Bat & Reptile Survey

TWICKENHAM RIVERSIDE SWIMMING POOL

(rec'd 30.7.03)

- The building's demolition is timed to occur outside the peak winter period of November to March (for bat hibernation), or;
- That a winter bat hibernation survey is conducted and a demolition strategy and its timing be discussed and agreed with English Nature (if evidence of hibernation is found)

Alongside the development of the short-term scheme, the Council should give consideration to the placement of bat roosting and hibernation boxes in the trees on the Embankment.

The long-term redevelopment of the site proposed by the Council will present a good opportunity for providing enhanced roost and hibernation conditions, through the erection of a Schwegler bat hibernation box and a number of smaller Schwegler summer roost boxes on suitable retained boundary trees (or structures). It is recommended that the boxes should be fixed at least 6m from the ground on trees (or structures) that are not easily climbed, to deter vandalism. Schwegler boxes are made of a hard-wearing and well insulating mix of cement and sawdust, which has been found to successfully attract bats in many instances.

6.3 Other Species

No badgers or protected amphibian species would be affected by the proposals.

Bird nesting activity was identified within the scrub and trees at the site. Under the Wildlife and Countryside Act 1981, birds are protected from disturbance whilst actively nesting (generally from March to August). Tree and shrub clearance should therefore be timed to avoid that period, unless a bird nesting survey prior to clearance (and also prior to demolition since birds may also be present within site buildings) identifies that nesting birds are not present. A range of bird boxes could be erected around the site to provide replacement nesting opportunities while new habitat becomes established.

6.4 Summary

Overall, with the suggested recommendations in place, the short-term scheme would have no adverse effect on protected species, and would not be contrary to relevant legislation protecting native wildlife.

Appendix A Site Plans

- Site Location Plan (Fig. 1)
- Site Plan (Fig. 2)

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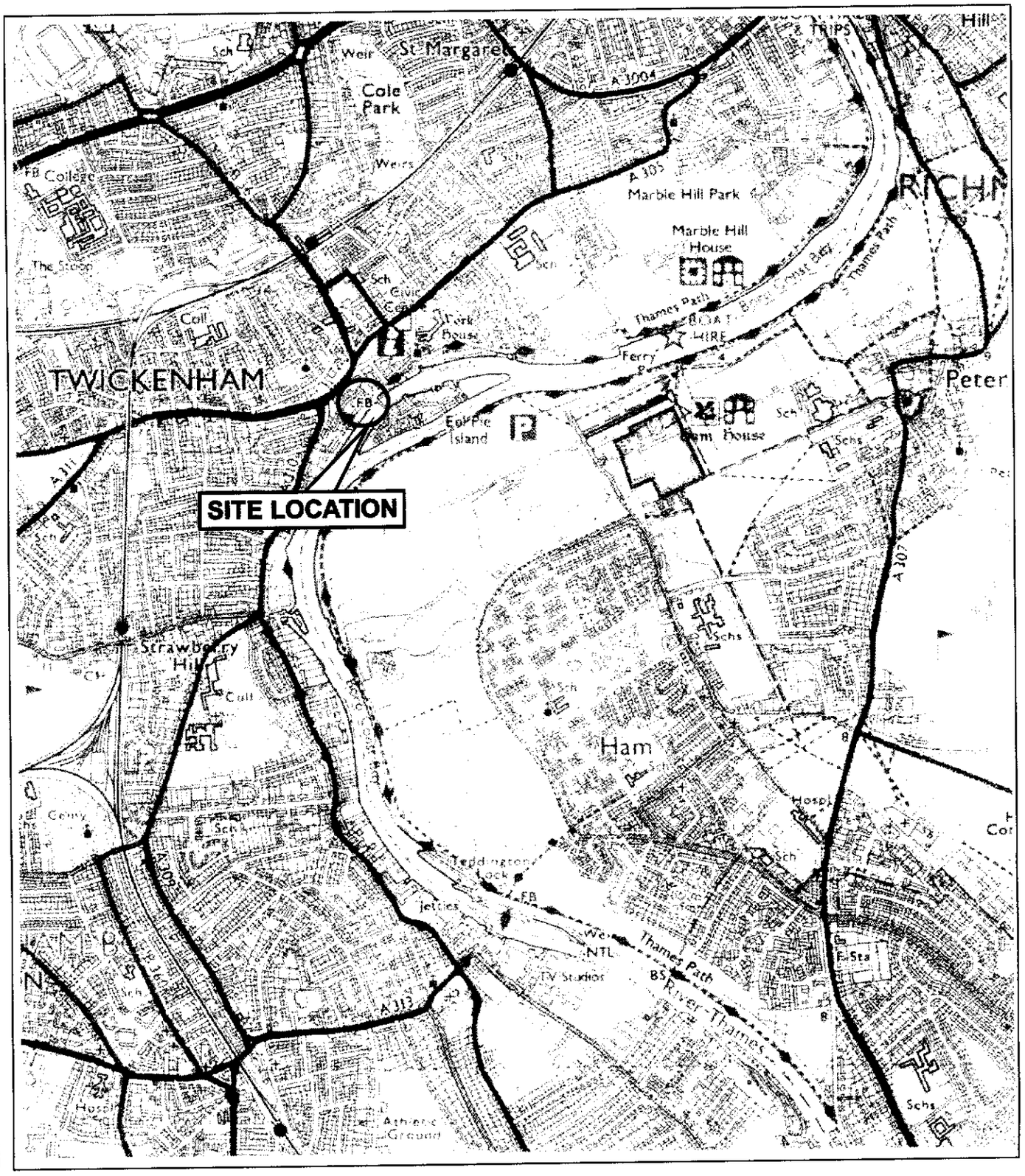
Job No:- EN3676	Figure No:- 1
Title:- Twickenham Swimming Pool Site Location Plan	
Date:- May 2003	Scale:- NTS Drawn By:- DS



