SSSI (either individually or in combination with other developments) should not normally be permitted.*
- *Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of SSSIs;*
- *development proposals where the primary objective is to conserve or enhance biodiversity should be permitted; opportunities to incorporate biodiversity in and around developments should be encouraged;*
- *planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and · the following wildlife sites should be given the same protection as European sites: potential Special Protection Areas (SPA) and possible Special Areas of*

- *Conservation (SAC);*
- *listed or proposed Ramsar sites; and*
- *sites identified, or required, as compensatory measures for adverse effects on European sites, potential SPAs, possible SACs, and listed or proposed Ramsar sites.'*

The NPPF requires the Planning Authority to have a responsibility to promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan. In addition, the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

DRAWINGS



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DO NOT SCALE FROM THIS DRAWING A4

KEY

- RED LINE BOUNDARY
- LISTENING POINT
- - - - - → TRANSECT ROUTE

A	First Issue	27/05/15	SG	RL	EJL
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REVISION	DETAILS	DATE	DRAWN	CHK'D	APP'D
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CLIENT

Solum Regeneration

PROJECT

Twickenham Station, London

DRAWING TITLE

Bat Activity
 Transect Route

DRG No LE12345-005	SCALE 1:1250	DATE 27/05/15
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DRAWN BY SG	CHECKED BY RL	APPROVED BY EJL
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