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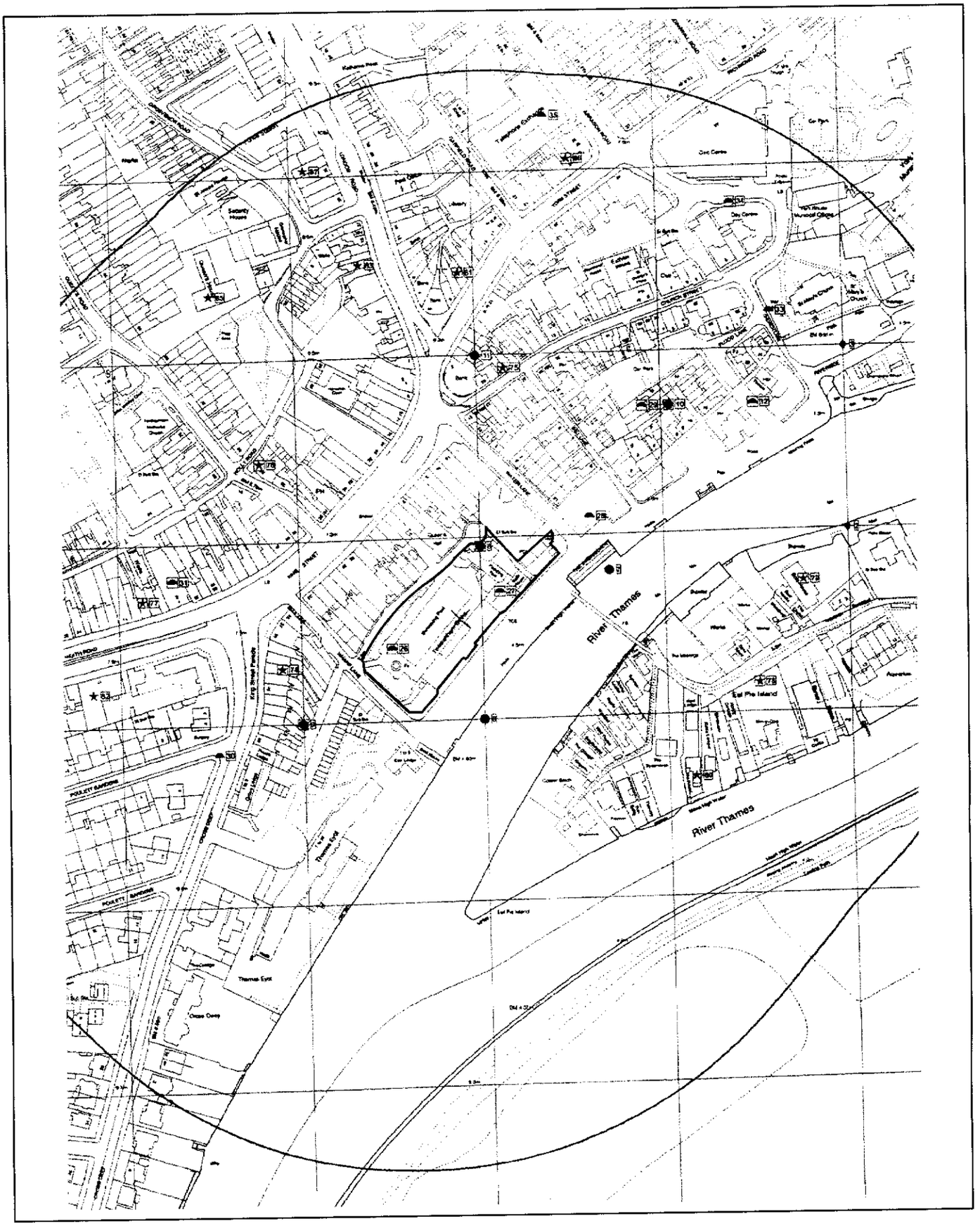
Job No:- EN3676	Figure No:- 2
Title:- Twickenham Swimming Pool Site Plan	
Date:- May 2003	Scale:- NTS Drawn By:- DS



Bat & Reptile Survey

TWICKENHAM RIVERSIDE SWIMMING POOL

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APPENDICES

1. Brief

Waterman Environmental was instructed by Dearle & Henderson, on behalf of the London Borough of Richmond upon Thames to undertake a bat and reptile survey of the Twickenham Riverside Swimming Pool site. The area has been disused for a number of years and the Council has recently submitted a planning application for a short-term scheme at the site (with a duration of up to five years). This scheme involves the demolition of buildings on part of the site and the creation of a landscaped garden incorporating children's play areas, public seating together with a hard and soft landscaped area fronting the Embankment. The Council has set out its principles for a longer-term redevelopment which will involve works to the wider site and will include commercial enabling development to fund site clearance and landscaping, public open space and mixed uses.

The present study was commissioned as a result of the environmental audit report prepared by Waterman Environmental in June 2003 (Ref: EN3676/R/1/1/4/HG) that recommended a survey be undertaken to determine whether roosting bats and slowworm occur on the site as they could be effected by the works in furtherance of the short-term development. All native reptiles and bats are protected under the Wildlife and Countryside Act 1981 and the Countryside and Rights of Way act 2000. Bats are additionally protected under the European Conservation Regulations 1994.

Specific details as to the requirements of the brief are as follows:

- A bat and reptile survey was conducted by CPM Environmental Planning and Design, part of the Waterman Group of companies, who have the appropriate experience in protected species assessments, urban ecology and in devising appropriate mitigation strategies.
- The objective of the survey was to confirm the presence or absence of reptiles and summer roosting bats at the site. The survey also included an assessment of bat hibernation potential although a hibernation survey was not possible at the time of the survey (this issue is addressed later in this report). Should the presence of protected species on site be confirmed, a mitigation strategy would be required to avoid infringements of the relevant legislation. Furthermore, prior agreement with English Nature would be required before implementation and site clearance.
- A full description of the survey methods employed is provided in Section 4 of this report, with results given in Section 5 together with conclusions and recommendations in Section 6.

Whilst this bat and reptile survey addresses these factors across the whole of the site and is therefore useful as a "baseline" assessment, its applicability is particularly focused on the short-term scheme described above.

Waterman Environmental has endeavoured to assess all information provided to them during this investigation, but makes no guarantees or warranties as to the accuracy or completeness of this information.

2. Site Description

The site is centred at National Grid Reference TQ 162 731 and is located on the northwestern bank of the River Thames at Twickenham in the London Borough of Richmond-upon-Thames. It is set back from the river by the width of The Embankment, which is a paved road and pedestrian promenade. The site is bounded by Water Lane and a private car park to the northeast and Wharf Lane to the southwest. A service road runs along the rear of the site and forms the northwestern boundary.

The site is located in a mixed retail, office, residential and leisure facilities area situated between the main shopping street and the northwest bank of the Thames. Further residential areas and leisure amenities such as yachting and rowing clubs together with commercial boat yards are present on Eel Pie Island in the Thames directly opposite the site.

The site comprises:

- The derelict Twickenham Riverside Swimming Pool that occupies the central part of the site and include related and ancillary facilities: a changing block with a separate small plant room adjacent its southwest elevation; an open-air swimming pool with surrounding open areas; also, a former restaurant and a bath house.
- An unused public toilet block to the southeast corner of the site.
- An electrical sub-station to the northeast corner of the site.

The site slopes significantly from the service road in the northwest towards the Thames in the southeast and two levels are present as a consequence:

- Upper Ground Floor Level – Most of the site is an elevated platform raised about two to three metres above the level of The Embankment. This includes the swimming pool and ancillary features such as the upper floors of the changing block and bath house, small plant room, restaurant and public toilet. The swimming pool itself is located to the rear of the changing block as seen from The Embankment and comprises the derelict pool basin, which slopes down to a central deeper section and a delapidated terrace around the edge of the pool. Landscaped areas occur around the periphery of the site but these are all overgrown.
- Lower Ground Floor Level - The lower floors of the changing block and bath house front onto the Embankment and are therefore subject to flooding as they are below the floodplain level.

With the exception of the bathhouse (which provides accommodation to a local charity), all of the buildings are in a derelict condition and unused.

3. Site History

Ordnance Survey maps dating from 1880 were consulted. In 1880 the site was part of the grounds (including parkland and landscaped areas) for Richmond House; the house occupied the northwest section of the site. The River Thames flowed in a northerly direction to the south of the site. The area surrounding the site was predominantly occupied by the grounds of Richmond House. A post office was situated to the north, and residential properties were located off King Street (to the north of the site) and Waterside Lane (to the east of the site). Eel Pie Island is situated in the centre of the River Thames, to the southeast of the site.

By the end of the 1800s the site had not changed, although the area to the north had become slightly more developed - a town hall and library are amongst the buildings identified. This layout remained largely the same until between 1920 and 1934 when Richmond House was demolished and the swimming pool and associated facilities had been constructed. This included two fountains located at either end of the pool. To the northwest of the site the land had been redeveloped from the grounds of Richmond House to residential use.

The layout of the site has remained largely the same until the present day, with only a few alterations. These included the construction of a paddling pool towards the northeast of the site by 1972 the fountain to the north of the swimming pool was no longer present.

Between 1992 and 1999, The Embankment vehicular access had been constructed to the southeast of the site, adjoining the River Thames.

4. METHODOLOGY

The surveys were undertaken by an experienced ecologist and holder of an English Nature bat handling licence (Licence 20021751). A second team member was also present during the surveys for health and safety reasons, and to provide additional observation cover during the dusk bat emergence surveys. Prior to the surveys, a risk assessment of the survey techniques and areas to be entered was conducted.

4.1 REPTILE SURVEY

The standard approach to reptile surveying involves the laying of artificial refugia sheets (normally squares of roofing felt or corrugated iron) around the site. These refugia tend to warm up more quickly in the sun than the surrounding ground. The refugia are attractive to reptiles, since, being cold blooded, the reptiles tend to bask beneath or on top of the refugia to warm up (particularly in the early and late parts of the day). The refugia can then be checked at suitable times of the day for basking reptiles.

A large number of suitable reptile refugia were already present, scattered around the site, such as wooden planks and boards, broken concrete slabs, and metal car panels. These reptile refuge opportunities were supplemented with six groups of six roofing felt sheets (50cm x 50cm size), laid around the scrubby margins of the pool at the interface between scrub habitat and more open ruderal herb habitats.

After a two-week 'settling in' period (allowing time for reptiles, if present, to have located the sheets), four separate survey visits were undertaken (three in the early evening at approximately 7pm, and one at lunch time – all between 18 July and 24 July 2003). During each survey visit the site was walked and the existing suitable refugia materials, as well as the added survey refugia, were visited and inspected (above and beneath) for basking reptiles. Open areas that could also be used by basking reptiles were also surveyed for any reptile basking activity.

The weather on each visit was generally warm and sunny with cloudy spells. These conditions are considered very suitable for a reptile survey.

4.2 BAT SURVEY

The bat survey was divided into two parts:

- A daylight check of all buildings (internally and externally and including all Council owned buildings) for evidence of past or present bat roost activity; and
- Dusk emergence surveys.

4.2.1 Daylight Surveys

For the daylight survey (conducted on 7 July 2003), each building was accessed to identify evidence of bat roosting, such as droppings, areas swept free of cobwebs, piles of discarded moth wings and bats themselves. During the works, torches were utilised where necessary, as neither natural nor artificial light is available in many of the internal parts of the buildings on site.

The external buildings survey focused on searching for bat droppings piled beneath cracks and crevices, deposited on window sills or stuck to walls, where they can indicate roost activity in that area.

4.2.2 Dusk Emergence Surveys

The evening emergence survey was conducted on three separate evenings as the surveyor (and assistant) could not view all the buildings simultaneously for roost activity. The survey dates were July 18, 22 and 23, coinciding with suitable weather (warm clear evenings except for cloud on 23 July). During the first visit, the buildings in the southwest part of the site were viewed; the second visit concentrated on viewing the main building from the Thames side; the third concentrated on buildings at the northeast end of the site.

The emergence survey was undertaken between approximately 9pm and 10.30pm on each occasion. Heterodyne ultrasonic bat detectors were used that pick up echolocation signals emitted by bats, alerting the user to passing bats which may be exiting a roost, commuting past or foraging. The detector can also be used to aid in the identification of species encountered, although species identification cannot always be definitive.

The survey technique involves noting the location of bats detected, the time of detection, type of activity detected, likely species, and direction of flight. In this way, bat usage in the area can be assessed. In general, the earlier a bat is detected in the evening the closer it will be to its roost site. Bats detected regularly following a flight route can be traced backwards towards their roost site. By viewing a building at dusk while operating a bat detector, it can be confirmed whether any bats detected are emerging from that building, or are just flying over the site from further afield.

4.3 Other Species

While conducting the bat and reptile surveys, consideration was also given to the potential for any other protected species issues to be present at the site (such as protected birds, amphibians or badgers), and note was made of any relevant evidence.

5. Findings

5.1 Reptile Survey

The reptile survey revealed no signs of any reptiles inhabiting any part of the site. Although the scrubby and ruderal habitats around the former swimming pool appear superficially suitable, it is likely that the site's high degree of past disturbance and relative isolation from other areas of suitable habitat elsewhere in the district has precluded colonisation by reptiles.

5.2 Bat Survey

The daylight survey revealed no evidence of any past or present bat roost activity anywhere within any of the buildings on the site.

The buildings at the site all have flat roofs with no loft spaces that could be suitable for roosting bats. In general potential for roosting bats was considered low.

There are however two large underground cavities beneath the swimming pool terrace that were accessed from the basement of the main building. These cavities have an earth floor and variable cavity height of between 0.6 and 1.8m but no evidence of roosts was identified (i.e. no droppings or stain marks were found). Conditions within the underground structures are superficially similar to those found in natural caves, which can be important for winter bat hibernation, however close inspection found the

cavities to have a very dry earth floor which would probably not create sufficient humidity for successful hibernation, as high humidity is very important for bats during the hibernation phase. Nevertheless, hibernation activity can leave little evidence as bats often crawl into tiny deep crevices .

A summary of the dusk survey results is provided at Table 1 below.

Table 1: – Summary of bat activity detected over three survey evenings

Date / Time	Activity Recorded	On-Site Roost Evidence
18/07/03	**Southwest of site**	
10.05pm	1 Soprano Pipistrelle (*P. pygmaeus*) detected faintly in the distance passing over the site. Distant Pipistrelle foraging activity was then occasionally heard for the remainder of the survey period.	No
10.20pm	1 Noctule bat (*Nyctalus noctula*) faintly detected in a distant location (presumed over the Thames). Not seen over site.	No
10.30pm	Surveyor moved off-site to Thames-side and confirmed a small number of Noctules and Pipistrelles feeding over the river and bank-side trees.	No
General Note	No bats detected flying low over the site, or seen emerging from buildings.	No
22/07/03	**Main building from Thames side**	
10.05pm	Distant/faint Noctules and Pipistrelles again heard, but none seen or detected flying over the survey site or emerging from buildings.	No
10.15pm	Noctules and Pipistrelles again detected foraging over Thames, for remainder of survey period.	No
23/07/03	**Northeast of site**	
9.45pm	1 Pipistrelle detected and seen flying over survey site from the northwest, towards the Thames.	No
9.53pm	Distant Noctules detected foraging over Thames, but not seen over the survey site. Occasional distant Pipistrelles also heard from the direction of the Thames. Foraging over Thames confirmed on completion of the on-site survey.	No

As Table 1 shows, low numbers of Pipistrelle bats and Noctule bats were detected around the site, foraging over the River Thames and it's bank-side trees. Occasionally a Pipistrelle would be seen and detected commuting over the survey site towards the Thames, while the Noctules appeared not to commute over the survey site, but arrived over the Thames from another direction.

Both species of Pipistrelle (*P. pipistrellus* and *P. pymaeus*) were present. This corresponds with London Bat Group records of these species across the wider Twickenham area, referred to in the earlier Environmental Audit of the site produced by Waterman Environmental (Ref: EN3676/R/1/1/4/HG).

No bats were detected or seen very early in the evening (when they would be emerging from their roosts), or detected flying low over the survey site or emerging from buildings here, confirming that there are no active roosts anywhere within the site.

The variety of scrub species and boundary trees within the site would support flying insects and hence provide suitable bat foraging habitat. However, no bats were recorded foraging at the site and it is concluded that the adjacent Thames corridor, where bats chose to concentrate their foraging efforts during this present survey, is of far greater importance to foraging bats.

5.3 Other Species

While conducting the surveys it was noted that a variety of bird species use the site, and appear to nest within scrub areas. No badger setts were found or potential badger activity seen, and reptile searching around the marshy area of the swimming pool revealed no signs of protected amphibian species such as Great Crested Newt. One common frog was found beneath wood within the scrub area, confirming the presence of common amphibians, which may be able to successfully breed in the bottom of the swimming pool during wetter years.

6. Conclusions and Recommendations

6.1 Reptiles

The detailed survey identified no evidence of reptiles within the site, and this group consequently poses no constraint to either the short-term or longer-term development proposals for the site.

6.2 Bats

The daylight bat roost survey found no evidence of roost activity within the site, and this was substantiated by three dusk emergence surveys that detected mostly bat foraging over the Thames corridor, and no emergence from buildings at the site. These bats roost in unknown off-site locations, apparently some distance from the survey site (since they arrived in this area well after the normal dusk emergence times for these species).

The occasional Pipistrelle bat detected commuting over the north-east of the survey site, foraging a little along the way, would not suffer adverse impact from the proposals, since boundary trees are retained and, in any event, the observed bat commuted over the buildings and not within the cover of trees. No evidence was found to suggest that the site provides an important bat foraging resource within the locality, with the Thames corridor being far more important in this respect, although the site's trees and scrub offer some foraging potential. It is recommended that the proposed landscape planting at the site includes a moderate proportion of native shrub and herb species, which will encourage insects, thereby contributing to the overall bat foraging resource of the locality.

Young trees and scrub that would be lost to accommodate the short-term proposals are too small to offer any bat roost opportunities, and so it is considered that there is no potential for any summer bat roosts to be impacted by the proposals.

The below-ground cavities beneath the swimming pool terrace are unlikely to be of sufficient winter humidity for successful bat hibernation. However this area does contain underground and accessible masonry cracks and crevices where hibernation might remain a possibility. Consequently, it is recommended that either: